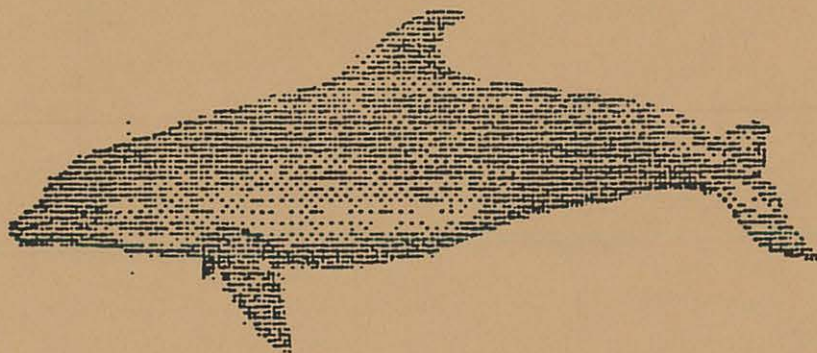


Final
Environmental
Impact Statement
on the
**Use of Marine Mammals
in
Swim-With-The-Dolphin Programs**

April 1990

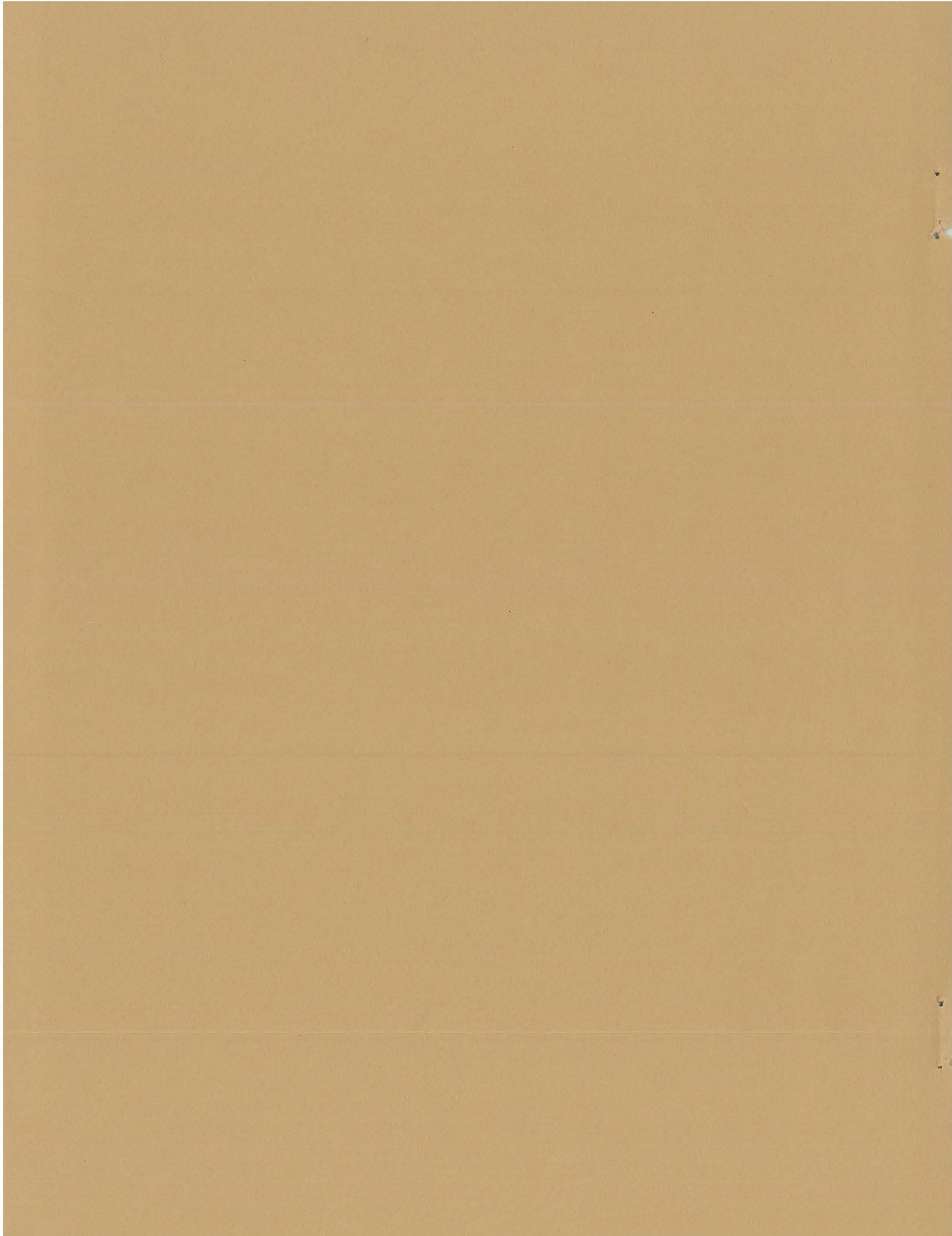


U. S. Department of Commerce

National Oceanic and
Atmospheric Administration

National Marine Fisheries Service

Office of Protected Resources





UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Office of the Chief Scientist
Washington, D.C. 20230

MAY 2 1990

Dear Reviewer:

In accordance with provisions of the National Environmental Policy Act of 1969, we enclose for your review our final environmental impact statement (FEIS) on Swim-with-the-dolphin Programs.

Four facilities that hold public display permits under the Marine Mammal Protection Act are authorized to use marine mammals in swim-with-the-dolphin programs on an experimental and provisional basis. These programs allow a member of the public, including any general visitor or customer, to enter the water with a captive dolphin for recreational swimming, snorkeling or scuba diving activities. The National Marine Fisheries Service (NMFS) has determined that more information is needed before a final decision can be reached regarding the potential environmental effects of these programs. Consequently, NMFS is extending the experimental permits until December 31, 1991. A greatly expanded and enforced monitoring program will be implemented. No additional swim programs, expansions of existing programs, or captures of dolphins from the wild for this purpose will be authorized during this experimental period. The FEIS considers the environmental consequences of the proposed action and three alternatives and discusses, among other issues, possible increased demand for dolphins for aquaria, zoos, amusement parks, and hotel/resort facilities, and health and safety issues.

Any written comments or questions you may have should be submitted to the responsible official identified below by June 11, 1990. Also, one copy of your comments should be sent to me in Room 6222, U.S. Department of Commerce, Washington, D.C. 20230.

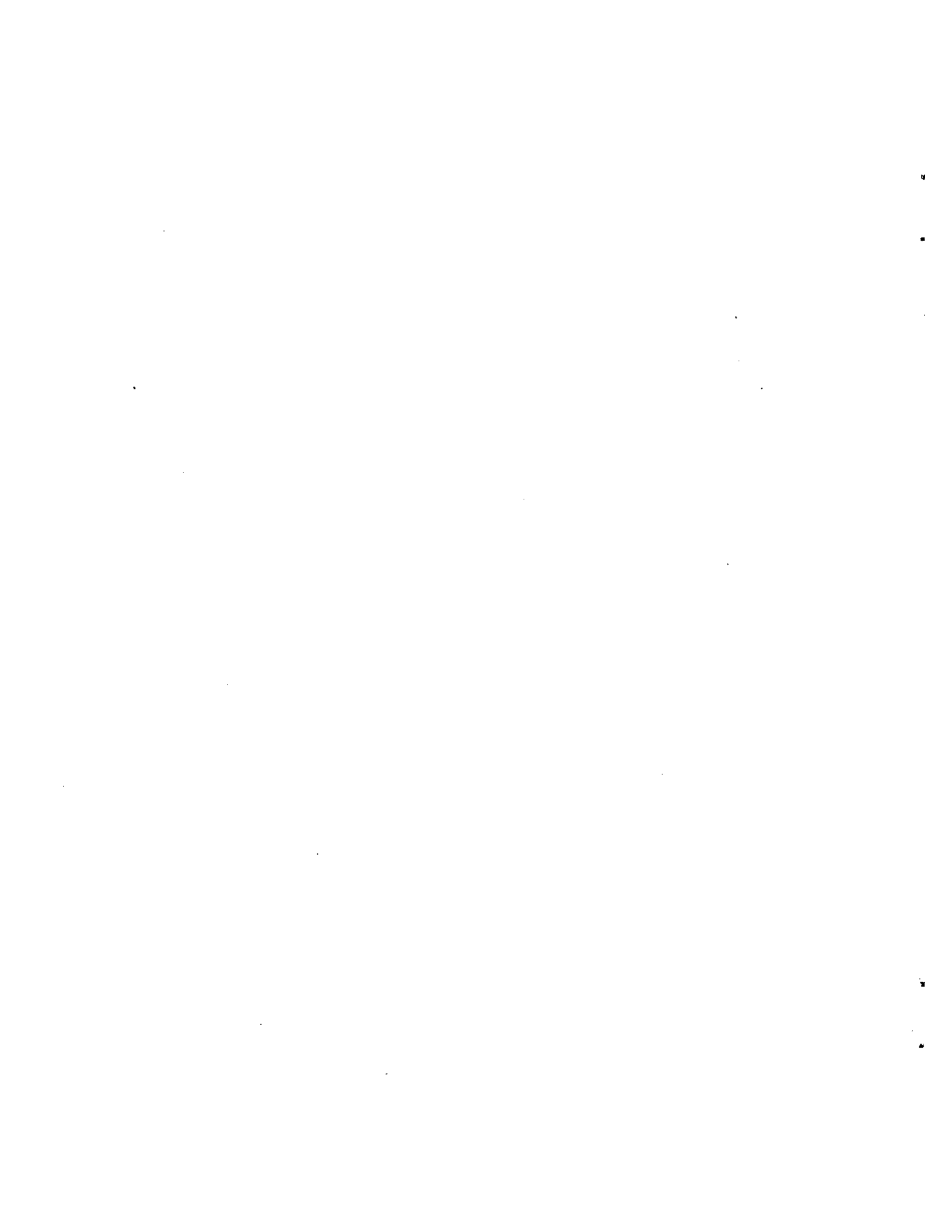
Responsible Person: Dr. Nancy Foster, Director
Office of Protected Resources
and Habitat Programs
National Marine Fisheries Service
1335 East-West Highway
Silver Spring, MD 20910
(301) 427-2332

Sincerely,

David Cottingham
Director
Office of Ecology and
Conservation

Enclosure





FINAL ENVIRONMENTAL IMPACT STATEMENT
on the
Use of Marine Mammals
in
Swim-With-The-Dolphin Programs

Responsible Agency: U.S. Department of Commerce
National Oceanic and Atmospheric
Administration
National Marine Fisheries Service

Contact for Further Information: Dr. Nancy Foster
Director
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Deadline for Comments: June 11, 1990

ABSTRACT

Four facilities are authorized to use Atlantic bottlenose dolphins (*Tursiops truncatus*) in swim-with-the-dolphin (SWTD) programs on a provisional basis until April 30, 1990. These programs allow a member of the public, including any general visitor or customer, to enter the water with a marine mammal for recreational swimming, snorkeling, or scuba diving.

The issues addressed in the Draft Environmental Impact Statement (DEIS) were whether the use of bottlenose dolphins in these programs should be allowed beyond April 30, 1990, whether additional taking of dolphins from the wild for use in such programs should be authorized, and, if authorized, what permit conditions should be imposed. The Final Environmental Impact Statement (FEIS) updates the information presented in the DEIS and discusses comments received after the DEIS was published on November 1, 1989.

The preferred alternative presented in the FEIS is the continuation of existing swim-with-the-dolphin programs on an experimental basis until December 31, 1991, with additional conditions.

SUMMARY

Four facilities currently are authorized to use Atlantic bottlenose dolphins (Tursiops truncatus) in swim-with-the-dolphin (SWTD) programs on a provisional basis until April 30, 1990. These programs allow a member of the public, including any general visitor or customer, to enter the water with a marine mammal for recreational swimming, snorkeling, or scuba diving.

On November 1, 1989, the National Marine Fisheries Service (NMFS) published a Draft Environmental Impact Statement (DEIS) on the swim-with-the-dolphin programs. The issues addressed in the DEIS were whether the use of bottlenose dolphins in these programs should be allowed beyond April 30, 1990, whether additional taking of dolphins from the wild for use in such programs should be authorized, and, if authorized, what permit conditions should be imposed.

The purpose of this document is to update the information provided in the DEIS, to discuss the comments that were received, to describe the alternatives considered, and to lay out reasons for designating a preferred alternative.

In addition to considering the comments received on the DEIS, NMFS also reviewed the requirements of the Marine Mammal Protection Act, and the recommendations of the Marine Mammal Commission, the Animal and Plant Health Inspection Service (APHIS), the Florida Department of Natural Resources, and the Environmental Protection Agency (EPA).

Alternatives considered include: Alternative A: allow swim-with-the-dolphin program authorities to expire after April 30, 1990 (no action); Alternative B: continue existing swim-with-the-dolphin programs on an experimental basis with additional conditions; Alternative C: authorize swim-with-the-dolphin programs beyond April 30, 1990, with new Special Conditions; and Alternative D: authorize swim-with-the-dolphin programs beyond April 30, 1990, with existing Special Conditions.

Findings and Conclusions

No significant new information regarding swim program effects on dolphin biology, mortality and disease, or public health and safety was received during the comment period on the DEIS. In fact, the lack of information regarding the possible effects of stress on dolphins participating in the program was a key factor in determining the preferred alternative. The following conclusions resulting from the DEIS review contributed to the decision:

Unless the ongoing NMFS review of the permit program modifies this conclusion, swim programs are considered a form of public display under the MMPA. The four existing programs have education programs that meet the standards of the NMFS interim policy (50 FR 22201).

The likelihood of disease transmission between dolphins and humans is extremely low and does not justify prohibiting the programs. Special Conditions can reduce the potential for disease transmission.

The risk of injury to humans does not warrant prohibiting the programs. Special Conditions can reduce the potential for injury.

Although there are no data indicating that swim programs cause stress, aggression or other aberrant behaviors in dolphins, there are insufficient data to make a definitive conclusion. A research study to investigate these issues is recommended.

There is no indication to date that the swim programs cause increased mortality in participating dolphins.

Based on the above, Alternative B is the preferred alternative. Under this alternative, the authorization for the four existing swim programs would be extended until December 31, 1991, during which time research would be conducted to identify stress levels and behavioral effects on swim dolphins compared with captive dolphins in other public display programs. This alternative limits the experiment to four experienced programs which all have open water systems and swimming space which far exceeds APHIS minimum standards.

In order to mitigate safety and health risks, Special Conditions are recommended under the preferred alternative to ensure: a) security for the dolphins; b) an opportunity for the dolphins to totally avoid contact with the swimming public whenever they should so choose; c) safety for the swim participants from inadvertent involvement in the socialization activities among the dolphins; d) the dolphins' behavior during the swim sessions is safe for the dolphins; e) that swim participants do not pose a health threat for the dolphin; and f) that program management and trainer personnel have a level of experience to assure these standards are successfully met.

The preferred alternative will assist NMFS in further evaluating the potential effects of the swim programs and in determining the most appropriate final decision regarding their continuation.

As a result of comments received, the following revisions have been made in the Final Environmental Impact Statement:

1. The discussion of the Wild Dolphin Population in Section III has been revised.
2. The three sections discussing disease have been modified and are included either in Affected Environment, Section III, or Environmental Consequences, Section IV.
3. Section III, Affected Environment, has been expanded to include socio-economic issues and the Educational and Recreational discussions previously found in "Other Considerations."
4. Section IV, "Other Considerations," has been eliminated; the six topics have been incorporated as noted above.
5. Descriptions of all four swim programs have been added as Appendix D.
6. The section on Survival in Captivity has been revised to limit discussion to swim dolphin mortality; however, a Survivorship and Longevity discussion is found at Appendix E.

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I. PURPOSE AND NEED FOR ACTION

A. Introduction

NMFS first authorized the use of bottlenose dolphins in a swim-with-the-dolphin (SWTD) program in 1985. Two additional programs were authorized in 1987 and a fourth in 1988. These programs allow a member of the public to enter a pool with a captive dolphin for recreational swimming, snorkeling, or scuba diving activities. A member of the public has been defined by NMFS as any general visitor or customer.

During its review of the initial permit application for a SWTD program in 1985, the Marine Mammal Commission raised concerns about the possibility of increased risk of transmitting human diseases to dolphins or the possibility of the swim programs causing some undesirable modifications of the dolphins' behavior. The Marine Mammal Commission therefore recommended that the swim programs be authorized on a "probationary basis." All current permits for swim-with-the-dolphin programs are probationary and will expire on April 30, 1990, unless reauthorized.

On August 25, 1988, NMFS undertook a detailed review of SWTD program operations and their effects. As a result, all four permits were modified to require continuous monitoring of human/dolphin interactions and the submission of a program protocol and detailed quarterly reports. The purpose of these modifications was to gather information on which to base a decision, by December 31, 1989, on whether to continue to allow marine mammals to be used in interactive programs of this type. In order to ensure the safety of both humans and dolphins during the probationary period, additional conditions were imposed. Program operators were required to maintain strict supervision of swim sessions by experienced trainers and to provide adequate escape access from the swim areas in the event a dolphin chose to terminate the encounter. These requirements were designed to alleviate development of aggressive or other unacceptable behavior in the captive dolphins. A copy of the Special Conditions applied to the four swim-with-the-dolphin programs is included as Appendix F. In addition, on September 30, 1988, all public display permit holders were informed that their permits did not automatically authorize SWTD programs; rather specific authorization from NMFS was needed and such authorizations would be issued only on a provisional basis until December 31, 1989.

In March 1989, NMFS began a public review of its MMPA permit policies and procedures pertaining to public display and scientific research. A Discussion Paper was circulated and public comments were received on a broad range of issues, including SWTD programs. This review is still in progress and will result in improvements in the policies and procedures for public display and scientific research permits under the MMPA. Future changes in the permit system may affect swim-with-the-dolphin programs beyond the actions addressed in the FEIS.

On May 10, 1989, NMFS announced its intention to prepare an EIS on the program decision as to whether to continue authorizing the use of dolphins in swim-with-the-dolphin programs. The DEIS was published on November 1, 1989, and the public comment period expired January 8, 1990. Four public hearings were held during November and December 1989: one

in Washington, D.C., two in Florida, and one in Hawaii. Seventy-four participants presented testimony on the issues presented in the DEIS, and 50 letters addressing the DEIS were received from the public during the comment period.

B. Applicable Legislation

The following is a brief summary of the legislation applicable to a decision regarding swim-with-the-dolphin programs.

1. Marine Mammal Protection Act of 1972 (MMPA; 16 U.S.C. 1361 et seq.)

The MMPA establishes, with limited exceptions, a moratorium on the taking and importing of marine mammals. The MMPA recognizes marine mammals to be resources of great international, esthetic, and recreational as well as economic significance, which should be protected and encouraged to develop to the greatest extent feasible commensurate with sound resource management policies. The primary objective of their management should be to maintain the health and stability of the marine ecosystem. Whenever consistent with this primary objective, the goal should be to maintain marine mammals at optimum sustainable population (OSP) levels and to restore species or stocks which are below such population levels to the optimum level.

The MMPA provides for specific exceptions to the general moratorium. These exceptions allow for the taking and importing of marine mammals for scientific research, public display or to enhance the survival or recovery of the affected population. All applications for a proposed taking must be reviewed by the Marine Mammal Commission prior to issuance of a permit. The authority to issue permits has been delegated by the Secretary of Commerce to the Assistant Administrator for Fisheries, NOAA.

The MMPA does not specifically define "public display," and NMFS has not yet adopted a definition of the term. As part of its permit program review noted above, NMFS will define the term public display consistent with the purposes of the MMPA, including to what extent swim-with-the-dolphin programs are to be included in public display (see NMFS, 1989).

Section 104(c) of the MMPA, as modified by the 1988 amendments, includes criteria for issuance of public display permits (see Appendix A). To be eligible for a public display permit, an applicant must offer a program for education or conservation purposes that, based on professionally recognized standards of the public display community, is acceptable to NMFS. Professionally recognized standards for education or conservation programs directed at marine mammals are not readily available. As a result, during its permit program review, NMFS will identify specific actions it could take to facilitate the formulation of such standards. (See Senate Report 100-592, p. 28-29 for a discussion of the 1988 amendments.)

NMFS issued an interim policy regarding education and conservation programs on May 22, 1989 (54 FR 22001). This policy states that, in deciding whether an applicant offers an acceptable education or conservation program, NMFS will consider the following criteria:

Whether an education or conservation program is in place as a component of the proposed public display;

Whether the basic message and purpose of the education or conservation program are accurate and consistent with the policies of the MMPA, and whether they include information about life history, behavior, sensory capabilities, or other aspects of marine mammals, such as their role in the marine ecosystem; and

Whether the facilities are open on a regularly scheduled basis and access is not limited or restricted other than by the charging of an admission fee.

The MMPA also requires a determination that the proposed manner of taking is humane, involving the least possible degree of pain and suffering practicable to the marine mammal involved. In addition, NMFS regulations (50 CFR §216.31, Appendix B) contain issuance criteria for public display permits. Among other things, NMFS considers whether the taking is consistent with the purposes and policies of the MMPA, whether a substantial public benefit will be gained from the display, the applicants' qualifications for the proper care and maintenance of the marine mammals, and the adequacy of the applicant's facilities.

2. Animal Welfare Act (AWA; 7 U.S.C. 2131-2147)

The AWA is administered by the Animal and Plant Health Inspection Service (APHIS) of the U.S. Department of Agriculture. The Act is intended to ensure the humane care and treatment of animals held in captivity for exhibition purposes. APHIS has promulgated Standards and Regulations for the Humane Handling, Care, Treatment and Transportation of Marine Mammals (9 CFR 3.100-3.118), which set minimum requirements for the maintenance of marine mammals in captivity regarding facility construction and operation, transportation, and animal health and husbandry. APHIS regulations also include a provision in 9 CFR 2.131 on Handling of Animals (see Appendix C).

APHIS has the responsibility under the AWA for licensing, registering, and inspecting facilities holding marine mammals in captivity. Overlapping responsibility for specifying care and maintenance methods under the MMPA lies with NMFS. Since 1979, NMFS has not regulated the handling of marine mammals in captivity beyond APHIS standards, except where animals are used in swim-with-the-dolphin programs and in certain other unusual situations.

In their comments on the first SWTD permit modification in 1985, APHIS found that the proposed operation did not violate the AWA or APHIS regulations. In a recent letter responding to questions raised by NMFS, APHIS has further clarified its position on SWTD programs (U.S. Department of Agriculture, 1990). Although the APHIS standards require facilities to maintain sufficient distance or barriers between the animals and the general

viewing public, it is APHIS' view that "when a person voluntarily . . . swims with a dolphin, he/she accepts the risk of possible injury and thus is removed from the general public category." Further, "Harm to the dolphins is the only factor that would cause APHIS to limit or prohibit swim programs."

3. National Environmental Policy Act (NEPA; 42 U.S.C. 4321-4347)

The NEPA process is intended to help agencies make decisions based on an understanding of possible environmental consequences of proposed actions and to take actions that protect, restore, and enhance the environment. Toward that end, NEPA can require the preparation of an EIS that discusses significant environmental impacts and reasonable alternatives that could avoid or minimize adverse effects on the human environment. An agency may also voluntarily prepare an EIS for broad Federal actions concerning programmatic decisions as is involved in this case.

As noted, on November 1, 1989, NMFS published its draft EIS on the swim-with-the-dolphin programs. All Federal agencies with jurisdiction or special expertise in marine mammal protection and conservation received copies of the DEIS and were invited to comment. In order to allow time for full consideration of all public comments in the FEIS and decision, NMFS extended the provisional authority for existing swim-with-the dolphin programs until April 30, 1990. This FEIS is based on public comments, the public hearing record, and a review of the DEIS document by the involved Federal agencies (see Section VIII).

In its letter of December 28, 1989, EPA rated the environmental impacts of the actions in the DEIS as "LO" (Lack of Objections) and the adequacy of the DEIS as "1" (Adequate). The EPA recommended continuing only the existing four programs on an experimental basis with more aggressive reporting and monitoring requirements, very strict controls on program design, and suspension or revocation of permits if these requirements are not explicitly observed.

II. ALTERNATIVES INCLUDING THE PROPOSED ACTION

Although the DEIS discussed four alternatives, including one of "no action," a preferred alternative was not identified since NMFS desired to receive and review all public comments on the DEIS before making any final recommendation on SWTD programs. Additional information was sought and provided; and even though it does not provide definitive scientific data to make a permanent determination, it does support Alternative B as the preferred alternative. Alternative B, together with its recommended research study, allows the benefits of current swim programs to continue while minimizing the potential risks to health and safety for both dolphins and humans.

This section describes and compares the four alternatives in two ways. First is a description of the alternatives based on five major factors. The major differences among the alternatives relate to the following factors: 1) whether to continue authorizing the current swim programs; 2) whether to continue the experimental time period, if reauthorized; 3) whether to authorize expansion of swim programs to other facilities; 4) whether to allow additional taking of dolphins from the wild for SWTD programs; and 5) whether to require additional safeguards to mitigate any potential risks to the health and safety of dolphins and human participants.

Second is a comparison of the environmental effects of the alternatives on ten elements listed below. The environmental consequences of each alternative, presented in detail in Section IV, are compared with respect to the following elements: 1) quotas and 2) allocations measure effects on the Wild Dolphin Population; 3) potential for disease transmission to dolphins, 4) potential of stress-induced disease, 5) potential for dolphin behavior modification, and 6) incidence of mortality measure effects on Swim Dolphins; 7) potential for disease transmission to humans, 8) incidence of injury to humans due to dolphin behavior, 9) availability of recreational and/or educational opportunity, and 10) potential loss of annual revenues measures effects on Socio-Economic environment.

Every alternative has the potential to cause environmental effects. Effects will vary depending on the five factors differentiating the alternatives particularly differences in measures recommended to mitigate any adverse effects on dolphin and public health and safety.

Alternative A. Allow swim-with-the-dolphin program authorities to expire after April 30, 1990 (No Action Alternative).

Authority to use marine mammals in swim-with-the-dolphin programs expires on April 30, 1990. Alternative A is the only alternative that would result in termination of swim programs after that date. Provided that the affected facilities continue to meet APHIS standards and NMFS general permit conditions, they could still use their dolphins in other kinds of public display programs under this alternative. Facilities would be able to apply for and obtain authority to take additional dolphins from the wild for other public display programs only. Despite any pressure to convert SWTD programs to other forms of public display programs,

the current quota system would continue to govern these takings. Alternative A would eliminate the need to institute a separate allocation under the present quota system for swim dolphins.

Although this alternative would eliminate any possible risks associated with swim programs, if these facilities used the swim dolphins in other public display programs, there would be an indirect effect on their safety and well-being of the animals. This would also apply if any of the dolphins had to be transferred to other facilities. This alternative would not affect the long-term care and maintenance that would be required under Alternatives C and D.

The loss of SWTD program authority may have the greatest effect on the socio-economic environment in that the availability of recreational swims with dolphins would be eliminated. Educational opportunities would be limited to less interactive experiences. This alternative may result in adverse economic impacts for the four facilities due to loss of revenues.

This alternative would be the recommended alternative if swim-with-the-dolphin programs were found to constitute a significant threat to the health and well-being of the dolphins or the public or if it was determined they did not qualify as public display under the MMPA. This alternative would not require further immediate Federal action under the terms of the permit conditions. However, a regulatory action would possibly be needed to implement this alternative on a permanent basis.

Alternative B. Continue swim-with-the-dolphin programs on an experimental basis with additional conditions (Preferred Alternative).

Under this alternative, the four existing swim-with-the-dolphin programs would be reauthorized on an experimental basis until December 31, 1991, with additional conditions. No additional swim programs would be authorized during this period and no additional takings of dolphins from the wild would be authorized. In addition to current Special Conditions of existing permits, new measures would be recommended to mitigate any potential risks to health and safety of dolphins and humans. Additionally, this alternative would recommend a one-year research study to gain further information for determining the effects of the four swim programs on the health and welfare of swim dolphins, particularly the identification of stress and its effects, if any, on their health and behavior.

This alternative is the recommended alternative, in part, because there is no indication of significant health or safety risks to the dolphin or the public, based on best available data.

This is the only alternative that would require a research program to obtain additional scientific data, which would require the cooperation and possible modification of the four existing programs. This research program will provide additional information to make a permanent determination.

Based on information currently available regarding disease transmission and other health and safety issues discussed below, Alternative B would provide additional safeguards and monitoring measures in order to mitigate any adverse impacts on the health and well-being of the dolphins and the public. In order to help ensure that additional information is

available at the end of the experimental period, December 31, 1991, some of the existing Special Conditions would be modified and new ones added.

This alternative would not directly affect the wild dolphin population since additional takes from the wild would not be authorized for swim programs. This alternative, along with Alternatives C and D, would not affect existing recreational/educational opportunities or result in the potential loss of revenues as would be caused by Alternative A.

The greatest impact under this alternative would result from new Special Conditions recommended to safeguard dolphin and public health and safety. These Special Conditions are more stringent and comprehensive than the existing conditions that would be continued under Alternative D. The conditions under this alternative, however, would not be as comprehensive as those included in Alternative C to address the long-term concerns of indefinite expansion of SWTD programs and to set baseline standards for new programs.

In addition to the current conditions, new conditions would include: 1) limitations on dolphins; 2) limitations on participants; 3) limitations on programs; 4) supervision of swim sessions; 5) minimum staff qualifications; 6) disclosure of potential risks; 7) additional reporting requirements; and 8) modifications to programs. See Appendix G for details of all of the recommended Special Conditions. Some of these provisions would affect one or more of the nine elements identified above. These conditions are summarized as follows:

1) Limitations on Dolphins:

Dolphins would need to be certified as healthy by attending veterinarians before being allowed to participate.

Dolphins would be removed from the program while on medication.

2) Limitations on Participants:

Potential swim participants would complete a brief health profile form provided by the facility.

Individuals with upper respiratory disease or on medication that suppresses immune function would be excluded from swim programs.

Infants would not be permitted to participate in swim programs.

Participants would be required to shower with soap and water before entering and after leaving the swim area.

The purpose of the above requirements is to reduce the possibility of transmitting infection and disease between dolphins and humans. Only healthy dolphins would participate in swim programs and only persons with no outward signs of illness or open sores would be allowed to participate.

Every effort should be made to eliminate or minimize potential sources of stress to the dolphin from either the human participants or the swim program routine and to provide the animals ample opportunity to withdraw from the interaction process.

3) Limitations on Programs:

Periods of continuous interaction by an individual dolphin would be limited to two hours with equal intervals for rest.

Dolphins would have one period each 24 hours of no less than ten continuous hours of respite from swimmers and other human-related activities.

Facilities would provide the dolphins access to escape if they want to terminate a swim session.

Dolphins would be provided with not less than six months of professionally directed training including appropriate gate training, prior to their participation in the swim programs.

The purpose of these requirements would be to assure that dolphins are afforded ample rest and free time from the program, and that every effort is made to reduce risk of injury to both dolphins and humans that could result from stress or aberrant dolphin behavior; that dolphins are sufficiently acclimated to the human participants and program routines; and that the dolphins can leave the swim encounters whenever they choose to do so.

Participants would not be permitted to hold, pull or grab the dolphins, including dorsal fins.

The purpose of this requirement is to reduce the risk of injury to humans and allow the dolphins to terminate the swim encounter without having to disengage a swim participant.

4) Supervision of Swim Sessions:

At least one experienced staff member should be in the water with swim participants and the dolphins at all times. Additionally, at least one staff member would monitor activities from poolside out of the water.

The number of swim participants in the water with the dolphins would be limited to a ratio of two humans to one dolphin.

The purpose of these requirements is to assure that both dolphins and human participants are adequately supervised by experienced training staff, thereby minimizing the risk of injury.

5) Qualifications of Staff:

At least one permanent full-time staff member with three or more years in a professional or managerial position dealing with captive cetaceans.

At least one full-time staff member with three or more years experience in the training and care of captive cetaceans.

At least one staff or consulting veterinarian with at least two years current experience in cetacean medicine.

The purpose of these requirements is to assure that individuals in key positions are experienced in the responsible care of captive cetaceans since it is management that must make decisions that affect the nature and safe conduct of the swim interactions. Individuals charged with providing daily supervision, training, and or direct care of the dolphins must oversee, on a daily basis, the nature and safe conduct of the swim sessions.

6) Disclosure:

Written program instructions prepared by the swim facilities would inform human participants of potential risk of injury or disease transmission and that facilities are required to report injuries immediately to NMFS. The Permit Holder would be required to provide swim participants with NMFS' address in order for participants to also report injuries or provide other comments.

The intent of these requirements is to assure that the swim participants are fully aware that these programs are experimental and involve some health and safety risks. This information would be provided in both oral pre-swim briefings and written program instructions and would be required to be related before swim participants sign a liability waiver.

7) Reporting Requirements:

The Permit Holder must make immediate notification to the NMFS Washington Office in

case of dolphin death with follow-up necropsy report and dolphin's medical history within 30 days.

The intent of this requirement is to assure that NMFS is kept fully informed of the circumstances regarding the dolphins participating in swim programs. NMFS would vigorously enforce this requirement and Permit Holders would risk an immediate program suspension or permanent permit revocation if they did not comply.

Maintenance of comprehensive records on daily behavior, feeding, and health would be required along with a separate quarterly medical report for each participating dolphin.

The attending veterinarian must prepare and implement a preventive medicine plan to include: a) policy on veterinary coverage, identifying each affiliated veterinarian, and protocols and schedules for visits, physical exams, and weighing and medicating animals; b) policy on quarantine; and c) necropsy protocol.

The intent of these requirements is to compel a more active role on the part of the attending veterinarian.

8) Modifications to Programs:

The Permit Holder may be required to temporarily modify the swim program and reporting requirements.

The intent of this requirement is to ensure the cooperation of the swim facility in meeting the objectives of the research study on the effects of the programs on the dolphins.

Permit Holders shall not reduce the available space or restructure the physical facilities including water systems without prior approval from the Assistant Administrator for Fisheries.

The intent of this requirement is to help ensure that adequate facilities continue to be maintained during the experimental period. Because all four existing SWTD programs have open water systems and far exceed APHIS minimum standards, it was not necessary to develop additional restrictions on facilities. Therefore, the special conditions recommended under this alternative would not be as detailed as those called for under Alternative C which would allow additional swim programs to be authorized.

NMFS could achieve this alternative by modifying and extending existing permits pursuant to its authority under Section 104 of the MMPA and regulations promulgated at 50 CFR, Section 216.33.

Alternative C. Authorize swim-with-the-dolphin programs beyond April 30, 1990, with new conditions.

Under Alternative C, existing swim-with-the-dolphin programs would be authorized for an indefinite period. New swim programs could be authorized. Additional taking of dolphins from the wild could also be authorized. New Special Conditions would be recommended to mitigate the risk of any adverse impacts over time on dolphin and public health and safety.

Additional takings from the wild would continue to be governed by the current quota system. However, Alternative C and D could raise the question of equitable allocation of animals collected between the swim programs and other public display programs. More stringent permit conditions could discourage some of the potential program expansion to additional facilities.

Most of the Special Conditions under this alternative would be the same as those recommended under Alternative B, and the environmental impacts would be similar. However, with the likelihood of additional SWTD programs, there could be an increase in numbers of participants and dolphins, thereby increasing the potential for injury and disease transmission, and stress for the dolphins. Experience to date is based on the four authorized swim programs, all of which have open water systems, space which far exceeds APHIS minimum standards, and experience in conducting SWTD programs. Further standards would need to be established if additional facilities were to be authorized to conduct swim programs.

These new conditions would recommend more stringent limitations on such provisions as frequency and duration of swim sessions, supervision and dolphin training; staff experience; and special requirements for the physical facilities including water systems in addition to those already specified in APHIS standards. These Special Conditions would be based on experience gained in the experimental programs which would enable NMFS to set standards for any new programs established. Alternative C would be the recommended alternative if sufficient data were available to indicate that there were no significant risks to the health and well-being of the dolphins and the public, that the more stringent provisions of the Special Conditions were justified and adequately addressed the long-term effects of the alternative, and that the SWTD programs were found to meet the public display definition under the MMPA.

Regulations would be needed to implement this alternative on a permanent basis.

Alternative D. Continue swim-with-the-dolphin programs beyond April 30, 1990, with existing Special Conditions.

Under Alternative D, the four existing authorities for SWTD programs would be extended. Other applicants who meet existing criteria for issuance of public display permits could receive authority to begin swim-with-the-dolphin programs. Both the existing and new SWTD programs would be authorized to operate for an indefinite period of time. Like Alternative C, this alternative would authorize additional taking of dolphins from the wild for swim programs. Under Alternative D, the current Special Conditions developed as mitigating measures to reduce potential risks to dolphin and public health and safety would remain in effect.

Although the number of dolphins taken from the wild would be limited by the quota system for both Alternatives C and D, there would be the potential problem of allocation between these and other public display programs as the programs expand over the long term.

The overall impacts of extending swim programs indefinitely under this alternative are similar to those of Alternative C. The major difference between this alternative and the others is the scope of the Special Conditions intended to mitigate potential risks to health and safety. Alternative D reflects the current Special Conditions, summarized below (see Appendix F for specific details). They relate primarily to the environmental elements of dolphin and human health and safety and include the following requirements:

1. SWTD swim operations must be continuously supervised by experienced trainers.
2. A qualified and locally available veterinarian must be on call during each encounter.
3. Dolphins must be provided with adequate escape access from the swimming area in case the dolphin wants to terminate a swim session.
4. Dolphins must be provided with adequate security at all times.
5. A program to monitor the health and behavior patterns of each dolphin in the swim program must be established.
6. Dolphins must be removed from the program if they respond adversely, i.e., aggressively.
7. A pre-swim orientation including safety instructions and other precautions must be prepared for human participants.

The intent of these requirements is to protect the dolphin from injury, stress and harassment and to protect the public from potential injury resulting from dolphin behavior.

In order to monitor their compliance, Permit Holders would be required to submit injury and necropsy reports, other quarterly reports, and program descriptions that include the following:

1. reports describing SWTD encounters, including frequency and duration, and level of public participation;
2. description of the dolphin training prior to participation in the SWTD program;
3. reports of human or dolphin injury, ill health, or behavior changes; program changes; or personnel changes;
4. quarterly reports that monitor dolphin health and behavior;
5. curriculum vitae for SWTD staff.

Since these measures were originally developed for an experimental program prior to actual program experience, they are not as comprehensive or stringent as those recommended in Alternatives B and C. This alternative would not provide additional safeguards for minimizing any long-term risks to dolphins and to public health and well-being. Since both alternatives extend the SWTD programs indefinitely, Alternatives D and C would need to address the long-term care and maintenance of swim dolphins no longer suited for swim programs.

This alternative would be the recommended alternative if current information indicated there were no significant long-term risks to dolphin and human health and safety that could not be mitigated by the existing Special Conditions; or further, that there are no inherent weaknesses in the current self-monitoring and data collection program, or that the Permit Holders' compliance with monitoring and reporting requirements has been satisfactory for the effective administration of SWTD programs.

Rulemaking may be required to implement this alternative on a permanent basis.

III. AFFECTED ENVIRONMENT

A. Wild Dolphin Population

According to the NMFS inventory, 567 bottlenose dolphins have been removed from U.S. waters under public display or research permits between 1973 and 1988; 533 (94%) of these were taken from waters of the southeastern United States, an area that includes the Gulf of Mexico and Florida east coast. Since 1985, 14 bottlenose dolphins have been collected specifically for authorized swim programs. All were taken from waters off the southeastern United States.

The allowable level of take of bottlenose dolphins from the southeast is determined by a quota system. This system was implemented in 1977 in response to the demand for bottlenose dolphins from that area. Leatherwood and Reeves (1982) documented that at least 1,149 bottlenose dolphins had been taken through live capture between 1914 and 1980. Early takes were from the coast of North Carolina. In the 1930's and 1940's, dolphins were taken from the upper east coast of Florida near Georgia. Dolphins have preferentially been collected from the areas currently covered by quotas since the 1960's.

The quota system operates on a geographically-based management scheme. Seven management areas, ranging from the Florida Keys to the south coast of Texas in the Gulf of Mexico and the Banana/Indian River system on the east coast of Florida (Figure 1), have been defined based on historical ranges of live capture. Quotas are established on the basis of the estimated abundance of dolphins within each of the seven management areas. In areas in which no abundance estimate has been available, no take is allowed. Current geographical boundaries for each management area and estimated abundance of bottlenose dolphins within areas are given in detail in Scott *et al.* (1989). (See Table 2.)

The quota for each management area has been calculated as 2% of the estimated abundance of dolphins in that area (the 2% rule). This procedure was recommended by the Marine Mammal Commission and is based on four assumptions: (1) that concentrations of bottlenose dolphins in localized geographic areas (e.g., coastal embayments) comprise more or less discrete breeding populations; (2) that abundance in the selected geographic management areas is above optimum sustainable population (OSP) level; (3) that live-captures and removals are the only source of non-natural removal from the population; and (4) that the maximum rate of growth of exploited bottlenose dolphin populations is at least 4%. These four factors combined mean that there is virtually no possibility that affected populations will be reduced below their maximum net productivity (MNP) level if the annual take is limited to 2% in each management area. In addition, it was assumed when this scheme was implemented that no more than 50% of the take would be of females.

It was intended that the quota system would be updated as new information became available on the status of the stocks of bottlenose dolphins in the southeast region. The first quotas were established in 1977. New population estimates were made in the early 1980's and quotas were revised in 1982.

By setting quotas at 2% of the estimated abundance of dolphins, both the 1977 and 1982 quotas implicitly assumed that the level of non-natural removal other than live-capture, e.g., incidental fishing mortality, was insignificant. These quotas did not limit the take of females. Incidental mortality in fisheries and other human-caused mortality, has raised concern that the cumulative non-natural removal of dolphins may have exceeded 2% of the population. The absence of baseline data on original population abundance and unknown rates of human-caused mortality make it impossible to determine whether the populations are above optimum sustainable population (OSP) levels. In addition, because of the live-capture industry preference for females, 77% of the take (171 of 235) from 1982 through 1988 has been females.

Nonetheless, actual takes have been far less than the quotas would allow. From 1978 through 1988, of 937 animals allowed to be taken under the quota, only 404 (43%) were actually collected (Table 1), in effect, less than 1% of the estimated population during those years. During the first four years the quota was used, from 1978-1981, the annual quota was 75 while the average annual take was 42. In 1982, the annual quota was increased to 91. From 1982-1988, the average annual take was 33. In no one year during that time did the number of females removed exceed 45, the theoretical allowable take ($\frac{1}{2}$ of 91) under the 2% rule.

In addition to permanent removal from the wild via live capture and incidental fishing mortality, other factors may contribute to the cumulative impact on the populations of bottlenose dolphins in the southeast. Much of the take has occurred from the same management areas, suggesting the possibility that the same relatively discreet groups of dolphins are experiencing the greatest impacts of the take. The effect on the social structure of these groups is unknown. In recent years, there has been concern about the effects of the explosive removal of oil rigs on the populations of dolphins. Habitat degradation may affect the ability of the populations to inhabit embayments previously preferred by them or reduce their reproductive rates. These factors may have a cumulative impact that necessitates reducing the quotas.

In response to the above concerns and new data on population size, quotas recommended in 1989 were revised and more conservative quotas were recommended in January 1990. One basis for the new quotas is an extensive survey conducted throughout the Gulf of Mexico from September 1983 through February 1987 (Scott *et al.* 1989). The survey obtained the data needed to estimate population abundance within each management area. Studies were also conducted to attempt to estimate the extent of human-induced mortality in each management area using data from stranded dolphins (Burn and Scott 1988) and interviews with fishermen regarding the mortality of dolphins incidental to fishing operations (Reynolds 1985). The recommended quotas take into account the following:

- (1) Population abundance estimates made from aerial surveys, a method thought to produce negatively biased estimates of population size;

(2) Effective population size taken as the lower end of the 95% confidence interval around the lowest seasonal abundance estimate within each management area;

(3) Incidental mortality rates incorporated for the Florida and Texas management areas by deducting estimated annual human-induced mortality rates for bottlenose dolphins from the 2% allowable take and assuming high natural mortality rates of 10%;

(4) Incidental mortality levels incorporated for the coastal Alabama, Mississippi, and Louisiana management areas by deducting from the uncorrected quota the estimated number of bottlenose dolphins killed by non-natural means; and

(5) Quota for females taken as 50% of the quota for each management area.

Interim quotas have been established pending completion of an EIS and implementing regulations on the take of bottlenose dolphins in the southeast region that will include a comprehensive review of the status of stocks of bottlenose dolphins, the cumulative impact of removal on those stocks, and the validity of the 2% rule for determining the allowable take. However, publication of a notice of the interim quotas is still pending, and to date no collections have been authorized in 1990 because of unexplained stranding events in the Gulf of Mexico. Under the interim quotas, taken as the lower of the 1982 quota and the 1990 recommended quota for each management area, the total allowable take of bottlenose dolphins throughout the southeastern United States is 35 animals, of which 16 may be females. Rulemaking will be proposed for the quota system once the cumulative effects have been more fully evaluated by the EIS.

Any additional take of bottlenose dolphins for the swim-with-the-dolphin programs, if authorized, would occur under the quotas. The swim programs, in themselves, would not be permitted to take dolphins independently of the quotas or cause the quotas to be increased to accommodate this additional use of bottlenose dolphins.

B. Swim Program Dolphins

Thirty-five of the approximately 350 dolphins in captivity in the United States were being used in swim-with-the-dolphin programs at the four authorized facilities during the quarter ending on December 31, 1989. The distribution was as follows:

Dolphin Research Center	13
Dolphins Plus	12
Hyatt Regency Waikoloa	6
Theater of the Sea	4

Of the 26 females, 18 were under the age of 10; of the nine males, five were under the age of 10. Of the 35 bottlenose dolphins used in SWTD programs during the fourth quarter 1989, 24 had been collected from the Gulf of Mexico, eight had been born in captivity, and three animals had been collected prior to the MMPA.

Tables 4-7 provide statistics on the use of dolphins in the four swim programs.

1. Health

Public access to cetaceans has changed from the days when one could view a dolphin or whale only from a distance or behind a glass panel. With the introduction of "petting" or "feeding" pools, animals could for the first time be coaxed in for a fleeting touch. SWTD programs enable people to swim with, rub against, or be carried in tow by a dolphin, in such close contact that both partners can breathe on one another. Such close association widens the opportunity for transferring microorganisms between dolphins and people.

Microorganisms of all kinds--bacteria, fungi, protozoa and viruses among them--abound in the sea. Some are the same as those that are found on land and in land-dwellers. Others, including certain vibrio bacteria, thrive only in aquatic habitats (Joseph et al. 1982). Like their terrestrial counterparts, creatures that live in the sea harbor a complement of these organisms that may be regarded as indigenous microflora. Few of these are routinely pathogenic, when that term is defined to mean causing infectious disease whenever they are present, but some are more threatening than others.

The presence of microorganisms alone seldom constitutes a hazard. The fine line between infection and infectious disease depends on both the virulence of the organism and the susceptibility of the host (Isenberg and Balows 1981). Determinants include the clinical history of the individual such as whether there has been previous contact with, and body response to, the potentially offensive agent; and whether the immune system or innate resistance is impaired by illness, long-standing stress, or medication taken for that purpose. Immune competence is also related to age; a young suckling animal acquires passive immunity by the transfusion of maternal immunoglobulins (antibodies) across the placenta or through colostrum and milk. This provides defense against only those organisms with which the mother has earlier come into contact. Eventually the animal develops its own active immune capability which affords increasing protection until its declining years when immune function once again weakens. For this reason, the very young and the very old are more likely to acquire infections.

Piecing together the sparse data on the way these factors may relate to cetaceans, one finds that the bacteria isolated from "healthy" free-ranging (including stranded) odontocetes (Johnston and Fung 1969, Morii 1973, Geraci et al. 1978, Odell and Asper 1982, Buck 1984) are among the same list of microorganisms that have been associated with local and systemic infections in wild and captive whales and dolphins (Cowan 1966, Cusick and Bullock 1973, Ketterer and Rosenfeld 1974, Diamond et al. 1979, Howard et al. 1983). This information reinforces the concept that a dolphin, like other mammals, lives within a microbial biosphere containing organisms that can become mutinous given the opportunity. Microorganisms that

might be newly introduced by humans or other sources would add to the microbial pool, with no particular benefit or harm to a healthy, immunologically competent animal.

There are no data on whether swim programs negatively affect a dolphin's behavior or are otherwise more stressful than other forms of public display. Studies have shown that the stress response in cetaceans follows a typical mammalian pattern, with observable changes in circulating hormones, blood cells, and metabolites (Medway and Geraci 1964, Andersen 1966, Thomson and Geraci 1986, Myrick 1988, Orlov et al 1988, St. Aubin and Geraci 1988, 1989). Whether these constituents can be used to distinguish differences in the stress response between dolphins in swim programs and those held in other captive situations is a matter for speculation. Those constituents found to be useful may be added to the list of other criteria--age, sex, temperament, health, reproductive state--used to evaluate the suitability of a dolphin for swim programs.

2. Behavior

Dolphins are gregarious animals that continuously engage in behaviors linked to play, food gathering, nurturing, sexual activity and aggression. They can play roughly, but overt aggressive displays seem to be associated with the more serious business of maintaining the social structure of the group. In the course of these activities dolphins may bite or mouth one another, leaving "rake" marks, chase, butt, or strike with their tails. The intensity of these interactions is dictated by individual personalities, group composition, reproductive state, and other biological and environmental demands.

Trainers and experienced observers can often recognize aggressive behaviors--"jaw popping," tail-slapping, intensive sexual interactions--and may choose not to enter the water at such times. Still, a dolphin's strength and speed may be underestimated, or its disposition misinterpreted by even a seasoned handler, and injuries sometimes occur.

An individual unable to interpret and therefore respond appropriately to a dolphin's behavioral signals assumes a greater risk of injury by close contact. Whether such encounters or swim programs per se promote aggressive tendencies in a dolphin is speculative. It has been suggested that a poorly managed swim program may have that effect because untrained patrons can unintentionally reinforce undesirable behaviors.

Persons should not be permitted in the water when dolphins are displaying aggressive tendencies, evidenced by such behaviors (some expressed in vernacular terms) as: tail throwing or lobbing, jaw-clapping, butting with rostrum, pushing down on a person, certain vocalizations (chuffing, agitated squawking), open mouth approaches or stroking, fast swimming toward or to the side of a person, sexual displays (rubbing genital area against person), breeches, and being possessive about individuals (dolphins or humans).

3. Survival in Captivity

Mortality rates of dolphins in swim-with-the-dolphin programs appear similar to mortality rates reported in other public display institutions. Since 1985 when the swim programs were first authorized, five dolphins used in the swim programs have died. Although the data provided by the Permit Holders are inconclusive, there is no indication that these deaths were due primarily to swim programs. The first mortality, at Theater of the Sea, was due to liver failure and hepatitis. Dolphin Quest lost two dolphins in 1989 from what was reported to be a naturally-occurring biotoxin ingested in live, native fish. Two dolphins at Dolphin Research Center died during the fall of 1989. The cause of death was suggestive of viral and bacterial infections, with secondary components.

Although recognized as an important area for research, literature on the survival of dolphins in captivity suggests that studies conducted are very difficult to compare because of their lack of standardization. Therefore, any analysis of the possibility of decreased survival and longevity in captive dolphins, whether used in swim programs or not, compared to free-ranging dolphins is beyond the scope of this EIS. However, the summary presented in the DEIS has been revised as Appendix E.

C. Socio-Economic Environment

1. Swim Program Description

The swim-with-the dolphin programs are offered at four facilities.

<u>Permit Holder</u>	<u>Location</u>	<u>Date Authorized</u>
Dolphins Plus, Inc.	Key Largo, FL	8/23/85
Dolphin Research Center	Marathon Shores, FL	1/30/87
Theater of the Sea	Islamorada, FL	4/1/87
Hyatt Regency Waikoloa [Dolphin Quest]	Waikoloa, HI	8/25/88

See Appendix D for descriptions of the four individual programs.

Despite each facility's distinct physical, operational, and program characteristics, there are some basic similarities, some of which are required by the Special Conditions (Appendix F) or APHIS standards. All currently authorized swim-with-the-dolphin facilities are located on coastlines and use natural sea water that flows or is pumped into partitioned dolphin pens.

a. Recreational Swims

All swim programs begin with a pre-swim orientation consisting of the history of the facility, descriptions about the captive dolphins and training techniques, discussions of dolphin natural history, and safety rules to follow while in the water with the dolphins. All of the facilities host special groups, such as local school children, educators, autistic children, physically handicapped individuals, and cancer patients, and enable them to participate in supervised swim sessions as well as in their educational programs.

Each program limits the number of people allowed to enter the pools at any one time, and the number of swim sessions and the duration of swim sessions per day. Tables 4-7 summarize these statistics for each of the four swim programs.

There is a variety of interaction between dolphin and swimmer among the four swim programs. All programs, however, have swim sessions supervised by at least one trainer and all of the dolphins have been trained to exhibit certain conditioned behaviors which may include activities such as dorsal tows, hurdle jumps, swim-bys, and dances.

According to the latest quarterly reports, through December 31, 1989, 83,996 people have participated since 1985. Table 3 summarizes the overall statistics for all four swim-with-the-dolphin programs. In the four years since the first program was authorized, the total annual number of swim participants in the programs has increased from 1,557 in 1985 to 37,177 in 1989.

b. Educational Component

All four facilities engaged in swim-with-the-dolphin programs submitted educational material either as part of their initial permit application to capture bottlenose dolphins or as part of their application for swim program authority. In addition, these facilities have included descriptions of their educational programs with quarterly reports or as part of their comments on the DEIS. All four facilities have educational components to their swim programs which appear to provide information about dolphin life history, behavior, sensory capabilities, and role in the ecosystem, and are consistent with the NMFS interim policy regarding education and conservation programs (54 FR 22001; May 22, 1989).

Dolphin Quest has several educational programs geared for local school children as well as a day-long professional development conference for elementary and secondary school teachers that includes lectures by researchers from the University of California at Santa Cruz who are studying native Hawaiian cetaceans. Additionally, two facilities also offer course work in conjunction with local colleges. According to Dolphins Plus' first quarterly report of 1988, Dr. Betsy Smith will be teaching a course entitled "Animal Assisted Treatment" to Florida International University students. Part of the course curriculum will enable students to monitor therapy swim programs with the handicapped at Dolphins Plus. The Dolphin Research Center offers a week-long program entitled Dolphinlab, which is accredited by the Florida Keys Community College for three credit hours in biological science. Included in the course work is dolphin training, biology, physiology, behavior, husbandry, medical treatment, marine mammal law, and conservation. These courses illustrate how local

educational institutions work cooperatively with a swim facility to design a curriculum for a special group such as college students or educators themselves.

c. Activities Related to Therapy

Two of the swim-with-the-dolphin facilities are associated with therapists and host swim sessions for autistic children, learning impaired, or other mentally or physically handicapped children and adults. During the last reporting period, around 6% of reported swims at the Dolphin Research Center were therapy-related while less than 2% of reported swims at Dolphins Plus were therapy-related. During these swim sessions, a professional therapist and a dolphin trainer supervise and monitor the swim activity. Whatever safeguards apply during the regular swim sessions also apply during these sessions; however, the adequacy of these safeguards for handicapped participants has been questioned.

Dr. Betsy Smith, Florida International University, began her study of autistic children and dolphins in 1978. These early studies led to her work with seven autistic adolescents at Dolphins Plus. Although the results of this study have not yet been published, a preliminary report discusses the therapeutic effects of human/dolphin interactions. Therapy-related swims for the handicapped at Dolphin Research Center include swim sessions supervised by Dr. David Nathanson. In his manuscript entitled, "Using Atlantic Bottlenose Dolphins to Increase Cognition of Mentally Retarded Children," Dr. Nathanson reports on his six-month learning study of six mentally retarded boys and the importance of learning more of the therapeutic potential of dolphin/human interactions.

2. Public Health and Safety

Microorganisms transferred from cetaceans to humans through distant water contact are of no particular concern (Johnston and Fung 1969). However, some closer associations may pose some risk. Historically, infections acquired by humans from marine mammals have been occupational in nature. For example, Case (1948) found that among workers aboard a whaling ship, those handling carcasses faced the greatest risk of becoming infected because, he concluded, they had handled decomposed flesh that had become contaminated by the intestinal flora of the whales. *Erysipelothrix* sp., the bacterium responsible for (sometimes fatal) erysipelas in cetaceans, can be transmitted to people performing necropsy examinations on dolphins that die of the disease (Nakajima and Takikawa 1961). *Blastomyces* sp. (Cates et al. 1986) and *Loboa lobo* (keloidal blastomycosis) are fungal pathogens that have also been transmitted to humans from dying dolphins (Symmers 1983). These findings justify the precautions one should take when handling beached and stranded cetaceans and those that are ill or have died of infectious disease. The risk of such exposure can be inferred from papers by Streitfield and Chapman (1976), Smith et al. (1983), and Buck and Spotte (1986), among others. Transmission of disease, even under these circumstances, is rare when measured against the numerous necropsy examinations carried out each year on stranded and captive cetaceans through which individuals come into intimate contact with decomposing tissue, blood, and other body fluids containing microorganisms. Disease transmission between

healthy dolphins and healthy people who swim with them would be considered even less likely, and probably no more likely than from companion animals (Lynch 1989, Tammemagi 1989).

Based on program experience and scientific literature, certain behaviors such as tooth-raking, physical blows from fins, rostrum, or tail, and, in males, penis erection and attempted copulation are normal in bottlenose dolphins and are associated with sexual arousal and expression of social dominance. When this behavior occurs during a swim session and involves a human swim participant, there is the potential for injury.

Letters to NMFS and public testimony have reported five injuries to swim participants. Two recent injuries were reported by the Dolphin Research Center (DRC) on March 5, 1990, when two swim participants standing close together were simultaneously bumped when a dolphin tried to swim between them. The dolphin was removed from the swim session. One of the participants suffered a fractured rib and the other a broken arm. According to the report, the dolphin did not sustain any injuries and, following subsequent observations, did not appear to have any abnormalities in swimming or feeding behavior. However, the dolphin was removed from the swim program pending further behavioral observation. Both the injured participants and the DRC personnel believed the incident to be accidental rather than an act of aggression or hostility.

While the potential for aggressive behavior or accidental bumping inherently exists, incidences of injury in the four swim programs thus far indicate a low accident rate.

3. Economic Environment

Since NMFS does not require income reports from swim operators, NMFS has very little economic information available about the programs. However, it is estimated that these four facilities receive \$2.2 million annually in gross revenues from the swim programs. This estimate is based on 10,000 participants at the four facilities quarterly (Table 3) paying approximately \$55.00. This gross revenue figure may be considered an underestimate. Based on a review of Table 3, it appears likely that the trend of annual increases in participation in swim programs will continue. Additionally, two of the facilities conduct programs involving several swims, field trips, and a series of workshops that cost more than \$50.00. In the case of the resort swim facility, loss of the swim program could result in loss of revenues generated by hotel rooms and meal service as well.

NMFS has no data on other revenues generated directly or indirectly by swim participants at the facilities and in the communities in which the facilities reside.

IV. ENVIRONMENTAL CONSEQUENCES

This section discusses the effects of each of the four alternatives on the environment identified in Section III. To the extent that the environmental consequences of the alternatives may be similar, the discussion will concentrate on the differences. Alternative B is the preferred alternative.

Alternative A. Allow swim-with-the-dolphin program authorities to expire after April 30, 1990. (No Action Alternative)

Since authority to use marine mammals in swim-with-the-dolphin programs expires on April 30, 1990, this alternative would result in a termination of such programs after that date. Under this alternative, no future requests for authority to use dolphins in swim programs would be granted and no takings of bottlenose dolphins from the wild would be authorized for this purpose.

Wild Dolphin Population

This alternative would result in no more takes from the wild for swim programs, but these four facilities, as well as new applicants, could receive authorization for taking additional dolphins from the wild for use in other types of public display programs. However, the number of bottlenose dolphins removed from the wild would continue to be managed under a quota system, as discussed in Section III.A. This alternative would eliminate any potential problems of dolphin allocation between swim programs and other public display programs caused by increased demand.

Dolphin Health and Safety

To the extent that swim programs per se may be responsible for disease transmission to dolphins, stress-induced illness, mortality rates, or incidence of behavior modification, this alternative would eliminate those factors.

Alternative A would not result in the loss of public display permits currently held by the four swim facilities. However, it is possible that one or more of the existing facilities would not be adaptable to other forms of public display. Unless these facilities would be able to provide for the health and well-being of the dolphins currently held in these facilities, this alternative could indirectly affect the health and well-being of these dolphins. Surplus dolphins would have to be transferred to other facilities that could care for them adequately.

Socio-Economic Environment

Disease transmission to humans if it exists, and incidence of injury, would be reduced under Alternative A.

This alternative would negatively affect those who enjoy the opportunity to swim recreationally with dolphins. Many enthusiastic comments were received from participants during the comment period and subsequently. On the other hand, dolphins would still be

available for public enjoyment in other types of public display programs. Discontinuation of swim-with-the-dolphin programs would not necessarily result in discontinuation of human/dolphin interactive activities for therapeutic, educational, or recreational uses. Dolphin petting pools which allow some physical interaction would still be available in some public display facilities. If they are found to qualify, therapy-related swims might be specifically authorized as scientific research.

Although the public would continue to be educated about the life history, behavior, sensory capabilities, and other aspects of the dolphin ecosystem, this alternative would limit the opportunities. There is no evidence to support the idea that experiential education through SWTD programs is more or less effective than more traditional educational approaches. Other types of public display can serve an educational function even though the experience does not occur in the water.

Negative economic effects on the four authorized swim program operators are anticipated under this alternative. It is estimated that these four facilities received \$2.2 million annually in gross revenues from the swim programs. On the other hand, the four swim facilities would retain their public display permits and, along with about 30 other facilities throughout the United States, could continue to charge an admission fee for their dolphin viewing and educational programs. While the public can be expected to pay to see and hear about dolphin life history and its ecosystem, it can be assumed that only a small portion of the estimated \$2.2 million annual revenues would be recovered by the four swim facilities.

Based on an average three-day tourist stay, one of the swim operators has estimated an additional \$5 million loss of revenue to local motels and restaurants. There is no data available to indicate how the swim programs affect a vacationer's choice of location. Nor is there data available on the number of local participants who do not require overnight accommodations.

Alternative B. Continue swim-with-the-dolphin programs on an experimental basis with additional conditions beyond April 30, 1990. (Preferred Alternative)

Under Alternative B, NMFS would continue the four current swim-with-the-dolphin programs on an experimental basis with additional conditions until December 31, 1991. Because of the experimental nature of this alternative, there would be no additional swim-with-the-dolphin programs authorized. Experience to date is based on the four authorized swim programs, all of which have open water systems, space which far exceeds APHIS minimum standards, and experience in conducting SWTD programs. Further standards would need to be established if additional facilities were to be authorized to conduct swim programs. There would be no authorization for taking additional dolphins from the wild for these programs. In addition to existing permit conditions, new ones would be recommended including a one-year study to investigate the effects of swim programs on the health and behavior of the swim dolphins. The swim operator would be required to temporarily adjust the swim program and reporting requirements as necessary in order to ensure the cooperation of the swim facility in meeting the objectives of the research contract. Alternative B is the preferred alternative.

During the experimental period, and based on information currently available regarding disease transmission and other health and safety issues discussed below, this alternative would provide additional safeguards and monitoring measures in order to mitigate any adverse impacts on the health and well being of the dolphin and the public.

Wild Dolphin Population

Under this alternative, there would be no authorization for additional takings of dolphin from the wild for swim programs. However, there could be additional taking of dolphins for use in other public display programs. However, as discussed in Section III.A., the annual quotas could not be exceeded and allocations would not be a problem under Alternative B.

Dolphin Health and Safety

Alternative B would not directly affect the incidence of mortality except for the ability of the Special Conditions to reduce the associated risks from disease, stress, and injury. Most of the Special Conditions recommended under Alternative B would provide additional safeguards to reduce and/or minimize the potential risks to the health and safety of the dolphins and the public. Many of these conditions would apply to more than one environmental element. For example, all of the provisions recommended to safeguard against disease transmission would protect both dolphins and the public. Provisions recommended to reduce stress to the dolphins would affect stress-induced illness, behavior, and incidence of injury to both dolphins and humans. See Appendix G for details of the new Special Conditions.

There is some concern that microorganisms normally associated with dolphins and humans may be transferred, with a risk of causing disease. This is assuming more importance now that human/dolphin swim programs are extending exposure to dolphins beyond the traditionally small group of people entrusted with the care of the animals to a cross-section of the population that includes healthy, sick, young, and aging individuals.

Although current literature cited in Section III.B. indicates that the risks for disease transmission do not appear to be significant, every reasonable effort should be made to prevent dolphins from being exposed to disease-causing organisms from human participants. Three new conditions under Alternative B would be recommended to minimize the risk of disease transmission:

Individuals with upper respiratory disease or on medication that suppresses immune function would be excluded from swim programs.

Infants would not be permitted to participate in swim programs.

Participants would be required to shower with soap and water before entering and after leaving the swim area.

Comprehensive records on daily behavior, feeding and health would be required along with a separate quarterly medical report for each swim dolphin.

The attending veterinarian would prepare and implement a preventive medicine plan that included: a) policy on veterinary coverage, identifying each affiliated veterinarian, and protocols and schedules for visits, physical exams, and weighing and medicating animals; b) policy on quarantine; and c) necropsy protocol.

Attending veterinarians would be required to certify the health of dolphins before their participation in swim programs.

Dolphins would be removed from the program while on medication.

The potential role of stress in contributing to illness and/or behavior modification was discussed in Section III.B. There have been no reports from the swim programs to indicate that stress has been a problem. Only one facility has reported that in addition to behavior monitoring, it routinely checks for physical changes that might indicate ulcers or other signs of physiological stress in swim dolphins. One dolphin had been temporarily removed from a swim program due to a stress-related medical problem. Since there are no other scientific data regarding swim programs and their impact on stress levels of the swim dolphins, Alternative B ensures a study would be undertaken to specifically examine the risks in this area. Meanwhile, several new conditions under Alternative B would eliminate or minimize potential stress to the dolphin from human participants or the swim program routine and would provide the animals ample opportunity to retreat from the interaction process.

Participants would not be permitted to hold, pull or grab the dolphins, including dorsal fins.

Periods of continuous interaction would be limited to two hours with rest intervals at least as long as the interaction time.

Dolphins would have one period each 24 hours of no less than ten continuous hours respite from swimmers and other human-related activities.

Facilities would provide the dolphins access to escape if they want to terminate a swim session.

Dolphins would be provided with not less than six months of professionally directed training prior to their routine participation in the swim programs including appropriate gate training.

These requirements would assure that dolphins are given ample rest and free time from the program that every effort would be made to reduce risk of potential injury to both dolphins and humans possibly resulting from stress or aberrant dolphin behavior and that dolphins are adequately acclimated to the human participants and program routines.

Although the potential for aggressive behavior or accidental bumping exists, incidences of injury with the swim programs so far indicate a low injury rate. Several conditions under this alternative would further reduce the potential for injury by ensuring that swim sessions are adequately monitored, and include:

At least one experienced staff member would be supervising swim sessions in the water with the swim participant and the dolphin, and at least one staff member would be monitoring activities from poolside out of the water.

The number of swim participants in the water with the dolphin would be limited to a ratio of two swimmers to one dolphin.

These requirements would assure that both dolphins and human participants are directly and adequately supervised by experienced training staff, thereby minimizing the risk of injury.

Several new conditions under Alternative B regarding the qualifications of SWTD program staff would ensure that those responsible for the management of the programs and the health and welfare of the dolphins are experienced in the responsible care of captive cetaceans. Management makes decisions which affect the nature and safe conduct of the swim interactions while others provide the daily supervision, training, and direct care of the dolphins. Since they monitor the safe conduct of the swim sessions, they must also have experience in behavioral and husbandry management and professionally qualified to recognize early and subtle signs of potential problems or changes in dolphin health and behavior that could result in injury.

At least one permanent full-time staff member with three or more years in a professional or managerial position dealing with captive cetaceans.

At least one full-time staff member with three or more years experience in the training and care of captive cetaceans.

At least one staff or consultant veterinarian with at least two years current experience in cetacean medicine.

Socio-Economic Environment

Alternative B would not significantly affect the economic environment nor the availability of current recreational and educational opportunities although it would eliminate any new recreational or educational opportunities.

Under this alternative, all of the new conditions recommended above would be expected to reduce the potential risks of disease transmission to humans and the incidence of injury resulting from dolphin behavior.

As discussed in Section III.C., a healthy individual is at low risk of acquiring infection by casual contact with microorganisms unless they are present in overwhelming numbers or are highly virulent. The threat would be greater if the recipient were made more susceptible, if for example there were a break in the skin. Therefore, the effects of the recommended conditions to reduce the risk of contamination and infection also safeguard human participants.

So far, there have been no instances of disease transmission to humans reported at any of the SWTD programs. Alternative B is not expected to increase the incidence of disease transmission.

The incidence of injury to the public in the SWTD programs has been relatively low; only five injuries have been reported by swim program operators or other sources. Overall, it is expected that Alternative B would continue to reduce the risk of injury. The current conditions require the swim operators to immediately report any injuries of either dolphins or the public. Together with a new reporting requirement in the event of a dolphin's death, this alternative would strengthen the monitoring, reporting, and analysis of the circumstances surrounding any injury or behavior change in order to prevent any future reoccurrence.

The following would also be required:

Written program instructions prepared by the swim facilities would inform swim participants that facilities are required to report injuries and would provide swim participants with NMFS address so that they may report injuries or comment on these experimental SWTD programs.

This new condition would assure that the swim participants are fully aware that these programs are experimental and may involve some health and safety risks. This information would be provided in both oral pre-swim briefings and written program instructions; and would be required before swim participants signed any liability waiver. These requirements would further assure that NMFS is kept fully informed of the circumstances regarding the dolphins that have been authorized for swim programs. NMFS would vigorously enforce this requirement and swim operators would risk an immediate program suspension or permanent permit revocation if they did not comply. To the extent that these new Special Conditions may reduce the chances of disease transmission or other harm to dolphins or humans, this alternative would provide additional measures to mitigate possible adverse effects of swim-with-the-dolphin programs.

Alternative C. Authorize swim-with-the-dolphin programs indefinitely beyond April 30, 1990 with new conditions.

Under Alternative C, the four existing swim-with-the-dolphin programs, as well as additional qualifying swim programs, would be authorized indefinitely. Additional takes of dolphins from the wild would be authorized under this alternative. The Special Conditions indicated

under Alternative B would be recommended under this alternative as well as additional ones. Experience to date is based on the four authorized swim programs, all of which have open water systems, space which far exceeds APHIS minimum standards, and experience in conducting SWTD programs. Further standards would need to be established if additional facilities were to be authorized to conduct swim programs.

Wild Dolphin Population

To the extent that these programs might generate a demand for additional dolphins, Alternative C could result in increased applications for permits for taking bottlenose dolphins from the wild. In addition, as animals that are no longer suitable for swim programs are replaced by other dolphins, the total take will increase. However, as discussed in Section III.A., there is a limit on the allowable take of dolphins equal to approximately 2 percent of the minimum estimated population level in a given area. Thus, although the number of dolphins taken from the wild might increase over current levels, it cannot increase beyond the quota level. Therefore, any increase in take, should it occur, is not expected to have an adverse impact on population levels of bottlenose dolphins in the Gulf of Mexico, but it could raise the issue of allocation depending on competing demands for animals from swim program operators and other public display facilities.

Dolphin Health and Safety

The overall effects of this alternative on disease transmission, behavior modification, and mortality rates would be similar to those discussed under Alternative B, except that there could be increased stress over time that would affect the health and behavior of the dolphins.

Socio-Economic Environment

Recreational and educational opportunities would potentially increase under this alternative. Impacts of this alternative on public health and safety would be the same as those discussed under Alternative B although more participants could be affected. A healthy individual is at low risk of acquiring infection by brief casual contact with swim dolphins and there have been no reports of disease transmission at the swim facilities. There may be an increased risk from the long-term effects of stress on the behavior of the dolphins that might subsequently increase the incidence of injury to the public. This alternative is not likely to have any adverse economic impacts on the swim facilities. With the potential for expansion of the swim-with-the-dolphin programs, there could be additional costs associated with the long-term care and maintenance of dolphins no longer suitable for swim programs.

Alternative D. Continue swim-with-the-dolphin programs indefinitely beyond April 30, 1990 with existing Special Conditions.

Under this alternative, the four existing swim programs would continue to operate indefinitely. In addition, other applicants who met existing criteria for issuance of public display permits and Special Conditions would receive authority to begin swim-with-the-dolphin programs and to operate them indefinitely.

Wild Dolphin Population

To the extent that these programs might generate a demand for additional dolphins, Alternative C could result in increased applications for permits for taking bottlenose dolphins from the wild. In addition, as animals that are no longer suitable for swim programs are replaced by other dolphins, the total take will increase. However, as discussed in Section III.A., there is a limit on the allowable take of dolphins equal to approximately 2 percent of the minimum estimated population level in a given area. Thus, although the number of dolphins taken from the wild might increase over current levels, it cannot increase beyond the quota level. Therefore, any increase in take, should it occur, is not expected to have an adverse impact on population levels of bottlenose dolphins in the Gulf of Mexico, but it could raise the issue of allocation depending on competing demands for animals from swim program operators and other public display facilities.

Dolphin Health and Safety

The major impact of this alternative would depend on the effectiveness of the Special Conditions intended to mitigate the potential risks in the areas of dolphin and human health and safety. To the extent that these measures are effective, this alternative would reduce several potential risks. However, based on swim program experience, these Special Conditions could be more stringent and effective.

As indicated in Section III, scientific data does not suggest that the swim programs increase risk of disease transmission to dolphins. The potential incidence of stress-induced illness also does not appear to be increased with this alternative. There have been no reported incidents of disease transmission nor have any of the swim dolphins been permanently removed because of stress. However, the incidence of stress and its effect on dolphin behavior and illness are difficult to monitor. So far, the swim programs have not experienced any major problems in this area.

There may be some long term effects on behavior under this alternative that are related to stress. With the current monitoring program there may be insufficient safeguards to mitigate the potential risks. Mortality rates are not expected to be affected under Alternative D.

Socio-Economic Environment

As indicated in Section III, the likelihood of disease transmission to humans during casual swim contact is small. The current health monitoring program, as well as the requirement that unhealthy dolphins be removed from the programs, should safeguard the public under this alternative.

The incidence of injury is not expected to be affected by this alternative. Current injury reports do not indicate any significant injury level; only five incidents have been reported by operators or other sources. Swim operations must be continuously supervised by experienced trainers and dolphins are removed from the program if they respond adversely.

Monitoring the effectiveness of the Special Conditions is two-fold. First, the swim program operator must develop and implement a self monitoring program that documents the health and behavior of the swim dolphins. Second, once the observations are made, the swim operator must ensure they are assessed, recorded, and submitted to NMFS for review.

Experience with the current monitoring programs indicates that none of the facilities have provided evidence through existing reporting systems of adequate behavioral monitoring programs necessary to obtain important data on possible increases in aggression or other behavioral and health changes over time as a consequence of the swim sessions. Only one facility has reported that it routinely checks for physical changes that might indicate ulcers or other signs of physiological stress in these animals. Although APHIS inspects these facilities for evidence of inadequate care or physical conditions, it is the swim operators themselves who must report health and welfare problems that may be a consequence of their swim operations.

Monitoring these permit conditions is important to understanding circumstance surrounding any changes and minimizing any future risks and is accomplished through a review of quarterly reports and other information requirements provided by the swim facilities.

Alternative D would not adversely affect the availability of recreational and educational opportunities and would allow for an increase in such opportunities. There are no adverse economic impacts expected under this alternative. However, indirectly there may be some additional costs associated with the long-term care and maintenance of swim dolphins no longer suitable for swim programs.

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VI. REFERENCES

A. Figure and Tables

- Figure 1. Management areas for bottlenose dolphin live-capture fishery ; management.
- Table 1. Summary of permanent removals from the wild of bottlenose dolphins.
- Table 2. Estimated survival rates for free-ranging and captive bottlenose dolphins.
- Table 3. Swim-with-the-Dolphin Program Statistics--Summary, 1985-1989.
- Table 4. Swim-with-the-Dolphin Program Statistics--Theatre of the Sea.
- Table 5. Swim-with-the-Dolphin Program Statistics--Dolphin Research Center.
- Table 6. Swim-with-the-Dolphin Program Statistics--Dolphins Plus, Inc.
- Table 7. Swim-with-the-Dolphin Program Statistics--Hyatt Waikoloa Resort.

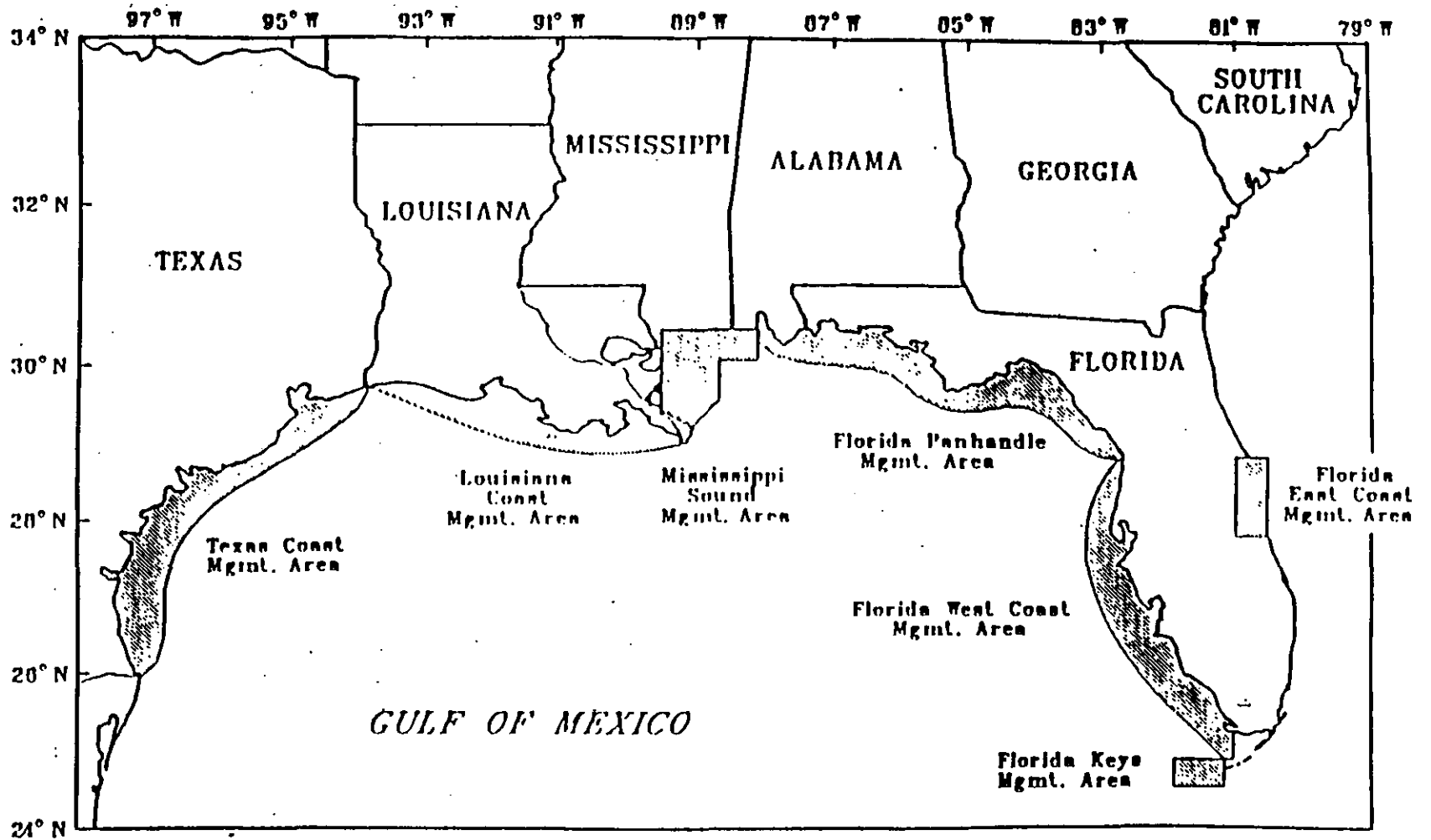


Figure 1. Management areas for bottlenose dolphin live-capture fishery management. (from Scott et al. 1989)

(from NMFS, 1989)

Table 1. Summary of permanent removals from the wild¹ of bottlenose dolphins, *Tursiops truncatus*, from 1973-1988² (removals/quota). Locations in italics indicate take from smaller subareas within larger areas above. Subareas are not necessarily additive to larger area totals.

Locality	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	Total
Indian/Banana Rivers	0/-	0/-	10/-	6/-	15/-	5/7	7/7	9/7	7/7	3/6	2/6	0/6	0/6	0/6	0/6	4/6	68
Florida Keys	15/-	0/-	0/-	0/-	0/-	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	15
Florida West Coast	0/-	0/-	16/-	5/-	16/-	5/6	0/6	8/6	5/6	7/23	11/23	12/23	21/23	9/23	6/23	13/23	134
<i>Tampa Bay</i>	0/-	0/-	0/-	1/-	2/-	0/-	0/-	0/-	0/-	0/10	0/10	1/10	6/10	0/10	0/10	2/10	12
<i>Charlotte Harbor</i>	0/-	0/-	8/-	0/-	5/-	0/-	0/-	3/-	4/-	5/5	5/5	2/5	4/5	4/5	0/5	3/5	43
<i>Crystal River to Charlotte Harbor³</i>	0/-	0/-	8/-	4/-	5/-	5/-	0/-	5/-	1/-	2/8	6/8	9/8	11/8	5/8	6/8	8/8	75
Florida Panhandle	0/-	5/-	0/-	7/-	3/-	4/10	0/10	4/10	2/10	0/10	0/10	6/10	2/10	1/10	1/10	8/10	43
<i>Apalachicola/St. Joseph Bays</i>	0/-	5/-	0/-	7/-	0/-	0/-	0/-	2/-	0/-	0/1	0/1	0/1	0/1	0/1	0/1	0/1	14
<i>Pensacola/Fort Walton Beach⁴</i>	0/-	0/-	0/-	0/-	0/-	2/-	0/-	1/-	1/-	0/2	0/2	1/2	1/2	0/2	1/2	2/2	9
Mississippi Sound	0/-	15/-	7/-	2/-	8/-	24/35	14/35	11/35	0/35	11/35	14/35	31/35	4/35	6/35	24/35	31/35	202
Texas Coast	6/-	0/-	5/-	0/-	2/-	17/17	13/17	12/17	8/17	8/17	0/17	0/17	0/17	0/17	0/17	0/17	71
<i>Aransas/Copano/ San Antonio Bays</i>	5/-	0/-	5/-	0/-	0/-	2/-	6/-	0/-	2/-	0/5	0/5	0/5	0/5	0/5	0/5	0/5	20
<i>Matagorda Bay</i>	1/-	0/-	0/-	0/-	0/-	0/-	1/-	6/-	4/-	8/12	0/12	0/12	0/12	0/12	0/12	0/12	20
Total	21/-	20/-	38/-	20/-	34/-	69/75	34/75	44/75	22/75	29/91	27/91	49/91	27/91	16/91	31/91	56/91	533
% females										82	78	73	70	75	68	68	

¹ Includes animals accidentally killed during research which did not authorize permanent removal² Information current through 24 January, 1989³ Exclusive of Tampa Bay⁴ Includes Pensacola and Choctawhatchee Bays, FL

(from Scott et al., 1989)

Table 2 Estimates of bottlenose dolphin abundance for management areas and seasons surveyed¹.

Management Area ²	Season	P	\hat{N}_B	\hat{N}_{L95}	\hat{N}_{L80}	\hat{N}_M	\hat{N}_{U80}	\hat{N}_{U95}
Florida Keys Nearshore Atlantic	Winter	1.000	0	.	.	0	.	.
	Summer	1.000	0	.	.	0	.	.
	Autumn	1.000	0	.	.	0	.	.
Key West	Winter	1.000	46	26	32	46	59	66
	Summer ³	1.000	16	7	9	16	24	27
	Autumn	1.000	13	7	9	13	17	19
Marquesas & Dry Tortugas	Winter	1.000	346	266	294	346	398	426
	Summer	1.000	120	80	94	120	145	159
	Autumn	1.000	653	502	555	653	752	804
Florida West Coast Charlotte Harbor	Winter	1.000	378	244	290	378	465	512
	Summer	1.000	206	135	160	206	252	277
	Autumn	1.000	117	77	91	117	144	157
Charlotte Harbor to Crystal River	Winter	1.000	2051	1550	1723	2051	2378	2551
	Summer	0.943	1090	797	899	1156	1282	1384
	Autumn	0.912	1088	767	878	1193	1297	1408
Tampa Bay	Winter	1.000	217	130	160	217	274	304
	Summer	1.000	198	78	120	198	276	318
	Autumn	1.000	248	148	183	248	313	348
Sarasota Bay	Winter	1.000	23	12	16	23	30	34
	Summer	1.000	2	1	1	2	3	3
	Autumn	1.000	.	.	.	0	.	.
Sanibel Island to Florida Keys	Winter	1.000	2590	1959	2177	2590	3002	3220
	Summer	1.000	1326	1025	1129	1326	1523	1627
	Autumn	0.995	1799	1356	1510	1808	2089	2242
Ten Thousand Islands	Winter	1.000	295	197	231	295	359	393
	Summer	1.000	261	169	201	261	321	353
	Autumn	1.000	256	175	203	256	309	337
Whitewater Bay	Winter	1.000	74	49	58	74	90	98
	Summer	1.000	55	35	42	55	69	76
	Autumn	1.000	17	10	12	17	22	25
Florida Panhandle Crystal River to Pensacola	Winter	0.842	1163	743	889	1381	2866	3150
	Summer	1.000	2297	1520	1789	2297	2805	3074
	Autumn	1.000	4307	2867	3365	4307	5248	5746
Apalachicola & St. Joseph Bays	Winter	1.000	61	32	42	61	79	89
	Summer	1.000	0	.	.	0	.	.
	Autumn	1.000	100	41	61	100	138	159

Table 2 continued.

Management Area	Season	P	R _B	R _{LPS}	R _{LBO}	R _M	R _{UBO}	R _{UPS}
Pensacola & Choctawhatchee Bays	Winter	1.000	204	106	140	204	268	302
	Summer	1.000	156	102	121	156	191	209
	Autumn	1.000	115	69	85	115	146	162
St. Andrews Bay	Winter	1.000	18	9	12	18	24	27
	Summer	1.000	50	20	30	50	70	80
	Autumn	1.000	42	22	29	42	55	62
Coastal Alabama	Winter	1.000	91	56	68	91	114	126
	Summer	1.000	71	42	52	71	89	99
	Autumn	1.000	36	23	27	36	44	49
Mississippi Sound								
Mississippi Sound Management Area ^d	Winter	1.000	4929	3323	3879	4929	5979	6534
	1.000	4432	2689	3292	4432	5572	6176	
	0.429	1531	969	1164	3572	8311	9068	
Mississippi Sound Proper ^e	Winter	1.000	135	84	102	135	169	187
	Summer	1.000	719	482	564	719	875	957
	Autumn	0.710	463	325	373	653	888	965
Coastal Louisiana								
Coastal Louisiana	Winter	1.000	2549	1747	2024	2549	3074	3352
	Spring	1.000	2877	1998	2303	2877	3452	3756
	Summer	1.000	441	267	327	441	554	614
	Autumn	1.000	3065	1896	2301	3065	3830	4235
Terrebonne/Timbalier								
Terrebonne/Timbalier	Winter	0.000	.	.	.	.	.	.
	Spring	1.000	98	37	58	98	138	159
	Summer	1.000	198	100	134	198	263	297
	Autumn	1.000	121	58	80	121	162	184
Atchafayala Bay								
Atchafayala Bay	Winter	1.000	0	.	.	0	.	.
	Spring	1.000	0	.	.	0	.	.
	Summer	1.000	0	.	.	0	.	.
	Autumn	1.000	0	.	.	0	.	.
Barrataria Bay								
Barrataria Bay	Winter	0.000	.	.	.	.	.	.
	Spring	1.000	439	220	296	439	581	657
	Summer	1.000	50	17	29	50	72	84
	Autumn	1.000	132	56	82	132	183	209
Calcasieu Lake								
Calcasieu Lake	Winter	1.000	0	.	.	0	.	.
	Spring	1.000	0	.	.	0	.	.
	Summer ^s	1.000	6	.	.	6	9	10
	Autumn	1.000	0	.	.	0	.	.

Table 2 continued.

Management Area	Season	P	R_B	R_{L95}	R_{L80}	R_M	R_{U80}	R_{U95}
Texas Coast Coastal Texas ⁶	Winter	1.000	427	281	332	427	522	573
	Spring	1.000	196	107	138	196	254	285
	Summer	1.000	781	416	542	781	1021	1147
	Autumn	1.000	1234	732	906	1234	1563	1736
Coastal Southern Texas ⁶	Winter	1.000	348	232	272	348	424	464
	Spring	1.000	85	47	60	85	109	122
	Summer	1.000	251	139	178	251	325	364
	Autumn	1.000	305	179	223	305	388	432
Aransas/Copano/San Antonio	Winter	1.000	45	22	30	45	60	68
	Spring	1.000	348	180	239	348	458	516
	Summer	1.000	527	323	394	527	661	731
	Autumn	1.000	87	42	57	87	116	131
Galveston Bay	Winter	1.000	0	.	.	0	.	.
	Spring	1.000	0	.	.	0	.	.
	Summer	1.000	45	19	28	45	63	72
	Autumn	1.000	0	.	.	0	.	.
Corpus Christi	Winter	1.000	0	.	.	0	.	.
	Spring	1.000	13	6	8	13	17	19
	Summer	1.000	83	46	59	83	107	120
	Autumn	1.000	0	.	.	0	.	.
Matagorda Bay	Winter ⁷	1.000	2	.	.	2	.	.
	Spring	1.000	48	28	35	48	61	68
	Summer	1.000	111	57	76	111	145	164
	Autumn	1.000	57	28	38	57	76	86
Laguna Madre	Winter	1.000	0	.	.	0	.	.
	Spring	1.000	0	.	.	0	.	.
	Summer	1.000	102	35	58	102	145	168
	Autumn ⁸	1.000	136	76	78	136	194	225

¹ P - proportion of management area surveyed

R_B - sum of individual block abundance estimates within a management area

R_M - management area average abundance estimate

R_{L95} - approximate lower 95% confidence limit for R_M

R_{L80} - approximate lower 80% confidence limit for R_M

R_{U95} - approximate upper 95% confidence limit for R_M

R_{U80} - approximate upper 80% confidence limit for R_M

² Management areas listed are exclusive, except where noted.

³ Six animals observed on- and off-effort; R_{L95} set equal to 7.

⁴ Mississippi Sound Proper is wholly included within Mississippi Sound Management Area.

⁵ Six animals observed on- and off-effort; R_{L95} and R_{L80} not computed.

⁶ Coastal Southern Texas is wholly included within Coastal Texas.

⁷ Two animals observed on-and off-effort; R_B and R_M set equal to 2, confidence bounds not computed.

⁸ Seventy-five animals observed on-and off-effort; R_{L95} set equal to 76.

TABLE 3. SWIM WITH THE DOLPHIN PROGRAM STATISTICS - SUMMARY, 1985-89

YR	QUARTER	TOTAL NO. OF DOLPHINS IN USE	TOTAL NO. OF PEOPLE PARTICIPATING	AV. NO. OF PEOPLE/ DAY	AV. NO. PEOPLE/ DOLPHIN/DAY	HOURS/ DOLPHIN/ DAY	AV. NO. OF PEOPLE/ WEEK	AV. NO OF PEOPLE/ DOLPHIN WEEK	HOURS/ DOLPHIN/ WEEK
85	3	6	688	8	1.3	1.3	55.0	9.2	8.8
85	4	6	869	10.3	1.7	1.3	77.0	11.7	8.8
86	1	6	1,181	13.6	2.3	1.7	95.0	15.8	11.9
86	2	6	1,594	18.8	1.3	1.7	130.0	21.7	11.5
86	3	6	2,076	24.1	4.0	1.9	165.0	27.5	13.0
86	4	6	1,839	21.9	3.6	1.8	150.3	25.0	12.1
87	1	21	3,530	22.3	2.9	1.0-1.8	140.0	19.4	6-12.6
87	2	22	3,844	18.6	2.8	1.0-1.5	116.0	17.9	6-13.3
87	3	22	3,922	14.9	2.6	1.0-1.6	95.5	16.6	9-11.2
87	4	22	3,994	15.5	3.0	1.0-1.5	98.0	19.0	9-10.5
88	1	18	4,804	19.2	3.7	1.5-1.7	121.0	23.1	9-11.9
88	2	23	5,057	19.3	3.5	1.5-1.7	123.0	21.1	9-11.9
88	3	25	5,218	21.1	2.9	.5-1.7	131.1	17.6	2.3-11.8
88	4	31	8,203	24.1	3.2	.5-1.6	156.5	20.5	2.3-11.0
89	1	34	11,509	28.2	4.0	.5-1.9	130.0	25.3	2.5-12.2
89	2	34	9,462	26.5	3.8	.4-1.9	171.2	24.2	1.8-13.0
89	3	34	7,976	23.8	3.5	.2-1.7	153.3	22.6	1.4-11.9
89	4	35	8,230	23.9	3.4	.2-1.7	153.7	22.2	1.4-11.9

TABLE 4. SWIM WITH THE DOLPHIN PROGRAM STATISTICS - THEATER OF THE SEA.

YR	QUARTER	DAYS OF OPERATION	NO. OF DOLPHINS IN USE	NO. OF PEOPLE PARTICIPATING	NO. OF PEOPLE/DAY	NO. OF PEOPLE/DOLPHIN/DAY	HOURS/DOLPHIN/DAY	NO. OF PEOPLE/WEEK	NO. OF PEOPLE/DOLPHIN/WEEK	HOURS/DOLPHIN/WEEK IN SWIM SESSIONS
87	2	36	3	162	4.5	1.5	1.0	27	9	6
87	3	7R	3	440	5.6	1.9	1.5	33.6	11.2	9
87	4	7R	3	899	11.5	3.8	1.5	69	23	9
88	1	7R	3	1,015	13	4.3	1.5	78	26	9
88	2	7R	2 ^a	961	12.3	6.2	1.5	73.8	36.9	9
88	3	7R	4	1,423	18.2	4.6	1.5	109.2	27.3	9
88	4	7R	4	1,422	18.2	4.6	1.5	109.2	27.3	9
89	1	7R	4	1,722	22	5.5	1.5	132	33	"
89	2	7R	4	1,727	22.1	5.5	1.5	132	33	9
89	3	7R	4	1,598	20.5	5.1	1.5	123	30.8	9
89	4	7R	4	1,618	20.7	5.2	1.5	124.2	31.2	9

a "SONNY" died on 4/14/88.

TABLE 5. SWIM WITH THE DOLPHIN PROGRAM STATISTICS - DOLPHIN RESEARCH CENTER.

YR	QUARTER	DAYS OF OPERATION	NO OF DOLPHINS IN USE	NO OF PEOPLE PARTICIPATING	NO OF PEOPLE/ DAY	NO OF PEOPLE/ DOLPHIN/ DAY	HOURS/ DOLPHIN/ DAY IN SWIM SESS.	NO. OF PEOPLE/ WEEK	NO. OF PEOPLE/ DOLPHIN/ WEEK	HOURS/DOLPHIN/ WEEK IN SWIM SESSIONS
87	1	69	15	1,080	15.7	1.0	-	78.5	5.2	-
87	4/1-8/10	99	13	1,911	19.3	1.5	-	96.5	7.4	-
87	8/11-12/13	92	10	976	10.6	1.1	-	53	5.3	-
88	12/14-4/15	92	9	1,373	14.9	1.7	-	74.5	8.3	-
88	4/16-9/10	111	9	1,364	12.3	1.4	-	61.5	6.8	-
88	9/11-12/11	64	10	1,110	16.1	1.6	.5	80.5	8.1	2.3
89	12/12-4/14	92	10	1,528	16.6	1.7	.5	83	8.3	2.5
89	4/15-8/12	99	12	1,585	16	1.3	.4	80	6.7	1.8
89	8/13-12/2	83	13 ^a	1,434	17.3	1.3	.2	86.5	6.7	1.4
90 ^b										

a "Captiva" died on 10/21/89; "Bee" died on 11/30/89; "Merina" was removed from the Swim Program for three months because of illness.

b Emergency Report received on 3/5/90 regarding injuries to human participants.

TABLE 6 SWIM WITH THE DOLPHIN PROGRAM STATISTICS - DOLPHINS PLUS, INC.

YR	QUARTER	DAYS OF OPERATION	NO. OF DOLPHINS IN USE ^a	NO OF PEOPLE PARTICIPATING	NO. OF PEOPLE/ DAY	NO. OF PEOPLE/ DOLPHIN DAY	HOURS/ DOLPHIN DAY IN SWIM SESS.	NO. OF PEOPLE/ WEEK	NO. OF PEOPLE/ DOLPHIN WEEK	HOURS/DOLPHIN WEEK IN SWIM SESSIONS
85	3	86	6	688	8	1.3	1.3	55	9.2	8.8
85	4	84	6	869	10.3	1.7	1.3	70	11.7	8.8
86	1	87	6	1,181	13.6	2.3	1.7	95	15.8	11.9
86	2	85	6	1,594	18.8	3.1	1.7	130	21.7	11.5
86	3	86	6	2,076	24.1	4.0	1.9	165	27.5	13.3
86	4	84	6	1,819	21.9	3.6	1.8	150	25.0	12.6
87 ^b	1	85	6	2,450	28.8	4.8	1.8	202	33.6	12.6
87	2	84	6	2,690	32.0	5.3	1.9	224	37.3	13.3
87	3	87	6	2,490	28.6	4.8	1.6	200	33.4	11.2
87	4	86	6	2,103	24.5	4.1	1.5	172	28.6	10.5
88	1	84	6	2,507	29.8	5.0	1.7	209	35.0	11.9
88	2	84	12	2,804	33.4	2.8	1.7	234	19.5	11.9
88	3	82	12	2,513	30.6	2.6	1.7	212	17.7	11.8
88	4	85	12	2,322	27.3	2.3	1.6	191.1	15.9	11.0
89	1	89	12	3,880	43.6	3.6	1.8	305	25	12.2
89	2	90	12	3,352	37.2	3.1	1.9	258	21.5	13
89	3	90	12	2,419	26.9	2.2	1.7	188	15.7	11.9
89	4	89	12	2,498	28.1	2.3	1.7	197	16.4	11.9

a A California sea lion was also included in this Swim Program until 1990.

b Quarterly reports for 1987 and the first 2 quarters of 1988, submitted on 12/13/89.

TABLE 7. SWIM WITH THE DOLPHIN PROGRAM STATISTICS - HYATT WAIKOLOA RESORT.

YR	QUARTER	DAYS OF OPERATION	NO OF DOLPHINS IN USE	NO OF PEOPLE PARTICIPATING	NO OF PEOPLE/ DAY	NO OF PEOPLE/ DOLPHIN/ DAY	HOURS/ DOLPHIN/ DAY IN SWIM SESS.	NO OF PEOPLE/ WEEK	NO OF PEOPLE/ DOLPHIN/ WEEK	HOURS/DOLPHIN/ WEEK IN SWIM SESSIONS
88	4	91	8	3,177	34.9	4.4	1.0	245	30.6	7.2
89	1	110	8	4,379	39.8	5.0	1.1	279	34.8	7.5
89	2	91	6 ^a	2,798 ^b	30.7	5.1	1.0	215	35.8	7.1
89	3	92	6	2,919	31.7	5.3	1.0	222	37.0	7.3
89	4	91	6	2,680	29.5	4.9	0.9	207	34.4	6.6

a "YOICHI" died March 16, 1989; "KAI" died April 9, 1989.

b Maximum number of people per session reduced as a precaution.

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VII. APPENDICES

- A. Section 104(a)-(g) of the MMPA**
- B. Implementing Regulations (50 CFR 216.31-34)**
- C. APHIS "Handling" Regulations (9 CFR 2.131)**
- D. Descriptions of the Four SWTD Programs**
- E. Survivorship and Longevity of Captive Bottlenose Dolphins**
- F. Existing Special Conditions**
- G. Recommended Special Conditions**

MARINE MAMMAL PROTECTION ACT OF 1972

16 U.S.C. 1374(a)-(g)

PERMITS

Sec. 104. (a) Issuance - The Secretary may issue permits which authorize the taking or importation of any marine mammal.

(b) Requisite provisions - Any permit issued under this section shall-

(1) be consistent with any applicable regulation established by the Secretary under section 103 of this title, and

(2) specify-

(A) the number and kind of animals which are authorized to be taken or imported,

(B) the location and manner (which manner must be determined by the Secretary to be humane) in which they may be taken, or from which they may be imported,

(C) the period during which the permit is valid, and

(D) any other terms or conditions which the Secretary deems appropriate.

In any case in which an application for a permit cites as a person for the proposed taking the overpopulation of a particular species or population stock, the Secretary shall first consider whether or not it would be more desirable to transplant a number of animals (but not to exceed the number requested for taking in the application) of that species or stock to a location not then inhabited by such species or stock but previously inhabited by such species or stock.

(c) Importation for display or research - (1) Any permit issued by the Secretary which authorizes the taking or importation of a marine mammal for purposes of scientific research, public display, or enhancing the survival or recovery of a species or stock shall specify, in addition to the conditions required by subsection (b) of this section, the methods of capture, supervision, care, and transportation which must be observed pursuant to and after such taking or importation. Any person authorized to take or import a marine mammal for purposes of scientific research, public display, or enhancing the survival or recovery of a species or stock shall furnish to the Secretary a report on all activities carried out by him pursuant to that authority.

(2) A permit may be issued for public display purposes only to an applicant which offers a program for education or conservation purposes that, based on professionally recognized standards of the public display community, is acceptable to the Secretary and which submits with the permit application information indicating that the applicant's facilities are open to the public on a regularly scheduled basis and that access to the facilities is not limited or restricted other than by the charging of an admission fee.

(3) A permit may be issued for scientific research purposes only to an applicant which submits with its permit application information indicating that the taking is required to further a bona fide scientific purpose and does not involve unnecessary duplication of research. No permit issued for purposes of scientific research shall authorize the killing of a marine mammal unless the applicant demonstrates that a nonlethal method for carrying out the research is not feasible. The Secretary shall not issue a permit for research which involves the lethal taking of a marine mammal from a species or stock designated as depleted, unless the Secretary determines that the results of such research will directly benefit that species or stock, or that such research fulfills a critically important research need.

(4)(A) A permit may be issued for enhancing the survival or recovery of a species or stock only with respect to a species or stock for which the Secretary, after consultation with the Marine Mammal Commission and after notice and opportunity for public comment, has first determined that--

(i) taking or importation is likely to contribute significantly to maintaining or increasing distribution or numbers necessary to ensure the survival or recovery of the species or stock; and

(ii) taking or importation is consistent (I) with any conservation plan adopted by the Secretary under section 115(b) of this title or any recovery plan developed under section 4(f) of the Endangered Species Act of 1973 (16 U.S.C. 1533(f)) for the species or stock, or (II) if there is no conservation or recovery plan in place, with the Secretary's evaluation of the actions required to enhance the survival or recovery of the species or stock in light of the factors that would be addressed in a conservation plan or a recovery plan.

(B) A permit issued in accordance with this paragraph may allow the captive maintenance of a marine mammal from a depleted species or stock only if the Secretary--

(i) determines that captive maintenance is likely to contribute to the survival or recovery of the species or stock by maintaining a viable gene pool, increasing productivity, providing biological information, or establishing animal reserves;

(ii) determines that the expected benefit to the affected species or stock outweighs the expected benefit of alternatives which do not require removal of animals from the wild; and

(iii) requires that the marine mammal or its progeny be returned to the natural habitat of the species or stock as soon as feasible, consistent with the objectives of any applicable conservation plan or recovery plan, or of any evaluation by the Secretary under subparagraph (A).

The Secretary may allow the public display of such a marine mammal only if the Secretary determines that such display is incidental to the authorized maintenance and will not interfere with the attainment of the survival or recovery objectives.

(d) Application procedures; notice; hearing; review - (1) The Secretary shall prescribe such procedures as are necessary to carry out this section, including the form and manner in which application for permits may be made.

(2) The Secretary shall publish notice in the Federal Register of each application made for a permit under this section. Such notice shall invite the submission from interested parties, within thirty days after the date of the notice, of written data or views, with respect to the taking or importation proposed in such application.

(3) The applicant for any permit under this section must demonstrate to the Secretary that the taking or importation of any marine mammal under such permit will be consistent with the purposes of this Act and the applicable regulations established under section 103 of this title.

(4) If within thirty days after the date of publication of notice pursuant to paragraph (2) of this subsection with respect to any application for a permit any interested party or parties request a hearing in connection therewith, the Secretary may, within sixty days following such date of publication, afford to such party or parties an opportunity for such a hearing.

(5) As soon as practicable (but not later than thirty days) after the close of the hearing or, if no hearing is held, after the last day on which data, or views, may be submitted pursuant to paragraph (2) of this subsection, the Secretary shall (A) issue a permit containing such terms and conditions as he deems appropriate, or (B) shall deny issuance of a permit. Notice of the decision of the Secretary to issue or to deny any permit under this paragraph must be published in the Federal Register within ten days after the date of issuance or denial.

(6) Any applicant for a permit, or any party opposed to such permit, may obtain judicial review of the terms and conditions of any permit issued by the Secretary under this section or of his refusal to issue such a permit. Such review, which shall be pursuant to chapter 7 of title 5, United States Code, may be initiated by filing a petition for review in the United States district court for the district wherein the applicant for a permit resides, or has his principal place of business, or in the United States District Court for the District of Columbia, within sixty days after the date on which such permit is issued or denied.

(c) Modification, suspension, and revocation - (1) The Secretary may modify, suspend, or revoke in whole or in part any permit issued by him under this section-

(A) in order to make any such permit consistent with any change made after the date of issuance of such permit with respect to any applicable regulation prescribed under section 103 of this title, or

(B) in any case in which a violation of the terms and conditions of the permit is found.

(2) Whenever the Secretary shall propose any modification, suspension, or revocation of a permit under this subsection, the permittee shall be afforded opportunity, after due notice, for a hearing by the Secretary with respect to such proposed modification, suspension, or revocation. Such proposed action by the Secretary shall not take effect until a decision is issued by him after such hearing. Any action taken by the Secretary after such a hearing is subject to judicial review on the same basis as is any action taken by him with respect to a permit application under paragraph (5) of subsection (d) of this section.

(3) Notice of the modification, suspension, or revocation of any permit by the Secretary shall be published in the Federal Register within ten days from the date of the Secretary's decision.

(f) Possession of permit by issuee or his agent - Any permit issued under this section must be in the possession of the person to whom it is issued (or an agent of such person) during-

(1) the time of the authorized or taking importation;

(Note: So in original. Probably should be "taking or".)

(2) the period of any transit of such person or agent which is incident to such taking or importation; and

(3) any other time while any marine mammal taken or imported under such permit is in the possession of such person or agent.

A duplicate copy of the issued permit must be physically attached to the container, package, enclosure, or other means of containment, in which the marine mammal is placed for purposes of storage, transit, supervision, or care.

(g) Fees - The Secretary shall establish and charge a reasonable fee for permits issued under this section.

§ 216.31

50 CFR Ch. II (10-1-87 Edition)

Subpart D—Special Exceptions**§ 216.31 Scientific research permits and public display permits.**

(a) The Director may issue permits authorizing the taking and importing of marine mammals for scientific research and public display except that no display permits will be issued for marine mammals from a species listed as depleted under § 216.15 of this part. Any person desiring to obtain such a permit may make application therefore to the Secretary. The sufficiency of the application shall be determined by the Secretary and, in that connection, he may waive any requirement for information, or require any elaboration or further information deemed necessary. The following information will be used as the basis for determining whether an application is complete and whether scientific research or a public display permit should be issued by the Secretary of Commerce. The Marine Mammal Commission and the Committee of Scientific Advisors on Marine Mammals will review all completed applications submitted to them by the Secretary pursuant to paragraph (b) of this section (39 FR 1851, January 15, 1974.) An original and four copies of the completed application shall be submitted to the Director, National Marine Fisheries Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, Washington, DC 20235. Assistance may be obtained by writing the Director or calling the Law Enforcement and Marine Mammal Protection Division in Washington, DC (area code 202), phone number 343-7780. In preparing an application for a scientific research or public display permit, provide the following information.

- (1) Title. As applicable, either—
 - (i) Application for Public Display Permit Under the Marine Mammal Protection Act of 1972, or
 - (ii) Application for Scientific Research Permit Under the Marine Mammal Protection Act of 1972.
- (2) List the date of the application.
- (3) If the Applicant is a partnership or a corporate entity set forth the details. If the marine mammal to be taken or imported, or the marine

mammal product to be imported, is to be utilized or displayed by a party other than the Applicant, set forth the name of the party and such other information as would be required if such party were an Applicant.

(4) Provide a statement on the purpose of the proposed taking or importing, including a brief description of:

(i) The need for the marine mammal(s) and/or marine mammal product(s); and

(ii) How they will be used.

(5) If the application is for a scientific research permit, provide the following additional information:

(i) A detailed description of the scientific research project or program in which the marine mammal or product thereof is to be used, including the period of time over which the research will be conducted;

(ii) A list of the names and addresses of the sponsors or cooperating institutions and the scientists involved;

(iii) A copy of the formal research proposal or contract if one has been prepared;

(iv) A statement of whether the proposed research has broader significance than the individual researcher's goals (i.e., does the proposed research respond directly or indirectly to recommendations of any national or international scientific body charged with research or management of marine mammals and, if so, how?); and

(v) A description of the arrangements, if any, for the disposition of any dead specimen or its skeleton or other remains, for the continual benefit to science, in a museum or other institutional collection.

(6) Describe any marine mammals to be taken or imported, whether for public display or scientific research or any marine mammal products to be imported, including the following:

(i) A list of each species to be taken or imported and the number of each, including the common and scientific name;

(ii) A physical description of each animal to be taken or imported, including the age, size, and sex;

(iii) A list of the probable dates of capture and importation for each animal and the location of capture and importation, as specifically as possible;

(iv) A description of the status of the stock of each species related insofar as possible to the location or area of taking.

(v) A description of the manner of taking for each marine mammal, including the gear to be used.

(vi) The name and qualifications of the persons or entity which will capture the animals:

(vii) If the capture is to be done by a contractor, a statement as to whether a qualified member of your staff (include name(s) and qualifications) will supervise or observe the capture. Accompany such statement with a copy of the proposed contract or a letter from the contractor indicating agreement to capture the animals, should a permit be granted:

(viii) In the case of imported animals indicate, if known, the management and protection programs of the country from which the animal originates; and

(ix) For any marine mammal products to be imported, provide the information sought in this paragraph for all marine mammals from which component parts of such products are derived.

(7) Describe the manner of transportation of any marine mammal taken or imported, including:

(i) Mode of transportation.

(ii) Name of transportation company.

(iii) Length of time in transit for the transfer of the animal(s) from the capture site to the research or display facility;

(iv) Length of time in transit for any future move or transfer of the animal(s) that is planned.

(v) The qualifications of the common carrier or agent used for transportation of the animals.

(vi) A description of the pen, container, cage, cradle, or other devices used, both to hold the animal at the capture site and during transportation:

(vii) Special care before and during transportation, such as salves, antibiotics, moisture, and

(viii) A statement as to whether the animals will be accompanied by a veterinarian or other suitably qualified

person, and the qualifications of such person.

(8) Describe the contemplated care and maintenance of any mammals sought, including a complete description of the facilities where any such mammals will be maintained or displayed, including:

(i) The dimensions of the pools or other holding facilities and the number of animals by species to be held in each.

(ii) The water supply, amount, and quality;

(iii) The diet, amount and type, for all animals;

(iv) Sanitation practices used;

(v) Qualifications and experience of the staff; and

(vi) A written certification from a licensed veterinarian knowledgeable in the field of marine mammals that he has personally reviewed the arrangements for transporting and maintaining the animal(s) and that in his opinion they are adequate to provide for the wellbeing of the animal.

(9) If the application is for public display, provide a detailed description of the proposed display, including:

(i) A description of the manner, location, and number of times per day and per week the animal(s) will be displayed;

(ii) An indication as to whether the display is for profit;

(iii) An estimate of the numbers and types of people who it is estimated will benefit by such display;

(iv) A list of any educational or scientific programs connected to the contemplated display; and

(v) A description of the Applicant's enterprise and its connections with any governmental, educational, medical, or other scientific entities.

(10) If the marine mammal to be taken or imported is listed as an endangered species pursuant to the Endangered Species Act of 1969 or any Act superseding it, or has been designated by the Secretary as depleted, or if the marine mammal product to be imported is composed in whole or in part from such mammal, provide a detailed justification of the need for such mammal(s), or product(s) including a discussion of possible alternatives, whether or not under the con-

trol of the Applicant. Please note that pursuant to the Act and interim regulations that no public display permits may be issued for such endangered or depleted species.

(11) For the year preceding the date of this application, provide a detailed description of all marine mammal mortalities, including:

(i) A list of all marine mammals captured, transported, maintained, displayed, or utilized for scientific research and/or for all marine mammals caused to be captured, transported, maintained, displayed, or utilized for scientific research, by the Applicant.

(ii) The numbers of mortalities among such mammals, by species, by date and location of such mortalities;

(iii) The cause(s) of any such mortalities; and

(iv) The steps which have been taken by the Applicant to avoid or decrease any such mortalities.

(12) A certification in the following language:

I hereby certify that the foregoing information is complete, true, and correct to the best of my knowledge and belief. I understand that this information is submitted for the purpose of obtaining a permit under the Marine Mammal Protection Act of 1972 (16 U.S.C. 1361 through 1407) and regulations promulgated thereunder, and that any false statement may subject me to the criminal penalties of 18 U.S.C. 1001, or to penalties provided under the Marine Mammal Protection Act of 1972.

(13) The applicant must sign the application.

(b) Upon receipt of an application for a scientific research permit or a public display permit, the Secretary shall forward the application to the Marine Mammal Commission together with a request for the recommendations of the Commission and the Committee of Scientific Advisors on Marine Mammals on the permit application. In order to comply with the time limits provided in these regulations, the Secretary shall request that such recommendation be submitted within 30 days of receipt of the application by the Commission. If the Commission or the Committee, as the case may be, does not respond within 30 days from the receipt of such application by the Commission, the Secretary shall advise the Commission in writing

that failure to respond within 45 days from original receipt of the application (or such longer time as the Secretary may establish) shall be considered as a recommendation from the Commission and the Committee that the permit be issued. The Secretary may also consult with any other person, institution or agency concerning the application.

(c) Except as provided in Subpart D of 15 CFR Part 904, permits applied for under this section shall be issued, suspended, modified and revoked pursuant to regulations contained in § 216.33. In determining whether to issue a scientific research permit, the Secretary shall, among other criteria, consider whether the proposed taking or importation will be consistent with the policies and purposes of the Act, and whether the granting of the permit is required to further a bona fide and necessary or desirable scientific purpose, taking into account the benefits anticipated to be derived from the scientific research contemplated and the effect of the proposed taking or importation on the population stock and the marine ecosystem. In determining whether to issue a public display permit, the Secretary shall, among other criteria, consider whether the proposed taking or importation will be consistent with the policies and purposes of the Act; whether the marine mammal in question is from a species listed as depleted under § 216.15 of this part; whether a substantial public benefit will be gained from the display contemplated, taking into account the manner of the display and the anticipated audience on the one hand, and the effect of the proposed taking or importation on the population stocks of the marine mammal in question and the marine ecosystem on the other; and the applicant's qualifications for the proper care and maintenance of the marine mammal or the marine mammal product, and the adequacy of his facilities.

(d) Permits applied for under this section shall contain terms and conditions as the Secretary may deem appropriate, including:

(1) The number and kind of marine mammals which are authorized to be taken or imported;

(2) The location and manner in which such marine mammals may be taken or from which they may be imported.

(3) The period during which the permit is valid;

(4) The methods of transportation, care and maintenance to be used with live marine mammals.

(5) Any requirements for reports or rights of inspections with respect to any activities carried out pursuant to the permit;

(6) The transferability or assignability of the permit;

(7) The sale or other disposition of the marine mammal, its progeny or the marine mammal product; and

(8) A reasonable fee covering the costs of issuance of such permit, including an appropriate apportionment of overhead and administrative expenses of the Department of Commerce.

(Approved by the Office of Management and Budget under control numbers 0648-0084 and 0648-0083)

(39 FR 1832, Jan. 15, 1974, as amended at 39 FR 14948, Apr. 23, 1974; 41 FR 30130, July 22, 1976; 48 FR 37302, Dec. 29, 1983; 49 FR 1042, Jan. 6, 1984)

§ 216.32 (Reserved)

§ 216.33 Procedures for issuance of permits and modification, suspension or revocation thereof.

(a) Whenever application for a permit is received by the Secretary which the Secretary deems sufficient, he shall, as soon as practicable, publish a notice thereof in the **FEDERAL REGISTER**. Such notice shall set forth a summary of the information contained in such application. Any interested party may, within 30 days after the date of publication of such notice, submit to the Secretary his written data or views with respect to the taking or importation proposed in such application and may request a hearing in connection with the action to be taken thereon.

(b) If a request for a hearing is made within the 30-day period referred to in paragraph (a) of this section, or if the Secretary determines that a hearing would otherwise be advisable, the Secretary may, within 60 days after the

date of publication of the notice referred to in paragraph (a) of this section, afford to such requesting party or parties an opportunity for a hearing. Such hearing shall also be open to participation by any interested members of the public. Notice of the date, time, and place of such hearing shall be published in the **FEDERAL REGISTER** not less than 15 days in advance of such hearing. Any interested person may appear in person or through representatives at the hearing and may submit any relevant material, data, views, comments, arguments, or exhibits. A summary record of the hearing shall be kept.

c. As soon as practicable but not later than 30 days after the close of the hearing (or if no hearing is held, as soon as practicable after the end of the 30 days succeeding publication of the notice referred to in paragraph (a) of this section) the Secretary shall issue or deny issuance of the permit. Notice of the decision of the Secretary shall be published in the **FEDERAL REGISTER** within 10 days after the date of the issuance or denial and indicate where copies of the permit, if issued, may be obtained.

(d) Any permit shall be subject to modification, suspension, or revocation by the Secretary in whole or in part in accordance with these regulations and the terms of such permits. The permittee shall be given written notice by registered mail, return receipt requested of any proposed modification, suspension, or revocation. Such notice shall specify:

(1) The action proposed to be taken along with a summary of the reasons therefore; and

(2) The steps which the Permittee may take to demonstrate or achieve compliance with all lawful requirements;

(3) Shall advise the permittee that he is entitled to a hearing thereon, if a written request for such a hearing is received by the Secretary within 10 days after receipt of the aforesaid notice or such other date as may be specified in the notice by the permittee. The time and place for the hearing, if requested by the permittee, shall be determined by the Secretary and written notice thereof given to the

§ 216.34

permitted by registered mail, return receipt requested, not less than 15 days prior to the date of hearing specified. The Secretary may, in his discretion, allow participation at the hearing by interested members of the public. The permittee and others participating may submit all relevant material, data, views, comments, arguments, and exhibits at the hearing. A summary record shall be kept of any such hearing.

(e) The Secretary shall make a decision regarding the proposed modification, suspension, or revocation, as soon as practicable after the close of the hearing, or if no hearing is held, as soon as practicable after the close of the 10-day period during which a hearing could have been requested. Notice of the modification, suspension, or revocation shall be published in the *FEDERAL REGISTER* within 10 days from the date of the Secretary's decision. In no event shall the proposed action take effect until notice of the Secretary's decision is published in the *FEDERAL REGISTER*.

Approved by the Office of Management and Budget under control numbers 0645-0084 and 0645-0085)

39 FR 1832, Jan. 13, 1974, as amended at 48 FR 57302, Dec. 29, 1983)

§ 216.34 Possession of permits.

(a) Any permit issued under these regulations must be in the possession of the person to whom it is issued (or an agent of such person) during:

(1) The time of the authorized taking or importation;

(2) The period of any transit of such person or agent which is incident to such taking or importation, and

(3) Any other time while any marine mammal taken or imported under such permit is in the possession of such person or agent.

(b) A duplicate copy of the issued permit must be physically attached to the container, package, enclosure, or other means of containment, in which the marine mammal is placed for purposes of storage, transit, supervision, or care.

Subpart E—Designated Ports

§ 216.60 Importation at designated ports.

(a) Any marine mammal or marine mammal product which is subject to the jurisdiction of the National Marine Fisheries Service, National Oceanic and Atmospheric Administration, Department of Commerce and is intended for importation into the United States shall be subject to the provisions of 50 CFR Part 14.

(b) For the information of importers, designated ports of entry for the United States are:

New York, N.Y.
Miami, Fla.
Chicago, Ill.
San Francisco, Calif.
Los Angeles, Calif.
New Orleans, La.
Seattle, Wash.
Honolulu, HI.

(c) Additionally, marine mammals or marine mammal products which are entered into Alaska, Hawaii, Puerto Rico, Guam, American Samoa or the Virgin Islands and which are not to be forwarded or transhipped within the United States may be imported through the following ports:

Alaska—Juneau, Anchorage, Fairbanks
Hawaii—Honolulu
Puerto Rico—San Juan
Guam—Honolulu, HI.
American Samoa—Honolulu, HI.
Virgin Islands—San Juan, P.R.

(d) Importers are advised to see 50 CFR Part 14 for importation requirements and information.

Subpart F—(Reserved)

Subpart G—Notice and Hearing on Section 163 Regulations

Source: 40 FR 10183, Mar. 3, 1975, unless otherwise noted.

§ 216.70 Bait and permits.

(a) Sections 101(a)(2), 101(a)(3)(A), and 101(b) 16 U.S.C. 1371(a)(2), 1371(a)(3)(A), 1371(b) (1972) of the Act and these regulations authorize the Director, National Marine Fisheries Service, to (1) impose regulations governing the taking of marine mam-

§ 2.131 Handling of animals.

(1) Handling of all animals shall be done as expeditiously and carefully as possible in a manner that does not cause trauma, overheating, excessive cooling, behavioral stress, physical harm, or unnecessary discomfort.

(2)(i) Physical abuse shall not be used to train, work, or otherwise handle animals.

(ii) Deprivation of food or water shall not be used to train, work, or otherwise handle animals. *Provided, however,* That the short-term withholding of food or water from animals by exhibitors is allowed by these regulations as long as each of the animals affected receives its full dietary and nutrition requirements each day.

(b)(1) During public exhibition, any animal must be handled so there is minimal risk of harm to the animal and to the public, with sufficient distance and/or barriers between the animal and the general viewing public so as to assure the safety of animals and the public.

(2) Performing animals shall be allowed a rest period between performances at least equal to the time for one performance.

(3) Young or immature animals shall not be exposed to rough or excessive public handling or exhibited for periods of time which would be detrimental to their health or well-being.

(4) Drugs, such as tranquilizers, shall not be used to facilitate, allow, or provide for public handling of the animals.

(c)(1) Animals shall be exhibited only for periods of time and under conditions consistent with their good health and well-being.

(2) A responsible, knowledgeable, and readily identifiable employee or attendant must be present at all times during periods of public contact.

(3) During public exhibition, dangerous animals such as lions, tigers, wolves, bears, or elephants must be under the direct control and supervision of a knowledgeable and experienced animal handler.

(4) If public feeding of animals is allowed, the food must be provided by the animal facility and shall be appropriate to the type of animal and its nutritional needs and diet.

SWTD PROGRAM DESCRIPTIONS

DOLPHINS PLUS, INC.

The following description of Dolphins Plus swim programs is excerpted from "The Dolphins Plus Swim Program: Aquatic Contact Between Atlantic Bottlenose Dolphins and Humans", E.A. Smith, B. Borguss, L. Borguss and R. Borguss, a paper presented to the Delta Society International Conference, Boston, MA, August 22, 1986; and the Quarterly Report for Dolphins Plus, L. Borguss, dated October 10, 1988.

In June 1985, the Dolphins Plus marine mammal training center on Key Largo in the Florida Keys began a recreational program that placed human swimmers in the water with Atlantic bottlenose dolphins (*Tursiops truncatus*). For several years, the training center as part of its dolphin acclimatization program had placed members of their own family, carefully selected individuals and an autistic child in the water with the dolphins. From April 1984 until June 1985, the center conducted test situations that varied the size of the human and dolphin groups and tried different lengths of aquatic contact time. The decision to begin the first swim program was motivated by three long-range goals: To educate the public about sea mammals and their environment; To conduct research on human-dolphin aquatic contact; To explore the feasibility of establishing therapeutic swim programs for handicapped individuals.

Dolphins Plus has several swim programs at present using 12 bottlenose dolphins. The basic program allows up to three in-water participants with two dolphins. We are using two such teams. This orientation program lasts approximately two hours. It starts with 60 to 75 minutes of briefing on dolphins in general, our dolphins in particular and about our other programs and projects. The exact length of the briefing will depend on the number of questions asked by participants. The in-water participants will then spend 30 minutes with the dolphins and this will be followed by a question and answer period. We can do this up to four times daily, at least 2 hours apart. In our basic program, participants must be good swimmers, comfortable in the water, wear mask and fins. They must be over 12 years old and anyone under 18 must be accompanied in the water by a parent or guardian.

Our option 1 program allows family groups or groups of friends to participate. We have put a minimum of three and a maximum of four humans in with four dolphins in this program. (We have found that the dolphins can sense the compatibility of a family or group of friends thus eliminating the need for one more person than dolphin). We will not mix and match people to make up such a group at this time. Also, in this program we can allow younger children to participate provided that they are good swimmers and can use mask and fins. Following the briefing, this program allows the participants to have several minutes of platform play with the dolphins before going into the water.

Our in-water therapy program with the handicapped is tailored to the type of handicap, the number of handicapped persons involved, and the number of therapists or instructors needed. Most sessions are designed for one individual and two therapist/instructors. The number of dolphins is usually one or two depending on what is planned, actual swimming or platform work. Any dolphins required are exempted from any other programs during that time frame. The handicapped person may be swim capable or may need floatation gear and instructors in the water with them. Either a combination of water play or platform play using ring, balls, toys. Each case is set up to the needs of each individual.

Our SCUBA program utilizes two to three dolphins for up to 45 minutes (this is held up to two times daily, once in the morning and once in the afternoon.) Up to two divers with our dive master are allowed to observe the dolphins from the less limited vantage of the snorkeler. The dolphins have accepted the bulky-bubbly humans and go about their business, chasing live fish, playing with lobster, playing with each other with the diver observing and photographing. The SCUBA program covers a longer period of time: general briefing on dolphins, special briefing on SCUBA and dolphins, plus observing the snorkel program. All participants must be current certified and show proper credentials. All divers are accompanied by a Dolphins Plus staff member who is at least divemaster rated and will lead and watch over the entire program.

Dolphins Plus has a three and five day program for science students or environmental groups. Group sizes range from 8 to 32 student/participants. Each group will receive three in-water sessions during the three days. Each over all group is formed into smaller groups and, during in-water portion, those not in the water will be observing and recording actions of those in water for discussion and critique following. Before, between and after in-water portions, students will attend classroom sessions on cetaceans, their environment and ecology and their possible future. The five day version is basically the same with the addition of a field trip to the everglades and a snorkel or SCUBA trip to the reefs to see first hand and study the respective ecologies. (We have 1 biologist and 3 marine biologists on our staff to conduct these programs.)

At present we are using two basins located on a short flow-through canal that is open on both ends to the Atlantic. We have full tidal action to cleanse our facility giving us ideal water conditions. The basins measure 120 feet by 80 feet by 10 to 15 feet deep, depending on the tide stage. Each basin is divided, giving us four program areas of equal size with each area having its own escape or privacy section for the dolphins. The open side of the basin as well as any partitioning is fenced with vinyl covered chain-link with a two inch square mesh. All of our animals have gone through a thorough acclimation process until they all accept humans in the water with them. We have not trained the dolphins to perform any human oriented behaviors to or for the humans. We want to retain as much of the dolphins' naturalness as possible so that the participants will not be confronted by robotized creatures performing unnatural behaviors in a carnival atmosphere.

DOLPHIN RESEARCH CENTER

Swim Program authorized by NMFS on January 30, 1987. Program description taken (quoted exactly) from November 13, 1986 detailed protocol on the "Dolphin-Encounter".

TRAINER'S PREPARATION AND PROTOCOL

The training staff at Dolphin Research Center are a highly qualified and unique group of people. All but our newest employee have a minimum of six years of training experience.

Over the years they have worked with the dolphins interacting with swimmers in the water. When we say "worked", we mean it was not a play, free swim situation. The dolphins were rewarded for polite, gentle behavior. Some were further trained to give dorsal tows (swimmer holds dolphins dorsal fin) and other close-up behaviors with trainers in the water. It has always been a positive and rewarding experience for all involved.

Recently it became obvious that many more people would love this unique experience. Wanting to be VERY sure it would stay as special and fun as it had always been, we have come up with special regulations, charts, and behavior observation studies to see to it that the dolphins always benefit from the dolphin encounters. This report is to cover these decisions.

I. Standards used for choosing the dolphins participating in "Dolphin-Encounter."

We have a family of sixteen dolphins living at Dolphin Research Center Grassy Key facility. The 1.5 acres of fenced in water, offers unlimited versatility on dolphin groupings (See attached diagram of pens). We first place our dolphins in pools that will be compatible with poolmates. Some groupings are obvious (such as mothers and nursing babies), whereas others have some thought and planning in them, to enhance and complement each dolphins individual personality. The decision as to who will be used for "Dolphin-Encounter" is made on the following:

A. Dolphins that enjoy people in the water with them.

This is based on a working situation, i.e., the dolphins have been trained to work with trainers in the water and have shown aptitude and enjoyment for this kind of session.

B. Dolphins that do not excite readily.

The dolphins are not "mouthy" and DON'T get over-excited quickly in playtime. Some of our dolphins, particularly the adult males, can get rowdy and rough very quickly during swimming sessions. They may be worked with in water by trainers ONLY! No inexperienced people swim with them.

C. All the dolphins must be healthy.

At any time we have a sick dolphin (or even one suspected of stress or other sickness), there is NO SWIMMING allowed in that dolphin's pool, even if the other poolmates would be receptive to swimmers.

II. Behavioral Observations made by trainers on Dolphins involved in "Dolphin-Encounter"

A. How the dolphins social interactions or trainer/dolphins are affected.

1. Are they excited before swim starts?
2. Are they sociable and soliciting touches during introduction of swimmers out of water?
3. Are they sociable in water- allow touches, rubs, come close and sonar people?
4. Are they responding well to behavior time in water? ie..Taking signals, participating in dorsal tows etc.
5. Are the dolphins still strongly involved with each other as a group (ie..no single dominance by one who enjoys swims most, etc..)
6. Are positive behavioral and interactive steps being made?

B. Are there signs of health or stress problems?

Our training staff is also responsible for an intensive care unit for over-stressed animals. Over the years, many dolphins have been sent to us to recuperate after falling victims to stress. Therefore we are better than most at noticing symptoms of stress or health problems in the dolphins we know so well. All of the trainers are constantly looking for signs that may indicate these problems in all of our dolphins, and most specifically those involved in dolphin encounter. The dolphins chosen to be involved in Dolphin-Encounters have never shown any stress-related health or behavioral problems from their extensive training with staff and volunteers swimming with them. We will continue to look for that first sign however, to protect our dolphins' health and well-being.

It is worth noting that, behavior changes noticed have all been VERY positive. One example is our one year old baby, Halley. Although he is a healthy, active, youngster, we'd had very little chance to interact with him. Our interactions in the water with his poolmates peaked his curiosity about people and he already enjoys getting touches from us while we swim with him. His mother, Little Bit has become more of an extrovert and seems to love showing off her baby boy! She began offering (on her own) dorsal pulls to trainers, bringing baby Halley along! Another case involved a young timid dolphin named Paco. Although his poolmates seemed sociable enough, he would always stay in the background during show-type sessions. Swim sessions, however, sparked him, possibly because he is less shy of swimmers in the water than some of his poolmates. Therefore, it has built confidence and vital social interaction for our dolphins!

DOLPHINS TO BE INVOLVED IN DOLPHIN-ENCOUNTERS

Eleven (11) dolphins in our present family have shown an aptitude and enjoyment for our swim sessions. At present, they are housed in four (4) different groups. As always, the dolphins' health and behavior will dictate living arrangements.

[section describing the 4 groups]

FREQUENCY OF ENCOUNTERS PER GROUP OF DOLPHINS

Any group of dolphins would be expected to do no more than three swims daily. Each swim session would be a maximum of twenty (20) minutes. There would be a minimum of one and one-half hours between swim sessions.

Another precaution was set up for training purposes. The staff already keeps accurate daily logs on each dolphins' behaviors, food intake, health, etc. A weekly log is set-up to specifically monitor (sic) the frequency that each group of dolphins are being used for swims. This enables the trainers to see at a glance not only the frequency of swims but the number of people in water with each swim session, and the trainer involved in each swim session. All of these are important factors to us as trainers, and we feel this information will help us immensely.

Program description taken from quarterly report dated August 15, 1989.

We have made some significant changes in our swim program since the last report. We have greatly expanded the educational aspects of our program by now including two workshop sessions for our swimmers. One workshop takes place before the swim and covers such subjects as the purpose and structure of D.R.C., our opinion of what dolphins are like, and an explanation of how and why our swims are structured. The guided tour of the facility then takes place.

During the tour the swimmers join up with other members of the public who are not swimming. We still strive for maximum educational impact here. We cover information specific to D.R.C. such as our history, funding and individual description of each animal. We also discuss the stranding network, basic biology of marine mammals and current conservation issues. The problem of the drift net fishery and the dolphin/tuna issue are always discussed. The dolphin/tuna issue becomes very personal to people after they see Dart, our previously stranded *Stenella attenuata*.

After the tour, two simultaneous swims take place. The tour group is invited to stay and observe.

Following this, the tour group leaves and the swimmers are ready for their next workshop session. Swimmers share their impressions and excitement of the experience they've just participated in. This workshop covers in detail the dolphin/tuna issue complete with video. We also discuss the pros and cons of having dolphins in captivity and hand out a questionnaire for people to fill out. They also take away an outline of how they can have a direct impact on protecting dolphins in the wild. The whole Dolphin Encounter takes about 2½ hours.

The actual dolphin/human swim has also changed somewhat. We are incorporating more behaviors that illustrate the dolphins intelligence and sensory capabilities and have eliminated behaviors that in our opinion seemed too "circus-like". We are still very conscientious about keeping it fresh for the dolphins sake and encourage their appropriate ad-libbing. We also adhere to our policy of giving each swim dolphin 2 days off a week. This is accomplished by either not having any swimmers in the water or by feeding a given dolphin in a separate area away from the swimmers. We all know that no matter how interesting something is, dolphins, just like us, need their break time. An additional safeguard to this is our back-up swim dolphins. They are termed this because by virtue of their past performance, they only seem to enjoy swims on an occasional basis. We have dolphins in three separate areas who fall into this category. As can be seen from each dolphins data sheet, there is a large difference between the amount of time certain dolphins spend with the public. This is not surprising. There is no reason to assume that all dolphins will be equally suited to a human/dolphin swim program. At D.R.C. we have the flexibility to adjust all of our programs to meet the needs of the individual

dolphins. We also feel it's significant that eight out of thirteen of our swim dolphins were born at D.R.C. We have never collected a single animal from the wild for our human/dolphin swim program.

Since our expanded program began on August 1, we have been pleasantly surprised. Many people who are not swimming have requested taking the workshops. We can currently accommodate extra people.

As for our swimmers, we continue to get a lot of letters describing what they as individuals have been motivated to do since their experience here. Their actions range from doing school presentations about dolphins to convincing local restaurants not to serve chunk light tuna. Their experience obviously has a lasting impact."

THEATER OF THE SEA

Swim Program authorized by NMFS on April 1, 1987. Program description taken from modification request dated January 15, 1987.

Protocol for interspecies interaction (swim program) at Theater of The Sea, Inc.

Animal Selection

"We plan to use three or four dolphins from our current inventory for this program.

The selected animals would be closely examined and evaluated by our veterinarian and training staff. Only animals in excellent health and of proper temperament would be utilized. Any animal exhibiting signs of physical illness or psychological stress would be excluded from the program or the program itself would be discontinued.

Animal Training

All animals at our facilities are trained by established operant conditioning techniques. For many years, we have used motivators and re-inforcers other than food. Part of our standard training program involves a large amount of social and physical contact between dolphin and trainer. This includes numerous periods when the trainers are in the water with the dolphins during both work and play sessions.

Animal Facilities

The area to be used for the swimming program is of sufficient size, and constructed of materials that meet or exceed U.S. Dept. of Agriculture standards for housing Atlantic bottlenose dolphins (*Tursiops truncatus*). An area of this enclosure would be designated for dolphins only. Swimmers would not be allowed in this area, providing the opportunity for the dolphins to remove themselves from the activities or contact with the swimmers (see attachment #1).

Water quality and testing will also meet U.S.D.A. standards.

Orientation and Instruction for Swimmers

A thirty minute orientation and instruction program would be given to all swimmers. A qualified member of our staff will provide information regarding the natural history of dolphins as well as instructions as to the behavior of the dolphins, and also the do's and don't's of human behavior with the dolphins. All potential swimmers will be carefully screened to be certain they are competent and comfortable in the water and around the animals. Only those persons deemed suitable will be allowed in the water, we will also reserve the right to have persons leave the water should ewe feel their attitude or behavior could be detrimental to the dolphins or to other swimmers (see attachment #2 for details of this program).

Operational Procedures and Schedule

The amount of time that people will be in the water will be held to a maximum of thirty minutes.

The number of swim sessions per day may fluctuate as deemed necessary by our training staff and veterinarian, the maximum number not to exceed four per day.

The optimum number of people allowed in the water will be determined after careful observation by our staff, to insure the comfort of the dolphins. No more than six people would be allowed in the water at any one time.

Each swim session would be controlled and monitored by a qualified member of our training staff, to insure the safety of the animals and people.

HYATT REGENCY WAIKOLOA/DOLPHIN QUEST

Swim Program authorized by NMFS on August 25, 1988. Program description taken from the Hyatt Regency Waikoloa Resort and Dolphin Quest comments to NOAA Fisheries on its Intent to Conduct a Review of the Permit Program.

p. 5 THE FACILITIES AT THE HYATT WAIKOLOA RESORT

"...Hyatt's Dolphin Lagoon is constructed wholly of sand and lava rock... . The Lagoon ranges in depth from a few inches ... to approximately twenty-two feet in more secluded spots. The dolphins alternately play in the sandy-bottomed shallows and dive together in the deeper portions of the Lagoon, just as they are observed to do in the wild: Like the nearby Pacific Ocean, the Dolphin Lagoon is tidal, and the amount of water present at any time thus varies from one million to two million gallons. It is filled with a continuously filtered supply of sea water. The Dolphin Lagoon is separated from the resort's main lagoon by a solid teak barrier and by a series of screened one-way flow-gates, permitting filtered salt water to flow out, but preventing the entry of either unfiltered ocean water or undesirable species of reef fish.

To provide the dolphins with the important natural sensory stimulation of other species, a select group of sea fish recently has been stocked in the Lagoon. Each of the stocked fish measures more than eighteen inches, making mingling possible but foreclosing the possibility of unsupervised snacking by the dolphins. ...

Hyatt's Dolphin Lagoon measures approximately 150 feet by 250 feet in size, and thus provides approximately 37,500 square feet of space to its six resident dolphins. Additionally, the facilities used for the temporary holding of the dolphins are approximately thirty-five feet in diameter or eleven feet greater than the space required for permanent facilities by the Federal government. ...

Though public access to the Dolphin Lagoon is unrestricted for purposes of viewing, special guards are on duty twenty-four hours a day to prevent any unsupervised interaction or harm from coming to the dolphins. Additionally, dolphin well-being is protected on a regular basis by staff veterinarians who are experts in marine mammals. ...

The dolphins in residence at the Hyatt facility are fed a broad-based diet of restaurant quality fish designed to assure nutritional balance and variety. Indeed, their diet includes herring, Pacific mackerel, Spanish mackerel, sardines, Columbia river smelt, silver smelt, blue runner and squid. ... All six of the dolphins at the Hyatt facility are currently in excellent health. ...

The Dolphin Quest Program At Hyatt

A wide variety of cetacean-education programs focusing on dolphins and targeted at different groups is provided to the general public at the Resort's Dolphin Learning Center.

Adults are encouraged to participate in the free educational seminars that are offered on a weekly basis to all interested persons. These seminars cover the natural history of cetaceans, as well as information about current

research and conservation issues concerning dolphins. They are conducted by trained members of Dolphin Quest's staff and occasional guest speakers, and include slides, videos, lectures and discussion.

Dolphin Quest provides several educational programs for children. Among these are "Dolphin Discovery -- An Encounter Just for Children," which is offered daily to children ages five through twelve. During this 30-minute program, participating children take part in a number of learning activities, including an examination and comparison of various biological specimens, and an educational demonstration conducted dockside or on the Dolphin Lagoon Beach by Dolphin Quest trainers. ...

Dolphin Quest also operates a free "Discover Dolphins!" education program for local school groups. These half-day field trips take place weekly at the Resort and are designed to teach future generations about dolphins and their special role in the marine ecosystem. Indeed, these programs manifest Hyatt's and Dolphin Quest's commitment to the idea that, "The direction in which education starts a man will determine his future life." Toward this end, most fifth grade classes on the Big Island have been brought to the Dolphin Learning Center at the Resort to participate in a two-and-a-half hour educational program about dolphins.

The school program includes an energetic participation-oriented classroom seminar on marine mammals, educational games designed to teach basic facts about dolphin anatomy, food webs and ocean ecology, and "hands on" learning activities with marine artifacts (samples of krill, baleen and cetacean skeletons), radiographs and anatomical puzzles. Additionally, students view a National Geographic Society film on dolphins before proceeding to the Lagoon for a beachside view. This entire program is geared toward increasing the children's awareness and concern for conservation. In the summer months when schools are not in session, similar programs are offered to groups of Girl Scouts, Boy Scouts, church groups and other youth organizations.

In order to promote effective education and a lifelong conservation awareness in children, Dolphin Quest staff members also have created a long-term program to be completed by youngsters on their own or in groups under the supervision of an adult. Children who finish each of the conservation-oriented project requirements described in the program's material earn an "I LOVE DOLPHINS!" patch. Patch program participants also have been invited to submit proposals for community conservation projects. The writer of the best suggestion will receive a \$500 grant to be used toward implementation of the proposal. In all, more than 2,400 children have benefitted from the educational programs provided at Hyatt.

As part of its commitment to education and conservation, Hyatt and Dolphin Quest are co-sponsoring a free day-long professional development conference about dolphins for teachers of elementary and secondary school students. The conference, to take place on September 23, 1989, will include workshops for teachers, lectures by researchers from the University of California at Santa Cruz who are studying native Hawaiian cetaceans, demonstrations of the children's program and schools' program, and an opportunity to learn from personal contacts with both the dolphin trainers and the dolphins. ...

Because each Dolphin Quest program includes a level of interaction with the dolphins, participants become personally involved in the learning process, allowing them to internalize and retain their educational experience. Dolphin Quest continues to work to develop new "auxiliary" programs -- those that will not increase demands on the dolphins -- to accommodate the great public interest in learning about these unique creatures. It is Dolphin Quest's belief that these programs, and the dolphins themselves, have a significant positive impact on the advancement of understanding, appreciation and feeling of protection for all marine mammals among participants.

The Dolphin Quest Education Program offers an exemplary participatory learning experience for students during the formative years of their intellectual growth and their development of values. It is, moreover, Dolphin Quest's objective to ensure that program participants of all ages develop accurate knowledge, sensitivity and appreciation of the beauty and complexity of the aquatic ecosystem through education and, more importantly, through personal experience with marine mammals.

Toward that objective, and pursuant to the modified permit, small groups of Resort visitors and members of the public have the opportunity to interact with the dolphins during supervised encounters in the Dolphin Lagoon. The purpose of these interactive programs -- and the required informational presentations preceding

them -- is to raise the consciousness and knowledge level of participants about marine mammals in general and dolphins in particular. It is Hyatt's and Dolphin Quest's objective to ensure that this knowledge will result in greater concern for dolphins worldwide, and it is their belief that this greater concern stimulates people to actively support the conservation goals of the Marine Mammal Protection Act. With that ultimate goal in mind, all participants in Hyatt's dolphin encounter program are given an introduction to dolphins, which includes information about the MMPA, environmental and conservation programs needed to protect dolphins and facts about their biology and habits. Questions and discussion about these and related issues are encouraged. During the lecture, participants are permitted to sit in shallow water flowing over submerged portions of the lagoon's dock. Participating dolphins often swim right up and touch participants at this point in the program. This is neither an "unnatural behavior" nor "subjugation" on the dolphins' part: voluntary dolphin interaction with humans has been extensively documented in the wild.

Following the lecture, participants move from the dock area to the beach, where entry into the Dolphin Lagoon can be made quietly and in a manner designed not to disturb the dolphins. Under the supervision of two trainers, participants may then interact with the dolphins, although they may not touch certain areas of the dolphin's bodies (including their eyes and blowholes) and may not hold onto the dolphins' dorsal fins or otherwise restrain them in any way. Additionally, all participants are required to wear life jackets, making deep water dives with the dolphins impossible.

Four of the six dolphins currently in residence at the Lagoon participate in each "swim" program on a rotating basis. The purpose of this schedule is to limit direct dolphin interaction with the public to no more than approximately one hour per dolphin per day. The dolphins participate voluntarily, and are at all times free to swim to secluded areas of the Lagoon where swimmers are not permitted. Neither trainers nor participants are permitted to feed the dolphins during the "swim" portion of the program. The dolphins thus are not "paid" to interact with the participants in the Lagoon.

Participants in the interactive program have the rare opportunity to examine dolphins at a close range, to make eye contact with them, and to gain a unique perspective on dolphin anatomy and habits. Additionally, participants are encouraged to put on a mask and watch the dolphins underwater (the clarity of the water in the Dolphin Lagoon permits visibility of up to two hundred feet), and have the chance to actually hear the "echolocation" sounds (discussed in the lecture) that dolphins produce and use as a type of sonar. These unique sounds have been the subject of a great deal of research. Hyatt and Dolphin Quest are thoroughly convinced that close personal contact with obviously curious, intelligent and gentle dolphins inspires participants to become actively involved in conservation and protection efforts.

The human-dolphin encounters last approximately thirty minutes in entirety -- ten to twelve minutes of which is spent in the Lagoon -- and are conducted by two trainers for groups of four to five participants. Between five and seven encounters are scheduled each day.

At the end of each encounter, participants are provided with a variety of written materials, including information about: the ecological impact of pelagic driftnetting, the Hawaiian spinner dolphin (and current research efforts to decrease the numbers of dolphins lost in purse seine tuna nets), the Hawaiian monk seal Hawaii's most endangered marine mammal species), and dolphin biology. These materials outline specific ways that concerned individuals can help support marine conservation efforts. Participants are also asked to fill out a questionnaire to help Dolphin Quest assess the educational and conservation effectiveness of the Encounter Program.

In addition to providing many free educational opportunities, Dolphin Quest and Hyatt use a portion of the fees charged for the human-dolphin "swim" program to fund important dolphin research projects. All of the information gathered in these projects is crucial if we are to make informed and intelligent decisions regarding the future survival of the species in the modern marine ecosystems.

In conclusion, both Hyatt and Dolphin Quest are committed to the conservation of dolphins and the marine ecosystem. They are fully aware of the serious responsibility that comes with the privilege of having marine mammals in captivity, and both believe that the dolphins at the Hyatt Regency Waikoloa Resort serve as important ambassadors for the world's dolphin population.

SURVIVORSHIP AND LONGEVITY OF CAPTIVE BOTTLENOSE DOLPHINS

Although mortality rates of dolphins in swim-with-the-dolphin programs appear comparable to mortality rates reported in other institutions holding dolphins in captivity, there are too few data to make a conclusion. Nonetheless, the possibility of decreased survival and longevity of captive dolphins, whether used in swim programs or not, compared to free-ranging dolphins has been raised as an issue that may be pertinent to the Environmental Impact Statement (EIS) on swim-with-the-dolphin (SWTD) programs.

Survivorship

Estimates of survival rates are available from several recent studies on captive (DeMaster and Drevenak 1988, Hersh et al. 1989) and free-ranging bottlenose dolphins (Wells and Scott in press, Steuer unpubl. ms). Estimates of annual survival rates from these studies, summarized in the attached table, indicate that the rate of survival in captivity may be as good as that in the wild. Steuer stated that current rates of survivorship for captive adults appear to be approaching survivorship of adult animals in the wild. DeMaster and Drevenak (1988) did not believe that it was possible, with currently available data, to compare the survivability of animals in captivity with that of animals in the wild. Additional data from free-ranging animals are needed.

Longevity

Both DeMaster and Drevenak (1988) and Steuer emphasized the inappropriateness of using longevity data except under very explicit conditions. DeMaster and Drevenak gave estimates of longevity of 5.13 years, then stated "these statistics are of no real use in evaluating the husbandry record of the public display industry unless the entire cohort of animals that are used in estimating this statistic is dead. When this is not the case, this method of calculating longevity is very sensitive to the proportion of animals that have been recently acquired."

Although Steuer gives a mean "longevity" of 5.04 years (the mean of the mean "longevities" at each facility) for all public display facilities in her study, the statistic actually calculated is the average length of time dolphins that entered the facilities after the beginning of the study had been in captivity up to the time the study ended or until death, if an animal died during the study period. This statistic has little value because 56% of the animals were alive at the end of the 12-year study period and many of them had only recently been captured or born in captivity. A dolphin born in captivity on January 1, 1985, would have been three years old when the study ended on December 31, 1987, and would have been assigned a "longevity" of 3 years. A specific example is Marine World Africa where none of the eight dolphins died during the study period, a survival rate of 1.0. Their average "longevity," however, is given as only 6.93 years. This value has been calculated as the number of "dolphin days" (18,806), annualized (divided by 365.25) and divided by the number of dolphins (8).

Steuer reported 11 facilities in which no animals had died during the study period (her Tables 1 and 3). The average "longevity" of the animals in each facility ranged from 0.13 to 10.61 years. These results illustrate how misrepresentative estimates of "longevity" can be. In addition, because the study included only institutions that had acquired new dolphins between January 1, 1975, and December 31, 1987, many institutions that have maintained dolphins in captivity for long periods of time have been excluded from the analysis. The inclusion of animals from these additional institutions most likely would have increased the estimates of "longevity" and survival.

Life Expectancy

Another measure of successful maintenance in captivity is life expectancy. DeMaster and Drevenak (1988) estimated life expectancy by calculating the number of years an animal can be expected to survive based on the annual survival rate estimated in their study. They obtained the following results:

	<u>Individuals included</u>	<u>Life expectancy in captivity</u>
1.	all age classes, wild-caught and captive-born animals	14 years
2.	captive born animals that survive past one year	47 years
3.	wild-caught animals that survived their first year in captivity	33 years

The life expectancy value for all age classes combined is low because, as both DeMaster and Drevenak (1988) and Steuer discussed, the mortality rate is high for animals less than one year of age or, for animals taken from the wild, during their first 90 days in captivity. The life expectancy estimates for captive bottlenose dolphins that have survived beyond this age are similar to life expectancy estimates for free-ranging dolphins (Hohn et al. 1989). They may, in fact, be higher. It is important to note, however, that (1) relatively small differences in annual survival rates can result in large differences in estimates of life expectancy and (2) the above estimates assume constant survival rates although it seems likely that, beyond some currently unknown (old) age, the survival rate decreases (DeMaster and Drevenak 1988).

Because of the above caveats, DeMaster and Drevenak (1988) state that annual survival rate is a better measure of the success of captive programs than longevity or life expectancy estimates. Current data indicate that survival rates in captive dolphins may be similar to and, in some cases, possibly better than survival rates in free-ranging dolphins. There is no indication from the SWTD programs to date that the programs cause an increased mortality in the dolphins used in the programs.

Estimated survival rates for free-ranging and captive bottlenose dolphins

	Hersh (1989)	Wells and Scott (in press)	DeMaster and Drevenak (1988)	Steuer (unpubl)
FREE-RANGING BOTTLENOSE DOLPHINS				
All age classes	90.8-93.1%	95.8%		
Calves (to first year)		78%		
CAPTIVE BOTTLENOSE DOLPHINS				
All age classes, wild-caught and captive born			93% ¹	91% ²
<u>Wild-caught dolphins</u>				
Including deaths during 1st 90 days in captivity				
- all facilities combined				92%
- 10 facilities with mortality during first 90 days				91%
Excluding deaths during 1st 90 days in captivity				
- all facilities combined				93%
- 10 facilities with mortality during first 90 days				96%
Non-calves that survived the first year in captivity			95%	95%
<u>Captive-born dolphins</u>				
Calves (to first year)			61% ¹	81% ¹
Non-calves			97%	100%

¹ Excludes stillborn calves

² Includes stillborn calves

Section D. Special Conditions on Human/Dolphin Swim Programs

- D. 1. The Permit Holder is authorized to use dolphins in an experimental human/dolphin swim program until December 31, 1989. The National Marine Fisheries Service (NMFS) may revoke this authority before December 31, 1989 if this program is found to have an adverse effect on the health or well-being of the animals, if an ongoing review of public display permit authorities, procedures and criteria results in new regulations that disallow such programs, or if the terms of the following conditions are not being met.
- D. 2. The Permit holder must identify the individual animals to be used in the program and submit: (a) a detailed description of the planned human/dolphin swim program, human/dolphin encounters and the anticipated maximum, minimum, and average frequency and duration of encounters per animal, per day, and per week, and (2) encounter orientation and instructions for human swimmers regarding, among other things, any restrictions on physical contact with the dolphins and proper response in the event of aggressive dolphin behavior; (b) a detailed description of the facilities that will be used to house the dolphins and to conduct the human/dolphin swim program, and how the dolphins have been or will be trained to participate in the program; (c) curriculum vitae for the dolphin trainers, the attending veterinarian(s), and any other persons responsible for handling, feeding or otherwise insuring the welfare of the animals; and (d) an assessment by the attending veterinarian of the current (baseline) health and behavior patterns of each animal and a description of the monitoring program that will be used to detect and determine the cause(s) and significance of any changes in the health or behavior of the dolphins as a result of the authorized activities.
- D. 3. Human/dolphin swim operations must be continuously supervised by experienced trainers. An appropriately qualified and locally available veterinarian must be on call, but not necessarily present, during each human/dolphin encounter. The animals must be provided with adequate escape access from the swimming area should they choose to terminate the human/dolphin encounter and adequate security arrangements must be provided at all times to prevent harassment or injury to the dolphins. NMFS may inspect facilities and monitor swim operations.
- D. 4. The Permit Holder must develop and implement a monitoring program to detect any changes in the health or behavior of the animals involved in the human/dolphin swim program. Animals that respond adversely to encounters with humans must be removed from the program until such time as their health is restored and/or their behavior poses no risk to humans involved in the program. The program must be suspended immediately if the dolphins show signs of program-related health problems or undesirable behavioral modifications that are a result of the human/dolphin swim program.

- D. 5. The Permit Holder must advise NMFS immediately of any injuries to dolphins or humans resulting from the authorized activities, any program changes that might cause additional stress or otherwise have an adverse effect on the health or behavior of the dolphins involved in the program, and any removals or additions of animals to the program and the reason for such removals or additions. In addition, the Permit Holder must submit quarterly reports describing the nature and extent of the program in the preceding quarter, any problems that may have developed, and steps taken to overcome such problems. Among other things, the quarterly progress report should provide: (a) summary statistics on (1) the number of people by age and sex that participated in the program during the reporting period and (2) the number of times, by day and week that each dolphin participated in the program; (b) descriptions of any encounters that resulted in, or possibly could have resulted in, injury to a human or dolphin and any changes made in the program to improve the safety, educational or other aspects of the program; and (c) a brief summary and assessment of the results of the required dolphin monitoring program. Reports must be submitted to the Director, Office of Protected Resources and Habitat Programs, NMFS, Washington, D.C. 20235. Failure to submit adequate and timely reports may result in revocation of the Permit Holder's authority to use dolphins in an experimental human/dolphin swim program.
- D. 6. By authorizing this experimental program, NMFS assumes no liability for physical or other injuries or harm to individuals participating in the experimental human/dolphin swim program. This fact must be reflected in any liability waivers or program instructions prepared by and for the Permit Holder.

Section D. Recommended Special Conditions - Swim-with-the-Dolphin (SWTD) Programs

- D.1.** The Permit Holder is authorized to use dolphins in an experimental human/dolphin swim program until December 31, 1991. The National Marine Fisheries Service (NMFS) may modify, suspend, or revoke this authority before December 31, 1991, if the SWTD programs are found to have an adverse impact on the health or well-being of the animals, if an ongoing review of public display permit authorities, procedures, and criteria results in new regulations that disallow such programs, or if the terms of the conditions that follow are not met.
- D.2. COOPERATION WITH RESEARCH:** Permit Holders are required to cooperate with NMFS, including any NMFS contractor, in the study to investigate stress levels and behavior of dolphins in the swim programs compared to other captive dolphins. This may involve providing background information on the swim facilities and programs, following established behavior and medical monitoring protocols, restricting the duration or frequency of swim sessions, or providing additional information in quarterly reports.
- D.3.** By June 30, 1990, the Permit Holder must provide the following baseline information:
- (a) Identification of the individual dolphins to be used in the SWTD program and a certification from the attending veterinarian that each dolphin has been examined, is healthy, and can be admitted to the program.
 - (b) Content and methods for conducting an orientation program for human participants prior to the encounter, including any restrictions on physical contact with the dolphins and proper response(s) in the event of aggressive dolphin behavior. Copies of the written disclosures required by Special Conditions D. 10 and D. 11 shall also be submitted.
 - (c) Detailed description of the SWTD facilities, including 1) the facilities that will be used to house the dolphins; 2) the facilities that will be used for the SWTD program; and 3) dimensions of each area including surface area and depth. Permit Holders shall not reduce the available space or restructure the physical facilities including water systems without prior approval from the Assistant Administrator for Fisheries.
 - (d) Written plan of preventive medicine prepared and to be implemented by the attending veterinarian that includes:
 - 1. Policy on veterinary coverage, identifying each affiliated veterinarian, protocols and schedules for professional visits, physical examinations, and weighing and medicating animals.

2. Policy on quarantine.
 3. Necropsy protocol including sample necropsy form and identification of pathological and other laboratory support. Necropsies must also include a summary of the medical history of any dolphin that dies including its involvement in the swim program, i.e., duration, schedules, total interaction times.
- (e) Detailed assessment by a qualified marine mammal veterinarian of the current (baseline) health and behavior patterns of each participating dolphin, to be used throughout the program to detect and/or determine the significance of any change(s) in the health or behavior of the dolphins as a result of their participation in the SWTD program.
 - (f) Description of the monitoring program that will be used to detect and/or determine the cause(s) and significance of any changes in the health or behavior of any dolphin as a result of the authorized activities. The research study referred to in Special Condition D. 2 may result in the need to adjust health and behavioral monitoring requirements and/or programs.
 - (g) Detailed description of the training each dolphin has undergone or will undergo prior to its participation in the SWTD program (see Special Condition D. 6.(b) requirement).
 - (h) Curriculum vitae for the SWTD's professional staff and other individuals who will be in any way responsible for the handling, feeding, or other care or maintenance of the dolphins (see Special Condition D. 5 requirement).
- D.4. Maintenance of comprehensive daily behavior, feeding, and health records is required. Records for each dolphin will include SWTD swim schedules and total interaction time by day, week, and month.
- D.5. STAFF: SWTD facilities must maintain a professional staff that includes individuals with the following minimum levels of experience:
- (a) at least one permanent full-time management staff member with three (3) or more years experience in a professional or managerial position dealing with captive cetaceans;
 - (b) at least one full-time staff member with three (3) or more years experience in the training and care of captive cetaceans, in addition to the personnel above;
 - (c) at least one staff or consulting veterinarian who has at least two (2) years of experience (within the past 10 years) in cetacean medicine.

D.6. **PROGRAM REQUIREMENTS:** The extent of an individual dolphin's participation in a SWTD program should be determined by the SWTD professional staff, based on the animal's behavior patterns. Within these general guidelines, the following are required:

- (a) Every dolphin must be examined by a qualified veterinarian and be certified as healthy before being admitted to the swim program. See requirements at Special Conditions D. 3.(a) and D. 8.(d).
- (b) Each dolphin participating in a SWTD program must successfully complete a professionally directed training program of not less than six (6) months duration prior to its participation. This must include gate training.
- (c) Time of interaction: Periods of continuous exposure must be limited to two (2) hours with equal intervals for rest. Dolphins should have one period each 24 hours of no less than 10 continuous hours respite from swimmers and other human-related activities.
- (d) Human swim participant/dolphin ratio must not exceed 2:1.
- (e) **Supervision of Swim Sessions:** All SWTD activities in which a member of the public participates in in-water encounters with dolphins must be directly supervised by the Permit Holder's training staff. At least one member of the Permit Holder's staff must be in the water during the swim session. In addition, at least one member of the staff must monitor activities from poolside out of the water.
- (f) A qualified and locally available veterinarian must be on call, but not necessarily present, during each human/dolphin encounter.
- (g) The dolphins must be provided with adequate escape access from the swimming area should they choose to terminate the human/dolphin encounter, and adequate security must be provided at all times to prevent humans from harassing or injuring the dolphins.
- (h) Participants shall not be permitted to hold, pull or grab the dolphins, including dorsal fins.
- (i) Dolphins demonstrating signs of undesirable behavior, i.e., sexual or physical aggression towards humans, withdrawal, or reluctance to participate, will be removed immediately from the swim session and shall not participate again until these behaviors have been eliminated. These behaviors should be clearly noted in daily monitoring records as required by D.4.

- (j) Animals that respond adversely to encounters must be removed from the program until such time as their health is restored and/or their behavior poses no risk to humans involved in the program. Dolphins must be removed from the program while on medication. The program must be suspended immediately if a dolphin shows signs of program-related health problems or undesirable behavior as a result of the SWTD program.
- D.7. PARTICIPANT LIMITATIONS:** Permit Holders shall obtain a brief health profile of all participants. The following shall be excluded from swim programs:
a) individuals with upper respiratory disease or on medication that suppresses immune function; b) persons with open sores or other outward signs of illness; and c) infants. Participants shall be required to shower with soap and water before entering and after leaving the swim area.
- D.8. IMMEDIATE REPORTING:** The Permit Holder must advise the Director, Office of Protected Resources, NMFS, Silver Spring, Maryland 20910 [Telephone: 301-427-2332 or Fax: 301-588-4967] within 24 hours when any of items (a)-(c), cited below, occur. Written confirmation must be received within seven (7) calendar days.
- (a) Death -- following notification of NMFS, a necropsy report must be prepared according to Special Condition D. 3.(d) 3. and submitted to NMFS within 30 days.
- (b) Injury to any participating dolphin or human -- detailed follow-up reports, including the name(s) and address(es) of injured person(s), shall be incorporated into the quarterly reports as specified in Special Condition D. 9.(e).
- (c) Adoption of any program changes that might cause additional stress to, or otherwise have an adverse effect on, the health or behavior of any participating dolphin.
- (d) Removal or addition of an individual dolphin from or to the SWTD program; the reason(s) for the removal or addition; and health certification for newly added dolphins.
- (e) Changes in Permit Holder or personnel comprising the professional staff.
- D.9. QUARTERLY REPORTING REQUIREMENTS:** The Permit Holder must submit the following quarterly reports:
- (a) statistical summaries detailing the number of people by age and sex that participated in the SWTD program in the preceding quarter;
- (b) statistical summaries showing the number of times and the number of hours, by day, week, and month, that each dolphin participated in the SWTD program;

- (c) a summary and assessment of dolphin behavioral records and monitoring as specified by Special Conditions D. 3.(f) and D.4.
 - (d) the attending veterinarian must provide a separate medical report for each dolphin, summarizing clinical history, relevant observations, medications and other treatments;
 - (e) detailed descriptions of any encounters that resulted in, or possibly could have resulted in, injury to a human or dolphin participating in the SWTD program in addition to immediate notification specified in Special Conditions D. 8.(b);
 - (f) descriptions of any changes made in the SWTD program to improve the safety, educational, or other aspects of the program.
- D.10. By authorizing this program, NMFS assumes no liability for physical or other injuries or harm to individuals participating in the experimental SWTD program. This fact must be reflected in any liability waivers or program instructions prepared by and for the Permit Holder.
- D.11. Program instructions prior to swim sessions must inform swim participants that SWTD programs are experimental and present some potential risk of injury or disease transmission. Additionally, swim participants must be provided with the NMFS address (see Special Condition D. 8.) so that they may comment on this experimental program or report injuries.
- D.12. The Permit Holder's facilities, records, and operations relating to the SWTD program shall be available for inspection at any time by a duly authorized representative of the Assistant Administrator for Fisheries.
- D.13. The failure of a Permit Holder or its agents to comply in any respect with the foregoing permit conditions constitutes grounds for immediate suspension or permanent revocation of any or all of the Permit Holder's SWTD program permit(s).

VIII. REVIEW AND RESPONSE TO PUBLIC COMMENTS

The DEIS was published on November 1, 1989. Copies of the DEIS were distributed to various agencies, organizations and individuals. The comment period, originally scheduled to end December 28, 1989, was extended until January 8, 1990. Four public hearings were held: November 20, 1989 (Honolulu, HI), November 28, 1989 (Islamorada, FL), December 4, 1989 (Washington, D.C.), and December 19, 1989 (Ft. Myers, FL).

During the comment period, several hundred letters were received, many of which were generated by media attention or the efforts of organizations on both sides of the issue. Fifty of these letters addressed the DEIS and its contents, and are included at the end of this section. Comments received after the deadline were considered but only until February 6, 1990, when the content analysis was begun. Seventy-four participants presented testimony at the four hearings; 42 individuals spoke on their own behalf. Several of those testifying also submitted written comments, and testified at one or more hearings. Copies of the hearing transcripts are on file at NMFS in Silver Spring, MD; summaries are provided at the end of this section. Also on file at NMFS are copies of several thousand follow-up questionnaires distributed by Dolphin Quest at the Hyatt Regency and completed by swim participants at that facility.

The positions of the 124 commenters on the major issues implicit in the swim programs were noted, placed in a database, and taken into account in the preparation of the FEIS. Ninety commenters clearly expressed a preference for one of the four alternatives. Sixty favored the expiration of swim program authorities (Alternative A); 22 including the four Permit Holders, were in favor of continuing the programs indefinitely but with some mix of additional Special Conditions (Alternative C); and three were in favor of continuing the swim programs under existing Special Conditions (Alternative D). Eight of the respondents were in favor of some combination of alternatives. The remaining 34 did not appear to be either in favor or opposed to any of the alternatives; in fact, several were decidedly neutral commenting on the quality of the DEIS only.

It was not easy for commenters to separate what additional "environmental effect" the SWTD Programs might have had since there were few bases of comparison of pre-swim programs. For some it was also difficult to focus on the more immediate scope of the SWTD program issues as separate from the broader long-term permit review now under way in NMFS. Many directed attention to the quality of the DEIS rather than the issues under review.

There were many commenters whose principled opposition to capture from the wild directed their position against the programs *per se*; there were others whose participation in the programs reinforced their position favoring at least provisional continuation. Many commenters representing both sides of the question provided thoughtful suggestions regarding policy and establishment of conditions or standards. Some suggested additional alternatives for consideration.

A. List of Commenters

Comments were received from the following individuals and organizations:

<u>Comment Reference</u>	<u>Commenter, Affiliation</u>
A	Barbara Heffernan, Sea World, Inc.
B	Richard L. Sinnott, Dolphin Quest
C	Edwin Gardner, Dolphin Research Center
D	Richard S. Borguss, Dolphins Plus
E	Mike Wood, General Curator, Theater of the Sea
F	William R. DeLano, Dolphin Learning Inst.
G	Paul P. Spaulding, III, Sierra Club Legal Defense Fund
H	Sam H. Ridgway, DVM
I	Sharon Sue White, Environmentalist
J	Jeffrey E. Haun, Marine Mammal Interest Group
K	William P. Braker, Director, John G. Shedd Aquarium
L	Dianne Zaccone, Confer. Facilitation Assn.
M	Gregory D. Bossart, DVM, Miami Seaquarium
N	Vassilka Morrison, Illinois Citizens for Humane Legislation
O	Tim Desmond, Pres., Active Environments Inc.
P	Alvin W. Smith, DVM, Professor, Oregon St. U.
Q	J. Pete Schroeder, DVM
R	Stephen Spotte, Ph.D., Pres., Marine Mammal Coalition
S	Nancy Daves Hicks, Director, Eastern Region, Animal Protection Institute
T	Edward Morlan, Director, Midwest U.S.A. Whale Protection Federation
U	Dr. Karen A. Steidinger, Florida Dept. of Natural Resources
V	Karen L. Steuer, Exec. Dir., Center for Coastal Studies
W	Martin R. Dinnes, DVM
X	H.O. Porter, Head, Bioscience Div., NOSC, Department of the Navy
Y	Robert O. Wagner, Exec. Dir., American Assn. of Zoological Parks and Aquariums
Z	Nathalie F.R. Ward, Marine Mammals Program Director, Int'l Wildlife Coalition
AA	Forrest I. Townsend Jr., DVM
AB	Donald White, Exec. Dir., Earthtrust
AC	Mary E. McGowan, Falls Church, VA
AD	David S. Favre, Animal Legal Defense Fund
AF	Thomas R. Belfield, Captain Cook, HI
AG	Chris McCarthy, Flushing, NY
AH	John R. Twiss, Jr., Exec. Director, Marine Mammal Commission

AI	Richard E. Sanderson, Ph.D., Director, Office of Fed. Activities, EPA
AJ	Craig Kasnoff, Seattle, WA
AK	Gwendolyn B. Scott, Georgetown, TX
AL	Elliot M. Katz, DVM, President, In Defense of Animals
AM	Michael Priolo, Assoc. Member, IMATA
AN	Bruce Lane, Assoc. Member, IMATA, AAZPA
AO	Jacque Robinson, Kailua-Kona, HI
AP	Kelly Moorhead, Kailua-Kona, HI
AQ	Susan Shane, Ph.D., Santa Cruz, CA
AS	Ana Manrique, Bradford, PA
AU	Andrew Molloy, Syracuse, NY
AV	Linda J. Geant, President, AWARE
AX	Pam Hebert, Somersville, CT
AY	Sharina White, Kailua, HI
BA	Legislative Office, ASPCA, Washington, DC
BD	Kenneth W. LeVasseur, Kaneohe, HI
CA	Barbara Leider, Colorado

Hearing of November 20, 1989, Honolulu, HI

PA	Bud Krames, Dir., Animal Behavior Training, Dolphin Quest
PB	Shama Ko
PC	Nalea Ko
PD	Susan Boyd, Project Dolphin Release
PE	Sharina White
PF	Dr. Lou Herman, Kewalo Basin Marine Mammal Lab, Univ. of HI
PG	Ginger Towle, West Hawaii Humane Society
PH	Ken LeVasseur
PI	Dr. Robert Reppy
PJ	Sue White
PK	Dr. Leilani Lewis
PL	Paul Breese, former Dir., Honolulu Zoo
PM	Jean DeMercer-Breese
PN	Keith Krueger
PO	Denver Leaman, Ex. Dir., Greenpeace HI
PP	Helen Franchell
PQ	Fred Madlener, Pres. Thousand Friends
PR	Skip Spaulding, Attorney, Sierra Club
PS	Lei Kihoi
PT	Jaissuin Moana-Caree
PU	Jay Sweeney, DVM, Co-Owner, Dolphin Quest
PV	Ms. Peace
PW	Ajmal White

PX Sharon Bonini
PY Kara Self, Student
PZ Paul Grothaus

Hearing of November 28, 1989, Islamorada, FL

QA Michael Wood, General Curator, Theater of the Sea
QB Terry Hankins, marine biologist, Educ. Dir., Dolphins Plus
QC Betsy Smith, Ph.D., Dolphins Plus
QD Lloyd Borguss, Dolphins Plus
QE Ron Canning
QF Nancy D. Hicks, API
QG Lynne Calero, Medical Director, Dolphin Research Center
QH Joy Hampp, Dir. of Education, Dolphin Research Center
QI Jay Davis, Marine Biologist
QJ Rudolf Jaeckle
QK Bobby Easom, Dolphins Plus staff
QL Richard Guinand, dolphin trainer
QM Brett Decker, fmr. employee, Ocean World
QN Peter Anderson
QO Gaila Loring
QP Lana Miller, author, "Call of the Dolphins"
QQ Rick Trout, dolphin trainer
QR Jim Loomis, Cetacean Relation Society
QS Timothy Wyllie, architect
QT David McClure
QU Benjamin White, Sea Shepherd Conservation Society,
Dolphin Rescue Brigade

Hearing of December 4, 1989, Washington, DC

RA Nancy D. Hicks, API
RB Barbara Britten, Amer. Cetacean Society
RC Michael Wood, General Curator, Theater of the Sea
RD Laura Rubin
RE Kelly Cimbale
RF Paula Jewell, Humane Society of the U.S.
RG Catherine Hillard
RH Marian Newman, IWC
RI Edwin Gardner, Actg. Dev. Dir., Dolphin Research Center
RJ Richard O'Barry, ASPCA
RK Lloyd Borguss, Dolphins Plus
RL Benjamin White, Sea Shepherd Conservation Society,
Dolphin Rescue Brigade

RM
RN

John Englander
William Delano, Director, Dolphin Learning Institute
(written testimony submitted)

Hearing of December 19, 1989, Ft. Myers, FL

SA	Congressman Porter Goss
SB	Emilie McAlevy
SC	Richard O'Barry, ASPCA
SD	Deurita Wozniak
SE	Jack Remington
SF	Fr. Comfort
SG	Mr. Mandy Rodriguez, Dolphin Research Ctr.
SH	Michael Wood, General Curator, Theater of the Sea
SI	Dr. Louise Edwards
SJ	Kenneth Engels
SK	Delores Heiman
SL	Dr. Eugene Boyd
SM	Rosemary Haubert

B. Summary of and Response to Comments

QUALITY OF DEIS

Comments: Many commenters had editorial suggestions about specific language, need for citations, documentation, clarity; concern over omissions, inaccuracies, relevance of information presented on SWTD program issues under review; selective use of data and anecdotal material, speculative, confusing organization; lack of data analysis; questions concerning the adequacy of DEIS, scope, lack of identification of preferred action, omission of relevant facts, inclusion of unsubstantiated information, and opinion quoted as fact.

Reference: A, B, C, E, F, G, H, J, K, N, O, P, Q, R, X, Y, AA, AG, AH, AI, AJ, AM, AN

Response: NMFS has reorganized and made a number of changes and clarifications in the FEIS. Material that was strictly opinion or speculative was either deleted or identified as such. The FEIS recognizes that we do not have adequate data to draw conclusions concerning some of the issues discussed such as the longevity of captive dolphins (whether used in swim programs or not), compared to free-ranging dolphins. In some cases, broad issues are beyond the scope of this FEIS and are being addressed separately in other reviews.

WILD DOLPHIN POPULATION

Comments: Affected populations from which public display animals are taken are not in difficulty and are not an endangered or threatened species. NOAA has authority to restrict the take of dolphins from the wild if necessary. If take is allowed for public display, then take should be allowed for SWTD programs; there are sufficient restrictions to assure wild dolphin populations will not be affected by continuation of the program; can encourage captive breeding to phase out wild collection; continuation of four existing programs with already captive animals will have no impact on wild.

Reference: B, D, F, H, R, X, Y, RI, RK, RN

Comments: Female dolphins have been found to be more suitable for the program, resulting in the potential for selective collection, which is contrary to sound principles of wildlife management. Males may outlive their usefulness to the program; how to provide for reentry to wild? The quota percentage is based on wrong assumptions, inadequate data. The DEIS does not address mortality due to incidental take, entanglement, effects of water pollution; need data on extent of mortality due to other causes and cumulative effect of all takings; continuation of SWTD programs poses threat of depletion under current quota system; novelty of dolphin in every pool will deplete an already endangered species. Concern over dolphin removal from highly structured social groupings. Legality of current system for establishing quota without OSP analysis and without regulations. Need to provide for animals no longer suited to SWTD programs.

Reference: C, G, I, J, K, L, S, T, U, V, Z, AF, AH, AQ, BA, PD, PN, PR, OE, OF, QU, RB, RD, RF, RH, RL, SA, SB

Response: Atlantic bottlenose dolphins are not listed as endangered or threatened under the Endangered Species Act. The Atlantic coastal migratory stock are being considered for designation as depleted under the MMPA; however, animals from this stock is not taken for public display. If a population is listed as endangered, threatened or depleted, no taking for public display is allowed. Since 1977, the take of dolphins from the southeast has been managed by a geographically-based quota system. NMFS is developing a revised management system along with an EIS which will provide a comprehensive review of the status of stocks, the live capture, incidental take and other forms of human-induced mortality of bottlenose dolphins in the southeast region. Until such time as a revised management program is developed, NMFS has established interim quotas limiting collections for each management area to the quotas in place since 1982 and new recommendations made in January, 1990, whichever is lower. Recognizing the potential problem of selective collection, the take of females is limited to 50% of the interim quota. Any taking for public display will only be allowed under the quotas.

NMFS believes that the quota system adequately meets all OSP provisions in the MMPA. Further, NMFS believes that the quota system can be established by agency policy if it is based on sound scientific and conservation principles. However, as a matter of policy to allow full public notice and comment, NMFS intends to establish the future management system by regulation.

Under the preferred alternative, NMFS would not allow any additional taking from the wild for SWTD programs during the extension of the experimental program. If the swim program were to be authorized on a continuous basis and takings from the wild were allowed, then the disposition of animals no longer suitable for swim programs would need to be addressed. In this case, NMFS would not allow a taking from the wild of a dolphin to replace an animal no longer suitable for swim programs until appropriate disposition had been made, such as to a valid public display setting. At this time, it has not been determined that these dolphins can be successfully reconditioned for release back into the wild.

DISEASE TRANSMISSION

Comments: No evidence that SWTD programs pose health or safety risk to humans or dolphins that cannot be mitigated; no existing data available to demonstrate conclusively cause/effect of disease transmission in marine mammals; low incidence of shared diseases; statements inaccurate without further study; potential for transmission no different than for domestic animals; speculative, need comparison of incidence of disease in SWTD programs with other programs; mechanisms to detect transmission inadequate to assign risk; EIS discussion misapplied to SWTD Programs (arguments non-germane); can screen and train participants; disease unlikely given cleansing saline properties of natural ocean water; observed high quality of care, attention, and commitment of trainers and veterinarians within existing programs.

Reference: A, B, C, D, E, F, H, K, M, P, Q, R, W, AA, AH, AN, PG, PU,
QA, QG, QH, QL, RC, RK, RN, SH

Comments: Concerns raised about premature separation of mothers and nursing calves. Possibility of disease transmission, need more research before allowing program to continue; unacceptable risk; questions of sanitation in closed tanks. Hands-on interaction constitutes harassment, dolphins rewarded, thus not voluntary behavior; suggestions to examine/establish safeguards or standards for dolphin safety/handling; need supervision, standards for facilities; open access, water quality; NMFS should evaluate precautionary measures taken by industry as indicators of need to protect captive marine mammals from human-borne infection; participants should be informed of potential for disease transmission.

Reference: G, N, S, T, U, Z, AB, AC, AD, AK, AL, AO, AP, AS, AV, AX,
AY, BA, PQ, PR, PB, PE, PN, QE, QF, QL, QM, QQ, QU, RA,
RB, RD, RF, RH, SB, SI

Response: The likelihood of disease transmission between healthy dolphins and healthy people who swim with them is extremely low, but possible. To minimize risks, the preferred alternative includes certain restrictions, including: comprehensive behavior and health monitoring of dolphins; the removal of sick animals or animals on medication from the program; and, health screening of human participants.

STRESS-INDUCED DISEASE

Comments: No evidence of stress, not enough data to support argument; assessment of what constitutes stress in cetaceans not established by medical community; can escape source of stress or mitigate; dolphin choice to interact; would create stress in animals involved to discontinue program; stress under SWTD programs not more than other forms of public display; capture stress not relevant to SWTD program stress; need pre-swim baseline level; interaction with humans can be beneficial to dolphin; SWTD programs less stressful than other forms of "entertainment" public display.

Reference: A, B, C, D, E, O, Q, R, W, AN, PU, QA, RC, RI, RN, SH

Comments: Observed stress-related illness in dolphins; concern raised about long-term stress in captive marine mammals; little information on causal agents or prevention; need study before any further capture; capture stress is documented with high mortality rate attributed to stress factors; stress can deplete immune system and predispose to infection.

Reference: L, N, S, T, V, Z, AC, AL, BA, BD, PE, PI, PK, QF, QM, QQ,
RA, RD, RE, RF, RH, SB, SI, SM

Response: Immunodeficiency can result from long-term stress, as well as from disease and other factors. There are no data indicating that swim programs cause more stress in dolphins than other captive situations. However, there are no data to conclude that

swim programs do not cause more stress. Under the preferred alternative, NMFS would investigate this question during the extended experimental swim authority.

SURVIVAL IN CAPTIVITY

Comments: Higher incidence of captive births will eliminate need for wild collection, demonstrates stress-free environment; enough in captivity to allow breeding for future programs; no evidence to indicate increased rate of mortality due to SWTD programs, decision to terminate program without showing greater mortality due to program would be arbitrary and capricious; observed longevity of dolphins in captivity; program operates under legislatively sanctioned captivity.

Reference: B, C, D, F, Q, W, PF, PJ, PQ, PU, QJ, QL, QS, SE, SF, SJ

Comments: Risk of increased mortality; occurrence of stress-related deaths in trained dolphins; not enough in captivity to meet future needs; opposed to capture; risk of boredom, increased irritation causing less predictability in responses; lack of adequate knowledge of nutritional and environmental requirements of marine mammals; concerns raised about the treatment and care of dolphins that are no longer suitable for SWTD programs.

Reference: G, I, L, N, T, U, V, Z, AB, AD, AF, AG, AH, AK, AO, AP, AQ, AU, AV, AY, BA, BD, PB, PC, PD, PE, PI, PJ, PK, PO, PP, PQ, PS, PT, PV, PW, PX, PY, QE, QF, QH, QI, QN, QP, QQ, OR, QU, RE, RF, RJ, RL, SA, SC, SD, SK, SM

Response: There is no indication to date that the SWTD programs cause an increase in mortality in dolphins over other captive situations. The issue of survivability in captivity vs. in the wild is beyond the scope of this FEIS, but current data indicate that survival rates in captive dolphins may be similar to survival rates in free-ranging dolphins. Permit Holders are required to maintain animals no longer used in SWTD in accordance with APHIS standards until transferred with the approval of NMFS.

BEHAVIORAL EFFECTS

Comments: Behavior of dolphins trainable and monitored; can mitigate by distraction and other methods; behavioral analysis not exact science; statistical analysis of authorized programs does not indicate aggression to be a serious problem; risks minimal. Good training team recognizes personality and temperament of individual dolphins and acts accordingly; observation that placing trained personnel with very young dolphins has potential as part of good husbandry program; proper application of behavior techniques gives animals greater freedom than if left alone in display. Modification per se is neither good nor bad; program should be structured to protect both animals and public.

Reference: B, C, D, E, F, K, O, R, W, CA, PA, PU, QA, QH, RC, RI, RN, SH

Comments: Risk development of aggressive behavior by continued human exposure or proximity of viewers; if risk to healthy, additional risk for handicapped; need increased monitoring to identify and remove aggressive animals. Injury could result in negative publicity for dolphins and damage international programs to protect in wild. Public has become "handlers", older aggressive dolphins try to establish dominance over humans who "harass" with daily encounters.

Reference: G, I, N, S, T, U, Z, AB, AQ, AV, AX, AY, BA, PE, PK, QE, QF, QI, QJ, QM, QQ, RA, RD, RF, SB

Response: There are no data indicating that the swim program routine or responses from the participants cause an increase in aggression or other unacceptable behaviors in the dolphins. However, there are no data to conclude that they do not. Under the preferred alternative, NMFS plans to investigate this question further during the extended experimental swim authority. In part, this will be accomplished through requirements for detailed monitoring of each animal's behavior. During the experimental program, animals exhibiting excessive aggressive behavior, whether normal or program-induced behavior, must be temporarily removed from the swim program.

PUBLIC DISPLAY

Comments: Extent of MMPA authorization--does SWTD program constitute public display? or require a permit? What is extent of Secretarial authority under current public display definition to prescribe contents of program? Because SWTD program is form of public display, should be continued without any conditions other than those imposed on any public display program. What is relationship to APHIS responsibilities/regulations under AWA?

Reference: C, G, J, K, X

Response: NMFS has the legal authority under the MMPA to allow takings for SWTD programs as long as it considers such programs to fall under the "public display" exception. At this time, NMFS interprets "public display" to include interactive programs such as SWTD. However, this interpretation is being reviewed based on the results of the permit program review and may be modified in proposed regulations to revise the permit system. In addition, NMFS has extensive authority to regulate the care and maintenance of dolphins held in captivity, including the imposition of conditions for SWTD programs under section 104 of the MMPA. To a great extent, NMFS defers to APHIS regulations and judgments on these matters but such deference does not mean that NMFS has relinquished its authority to regulate and monitor care and maintenance for captive marine mammals.

EDUCATIONAL COMPONENT

Comments: SWTD programs increase understanding and knowledge of dolphins' capabilities, MMPA policies, natural history and ecology of marine mammals, need for conservation; Secretary not authorized to regulate content of educational programs, no requirement to prove incremental increase in educational benefit due to special activities;

educational benefits lost if discontinue program; produces enhanced environmental awareness, activism; value of experiential learning, tactile interaction; enhances prospects for overall protection of species. SWTD programs are powerful vehicles for engendering respect for marine life. Commercialism and conservation not mutually exclusive; people profit from conservation activity.

Reference: B, C, D, E, F, O, R, W, Y, AM, PA, PD, PF, PG, PJ, PK, PL, PM, PO, PU, PW, QA, QB, QH, QL, QP, QS, RC, RI, RK, RN

Comments: Educational purposes of program not being met; education used as guise for commercialism; profit is goal, not education; should educate in the wild; educational benefits available without taking dolphins and without SWTD programs; program not essential to development of environmental interests; send wrong educational message--that exploitation is acceptable; conservation awareness countered by entertainment aspects of program; participants in program already committed environmentalists--program not essential in developing such interests; should not legitimize SWDP to meet demands for entertainment of dubious educational value; lack of standards/guidelines regarding education or conservation programs within the public display industry. Using education as factor in evaluating extent that risk is justified goes beyond intent of MMPA.

Reference: I, T, U, Z, AB, AC, AF, AJ, AK, AQ, AV, AY, PD, PE, PQ, PX, QI, QM, QQ, RD, RE, RH, RJ, RM, SB, SC, SD, SL

Response: Whether or not the facilities are commercial enterprises, in and of itself, does not affect NMFS' decision. The MMPA does not prohibit public display at profit-making facilities, although it does require that a public display facility offer a program for education or conservation. While the swim programs are certainly not essential to education or conservation programs, NMFS has made a determination that the four facilities with swim programs have education or conservation programs that comply with the Interim Policy of May 22, 1989 (54 FR 22001). The MMPA does not require that the educational or conservation component be the sole purpose of the display. If different criteria are established based on the permit program review, NMFS will re-evaluate whether or not the facilities have adequate education or conservation programs.

THERAPY-RELATED ACTIVITIES

Comments: Therapeutic value to physically and mentally handicapped, terminally ill; noticeable observed and experienced improvement in participants, increased rate of learning; value of experiential learning, direct discovery of "inter-connectedness"; enhanced development of communication skills and ability to endure affliction; need to develop evaluation techniques, support research concerning role of dolphins in human healing process.

Reference: C, D, F, W, QD, QE, QF, QT, RA, RE, RI, RK, RN

Comments: Need different type of permit; establish bona fide dolphin therapy research proposals for approval, based on established research permit criteria; must document findings under controlled conditions; need peer review of methodology and findings;

requirements should include objective evaluation of improvement. Other public display programs may be as effective as SWTD programs: other programs using domestic animals as effective; can use aquatic non-protected species; question whether accepted/recognized part of SWDP; small number benefitted does not justify capture for this purpose. Some potential danger to dolphin; therapy patients cannot always control movements therefore potentially harmful to dolphins.

Reference: I, J, S, U, V, AG, AH, AP, AQ, AV, QC, QF, RA, SB, SC

Response: Under the preferred alternative, the same safeguards and restrictions would apply to therapy patients as to other members of the public. NMFS does not have data to indicate that handicapped participants pose a significantly greater risk to the dolphins or are subject to a greater risk from the dolphins than non-handicapped participants. If the proposed monitoring programs indicate significant risks to either the dolphins or the participants, NMFS can prohibit therapy-related activities under the existing public display permits. Researchers may apply for a scientific research permit, which NMFS would evaluate under its criteria for research permits.

RECREATIONAL SWIMS

Comments: Intensely pleasurable, unique recreational and aesthetic experience leading to changed human behavior, attitudes favoring conservation activism on behalf of common environment; recreational value in proportion to intensity and how differs from workaday life; public display is legitimate recreational and economic use of marine mammals under MMPA; termination of program (ensuing loss of revenue) would force refocus to entertainment rather than education; need to include actual (not estimated) figures regarding attendance to determine reach of program and dolphin/participant ratio.

Reference: B, C, D, Y, PI, PM, RC, RM, RN

Comments: Continuation of SWTD programs would attract similar projects, leading to proliferation of commercial exploitation, increased political pressure as user and economic constituency builds; increasingly difficult for NMFS to abide by MMPA mandate. Destroys "constituency" for conservation of the dolphins; increased demand for captive dolphins which captive breeding could not satisfy. How differentiate between "recreation" v. "entertainment" for which capture of wild animals is not suitable?

Reference: G, I, AG, AX, PD, PE, PK, QM, QP, QU, RH, SC

Response: The MMPA recognizes the recreational, aesthetic and economic significance of marine mammals and provides an exception from the taking moratorium for public display, although the MMPA does not define the term. As part of its permit program review, NMFS will be defining public display, which will provide guidance on whether swim programs qualify as a legitimate public display use of dolphins.

PUBLIC SAFETY

Comments: Problems can be mitigated by proper training of both dolphins and people; examine adequacy of safety standards for humans; consult with APHIS; develop health screening of participants, standards for eligibility of applicants; standards of conduct, orientation sessions; examine NOAA responsibility to protect volunteer applicants; establish inspection program, grievance procedures; protected by supervision of trained and dedicated individuals; tiny risk factor by comparison to accepted human activities with dogs or horses. Possibility that trainers' overfamiliarity with individual dolphin behavior lead to less vigilance? Government should monitor risk to "helpless" environment, not consenting humans; safe track record affects availability of liability insurance.

Reference: B, C, D, E, F, Q, R, W, PA, QA, QH, RC, RK, G, I, N, S, T, U, Z, AB, AL, AQ, AV, AX, BA, PR, QF, RA, RB, RD, RF, SE

Response: There is a risk to the safety of participants from injury resulting from aggression or sexual behavior of the dolphins, and injuries have occurred. However, NMFS does not believe that swim programs should be disapproved based on the limited injuries to date, but under the preferred alternative participants would be informed of the potential risks. Any potential for injury to human participants may also pose a threat to the welfare of the dolphins. To minimize risks, orientation sessions would be conducted for participants, swim sessions would be continuously monitored, and animals exhibiting excessive aggressive behavior, whether normal or program-induced behavior, would be temporarily removed from the swim program.

ECONOMIC CONSIDERATIONS

Comments: Tourist attraction, brings revenue to local community, ripple effect on service industries; costs of terminating program--lose ability to fund other programs such as therapy, mariculture, care of stranded animals, operation of successful breeding programs, research; discussion not needed or appropriate to EIS; if included in EIS, should discuss costs of alternative means of education, conservation, therapeutic, and recreational benefits; need information on charges to public to calculate gross income.

Reference: C, D, E, F, W, X, PI, QA, RC, RN, SH

Comments: Cost to government for increased staff to monitor; diversion of Federal monies from marine mammal conservation programs; duplicates functions of APHIS under AWA; tourism income not exclusively dependent on SWTD programs; funding of other projects not intrinsic to SWTD programs; permits given on provisional basis--potential loss of income known; economic losses to industry need not be considered.

Reference: B, G, I, R, T, U, AB, AY, PD, PE, PR, PX, QF, QL, QN, RJ, RL, SB, SC, SD

Response: Prohibiting the swim programs would result in adverse economic impacts to the four current facilities with SWTD programs. However, the potential economic loss to the industry is not a factor considered under the MMPA in determining whether or not to allow swim programs to continue. There will be an increased cost to the Federal government to monitor and evaluate the effects of swim programs. NMFS and APHIS will work cooperatively to ensure that their activities are not duplicative. If swim programs are authorized on a continuous basis, NMFS may consider whether or not some type of user fee is appropriate above the costs of other public display permits.

MONITORING

Comments: Need to define, and examine adequacy of, current monitoring program; should monitor high-stress indicators. Concern about collapse of self-monitoring; examine need for undercover observers. Is it possible to monitor adequately if programs proliferate? Need to establish detailed monitoring, inspection and data analysis programs.

Reference: B, C, E, G, H, S, T, U, V, Z, AH, AI, AN, BD, PA, PE, PG, PR, PS, PU, QA, OH, QN, RC, RD, RG, RH, RI, RJ, SH

Response: NMFS believes increased monitoring is needed during the extended experimental program both to help determine the effects of the program on dolphins and to determine whether or not the facilities are complying with the conditions of their permits. NMFS will conduct a detailed review of the health and medical records of the dolphins and will conduct periodic on-site inspections of the facilities. Also, NMFS intends to enforce the conditions of the permits.

ENFORCEMENT & COMPLIANCE

Comments: Need to examine adequacy of enforcement of reporting and monitoring requirements; explain sea lions; note failure to monitor, investigate reports, and revoke permits for violation of permit conditions; evidence of concealment of adverse events; lack of proper administration of existing personnel and resources. APHIS inspections should coincide with swims. Poor level of compliance allows growth of abusive industry. Need to enforce reporting requirements; analyze current data, revoke permits for noncompliance. Permit-holders cannot be relied upon for self-policing; violations suggest that expansion of program not beneficial to dolphins, nor educational to humans.

Reference: B, F, G, H, S, T, U, X, Y, Z, AH, AI, AN, AU, PR, QF, QI, QK, QU, RA, RD, RH, RL, RN, SB, SH

Response: As discussed above, NMFS intends to actively enforce the conditions of the permit by, among other things, monitoring the submission of required reports, investigating reports of violations, and conducting on-site inspections of the facilities. Failure to comply with permit conditions will result in penalties which may include suspension or revocation of provisional swim authority. Sea lions are not authorized in swim programs. The one sea lion previously used has been removed from the program.

RESEARCH

Comments: Program supports research; provides needed information; NMFS has authority to control research. No evidence that SWTD programs add negative effects to programs already in place; not to continue would suppress funding for research and force discontinuation of specific existing research programs; ties between public display activities and on-going research in dolphin behavior should be viewed positively.

Reference: B, C, Y, PF, PJ, PK, PO, PW, QL, QP

Comments: Too little data to be sure of medical or biological effects; not adequate protocols, documentation; SWDP permit not proper permit for research; permit-holders justify program through value of research, yet none have applied for research permits; irresponsible to expand/continue without more data. Problems of conflicting data, disagreements in interpretation of data. Need independently monitored experimental program with protocol designed to collect kind of scientific information required for long-term decision. Prohibit invasive research.

Reference: G, H, S, U, V, AF, AO, AQ, PD, PK, QI, QO, RG, RJ

Response: Non-invasive research can be conducted under the authority of a public display permit. This type of research may be part of the education or conservation program requirement of section 104(c) of the MMPA, but it is not, in itself, justification for granting a public display permit. A research permit may be granted for valid scientific research, but detailed information concerning the design and purposes of the research would be required. None of the facilities with swim programs have applied for or received research permits.

POTENTIAL LIABILITY

Comments: Several comments stated that NMFS may be liable for injuries incurred in SWDP if it permits facilities to take dolphins for this purpose.

Reference: G, T, AB, AJ

Response: NMFS disagrees that issuing permits to facilities to take and hold dolphins for SWDP would create liability on the part of NMFS for any injuries incurred. Such permitting activities are clearly excepted from liability claims under the Federal Tort Claims Procedure Act as discretionary functions of a federal agency. The preferred alternative to allow SWDP to continue is based on a finding that such programs do not present any unreasonable risk of harm to the humans involved.

ETHICS

Comments: No consensus on ethical standard; ethics are subjective, government should not take action on basis of emotionally charged ethical views but on merits; many who object to SWTD programs object philosophically to dolphins in captivity for any purpose.

Discussion of ethics has no place in document; ethics decided by Congress through MMPA authorization to capture dolphins for public display. endorsed role of zoological institutions in raising public awareness of marine mammals; define ethics as conduct conforming to professional standards.

Should prohibit collections from wild for SWTD program. Should recruit only from captivity; captive breeding increases species; program self-sustaining.

Replace current programs with swim with the wild programs; return all captive dolphins to the wild. Allow dolphins access to open ocean four months of the year; gives dolphins the choice of returning.

Intense concerns about exploitation, commercialism, unacceptable to take from wild; adds to list of inhumane, abusive disregard of animal rights, e.g., tuna/porpoise issue; MMPA enacted to conserve/protect species, not add increased obstacles to survival; dolphins not amusement devices. Should consider depth of public sentiment against capture from wild.

Reference: B, C, E, F, G, H, J, K, O, R, U, W, Y, AB, AC, AD, AF, AG, AK, AL, AN, AO, AP, AQ, AU, AV, AX, AY, BD, PH, PN, PX, QA, QR, QT, QU, RA, RB, SA, SC, SH, SI, SK, RC, RF, RJ, RL, RM

Response: The MMPA recognizes the recreational, aesthetic and economic significance of marine mammals and allows a taking for an exception from the taking moratorium for public display. In implementing the MMPA through its permit program, NMFS does not consider whether or not captive displays are "ethical"; that consideration lies with Congress when enacting legislation and the viewing public in deciding whether to support such programs.

SPECIAL CONDITIONS AND AGENCY POLICY/PRACTICES

Comments: Numerous suggestions for special conditions to any swim authority or improvement to the program were made, including the following:

- Tighten permit conditions; enforce; require semi-annual reports instead of quarterly
- Provide for open water access, enlarge existing minimum standards for water space
- Rotate animals between swim program activities and show activities
- Control program design, call on attending vet to assist in monitor program design
- Provide human-free area
- Provide for health profiling of people and dolphins
- Establish guidelines for swimmers and for trainers
- In establishing guidelines, leave room for diversity among programs
- Establish strict permit review procedures
- Acclimatize dolphins to humans for minimum of 1 year before entering SWTD programs

Reference: C, D, E, P, Q, W, AH, AI, AN, BD, BD, PH, PI

Response: Under the preferred alternative, NMFS would establish revised conditions to minimize the potential for adverse effects to dolphins and to monitor the activities and effects of the swim programs, including many of the conditions recommended by commenters. The revised special conditions include the following requirements.

Staff: Facilities must have at least one management staff and one trainer each with three years experience with captive cetaceans, and one veterinarian with two years experience with cetacean medicine. The veterinarian must establish and implement a program for preventive medicine for the dolphins.

Program Requirements: Dolphins used in the program must be certified healthy by a veterinarian and must receive at least six months training, including gate training. The health and behavior of the dolphins must be monitored and dolphins that are unhealthy, on medication or exhibiting behaviors not suitable for SWTD programs must be removed from the program until the problems are resolved.

Swim interactions must be limited to two hour intervals, with equal resting periods between interactions. At least 10 continuous hours free of human interaction would be required per day. The swim participant/dolphin ratio must not exceed 2:1, and the dolphins must be provided with adequate escape opportunities from the swim interactions. Swim interactions must be continuously monitored by one staff member in the water and one outside of the water. Participants may not hold, pull or grab dolphins, including dorsal fins.

Participant Requirements: Individuals with upper respiratory disease or on medication that suppresses the immune function would be excluded from the program. Participants must be given an orientation that includes safety rules for interacting with dolphins, must shower with soap before and after any swim session, and must be informed of the potential for injury and disease transmission.

Monitoring Requirements: The facilities would be required to monitor the health and behavior of all swim dolphins according to their established monitoring programs. In addition, NMFS may develop specific monitoring requirements for health and behavior of dolphins that incorporate the research protocol.

Reporting: The facilities must immediately report any injury or mortality, any health or behavior problem that results in removal of an animal from the program, or any changes in the program or staff. The facilities must submit quarterly reports that include summaries of the swim programs, results of the health and behavior monitoring for each dolphin, and detailed descriptions of any encounters that resulted in or could have resulted in any injury to dolphins or human participants. Failure to submit reports would result in suspension or termination of the program.

During the experimental period, NMFS would further evaluate the programs to determine if they should be allowed and, if so, what requirements are needed to alleviate stress on dolphins and reduce risk of injury to humans. This would include what space requirements above the APHIS standards might be needed and whether open water systems should be required.

NEPA

Comments: The appropriateness of using an EIS to determine whether to allow SWTD programs to continue was questioned. Some stated that they could not adequately comment on the DEIS because there was no preferred alternative identified. Other commenters challenged the appropriateness of including ethical and legal discussions in an EIS.

Reference: B, G, J, Y, AJ

Response: The EIS is being used to aid NMFS in evaluating the environmental effects of a programmatic decision concerning continued authorization of SWTD programs. NEPA and regulations promulgated thereunder recognize the value of preparing an EIS for programmatic decisions. (40 CFR 1502.4.) The EIS is not a substitute for the agency's decision making process, but only an adjunct to it. As stated in this document, other agency actions are required to implement the preferred alternative.

While discussions of other considerations are not required in an EIS, they were included in the DEIS to highlight areas of controversy or factors that will go into the agency's decision making process.

Comments: One commenter extensively questioned whether NMFS has complied with NEPA requirements in publishing the DEIS. In particular, this commenter contended that 1) not all relevant parties (such as Center for Disease Control and other federal and state agencies) were invited to participate in the scoping process; 2) not all issues identified in the scoping process (such as legal concerns, liability issues, indirect effects on local environments and laws) were included in the DEIS; 3) the DEIS did not explore adequately the affected environment, particularly indirect effects on air and water pollution, on local environments and laws, and resources needed by the agency compensate people injured in SWDT Programs; and 4) the DEIS failed to discuss an alternative means for educating the public about dolphins and an alternative that would require separate EIS for new SWTD programs.

Reference: AJ

Response: Most of the concerns raised by this commenter related to the agency's discretion in deciding how extensive its DEIS must be. NMFS believes that it consulted all necessary and relevant parties in its scoping process and that it has discussed adequately all issues relevant to the EIS. Resolutions of legal and liability issues are not necessary to this EIS, although they will be considered by the agency in its decision regarding authorizing SWTD programs. The indirect effects referred to by this commenter are too attenuated and speculative to serve any useful basis for this EIS. NMFS believes it has considered all affected environments and potential effects that are reasonably related to its decision on SWTD programs. Finally, NMFS does not consider the other alternatives suggested to be appropriate for this EIS. The first suggested alternative is misplaced because it assumes that the sole purpose of SWTD programs is to

educate the public about dolphins. As a result, examination of educational alternatives is not required in this document. The second suggested alternative refers to the need to do an EIS on all future proposed SWTD programs. This suggestion is not sufficient for an alternative because it merely recommends a procedural requirement which could be relevant to any of the alternatives and is therefore more appropriately determined on a case by case basis as the law and facts may dictate.

STATE REGULATIONS

Comments: Commenters questioned to what extent a State may determine whether dolphins may be removed from its waters to be used in SWTD programs; States should be able to effect stricter environmental regulations.

Reference: U, SA

Response: Section 109 of the MMPA states that no state may enforce any state law or regulations relating to the taking of marine mammals unless the state has received a transfer of authority for the conservation and management of the marine mammal. No state has been transferred such authority. Nevertheless, NMFS is willing to take into account a state's concerns regarding the conservation of local populations of dolphins to the extent that it is consistent with the purposes and policies of the MMPA. To that end, NMFS has been meeting with Florida officials to explore the possibility of a cooperative agreement concerning the regulation of taking, transporting, care and maintenance of marine mammals taken from or held within Florida boundaries, such as preventing removal from state aquatic preserves.

C. Public Hearing Summaries

The National Marine Fisheries Service (NMFS) conducted four public hearings on swim-with-the-dolphin (SWTD) programs. The purpose of these hearings was to receive public testimony on the issue of SWTD programs and to receive comments on the draft environmental impact statement (DEIS) on the use of marine mammals in SWTD programs. Public hearings were held in Honolulu, Hawaii; Islamorada, Florida; Washington, D.C.; and Ft. Myers, Florida. Analysis of the issues covered by the testimony is included in the data base of all comments for the DEIS. Transcripts of all hearings are available for review from the Office of Protected Resources and Habitat Programs, National Marine Fisheries Service, 1335 East West Highway, Silver Spring, Maryland. Following is a summary of the hearings at each of these locations.

Honolulu, Hawaii. November 20, 1989. 7:00 p.m. at the Kaimuki Public Library, 1041 Koko Head Avenue.

Twenty-six people registered to speak at this public hearing and were asked to provide a written copy of their testimony to the court reporter. Respondents included 18 concerned individuals who spoke on their own behalf, 5 representatives of various interest groups, 1 representative from the University of Hawaii, and 2 employees of the Dolphin Quest facility which currently operates one of the four SWTD programs.

Of the twenty-six speakers, eight testified in support of Alternative A, which would allow the program to expire. One testified in support of Alternative C, which would continue the programs with new conditions. Three testified in support of Alternative D which would authorize the programs with existing special conditions, and two suggested additional alternatives for consideration. Twelve speakers did not specify a preferred alternative.

The majority of the speakers were opposed to keeping dolphins in captivity because of the risk of increased mortality, stress, disease transmission and concern for the care and treatment of dolphins, especially those that are no longer suitable for SWTD programs. Concern was also expressed relating to the responsibility of monitoring these programs, and whether or not it is possible to adequately monitor the programs if they are allowed to proliferate. Education was also discussed by most of the speakers. Most indicated that the program at the Hyatt does offer some educational value and is popular among students. A representative from Dolphin Quest gave an analysis of the education and conservation impact of their SWTD program which included results of questionnaires that had been distributed to participants between 1988 and 1989. Others were of the opinion that no educational value is gained from SWTD programs. Some stated that the intent of the MMPA is to allow captivity for legitimate research and education that is meant to protect cetaceans, and not meant to enhance fantasy theme resorts, or to allow commercial exploitation.

Islamorada, Florida. November 28, 1989, 7:00 p.m. at the Cheeca Lodge. Milemarker 82.5

A total of twenty-one people testified at this public hearing. The majority of the speakers (12) testified on their own behalf; and three represented interest groups. Three were affiliated with Dolphins Plus; two with Dolphin Research Center; and one with Theater of the Sea. All three facilities hold existing public display permits which include authorization to conduct swim programs. Of the twenty-one speakers, six specifically addressed preferred alternatives. Three supported Alternative A, which would allow the program to expire; and three supported Alternative C, which would authorize the program with new conditions.

The ethics of captivity of dolphins for public display programs, educational benefits, behavioral changes and potential disease transmission as a result of SWTD programs were the primary areas of discussion.

Other concerns expressed related to environmental consequences, commercial exploitation, other conservation issues, such as the tuna-dolphin issue, food deprivation training and food reinforcement, and the potential for injuries. The need for more regulations was expressed, and for a differentiation between research, education, and SWTD programs.

Washington, D.C. December 4, 1989, 10:00 a.m., Main Auditorium, U.S. Department of Commerce.

Thirteen people testified at this hearing. One piece of written testimony was submitted and made part of the record. Of the thirteen testifiers, six speakers represented interest groups, four testified on their own behalf (including one speaker who was injured by a dolphin at one of the facilities). There was one speaker each from three facilities authorized to conduct swim programs (Dolphins Plus, Dolphin Research Center, and Theater of the Sea). The written testimony was submitted by the Director of the Dolphin Learning Institute (DLI). DLI is an educational and research organization which operates a program called Dolphin Camp and has relationships with all of the "swim" facilities in the Florida Keys. Eight preferred Alternative A, four preferred Alternative C, and one preferred another alternative with recommended conditions.

Most of the issues in the DEIS were addressed by the commenters at this hearing. Although it was generally stated that there is some potential risk of injury and disease transmission, one commenter indicated that incidence of disease transmission is not well-documented. One speaker testified that she was attacked by one of the dolphins during a scheduled swim-with-the-dolphin program and noted therefore that the programs are not entirely safe. Another commenter stated that the risks are minimal and that no data exist to show that the programs have any adverse effects on dolphins or human participants. However, there was concern expressed that more effort should be put into monitoring, examining records, site visits and employee interviews. The majority of the commenters at this hearing argued against continuing the program, preferring Alternative A.

Ft. Myers, Florida, December 19, 1989, 4:00 p.m. at the Commissioner's Meeting Room.

Thirteen people testified at this public hearing. U.S. Congressman Porter Goss from Sanibel, Florida, Thirteenth Congressional District, was the first speaker. After commenting on some of the issues in the DEIS, the Congressman's main issue was in the area of legislation and the question of State's rights with regard to management of dolphin populations. He stated that he intends to introduce legislation that will amend the MMPA to protect dolphins and preserve the State's rights involved. The legislation would require that whenever State Marine Mammal Protection regulations and Federal law conflict, the stricter standard of protection will prevail. Other speakers included eight who testified on their own behalf, two who represented interest groups, one speaker who is affiliated with the Dolphin Research Center, and one with Theater of the Sea. Both facilities hold existing SWTD authorization. Four speakers preferred Alternative A and one preferred Alternative C. The other speakers did not indicate any preferred alternative.

Not all issues raised in the DEIS were addressed at this hearing. Most testified in opposition to the capture of dolphins, especially from Florida waters. The others felt it was all right to take these mammals and put them in aquariums that are properly designed with clean water and where they are properly fed, where people can see them and enjoy them, and for research. It was also commented that animals can survive extremely well in a zoological environment and are able to reproduce.

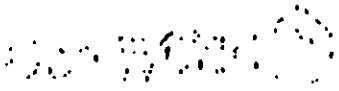
Concern was expressed regarding the potential for disease and animals dying because of infection and stress while in captivity. Another commenter said that each facility has consulted with veterinarians specializing in marine mammal medicine to discuss these possibilities and concluded that there are no existing data available to show conclusively cause and effect of disease transmission in marine mammals.

One speaker commented that using children in research experiments under a public display permit without a scientific research permit, without the sanction of the Department of Health and the Department of Education is of concern. Also the opinion that dolphins are used to perform demeaning tricks for the public's amusement or as therapy for profit was expressed.

A speaker testified that what may appear to be aggressive behavior to a novice trainer or to the general public may be interpreted very differently by experienced personnel. While the potential for risk associated with aggressive behavior is recognized, statistics gathered over the past four years show these risks to be minimal.

Most of the speakers at this hearing testified against the educational benefits of the program and said that the SWTD programs were used as a guise for commercialism. The ethics of charging autistic children \$100 an hour for participating in a program described as research without a research permit, was questioned.

Concern was raised regarding compliance and enforcement of reporting requirements and the timely submission of injury reports. Concern about the adequacy of safety standards for dolphins and humans was raised.



Department of the Interior
Bureau of Land Management

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FAX

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Nancy Foster, Ph.D.
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Habitat Program
National Marine Fisheries Service
1335 East-West Highway, Room 0260
Silver Spring, Maryland 20910

The attached comment is provided on the Service's
Draft Environmental Impact Statement on the Use
of Marine Mammals in Swim-With-the-Dolphin Programs,
October 1989.

Barbara Hefner

14 pages to follow.



January 8, 1990

Nancy Foster, Ph.D.
Director, Office of Protected
Resources and Habitat Program
National Marine Fisheries Service
1335 East-West Highway, Room 0260
Silver Spring, Maryland 20910

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Dear Dr. Foster:

Thank you for providing us with the Service's Draft Environmental
Impact Statement on the Use of Marine Mammals in Swim-with-the-
Dolphin Programs, October 1989 ("Draft Report").

Our comments are restricted to the following sections of the
Draft Report:

- Section III.B.4. - Disease transmission (from dolphins);
- Section IV.B. - Disease transmission to dolphins; and
- Section IV.E. - Stress-induced disease.

We believe that further scientific study is necessary to reach
any conclusion regarding the effect, if any, that the swim-with-
the-dolphin programs have on the health of the dolphins involved
and the program participants. Based upon the dearth of
information in this area, we strongly recommend that these
sections be redrafted to reflect the need for further study or be
removed from consideration until further empirical data can be
gathered.

What follows are our comments on specific problems that we have
found in certain sections of the Draft Report.

III.B.4. Disease Transmission.

Generally speaking, while we have always recognized the potential
for disease transmission, we do not believe this potential rises
to the level of a serious or even significant risk. In Sea
World's 25 years of zoological experience, we have recorded no
anthropozoonosis or zoonosis involving marine mammals. In our
opinion, the zoonotic potential of marine mammals is not any
different, except, perhaps less significant, than the potential
for disease transfer among domestic animals such as household
pets. It is also our opinion that the zoonotic potential is even
less significant than the risk of transmission of disease between
humans.

The introductory statement in Section III.B.4. of the Draft
Report states as follows: "A number of pathogenic organisms are
common to both humans and marine mammals and there is the
potential for disease transmission (Smith et al. 1970; Webster et
al. 1981)." A close reading of the available literature reveals

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that this so-called "potential for disease transmission" has not been supported by known cases of zoonotic transmission from healthy marine mammals to man and vice-a-versa. The few cases noted in the Draft Report involve diseased, dying or dead specimens. J.H. Steele, (1979) in the CRC Handbook Series in Zoonosis states that "[a]ny list of zoonoses should include only those infections for which there is proof or strong circumstantial evidence that transmission between animal and man occurs."

As support for its assertion of a "potential for disease transmission," the Draft Report states that "individuals assisting in studies of the bottlenose dolphin die-off of 1987-88 on the Atlantic coast contracted a skin disease of unknown etiology." The Draft Report provides no documentation for this statement and it unfairly compares a situation involving the diseased and dying bottlenose dolphins found during the 1987-88 die-off with healthy dolphins.

As further support for "potential" disease transmission, the Draft Report notes that veterinary researchers have found *Neisseria mucosa* var. *Heidelbergensis* in the blowholes of healthy dolphins. (See page 22 of Draft Report.) Without further research to examine the specific issue of transmission, the Draft Report goes on to infer that since *Neisseria mucosa* var. *Heidelbergensis* causes bacterial pneumonia in children, it will be transmitted from healthy dolphins. The report fails to note that this organism is also found in the nasopharynx of healthy human beings regardless of their contact with dolphins. (Smith et al., 1978; Jorgensen and Rinaldi, 1986.)

Along the same line, the Draft Report makes the following statement:

Erysipelae, a serious bacterial disease of a variety of wild and domestic animals and occasionally humans, has been reported in bottlenose dolphins and other cetaceans (Suor and Vadros 1988; Wood and Shuman 1981)

Again, the inference that this disease is transmitted between healthy bottlenose dolphins and humans is unfounded. To the extent that we are aware, there is no record of direct transmission of this disease between healthy marine mammals and humans.

The second paragraph in Section III.B.4. (page 22) indicates that "[several species of *Vibrio* virus are known to have caused epidemics in humans in estuaries and coastal marine areas." It

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is important to note in the context of the Draft Report that *Vibrio* is, in fact, a genus of a bacterium. (Jorgensen and Rinaldi, 1986.) The genus currently contains many species. (Jorgensen and Rinaldi, 1986.) The organism is sometimes referred to as "water vibrio" due to its common occurrence in surface waters. In this regard, Schroeder, et al., 1985, identified 5 species of vibrios and several unclassified vibrio species as normal inhabitants of the sea water in which the studied dolphins lived. Furthermore, these organisms have been isolated in laboratory tests from, among other animals, cows, goats, dogs, chickens and crows (Sanyal et al., 1974; Kack and Carpenter, 1969). It is generally believed that human infections are most likely the result of eating uncooked or incompletely cooked seafood or by skin contact with seawater, especially if the contact is associated with trauma. (Jorgensen and Rinaldi, 1986.) It is our opinion that vibrios can cause infection in any animal. Notwithstanding this fact, it would appear from these studies that transmission from a live, healthy animal is unlikely. The findings of the various researchers merely highlight the fact that precautions should always be taken when working with injured, diseased, dying or dead animals as a matter of routine veterinary practice as well as simple common sense.

In the discussion of the calicivirus found in the last paragraph of page 22 and first paragraph of page 23, the report promotes an assumption that because calicivirus has been transmitted from a bottlenose dolphin to a sea lion to another bottlenose dolphin, and because the virus grows in human cell lines, it will infect humans. Although the Draft Report admits that "[o]f clinical disease in humans has not been demonstrated," it fails to explain that viral propagation in a laboratory environment (*in vitro*) does not guarantee viral pathogenicity in vivo.

Leptospirosis is addressed in the second paragraph of page 24. Although the Draft Report indicates that Leptospirosis is "a bacterial disease of California sea lions and other pinnipeds,"^{2/} it fails to note that the genus contains several species that infect a broad spectrum of animals, humans included. (Jorgensen and Rinaldi, 1986.) Leptospirosis has been found in approximately 77 countries in 190 species, including domestic

^{1/} This transmission, as recounted from Smith, et al., 1983, is not as conclusive as the Draft Report implies.

^{2/} The draft report notes that "[s]ince one of the swim-with-the-dolphin programs also includes a California sea lion, examination of disease transmission involving pinnipeds is also of interest." It is our understanding that pinnipeds are not used in any swim-with-the-dolphin programs.

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animals such as goats, horses, hamsters, guinea pigs, rabbits and gerbils (Torten, 1979). It is generally accepted that the most common sources of infection are rat urine and contaminated water. (Jorgensen and Rinaldi, 1986.) The zoonotic potential of *Leptospira* has long been recognized but never actually pinpointed to contact between bottlenose dolphins and humans.

The Draft Report relays the recommendation of Smith, et al., 1978, with respect to the numerous "bacterial pathogens for land mammals that have been isolated from wild marine mammals," i.e., that "precautions be taken to ensure that disease agents shed by captive marine mammals are not transmitted to susceptible terrestrial mammals, including animal handlers and other human beings." This recommendation is simply that -- a recommendation. It should not be read as scientific support for the proposition that the bacterial pathogens may, in fact, be transmitted to human beings. Furthermore, the Draft Report fails to point out that most, if not all, microbial organisms found in marine mammals are also found in numerous other species in a multitude of locations where marine mammals are known not to occur. (Jorgensen and Rinaldi, 1986.) It is a known scientific fact that bacteria are everywhere and the mere identification of similar bacteria in different species of animals is not indicative of specific disease transmission.

The last paragraph of page 23 refers to precautionary advice provided by Sweeney in newsletters to the membership of the International Marine Animal Trainer Association (IMATA), a professional association. This advice was taken out of context and printed in articles which were not scientifically referenced or peer reviewed. These articles should not be quoted as fact.

The "brief summary of the literature on disease transmission between marine mammals and humans" which appears in Section III.B.4. at the last two paragraphs of page 26 through page 27 attempts to summarize and paraphrase multiple authors' publications concerning etiological agents. It is impossible for us to determine, based upon the bare references, which statements are to be attributed to which author. In reference to this section, we recommend that all statements attributed to parties other than the Service be followed by an exact citation. Notwithstanding the stated limitations, we have made the following general comments on the three topics identified in the "summary:"

Bacterial Infection. The Draft Report suggests that the bacteria discussed are always pathogenic and potentially unique to a marine mammal-human interrelationship. This suggestion simply is not supported by the literature in the area. An example of

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the summary's general deficiencies in this regard, the Draft Report states that *Erysipelothrix* has been isolated from bite wounds of 11 marine mammal handlers, but fails to explain other potential variables that are important to the understanding of this statement. Specifically, it lacks an explanation of where the bites originated, i.e., the species implicated and the circumstances involved. Furthermore, the statement is not referenced. Conklin & Steele, 1979, listed 30 occupations associated with erysipelas infection which included fisherman, farmers, cooks, bakers and housewives.

As previously stated, bacteria are everywhere. It is our opinion that people are more likely to succumb to bacterial infections from other people as a result of poor personal hygiene than from an encounter with a marine mammal.

Viral Diseases. The Draft Report lists a number of viral diseases of marine mammals with "pathogenic potential for man." Unfortunately, however, the summary does not adequately consider or explain principles of virology, viral disease, and viral zoonoses. The public may misconstrue viral disease as easily transmitted between marine mammals and humans. In addition, as in previous sections, statements are made throughout this section regarding the potential threat of disease transmission between marine mammals and humans without providing the necessary supporting documentation.

For example, the Draft Report states that "influenza of the H3N2 serotype has been isolated from both humans and cetaceans." The public may be erroneously led to believe that influenza is easily transmitted between the two. This is accomplished by stating that there is a "potential for respiratory transmission" and "it is also possible to acquire influenza conjunctivitis from an aerosol." The text states further that "one handler developed conjunctivitis after exposure to a seal sneeze" implying that the conjunctivitis was caused by the seal sneeze without fulfilling Koch's postulates to prove the etiology (Beran, 1981). Influenza viruses have been subject to extensive interspecies investigations. As a result, it is generally believed that influenza viruses from animals and birds appear to pose little, if any, individual hazard to persons in contact with them (Beran, 1981).

The paragraph on herpesviruses is written in a manner that infers that these viruses may be a direct threat to humans. The fact is that most herpesviruses are generally considered to be host-specific (Beran, 1981 and Fenner, et al., 1987). Again, proper references have not been supplied with statements pertaining to herpesviruses.

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As a general statement, it should be emphasized that only a few viral diseases, which are categorized as viruses in the same families as those infecting humans, have recently been recognized in marine mammals. (Steele, 1979, 1981.) To our knowledge, no definitive evidence of interspecies transmission (between cetaceans and humans), has been observed. However, it is our opinion, as stated with bacteria, that the threat of transmission of viral diseases between marine mammals and humans is insignificant compared to the reality of transmission between humans.

Fungal Diseases. The section on fungal diseases is difficult to address without specific references. The text could be misleading to a public with little understanding or background in microbiology or disease transmission. The Draft Report relates a single case of the transmission of blastomycosis which was documented in Cates, et al., 1986. However, we believe the documented case is an exception involving a single diseased dolphin which was being treated and eventually necropsied (Cates, et al., 1986). Obviously this scenario is not one which can be expected to affect the general public. It is also the only case cited which documents transmission of blastomycosis, although in our opinion, it must be assumed that transmission was most likely through a skin wound in the attending veterinarian.

The summary on fungal diseases implies that Candida can be transmitted from marine mammals to humans. It is known that Candida species are normal inhabitants of the human gastrointestinal tract as well as that found in dolphins. The presence of an infected animal with candidiasis poses little to no risk to handlers unless their own immune systems are compromised.

Lobomycosis, as mentioned in the Draft Report, is a fungal infection occasionally seen in beach-stranded cetaceans. Most cases involve dead or dying stranded animals. Since it is not commonly seen or diagnosed, it is misunderstood by inexperienced individuals. When general principles of hygiene are used and proper necropsy techniques are maintained, infection is unlikely. In humans, the disease is restricted primarily to the Mato Grosso area of Brazil with some cases documented in Central America (Rippon, 1988).

Contrary to the conclusions reached on page 27, routine interaction between marine mammals and their handlers does not facilitate the transmission of infectious organisms. Simply stating that "opportunities" for infection exist does not equate with actual disease transmission. While respiratory infections, such as influenza, have "potential" for transmission, this

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potential should not be treated as fact until the scientific community has established a direct relationship between the two which has withstood the rigors of scientific review. In all probability, we as humans are more likely to catch influenza or other airborne infection from other humans in close proximity, from breathing, sneezing, or shaking hands.

Traditionally, marine mammals have been handled in a manner similar to all other non primate mammalian species. It has been our experience that the reasonable handler who practices common personal hygiene, and if necessary, first aid, is highly unlikely to encounter complications from the few infectious organisms which have the potential of originating from marine mammals. The fact that individuals advise caution in certain marine mammal-human interaction does not verify a known or increased incidence of disease but rather signals a precaution until more is known about a new area. These "precautions" may become outdated due either to new evidence clarifying a point or a lack of supporting cases.

IV.B. Disease Transmission to Dolphins.

The first sentence of the first paragraph on page 30 states that "[i]ncidences of disease transmission from humans to dolphins do not appear to have been reviewed in the recent veterinary literature." This should not be misinterpreted as an indication that the veterinary medical profession is in some way uninterested in marine mammal anthroponosis. When cases of disease are observed and documented, professional papers on the subject will appear in published and referenced literature. The fact is, at this time, no incidence of disease transfer from humans to dolphins has been recorded. It is for this reason that the potential for transmission is more accurately described as unknown.

We object to the citation on page 30 to a letter written in 1985 by K. Pryor who is described as "a curator of an aquarium report[ing] on experiences with swim programs at [that] facility." The text of the letter is quoted in such a way as to imply that the observations relate to a current swim program. It should be noted that K. Pryor is not currently a curator of an aquarium. Furthermore and more importantly, while the letter was written in 1985, it pertains to K. Pryor's personal observations

In a letter dated June 16, 1989, Sea World informed the Service that in 25 years of operation no disease occurrence has been observed in cetaceans that would lead to a suspicion of human to-cetacean transmission. This statement remains correct.

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recollected from a program which may have existed 20 to 30 years ago.

IV.E. Stress Induced Disease.

It is our belief that the incorporation of a section on stress induced disease in cetaceans in this Draft Report is premature. The medical community has not established what constitutes the proper assessment of stress in any animal. Accordingly, further study would be required in order properly to assess the role stress plays on the health and longevity of marine mammals in captivity.

On Page 31 the Draft Report states that a low calcium and metabolic acidosis have been associated with depression, weakness, and death in dolphins exposed to stressful conditions (e.g., transportation and capture). The Draft Report references papers by Myrick, 1988 and Colgrove, 1978. The paper by Colgrove, 1978, presents a suspected case of transportation-associated myopathy in a dolphin. Colgrove's article describes a case of a possible capture myopathy involving a *Tursiops gilii* that occurred in 1977. Capture myopathy is a well recognized condition of many species of wildlife, especially ungulates. Because this condition has been recognized by the veterinary community for over 20 years, modern methods of capture and transport of wild animals, including dolphins, involve techniques that minimize the chances of inducing capture myopathy and other "stress induced" diseases. Also, as indicated in the reference, veterinarians are able to detect and successfully treat this condition in the majority of cases. Capture myopathy is a rare occurrence in dolphins using modern handling techniques and is not readily analogous to stress.

Myrick, 1988, states in his summary that casual connections between stress-induced hypocalcemia in mammals, not just dolphins, "have not been directly demonstrated." Myrick also

47 We also object to the citation of this letter in other places in the Draft Report. For example, Pryor's letter is referenced in the first paragraph of page 1 of the Draft Report, in comments attributed to the Marine Mammal Commission comparing this unmonitored program which existed 20 to 30 years ago to those currently under review. The letter is also cited in the first paragraph of page 21 to support the implication that dolphin could be aggressive in a swim program. In light of the developments in dolphin care and training that have occurred over the last twenty years, it would be unfair to base any conclusions upon this single unsubstantiated letter.

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states that "wild dolphins that are slowly captured and handled with minimal disturbance to the animals, have serum calcium values that are normal for other mammals."

The Draft Report further states that "[r]ecently, veterinarians examined the stress response in bottlenose dolphins as a result of capture techniques and noted a decrease in white blood cells (Thomson and Geraci, 1986)." We disagree with the interpretation stated in the Draft Report of the Thomson and Geraci work. Thomson and Geraci's paper demonstrates that the bottlenose dolphin, *Tursiops truncatus*, appears to respond to stress in a manner similar to any other mammal in that there is a transient stress leukogram. The stress leukogram is characterized by a mild to moderate leukocytosis (not a decrease in white blood cells), a neutrophilia, a lymphopenia, and an eosinopenia. The primary conclusion made in Thomson and Geraci's paper is that the eosinophil count may be a useful tool in assessing the extent and duration of stress in dolphins.

The reference to Gibbons and Stoskopf (in press), on page 34 states that Gibbons and Stoskopf concluded that "the relatively close proximity of the viewing public significantly affected the animals' behavior and contributed to the medical problems" of the dolphins. The implication of this citation is that all dolphins in close proximity to humans are under stress. In our opinion, it is more likely that inappropriate exhibit design was the cause of the dolphin's problems not the simple association with people that were close by. Based upon our understanding of observation techniques, the only way to prove that people were the main factor involved in causing dolphin stress would be to maintain the dolphins with all the variables constant except to allow no public viewing. Since this was not done, the authors of the study reported on assumptions based on associations -- not proof.

Handling techniques used in the late 1960s in the developmental phases of dolphin acquisition (Walker, 1975) cannot properly be compared with current handling techniques. It should be further noted that the animals referred to in the Walker paper were common dolphins, not bottlenose dolphins.

Because they contradict our collective experience, we object to the quotation in this section of the Draft Report of "former trainers" from unreferenced facilities and with unknown backgrounds. Without proper identification of the sources quoted, we cannot investigate or properly comment on the validity of their observations or on their knowledge or interpretation of the use of pharmaceuticals.

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The paragraph on "stress" attributed to a veterinarian from one of the swim programs is misleading. This personal letter is obviously a matter of opinion but is quoted as scientific fact. At this time, there simply is no documentation that dolphins suffer more from stress than humans.

Finally, we object to the superficial discussion of the symptoms and treatment of two swim program dolphins that exhibited unusual behavior and a decreased appetite. Although the Draft Report notes that "this incident occurred during a 6 week period of 'intense breeding activity,'" it fails to explain that it is not uncommon for some dolphins during breeding to lose their appetite for a period of time.

CONCLUSION

In conclusion, we respectfully request that the Service delete or revise all sections of the report concerning disease transmission of dolphins in captivity. We recommend that the Service engage recognized professional authorities to supplement the available literature with specific studies of the swim-with-the-dolphins programs before proceeding any further with this study. Once again, we are grateful to the Service for providing us with the opportunity to express our views on the Draft Report.

Sea World of Florida

By: _____
Jim Hobain, DVM
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RE: Comments of The Hyatt Regency Waikoloa; Draft
Environmental Impact Statement on Use of Marine Mammals
in Swim-With-the-Dolphin Programs, October 1989.

Dear Dr. Foster:

This letter contains comments on the Draft Environmental Impact Statement ("DEIS") on Use of Marine Mammals in Swim-With-the-Dolphin Programs (October 1989) submitted on behalf of The Hyatt Regency Waikoloa Resort and Dolphin Quest. As you know, Hyatt Regency has been issued a permit to conduct a swim-with-the-dolphin ("swim-with") program at its Waikoloa Resort located on the Big Island of Hawaii. Any decision by NOAA Fisheries regarding the Hyatt Regency Waikoloa permit is of direct and immediate concern to the hotel's owners and operator given the substantial commitment that has been made to create the quality dolphin program designed and conducted by the marine mammal experts at Dolphin Quest.^{1/}

We urge NOAA Fisheries to move expeditiously to conclude this program review, the more general public display policy and permit review, and the effort to develop a definition of "public display". Each of these administrative proceedings is being conducted within different time-frames, although each is integrally related. Now all three of these important agency undertakings will be brought together remains uncertain. Moreover, it is not apparent from the DEIS how NOAA Fisheries

1/ Hyatt Regency, as a permit-holder, is entitled to be informed of the agency's intentions with regard to the continuation of its permit. NOAA Fisheries is preparing to make a decision about its authority to issue "swim-with" permits in the context of preparing the DEIS. Yet the agency has not signalled its intentions by choosing a preferred alternative in the DEIS.

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plans to treat existing permit-holders with regard to each policy-making process. We fear that Hyatt Regency Waikoloa and Dolphin Quest could be facing three different sets of policies on which their program and permit would be evaluated over the course of the next several months. We hope the agency will clarify the situation in the near future.

The following are our specific comments on the DEIS, keyed to the list of contents on page ii. Additional information is contained in Appendices to these comments as follows:

- o Appendix A - Dolphin Quest: Questionnaire - Summary of Statistics.
- o Appendix B - Statements regarding NEPA submitted by Baker and Hostetler on September 1, 1989, on behalf of the Hyatt Regency Waikoloa and Dolphin Quest.
- o Appendix C - Recommended standards for care and maintenance of bottlenose dolphins submitted to NOAA/Fisheries by Drs. Jay C. Sweeney and L. Rae Stone
- o Appendix D - References of material cited in these comments.

In addition, we wish to incorporate the previously submitted views of Hyatt Regency Waikoloa and Dolphin Quest filed by the law firm of Baker & Hostetler on September 1, 1989 in the general permit and policy review, and ask that these views also be considered part of Hyatt Regency Waikoloa's and Dolphin Quest's comments on the DEIS.

1. General Comments.

A. The Decision Before NOAA Fisheries.

The purpose of an environmental impact statement is to provide a detailed statement of the environmental impact of "proposed major Federal actions significantly affecting the quality of the human environment".^{2/} NOAA Fisheries has posed for decision the question of whether it will continue to issue public display permits under section 104(c)(2) of the Marine Mammal Protection Act ("MMPA") for the taking of marine mammals for use in "swim-with" programs. As stated in the Federal Register notice of May 10, 1989:

NOAA Fisheries needs to decide whether the use of marine mammals in these . . . programs should be allowed, whether additional taking for use in such

2/ National Environmental Policy Act ("NEPA"), section 102.

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programs should be authorized, and, if authorized, what permit conditions may be appropriate.

By issuing permits to various applicants, including Hyatt Regency Waikoloa, NOAA Fisheries has already determined that it has the authority to approve the take of marine mammals for "swim-with" programs. It would appear that the agency is now reconsidering that decision, in the context of an EIS. The proposed decision has two aspects: (1) the issuance of further permits for swim-with programs; and (2) continuation of existing permits.

Unfortunately, NOAA Fisheries has not identified a preferred alternative in the DEIS, notwithstanding the fact that NEPA and implementing regulations of the Council on Environmental Quality are cast in terms of a "proposed Federal action". This places Hyatt Regency Waikoloa and Dolphin Quest in an awkward position of not knowing what the agency is proposing at this point. Based on the prior decision to issue permits for "swim-with" programs, the proper proposed action for the agency should be either alternative B, C, or D listed on pages 8-9 of the DEIS. As a permit holder, Hyatt Regency Waikoloa should be informed as to what is being proposed before the final EIS is issued.

Moreover, under well-settled principles of administrative law, the issuance of a final EIS in the absence of a proposed agency action is clearly inappropriate. Where no proposed action exists, courts have long concluded that the requisite factual predicate for an EIS is not present, such evaluations can only be made with respect to specific proposals for action, not general indications of possible action.

The uncertainty that Hyatt Regency/Dolphin Quest faces is compounded by the agency's separate undertakings to define "public display" and to determine the general policies and procedures applicable to public display permits. A decision to

1/ The MMPA creates no category of "experimental" public display permits. The status of the permit issued to Hyatt Regency is clearly the same as any public display permit issued under the MMPA.

4/ Hyatt Regency continues to question whether an environmental impact statement is in fact required or permitted by law and regulation in this particular instance. See, comments filed by Baker & Hostetler, cited earlier.

5/ 42 C.F.R. 1500 et seq.

6/ See, Kleppe v. Sierra Club, 427 U.S. 390 (1976); Heinberger v. Catholic Action, 454 U.S. 139 (1981).

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issue or not issue permits or extensions of permits is likely to involve more than what has been discussed in the DEIS, such as the definition of "public display". As a consequence, we believe that the DEIS is deficient in that it does not even identify the proposed action, nor does it discuss all aspects of the proposed action.

B. The Content of the DEIS

As a scientific agency, NOAA Fisheries should be held to the highest standards in its preparation of the DEIS. Yet, as will be detailed in our specific comments below, the discussions of several aspects of issues associated with "swim-with" programs are unscientific and unbalanced. Our general impression is that the writer of the DEIS is biased against "swim-with" programs and has included almost any speculative, unsubstantiated comment or piece of information which casts the programs in a bad light. As an example, the text discussing disease transmission (pages 22-27) is a complete mischaracterization of the status of knowledge on this subject. There is no scientific evidence of disease transmission resulting from casual contact between humans and dolphins. The DEIS discusses at length the potential of disease transmission, but does not identify any sources in the scientific literature confirming any incidence of transmission from casual contact. It is simply bad science to allow speculation to form the basis for an assessment of environmental impacts.

Almost nothing is said about the data collected from the existing permittees. The agency's purpose in issuing "experimental" permits was to gather more information about "swim-with" programs. Therefore, one would have expected some discussion of the data collected to date with regard to environmental impacts, even if it were only noted that the information indicated no impact. This omission reinforces our concerns about the writer's biases and the adequacy of the DEIS. Perhaps our impressions about the DEIS are simply due to the fact that it is a draft. However, at this point, while some effort to discuss the key issues has been undertaken, the DEIS is not yet a balanced, scientific discussion of the actual impacts of "swim-with" programs nor of all the ramifications of a decision to continue or discontinue issuing permits to "swim-with" applicants. We urge the agency to improve substantially the quality of the document, perhaps by issuing another draft, before moving forward with any decision with regard to "swim-with" programs.

2. Specific Comments on the DEIS.

1. PURPOSE AND NEED FOR ACTION.

A. Introduction (Pages 1-2).

The fourth sentence of the opening paragraph should be revised.

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It implies that all "swim-with" programs allow dolphins to tow participants through the water on their dorsal fins. This is not a universal practice and is not allowed in the Dolphin Quest encounter at the Hyatt Regency Waikoloa.

This section contains a quote taken out of a letter from the Marine Mammal Commission ("Commission") indicating concerns about "swim-with" programs. We recommend that the quote be deleted. Although the date of the quote is not cited, we presume it is the Commission letter to NOAA Fisheries dated July 19, 1985. It is fair to say that the Commission's 1985 statement was probably based on a very small, anecdotal database and not on a significant body of scientific evidence. Since that time, NOAA Fisheries has surely gained more experience and information with regard to these programs. Permits were issued over a year ago. The permits include detailed and stringent conditions, including for the collection and reporting of extensive information. NOAA Fisheries should now have greater knowledge and information than that available to the Commission in 1985, including a year's worth of data from the permittees. Unfortunately none of this information is summarized in detail in the DEIS, although we presume that NOAA Fisheries is reviewing it on a regular basis. We also presume, because nothing to the contrary was noted, that the reported information from the permittees indicates no serious adverse impacts from dolphin/human interactions in those programs to date.

Hyatt Regency Waikoloa and Dolphin Quest believe that "swim-with" programs are properly includable under the definition of public display in the MMPA. Unfortunately, NOAA Fisheries has not yet adopted a general definition. However, the Marine Mammal Commission has recommended a definition which is broad enough to include "swim-with" programs.^{1/} That definition includes any activities which:

1. provides supervised/regulated/controlled opportunities for members of the public to view and/or otherwise interact with marine mammals in a captive, semi-natural or natural setting;
2. accurately informs the participating members of the public of the natural history, ecology, and problems affecting the conservation of the species being

^{1/} DEIS, Appendix A. One of the special conditions includes quarterly reports from permittees about a host of issues, including whether any information about "additional stress" or other "adverse" effects on the health or behavior are occurring.

^{2/} Letter from John Twiss, Executive Director, Marine Mammal Commission, to NOAA Fisheries dated August 24, 1989.

displayed and the ecosystems of which it/they are a part;

3. is conducted so as to insure humane treatment, prevent injury, protect the health and welfare, and minimize the disturbance of the affected animals and to comply with all existing standards, regulations, and guidelines applicable to the activity; and
4. limits or restricts access to a subset of the public only by charging a reasonable admission or participation fee.

The Commission letter goes on to address the question of whether "swim-with" programs constitute public display. The letter suggests that "swim-with" programs should be assessed in light of the above definition as follows:

Human/dolphin swim programs provide supervised opportunities for the public to view and to interact with marine mammals in a semi-natural or captive situation. They therefore seem to satisfy the first criteria of the suggested definition. The programs have the potential to inform participants of the natural history, ecology and problems affecting conservation of the species and its ecosystems. However, each program must be individually assessed to determine if the second element is satisfied. Similarly, the fourth element of the suggested definition, that public access be unrestricted except by charging a reasonable admission or participation fee, can be met, but programs must be evaluated on a case by case basis.

The public orientation of the "swim-with" program at the Hyatt Regency Waikoloa strongly emphasizes the unique sensory capabilities of dolphins, the policies of the MMPA, the importance of educating today's youth and supporting efforts to conserve and protect marine mammals and our fragile marine ecosystem. In particular, Hyatt Regency/Dolphin Quest's program is specially designed to inform participants of the natural history, ecology and problems affecting the conservation of dolphins and their ecosystem, the second element of the Commission's proposed definition.^{2/} Questionnaires completed by

^{2/} E.g., comments of Baker & Mostetler cited above. Hyatt Regency also believes that its program will be acceptable to NOAA Fisheries as "a program for education or conservation purposes... based on professionally recognized standards of the public display community", as required by the 1988 Amendments to the MMPA.

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participants provides overwhelming proof that this valuable information has a positive impact when presented in combination with close personal contact with dolphins.^{10/}

Admission to the dolphin facility and viewing of the "swim-with" program at the Myatt Regency Waikoloa are open to the general public free of charge. Actual participation in the program is also open to the general public on a regularly scheduled basis for a reasonable fee. Participants are selected by lottery to ensure equal opportunity for those wishing to participate.

The Commission letter further states that:

The crucial element in determining whether human\dolphin swim programs constitute public display is the third criterion of the suggested definition. Can these programs be conducted so as to insure humane treatment, prevent injury, avoid disturbance or stress-related illness, and protect the health and welfare of the affected marine mammals? Based upon the information developed from the experimental programs, in particular that derived from any on-site monitoring conducted under special permit condition 8. 11., an analysis of the quarterly reports submitted by the permittees under special permit condition 8. 12., and any possible problems noted by participants in these programs or other members of the public, the Service should seek to answer this question. If it is determined that a facility could satisfy the third criterion of the public display definition, each facility conducting a human\dolphin swim program or applying to conduct such a program would have to present sufficient information to indicate that they meet or will meet this standard.

With regard to humane care for the dolphins, the Dolphin Quest "swim-with" program at the Myatt Regency Waikoloa is closely supervised by three senior marine mammal trainers having a combined total of 45 years experience in the husbandry, humane care and training of marine mammals. The director of the West Hawaii Humane Society has personally observed the program and written to NOAA Fisheries in support of the program and the care that the dolphins receive.

Regarding the prevention of injury, to date there have been approximately 16,000 interactions between dolphins and human participants in Dolphin Quest's program without a single human injury from aggressive dolphin behavior or injury to a dolphin.

^{10/} Appendix A, Dolphin Quest Questionnaire--Summary of Statistics.

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Furthermore, Dolphin Quest's extensive behavioral and medical monitoring program has revealed the absence of any stress-related, infectious or other disease processes. This is discussed in more detail later in these comments.

In summary, the Myatt Regency Waikoloa "swim-with" program, as conceived and administered by Dolphin Quest, meets all of the criteria outlined by the Commission in its suggested definition of public display. The Myatt Regency Waikoloa and Dolphin Quest support the Commission's directive that NOAA Fisheries make individual assessments of the qualification of each facility to conducting a "swim-with" program.

D. Marine Mammal Protection Act (Pages 1-5).

This section is incomplete. It does not make clear that the MMPA, since its inception, has authorized the issuance of permits for the capture and use of marine mammals for public display. Congress in 1980 reaffirmed that such activities are not barred by the MMPA and are an acceptable part of our national policy with regard to marine mammals.^{11/} Moreover, the public display provisions are a clear exception to the strict "moratorium" policy of the MMPA. NOAA Fisheries should clearly state in this section of the DEIS that "swim-with" programs that meet the requirements of the MMPA will be issued permits.

C. Animal Welfare Act (Page 5-6).

The Myatt Regency Waikoloa and Dolphin Quest are in favor of

^{11/} Mr. Ineysa. I would like to take a moment to discuss the amendment pertaining to the issue of public display. The amendment language states that a permit for public display may be issued ". . . only to an applicant which offers a program for education or conservation purposes. . ." based on the professionally recognized standards of the public display industry. I believe that this language strengthens the overall bill and will ultimately lead to higher standards for public display of marine mammals. To that end, I would like to commend the exemplary program recently implemented by Dolphin Quest at the Myatt Regency Waikoloa Resort on the Big Island of Hawaii. The Dolphin Quest Program has developed the largest and most natural man-made dolphin habitat in the world and offers a unique education and conservation oriented program which is designed to unite the dolphins with their human counterparts and increase human understanding and appreciation for the dolphin.

expanded standards, preferably in the form of permit eligibility conditions, which provide for the proper treatment and welfare of dolphins in "swim-with" programs. Our recommendations are discussed later in these comments. In developing its standards, NOAA Fisheries should try to avoid duplication of matters covered by the Department of Agriculture's regulations under the Animal Welfare Act.

The final paragraph on page 6 seems to imply that human safety in swim-with-the-dolphin programs is unregulated, and therefore dangerous to people. That is not the case. The permittee has legal responsibilities for its patrons' safety, and these responsibilities are taken very seriously by Hyatt Regency/Dolphin Quest. Close supervision by highly trained individuals is the best approach to this issue.

D. National Environmental Policy Act (Page 7).

We wish to reiterate the statements made in the Hyatt Regency Waikoloa Comments filed on September 1, 1989 by Baker and Hostetter. A copy of these statements are enclosed in Appendix B.

II. ALTERNATIVES.

This section of the DEIS is particularly disappointing. The agency failed to identify a preferred alternative (in NEPA terms, the proposed action), creating great uncertainty for existing permit holders. The preferred alternative should at least be alternative D; Hyatt Regency Waikoloa and Dolphin Quest recommend Alternative C. NOAA Fisheries has determined, by issuing last year's permits, that swim-with-the-dolphin programs are acceptable under the MMPA. By not selecting this STATUS QUO alternative, NOAA Fisheries is implying that it plans a major change in its policies, possibly to the detriment of present permit holders. The agency's proposed action should be clearly stated for the benefit of current permit holders.

Overall, this section gives the strong impression that NOAA Fisheries is biased against "swim-with" programs simply because they are new, and therefore the agency is seeking to limit them in some manner, but for no clearly identified reason other than philosophical opposition from certain groups.^{11/} As a permit

^{11/} We note that in the DEIS hearings, many individuals testified that they were opposed, in principle, to capturing and displaying dolphins in any context or to commercial display. However, these views were not embraced by the Congress in its most recent amendments to the MMPA. NOAA Fisheries should not be legislating here; it should be simply implementing Congressional policy as expressed in the MMPA.

holder, Hyatt Regency Waikoloa deserves a much clearer statement of NOAA Fisheries' proposed policy, of the actual environmental impacts (if any) that NOAA Fisheries has identified, and of what the agency intends to do with regard to existing permit holders.

III. AFFECTED ENVIRONMENT.

A. Wild Dolphin Populations (Pages 10-14).

This section generally indicates that the affected populations of dolphins from which public display animals are taken are not in any difficulty, that the quota set by NOAA Fisheries is a most conservative one,^{12/} and that recent data is consistent with earlier determinations. The health of these populations of bottlenose dolphins appears far greater than the coastal-migratory stock in the mid-Atlantic, which NOAA Fisheries has proposed to list as depleted under the MMPA.^{13/}

A concern frequently raised is that "swim-with" programs will proliferate and create pressure to take more dolphins. This should not be a real concern. NOAA Fisheries has authority to restrict the take of dolphins from the wild, and any such restriction will correspondingly determine how many "swim-with" permits can be issued. The agency should not respond to such fears by arbitrarily banning all captures for "swim-with" programs when it has plenary authority to restrict the take of dolphins from the wild.

B. Swim Program Descriptions (Pages 14-19).

The comment on page 14 with regard to related scientific programs not having been approved by NOAA Fisheries "...in association with their public display permits" seems unduly pejorative, and should be deleted. We do not believe that NOAA Fisheries intends to or should approve the contents of any such program so long as the activities being conducted do not harm the animals in any

^{12/} Minimum population estimates should not be taken literally. For example, maximum abundance estimates for Sarasota Bay (in the winter) is 23 dolphins. However, Wells and Scott regularly catch and sample from twice that many individuals each January in the same area. During the sampling period, catch efficiency is far less than 100%, suggesting the conclusion that the actual winter population in Sarasota Bay is well over 50 individuals, not the 23 reported in the DEIS. In fact, Wells and Scott report that the actual population of bottlenose dolphins in Sarasota Bay, as determined by field census, averaged 82 individuals between 1980 and 1987. This would suggest that all reported estimates are grossly low.

^{13/} 54 Fed. Reg. 41654; October 11, 1989.

way. It is our understanding of industry standards that the most reputable facilities volunteer experienced manpower, laboratory facilities and biological samples obtained from marine mammals held under public display permits to assist efforts to increase scientific understanding and knowledge of marine mammals. The reference in the DEIS implies that NOAA Fisheries objects to this practice, or is suggesting a separate policy for scientific contributions made by "swim-with" programs. Ties between public display activities and on-going research on dolphin behavior and biology are surely positive since such research will lead to greater understanding of these marine mammals. The fact that animals taken for public display will be used for certain aspects of scientific data-gathering, such as to determine the health of an animal, should be viewed positively by a scientific agency such as NOAA Fisheries.

The reference on page 14 to the number of individuals that are allowed to swim with dolphins is inaccurate. In the Hyatt Regency/Dolphin Quest program, only 4 or 5 are allowed to participate at the same time. We are aware of no program that allows as many as 32 swimmers in the pool at any one time.

On page 16, the references to increases in swim-with programs ("13-fold" and "6-fold") are misleading, given the very low numbers involved. These characterizations should be deleted.

The Desert Dolphin Project (pages 18-19), to the best of our knowledge, does not exist. No permit application or request for information from this project has been filed with NOAA Fisheries. Reference to it should be deleted.

3. Aggression Effects (Pages 19-22).

This section appears to be a listing of a series of anecdotal comments collected from various sources, without a description of the general state of knowledge or the accuracy of the sources. Dogs and horses will show some amount of aggression vis-a-vis the people with whom they interact. Yet these incidents are not sufficient to ban the keeping of dogs and horses. The issue here is whether aggression is a serious problem; statistical analysis of the experimental programs authorized by NOAA/Fisheries indicates that aggression is not a serious problem.

The impression is left after reading this section that there are all kinds of aggression problems in "swim-with" programs, but that none of these problems are being reported by the permittees. This is certainly not the case with the Dolphin Quest program. The agency has repeated these anecdotes, and in so doing, may be creating the problem. An example is the reference on page 20 to a letter from a certified diver about her encounter with a dolphin. Later in her letter she also stated:

None of the other dolphins I encountered during subsequent swims displayed such aggressiveness. In fact, they seemed gentle if not docile.

This omission is glaring. Surely NOAA Fisheries can do a much more scientific job of evaluating whether aggression is a serious problem.

The quoted remarks of the fired employee (and the fact of the firing) seems entirely inappropriate in a discussion of the environmental impacts of "swim-with" programs. Use of such potentially biased information is hardly in keeping with the notion of a scientifically-based EIS.

"Swim-with" programs should be required to have experienced dolphin trainers directly supervising all human/dolphin interaction both above and below the water. As a former employee of the facility where the one complaint of dolphin aggression occurred reported in the Draft EIS on page 20: "Jaw clapping and head nodding are two warning signs indicating irritation in the dolphins. . . ." An experienced supervisor of human/dolphin interactions could easily interpret such behavior and intervene to prevent a sexually or physically aggressive act from occurring.

At Hyatt Regency/Dolphin Quest, between September 9, 1988 and December 31, 1989, approximately 16,000 individuals have engaged in the "swim-with" program without a single injury to them or the dolphins. Trained handlers will know how to detect aggressive behavior and to avoid difficulties that may occur if the dolphins are irritated for some reason. Dolphins are sexually active animals, as are all mammals, in order to procreate their species. Experienced dolphin trainers state that overt sexual activity directed toward humans is generally learned behavior.

According to the "swim-with" program statistics summary from 1985-89, and including conservative estimates (1,000 per quarter) for the six quarters Dolphin Plus did not report and 10,000 for the 3rd and 4th quarters of 1989 from all four programs, over 76,000 people have participated in "swim-with" programs since their beginning in 1985 with one report of superficial human injury. That represents a risk factor of 1:76,000 or 0.000131.

To put the above into perspective, the frequency of dog bites in large U.S. metropolitan areas ranges between 319 and 1,231 cases per 100,000 population or between .00319 to .01231 (reference Kizer). As noted in this reference, more than 11 of all children and perhaps as many as 151 are injured by dogs each year. The United States Pony Club (USPC) reported 35 horse riding accidents per 10,000 members and that almost all of these occurred during leisure riding activities (reference Bixby-Hannitt). Figures

from Medical Examiners for only 10 states indicate that as many as 217 deaths per year are associated with horseback riding (reference Brooks, Bixby-Mannitt).

As Rizer points out, "Any antibite program must be prohuman, especially prochild, not anticanine or antipet. It must stress both the benefits and the dangers of pets, and the importance of informed and intelligent human/animal interaction." The same can be said referring to "swim-with" programs which, on a comparative basis, represents far less hazard for human trauma than interactions with dogs and horses which society has readily accepted as tolerable.

Standards could be adopted to require special attention to avoiding incidents of this type. Moreover, proper training of the animals will also prevent untoward events, especially if training begins when the dolphins are juveniles. The animals may also choose to break off the encounter in the proper setting, such as in the Dolphin Quest program at the Hyatt Regency Waikoloa. Recommendations for such standards are included in Appendix C.

Additionally, training techniques and control of unacceptable behavior in dolphins today are far more refined and productive than in the 1960's. It should be noted that most animals utilized in "swim-with" programs are trained from the time they are juveniles, specifically for safe and controlled interaction with humans. They can thus be expected to be more reliable compared to animals previously trained in a non-interactive format. Regarding expressions of frustration and aggression by the dolphins and inappropriate responses leading to confusion, frustration and aggression can be avoided if no reinforcement or responses are asked for -- that is, if the dolphin's interaction is voluntary and free of behavioral commands. If animals choose not to participate, they may leave the focus of interaction. Hence, undesirable behavioral events do not arise.

4. Disease Transmission (Pages 22-27).

The discussion of disease transmission is the weakest part of the DEIS. It lists numerous diseases that might be transmitted, but the author of the DEIS makes no general, objective comments about the scientific literature or past experience with the Navy, Sea World and other public display programs. All references to potential disease transmission should be deleted. The DEIS should focus on the discussions of fact and not conjecture. No comparison can be made of the potential for disease transmission between participants in "swim-with" programs and a veterinarian performing a clinical examination and subsequently an autopsy on an animal exhibiting advanced clinical disease. Furthermore, the fact that humans and dolphins can acquire a disease from similar organisms cannot be used to imply direct transmissibility between

the two. Such diseases acquired from the common environment, e.g. sea water, are not zoonoses.

References to stranded dolphins are inappropriate as such animals are always at end-stage illnesses (single strandings) and as such, should be handled under occupational guidelines. Again, no comparison can be made to "swim-with" interactions. The reference to a virus transmitted from a dolphin to a sea lion and back to a dolphin has no relevance to human zoonoses.

A number of pathogenic organisms are common to humans and many species of terrestrial mammals including dogs, cats, horses, pigs, sebras, as well as birds, reptiles, amphibians, and insects. However, this does not mean that these organisms can or will be directly transmitted from a person to an animal or vice-versa. Nor does the presence of common pathogenic organisms keep people from interacting with all sorts of animals in various environments. A complete rewrite of this section is needed.

On page 23, the DEIS mentions Calicivirus. The potential to acquire Calicivirus is no greater from dolphins than from handling fish and other marine life. This virus is ubiquitous in the marine environment, but the cited authors also concluded that "clinical disease in humans has not yet been demonstrated". The discussion of Calicivirus should be deleted.

In a similar vein, the section of California sea lions ought to be excluded. The issue here involves bottlenose dolphins, not sea lions. Nearly all of the literature on the subject relates to persons providing health care to stranded pinnipeds at regional stranding centers, which deal with animals suffering from end-stage clinical illness. The list of micro-organisms in that section are also common throughout the marine environment. That simple fact should form the basis for no conclusion except that they are present in the environment.

There is simply no evidence indicating that "swim-with" programs present "significant additional risks to the health (physical or psychological) of animals or the public". This is the question the DEIS posed on page 2. A statement by Sea World referenced on page 24 of the DEIS indicates "in our 25 years of operation we have not seen a disease occurrence in cetaceans that would lead to a suspicion of human to cetacean transmission." Similarly, a statement by the Navy concludes "Indeed, the Navy experience is that transmission of disease from dolphins to humans . . . has been nil . . . one case has been found in Navy dolphins in 25 years."

In addition, NOAA Fisheries required the four authorized "swim-with" programs to submit quarterly reports. One reason for including this condition was to facilitate the gathering of

Information regarding the degree of risk involved in disease transmission. The lack of any risk of disease transmission is confirmed by reviewing the data submitted by the permitted "swim-with" programs. Over 76,000 people have experienced contact with dolphins in "swim-with" programs and not a single incident of disease transmission has occurred. At the Dolphin Quest facility, the dolphins are closely monitored utilizing the most current behavioral and medical techniques, including regularly scheduled hematological, urine, gastric and fecal analysis as well as fiberoptic endoscopy to look for gastric ulcers and diagnostic ultrasound to assess respiratory function. These laboratory and diagnostic procedures indicate that these dolphins remain consistently free of infectious or stress-induced disease.

The paragraphs at the bottom of page 24 and the top of page 25 purport to be an authoritative summary of the literature on disease transmission. But the comments in those paragraphs are merely the opinion of the author of the DEIS, without basis in fact. All of this can equally be said of contact between humans and pets of all kinds. The views expressed are so general as to be almost meaningless.

The discussion about bacterial infections is not relevant either. All the references appear to deal with pinnipeds suffering from end stage disease and where the staff may be exposed to autopsy materials. In order for dolphins to qualify for participation in "swim-with" programs they must be in good health. Furthermore, participants in "swim-with" programs are obviously never asked to render medical assistance to the animals or perform autopsies. The leap of understanding that is required to draw conclusions from these references is monumental, and the DEIS should so state. Further, the DEIS author notes that the medical community receives reports of disease transmission, yet no actual reports are referenced. Finally, infections contracted during necropsy or during handling of stranded animals is occupational in nature and not germane to this DEIS on human/dolphin swim-with programs.

Much of the material on pages 24, 25, 26, and 27 is drawn from a paper by Buck and Schroeder that MOSC has declared not to be cited. Its contents are (1) speculative, (2) relating to occupational not causal contact and (3) deal primarily with pinnipeds. Furthermore, this unreferenced material was extracted from an early draft of a chapter intended for a medical text which has since been significantly edited. The discussion that is based on this material should be deleted.

Finally, the statement on page 27 that previous assumptions about the handling of marine mammals and human pathogens are "untrue" is simply wrong and is based on the DEIS' author's own opinion, not scientific fact. It should also be removed from the text. The incidence of disease transmission in human/dolphin interactions in swim-with programs has been zero. This is the

significant factor in evaluation of risk.

5. Economic Impacts (Pages 27-28).

This section should be deleted. The data is faulty and serves no useful purpose.

IV. OTHER CONSIDERATIONS.

A. Survival in Captivity (Pages 29-30).

The discussions of survival rates among dolphins in captivity is imprecise. First, the data is not from "swim-with" programs. Second, the data is poorly analyzed and explained. When citing data generated from mathematical interpretation of complex information, care must be exercised to avoid over-interpretation, or worse, biased and erroneous interpretations. This is especially true when, as here, statistical methodologies are being used improperly and where comparisons are being made utilizing differing data groupings. For example, the DEIS author cites several numbers comparing average longevity of bottlenose dolphins in captivity. In this context, this is an inappropriate statistical use of average longevity. As Steuer points out in her paper, "longevity was calculated from the day the animal was either caught or born in captivity until death or the end of the study period, whichever occurred first." By definition here, animals which remain alive at the end of the study are in effect counted as dead. There is no way of accounting for individuals which are long lived, or for individuals which are born or captured towards the study termination date. Average longevity can therefore only be used in this context for animals which have died. Demaster and Drevenak point this out in cautioning the reader. They, as well as Wells and Scott, prefer to utilize annual survival rate (ASR) figures for species survivability. Here, Demaster and Drevenak note captive ASR of 0.930 (93% expected to survive through the one year period.) This number has little meaning unless compared with a similarly derived number for the same species in the wild, for as is surely acknowledged, but not mentioned by the DEIS author, animals die in the wild also. The Sarasota report by Wells and Scott offers the best such comparison as this is the only wild bottlenose dolphin (*Tursiops truncatus*) population where nearly all individual members are known. Wells and Scott reported an ASR of 0.955. However, Wells and Scott count only animals over 1 year of age, Demaster and Drevenak count captive animals which are 90 days of age and older. Both authors, as well as Steuer, report a much higher mortality rate in newborns up to the end of their first year, e.g. 0.61 in captive newborns including stillbirths and where all births are known and accounted for, compared to 0.782 in wild newborns not including stillbirths and an unknown number of newborn deaths which occur without being observed or documented. This difference serves to drive the captive ASR down

compared to the Wells and Scott number. Taking the above into account, it would appear doubtful that there is any significant difference in ASR between captive and wild Tursiops. This interpretation is corroborated by Asper and Duffield, who found a median survival age of captive Tursiops of 17 years, compared to 14 years as noted by Demaster and Drevnak. Demaster and Drevnak also report that "this range of survival rates (free ranging animals) is consistent with the rates estimated for captive animals".

The author of the DEIS highlights the fact that, between 1975 and 1987, 191 of 431 captive bottlenose dolphins (44%) died. Yet no comparison to wild populations is made. Following this rather simplistic analysis, the 44% number represents a mortality rate of 3.661 each year, which is less than the 4.5% annual mortality of a wild population of bottlenose dolphins reported by Wells and Scott.

In summary, reports in the scientific literature indicate that dolphins survival rate in captivity is about the same as in the wild, and that survival rates in "swim-with" programs is no different than in other public display programs.

B. Disease Transmission to Dolphins (Page 30).

In lieu of the material in the DEIS, we suggest the following: "There are no reports in the medical or veterinary literature of any disease transmission from humans to dolphins." By utilizing the standard literature search techniques used in the scientific community (Med Line and Vet Line), the author would discover that there is not a single report of disease transmission from humans to dolphins in the medical or veterinary literature.

On page 30 of the DEIS, a letter from a former curator of an aquarium is quoted, stating the incidence of illness in the animals "appeared to increase in direct relation to the number of strangers that were allowed in the water" (Permit file No. P254). This statement appears to be presented as if it were a statement regarding a current or even recent swim program. In fact, it is an individual's recollection without medical expertise or existing records of an experience from the 1960's, without the benefit of modern diagnostic techniques, procedures, baseline values or understanding of respiratory function. The development of illness in any individual, human or dolphin, depends on the complex interrelationship of a multitude of factors, and is not as simplistic as this statement suggests. Furthermore, NOAA Fisheries has received a statement by the Director of training at this aquarium after the author of the quoted letter which indicated that no such problem has occurred at the facility.

Finally, the four existing swim-with programs represent the largest and most thoroughly documented clinical trial regarding

the issue of disease transmission from humans to dolphins through casual contact. The greatest concern voiced has been that dolphins will develop infectious respiratory disease as a result of their interaction with people in these programs. In dolphins, pneumonia presents very typical clinical symptoms including increased respiratory rate, foul smelling breath, loss of appetite and lethargy as well as changes in blood parameters and pleural or pulmonary changes detected with diagnostic ultrasound. None of the dolphins participating in "swim-with" programs authorized by NOAA/Fisheries have shown any indications of respiratory infections. Clearly, the results of NOAA Fisheries authorized experimental programs should be included in the final EIS rather than outdated, unscientific opinions.

In summary, this section is a continuation of anecdotal statements of unclear usefulness and sweeping but unsubstantiated conclusions about disease transmission.

C. Educational Programs (Pages 30-31).

In this section, the NOAA Fisheries has framed the issue of what is an acceptable education program, and is pursuing this issue in connection with the general policy review. In its August 24, 1989 letter, the Marine Mammal Commission recognized the potential of "swim-with" programs to satisfy these requirements:

The programs have the potential to inform participants of the natural history, ecology and problems affecting the conservation of the species and its ecosystem. However, each program must be individually assessed to determine if the second element (regarding education and conservation requirements of public display) is satisfied.

Wyatt Regency/Dolphin Quest believe that the program described in earlier submissions fulfills the objectives set forth by NOAA Fisheries and the MMPA. This belief is strongly supported by data generated from 1681 questionnaires completed by participants in Dolphin Quest's swim-with program. See Appendix A.

It should also be kept in mind that the agency's task here is not to dictate the content of any program, as Congress had noted.^{15/}

^{15/} ERS H.R. Rep. No. 979, 100th Cong., 2d Sess. 1, 14, (1988)
 "[I]t is the intent of the Committee that the Secretary not use this section to regulate the content of education or conservation programs." ERS H.R. Rep. No. 592, 100th Cong., 2d Sess. 28, 29 (1988), the Senate Commerce Committee "recognizes the diversity of public display facilities and the methods available to them for public education" and directing the Secretary to "recognize and foster this diversity."

rather, NOAA Fisheries must develop some minimum standards by which to judge whether education or conservation elements are in fact included in a public display program. Furthermore, it is unclear how the author of the DEIS intends to measure potential risk to dolphins or humans against the educational benefits of swim-with programs, when the actual risk documented has been essentially nil. Swim-with programs can provide exemplary educational opportunities with no significant risk as measured by results generated by NOAA Fisheries over the experimental monitoring period.

D. Recreational Benefits (Page 33)

The text here makes it sound as if only recreational benefits in "swim-with" programs have been mentioned as a result of a letter-writing campaign generated by permittees. Participants have been encouraged to express their feelings about their experiences and have done so, because it is important for NOAA Fisheries to know their views. Furthermore, after a review of the letters referenced in this section, nearly every letter discusses the educational value of these programs, yet this is not discussed in the DEIS. This section should be rewritten on a more objective basis.

E. Stress-Induced Disease (Pages 33-34)

It may be that low serum calcium and metabolic acidosis are associated with transportation and capture, but these are acute stresses which have no meaning in a discussion on the long term effects of a captive display program. Certainly, the symptoms of "depression" and "weakness" are the most general signs and in no way can be directly attributed to stressful conditions. The use of death as a symptom of stressful conditions is absurd. In the Hyatt Regency/Dolphin Quest program, the serum calcium levels of all dolphins has never fallen below 8.3 mg/dl, the upper range of Hedvay's reported 7-8 mg/dl normal for Tursiops. As to thyroid hormones, there is not enough accumulated data on normal levels and serum concentration variability, due to differences in laboratory procedures, to assess the significance of this analytical procedure. It is rarely performed on a routine basis.

The report about the Baltimore Aquarium is not relevant to experiences in "swim-with" programs and should be deleted.

On page 34, Walker is said to have reported a 75% mortality rate for common dolphins within 60 days of capture. Walker's study involved only common dolphins, *Dolphinus delphis*, a species which has never been used in "swim-with" programs and is not kept in captivity other than rehabilitating stranded individuals. All references to common dolphins should be deleted as they have no bearing on this EIS.

Whether stress results in depression of the immune system response is not well understood, although the text in the DEIS implies that the two are directly related. The importance of immunity, however, is not in doubt. Any animals' resistance to disease is dependent upon the viability of this defensive system. So important is developing a procedure to quantitate the body's immune capacity, that recently, a considerable amount of funding was directed to this purpose for bottlenose dolphins and other marine mammal species. One analytical procedure developed by the Department of Public Health at the University of California/Berkeley is the radial immuno-diffusion (RID) plate technique, which assays IgG, one of the principal immune globulins. To test dolphins at the Hyatt Regency Waikoloa, serum samples were sent to Berkeley for analysis. The results were as follows:

Animal	Date of Bleeding	IgG mg/dl
Shaka	11/8/88	462
	3/28/89	800
	5/30/89	2000
Hobie	12/7/88	1500
	2/20/89	1310
	5/26/89	1360
	8/25/89	2000
Pele	12/30/88	750
	3/20/89	960
	5/30/89	1000
	8/25/89	1100
Lillian	3/20/89	750
	5/30/89	800
Lono	11/8/88	1750
	3/22/89	750
	5/30/89	1100
Kono	3/28/89	950
	5/30/89	1100

The range of IgG concentration measured at this laboratory is 30-4220 mg/dl. Under the RID test, any animal with IgG measurements of 400 mg/dl or greater would be considered to have a healthy immune system. Contrary to unsubstantiated claims of immune suppression in dolphins due to supposed stress in swim-with programs, all of Dolphin Quest's dolphins exceeded this minimum in each sample and show signs of very good, and even enhanced, immune competence.

The comment on page 34 about animals dependent on drugs given to

then for ulcers is an issue of veterinary treatment, not captivity.

The statements about stress at the bottom of page 35 and on to page 36 deserve further examination. Are there any post mortem exams indicating ulcers in these animals? Has anyone checked for the presence of an ulcer by use of a gastric endoscopy? The fact that an animal or person is given ulcer medication does not necessarily mean that they have an ulcer. More experienced marine mammal veterinarians generally pursue a more definitive diagnosis before indiscriminately administering ulcer medication such as Zantac or Tagamet. At the Myatt Regency/Dolphin Quest facility, the dolphins are routinely screened for gastrointestinal distress as part of the preventative health care program. All of the dolphins are trained for voluntary gastric sampling and have received multiple endoscopic exams. Gastric ulceration has never been present.

Ulcers are probably less frequent in captivity where dolphins are provided with a reliable, parasite free food source, protection from predators and the many stresses of life in the wild. A recent survey of mortalities in free-ranging marine mammals stranded dead on the beaches of San Diego County, California, under contract (#80-ABC-00157) to NOAA/Fisheries, Southwest Fisheries Center (1980, #1, #2, #3), including 9 animals examined in 1985 and 1986, neonates excluded) presents the following data:

CETACEANS

Healthy (death due to trauma rather than disease)

Total examined 19
Number with gastric ulcers 9
Percent with gastric ulcers . . . 26.3

Sick (death due to identifiable disease)

Total examined 18
Number with gastric ulcers 7
Percent with gastric ulcers . . . 38.94

Total Overall

Total examined 37
Number with gastric ulcers 12
Percent with gastric ulcers . . . 32.4

CALIFORNIA SEA LIONS

Healthy

Total examined 31

Number with gastric ulcers 24
Percent with gastric ulcers . . . 77.4

Sick

Total examined 20
Number with gastric ulcers 15
Percent with gastric ulcers . . . 75

Total Overall

Total examined 51
Number with gastric ulcers 39
Percent with gastric ulcers . . . 76.5

Since gastric ulcers are seen so frequently in free living marine mammals, their presence in captive dolphins does not serve as a specific indicator of "psychological stress" associated with captivity. In fact, if ulcers are an indication of stressful living, then captivity may represent a less stressful haven for these animals than the open environment.

F. Ethical Considerations (Page 35-36).

This section should be stricken. We know of no consensus "ethical" standard by which to judge "swim-with" programs. Ethical issues are very personal and unquestionably subjective. What are important are the policies that Congress has adopted, which do not preclude such programs from receiving permits if they meet the standards of the MMPA. NOAA Fisheries has no authority to enter into ethical debates, or take action on the basis of their view of ethical standards.

V. ENVIRONMENTAL CONSEQUENCES (Pages 37-43).

Of considerable importance to Myatt Regency Waikoloa is the question of whether NOAA Fisheries intends to require additional or new conditions on the renewal of a permit, as discussed with regard to Alternative (C) on pages 38 to 44. From the discussion in the DEIS, it is not clear that NOAA Fisheries is considering any new conditions, but several are mentioned.

In this regard, Drs. Sweeney and Stone submitted suggested standards for determining the eligibility of applicants to receive "swim-with" permits. Myatt Regency Waikoloa believes these should be adopted either as eligibility standards or as permit conditions. A copy of these recommendations is included in Appendix C.

On page 45 of the DEIS, the author states that "in our view, implementation of existing Special Conditions has not been very effective in monitoring . . . these programs." If this is in

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fact representative of NOAA Fisheries' views, no mention of this has been made outside of the DEIS. Furthermore, regarding the death of the two dolphins at the Hyatt Regency/Dolphin Quest facility, it must be noted that NOAA Fisheries does not require the filing of a death report until 30 days after the date of the mortality. It should also be pointed out here that in the case of both mortalities, verbal notification to the regional NOAA Fisheries office was made promptly, as the NOAA/Fisheries representative served to provide very timely assistance in the diagnostic follow-up to the mortalities.

Regarding the additional demand for younger dolphins, it has not been established that as animals become adults, in swim-with programs, they need to be replaced by younger dolphins. This is certainly not so with females, and it is probable that males will prove reliable and safe so long as competent, experienced trainers are utilized in swim-with programs.

3. SUMMARY.

Hyatt Regency/Dolphin Quest urge NOAA Fisheries to adopt Alternative C (Authorize swim-with-the-dolphin programs with new conditions, as noted above). We see no indication of significant environmental impacts from "swim-with" programs to either the dolphins or the humans involved. As mentioned under Alternative C in the DEIS, by NOAA/Fisheries' own determination, the quota system in place for bottlenose dolphins will prevent any adverse environmental impact on wild populations as a result of increased interest in "swim-with" programs. Properly organized and run, these programs will further the purposes of the MMPA.

Sincerely,


Richard L. Sinnott

RLS:pab

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January 8, 1990

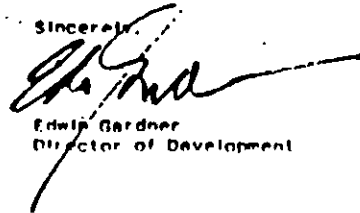
Dr. Nancy Foster
Director
Office of Protected Resources and Habitat Programs
NOAA Fisheries
1374 East-West Highway
Silver Spring, MD 20910

Dear Dr. Foster:

The Dolphin Research Center herewith presents its written comments on the Draft Environmental Impact Statement on the Use of Marine Mammals in Swim-With-The-Dolphin Program.

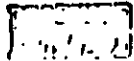
We welcome this opportunity to include the DRC's unique expertise in the public record, and we commend your office for having granted us a brief extension to the public comment period.

Sincerely,



Edwin Gardner
Director of Development

cc: James F. Gesualdi, Esq.



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COMMENTS OF THE
DOLPHIN RESEARCH CENTER
with regard to the
Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
DRAFT ENVIRONMENTAL IMPACT STATEMENT
on the
Use of Marine Mammals
in Swim-With-The-Dolphin Programs
January 8, 1990

DOLPHIN RESEARCH CENTER
GRASSY KEY, FLORIDA

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NOTE

These comments were prepared by Dolphin Research Center Trustee and Development Director Edwin S. Gardner and Education Director Joy Hampp with the substantial pro bono assistance of the law firm of White & Case, New York, New York and in particular James F. Genovadi, Esq., an associate of the firm.

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SUMMARY

This document sets forth the Dolphin Research Center's (DRC) comments to the Draft Environmental Impact Statement (DEIS) on dolphin swim programs. At the outset, the unquestioned legality of dolphin swim programs is established under the Marine Mammal Protection Act (MMPA). Indeed, these programs are not only consistent with the MMPA and the Congressional intent behind it, but, as the DRC's programs demonstrate, prudently crafted dolphin swim programs can foster the aims of federal laws like the MMPA and the National Environmental Policy Act (NEPA).

As the DRC's experience with swim programs indicates, the dolphin and human health concerns allegedly associated with swim programs either do not exist at the DRC or can be mitigated. For instance, dolphin behavior has been monitored and programs structured so as to avoid the problems allegedly associated with swim programs.

The DRC's wide range of innovative programs including its Dolphin Encounter, Dolphinlab and the Dolphin/Child Project have already produced immeasurable educational, conservation, therapeutic and recreational benefits. The theoretical underpinnings of how these programs promote education and conservation related values, as well as examples of DRC initiated environmental activities on issues like the dolphin/tuna controversy (which involves the death of thousands of dolphins annually when caught in tuna nets), evidence the good that emanates from swim programs.

The DRC endorses DEIS Alternative C that allows the continuation of swim programs like those at the DRC with the imposition of new, judiciously deliberated conditions. While the other alternatives in the DEIS, notably A and D, are legally and empirically flawed, Alternative C is justifiable based on the MMPA, NEPA and the evidence before the National Marine Fisheries Service (NMFS).

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I. INTRODUCTION

A. The Dolphin Research Center

The Dolphin Research Center (DRC) welcomes this opportunity to submit comments on the National Marine Fisheries Service's (NMFS) Draft Environmental Impact Statement (DEIS) on Swim-With-The-Dolphin (SWTD) Programs. In addition, the DRC appreciates the soundness of NMFS decision extending the period for public comment until January 8, 1990. The DRC also recognizes the difficulties facing NMFS in undertaking this task, particularly given that the discourse on these programs has often shed more heat than light. The DRC here endeavors to posit a reasonable and responsible means to address the future of dolphin swim programs in particular, in a manner that will be consistent with the welfare of all dolphins in general.

The DRC is unique among the four NMFS authorized SWTD program facilities. For instance, as the DRC's Director of Development Edwin S. Gardner noted during a recent public hearing in Washington, D.C.:

DRC is the nation's only non-profit dolphin facility. Our mission is to pursue education and research activities that will promote the welfare and conservation of dolphins and other marine mammals. Our tax exempt status and our permits to maintain dolphins in captivity represent two forms of public trust which we take very seriously.

Joy Happ, the DRC's Director of Education, also stressed the uniqueness of the DRC during a recent public hearing in the Florida Keys:

[The DRC] did not collect dolphins from the wild to make a profit from displaying them to the public. Rather, it was formed by the staff of a previously established research center that was going out of business in an effort to keep together the colony of dolphins that lived there.

^{1/} 54 Fed. Reg. 51677 (1989).

^{2/} National Marine Fisheries Service Public Hearing on the Swim-With-The-Dolphin Programs ?? (Washington, D.C. Dec. 4, 1989) (testimony of Edwin S. Gardner) (hereinafter NMFS Hearing).

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None of the 17 dolphins in residence were collected by the DRC. In fact, 8 were born there, 4 were acquired from other facilities including 4 through our Critical Care Unit, only 3 were directly collected, more than 15 years ago, by previous owners.

The DRC's principles of operation manifest a clear concern for the well-being and survival of dolphins at its facility (e.g., natural sea water lagoons in the Gulf) as well as dolphins in the wild. The DRC is opposed to collecting dolphins from the wild for any reason, but especially for swim programs. The DRC's Long Range Plan articulates these policies which set the DRC apart from other SWTG facilities. The declaration of principles in the Long Range Plan provides:

I. The health and well-being of the Dolphin Research Center's dolphins holds absolute precedence over all other interests. The Center will undertake no program or activity that compromises this basic commitment.

II. The Dolphin Research Center will not sell any of its dolphins to other facilities. The Center makes a firm pledge to all its dolphins to provide them a home for life.

III. The Dolphin Research Center will not seek to collect any new dolphins from the wild, nor will it contract with other parties to provide acclimation and/or training of dolphins newly collected from the wild.

IV. The Dolphin Research Center will not undertake or allow any form of invasive research on its dolphins.

V. The Dolphin Research Center will remain a not-for profit organization dedicated to promoting the health and welfare of dolphins, to educating the public, and to investigating new

^{1/} NMFS Hearing, supra note 3, at 51 (Islamorada, Florida Nov. 28, 1989) (testimony of Joy Hampp).

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forms of cooperative interaction between humans and dolphins.

It is within the spirit of, and with strict adherence to, the aforementioned principles that this commentary has been prepared.

B. Swim-With-The-Dolphin DEIS

The Department of Commerce's National Oceanic and Atmospheric Administration's (NOAA) NMFS authorized the first swim-with-the-dolphin program in 1985. The DRC was first authorized to conduct its SWTG programs in 1987. In 1988, with four dolphin swim facilities authorized to conduct SWTG programs, NMFS began a review of the programs that culminated in the preparation of the DEIS evaluating the environmental consequences of these programs.^{2/} In a notice published on November 7, 1989, NMFS announced a series of hearings and invited public comment on the DEIS.^{3/}

While the testimony at the public hearings and the comments submitted to date have included discussions of nearly every conceivable marine mammal issue,^{4/} the range and focus of any final EIS ought to be narrowed to those considerations relevant to SWTG programs and their benefits and consequences. Accordingly, the questions properly presented by the DEIS should be:

1. Do the laws of the United States, including the Marine Mammal Protection Act (MMPA), as enacted and envisioned by Congress, provide the authority for SWTG programs?

^{4/} Dolphin Research Center, Long-Range Plan 4 (1989).

^{5/} U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Draft Environmental Impact Statement on the Use of Marine Mammals in Swim-With-the-Dolphin Programs 1-3 (1989) [hereinafter DEIS].

^{6/} 54 Fed. Reg. 46755 (Nov. 7, 1989).

^{7/} See, e.g., NMFS Hearings, supra notes 3 and 4 (containing testimony as to a range of marine mammals and their uses in captivity, including the U.S. Navy's reported activities, among other issues).

2. Do SWTD programs pose health and safety risks to dolphins and humans that cannot be mitigated?
3. Do SWTD programs provide educational and other benefits making them worthy of continuation?
4. Should MMPA allow the collection of wild dolphins for use in SWTD programs?

These issues are addressed as follows. First, the legal framework within which the DRIS should be crafted is set out, particularly the Congressional intent behind the relevant statutory sources of authority. Within this context, the environmental consequences associated with the SWTD programs are assessed. This includes discussions of impacts on wild dolphin populations, analysis of dolphin and human health issues relevant to SWTD programs, a summary of theoretical and practical aspects of educating the public through interaction with animals, and a complete review of the DRC's experience as a model SWTD facility.

DRC believes these issues should be answered as follows:

1. Not only are SWTD programs authorized and consistent with MMPA but they are an important means of furthering the MMPA's goals.
2. There is no evidence that properly run SWTD programs that follow the DRC Model pose health and safety risks to dolphins and humans that cannot be mitigated.
3. Properly run SWTD programs provide significant educational and conservation benefits that would be lost if the programs were discontinued.
4. Consistent with the DRC's policy, MMPA should not allow the collection of wild dolphins for use in SWTD programs.

The DRC's analysis concludes by recommending the adoption of DRIS Alternative C, which would authorize SWTD programs with new, more stringent conditions. If and only if MMPA chooses not to opt for Alternative C, the DRC endorses DRIS Alternative B, continuing existing SWTD programs on an experimental basis.

II. LEGISLATIVE AND REGULATORY FRAMEWORK

A. Marine Mammal Protection Act

The Marine Mammal Protection Act of 1972, as amended, regulates both the taking of marine mammals from the wild and various uses of marine mammals.

Any evaluation of SWTD programs must recognize that these programs are clearly permissible under the MMPA and that programs like those at the DRC are not only consistent with the MMPA, but do much to further its aims. As such, the termination of authority for these programs, would be both un sound and an administrative usurpation of Congressional authority.

The MMPA and its legislative history evidence a strong Congressional support for the public display of dolphins and even SWTD programs. For example, the MMPA declares that "marine mammals have proven themselves to be resources of great international significance, esthetic and recreational as well as economic" The MMPA specifically allows for the use of marine mammals in public display programs.^{9/}

When the MMPA was amended and reauthorized in 1980, Congress noted the educational value of the public display of marine mammals^{11/} and added requirements to insure the

^{9/} 16 U.S.C. § 1361(6) (1981).

^{9/} 16 U.S.C. § 1371(a)(1) (1980 Supp.).

^{10/} 16 U.S.C. § 1374(c) (1981).

^{11/} See, e.g., S. Rep. No. 992, 100th Cong., 2d Sess. 29 (1988), stating:

The Committee recognizes that the recreational experience is an important component of public display and that public display has served a useful educational purpose, exposing tens of millions of people to marine mammals and thereby contributing to the awareness and commitment of the general public to protection of marine mammals and their environment.

See also 134 Cong. Rec. M8237, M8246 (daily ed. Sept. 24, (footnote continued)

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permitting process promotes those benefits:

A permit may be issued for public display purposes only to an applicant which offers a program for education or conservation purposes that, based on professionally recognized standards of the public display community, is acceptable to the Secretary and which submits with the permit application information indicating that the applicant's facilities are open to the public on a regularly scheduled basis and that access to the facilities is not limited or restricted other than by the charging of an admission fee.^{12/}

The Congressional explanations of these amendments include the following:

Subsection (d)(2) provides that to be eligible for a public display permit, an

(footnote continued from previous page)
1988) (statement of Rep. Young):

... the committee recognizes that zoos and aquariums provide significant recreational, educational and conservation benefits for the American public.

^{12/} 16 U.S.C. § 1574(c)(2) (1989 Supp.) Interestingly, this was added at the insistence of the very groups that are now assailing the BWTG programs as lacking in educational merit. See, e.g., Marine Mammal Protection Act Authorizations: Hearing Before the Subcomm. on Fisheries and Wildlife Conservation and the Environment of the House Comm. on Merchant Marine and Fisheries, 100th Cong., 2d Sess., 4 (1988) (statement of Eugene C. Brickley, Greenpeace, "we support an amendment to the Act to clarify Congressional intent that permits for display assure that the captivity will serve educational purposes." Brickley testified on behalf of a number of groups including: the American Cetacean Society, Animal Protection Institute of America and the Humane Society of the United States). Note that the overwhelming bulk of testimony at this and other such hearings focused on the well publicized problem of dolphins getting caught in tuna nets (the dolphin/tuna issue) as various interest groups sought to further educate the Congress as to the importance and implications of this particular problem.

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applicant must offer a program which includes education or conservation as a component of such program. It is clear, however, that education or conservation need not be the sole component of a qualifying program. In addition, this paragraph requires that the Secretary determine that the program is based on professionally recognized standards of the public display community for it to be acceptable, and that the applicant's facilities be open to the public on a regularly scheduled basis. This new requirement will be applicable only to permits issued or modified after the date of enactment of this provision.

Education is an important tool that can be used to teach the public that marine mammals are resources of great aesthetic, recreational and economic significance, as well as an important part of the marine ecosystem. It is important, therefore, that public display permits be issued to entities that help inform the public about marine mammals, as well as perform other functions. However, it is the intent of the Committee that the Secretary not use this section to regulate the content of education or conservation programs. (Emphasis added.)^{13/}

Public display programs should be based on professionally recognized standards of the public display community. Such standards include, but are not limited to those of the American Association of Zoological Parks and Aquariums (AAZPA). AAZPA accredited facilities are permanent institutions which own and maintain captive wild animals that represent more than a token collection, are under the direction of a professional staff, provide its collection with appropriate care, and exhibit them in an aesthetic manner to the public on a regularly scheduled basis for the purposes of

^{13/} This passage is significant in that it indicates a Congressional reluctance to allow the regulation of the education and conservation component of public display programs. To the extent the DRC's BWTG programs fall under the penumbra of "the content of education or conservation programs", any attempt to regulate them out of existence may be impermissible.

education, conservation, scientific studies and recreation. Standards which approximate those of the AAZPA, or which the Secretary otherwise finds acceptable, meet the requirements of this section.

An applicant's facilities must also be open to the public on a regularly scheduled basis. This is intended to mean regular and predictable hours so that access is reasonably convenient to the public. A seasonal facility open to the public on a regularly scheduled basis during its open season will meet this requirement.

Permits may continue to be issued to public and privately owned zoological parks and zoos, as well as other qualifying institutions. Further, it is clear that appropriate enterprises include both profit and nonprofit institutions.^{15/}

Similarly, the Senate Report stated:

New paragraph (2) of section 104(c) provides that to be eligible for a public display permit, an applicant must offer a program for education or conservation purposes as a component of its overall program. It is clear, however, that the education or conservation program need not be the sole or primary purpose of program of a qualifying applicant. In addition, this paragraph requires that the Secretary determine, based on professionally recognized standards of the public display community, that the program is acceptable.

Effective public display of marine mammals provides an opportunity to inform the public about the great aesthetic, recreational, and economic significance of marine mammals and their role in the marine ecosystem. It is important, therefore, that public display facilities educate the public about the history, behavior, unusual sensory capabilities, and other aspects of marine mammals through literature, films, or other techniques in

^{14/} H.R. Rep. No. 970, 100th Cong., 2d Sess. 33-34 (1988).

conjunction with display. The Committee recognizes the diversity of public display facilities and the methods available to them for public education. The Secretary should recognize and foster this diversity. This section is not intended to deny the Secretary the flexibility or to require the Secretary to regulate the specific content of or methods used in education or conservation. (Emphasis added.)^{15/}

These passages clearly evidence Congressional support for the educational benefits of diverse and innovative applications of marine mammals at public display facilities. Significantly, this commentary is attributable to a Senate Committee that was well aware of and had received testimony about such programs.^{16/} Indeed, at least one Senator discussing the new educational and conservation requirements cited to one of the current BMTD programs during Senate consideration of the MMPA, noting the BMTD experience "offered a unique education and conservation oriented program which is designed to unite the dolphins with their human counterparts and increase^{17/} human understanding and appreciation for the dolphin."

With regard to the concern for dolphins in the wild and that marine mammals should be protected to the greatest extent feasible, the MMPA contains Congressional recognition of the fact that:

1. certain species and population stocks of marine mammals are, or may be, in danger of extinction or depletion as a result of man's activities;

^{15/} See, e.g., Hearings Before the National Ocean Policy Study of the Senate Comm. on Commerce, Science and Transportation, 100th Cong., 2d Sess., at 228 and 236 (Comments of the Animal Protection Institute and the Sea Research Foundation) (hereinafter Senate Hearings); infra note 16 and accompanying text.

^{16/} 134 Cong. Rec. S16336, S16342 (daily ed. Oct. 16, 1986) (statement of Sen. Inouye). Significantly, this statement was made during consideration of the MMPA on the Senate floor.

^{17/} 16 U.S.C. § 1372 (1981)

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2. such species and population stocks should not be permitted to diminish beyond the point at which they cease to be a significant functioning element in the ecosystem of which they are a part, and, consistent with this major objective, they should not be permitted to diminish below their optimum sustainable population. Further measures should be immediately taken to replenish any species or population stock which has already diminished below that population. In particular, efforts should be made to protect the nurseries, mating grounds, and areas of similar significance for each species of marine mammal from the adverse effect of man's actions;

3. there is inadequate knowledge of the ecology and population dynamics of such marine mammals and of the factors which bear upon their ability to reproduce themselves successfully;

4. marine mammals have proven themselves to be resources of great international significance, aesthetic and recreational as well as economic, and it is the sense of the Congress that they should be protected and encouraged to develop to the greatest extent feasible commensurate with sound policies of resource management and that the primary objective of their management should be to maintain the health and stability of the marine ecosystem. Whenever consistent with this primary objective, it should be the goal to obtain an optimum sustainable population keeping in mind the carrying capacity of the habitat.

The MMPA prohibits the taking of marine mammals other than in certain excepted instances including scientific research and public display purposes when consistent with the policy behind the Act. The MMPA specifically provides for the Secretary of Commerce to regulate takings of marine mammals. At 16 U.S.C. § 1373 the MMPA requires:

Regulations on taking of marine mammals

Necessity and appropriateness

The Secretary, on the basis of the best scientific evidence available and in consultation with the Marine

18/ 16 U.S.C. § 1361(1), (2), (3) and (6) (1981).

19/ 16 U.S.C. § 1371(1) (1981).

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Mammal Commission, shall prescribe such regulations with respect to the taking and importing of animals from each species of marine mammal (including regulations on the taking and importing of individuals within population stocks) as he deems necessary and appropriate to insure that such taking will not be to the disadvantage of those species and population stocks and will be consistent with the purposes and policies set forth in section 1361 of this title.

Factors considered in prescribing regulations

In prescribing such regulations, the Secretary shall give full consideration to all factors which may affect the extent to which such animals may be taken or imported, including but not limited to the effect of such regulations on:

1. existing and future levels of marine mammal species and population stocks.

Allowable restrictions

The regulations prescribed under subsection (a) of this section for any species or population stock of marine mammal may include, but are not limited to, restrictions with respect to:

1. the number of animals which may be taken or imported in any calendar year pursuant to permits issued under section 1374 of this title;

2. the age, size, or sex (or any combination of the foregoing) of animals which may be taken or imported, whether or not a quota prescribed under paragraph (1) of this subsection applies with respect to such animals;

Procedure

Regulations prescribed to carry out this section with respect to any species or stock of marine mammals must be made on the record after opportunity for an agency hearing on both the Secretary's determination to waive the moratorium pursuant to section 1371(a)(3)(A) of this title and on such regulations, except that, in addition to any other requirements imposed by law with respect to agency rulemaking, the Secretary shall publish and make available to the public either before

or concurrent with the publication of notice in the Federal Register of his intention to prescribe regulations under this section:

1. a statement of the estimated existing levels of the species and population stocks of the marine mammal concerned;
2. a statement of the expected impact of the proposed regulations on the optimum sustainable population of such species or population stock;
3. a statement describing the evidence before the Secretary upon which he proposes to base such regulations; and
4. any studies made by or for the Secretary or any recommendations made by or for the Secretary or the Marine Mammal Commission which relate to the establishment of such regulations.

The regulations enacted pursuant to this portion of the MMPA are found at 50 CFR §§ 216.31-39.^{20/}

As is discussed in the section on wild dolphin populations, the above-portions of the MMPA provide ample authority for the Secretary to regulate or even prohibit the taking of wild dolphins if such action is deemed necessary.^{22/}

H. Animal Welfare Act

The Animal Welfare Act (AWA) requires "that animals intended for use in research facilities or for exhibition purposes . . . are provided humane care and treatment."^{23/} The AWA, administered by the Animal and Plant Health Inspection Service (APHIS) of the U.S. Department of Agriculture, thus governs the care of the dolphins in the SWTD programs. APHIS's regulations relating to marine mammals "establish minimum standards consistent with existing MMPA permit condi-

^{20/} 16 U.S.C. § 1373 (1981).

^{21/} 50 C.F.R. §§ 216.31-39 (1989).

^{22/} See also, supra notes 20-1 and accompanying text.

^{23/} 7 U.S.C. § 2131(1) (1981).

tions." In addition, these regulations require all facilities subject to them to obtain licenses from APHIS.^{24/}

As the DFIS states, the APHIS regulation most relevant to the SWTD programs is 9 CFR § 311 which requires:

(A) Handling marine mammals shall be done as expeditiously and carefully as possible in a manner that does not cause unnecessary discomfort, over-heating, behavioral stress, or physical harm. Care should also be exercised to avoid harm to the handlers of such marine mammals.

(b) Marine mammals shall only be displayed for periods of time and under conditions consistent with their good health, and well-being. A responsible uniformed employee or attendant must be present at all times during periods of public contact.

(c) During public display, all marine mammals must be handled so that there is minimal risk of harm to the public or the marine mammal, with sufficient distance allowed, or barriers placed between the marine mammals and the viewing public to assure safety to both the public and the marine mammals. Performing marine mammals shall be allowed to rest period between performances, at least equal to the time for one performance.^{25/}

APHIS has previously concluded that its regulations under the AWA do not prohibit SWTD programs. Again, as reported in the DFIS, APHIS has noted:

The Animal Welfare Act is concerned with the humane care and handling of covered animals only. The Act does not address injury to the humans involved. Therefore, as long as the dolphins have the ability to escape the diving area if they wish, and the entire operation is closely and constantly supervised by experienced

^{24/} DFIS, supra note 9, at 5-6.

^{25/} Id.

trainers, we have no reason to prohibit such human/dolphin contact.^{26/}

C. National Environmental Policy Act

By the terms of the DEIS, NMFS has decided that NEPA will govern this review. Notwithstanding comments elsewhere in the record as to the applicability of NEPA as a procedural mechanism for this permit review, NEPA is relevant here in terms of the substantive environmental policy of the United States. For example, NEPA provides in pertinent part that:

The purposes of this Act are: To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality.

NEPA further declares the Federal Government's mission to work to "fulfill the responsibilities of each generation as trustee of the environment for succeeding generations."^{27/} The legislative history of NEPA evidences the critically important role of environmental education. As the House of Representatives report accompanying NEPA discusses with regard to the Council of Environmental Quality:

The Council should also consider the impact of its activities upon the educational system, together with ways and means of continuing the growing trend toward public enlightenment on and

^{26/} Id.

^{27/} See, e.g., supra notes 2 and 3 (reciting testimony that NEPA review processes inappropriate).

^{28/} National Environmental Policy Act, of 1969, Pub. L. No. 91-190, 83 Stat. 852 (1970).

^{29/} Id.

concern with the important environmental issues that we confront.

It is readily apparent that these declared objectives are furthered by the educational and conservation related components of the DRC's varied SWTG programs. As detailed infra, the DRC's unique approach to experiential education has not merely imparted facts to program participants, but has succeeded in arousing an environmental consciousness that has spurred people towards action on behalf of dolphins and other marine mammals. Consequently, any final FIS must recognize the substantive implications of NEPA as they support the existence of programs like those at the DRC.

III. ENVIRONMENTAL AND EDUCATIONAL CONSIDERATIONS

A. Wild Dolphin Populations

Of all the possible negative impacts of SWTG programs, the most severe are those associated with collecting wild dolphins to stock swim programs. This issue should be given great weight by NMFS in its deliberations.

In determining whether NMFS should allow the collection of wild dolphins for use in SWTG programs, a number of factors must be assessed. Foremost among these is the experience of the existing SWTG programs. As the DRC's experience indicates, and almost everyone on either side of the SWTG issue agrees, mature male dolphins are often not good SWTG program candidates because of the sexually aggressive behavior they are likely to display. Not surprisingly, female dolphins appear much better suited to the SWTG programs. The history of the DRC's SWTG programs further indicates that after a dolphin is found to be a good candidate for the SWTG program, a substantial training period is necessary, which without question would take longer for wild dolphins. Furthermore, even dolphins screened and trained for SWTG programs may later prove to be unsuited for such interaction. Finally, the success of the existing SWTG programs underscores the likely proliferation of such facilities.

Given these factors, it is very likely that facilities permitted to collect wild dolphins for swim

^{30/} National Environmental Policy Act of 1969, Pub. L. No. 91-190, 1970 U.S. Code Cong. & Admin. News 2751, 2758.

programs will show a bias in favor of female animals. Selective collection of females from a wild animal population is absolutely contrary to the principles of sound wildlife management and inconsistent with the intent of the MMPA. Additionally, if for any reason male dolphins should be collected from the wild for swim programs, these males may outlive their usefulness as swim dolphins within five years of capture. Given the fact that an acclimation and training period of at least two years would be required for these animals, their actual participation in swim programs might well be only three years.

After that time, what will happen to these male dolphins? The DRC has noted that two of the present swim program facilities are devoted exclusively to this type of program. If a dolphin at a swim-only facility is either too aggressive or too uninterested to swim with people, that dolphin will have lost its reason for being maintained by that facility. Management will be tempted to turn their back on that dolphin or will look for a way to evade the burden of its ongoing upkeep. The DRC has very real and material concerns about unwanted dolphins. Over the past ten years the DRC's Critical Care Unit has received 12 dolphins which needed rehabilitation or were simply no longer wanted by their owners. The DRC has made it widely known that it stands ready to accept any dolphin in trouble, and it intends to continue this policy. But the DRC's resources are limited, and each new dolphin sent to the DRC is one more animal the DRC may have to maintain for the rest of its life. The DRC feels very strongly that prevention of this problem in advance is by far the best alternative.

Therefore, NMFS is urged to enact a strict rule that no wild dolphins collected after 1989 may be used in SWTD programs. As indicated by the existing special condition to all NMFS public display permits, and the analysis of the MMPA provided earlier, NMFS has the authority to regulate this issue.

B. Swim Facilities: Health Issues

1. Survival in Captivity

The scope of this portion of the DEIS should be revised to reflect the questions properly before NMFS in this review. In particular, is the survival rate of dolphins involved in SWTD programs any different from that of other dolphins in captivity and what are the reasons for any

differences between these two populations? Brodner's generalized discussion of the survival of dolphins in captivity, though illuminating and of great concern to the DRC, is not relevant here and should not form the basis of any decision to terminate SWTD programs absent a clear showing of greater mortality in SWTD program animals. Using data regarding mortality rates for all captive dolphins as the basis for terminating SWTD programs alone without further action against other well established, accepted and Congressionally sanctioned forms of captivity would imply an arbitrary and capricious decision had been rendered.

As the DEIS states in summarizing the relevant research, "[m]ortality in [SWTD] programs does not appear to be significantly different from rates reported in other captive institutions"²¹ Moreover, the DRC's experience with its SWTD programs has produced no evidence of any adverse impact on the DRC's dolphin colony. For instance, the incidence of stress-related disease in the DRC's dolphins has not risen above its pre-swim program baseline level.

2. Disease Transmission

The DRC was deeply troubled by this portion of the DEIS because of its logically haphazard and scientifically unsound treatment of a genuinely serious concern. Examples of the DRC's concern are detailed in other previously submitted comments and are too numerous to list in their entirety.

The DRC strongly recommends that this section be redrafted in its entirety with the aid of recognized leaders in the field of marine mammal-related medical issues and that all potentialities for disease transmission be carefully qualified and the source of each potentiality be clearly indicated.

With regard to this section of the DEIS, the DRC suggests NMFS consult with the following sources and individuals: the experiences of the DRC and the other SWTD programs, the comments of Dr. Bossart, Dr. Geraci, Dr. Ridgway, the Marine Mammal Coalition, the Marine Mammal Interest Group, Sea World and the United States Navy's Environmental Assessment for the Marine Mammal Facility, SUBASE Bangor, Washington. The DRC incorporates by reference and ratifies these materials as a part hereof with regard to this particular issue. Most to the point are the words of Dr. Ridgway that:

²¹ DEIS, supra note 5, at 29.

... dangers of disease transmission from dolphins to humans lie mainly in the intimate contact of veterinarians, zoologists, and their associates who have contact with blood and other body fluids of dying or dead animals. Certainly disease transmission from live dolphins must be regarded as possible; however, compared to the risks of disease transmission from human to human or even from ordinary pets to humans, the risks of disease transmission from dolphins are miniscule.^{32/}

Significantly, in the aforementioned Navy environmental review, also quoted in the DEIS, the United States government considered this very issue and concluded, in light of its 25 years of experience, that the possibility of disease transmission d(1) not pose serious health risks to humans or dolphins.

3. Aggressive Behavior

As discussed in the following section discussing the DRC's swim protocols, the DRC has actively monitored and recorded the behavior of its dolphins since 1978. Given the DRC's careful dolphin screening and training process only dolphins of suitable temperament are exposed to the DRC's SWTD programs.

Consequently, the DRC has encountered no dolphin aggression problem. Any dolphin that displays the slightest tendency toward aggression is removed at once from the program. A recent survey of 300 randomly chosen questionnaires revealed 299 swimmers who reported no incidence of aggression, and one who said a dolphin nuzzled his hand briefly. A review of all 800 Dolphinlab students' questionnaires revealed no instance of aggressive behavior.

On this issue, the DRC also recommends that NMFS prepare the EIS to specifically identify the facilities, types of programs and characteristics of the dolphins involved in alleged instances of aggressive behavior so as to allow a more rational and focused analysis of this issue. The DRC firmly believes its monitoring program and trainer

^{32/} Letter from Dr. Ram H. Ridgway to Dr. Nancy Foster, Office of Protected Resources and Habitat Programs, at 2 (Nov. 30, 1988).

^{33/} See DEIS, *supra* note 5, at 24.

experience has proven effective in mitigating any possible aggressive interaction between dolphins and humans. Thus, concern over this problem can be remedied by the imposition and enforcement of new conditions along the lines of the DRC's existing procedures.

C. The DRC Model

The DRC has either not encountered or successfully mitigated the problems allegedly associated with SWTD programs. Moreover, the DRC's wide array of SWTD programs have produced enormous educational and conservation-related benefits that stimulate learning and environmental activism far beyond the confines of the DRC. This section endeavors to posit the DRC's procedures and programs as a model for SWTD programs, particularly with regard to environmental and educational concerns.

1. Swim-With-The-Dolphins Protocol

A. Facility design:

(1) Surroundings

- (a) The DRC is set entirely in the natural environment with low fences separating the dolphins from open sea.
- (b) Participants have consistently reported that they feel as though they are swimming in the dolphins' environment; this setting does not encourage the impression of removing dolphins to a human made environment.^{34/}

(2) Size/depth of pools

- (a) Surface area is a critical measurement to consider for swims.
 - (1) Dolphins and swimmers need room to move in the water without colliding with each other.

^{34/} The DRC has innumerable letters and questionnaires on file testifying to this very point and will furnish such documents upon request of NMFS.

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- (ii) Dolphins need enough room to remove themselves from the swim if they desire.
 - (iii) Swim pools at DRC have a minimum of 6,000 sq. ft. and at least 2,000 sq. ft. per dolphin.
- (b) Pools used for swims at DRC have an average depth of 10 or more feet which allows dolphins more than sufficient room to maneuver around swimmers.
- (3) "Human free" area
- (a) An area equal to at least 1/3 of each pool is set aside as a "human free" area where human participants are not permitted during swims.
 - (b) Ideally, the "human free" area should be part of the swim pool enclosure (and is at the DRC), but this area could conceivably be an adjoining pool accessed through gates.
 - (i) Dolphins have a natural reluctance to swim through gates so training would be mandatory for a situation using an adjoining pool as the "human free" area.
 - (ii) To be certain that the dolphins are completely comfortable with using gates, they must be observed to venture into the adjoining pool freely on their own without human urging.
- (4) Design of training platform: Since the DRC uses standard positive reinforcement techniques in conjunction with its swims, portions of each platform are reserved for the dolphins to receive their food without the interference of human swimmers.

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b. Overview of program design:

(1) Educational aspects

(a) The DRC has three basic programs all of which incorporate a variety of educational material.

(i) Dolphin Encounter: A 2 1/2 hour program, open to the general public aged five years or older, incorporating two 30 minute workshops, a minimum 45 minute educational tour, and a 15 to 20 minute swim with the dolphins.

(ii) Dolphinlab: A week long college accredited program incorporating 60 hours of educational instruction divided among lectures, seminars, field trips, and hands-on experience; open to anyone 16 years or older; includes three dolphin swims of 15 to 20 minutes each.

(iii) Minilab: A tailored version of Dolphinlab for groups desiring half-or full-day programs; may or may not include dolphin swims.

b. All programs include information about marine mammal life history, behavior, sensory capabilities, and role in the ecosystem. Consistent with the intent of the MMPA, the DRC focuses on stimulating the participants' interest in learning more about marine mammals and on motivating them to become actively involved with conservation efforts.

(2) The swim portion of all programs includes the following general guidelines:

(a) Swimmers are given the basics of what they will experience in their swim, the sequence of events, and are thoroughly instructed in swimmer etiquette.

35/ These programs are discussed in greater detail infra.

36/ This is detailed infra under Educational and Conservation Benefits.

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- (b) Life jackets are provided and encouraged for those who are not comfortable in the water. Although the swim experience tends to be most enjoyable for those with good water skills, those who are not proficient, including younger children, still receive safe, satisfying interaction with the dolphins.
- (c) Before swimmers enter the water, the trainer steps on the platform and interacts with the dolphins for a few minutes, which serves two purposes:
 - (i) Allows for preliminary close-up introduction of swimmers to dolphins before they enter the water.
 - (ii) Allows the trainer to determine the mood of the dolphins and direct the swim accordingly.
- (d) As the swimmers prepare to enter the water, the trainer asks for their names in order to give specific individual instructions during the swim. Swimmers enter the water gently, as explained to them during swimmer etiquette, so as not to startle the dolphins.
- (e) The number of swimmers is limited to two per dolphin with no more than six swimmers per trainer.
 - (i) In the early days of the DRC's SMTD programs, trainers noted that, on occasion, when the ratio of swimmers to dolphins exceeded 2:1, the dolphins did not display their normal curiosity and enthusiasm for interacting with swimmers.
 - (ii) In these instances of more than two swimmers per dolphin, the swimmers also reported in surveys that they felt unable to receive sufficient individual attention from the dolphins.
 - (iii) The number of swimmers that a trainer can competently manage depends greatly on the experience and skill of each trainer; nevertheless, even the DRC's most

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- experienced trainers (greater than 5 years experience) expressed the belief that they did not have sufficient control of swimmers when more than six were present per trainer. Therefore, the DRC rarely has more than four or five people in a lagoon at the same time.
- (f) The DRC strongly recommends that standard positive reinforcement techniques be used in conjunction with public swims.
 - (i) Reinforcement techniques clearly outline appropriate behaviors that dolphins may display with humans in the water, thus virtually eliminating the emergence of sexual and/or aggressive behaviors. In the instances where undesirable behaviors have emerged, standard techniques for the discouragement and elimination of these behaviors were followed and resulted in the elimination of these behaviors rather than their escalation. Dolphins do not develop undesirable behaviors that could be reinforced by inexperienced swimmers because trainers and not the swimmers provide the primary reinforcement.
 - (ii) Contrary to what is stated on page 39 of the DEIS,³⁷ the DRC does not practice food deprivation during training. Consequently, the dolphins will and do terminate swim sessions voluntarily. Dolphins voluntarily have utilized the "human free" area for all or part of the swim, and returned at the conclusion of the swim for the food, or finished their allotment at a later time.
 - (g) In order to display some of the sensory and other unique capabilities of dolphins, swimmers are taught simple signals to ask dolphins for a variety of behaviors and they take turns interacting with the dolphins. Trainers also incorporate other behaviors that do not involve the dolphins directly in interaction with the swimmers.

³⁷ See DEIS, supra note 5, at 39.

(h) Swimmers spend an average of 15 to 20 minutes in the water with the dolphins. This is based on the following:

- (i) Shorter sessions are more successful. During the early days of the DRC's swim programs, DRC staff experimented with various program lengths. Since interaction is optional for the dolphins and the amount of interaction dropped off appreciably after 25 minutes, 20 minutes was set as the maximum. Naturally, the exact time depends on each situation and swimmers are advised that the encounter will terminate at the trainer's discretion based on the behavior displayed by the dolphins.
- (ii) Sessions are terminated while the dolphin is having fun rather than waiting until the dolphin is bored with the session.
- (i) At the conclusion of the swim and after all swimmers have left the water, the trainer remains at the dock with some fish to continue trainer/dolphin interaction.
 - (i) This enhances the trainer's status as the primary source of reinforcement.
 - (ii) People leaving the water do not signal the end of the session, thus allowing the trainer to continue to engage the dolphins in a variety of behaviors to end the session.
 - (iii) This allows for feeding any dolphin that may have removed itself from the swim.
- (j) The DRC has the lowest figures for number of swims per dolphin as well as average dolphin time spent participating in swims of any permitted programs.^{38/}

^{38/} This is based on a comparison with the other programs during the three years the DRC has had its SWID programs and is detailed in the DEIS.

- (i) At the outset of the DRC's swim program, an average of three swims per day, five days per week per dolphin was set for guidelines. This proved to be too many as dolphin enthusiasm for swims waned. The number was reduced to no more than two swims per day, five days per week per dolphin.
- (ii) If either of these two parameters is exceeded with any regular consistency, dolphins often display signs of boredom.
- (iii) These two limitations, plus an average time of 15 to 20 minutes per swim, set up a maximum of 3.3 hours per week for each dolphin to participate in swims. As noted in the DEIS, the DRC's actual average is well below the maximum and is actually 1.8 hours per week.^{39/}
- (iv) The DRC has repeatedly demonstrated the importance of introducing variety into the swims to maintain the dolphins' interest in interacting with humans. Since anything done on a repeated basis leads to boredom, the DRC, along with adding new behaviors, exposes the dolphins to different forms of interaction with humans. Both on days with swims, and on the days a dolphin is not in a swim, trainers engage the dolphins with trained behaviors favored by the dolphins and encourage the innovation of new ones. On occasion, dolphins are worked without requesting any behaviors although many dolphins find this boring if done too often. Dolphins' days off from swim programs are varied and are tracked on daily schedule sheets.

(k) Monitoring programs:

- (i) In 1978, Jayne Rodriguez (President and General Manager of the DRC) established a monitoring program that required a daily logging of behavioral and health infor-

mation into bound books that have become an existing permanent record. Years later, this system proved so useful in monitoring behaviors that the DRC continues it for the swim program with the addition of a daily message board for better trainer communication.

- (ii) Every morning, a senior staff member observes every dolphin, noting any behavioral or health related remarks on the message board and in the dolphin's individual record book. Any further observations that occur during the day are also recorded on the message board and in the dolphins' individual record books.
- (iii) After every interaction, swim or otherwise, the trainer or feeder fills out each dolphin's record book with the following information:
1. Time of day session took place;
 2. Amount of food fish consumed; vitamins or medications, if given;
 3. Type of session (swim or otherwise);
 4. While all behaviors are tracked, specific details of sessions will include an update on how dolphins are progressing on new training and how they are maintaining previously learned behaviors and specifically monitored swim behaviors. For swims, this entry includes how many people and dolphins participated in the swim;
 5. Trainer's assessment of the session;
 6. Any abnormalities in appearance; and
 7. Weather.
- (iv) All behavioral and health concerns are addressed by a senior staff member

immediately. Appropriate action is taken depending on the severity of the problem. Action can range from continued observation to the removal of a dolphin from the swim program until the problem is resolved.

- (v) Dolphins are consistently trained in husbandry behaviors that allow taking of blood, stomach, and fecal samples for regular testing. These sampling procedures are combined with close observation and intimate knowledge of individual dolphins to provide the best diagnostic tool for behavioral and health monitoring.
- (vi) Safety record: No participant in a DRC swim has suffered any injuries as a result of sexual or aggressive behavior on the part of the dolphins.

c. Specific Guidelines for Dolphins:

- (1) Dolphins are chosen to participate in swims based on their gentle nature, willingness and interest in having people in their lagoon, not being readily excitable, and good health.
- (2) Training of swim dolphins:
 - (A) Swim training methods were developed over years of working on behaviors with trainers in the water and trained recreational swimming.
 - (B) Trainers swim and work with dolphins first to determine their compatibility with humans and to train new behaviors.
 - (C) Dolphins are introduced to public swims with a trainer in the water to provide the dolphin with individual attention. The dolphin interacts with the trainer, but in the same area as the swim.
 - (D) The transition to interacting with the public is made using carefully screened volunteers

from the DRC's volunteer program first,^{40/} then DolphinLab students that the training and education staff have evaluated as being calm, patient, and comfortable in the water.

- (3) There are certain behaviors that experienced trainers know to watch for that are good indicators of a positive or negative swim experience. Naturally, the appearance of these behaviors varies somewhat from dolphin to dolphin and part of training experience is knowing the individual dolphins. These behaviors can be present either before or during a swim.
- (a) Positive indicators include initiating behaviors with swimmers, "ad-libbing" or inventing behaviors solo or with swimmers, quick response to signals given, good attention to trainer and bright, eager eyes. Dolphins compensate for swimmers not giving signals correctly by generalizing, and demonstrating patience with people who do not respond correctly during trained behaviors or are not coordinated in the water.
- (b) Negative indicators include avoiding swimmers that are not comfortable in the water, change in normal vocalizations, dull eyes, avoiding swimmers altogether, and intolerance of any unfamiliar object such as a camera, lifejacket and the like.
- (4) Sexual/aggressive tendencies:
- (a) There are four male dolphins living at the DRC presently.
- (i) Two were collected from the wild by other aquariums and acquired years later by the DRC. They were never considered suitable for swims due to the fact that they did not meet the DRC's criteria for swim animals.

^{40/} DRC has a structured volunteer program. Applicants are interviewed and if accepted, assist the paid staff in a variety of departments for a minimum of one month's time.

- (ii) Two are captive born and participate in swims occasionally. One is 15 years old, fully mature, and does well in swims when exposed to them once or twice a week. Beyond that, he displays signs of boredom. The other captive born male is 18 months old, is just beginning to join in swims on a strictly limited and closely supervised basis, and appears well suited to the swims.
- (iii) In general mature males collected from the wild do not appear to make good swim candidates. Captive born males do well until they mature when public swim contact will most likely need to be curtailed, depending on the personality of the dolphin.
- (b) Of the twelve females, nine participate in the swim program on a regular basis. The three who do not participate include a stranded *Stenella Attenuata* rescued by the DRC, an older dolphin received via the DRC's Critical Care Unit, and a mature female who was removed from the swim program soon after it began.
- (c) Several dolphins have been removed temporarily from the program, from several days to several weeks, for reasons including giving birth, illness, or signs of boredom. Return to the program is decided by senior trainers who monitor behavior during training sessions and in-water work. Providing adequate time off for dolphins has made incidences of boredom virtually nonexistent.
- (d) Dolphins who do not participate in swims, whether temporarily or permanently, are engaged in regular sessions to help with public education. As it is not reasonable to assume that all dolphins will want to participate in swims all of the time, the DRC strives to provide other ongoing programs for these dolphins that offer sufficient intellectual stimulation.

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(5) Stress effects:

It is the consensus of the DRC's senior staff that dolphins consistently want to participate in swims more than they have wanted to participate in shows or research. In the DRC's experience, much research training and execution, due to its monotonous, repetitive nature and general lack of human contact, has proven the most stressful type of activity for the DRC's dolphins.

d. Specific Guidelines for Swimmers:

(1) Age limits:

(a) Swimmers are required to be at least five years of age. The Dolphin/Child program is an exception to this since the child is accompanied in the water by a therapist or helper. Five years was chosen based on information provided by swim coaches who indicate that children of this age are usually accepted into other types of swim programs. Children of this age usually have sufficiently developed gross motor skills to be safe in the water either independently or with a life jacket.

(b) Children between the ages of five and twelve must be accompanied by an adult to insure control of the child's behavior.

(2) When signing in swimmers are asked to read a detailed set of guidelines or etiquette for safe and enjoyable interaction with dolphins. In addition, trainers review these guidelines during each swim orientation session. These guidelines include the following:

(a) Swimmers should let the dolphins come to them and not reach for dolphins. This, in particular, is reiterated several times.

(b) Swimmers are told that they should not touch the eye, blowhole region, tummy, or genital regions of dolphins at any time. Also, they should not touch dolphins from behind as this may startle the animal. Swimmers must not touch dolphins at the front of the training

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platform while they are receiving their rewards.

(c) Swimmers are asked not to come to the front of the dock where they would interfere with the dolphins receiving rewards.

(d) Swimmers are taught the simple hand signals for dolphin swim behaviors.

(e) Before entering the water, "human free" areas are pointed out to swimmers and the swimmers are reminded that these areas are exclusively reserved for the dolphins.

(f) Upon entering the water, swimmers are urged to gently slip into the lagoon so as not to startle the dolphins.

(g) In order for the trainer to be totally informed of all possible dolphin behavior, swimmers are told to report any mouthing, bumping, or pushing by dolphins. Very few reports have been received describing or concerning such behavior.^{41/}

(h) Swimmers are encouraged to swim underwater and listen for dolphin sound production such as whistles and clicks.

(i) Swimmers who do not listen to the trainer's instructions are told that they will be asked to leave the water.

(j) Although no definitive evidence exists for disease transmission between dolphins and humans, as an added precaution swimmers are asked to refrain from swimming if they suspect that they are infected with any communicable diseases.

^{41/} As Edward S. Gardner has testified, in a random review of 100 questionnaires there was only one report of any such behavior and that involved the brief mouthing of a swimmer's hand and no injury resulted.

n. Specific Guidelines for Trainers:

(1) Training of trainers:

- (a) The DRC's senior staff includes the general manager, curator, and head trainer, all of whom designed and oversee the swim program. Each of these senior staff members has more than ten years experience in training dolphins. This level of experience is, in part, responsible for the safety record of DRC's program.
- (b) A trainer will not be considered senior staff until they have had three years' experience at the DRC.
- (c) The amount of time necessary to instruct a newly hired trainer depends on that person's background and knowledge of dolphin behavior.
 - (i) Newly hired trainers are closely supervised by senior staff for a minimum period of six months.
 - (ii) During this period, a trainee first watches swims, takes notes and participates in discussions after the swim. The trainee will conduct his or her first swim with staff or volunteers acting as the "public". A senior staff member will then observe the trainee's public swims, taking notes and discussing them after the swim. Trainees are considered competent to conduct safe swims when they are knowledgeable enough about individual dolphins to recognize important behavioral cues and how to handle potential problems that may occur with dolphins or the public.
 - (iii) Once the trainee has begun to conduct public swims alone, senior staff members observe several swims per week to monitor the trainee's progress. Swims are videotaped for critique. Senior staff also conduct regular public swims to monitor dolphin behavior.

(iv) The DRC's experience has shown that this training period is crucial. As any experienced trainer knows, having unsupervised novice trainers work consistently with dolphins may produce behavioral problems.

(2) Swim supervision:

- (a) Swims are best monitored with the trainer above water on the dock. A trainer in the water cannot properly observe swims because of reflection from the water surface and lack of perspective.
- (b) An experienced trainer is present during the entire swim and is watching humans and dolphins at all times.
- (c) The trainer pays particular attention to the behavioral cues which indicate how well the dolphins are interacting with the swimmers.
- (d) The trainer tries to give each swimmer equal time interacting with the dolphins, but does take into account dolphins' occasional preferences for individual people.
- (e) Trainers reward dolphins for gentle and appropriate interaction with the swimmers. Dolphins are encouraged to respond to signals given by the swimmers, but are rewarded for "ad-libbing" or doing whatever behavior they prefer so long as it is appropriate. The rewards are varied, such as food, praise, touches, and preferred behavior.
- (f) Trainers strive to include a variety of behaviors in the swims to avoid boredom of the dolphins. Trainers often use dolphin behavioral cues to decide when to initiate different interactions as the swim progresses.
- (g) Swims may continue for twenty minutes, but trainers closely observe dolphin behavior and will terminate the swim whenever the dolphins show signs of tiring of the activity. Even if the dolphins are demonstrating behavioral cues that they are not tired of the swimmers,

trainers will terminate the session at 30 minutes to keep the experience positive for the dolphins.

(1) Handling problem situations:

- (a) On occasion, swimmers have been inattentive to trainer instructions due to excitement or ignorance. Trainers remain polite, but as verbally forceful as necessary to gain the attention and cooperation of swimmers. While the DRC reserves the right to eject swimmers that are causing undue problems in the swim, to date no trainer has had to invoke this rule.
 - (b) The main problem that arises with humans in the water is the tendency to reach out to the dolphins. Swimmers are told several times not to do this, but some cannot control the urge. The dolphins show no hesitation avoiding people who grab at them. For this reason, the possibility that people might directly injure dolphins is remote.
 - (c) If a dolphin removes itself to the "human free" area and then returns to interact with swimmers, the trainer rewards the dolphin appropriately. If the dolphin does not return from the "human free" area until the swimmers leave the water the trainer offers the dolphin its full food ration.
- (4) Trainer communication is essential for consistency in training and swim quality.
- (a) The DRC trainers have a common office where they communicate directly on a regular basis.
 - (b) The communications board is located in this office where all significant observations are recorded.
 - (c) Trainers participate in weekly staff meetings where they discuss any noteworthy behaviors and methods of observation or modification.

2. DRC Swim Programs

a. Dolphin Encounter

The Dolphin Encounter Program is a 2.5 hour experience that includes two 30-minute workshops, an educational-walking tour, and the swim. The workshops and tour are presented by trainers or education assistants. Swimmers are required to attend the workshops and tour, but these are open to non-swimmers as well. For continuity, the two workshops are conducted by the same presenter. Swims are conducted by experienced trainers.

(1) Dolphin Encounter Workshop I

After introducing himself or herself, the workshop leader asks for swimmer introductions. Then, a brief history of DRC is covered as are its underlying mission and philosophy. Typical presentations detail that the DRC is a not-for-profit facility, conducts research, has an established dolphin breeding colony and does not collect from the wild. It is involved in the Marine Mammal Stranding Network and provides a Critical Care Unit for sick or injured dolphins.

One of the main points of this workshop is to describe the nature of dolphins and their unique capabilities and characteristics. The relationship between humans and dolphins is stressed. Participants are instructed that dolphins are not "Leasies of the Sea"; rather relationships with dolphins are based on trust which is not given automatically to every human at the first moment of meeting, but is earned over time. Swimmers have impressed upon them the fact that they will be entering the dolphins' home and must respect it as such. The dolphins will not be forced to interact; there will be "human free" areas for dolphins to leave the swim if they desire, and the swimmers are allowed not to reach out for or grab at the dolphins.

The second main point of this workshop is to orient and describe to the swimmers what they will experience during the swim. The structured nature of the swim is discussed and the reasons for using standard positive reinforcement techniques are explained. The swimmers are introduced to the behaviors and signals they will use to interact

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with the dolphins. A three-dimensional model is used to visually demonstrate. The swim etiquette rules are presented and explained. Swimmers are encouraged to ask questions.

Swimmers and workshop participants then join the educational walking tour.

(2) DRC Educational Walking Tour

The educational walking tour, which lasts about one hour, takes participants around the DRC grounds to see all of the animals in residence. The tour is conducted by a trainer or education assistant. Although each educational walking tour at DRC is slightly different according to the interests of individual presenters, all try to include the following information.

Participants are briefed on any special events that might be happening, like the nursing and care of a stranded animal. As the tour is introduced to each lagoon, a brief history of all resident dolphins and sea lions is given. Of the sixteen dolphins currently residing at the DRC, eight were born here. None were captured for the DRC.

Tour participants are asked to take special note of Dart, a Stenella Attenuata or pantropic spotted dolphin, that was rescued as part of the DRC's commitment to the Marine Mammal Stranding Network. Because Dart is a representative of one species, often caught in tuna nets, the entire dolphin/tuna issue is presented with her as a living example. Ways in which people can become active with regard to this problem are also presented.

Pointing out anatomy on the live dolphins, tour presentations explain the difference between the dolphin fish and mammal, breathing, sight, hearing, lack of smell, taste, touch, sound production, and echolocation.

Since the DRC's is a natural environment, habitat and ecology are usually pointed out. The role of dolphins in the marine ecosystem and, on a more site specific level, the importance of the mangrove community is explored.

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The DRC's sea lions were also born in captivity. The colony consists of a female and her two sons. Presenters point out differences between seals and sea lions and between training dolphins and sea lions.

The DRC has a successful breeding program and uses both the dolphins who have given birth and the dolphins born at the DRC to discuss dolphin reproductive biology in the wild as well as in captivity. Care of expectant mothers, and care after birth along with nursing and weaning of the calf are explained.

Several of the DRC's dolphins are more than 25 years old and the longevity of dolphins in the wild and captivity is discussed. Individual characteristics are highlighted to demonstrate how to identify dolphins.

Several dolphins have been involved in individual research. Tour participants are invited to view ongoing research projects. Also covered are the genetic studies currently used to determine parentage to create a better breeding program at the DRC.

The DRC occasionally contracts for various film projects that show dolphins in a respectful light. Several of the DRC's dolphins enjoy the challenges entailed with filming. The performance capabilities of these dolphins are presented and discussed.

The emphasis of the tour is to highlight individual dolphin personalities as a key means of presenting educational information. As the tour group proceeds around the grounds and to the area of each dolphin, the presenter conducting the tour will use natural behavior and interaction to explain much of the educational material. Questions from tour participants are encouraged. All visitors are also invited to remain and observe the swim.

(3) Dolphin Encounter Workshop Part II^{42/}

^{42/} Sources of information for Workshop Part II include: MMPA, discussed supra; Annual Report of the Marine Mammal Commission 1988, pp. 7-14, 131, 148-158, 164-168, 168 (1988); (footnote continued)

After the dolphin swim, participants return to the outdoor classroom pavilion for the second part of their workshop. As swimmers arrive after their shower, the instructor answers questions about the dolphin encounter, or any other questions the participants may have. To begin the workshop, the instructor asks: "Why are dolphins in captivity?" This question obviously generates a lot of interest. The reasons usually mentioned are: research, education, entertainment, commercialism, and metaphysical reasons. The instructor allows, within reason, all views to be expressed. Next, the instructor explains the DRC's philosophy about captivity. This explanation emphasizes the importance of education as a tool to teach people how they can protect dolphins and the environment. With education comes awareness, and awareness is necessary to create public pressure and involvement in the political process. Additionally, individual awareness leads to more public awareness as everyday conversations serve the above purposes.

Next, the instructor gives an overview of environmental threats to dolphins and their habitat. These include but are not limited to: direct fisheries on dolphins, driftnets and habitat degradation due to marine debris and pollution. However, due to limited time, the focal point of this conservation workshop is currently the dolphin/tuna issue. Facts are presented about the dolphin/tuna issue, including its history and the type and large number of dolphins being killed, the kind of tuna, the location, the countries involved, the type of fishing method, and the role of the MMPA. After watching video footage of purse sein fishing in the Eastern Tropical Pacific, the instructor tells participants what they can do if they would like to become involved. The goal here is to enable people to feel good about their personal dolphin experience, and feel good about what they can do for dolphins while providing them with appropriate tools to help (participants are given a clipboard during Workshop I which includes a fact sheet about the dolphin/tuna issue, addresses of people to write, and an "act now" fact sheet

(footnote continued from previous page)
 Interamerican Tropical Tuna Commission Annual Report 1986;
 Faith Island, The Tragedy Continues (1988).

that has to do with current legislation). It is stressed that public involvement can help in many issues, not just ones that specifically involve dolphins.

Lastly, the instructor answers more questions while giving participants a certificate of completion and a questionnaire for them to complete.

b. Dolphinlab

From the beginning, Dolphinlab has been accredited by the Florida Keys Community College under its biological science department.

In designing Dolphinlab, the DRC had both dolphins and people in mind. For the dolphins, the DRC goals are twofold: first, to set the stage to increase awareness about the issues facing marine mammals and their habitat and how to contribute to their protection; second, through direct experience, the DRC wants people to experience dolphins as they truly are - intelligent individuals. Students are told to erase all expectations and let the dolphins show what they are truly like. For the people, the DRC strives to create a unique experience by combining traditional style lectures with hands-on experience.

Dolphinlab students attend seminars on a variety of topics concerning captive and wild dolphins. For instance, the husbandry seminar covers source and selection of food fish, vitamin supplementation and caloric intake monitoring. Under medical treatment, common medical procedures are presented along with new practices.

The DRC discusses pregnancy determination, gestation, the midwife phenomenon, nursing, weaning, and the conditions that contribute to a high birth and success rate at the DRC. Physiology is presented from an evolutionary standpoint noting various adaptations dolphins have made to live in ocean and what systems separate them from land animals. Having conducted language-like research at DRC, a seminar is devoted to the history of language research. As a prerequisite for the Conservation Seminar, a seminar on Marine Mammal laws is conducted covering federal regulations that pertain to marine mammals in the wild and in captivity; MMPA and role of MMPA and MNC (Marine Mammal Commission); AWA and role of USDA permit process. The conservation seminar includes discussion of current issues of international/

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domestic concern which affect marine mammals: marine mammal fishery interactions; pollution and marine debris; and concrete ways students can take a part in solving these problems.

Hands-on experience comes in a variety of ways, some planned, some unplanned. Students are always involved in any and all husbandry and medical procedures from making up the buckets of fish and feeding dolphins to helping with a catch for medical tests. The hand signals used for trained behaviors are taught and the students are given the opportunity to put on a show for the public. Students also participate in data collection sessions, whether it be noting mother/calf independence or making recordings of signature whistles.

In Dolphinlab's 4-year history, students have assisted with several strandings, including a mass stranding of approximately 40 false killer whales off of Key West. Students have helped to remove monofilament from a manatee flipper, viewed a necropsy conducted by Dr. Dan Odell at University of Miami, witnessed a birth of a calf at DRC and, most recently, assisted the DRC with a stranded sperm whale by doing watches and collecting significant data. Since this latest event brought several eminent whale scientists to the DRC, students were treated to guest speakers. Never being ones to sweep unpleasantness under the carpet, when the DRC's 40+ year old beloved Mr. Gipper died during a class, the students were not shielded nor hurried away. Instead, they assisted with removing the body and preparing it for necropsy. What better way to demonstrate the realities of working with dolphins?

Not surprisingly, swimming with the dolphins is a favored hands-on activity and we have received numerous comments on the power that experiencing dolphins in their environment has with regard to connecting the classroom work with the animals. To enhance this connection, students are allowed access to the training dock where, under certain guidelines, they may interact with the dolphins without the benefit of food reward, thus observing the dolphins' more natural behaviors. More than any other activity, this access impresses the students "that dolphins were not brought into this world to live up to human's expectations."

In addition to its week-long offerings, Dolphinlab has also been tailored into shorter sessions to meet the needs of various high school students and college groups. One special school, which accepts high school students who

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have experienced difficulty with traditional educational institutions, make Dolphinlab part of their regular curriculum. For them, Dolphinlab has been "an experience that changed the ideas and goals of many of the students involved."

Dolphinlab has grown significantly over the past few years, and the DRC continues to grow with it. This year, the DRC will be offering its first scholarship. In summer 1990, Advanced Dolphinlab will be offered. The design for this will be set up similar to university curriculum, with students choosing an area of interest and focusing on it for their week at the center.

Dolphinlab Expeditions takes classes on week-long field trips to observe and learn about marine mammals in their natural habitat. For example, last year the DRC took a class to see the gray whales in Baja California.

The most convincing evidence of the educational effect of direct interaction with the dolphins at the DRC comes from what graduates do when they return home after Dolphinlab. Some have written articles in newspapers about the dolphin/tuna issue, convinced major restaurants to boycott tuna, and written letters to congressmen. Teachers have involved their students in the issue: one set up a conservation club at her school, another had her students design bumper stickers to show what was happening to dolphins in the Eastern Tropical Pacific. One graduate did a radio show on dolphins in New York. As one student stated:

Dolphinlab has given me a conviction that I as an individual can make a difference (for dolphins) if I work hard enough at it.

c. Dolphin/Child Project

The DRC has embarked on a research project that brought several of the dolphins together with handicapped children. In an attempt to discover whether children could learn more and retain their lessons better if dolphins participated in the instruction. Dr. David Nathanson, from Florida International University, designed the project based on the "Attention Deficit Hypothesis" which theorizes that the main impediment for learning for mentally handicapped children is their inability to focus for the length of time it takes to learn, rather than an inability to learn.

Other studies indicate animals do increase a child's attention span and may help with learning in a variety of areas such as speech, language, and memory. Dolphins, in Dr. Nathanson's opinion, with their greater capacity for general learning than most animals, are able to master complex tasks for advanced lessons and thus go further in helping the children. Dolphins and humans learn about the world in much the same fashion, through sight or sound, thus making dolphins a compatible learning mate. Finally, water is a proven stress reducer. Even staring at water in an aquarium will effectively reduce stress and enhance readiness for learning.

Under Dr. Nathanson's supervision, six children with varying mental handicaps such as Down's Syndrome, hydrocephaly (water on the brain) and profound retardation, came to the DMC once a week for individualized sessions in a classroom environment and on the docks with the dolphins. In this way each child acted as his own control. By the end of the project, the children had spent an equal number of sessions in each setting and the order of the sessions was altered each week.

Dr. Nathanson had hypothesized that learning in the water with dolphins would significantly increase the rate and accuracy of learning compared with learning in the more conventional classroom setting. The results bore him out. All six children correctly responded 2-10 times more often when working with the dolphins than in the classroom. Even more impressive, the results obtained in the classroom never matched or exceeded the results with the dolphins on any day thus proving the power of dolphins to hold the children's attention.

The facts and figures do not reveal the whole story of the project. According to the parents of the children, they had never heard their children make so many sounds before their participation in the project. Additionally, the children had not shown so much interest in anything prior to their sessions at the DMC.

The dolphins appeared to genuinely enjoy the sessions with the children. They seemed to sense these children were different from others and responded with incredible gentleness and patience.

D. Education and Conservation Benefits

Learning about dolphins by interacting with them in the water falls under the general rubric of "experiential learning", which is an emerging and rapidly proliferating discipline. Because our Western culture tends to conceive of education in very narrow terms, non-scholastic kinds of teaching and learning are sometimes poorly understood by the lay public. Thus, discussions of the educational value of swimming with dolphins are often flawed by a lack of understanding of the nature and importance of experiential learning as it occurs in the real world.

1. Experiential Learning -- Background

Appreciating the value of experiential learning requires at least some familiarity with the historical and theoretical context of this field of study. Experiential learning has been defined as "learning in which the learner is directly in touch with the realities being studied. . . not merely observing the phenomenon being studied but also doing something with it."⁴³ Its properties are best understood by contrast with more traditional forms of learning: active vs. passive, concrete vs. abstract, informal vs. formal, discovered vs. received, and affective (attitudinal) vs. cognitive (informational). While these dichotomies are not absolute, they do delineate a spectrum of educational variables with, generally, classroom learning at one end and real life learning at the other.

Learning from direct experience is, of course, the most ancient method of acquiring knowledge. From time immemorial, the skills of hunting, farming, child rearing, and the like were acquired by "on the job" training, with help from older generations. In the Middle Ages, apprenticeship to a craft guild or chivalric training at court were typical forms of schooling, both emphasizing practical

^{43/} B. Birney, "A Comparative Study of Children's Perceptions and Knowledge of Wildlife Conservation As They Relate to Field Trip Experiences at the Los Angeles County Museum of Natural History and the Los Angeles Zoo", 1986, Ph.D. Dissertation, University of California at Los Angeles, p. 41.

^{44/} M.T. Keeton, and P.J. Tate, "The Boom in Experiential Learning", in Learning by Experience -- What, Why, How, (M.T. Keeton and P.J. Tate, eds.), New Directions for Experiential Learning, (1978)

adaptations to real life experiences.^{45/} Eventually, as the western world grew urbanized and industrialized, education became systematized into formal institutions and abstract curriculum content. And though by far the greatest amount of learning still derives from direct experience, the word "education" now connotes the school classroom for most people.

In relatively recent times, interest in the hands-on approach has re-emerged in the form of the experiential learning movement. The importance of direct experience received powerful impetus from the works of John Dewey, "generally recognized as the most renowned and influential American philosopher of education."^{46/} Dewey believed that merely teaching facts was of no intrinsic value, and that all learning should be ultimately rooted in experience. Central to his thesis was the process of discovering the "backward and forward connection between what we do to things and what we suffer from things in consequence."^{47/}

Since the 1960's educators have increasingly sought to redress social ills through education. The essentially ethical aspect of Dewey's thought, emphasizing direct discovery of the interconnectedness of things, has served as a foundation for these efforts. The more recent studies of social psychologists have reinforced Dewey's theoretical writings. Harry Triandis describes the virtues of active experience in modifying negative social attitudes, such as racism. Participation in a group process represents "an investment" of one's self which "leads to active, cognitive work that is likely to change attitudes."^{48/}

A host of divergent applications has sprouted from Dewey's central thesis. Outward Bound and other forms of "adventure learning" have turned the wilderness into an experiential classroom for teaching self-esteem and social responsibility. Montessori schools, among others, have developed concepts of "discovery learning" to harness the

^{45/} C.O. Houle, "Deep Traditions of Experiential Learning", in Learning by Experience (1978).

^{46/} L.C. Naughton, ed., The Encyclopedia of Education, vol 3 (1971).

^{47/} T. Husen & T. Postlethwaite eds., The International Encyclopedia of Education, vol. 3, 17952 (1967).

^{48/} H. Triandis, Attitude and Attitude Change, 91 (1971).

natural spirit of creative inquiry in young children. The Peace Corps has provided Americans with ways to experience other cultures in a new, service-oriented mode. Work-study programs, field study programs, internships, year-abroad programs and the like have gained great popularity in the past 20 years. The common thread of all these elements is the process of learning through direct experience and thereby gaining greater capacity for empathy.

The rising field of environmental education, spurred by an increasing sense of urgency, has more recently harnessed the methods of experiential learning, seeing in them the great potential for changing attitudes. Louis Iorzi makes the important distinction between the cognitive domain (facts) and the affective domain (emotions) relative to environmental teaching:

It seems researchers in environmental education recognized quite early that focusing on the affective domain was extremely important if programs in environmental education were to be effective in teaching positive environmental attitudes and values. Whereas knowing how to improve environmental quality is important, possessing such knowledge certainly does not ensure that one will be motivated to take action.^{49/}

Iorzi also cites two studies that reported that "outdoor camping experiences result in more positive attitudes toward the environment", and another which found that "attitudes toward the use/abuse of nature were significantly more positive immediately following and one year after participation in an acclimatization type of environmental education experience."^{50/}

It is clear, then, that the aim of experiential learning in general and environmental education in particular is not merely to impart facts but to cause real and lasting changes in values, attitudes and ultimately in behavior. This is a critical distinction that continues to escape many people who are still caught up in the archaic notion that education means school, and school means learning facts.

^{49/} L. Iorzi, "Environmental Education and the Affective Domain", part one, 20 Journal of Environmental Education 4 (1980).

^{50/} Iorzi, supra note 49, at 7.

Since the survival of our global environment may depend on the effectiveness of experiential education theory, it is important to study indicators of its actual effectiveness. But evaluation techniques have not quite caught up with actual practice. Numerous investigators have noted the lack of good research in this area. Inzoli notes, "... the overall quality of the environmental education research related to the affective domain seems to be what one would expect from a field of inquiry that is both growing and developing."^{51/} Virginia Smith says, "To recognize learning whenever and wherever it occurs... requires further advances beyond the current, primitive state,^{52/} the art of assessing various types of learning outcomes."

There is, however, a growing body of opinion supporting the ongoing development of experiential learning methods. Stephen Hamilton states, "...the enthusiasm of youth, teachers, parents, and citizens...is one of the strongest testimonials to the benefits of experiential learning. It is a consistent characteristic of experiential learning programs that those who are close to them believe they are effective."^{53/} Morris Keeton feels that, "Given the information cited about the extent and rate of growth of adult learning in our society, the potential for important use of experiential learning strategies in the future is enormous. Even if these estimates are far off the mark, the extent of such learning is likely to be of major significance."^{54/}

2. Museums, Zoos, and the Tactile Learning Experience

Given the pressing need to change public attitudes toward nature and the environment, science museums and zoos have undergone a rethinking in recent years. These institutions, once looked at generally as recreation providers, are now being designed and studied to maximize their educational potential. Recent studies show that this potential is enormous.

^{51/} Inzoli, *supra* note 49, at 4.

^{52/} V. Smith, *Foreword to Learning by Experience* xiv 2 (1974).

^{53/} S. Hamilton, "Experiential Learning Programs for Youth", *AA American Journal of Education*, 196 (1980).

^{54/} M. Keeton, "Future Directions", in *Learning by Experience*, 28 (1978).

ous. Barbara Birney notes that "in one year more people attend zoos than all of professional athletic events in the United States combined."^{55/} Stephen Kellert found that "zoo and museum visiting constitutes one of the most frequent activities of the American public and remains one of the least understood."^{56/}

This lack of understanding is partly caused by the failure of researchers to recognize the difference between traditional and experiential learning. Kellert's study of zoo attendees found that, while "educational benefit to the children" was the most commonly stated for coming to the zoo, the factual knowledge about animals displayed by zoo attendees was the lowest of several groups studied. Discussing this discrepancy Birney says, "In arguing about whether people learn in museum and zoo settings, researchers have too often ignored the matter of content -- that is, what was learned aside from biological facts."^{57/}

Zoo and museum curators, however, are showing widespread awareness of the predominant importance of experiential learning and the affective domain. Victor Danilov describes 15 new "discovery rooms" in science museums in his country. These exhibits are designed to stimulate the curiosity of young visitors through hands-on activities. Danilov notes that "their emphasis on hands-on and interactive exhibits is squarely in line with the results of current research in science education."^{58/}

Tactile interaction has been identified as one of the most powerful elements in educating zoo and museum visitors. Birney states, "It is well documented that learner participation increases learning. Exhibits that permit tactile interaction evoke more interest, cause visitors to

^{55/} Birney, *supra* note 43, at 39.

^{56/} *Id.* at 38.

^{57/} *Id.* at 17.

^{58/} *Id.* at 40.

^{59/} V. Danilov, "Discovery Rooms and Kidspaces: Museum Exhibits for Children", *Science and Children*, 11 (1984).

remain at the exhibit for a longer time, and increase the amount of verbal communication between visitors.^{50/}

Several studies reinforce this concept. Birney cites one report in which "a planetarium program that was characterized by an activity-based format and extensive verbal interaction was clearly superior to a standard planetarium program where the viewer is a passive recipient of information."^{51/} Stephen Bitgood cites a study which "found that a live snake demonstration changed students' beliefs about the usefulness and dangerousness of snakes as well as the students' affective reactions (anxiety)."^{52/} Ken Sherwood cites another study that found that "using live spiders and snakes in combination with positive adult or peer modeling produced positive attitude changes in fourth-grade students."^{53/}

Sherwood tested learning in fourth-grade students presented with live vs. dried horseshoe crab specimens. He states that "short- and long-term cognitive learning took place when students handled either live or dried animals. However, gains in short- and long-term affective learning (measured by changes in attitudes) were achieved only when students handled live animals."^{54/}

Birney's study of learning among museum and zoo visitors is especially relevant to displays that include swimming with dolphins. She states:

Visitors attend museums and zoos knowing they will see objects that are authentic and live animals. Realism is a major component of the learning experience. Realism is a major component of the learning experience. Visitors seem to derive pleasure from establishing a relationship with a "real" artifact or animal. This bonding provides the experiential quality

^{50/} Birney, *supra* note 49, at 30.

^{51/} *Id.* at 18.

^{52/} S. Bitgood, "School Field Trips: An Overview", in 4 *Visitor Behavior*, no. 2, 4 (1989).

^{53/} K. Sherwood, "Effects of Live Animals vs. Preserved Specimens on Student Learning", 8 *Zoo Biology* 99 (1989).

^{54/} *Id.* at 99-104.

of museum visits. The experience of bonding with something real appears to be of intrinsic value and is also an experience that can be shared. The intricate relationship between social interaction and learning may be based upon the sharing of experiences which are valued highly.^{55/}

3. Bonding Between Visitor and Dolphin

The education programs of the DRC are entirely consistent with the definition and properties of experiential learning. Whenever feasible, the DRC's programs put the learner "directly in touch with the realities being studied. . . not merely observing the phenomenon being studied but also doing something with it."^{56/} As with other experiential learning programs, these activities are primarily active, concrete, informal, and discovery-oriented. In keeping with current environmental education theory and practice, the DRC's dominant education goal is not merely to impart simple facts about dolphins but to change attitudes and behavior in a positive and lasting way.

The DRC education program represents a model of state-of-the-art experiential learning in a zoo/aquarium setting. Its full array of options recognizes the wide variety of needs of different visitors. It includes aspects of the discovery room for young visitors, of special education for the physically and mentally handicapped, of higher education field study, and of basic environmental education for the general public. Each of these elements is designed to take maximum advantage of the proven learning benefits of direct experience, tactile interaction, and, above all, bonding with real dolphins.

4. Indicators of Success of the DRC Programs

Letters from past participants reveal that they gained a tremendous insight into dolphins from actual physical contact with the animals. Describing a trip to the DRC with students, Thomas Tobias, M.Ed., writes that his students gained "...far more than the opportunity to obtain a few new strands of scientific information. For these young students it became a new perspective from which to view all

^{55/} Birney, *supra* note 43, at 42-43.

^{56/} T. Mussen & T. Postlethwaite, eds., *The International Encyclopedia of Education*, vol. 3 17952 (1983).

education. It became the link...between book learning and something real!"

Another participant writes that her son, as a result of a visit to the DRC, is now considering a career in marine biology.

The numerous letters detail the impact felt by the participants. Most of them stress the importance of participation. Joanne Halbig writes that she was captivated by the guide and his knowledge of dolphins. She describes a "...rare opportunity to gain respect and knowledge of other intelligent life forms. . . We all should share a common goal of maintaining and understanding the delicate ecosystem from which these animals come".

Mr. Rosener writes that his wife, who works with cancer patients, the mentally ill and the homeless, discovered that her experience with the dolphins gave her a "new insight into her work with humans...Her recounting of the dolphins' sense of trust and play proved to be valuable and inspirational to all of my wife's workshop participants."

The conservation benefits are exhibited most strongly in the efforts of participants to organize boycotts of canned tuna fish. Dolphins, like one of those at the DRC, are often caught in tuna fisherman's nets and subsequently killed. Newspaper articles describe efforts by school children to ban tuna from school lunches.

5. Questions Relating Directly to Federal Regulation

It is evident that, in both theory and practice, the DRC education program, especially its interaction aspects, meets the educational criteria currently endorsed by progressive zoos and museums all across the country and by recognized experts in the field of experiential learning and environmental education.

Despite the growth and successes of experiential learning programs over the past two decades, the social bias toward narrow, traditional conceptions of education still shows a tendency to mislead the untrained layman. For example, several comments on the DEIS have made the point, as a way of diminishing the educational value of physical interaction, that books, lectures, films, museum dioramas and traditional forms of public display would serve equally well to educate the public. These comments appear in concep-

tualize "education" as a simple process of imparting facts, such as life history, behavior, sensory capabilities and role in the ecosystem.

If merely teaching such simple facts about animals were the only goal, there would indeed be no reason at all to put people in direct physical contact with live specimens. However, the large and consistent body of theory and research presented here plainly indicates that the purpose of environmental education in general and zoo/museum education in particular is to change attitudes and values, not merely to impart simple facts.

It is the strongly held position of the DRC that, in an era in which hundreds of thousands of dolphins are being killed needlessly every year, the seas polluted and overfished, and the entire global ecosystem threatened by a variety of menacing factors, every effective educational tool must be used to influence the emotions and value systems of the public and instill in them a lasting desire to act on behalf of our common environment. Experiential learning through physical interaction with dolphins has shown itself to be a new and highly potent teaching method for accomplishing these ends. It would be the height of folly for the government to eliminate this superior teaching method just when it is most needed.

E. Recreational Benefits

As the DEIS notes, the MMPA recognizes the recreational significance of marine mammals.⁶⁷ During the reauthorization of the MMPA in 1988, Congress again acknowledged the recreational value of human exposure to and interaction with marine mammals.⁶⁸

The intensity of the dolphin swim experience was noted in two quoted passages in the DEIS.⁶⁹ Based on the DRC's swim program questionnaires, the numerous letters received from program participants and the DRC's vast experience in this area, there is no question that these comments are representative of those expressed by the people who have actually swum with the DRC's dolphins.

⁶⁷/ DEIS, supra note 3, at 33.

⁶⁸/ See, supra notes 9-17 and accompanying text.

⁶⁹/ DEIS, supra note 3, at 33.

Tellingly, two of the most outspoken critics of SWTD programs have voiced similar sentiments. Consider for example this recent testimony from Richard O'Barry, "It's a wonderful experience swimming with the dolphins, and, as I say, dolphins enjoy swimming with people." At the same hearing, Ben White concurred,

The hard part to argue about with swim-with programs is, it's such a magical event. There's no question about it. Dolphins are magic. I happen to have -- I went and checked out all the swim-with-the-dolphin programs ... and it's hard not to feel that these dolphins are amazing, and I don't doubt that human beings are being benefitted by coming close to them.

Given Congress's repeated recognition of the recreational importance of marine mammals and the agreement between people on both sides of the SWTD program issue as to the incredible nature of this experience, the value of these recreational programs particularly in natural settings like the DRC, should not be underestimated. As noted conservationist Aldo Leopold wrote in the seminal Sand County Almanac:

Recreation is valuable in proportion to the intensity of its experiences, and to the degree to which it differs from and contrasts with workaday life.⁷⁰

IV. Economic Impact

The DEIS approaches the economic impact of NMFS's alternative decisions in its simplest terms -- by means of money to be lost or gained by the swim facilities and possible costs of added governmental involvement.

Given the DRC's unique mission and guiding principles the DEIS completely undervalues the total economic impact, including the opportunity costs of any decision to eliminate the DRC's SWTD programs. The DRC stands to lose significant revenue if the SWTD programs are ended. Note

⁷⁰ See NMFS Hearings, *supra* note 3, at 91.

⁷¹ *Id.* at 123-34.

⁷² A. Leopold, Sand County Almanac (1964).

important, however, the DRC will also lose the ability to use this revenue to further its innovative applications of human/dolphin interaction and to aid and rescue stranded marine mammals. At present, these activities are funded in large part through SWTD program revenues. For instance, the recent rescue and care of a number of whales cost the DRC well over \$20,000. If one adds to the list revenue the value of knowledge foregone that would have been gained through these efforts, the economic impact grows to considerable proportions.

Any "economic impact" analysis should include consideration of the lost educational, conservation related, therapeutic, and recreational benefits. The preceding sections detail significant benefits in each of these areas furthered by the DRC's programs. Consequently, any economic impact analysis needs to consider the costs of alternative means of providing these benefits bestowed by the DRC's dolphins. Recall, for example, the documented actions of young children after their swims at the DRC where they became dolphin/tuna issue activists. The DRC implores NMFS and those who challenge SWTD programs to consider these experiences in their environmental impact analysis, as it is these experiences and the attitudes and activism they stimulate may well be the last best hope for providing for the future survival of wild dolphin populations.

On the other economic issue, the DEIS estimates that an enhanced enforcement and monitoring program will cost \$145,000 annually. Perhaps NMFS should also consider the possible imposition of use fees on SWTD participants to help defray any increased costs resulting from the regulations.

V. Recommended Action Plan

Before positing its recommended action plan, the DRC notes that DEIS alternatives A and D, particularly the former, are unacceptable.

To begin with, as the DEIS notes, Alternative A "would not necessarily result in fewer takes from the wild." Indeed, permit applications may still increase and other programs may proliferate without NMFS or perhaps even Congressional action to revamp the entire permit process.

Additionally, upon the record compiled for this permit review, and NMFS' own criteria as detailed in the DEIS, a decision to implement Alternative A cannot be

justified. For instance, as discussed supra, SWTN programs are clearly consistent with Congress's conception of acceptable means of public display under the MMPA. Significantly, when Congress reauthorized the MMPA in 1988 it was well aware of the SWTN programs and took no action to abolish them. Instead, Congress revised public display program requirements to insure all forms of public display contained educational and conservation related components. Certainly, the well-documented success of DRC's programs in educating and activating SWTN participants about marine mammal issues are not only consistent with the MMPA, but an incomparable means of furthering the aims of the MMPA.

Alternative A also places the mark as to the risks to humans and dolphins alike. Based on the record, it does not appear that SWTN programs pose any significant risks that cannot be mitigated (as the DRC has succeeded in doing), or that are unique to SWTN programs as opposed to other forms of captivity.

For the above reasons, DEIS Alternative A should not be implemented as it would not be based on substantial evidence and may entail an arbitrary and capricious decision against SWTN programs in general and the DRC in particular.

The DRC further urges the rejection of DEIS Alternative D which would authorize SWTN programs to continue in their present form. As indicated in the DEIS and during the related hearings, the existing special conditions on SWTN program permits do not adequately address some program related concerns. While the adoption of DEIS Alternative B would allow for a continuation of present SWTN programs and associated educational and conservation benefits and other beneficial applications, the costs of this alternative are unacceptable. The costs of choosing this alternative would include increased capture of wild dolphins for swim programs, possible rapid proliferation of SWTN programs and possible abuses in caring for dolphins.

A. Adoption of DEIS Alternative C

In light of the DRC's extensive study of the subject of swimming with dolphins over a ten-year period, the DRC concludes that Alternative C, "authorize swim-with-the-dolphin programs with new conditions", is the wisest choice. This alternative should be formulated to insure that:

- no additional dolphins are captured for these purposes;

- that dolphin and human participants are adequately protected; and
- important education, therapy, and research opportunities will be protected;

New Conditions

In implementing this alternative, NMFS should adopt the following permit conditions:

1. Strict controls on program design. These controls should specify rules for maximum frequency and duration of swims, human/dolphin ratios, methods for advance screening of dolphins and human swimmers, requirements for supervision of swims and qualifications of trainers, methods for avoiding dolphin aggression problems, monitoring and reporting requirements, rules to ensure that participation by the dolphins is not coerced, and other factors. The DRC urges NOAA fisheries to adopt new conditions using the successful DRC program protocol as the model for these rules.

2. An aggressive monitoring, inspection, and data analysis program to be performed by NMFS and the related state and federal agencies to ensure that these program controls are strictly enforced.

3. Stricter SWTN program permit application review procedures incorporating a variety of the concerns voiced during the DEIS review process should also be enacted. For instance, permit applications for new facilities should be subject to an environmental review process as to the facility itself and its actual site including the nature of the setting, rather than simply applying mathematical formulas as required under present regulations.

4. A rule that any dolphin collected after 1990 shall be ineligible for use in a SWTN program, regardless of a change of ownership or any other factor.

We feel that this alternative, with these conditions, can successfully eliminate the potential negative impacts of SWTN programs while encouraging the important educational and conservation-related potential of these programs.

N. Alternative Adoption of DEIS Alternative B

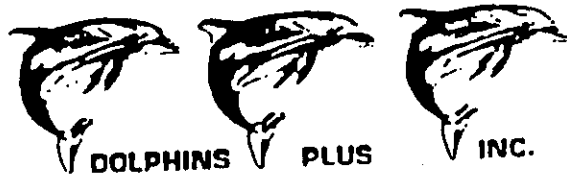
Alternative B proposes to "continue swim-with-the-dolphin programs on an experimental basis."

The Dolphin Research Center believes this to be an acceptable but not optimal alternative. We strongly support two of the provisions of this alternative, namely continued research into SWTID methodologies and benefits, and a moratorium on the taking of wild dolphins for SWTID programs.

The one inherent defect of this alternative is that it would prolong the process of reaching basic policy decisions about SWTID, decisions which the DRC believes can be made now on the basis of currently available data. The result of the delay in making these policy decisions may be to suppress bona fide research projects in this area, since research funds will be more difficult to find if the activity is subject to suspension.

We urge NOAA, if it should choose this alternative, to adopt the following conditions:

1. A rule that any dolphin collected after 1989 shall be ineligible for use in an SWTID program, regardless of a change of ownership or any other factor.
2. A rule that any SWTID-related research permit granted by NMFS will remain valid for the full duration of the project, as specified in the application, regardless of any new general policy change that NMFS may adopt during this experimental period.
3. A set duration for the experimental period of three years, during which NMFS will refrain from any comprehensive SWTID permit review process.
4. An aggressive monitoring, inspection, and data analysis program to be performed by NMFS and the related state and federal agencies. This inspection effort should be designed to verify the content of quarterly reports and to record qualitative kinds of data not available in the quarterly report format.



P.O. BOX 2728 KEY LARGO, FL 33037 1-305-451-1993

January 5, 1990

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Dr. Nancy Foster, Director
Office of Protected Resources and Habitat Programs
NOAA Fisheries
1315 East-West Highway
Silver Springs, Maryland 20910

Re: Draft of Environmental Impact Statement on the Use of Marine Mammals in Swim-With The Dolphin Programs ("Impact Statement")

Dear Dr. Foster:

This letter is written in response to the draft Impact Statement. Representatives of Dolphins Plus, Inc. have attended the public meetings at which time comments were obtained from the members of the public to the Impact Statement. At the meetings in Islamorada, Florida, and Washington, D.C., representatives of Dolphins Plus, Inc. made statements for the record in connection with the Impact Statement. This letter is written on behalf of Dolphins Plus, Inc. ("Dolphins Plus") in order to summarize the position of Dolphins Plus with respect to the Impact Statement.

Dolphins Plus is one of the four facilities presently authorized to use Atlantic Bottle Nose Dolphins in the Swim-With the Dolphin Programs on an experimental and provisional basis. The activities of Dolphins Plus began in 1981 and were officially permitted in 1985. Since the initiation of the Swim-With the Dolphin Programs, Dolphins Plus estimates that at least 30,000 active participants have joined the "dolphin experience." In addition to those participating in the swim program, at least 10,000 non-swimming participants have taken part in observing the in-water activities at the Dolphins Plus facility. Representatives of NOAA have visited the facility and we are sure that they have reported that our program is more than an entertainment swim session and is in fact designed to emphasize education along with in-water therapy for the handicapped. Any "entertainment" is merely a by-product of the overall process.

PROTECTED DOLPHIN ENVIRONMENT

The comments which were received at the public meetings in Islamorada and Washington, D.C. clearly showed that as a result of existing regulations related to the number of dolphins that may be removed from the natural environment there are

Dr. Nancy Foster, Director
January 5, 1990
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sufficient existing restrictions to assure that the wild dolphin population will not be effected by the continuation of the Swim-With the Dolphin Programs. The limitations imposed by the existing regulations assure that it will not be possible for Swim-With the Dolphin Programs to proliferate to the extent that the wild dolphin population will be further effected.

SWIM PROGRAMS - PROGRAM DESCRIPTION

Each existing Swim-With the Dolphin Program is different in its own right. At Dolphins Plus a totally unstructured swim program is in place so that the animals are free to react or interact with the human participant if the animal so desires. In giving the animal the choice our program has eliminated stress to the animal thereby creating a natural experience for both the animal and the participant. The animal's behavior at our facility is not regulated through food as a reward or, in the alternative, are the animals deprived of food for not performing in an acceptable manner. The orientation program at Dolphins Plus consists of at least a one hour orientation lecture by trained professional educators reviewing for the participants the natural history of the animals, acceptable conduct while in contact with the animals while in the water, and after each swim session the participants are subjected to a question and answer process in order to clarify for the participant any phase of the experience which may have been misinterpreted. We feel that the educational process prior to any in-water participation is crucial to a successful program. We estimated that at least 20% of our present participants have been to our facility in the past.

Dolphins Plus since its inception has been dedicated to providing its facility for therapy and related uses. The record of the public hearing at the Islamorada session contains the testimony of Dr. Betsy Smith from the School of Public Affairs and Services at Florida International University. Dr. Smith's activities up to the present time have been primarily focused towards developing therapeutic programs for autistic children and as a result of the published reports of her findings and results, we at Dolphins Plus receive many requests from parents of autistic children for our facilities to be made available to children with autistic characteristics. At no time has Dolphins Plus charged a fee or received compensation for the services provided to the autistic children or other handicapped participants. In addition to the autistic child program we have served many handicapped participants who have been afflicted with Down's syndrome, cerebral palsy, multiple sclerosis, muscular dystrophy, the blind, paraplegics and quadriplegics, cancer patients, emotionally disturbed, and have provided the facility to the hospice for terminally ill individuals. We can state unequivocally to you that each of these afflicted participants derives a noticeable benefit from the swim experience which has resulted, in the case of the autistic children, in their enhanced development for communication and treatment and in the case of the afflicted and terminally ill, it has provided a moment of contentment and peace which has provided with them further restraint to endure their affliction.

Although the press has concentrated on reporting injuries from a very few people who claimed to have been injured during a Swim-With the Dolphin Program, the records of Dolphins Plus reflect that of the 30,000 participants only three have reported minor injuries during their participation in the program. The three incidents now known to Dolphins Plus were not reported at the time they allegedly occurred and Dolphins Plus learned of the incidents when they were reported in the press after having been reported to National Marine Fisheries. The structure of the program provided by Dolphins Plus is designed so that at any given time where the possibility of any aggressive behavior on the part of the animal is observed, that in place distraction methods automatically relieve the situation. These methods are rarely, if ever, invoked.

DISEASE TRANSMISSION

From the testimony presented at the public hearings in Islamorada and Washington, D.C., we have not been advised of any scientific study or proof by National Marine Fisheries Services, or USDA of any possible disease transmission between the human participant and the animal or vice versa. The claims of disease transmission arise through pure speculation but there is no proof. During the past nine years our animals have been in contact with 30,000 people and each animal is alive and well. We have not received any reports from any of the participants that they have contacted any animal-related disease from their experience.

ECONOMIC IMPACT

Unlike other swim programs, Dolphins Plus derives the revenue necessary to maintain the educational and therapeutic programs from the swim program. During the last nine years Dolphins Plus has invested over \$500,000 in its facilities in order to provide the necessary proper environment for the animals and the necessary facilities for a proper swim program for the participants. Should the programs be terminated, Dolphins Plus will be without a source of revenue and destroyed unless it refocuses its direction towards purely entertainment-type programs which have no educational or therapeutic benefits to the public. Should the Swim-With the Dolphin Program be terminated, Dolphins Plus will be unable to continue its programs related to mariculture research, stranded marine mammals and the research and work with the handicapped and terminally ill participants. Dolphins Plus estimates that each year the participants visiting our facility contributed well over \$1,000,000 annually to the local economy which sum does not include the funds contributed for the employment and upkeep of our staff and facilities.

SURVIVAL IN CAPTIVITY

Much has been said and written about the high mortality rate of dolphins in captivity. However, over the past nine years, Dolphins Plus has never lost a dolphin due

to illness or accident. We observed from the behavior of the dolphins at our facility that as a result of the stress-free environment provided at Dolphins Plus the animals appear to be stress-free and very content and happy. The proof of this fact is the longevity of our animals.

ENVIRONMENTAL CONSEQUENCES

The draft Impact Statement provides for alternatives for dealing with the Swim-With the Dolphin Programs.

Dolphins Plus, Inc. urges the adoption of the Swim-With the Dolphin Program beyond the present termination date with conditions designed to:

- a. Insure that all Swim-With the Dolphin Programs will be conducted by qualified personnel under conditions adequate to insure the welfare of the animals as well as human participants.
- b. That the animals used in the Swim-With the Dolphin Programs be properly acclimated to being with humans prior to use in any program for at least one year period. (The experience of Dolphins Plus has shown that the period of acclimation differs with the particular animal and the criteria established should take this fact into consideration.)
- c. The size and type of the facility used for the program should be of major concern in the adoption of the standards so as to provide the necessary water space for the animals and the activities to occur. (In the opinion of Dolphins Plus the minimum size standards presently established are not adequate and must be reconsidered and enlarged.)
- d. That the programs be conducted in open water facilities rather than enclosed or artificial environments which tend to totally destroy the behavior of the animals.

CONCLUSION

Dolphins Plus, Inc. commends NOAA for its interest and concern for the Swim-With the Dolphin Programs and feels that the facts which have been developed demonstrate that the benefits of the programs far outweigh any perceived detriments to the animals or the participants. Our personal involvement with the swim program for the past nine years has convinced Dolphins Plus that the educational awareness which the participants have derived through their participation in the program has lead them to become the disciples and advocates for the dolphin species thus enhancing the prospects of the overall protection of the species for years to come. This has been demonstrated most vividly by current public attitudes toward the purchase of numbers of marine



THEATER OF THE SEA

P.O. BOX 407 • ISLAMORADA, FLA 3306 • (904) 464-2411

December 6, 1989

Dr. Nancy Foster, Director
January 5, 1990
Page Five

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mammal products where the existence of the species is endangered. Along with the examination of the Swim-With the Dolphin Programs we urge NOAA to concentrate more vigorously upon further environmental danger spots for the dolphins such as the tuna dolphin industry drift net fishing and off-shore pollution problems which are accounting for untold numbers of dolphin deaths each year. The very process which is providing the public with the information and experience necessary to advocate the continuation of the species should not be terminated.

Very truly yours,

DOLPHINS PLUS, INC., a Florida
corporation

By: Richard S. Borgum
Richard S. Borgum, Vice President

cc: David Cottingham, Director
Office of Ecology and Conservation
Room 6222
U.S. Department of Commerce
Washington, D.C. 20230

0356E/58

Ms. Nancy Foster
Permit Division
Office of Protected Resources
and Habitat Program
National Marine Fisheries Service
1105 East West Highway, Rm 2110
Silver Spring, Maryland 20910

E-1

Dear Ms. Foster,

Following are my comments on DEIS for human/dolphin swim programs.

NMFS is attempting to evaluate swim with dolphins programs and develop appropriate policies and regulations through the NEPA. The agency has rightfully examined comments from numerous and varied sources; many of which were included in this document and many more that were not.

While I commend the effort to compile a DEIS on such a difficult subject, I must state that I find the document to contain several sections which are misleading and/or contain unsubstantiated information.

There are two key points in the Senate report 100-592 which NMFS must recognize:

1. "The committee recognizes the diversity of public display facilities and the methods available to them for public education. The Secretary should recognize and foster this diversity."
2. "The committee recognizes that the recreational experience is an important component of public display and that public display has served a useful educational purpose, exposing tens of millions of people to marine mammals and thereby contributing to the awareness and commitment of the general public to protection of marine mammals and their environment."

Following are the sections of this DEIS I feel need to be reviewed and rewritten for final proposal:

Section III; Subsection B3: Pages 19-22 deal with the subject of Aggression Efforts.

This section contains statements from swim operators; ten trainers with 7 months experience and reminiscent of a program from 30 years ago. Most of which discuss the possible aggression effects on the dolphins as a result of these programs.

Behavioral analysis with marine mammals is not an exact science and is therefore subject to wide and varied interpretation. What may appear to be aggressive behavior to a novice trainer or the general public may be interpreted very differently by experienced personnel. The bottom line is, according to statistics taken from this document as of the second quarter of 1989, 52,736 people have participated in swim programs with only two unsubstantiated reports of experiencing aggressive behavior during a swim.

While we recognize the potential risks of this type of interaction, statistics gathered over the past 4 years show these risks to be minimal.

Section III: Subsection B6; Pages 22-27: Disease Transmission.

It is foolish to assume that current swim operations have not previously investigated possible disease transmission between dolphins and humans. Each facility has consulted with veterinarians specializing in marine mammal medicine to discuss these possibilities.

Each veterinarian responded that there is no existing data available to show conclusively cause and effect of disease transmission in marine mammals.

In a letter from Dr. Greg Rossart, DVM to NMFS dated November 15, 1989, Dr. Rossart stated "The simplistic approach of infectious disease cause and effect must be abandoned in the proposed BHS. What we must realize is that infectious diseases are often the effect of an animal's failure to adapt to its environment rather than the cause. Intersect especially concerning captive cetaceans must be aimed at determining optimal conditions for species to thrive rather than the end result of mortality from specific infectious agents. Collaborative studies must be undertaken if the causes of infectious diseases in marine mammals are to be understood. These questions should be addressed rather than trying to imply significant disease transmission potential between marine mammals and man. Disease transmission potential is the weakest point of the BHS."

Section III: Subsection C; Page 27-29: Economic Impacts.

This section discusses economic impacts on swim operators and possible cost to the federal government to enhance monitoring of swim programs. With regard to the economic impact to operators a number of factors have not been taken into consideration in this document.

It does not state that three of the four current swim operators are in Monroe County, Florida and operate within a 10 mile radius of each other. It is a fact that people come from all over the United States and other countries to the Florida Keys just to swim with dolphins. Should swim programs be discontinued, substantial loss of revenue would be felt in this community. Not only the revenue generated at swim facilities, but also money generated at motels, restaurants and other attractions in this area.

Using statistics furnished by the Monroe County Tourist Development Council, the average visitor to Monroe County spends \$59.86 per person, per day, with the average stay being three days. Multiply three

times \$59.86 equals \$179.50 per person for the average stay in this community.

Statistics from the NMFS show that an estimated total of 28,768 people will come to Monroe County to swim with dolphins in 1989. Multiply 28,768 times \$179.50 equals \$5,163,856.00 of lost revenue to this community should these programs be discontinued.

The paragraphs on page 28 discuss the cost to NMFS to monitor swim programs. The assumption that NMFS need be involved in the monitoring of swim programs, beyond the processing of permits to collect animals from the wild for this purpose, is totally inappropriate.

The care and maintenance of captive marine mammals, whether they are utilized in exhibits, shows or swim programs, falls under the jurisdiction of the Animal Welfare Act, administered by USDA, APHIS. Monitoring of swims is the responsibility of APHIS, any involvement by NMFS would be duplication of authority and cost tax payers, as estimated in the BHS, an unnecessary \$145,000.00 annually.

Section IV: Subsection C; Page 30-33: Educational Programs.

This section states that all four facilities are providing educational programs that are consistent with WPA. It goes on to question "... to what extent does the swim with the dolphin program at each facility provide an incremental increase in educational benefits that might be weighed against potential risks to dolphins or humans."

First the WPA does not require any facility to prove "incremental increase" in educational benefit specific to any type of exhibit or activity. It merely says that programs be based on professionally recognized standards of the public display community.

During the hearings on the MMPA amendments of 1988, the Senate Committee made it crystal clear that the Act should not be implemented to regulate the content of education programs of the public display community. The House committee report HMD-970, (1988), stresses that "... it is the intent of the committee that the secretary not use this section to regulate the content of education or conservation programs."

Second, as stated earlier, there is no data to support a significant risk to dolphins or humans as a result of swim with dolphin programs.

Section IV: Subsection E; Page 33-35: Stress-Induced Disease.

This section discusses possible and known effects of stress on captive marine mammals. It does not however, show any evidence to suggest that animals utilized in swim programs show any higher incidence of stress related disease over animals in other forms of public display or animals in the wild.

Section IV: Subsection F; Page 35-36: Ethical Considerations.

The question of ethics regarding the capture of dolphin for public

display purposes should be stricken from this document. This is a highly subjective and emotional issue that cannot be properly addressed in a document of this kind. It should however, be pointed out that in the passage of the MMPA in 1972, Congress recognized the indispensable role of zoological institutions in raising public awareness of marine mammals.

For example Senator Hollings stressed that "if it were not for these organizations and the public exposure you have on these animals in the first place, these matters wouldn't be brought to the attention of the public." Likewise Senator Cranston emphasized the "valuable educational service performed by these institutions".

Section V: Environmental Consequences, Pages 32-45.

There appears to be a consensus among operators of swim with dolphin programs, for the need of some controls governing their operation. Of the alternatives open to NMFS listed in Section V, alternative 1: "Authorize swim with the dolphin programs beyond December 31, 1989 with new conditions", would be the appropriate choice.

I urge NMFS to use caution in the development and adoption of such conditions. Any additional conditions or guidelines must leave room for variation and diversity among programs.

I strongly disagree with certain comments in this section that would establish arbitrary pool sizes, human to dolphin ratios, maximum hours of participation by dolphins in swims, etc.

To adopt such guidelines would serve only to close all swim programs. It must be remembered that each facility and each animal utilized in swim programs is uniquely different. NMFS should foster diversity among swim facilities so that a wider base of information may continue to be gathered.

I would recommend current conditions be kept in place with the addition of guidelines suggested by the PMC in a letter to NMFS dated July 2, 1987. That letter states "the Commission recommends: (1) that all facilities conducting human-dolphin swim programs be required to inform participants of potential hazards and ways in which indications of a problem may be recognized early and possibly avoided; (2) that complete records of any unfavorable interactions (e.g., tooth raking, bruising) be retained and copies immediately forwarded to the Service; (3) that any animal which displays unacceptable behavior that cannot be brought under control be prevented from further participation in such activities; and (4) that the Service require facilities conducting such programs to adhere strictly to all applicable federal laws, regulations, and guidelines relating to the welfare of both the humans and the dolphins".

In conclusion; swim with dolphin programs are an innovative and very effective way to educate the public about marine mammals. I have on file thousands of comments from people who swim at Theater of the Sea, who expound on the virtues of their experience.

The bottom line is that data is available to show the educational value of swim with dolphin programs, while no data exist to show that

these programs have any adverse effects on the dolphin or human participants.

Sincerely,

H. L. Wood

H. L. Wood
Director

HL/dw

Dolphin Learning Institute

Route 4 Box 60 Chapel Hill Road • Pittsboro, NC 27312 • (919) 842-2148

December 4, 1989

Statement submitted to:

National Marine Fisheries Service
1335 East West Highway, Room 7330
Silver Springs MD 20910
(301) 427-2289

F-1

My name is William R. DeLano. I am the Director of Dolphin Learning Institute which is based near Chapel Hill, North Carolina. Some of the projects we operate are four and eight day educational programs called Dolphin Camp which take place six times a year in the Florida Keys.

Dolphin Learning Institute is an educational and research organization for the purpose of exploring interspecies communication and the positive effects of human interaction with dolphins. Over the last four years we have established relationships with all of the 'dolphin swim' facilities in the Florida Keys. Our experiences during this time, place us in a unique position to accurately comment on the practices of the existing 'swim with the dolphin' programs.

I would like to extend my compliments to the agencies that compiled the environmental impact study, the questions you seek to address are very pertinent to the general welfare of the dolphin population. You are obviously aware that for some these issues carry an emotional charge. Your task is to sort through the rhetoric, and by your decision most accurately reflect the existing laws in protecting the Atlantic bottlenosed dolphins (*Tursiops truncatus*) used in these swim programs.

This decision would be easy if we all lived in a ideal world. All creatures would be free to choose the conditions of their existence and would live in harmony with all other species. Governments would not be required because there would be no need to establish rules and their resulting consequences for society to live in accordance. But luckily for this town, we do not live in a ideal world. Our government has been established to provide a forum to sift through the varying viewpoints, determine the consequences of each perspective, and govern based upon what is truly in the best interests of the people and is consistent with established legal precedent.

We all know, the best place to see an elk is in the Rocky Mountain wilderness, to experience the gentle beauty of a mountain gorilla is in the African highlands of Rwanda, to witness the majesty of a sperm whale is on the open ocean. These are again the ideal. These ideals need to be protected and maintained for the safety of those species and for those of us lucky enough to be able to appreciate these magnificent creatures in their natural state.

Unfortunately, most people will never have the opportunity to experience these creatures in a ideal state. That is why we have sent our zoological centers around the world to appreciate the magnificence of nature and our world. Only through such awareness can conservation and perhaps someday, protection manifest.

F-2

Philosophical viewpoints aside, there are dolphins in captivity. They will continue to live in captivity regardless of a swim program ruling. These are the facts. Those who object to 'swim with the dolphin programs' are generally the same people who object to having any dolphins in captivity. Their position is fixed regardless of evaluating the situation on its merits. In preparing the following comments, I have sought to embrace the ideal situation as well as the realities that currently exist in our world.

In reviewing the draft of the environmental impact statement, the only questions that are directly applicable to this decision are those relating to dolphin safety, stress levels, care and husbandry, their environmental conditions and other health considerations.

Approached logically, through direct observation and examining the health records of swim program dolphins, and comparing them to that of captive dolphins not involved in swim programs (those that live in marine parks, zoos, and other attractions) we should be able to determine if there is a greater health risk to swim dolphins. If the evidence showed that swim dolphins' health and well being is measurably worse than non-swim captive dolphins, then the swim programs should be modified or terminated. If it is not, then they should continue.

I am not a doctor, so I have to rely on the accounts of qualified personnel. Medical comparisons have concluded that there are no measurable difference between the two groups. Furthermore, reports I have reviewed state the chances of a disease being transmitted from human to dolphin is highly unlikely given the cleansing, saline properties of natural ocean water.

Given these considerations and my personal observations during the last four years, I feel confident that health concerns of the swim program dolphins are being adequately addressed. I have observed as these dolphins receive the finest veterinary care available. The daily care, attention and commitment they receive from their trainers is overwhelming to the first time observer. The spacious, natural bottom, fresh ocean water pools in which they live provide ample opportunity for natural behaviors to manifest. It seems from the captive births that are occurring, a sufficient stress free environment is present.

These natural conditions and care certainly rival those of the finest marine parks and aquaria. If you look at the realities and evaluate this situation based on the animals' welfare, then whatever decision you reach on the swim programs, you must be prepared to apply equally to marine parks and other public display situations. The basic health issues are the same. If one situation is flawed so is the other. The facts tell us otherwise. The best talent in the world is working to provide optimum care to these cetaceans.

The staff of trainers at each of these facilities consistently place the health, and well being of the dolphins ahead of a swim program. On two occasions, we have had to change our swim plans because the dolphins were in a particularly amorous state and were not particularly interested in swimming with humans. Our participants were disappointed at first, but quickly came to realize that they were guests in the dolphins' world and their direct experience took backseat to the dolphins' needs. It turned into a wonderful educational opportunity. It now gave them a greater respect for the care and parents of the dolphins.

F-3

There are other key points in the environmental impact statement I would like to address.

Wild Dolphin Populations, page 10

Of all the issues, this is the most difficult one. Ideally, I would not favor the capture of any wild dolphins. There seems to be a trend toward more captive births. If the way the California Sealion has proliferated in captivity, is any example, a higher incidence of captive dolphin births will eventually eliminate the need for wild collection.

A long range plan to encourage dolphin nurseries and to phase out wild collection, may hold the answer to this dilemma. Since there are currently annual quotas on the collection of wild dolphins (which never been filled), I recommend that you use the standard criteria to determine who may obtain additional dolphins. If you would allow capture for general public display, then you should extend the same opportunity to a 'swim facility'.

Expansion of Dolphin Swim Programs I am not opposed to additional swim programs provided they are open ocean facilities. I would be opposed to a 'dolphin ride' commercial type of establishment.

Therapy, other uses, page 16 There is certainly a human value that results from being in the water with dolphins; whether handicapped or not. Part of our purpose is to fully support the continued research of the role dolphins play in the human healing process.

Aggressive Behaviors, page 19 There is only one facility that has been mentioned in reference to aggressive behaviors. We have had three occasions at this facility where swimmers were sufficiently bumped to cause a bruise. They did not feel that this was significant enough problem to report. My gut feeling is these dolphins are like a group of teenagers who never learned manners as children, whose parents never disciplined them or taught them acceptable etiquette around guests. I have never experienced aggression at other facilities, this includes swims with animals well over 16 years of age, of both sexes. I do not and have never felt that given proper training that aggressive acts are a problem. Please also note that a good training team recognizes the personality and temperament of each individual dolphin. Some dolphins, like people, are much better suited to interacting with the public. Proper selection and monitoring by an experienced trainer can eliminate much of the potential for aggressive acts.

Economic Impact, page 21 You can not minimize the economic impact that discontinuing (alternative A) the swim programs would have on these facilities and the local economy. Our participants come from all over the United States, Canada and Europe for our programs which include swimming with the dolphins. If that experience was no longer available it is doubtful they would still visit these facilities.

F-4

Facilities Review

General Comments: All facilities have exhibited extremely conscientious and informative staff, who graciously care for the dolphins. The educational programs that each presents are extremely informative and helpful in maximizing the quality of interaction while respecting the dolphins.

Dolphins Plus, Key Largo This facility has embarked on a truly experimental form of unsolicited interaction. This departure from the normal is interesting. Time will tell of its success. It offers a unique experience, not necessarily appropriate for the first-time dolphin swimmer. I enjoy the opportunity to have our people swim there. Of all the swim choices, this offers the most spontaneous and varied form of interactions.

Theater of the Sea, Islamorada This facility has the clearest water of the three listed facilities. Their program is truly enjoyable for our participants. We always appreciate how education is woven into all the exhibits and shows. The blend of structured behaviors and free-time to listen and observe the dolphins naturally is truly optimum.

Dolphin Research Center, Grassy Key You get a sense that the employees are there because they love to be with the dolphins. Their dolphin swim program is very enjoyable and their educational seminar is usually very well conducted and appreciated. Cloudy gulf side water limits underwater visibility. Dr. Nathanson's work is remarkable.

Zooet Dolphins at Hawks Cay, Dutch Key Having worked with all the facilities over the last four years, this facility is obvious by its omission in this EIS. This facility began its swim program in September of 1985 and operated continuously until September of 1989 when it was asked to be closed by the NMFS due to meeting a public admission requirement.

It is my opinion that this facility has not been included in this EIS because it successfully challenged the NMFS right to license swim programs. It has been Zooet's legal opinion that Dolphin Swims are not covered in the MMPA or the AWA. This position was confirmed on page 1 of the EIS when the NMFS recognized its error and made a provisional ruling to remedy the situation.

The environmental impact statement reads:

On September 30, 1986... all public display permit holders were informed that their permits did not authorize the use of dolphins in these programs, that specific authorization from the Assistant Administrator for Fisheries was needed to use marine mammals in swim with the dolphin programs, and that such authorizations would be issued on a provisional basis until December 31, 1989.

For four years, Zooet stated it would comply to the NMFS swim permit process if the NMFS could show where existing laws require a permit. For four years, there was no formal response until the NMFS asked them to suspend operation because the Zooet swim program is not open to the public only hotel guests and special permit holders. Zooet did not change its position. All of the programs of the general public, we are doing at Hawks Cay hotel. There is a free admission without being charged. If it is not by under the NMFS, there is no admission charge to attend the Zooet dolphin program.

F-5

To deny that a program that has operated for four years does not exist, does not make sense to me or to the people and dolphins who have benefitted from its presence. Of all the facilities in the Florida Keys, I have found none more cooperative in sharing of their knowledge, expertise, and years of experience than Kevin Walsh and his Zoovet staff.

Kevin has consistently been willing to donate large segments of his time lecturing on various aspects of dolphin care and husbandry to our groups. This has occurred regardless of whether we were able to swim at their facility. The dedication Mr. Walsh has shown has greatly enhanced the education process of our participants.

Their dolphin swim program has been a greatly enjoyed our groups. Not only do they provide extremely safe in-water interaction, but there is an excellent post swim debriefing question and answer session. Kevin Walsh's actions and swim program have always been representative of the spirit and laws of the Marine Mammal Protection Act.

Of all the facilities, the Zoovet program has most put the NMFS in a position to be held accountable. It may not always be pleasant, but I sense you both are on the same side in wanting the best for the dolphins. If there is a lack of clarity in existing laws, I suggest you do what you can to clear up any inconsistencies and begin to accurately enforce actual laws.

Having worked with all of these facilities, I feel a special connection with each of them, their trainers and especially their dolphins. Because of their universal concern for the animals welfare, I am dismayed that the Zoovet records have not been included in the data base of this FIS. For four years Zoovet has presented a quality educational swim program. Formally reinstating its swim program now, would be the appropriate action to take.

FROM LOREL

F-6

Education Considerations

From an educational viewpoint, it is equally as important for us to consider the valuable process that occurs within swimmers during their interaction time. Dolphins have a very special mystique that seems to draw out the playful parts of ourselves, the emotions of joy, trust and a child-like, fresh approach to our lives. This is the one constant I have seen from everyone we have introduced to the dolphins. Our participants return home with a direct experience of dolphins that causes them to take action on conservation issues and to view our fragile environment in new sense of connection and responsibility. Some have even donated time to give dolphin presentations at local schools. This in itself has extreme value.

Some critics have complained that you can get educated without having the experience of getting in the water. One of the trends in education is toward a full involvement, experiential form of learning. We whole heartedly support this process. Our participants spend almost a day in preparation before they get in the water with the dolphins for the first time. No matter how much information they receive, it doesn't compare to what the actual experience is like.

Something happens when you get in the water with these remarkable animals, all the things you have learned suddenly become very real experientially, not just some piece of abstract information. Echo location becomes real and makes sense, much more than just a concept. A sense of their power, grace and agility is integrated through a direct contrast to our own feeble attempts to navigate the pool. A deep sense of appreciation occurs for the beauty and intelligence that they exhibit.

The underlying question is: Does more good come as a result of people having in-water exposure to the dolphins? Through my observation, the answer is a resounding yes, especially since the dolphins' safety and welfare is being preserved. There is no question that the swim program has a human value that, although highly personal, is quite profound and merits this agency's full consideration.

Theodore Roosevelt left his legacy to this country through the national park system that exists today. Some purists complain that there are too many roads and rangers and modern conveniences in these wilderness areas. However, the purpose of the National Parks Service has been to maintain the integrity of these natural resources and still allow access to millions of visitors each year.

Obviously, yours is a role is similar to that of the National Parks Service; to protect the marine environment, specifically the marine mammals while allowing public accessibility. The public's role is to voice our concerns and hold you accountable to uphold and uniformly enforce the law. I wonder what legacy we'll leave our grandchildren?

Thank you



**SIERRA CLUB
LEGAL DEFENSE FUND, INC.**

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November 21, 1989

G

Dr. Nancy Foster, Director
 Office of Protected Resources
 And Habitat Programs
 NOAA Fisheries
 1115 East-West Highway
 Silver Spring, Maryland 20910

Re: Draft Environmental Impact Statement On
 Swim-With-The-Dolphin Programs

Dear Dr. Foster:

I enclose herewith our written comments, on behalf of the Hawaii Chapter of the Sierra Club and the Institute of Pacific Marine Research, on the Draft Environmental Impact Statement dated November 1, 1989 regarding swim-with-the-dolphin programs. I also presented additional oral testimony at the hearing held on November 20, 1989 in Honolulu. Please feel free to contact me if I can provide you with any further information or comments on this matter.

Very truly yours,

Paul P. Spaulding, III

PPS:smg
 Enclosure
 cc: David Cottingham, Director (w/encl.)

TESTIMONY SUBMITTED BY PAUL P. ("SKIP") SPAULDING, III
 OF THE SIERRA CLUB LEGAL DEFENSE FUND
 CONCERNING THE SWIM-WITH-THE-DOLPHIN PROGRAMS

November 20, 1989
 Honolulu, Hawaii

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My name is Skip Spaulding. I am a staff attorney with the Sierra Club Legal Defense Fund, which is headquartered in San Francisco, and which opened an office in Honolulu last year. I speak tonight on behalf of the Hawaii Chapter of the Sierra Club, the Institute of Pacific Marine Research and various individuals concerned with the implications and environmental impact of the swim-with-the-dolphin programs.

We have reviewed the Draft Environmental Impact Statement ("DEIS") dated November 1, 1989 and analyzed the four possible alternatives under consideration. For the reasons I describe below, we believe that the DEIS does not adequately address several important environmental effects and unavoidable impacts. However, even in its current form, the DEIS compels adoption of Alternative A, which allows all current permits to expire on December 31, 1989.

Our concerns fall into three major areas: legal, scientific and public policy. I will briefly address each of

these in turn. If necessary, we will submit supplemental written comments by the December 29, 1989 deadline.

LEGAL CONSIDERATIONS

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There are two critical legal deficiencies in the statutory basis for the swim-with-the-dolphin ("swim-with") programs: (1) they do not qualify as "public displays" under the Marine Mammal Protection Act, and (2) they are based on a dolphin quota system which is procedurally invalid. Either one of these deficiencies is sufficient to end the programs.

First, it cannot be denied that the primary purpose of the swim-with programs is to generate profits (through user fees) and increased business (through advertising) for their owners. In essence, the dolphins are being used as money-making gimmicks for the operators. Although the program operators are careful to stress the "educational" and "research" activities of their programs, it must be recognized that these supposed benefits are only incidental to the main profit goal.

This commercial exploitation of dolphins is a perversion of the conservation purposes of the Marine Mammal Protection Act ("MMPA") (16 U.S.C. §§ 1361, et seq.), which imposes a moratorium (defined as a "complete cessation") on the

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taking and importation of marine mammals. 16 U.S.C. §§ 1371(A) and 1362(7). The MMPA contains three carefully circumscribed exceptions to the dolphin moratorium for scientific research, public display purposes, and enhancement of species survival. A "public display" permit can only be issued to an applicant who offers "a program for education or conservation purposes that, based on professionally recognized standards of the public display community, is acceptable to the Secretary ..." 16 U.S.C. § 1374(c)(2).

Rather than comporting with professionally recognized public display standards for dolphins, these swim-with programs are designed to maximize dolphin exposure for private commercial gain. Public display permits should not be granted to hotels, casinos, motels, bars or other facilities whose primary goal is to increase profits and business through exploitation of the dolphins. "Public display" should not be allowed to become "public handling" of dolphins -- the MMPA was enacted to conserve and protect the covered species, not to add increased obstacles to their survival.

Equally important, the quota system which provides dolphins for the swim-with program is fundamentally flawed. Before the Secretary may allow a taking of any marine mammal for public display, the MMPA compels him to find that the taking will

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be compatible with the purposes and policies of the MMPA, one of which is that species and population stocks of marine mammals "should not be permitted to diminish below their optimum sustainable population." 16 U.S.C. § 1361(2). As explained below, the current quota system is not based on the required analysis of optimum sustainable population ("OSP").

The dolphins used in the swim-with programs are Atlantic bottlenose dolphins, known as *Tursiops truncatus*. Unfortunately, the National Marine Fisheries Service ("NOAA Fisheries") has not analyzed and does not know what the OSP is for *Tursiops truncatus*. Rather than undertake an analysis of OSP, NOAA Fisheries has simply estimated the current population of this dolphin and pegged an annual taking quota at 2% of this amount. Not only is there great concern that the 2% figure does not account for the cumulative impact of all "takings" of this dolphin (U.S. Navy takings, shootings, fisheries interactions, seal bombs, and takings resulting from toxins and pollution), but the rule also ignores recent research indicating that the annual net reproductive rate for bottlenose dolphins is less than 1% per annum. (Randall S. Wells (1989), Population Structure of Bottlenose Dolphins: Behavioral Studies Along the West Coast of Florida.)

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Thus, this 2% quota rule, which was adopted ten years ago as a temporary interim measure (without any notice and comment rulemaking), is an arbitrary figure which may well not insure sustaining of the population. (See Memorandum from the Committee of Scientific Advisors to the Marine Mammal Commission, March 1, 1979.) NOAA Fisheries does not know whether or not the 2% quota rule will avoid depletion of the species. Since the quota is not based on the OSP finding required by the MMPA, any dolphin takings based on this quota are illegal. Until a scientifically sound OSP is established for the Atlantic bottlenose dolphin, no dolphins should be taken from the wild for any "public display" purposes.

The DEIS does not discuss either the "public display" issue or the deficiencies in the current quota system. At the very least, in its discussion of alternatives, NOAA Fisheries should note that the only one of the four alternatives that legally complies with the MMPA is Alternative A.

SCIENTIFIC CONCERNS

The DEIS raises serious concerns discussed below about the health and environmental risks of swim-with programs. Unfortunately, there is a lack of data concerning the magnitude of these risks to both people and dolphins. Until better

scientific data is available, it makes good sense to suspend the programs.

One of the most disturbing portions of the DEIS deals with the possible transmission of bacterial, viral and fungal diseases from dolphins to humans. (DEIS, at pages 22-27.) It is well known that many pathogenic organisms are common to both marine mammals and humans. There have been documented cases of transmission of fungal and bacterial skin diseases from marine mammals to humans. Indeed, Jay Sweeney -- one of the owners of Dolphin Quest -- has written in published journals that one such skin disease can spread to the human heart and cause a life-threatening disease called endocarditis. Although the U.S. Navy suggests that only those who dissect diseased dolphins are threatened by such diseases, several respected medical researchers warn about the high potential for such disease transmission. (See studies cited at page 24 of the DEIS.)

The swim-with programs also have prompted investigation into an area that previously was relatively unexplored: the transmission of diseases from humans to dolphins. The DEIS refers to a letter from an aquarium curator who reported that his facility discontinued a swim program because dolphin illnesses appeared to increase proportionately to the number of strangers allowed to interact with the dolphins. (DEIS, at 30.) Dr.

Sweeney also has admitted that dolphins have become infected with human viruses. This issue must be fully researched before the swim-with programs continue. If dolphins are being exposed to a higher risk of illness through the programs, the basic conservation goal of the Marine Mammal Protection Act is being defeated.

Another area of scientific concern is that of potential injuries to both humans and dolphins. The DEIS reports on at least two separate incidents of aggressive behavior by dolphins during swim-with programs: one incident where an experienced female diver reported that a dolphin aggressively attempted to rape her and one incident where a woman reported receiving multiple lacerations and contusions during a swim session. (DEIS, at page 20.) It is noteworthy that these incidents were not reported by the program operators -- rather, they were offered directly by the victims. It appears that, as the stress of confinement builds, these types of aggression incidents can be expected to increase.

Aggression concerns lead to another important area: what happens to captive dolphins after they can no longer participate in the swim-with programs? Significantly, the DEIS fails to address and resolve this important issue. After the captive dolphins reach a certain age (perhaps 5-7 years) or after

they no longer function well in the program, they cannot be abandoned. There is no provision at this time for their continued care and conservation.

A final scientific concern has to do with the disproportionate taking of females for the swim-with programs. Female dolphins are considered to be easier to train, have less aggressive instincts and supposedly adapt to captivity better. Twenty-three of the 34 dolphins in the current programs are female. (DEIS, at page 16.) This lopsided taking of female dolphins effectively subverts the current quota and causes grave concern about the overall effect of swim-with programs on the species. Taking of females in greater numbers than males inevitably will depress the species' reproductive rate.

PUBLIC POLICY FACTORS

It is not enough simply to evaluate the current status of the four swim-with programs. The National Environmental Policy Act of 1969 (42 U.S.C. §§ 4321, et seq.) -- NEPA -- requires NOAA Fisheries to analyze the probable environmental impacts and public policy consequences if the swim-with programs are expanded to new facilities. In so doing, NOAA must recognize that 30 other facilities already have display permits for dolphins. It is reasonable to expect that most of these

facilities will apply for swim-with program permits and that a constant stream of new facilities will do the same.

A truly frightening scenario can easily be envisioned. Given the demonstrated popularity of swim-with programs, many resorts, casinos, hotels, motels and entertainment complexes will want to invest in them. Indeed, one Las Vegas casino company -- The Golden Nugget -- has recently received a display permit for six dolphins (which the casino's owner calls "critters") and plans to start a swim-with program as soon as possible. This commercial exploitation of the dolphins will inevitably increase demand for more captive dolphins -- both to supply the new swim-with programs and to replace dolphins who die at the approximate 10% annual mortality rate.

Thus, the swim-with-the-dolphin programs will generate a huge appetite for captive dolphins that must be satisfied. The programs' proponents will point to the 91-dolphin yearly quota on capturing dolphins as a safety valve. However, this quota can and will inevitably be raised. Indeed, with the millions of dollars of commercial investment sunk into swim-with programs, huge political and economic pressure will be brought on NOAA Fisheries to raise the quota. Since the four existing programs are expected to lose \$2.2 million in user fees (and millions more in associated lost business) if the current programs are ended,

these numbers will increase geometrically when there are ten times as many programs. The dolphin demand and momentum generated by these programs will be practically impossible to stop.

Although the inevitable increase in dolphin demand is enough in itself to compel ending the swim-with programs, there is one other important public policy reason: the massive monitoring responsibility that goes along with it.

The four current swim-with programs have been operating under a self-monitoring system that requires program operators to file: (1) comprehensive quarterly reports, and (2) immediate reports on certain events such as injuries to people or dolphins. As the DEIS itself reveals (at page 45), this form of monitoring has been a complete failure. One operator failed to file any reports for 18 months and two other operators (including the Hyatt Walkolow) violated their permits by failing to report dolphin deaths for over a month. One facility has defied the MMPA by using a California sea lion in its program without authorization. The DEIS also shows that none of the existing programs adequately monitor dolphin behavior patterns for aggression or other behavioral changes. (DEIS, at page 45.)

This collapse of the self-monitoring program is very troubling. Since program operators have shown their indifference to self-monitoring requirements, it makes no sense to simply add more permit conditions that the operators will disregard when they feel like it. If NOAA Fisheries is to continue the swim-with programs, it will have to take over monitoring responsibility itself. To do so, NOAA Fisheries will be required to hire countless inspectors, veterinarians and marine mammal behavior experts to regulate constantly the swim-with programs proliferating around the country. This effort will require a huge amount of money that will ultimately have to be funded by the taxpayers.

There is one final consideration that NOAA Fisheries should not disregard. We can expect that, no matter how well run the swim-with programs are, there will be human injuries and possibly fatalities. These events will result in lawsuits and NOAA Fisheries will be named as a defendant under the Federal Tort Claims Act ("FTCA") for its failure to adequately monitor the programs. Although program operators routinely collect from users written "waivers" of liability against NOAA Fisheries, these waivers often will be unenforceable. Thus, despite what you may hear from the operators' lawyers, there is no way to insulate NOAA Fisheries from this potential tort liability. The swim-with programs are an invitation to FTCA lawsuit claims that

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will require protracted litigation and millions of dollars in attorneys' fees, settlement costs and judgments.

These three inescapable effects of continuing the swim-with programs -- creation of dolphin demand, monitoring problems and potential governmental liability -- are not directly addressed in the DEIS. Not only does NEPA require a discussion of them in the final EIS, but their consideration compels ending the swim-with permit programs.

CONCLUSION

For the reasons mentioned above, we strongly urge NOAA Fisheries to discontinue the swim-with programs when their current permits expire. They stray far from the articulated purposes of the Marine Mammal Protection Act and create major conservation, public health, economic and liability risks that cannot be justified. The programs should be discontinued now before they proliferate and create an insatiable new demand for the capture and commercial exploitation of dolphins.

Thank you for this opportunity to present our views.

November 22, 1986

Dr. Nancy Foster
The Director
Office of Protected Resources and Habitat Programs
National Marine Fisheries Service, NOAA
1311 East-West Highway
Silver Spring MD 20910

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Dear Dr. Foster,

Thank you for the opportunity to comment on the Draft Environmental Impact Statement (DEIS) on the Use of Marine Mammals in Swim-With-The-Dolphin Programs (SWD). The DEIS gives a good introduction to the topic and provides sound reasons for a NOAA Fisheries review of the SWD programs, however, the case for doing a DEIS is extremely weak. On page 3, the authors state that "this EIS is not necessarily required by NEPA." Perhaps the issues could have been addressed more directly in a review of NOAA Fisheries permit policy. The important decisions concern whether NOAA Fisheries will continue to issue permits for the SWD activities and if so, what restrictions -- if any -- should apply. I do not see how the agency can make a scientifically sound decision based on the DEIS.

The experimental basis of the SWD program seems very scant based on information presented in the DEIS. The special conditions (DEIS pages 60 and 61) seem clear, yet the DEIS does not contain much of the specific information required under the special conditions. For example, I would like to have seen the description of the monitoring program designed by the attending veterinarian at each facility to be used to "determine the cause(s) and significance of any changes in the health or behavior of the dolphins as result of the authorized activities." It appears as if this "experimental" program has had no independent scientific scrutiny during the four years of its operation. Now NOAA Fisheries is left to make a decision based on an accumulation of personal recollection with biased viewpoints on all sides of the SWD issue.

Since the SWD programs were approved on an experimental basis and under special permit conditions (Appendix, section D), I was surprised to learn that one SWD operator was allowed to "decline to report at all for one and one-half years," and, that furthermore a sea lion has been included (page 16, paragraph 3, "thirty four dolphins (and one California sea lion) are being used"). A major portion of the disease transmission section beginning on page 23, relates to sea lions. Not until page 45 do we learn that the sea lion was included by the SWD operator without authorization. NOAA Fisheries should enforce the conditions of these "experimental" permits. The sea lion should be excluded from the experimental SWD program and all references to sea lion diseases should be deleted from the EIS if the agency produces an EIS from this draft.

In view of the scanty experimental basis, producing an EIS from the information in the draft is rather like trying to build a silk purse from a sow's ear. I suggest NOAA Fisheries scrap efforts to produce an EIS on the SWD programs. The agency has authority to continue or not to continue these programs. It appears that NOAA Fisheries has adequate reason to discontinue authority from some operators for failing to comply with the permit conditions. Operators who have complied with the conditions should continue under an independently monitored experimental

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Comments by S. B. Ridgway on letter with the Dolphins 2015, 20 November, 1989.

The DEIS mentions the possible increased demand for dolphins but gives no concrete basis for this assumption other than a rather dubious sounding plan (page 191) by an unusual group in Arizona. No mention is made of the fact that numbers of dolphins collected each year have remained well under established quotas.

I viewed the DEIS as casting a negative view concerning the care and maintenance of dolphins in captivity ranging in scope far beyond the SWD program. On several subjects, a balanced view is not presented. For example, on page 35 under the heading of "ethical considerations" the reader is led to the conclusion that if ethics are to be considered, permits involving the live capture of bottlenose dolphins are commercial, exploitative, inhumane, and without any ethical basis. There is an attempt even to suggest that there might be ethically sound arguments on the other side of the issue. Dr. Weber's definition "ethical" as 1. of or relating to ethics, 2. conduct conforming to accepted, esp. professional, standards of conduct I recommend the section under the heading of "ethical considerations" either be revised to provide a balanced view or deleted.

The first paragraph of Part IV (Other Considerations, Pages 29-36) states that their "other factors" need not be considered for the purposes of the DEIS. Given the uncertain factual basis of much of the material included under Part IV, pages 29-36 should be deleted from the final DEIS.

Under Affected Environment (page 10), the first paragraph is not quite accurate within the context of the DEIS. Some live dolphins were captured in North Carolina in 1914 and others in the late 1930's and 1940's near St. Augustine on the upper East Coast of Florida; however, these locations are not included in the area covered by Figure 1 where current annual quotas are established. It would be more accurate to say that dolphins have been taken from the areas covered by current quotas since the late 1940's or early 1950's.

The discussion of Wild Dolphin Populations should be taken by management areas with frequent reference to Figure 1. Pages 10 and 11 are coherent and easily understood. Pages 12 and 13 contain fragmented statements taken from other reports. If worries about the accuracy and content of these statements, they should be cross referenced with the report by Scott et al. Why not just end the discussion on page 11 and refer to the report of Scott et al. for details?

The section on Disease Transmission (beginning on page 27) contains many errors and misstatements quoting the existing literature in such a way as to exaggerate the potential for disease transmission. There are also many references to diseases found in seals and sea lions but not in dolphins. Since much of this work derives from programs designed to rescue sick and dying animals, this information seems only marginally relevant to the SWD program. A small number of publications on marine mammal disease are selected. In turn, from this unrepresentative literature unrepresentative statements are selected. For example, "researchers noted the presence of *Moraxella anthoni* var. *Heidelbergensis* in the blowholes of healthy dolphins. This organism causes bacterial pneumonia in children (Smith et al., 1973)." The DEIS omits a sentence from Smith et al. stating that the same organism is often found in the nasal tract of healthy humans. The instance of bacterial pneumonia in children in Heidelberg, Germany had nothing to do with dolphins. In paragraph 2, *Vibrio* is a bacterial genus, not a virus. Victims are commonly present in surface waters, especially in warmer areas. Under adverse

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Letter from S. B. Ridgway to S. B. Ridgway on letter with the Dolphins 2015, 20 November, 1989.

Program with a protocol designed to collect the kind of scientific information required for a long-term decision about SWD programs.

I could go on about the inadequacies of the current DEIS. The volume on disease transmission is especially poor. It might be more productive, however, to attempt a revision rather than to give a laborious commentary on each defect. Dr. J. H. Cozart has agreed to join me in a review of this subject that we regard as a suitable substitute for the current disease section. We will present this to you in due course.

Attached are some comments specific to various sections of the DEIS. I will appreciate your consideration of these comments which neither exhaust nor detail every defect that I have encountered in the DEIS.

Sincerely,

Sam Hildebrand
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San Diego, CA 92106

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Commentary by S. D. Ridgway on Swin-With the Dolphin DEIS, 30 November, 1990

conditions, dolphins can become infected. Human swimmers or waders can also become infected, without having anything to do with dolphins.

Another cited paper by Smith et al (1981) of which I am a co-author suggests a "probable" interspecies transmission of a calici virus. A vesicle was "apparently" caused by the virus in the dolphin but "proof" was lacking. In the paper we note "there may be other explanations."

In the last paragraph of page 24, I read the following statement: "Now the human hosts of marine mammal zoonoses are often volunteers, trainers or biologists and the medical community involved in rehabilitation receives reports of disease transmission." After seeing this, I expected to encounter reports from public health officials or physicians documenting disease treated as result of SWD human-dolphin encounters. I could not find such reports. What is the basis of the above statement?

When I began veterinary work with dolphins in the early 1960's, I was concerned with the problem of potential disease transmission. I read several reports (e.g. Cockrell, Pathology of the Cetacea, Parts I and II, Brit Vet Journal, 116:113, 116:175, 1960) that had considered disease transmission relative to the whaling industry and the use of whale meat as food. Although at that time some organisms with humans (e.g. clostridia, streptococci, staphylococci), the dangers to people from consuming whale meat was regarded as minimal. To further consider the problem of zoonoses, I enlisted the cooperation of D. G. Johnston, MD, F.C.A.P. who worked for several years and published several reports, principally on bacteria and parasites. He concluded that, "no inordinate hazard to the health of man occurs from association with porpoises" (Journal of Occupational Medicine 11:276-277, 1969, 1971, Colloque Internationale sur l'Exploitation des Océans, Bordeaux, France, 15 III-G2-06).

As a veterinarian working principally with dolphins, I have continued to be alert for the possibility of disease transmission to and from the animals. In my view, dangers of disease transmission from dolphins to humans lie mainly in the intimate contact of veterinarians, zoologists, and their associates who have contact with blood and other body fluids of dying or dead animals. Certainly disease transmission from live dolphins must be regarded as possible; however, compared to the risks of disease transmission from human to human or even from ordinary pets to humans, the risks of disease transmission from dolphins are minuscule. I suspect that the swimmers at a SWD session are less than one-tenth as likely to contract some disease from one of the dolphins as from one of the other humans present.

I could go on about the inadequacies of the disease transmission discussion. I agree that the FIS, as constructed in the draft, must address the disease issue. It might be more productive, however, to attempt a revision rather than to continue a laborious commentary on each defect. Dr. J. R. Geraci has agreed to join me in a review of this subject that we regard as a suitable substitute for the current disease section. We will present this to you in due course.

Sharon Sue White
1118 Mannawili Rd.
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January 1, 1990

Dr. Nancy Foster, Director
Office of Protected Resources and Habitat Programs
NOAA Fisheries
1335 East-West Highway
Silver Spring, Maryland 20910

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RE: IN SUPPORT OF ALTERNATIVE "A" OF THE DEIS ON THE USE OF
MARINE MAMMALS IN THE SWIM-WITH-THE-DOLPHIN PROGRAMS

Dear Dr. Foster:

I appreciate this opportunity to comment on the reasons that I am in support of alternative "A" of the DEIS on the Use of Marine Mammals in the Swim-With-The Dolphin Programs.

I have spent the last 15 years as a professional environmentalist working on behalf of the conservation of marine mammals in the wild. In addition, I have been a volunteer trainer with the Hawaiian Monk Seal recovery project under the National Marine Fisheries Service Honolulu Laboratory and participated in a research project at French Frigate Shoals.

I have visited one of the swim programs, the Waikoloa, on the Big Island of Hawaii. I have seen first hand how popular this program is with the public and how it potentially is a major draw for resort and other commercial areas. I know of several shopping centers in Hawaii, alone, that have strongly considered applying for permits for a program on their premises. As the pressure on National Marine Fisheries Service grows to allow the take of more dolphins from the wild, it will become increasingly more difficult for NMFS to abide by its mandate to manage and protect marine mammal resources at the optimum levels in the wild.

As my concern is for the viability of dolphin species in the wild, I will confine my comments here to how the swim-with-programs if allowed to continue would have an adverse impact on wild dolphins.

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1. Demand for wild dolphins. According to the DEIS calculations, the swim-with-the-dolphin programs gross approximately \$2.7 million annually. Currently there are four swim-with-programs. One of these programs has developed a video presentation on the benefits of the program to show at congressional hearings. In addition, an individual with a strong financial interest in the program at one location and in seeing the expansion of these programs to other locations was sent to lobby in Washington D.C. during the reauthorization hearings of the Marine Mammal Protection Act. The expenditure of time and funds to lobby for changes in the MMPA to make it easier to obtain permits for these programs, indicates an industry interest in expanding swim-programs to multiple locations. In addition to this particular resort chain, I am aware of several other projects in California, Hawaii, and in Nevada that are interested in developing swim-with-programs.

The DEIS points out that not only are dolphins obtained initially for the program, but replacement dolphins must be captured to take the place of dolphins who die or become too aggressive to trust in a swim-with program. Where are these dolphins to come from? Unless there are regulations that limit these programs to only captively bred animals, the dolphins must come from the wild populations. Currently, the limited trade in captively bred dolphins is an indication that captive breeding programs could not satisfy the growing demand for dolphins.

Although the NMFS has quotas on the number of dolphins for the live-capture industry, there are no assurances that NMFS would not be pressured into increasing those quotas to accommodate additional facilities. It is much preferable for NMFS to end these programs before being confronted with the headaches of having to deal with challenges to the quota systems by heavily financed commercial interests.

2. Effects on Wild Dolphin Conservation Due to Adverse Impacts To Humans.

The future for wild dolphin populations has never looked bleaker. Pollution, fisheries interaction, fisheries competition, development of habitat and gastronomic interest are conspiring to reduce world-wide dolphin populations. The Japanese are already developing canned dolphin meat products. Large-scale pelagic driftnetting and coastal gillnetting are believed to be having a significant effect on certain populations of dolphins. River dolphins in China will soon only be found in a man made sanctuary.

It is not too late, hopefully, to ensure the survival of some species of dolphins for many generations to come. However, effective conservation and management

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takes significant amounts of funding. What has traditionally worked in the dolphins favor, is the perception by the great majority of the U.S. public that dolphins are happy, loving, intelligent animals that would never harm humans. "They have a fixed smile, therefore they are smiling." True, even certain wild dolphins exhibit an extraordinary interest in humans. I personally am not aware of any reports of a healthy dolphin in the wild injuring anyone that has come into contact with them.

Dolphins in captivity, however, according to the DEIS and anecdotal reports that I have received from trainers, can and do exhibit all the behaviors expected in a situation in which an intelligent mammal, be it a human or other species, is deprived of its natural lifestyle. Humans and dolphins when bored and under exercised, as a specie, appear to share the characteristics of becoming increasingly irritated and less predictable in their responses to those around them.

We must remember that dolphins are wild animals. As a former trainer of monk seals, I know how dangerous it is to lose sight of the fact that the animal you are working with is not a domestic animal, like a dog. When I began with the monk seal training program, our seals were newly captured and exhibited aggressive behaviors frequently. Therefore, I learned to always be watching for the clues of when they might try to nip, and was never injured. Trainers that started months later when the aggressiveness wasn't apparent, are the ones who would forget to keep their eye on the animals at all times. Several trainers were bitten, because they had become blasé. In these instances, it is not thought that the animals bit out of meanness, simply that they play rough with each other, saw the opportunity to bite the trainer and took advantage of it. When a trainer is bit, that trainer knows that that is a hazard they knowingly decided to risk when they undertook to train. The paying customer entering the pool really doesn't believe he will be injured by the dolphin - otherwise he wouldn't enter the pool.

The DEIS addresses that certain dolphins can and do become aggressive towards humans. What will the response be when a human child is seriously injured by a dolphin? Most certainly, some of the funding base from the public for wild dolphin conservation programs will dry up.

This eventual certainty can be avoided by ending the swim with programs now.

3. Adverse effects on wild marine mammal program funding.

The continuation and expansion of swim-with programs will result in needed funds for wild conservation programs being spent to oversee and manage the swim-with programs. On page 28 of the DEIS, it is calculated that \$145,000 will be needed to oversee just 10 swim programs per year. Even if user fees are

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instituted to pay for the programs, it is very likely that the user fees will not pay for the entire management costs, as well as the long-range ecological costs of having man power diverted from conservation programs to swim programs.

Currently, many marine mammal programs remain underfunded. The Hawaiian Monk Seal Recovery Team recently met and agreed, as did the Marine Mammal Commission, that the monk seal program is severely underfunded. Research urgently needed to stop the slide of this species into extinction is not being conducted due to a lack of funding. The Humpback Whale Recovery Plan has just been completed with page after page of recommendations of management needs. For the National Marine Fisheries Service to be put into a position where it has to consider using funds for programs that are not only not active conservation programs, but are commercial enterprises, is unconscionable considering the status of many species today.

4. But aren't swim-with-dolphin programs necessary to educate the public, provide research funds and help the autistic and handicapped, etc?

Research funds can be acquired from sources that do not encourage the taking of dolphins from the wild. Animal husbandry research that is being done on dolphins in the swim-with programs can and is being done on dolphins in other captive programs such as the Navy programs.

Handicapped and autistic children programs exist using domestic animals. Here in Hawaii, the Therapeutic School of Horsemanship, works successfully with these children. This is not a new concept. I myself wrote a college paper over twenty years ago on the use of horses in reaching the autistic. The advantage of these programs are that they are less costly to develop and maintain, are easily exported to other locations and the client is much more likely to have the opportunity to maintain an on-going relationship with members of domestic species than with aquatic mammals, thus reducing the separation anxiety.

As for the educational benefits, one only has to bear in mind that the majority of patrons of swim-with programs are willing to pay dearly to swim with dolphins because they already have strong feelings about dolphins despite the fact that most have only seen them on TV. The Marine Mammal Protection Act, the most powerful dolphin conservation law in the world, was conceived of, lobbied for and put into law by people who had never swum with dolphins. Thousands of people throughout the United States, moved by image of dolphins dying in purse seine nets, achieved this legislation - the majority of them may even to this day never have seen live dolphins.

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Concern for marine mammals is easily shared with students and adults in an educational setting without ever touching the animals. When I was running educational programs for Greenpeace Hawaii several years ago, we reached over 20,000 school children on the Island of Oahu per year. Our presentations were free and were tailored to the grade level. I was amazed at how receptive the students were. Their compassion and caring was evident during our question and answer sessions. Years later, I would have students come up to me on the street who remembered me from their school talk. Some of those students are now volunteers for the organization that I am with now. And the majority of committed environmentalists are like me -- we worked for years to protect certain endangered species before we ever saw one, let alone touched one. I've been fortunate to work with monk seals. I have yet to touch or swim with a humpback whale. That doesn't diminish my desire to work on their behalf, nor that of all the others who worked to end whaling.

In summary, the swim-with industry has done a good job of promoting the benefits of these programs. However, it is my contention that the risks to long-term dolphin conservation far outweigh the contentions of the industry that these programs are necessary. Any of the benefits can be derived by other means that do not involve the taking of dolphins from the wild and their use in hands on swim programs.

The National Marine Fisheries Service is mandated to manage and protect the wild populations of marine mammals. By ending these programs now, the pressure will not grow for the removal of dolphins for the highly lucrative swim programs, and NMFS will not be placing itself in a position of being liable if someone is injured.

It should also be noted that on page 27 the DEIS states that it is "important in the EIS to address the amount of possible loss of income to swim facilities" should their permits not be renewed. I do not believe that this should in any way be a consideration for continuing the existent programs that the EIS requirement to address economic impacts is applicable to this EIS. The permits were given only on a provisional basis, with the understanding that they may not be renewed. The facilities are businesses and as such, responsible for their business decisions. They made the decision to open swim-with programs with no assurances from the federal government that they would be allowed to continue after their expiration dates. Presumably they budgeted accordingly. If they did not, they and only they are responsible for the economic changes to their businesses as a result of the non-renewal of the permits.

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I urge the National Marine Fisheries Service to end these programs so that they can concentrate on those conservation management programs already in place and in the planning stages that will directly protect dolphins and other marine mammals.

Sincerely,



Sharon Sue White



MARINE MAMMAL INTEREST GROUP

Naval Ocean Systems Center
Code 511
P O Box 90
Fallua, HI 96731-0090
December 27 1987

In reply refer to Ser 511/P87

Dr. Robert Foster
Director, Office of Protected Resources
and Habitat Programs
National Marine Fisheries Service
1355 East-West Highway
Silver Spring, MD 20910

J-1

Dear Dr. Foster:

Thank you for the opportunity to comment on the Draft Environmental Impact Statement (DEIS) on the Use of Marine Mammals in Sulu-Ulti-The-Dolphin Programs (SUTD). The Marine Mammal Interest Group (MMIG) is a consortium of 70 organizations and facilities that display and/or conduct research with marine mammals. Therefore, our organization represents the majority of marine mammal expertise in the United States making us uniquely qualified to comment on the technical and scientific aspects of the subject DEIS. In this response, we make some very general comments about the DEIS followed by more detailed comments on specific points.

Our initial impression of the document is that it represents a slanted and biased view toward NOT holding marine mammals in captivity for public display and research and leads one to the conclusion that the document's intent is in direct opposition to the legislated exemptions in the MMPA that allow such. It is our understanding that the purpose of an Environmental Impact Statement (EIS) is to look at all aspects of an issue by using the facts available from referenced sources in an objective manner. Such was apparently not the case in the subject document and we wish to make helpful suggestions as to a better way to present these issues with factual information. The final general comment that we would like to make is that the DEIS appears to us to be poorly organized and written (in a mechanical sense). When the final version is generated we would hope that these points would have been considered.

J-2

In the cover letter that forwarded the DEIS it is stated that, "The National Marine Fisheries Service (Fisheries) needs to decide whether the use of marine mammals in these or other programs should be authorized, and, if authorized, what permit conditions may be appropriate." This statement as written implies that Fisheries has the authority to decide if public display programs are allowed, while in fact Congress has already done that and what Fisheries actually has to do is decide if the Swim With The Dolphin Programs constitute public display and, if they do, whether or not they pose a threat to the environment or health and safety issues as they relate to the animals and/or the public that participate in these programs.

On page 1, in the first paragraph of the Abstract, it is stated that "...they are used in therapy sessions with the handicapped, for holistic medicine, and meditation classes involving physical contact between people and dolphins." We would like to make two points regarding this statement. First, we do not understand what these activities have to do with SUTD programs and whether or not they are considered a part of the experimental program. If they are not a recognized portion of SUTD programs, we highly encourage Fisheries to exercise its authority to have the facilities participating in these activities stop immediately and then no further mention of this need be made in this document. The second point concerns the comment on meditation classes. We can only locate one reference to this in the main body of the document and it consists of one sentence, "The course includes swim programs at Dolphin Plus, BREATH work and Dolphin Dreaming Meditation." A description of what "Dolphin Dreaming Meditation" is and what, if anything, it has to do with Swim With the Dolphin Programs is not given. Fisheries should either drop the reference or explain more fully what this is and how it relates, if at all. An additional point to be made in this section is that Fisheries has had experimental SUTD programs authorized for 4 years in which data have been collected. Why speculate that over 40,000 people will participate in these programs in 1989 when Fisheries should be able to state exactly how many people attended in each of the years 1985-88?

On page 1, paragraph 2 it is again stated that "NOAA Fisheries needs to decide whether the use of marine mammals in these or other programs...". If other SUTD programs are implied, then please state so. If it means other traditional or historically practiced public display programs, then Fisheries does not have the authority to do so as we have stated previously in our comments.

On page 1, paragraph 1, we strongly suggest that the following phrase be deleted, "who are often towed through the water by holding on to the dolphin's dorsal fin." Since two of the programs indicate that they do not allow this and two do, we feel that the above quote is misleading and does not represent an objective viewpoint.

It is unclear if the indented section on page 1 is a quote or not. We suggest that all quotes be enclosed in quotation marks so that there is consistency in the document. If the indented section is a quote, then what is its source? Why hasn't that reference been made available to reviewers of this document? If it is not a quote that can be

J-3

referenced, then it should be deleted. In addition, the final sentence of the indented section is very misleading in its brevity. It implies that the "stallor program" (which is referred to in many places in this document, but is never described or referenced) was terminated during the Commission's review which, of course, is impossible since there was no Marine Mammal Commission in the 1960's. Therefore, if this is a summary of part of an unreferenced document, it is very poorly summarized and needs to be either deleted or rewritten.

In the second full paragraph on page 1, we would encourage that the phrase "these types of interactive" be deleted and replaced with "Swim With The Dolphin". In addition, we feel the word "captive" in the 16th line should be deleted.

On page 2, in the first full paragraph, the process in which Fisheries is "to consider changes in policies and procedures for public display and scientific research permits..." is outlined. It then goes on in the same paragraph to state that "this process will result in revision of permit regulations...". How can Fisheries consider the possibilities of changes in one instance and then state that decisions to make changes have already been made? This paragraph, we feel is misleading, biased, and confusing and should be rewritten.

Continuing on page 2, the indented sections after the first full paragraph should be deleted as they are taken directly from the MMS discussion Paper on the permit review process which is itself a working document and, therefore, not a suitable reference. Even if these sections were not deleted, problems still exist. The third of these indented statements states "...significant additional risks to the health (physical and psychological) of animals...". First, the word "additional" implies the existence of risks in traditional programs of public display and research of which we are not aware. Secondly, while we are intuitively concerned with the psychological well-being of our animals, we are not aware of any way in which you can definitively assess the psychological state of an animal with perhaps the exception of man himself. Therefore, we feel that the parenthetical phrase "physical and psychological" should either be operationally defined or deleted.

On page 3, there is an indented section, which is implied to be a quote from Senate report No. 100-592, October 7, 1988. Again, we are not sure if this is a quote or a summary of a report. If it is a quote, then the author of the report was misinformed. If it is a summary, then we believe there may be a problem with the intent. The section states "The MMPA was enacted in 1972, in response to increasing public sentiment and growing concern for the welfare of marine mammals." While this is in fact partially true the real reason was "the ever increasing incidental bills of dolphins in the Tuna fishing industry". This later statement more accurately details the motivation and intent of the Act in 1972.

On page 4 of the draft EIS following the second full paragraph is another indented section. Again, we are unsure if this is a direct quote or a summary of a document.

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The first full paragraph of page 7, attempts to justify the use of the National Environmental Policy Act (NEPA), in the form of an EIS, in determining whether or not Southwest the Dolphin programs can be considered Public Display and, if so, what, if any, additional restrictions might apply to the permitting and operating of these programs. The American Association of Zoological Parks and Aquariums (AAZPA), the Assistant Secretary of the Navy (REAS), Sea World, our organization, and others all responded to your Federal Register notice by indicating that this did not appear to be the appropriate vehicle to utilize in making this decision. Obviously, your office chose not to agree with our recommendations. However, after having read through this draft document we are ever more convinced that this is a total inappropriate way to make this determination and we once again refer you not only to our earlier comments (see enclosure) but also those made by the other organizations mentioned above.

On page 8, first paragraph, section II, ALTERNATIVES, the following statement is made, "... a final decision will be based on the draft EIS, public comments, the public hearing record and on the assessment of this document by the various Federal agencies involved." It is our understanding that Fisheries will not and can not make a final decision based on the "draft EIS" but, in fact, that it will make a decision based on the final EIS after receiving comments on it.

The second comment that we have on the ALTERNATIVES section is that we believe that one very obvious alternative has been omitted. One option not considered in this document is that SUTD programs are forms of public display and, as such, could be continued beyond 31 December 89 without any conditions other than those imposed on any public display program. This omission further supports an apparent bias against these programs.

On page 11, paragraph 2, the statement "approximately 75 percent of the dolphins..." is made. If this information is important enough to be included in the document and Fisheries has data from which these numbers are generated, an exact figure would be more appropriate than "approximately". In addition, the appropriate reference for this data should be included, otherwise it is to be assumed that the data was arbitrarily selected.

The entire section III., A. Affected Environment, Wild Dolphin Populations, requires major work. First of all, we feel it would be appropriate to note in the section following the listing of the current annual quota, in which it is mentioned that a permitted take of 533 animals from 1973-1988 was realized, that this is an average take of only 14 animals per year out of a quota of 91. This information is much more enlightening than the strange breakdown by management area that is given. In addition, if you apply this number to the new estimates by Scott et al., it can be seen that the actual percentage is approximately 0.16, which is significantly lower than 76.

The first two pages of section III., A (pages 10 & 11) are fairly coherent and, for the most part, easily understood. However, pages 12 and 13 are just the opposite in that the text is all but impossible to

J-5

follow and leads to no clear conclusion. Therefore, it is our suggestion that after incorporating the changes made above that Fisheries conclude the section following the third full paragraph on page 11 and refer to the report by Scott et al. for additional details.

In Section III., B, Swim Programs, the author makes note in paragraph 2 that, "Three of the four swim facilities mention some association with ongoing dolphin research; however, none of the swim facilities has a permit to conduct scientific research nor has any research been approved in association with their public display permits." Yet on page 1 of the DEIS the following is noted, "... all four permit modifications are conditioned to require submission of a program protocol, continuous monitoring and detailed quarterly reports." This is the description of the experiment that is underway on the SUTD programs and it seems that there is a conflict between these two sections in that the permits are conditioned as "experimental" which implies the conduct of "research."

In paragraph 3 on page 14, the section that includes "... can be highly structured, e.g., including tricks and dorsal tows," we would suggest that the word "tricks" be replaced with "conditioned behaviors."

On page 16, it is pointed out that, in addition to 34 dolphins, one California sea lion is being used in a SUTD program. This parenthetical piece of information appears to be included in the text in order to justify the lengthy discussion of diseases typically associated with sea lions under section III., B., 4, Disease Transmission. Ironically, it is further stated on page 45, that the sea lion is being used "in a swim program without authority." It appears that the author of this document has been victimized by the subjective use of data. If Fisheries has not authorized the use of the sea lion, which it is empowered to do, then why hasn't Fisheries stopped the practice? We recommend that the use of the sea lion in a SUTD be terminated and cited by Fisheries as unacceptable under the current SUTD provisions and that the consideration of diseases relative to sea lions be deleted from the document as it is irrelevant.

It is our opinion that the entire section III., B., 1 and 2, with the exception of page 14 is disjointed, difficult, if not impossible to follow, and totally out of place. Our suggestion is to keep page 14 as it is with the exception of the comment made above relative to research and that the remainder of this section be deleted. In its place we suggest that Fisheries include the descriptions of the four SUTD programs as submitted by the facilities in their entirety as an appendix to the EIS. We cannot emphasize enough the irrelevance of the majority of the information that is taken out of context and in some cases not properly referenced in this section.

One of the most offensive sections is found on page 18, in the last full paragraph. It states, "A similar program is offered at the Desert Dolphin Project in Tucson, Arizona. Their schedule describes "Breath" training as "[a] new comprehensive approach to self exploration, psychotherapy and rejuvenation." It is not until the next paragraph that we discover that this place does not hold dolphins nor do

J-8

Section IV, F., Ethical Considerations, should be totally deleted and not considered at all. The NMMA recognizes the educational and recreational benefits to holding marine mammals in captivity when describing the exemption for Public Display. There is no mention of ethical considerations and, since the issue here is to determine if such programs fall within the definition of public display as it relates to the NMMA, this section is way out of bounds. In addition, even if one were to allow this argument it would be totally inappropriate to give such a one-sided argument drawn from a totally unrelated Public Hearing.

In conclusion, we would like to make two points. First, as we pointed out in our previous letter (see enclosure), we felt that it was not appropriate to develop an EIS. Now that we have had a opportunity to review this DEIS, we still feel very strongly that this is not a APHIS' role while it is to conduct this assessment. Our second point is that we would like to reiterate our offer made several times in this letter to provide a list of appropriate professionals to assist you in reviewing this document.

If there is anything that all we can do to assist in this or any other matters of this sort please do not hesitate to ask.

Sincerely,


Jeffrey E. Maun
Chairman, Marine Mammal
Interest Group

Enclosure: Memo Ser. 511/P25

JOHN G. SHEDD AQUARIUM

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205 636 7220

WILLIAM BRISER ROBERTS

December 29, 1989

Dr. Nancy Foster
Director, Office of Protected
Resources and Habitat Programs
National Marine Fisheries Service
1115 East West Highway
Silver Spring, MD 20910

K-1

Dear Dr. Foster,

Please accept these comments on the Draft Environmental Impact Statement (DEIS) on the use of Marine Mammals in Swim With the Dolphins Programs.

The John G. Shedd Aquarium is a member of both the Marine Mammal Interest Group (MMIG) and the Marine Mammal Coalition (MMC) and as such endorses and is in full agreement with the comments submitted by these groups in the DEIS.

We wish, however, to make several general and specific comments on the document, some of which may be redundant but nevertheless need to be emphasized.

In general we find the document to be very subjective. In our opinion it reflects the bias of the author or authors against the taking or holding of marine mammals for public display or scientific research. This type of bias has no place in an agency document, which must be completely objective in its reporting. Some of the reasons for our comments on the prejudice shown in the document are enumerated in the MMIG response.

On page 2 the comment is made, "This process will result in revision of permit regulations" How does the author(s) know revisions will be made, unless it has already been decided, which then indicates all of the workshops on permit procedures have been an exercise in futility?

On page 5, last sentence, it is shown that APHIS has the prime responsibility for captive marine mammal welfare. With this in mind, there should be no further concern by NOAA fisheries or the Marine Mammal Commission for further regulation of marine mammal facilities.

On page 8, first paragraph -- The final decision on the various alternatives should be based on the final EIS, not the Draft EIS.

J-6

they have a facility to hold animals or have they even applied for a permit. Yet, in this section and in at least one section later in this DEIS this "fantasy" facility is used as a factor in the consideration of the environmental effects of the SUTD program as well as a factor in increasing the take of bottlenose dolphins from the Gulf of Mexico.

In section III, A, 3., Aggression Effects, there is only one comment in this section that is specifically referenced. The remainder of the indented sections, which again appears sometimes to be quotes and sometimes not, are not referenced at all other than to say a "former employee wrote" or an "employee fired after seven months". We believe that all of these statements or quotes should be properly referenced and available to reviewers. In addition, in one instance it is noted that NMFS was contacted by two members of the public describing aggressive behavior. There is no indication that NMFS followed up on these reports to determine the nature or validity of the so called aggressive behavior. It is assumed but not stated. If NMFS cannot substantiate this statement, it should be removed from the document. Along this same line we feel that any statement received from a fired employee should be thoroughly investigated or not considered at all, given the high probability that the ex employee is disgruntled and probably out without bias.

In this section we once again run across the mystery "curator of an aquarium in Hawaii" reporting on a "cuba program during the 1960's". A great deal seems to be made of this person's comments. Yet, we are never given a clue as to who this person is and from where the "quotes" emanate. This needs to be fully clarified.

With regard to section III, B, 4, Disease Transmission, the NMIC feels that this section is completely in error and very poorly written. We refer you to the well considered and written responses from Dr. Rosser, Dr. Ridgway, and Sea World. We suggest that you take advantage of Dr. Ridgway's and Corral's offers to rewrite this section and sections IV, B & F, as they are two of our country's foremost marine mammal veterinarians and, therefore, eminently qualified to do so.

Starting on page 29 of the DEIS there is a section titled "Other Considerations". The introduction to this section states "Other factors, that need not be considered for purposes of the EIS but will be considered in light of both the MMPA and other relevant law, are discussed below." The NMIC has a very difficult time trying to determine the reason for inclusion of a section in an EIS when the introduction to that section states it need not be considered. Therefore, our recommendation is that this section be eliminated in its entirety. If, however, it is felt that there is a need for this section and it is retained for the final version of the EIS, the following comments are given for consideration. First, since this section is not required for the EIS, any and all references back to the EIS should be eliminated from this section. In addition, each subsection of this section should note the "relevant law" to which it pertains.

J-7

Section IV, A, Survival in Captivity, as it relates to SUTD programs, should be concluded with a full stop after the word "institutions" in the last sentence of the first paragraph. The remainder of the section is irrelevant, confusing, and adds nothing to the document. If a summary of data on the survival of bottlenose dolphins in captivity is necessary, we strongly suggest that a qualified, competent scientist be enlisted to review the data and write this section. NMIC will be glad to provide a list of names of qualified scientists upon request. We would also like to point out that it is implied in the first sentence of the first paragraph in section IV, A., that the three dolphins were the only ones that died since 1985. If this is the case, it should be stated as such since the program has been in existence since that time.

In section IV, B, we refer you in our comments made earlier about enlisting the services of qualified and competent veterinarians or scientists to contribute to this section. An example of this necessity is found in the conclusion drawn by the author from the first indented paragraph. The quote (?) states, "...because the incidence of illness in the animals appeared to increase in direct ratio to the numbers of strangers that were allowed in the water." From this the author of the DEIS was able to draw the following and definite conclusion, "...the proximity of human swimmers to the dolphin's blowhole increased risk of infection to the animal according to this commentator." Even if this were the belief of the commentator, it is NOT supported by the quote(?) included in the DEIS nor is it a fact supported by any competent and scientifically recognized authority or literature.

In section IV, C Educational Programs, the first indented portion of this section does not appear to be related except remotely and should be reconsidered for this section. The first sentence of the last paragraph on page 11, at first seems to be redundant in light of the preceding paragraph and at second glance does not make any sense at all. It references a section I.A. above that we were unable to locate. This is followed by three sentences that appear to be relevant to the education issue, but the remainder of the paragraph does not have any basis in fact as it relates to the recently amended MMPA and the educational aspects of Public Display permits. In addition, this portion notes its relationship to the environmental review which was discredited as not necessary for consideration in the introduction to section IV.

We are unable to determine the relevant law and how it may relate to section IV., D. Recreational Benefits. If it is the MMPA, this is unnecessary in that the MMPA already states the importance of recreation in its exemption for Public Display.

We would like to once again refer you to the comments made earlier relative to section IV., E Stress-Induced Disease. We heartily encourage you enlist the aid of a competent and qualified veterinarian/scientist to rewrite this section which contains many errors.

Dr. Nancy Foster
Page Two
December 20, 1980

K-2

Page 11, second paragraph -- It is stated that new requirements are likely to provide that no more than 50 percent of the take may be females. Who has made this decision? Have public comments been sought? Is this the opinion of the author(s) or has NMFS already formulated this regulation?

Page 19, Aggression Effects. This section alone should put to rest any concerns about danger to humans associated with these programs. Everything else is either speculation or hearsay based on unnamed operators or former employees.

Page 22, Disease Transmission. In the second line it is stated there is the "potential" for disease transmission. Yet the two references Smith (1978) and Webster (1981) present very little if any evidence for this. The Smith paper deals with "land animals," not humans, while the Webster paper documents one instance of conjunctivitis caused by a sea lion sneezing directly into the face of an assistant during a veterinary procedure. The assistant was not able to wash or sterilize his face for more than an hour. If the same thing happened between humans, some risk of infection would probably occur.

The attempt to link the occurrence of Vibrio virus in humans with its occurrence in captive dolphins borders on the absurd. This is patently bad science and has no place in a document authored by a major government agency. Such speculation would not stand up in a court of law. The same can be said for many of the other attempts to link infections in marine mammals to the possibility of human diseases.

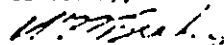
A more thorough and professional assessment of potential disease transmission can be found in the comments of Doctors Ridgeway, Rossitt, Geraci and those of Sea World.

Page 35 deals with Ethical Considerations. These are not covered by the MMPA nor NEPA and have no place in the Draft EIS. This is one more instance where the bias of the author(s) is making itself known. We strongly suggest this section be removed entirely from the final EIS.

In summary, we would like to state that it has been extremely difficult to effectively comment on this document due to its poor mechanical construction and the amount of speculation contained therein. In order for NMFS to reach a considered opinion on the fate of SWTD Programs, it needs documented scientific evidence as a basis for its decisions, and not hearsay nor speculation.

Thank you for the opportunity to comment.

Sincerely,


William P. Braker
Director

CONFERENCE FACILITATION ASSOCIATES

Dr. Nancy Foster, Director F/118
Office of Protected Resources and Habitat Programs
NMWA Fisheries
1775 East-West Highway
Silver Spring, Maryland 20910

12/17/80


Dear Dr. Foster,

Regarding the draft EIS on the Use of Marine Mammals in Swim-with-dolphin Programs, whereas it is my determination that the intent of the MMPA is to specifically set apart the cetaceans as unique and protected from exploitation, I advocate the selection of alternative A, No Action, for the following reasons:

- 1) Lack of an optimum sustainable population level for Atlantic bottlenose dolphins and use of a substitute 2 percent figure which is based on limited count data and possibly erroneous assumptions concerning management areas.
- 2) stated need by the swim-with-dolphin programs for young, predominantly female specimens creating an increased inducement for further collection of these specimens from the wild populations.
- 3) documented cases of dolphin sensitivity to stress in captivity as evidenced by the findings of bleeding ulcers in the dolphins.
- 4) Lack of adequate knowledge relating to the nutritional and environmental requirements of captive marine mammals resulting in early deaths and the failure by the industry to establish habitats which would enable a captive specimen to live more than the average of 5 years, and,
- 5) admitted lack of standards and guidelines as to educational and conservation programs within the public display industry and apparent unwillingness to cooperate in the development and publishing of any such standards, as witnessed at the regional public work session held in San Francisco on December 12, 1980.

Thank you for the opportunity to review this draft EIS.

Sincerely,


Dianne Zoch

Dr. David Cottingham, Director
Office of Ecology and Conservation
Room 4772
U.S. Dept. of Commerce
Washington, D.C. 20230

JUN 1980
RECEIVED

Dr. Henry Foster
November 14, 1989
Page 7

M-2

subhuman primates, and man. These diseases are species-specific and there is no reason to doubt that this dolphin disease is also specific for cetaceans. This is supported in my study where trainers and myself who have direct dolphin contact (including in water exposure) were tested negative for the virus yet the dolphin's pool mate, a killer whale, developed antibodies for the virus. After intensive medical therapy, as of this date, this dolphin and her pool mate are clinically normal.

In summary, I doubt this newly described disease has zoonotic implications. While on this subject, the dolphin mentioned in the DEIS that died at Theater of the Sea from liver disease did not have clinicopathologic parameters consistent with hepatitis virus hepatitis.

On page 22 of DEIS a reference of mine (Bossart, 1986) was mentioned which implies that leishmaniasis may have zoonotic implications. There is absolutely no data to support this concept. In fact, before the histologic diagnosis was made in this standing case, at least six humans had direct unprotected cutaneous exposure to this dolphin and none have developed clinical signs of this disease to date.

I have recently had an outbreak of respiratory disease at one oceanarium where I work. This involved three Atlantic bottlenose dolphins from different pools. Two dolphins unfortunately died after long term intensive medical care and had similar histopathologic lesions. The epidemiologic and pathologic aspects strongly suggest a viral etiology. Extensive viral isolation attempts for human viruses have been negative in these cases (including herpes virus, calici virus, and influenza viruses). Acute and convalescent serologic evaluation have also been negative for influenza viruses, parainfluenza viruses, and respiratory syncytial virus which can be pathogenic for humans. Again, the point to be made in this case is that if a virus is the etiologic agent it is probably specific for cetaceans. This also makes evolutionary sense.

On page 26 of the DEIS the statement is made that, "Marine mammals are subject to a number of viral diseases with pathogenic potential for man including...dolphin pox... herpesvirus, and rabies in a seal." While at the University of Miami School of Medicine I obtained an M.D. post-doctoral fellowship to study and characterize dolphin pox. The fastidious virus that causes this benign disease will not grow in at least five cell lines of human or primate origin. In my opinion dolphin pox has no zoonotic potential.

As for rabies, virtually any animal and some birds can be experimentally infected with rabies virus but this does not necessarily imply a zoonotic potential (in fact in most cases, it does not).

As for herpes virus infection, such more research and referred publications are necessary to substantiate the implication that cetacean herpes viral infections demonstrate cross-species pathogenicity. The herpes viral infections I am familiar with as a veterinarian pathologist are most often host-specific.

As far as other cetacean fungal infections, in my experience these are universally opportunistic infections (See Bossart, 1986). The DEIS noticed the fact that the referenced dolphin with leishmaniasis had an apparent immunodeficiency. Mycotic infections in many animal species reflect some degree of immunosuppression and have a low or insignificant incidence of cross-species infectivity. This is further

NOV 15 1989
M-1

Dr. Henry Foster
Office of Protected Resources and
Pacific Program, U.S. Fisheries
133 East-West Highway
Silver Spring, MD 20910

M-1

Dear Dr. Foster:

I am writing this in response to a request to review the DEIS on swim-with-the-dolphin programs. I am responding not for or against such programs but for a perceived misrepresentation on the significance for the potential of disease transmission between humans and cetaceans.

My comments are based on ten years as a clinical marine mammal veterinarian in Florida at various oceanaria including the Miami Seaquarium. In addition, including my veterinary degree, I completed a four year, post-doctoral residency in comparative pathology at the University of Miami School of Medicine, a post-doctoral training, being at a human medical school. Involved studies of both animal and human disease which may permit me a better perspective of this issue. I should also add that I am not a U.S.D.A. veterinarian-of-record at any facility which presently has a swim-with-the-dolphin program. I have occasionally consulted at such facilities either as a clinician and/or veterinarian pathologist.

As indicated by the U.S. Navy on page 26 of DEIS, the evolutionary "divergence" and ecological niches inhabited by dolphins and humans are great and diverse. If extrapolations can be made from other aquatic, terrestrial, and avian species I agree that this suggests a low incidence of shared diseases or the likelihood of introduction or transmission of pathogens between humans and cetaceans.

In the January 1989 edition of the Journal of the American Veterinary Medical Association a medical report will be published which I primarily authored. This case deals with a newly described disease in a Pacific white-sided dolphin caused by a herpesvirus similar to the human hepatitis - B virus. Even before publication the results of this case have been either grossly misinterpreted or misrepresented from information I have received from various sources, including an AIDS veterinarian and a NIPS official. Hepatitis viral hepatitis have been reported in numerous species including woodchucks, ground squirrels, chinchillas,

M-1

ILLINOIS CITIZENS FOR HUMANE LEGISLATION

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December 19, 1989

Dr. Nancy Foster
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Silver Spring, MD 20910

N-1

Re: Dr. Foster:

Illinois Citizens for Humane Legislation (ICHL) recommends the adoption of Alternative A, which would allow swim-with-the-dolphin activities to a size after December 31, 1989. The following outlines are reasoning for implementing Alternative A.

The swim-with-the-dolphin program constitutes a significant risk to health and well-being of dolphins and humans.

Dolphins have experienced what is termed as stress-induced disease. Capture stress syndrome is widely reported. Since young dolphins are more desirable and unlikely to be aggressive during the swim-with-the-dolphin program, more dolphins will be needed to sustain and expand programs under alternatives B, C, or D. Reported in the Draft Environment Impact Statement (EIS page 34), Walker attributes a high mortality rate for dolphins (15% survival rate after being captured after a year) to stress factors. Once trained for the program, dolphins have developed ulcers caused by stress. The dolphins' health is at significant risk given the occurrence of ulcers and stress related deaths.

The aggressive behavior older dolphins have expressed in the program indicates that the mental well-being of the dolphin is at risk. Dolphins wishing to establish dominance over humans who harass them with daily encounters are indicating their discontentment with the situation. Dolphins have been known to hurt humans when displaying aggressive behavior. Under Section 1.111- Handling--"care should also be exercised to avoid harm to the handlers of such marine mammals." An APHIS memo dated January 15, 1985 concluded that the Act does not address injury to humans involved." However, we believe the public has now become the "handlers" of dolphins under section (a) as they enter the water and physically interact with them. These handlers, the public have been physically harmed by dolphins which is a violation of the APHIS Standards. Not only are humans at risk, but what will happen to dolphins that seriously harms or kills a human? What will happen to dolphins that clearly can't participate in swim programs as they grow older and are irritated, bored and

Dr. Nancy Foster
November 16, 1989
Page 1


M-3

supported by the fact that most of these organisms are ubiquitous in the environment

As far as bacterial diseases, those mentioned in the EIS (and rightfully stated), are also opportunistic pathogens. The disease risk to humans would be relatively insignificant unless health was already compromised in some other way.

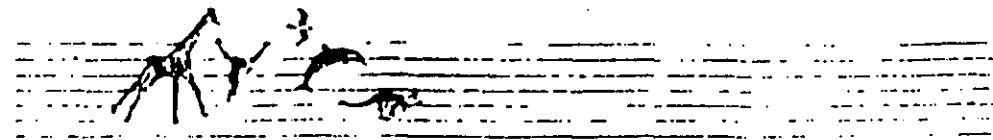
The simplistic approach of infectious disease cause and effect must be abandoned in the proposed EIS. What we must realize is that infectious diseases are often the effect of an animal's failure to adapt to its environment rather than the cause. Interest especially concerning captive cetaceans must be aimed at determining optimal conditions for species to thrive rather than the end result of mortality from specific infectious agents. Collaborative studies must be undertaken if the causes of infectious diseases in marine mammals are to be understood. These questions should be addressed rather than trying to imply significant disease transmission potential between marine mammals and man. Disease transmission potential is the weakest point of the EIS.

Sincerely,


Gregory D. Foster, V.M.D.
Staff Veterinarian, Miami Seaquarium
Pathologist, Veterinary Reference Laboratories
Adjunct Professor, Rosenstiel School of Marine and Atmospheric Science,
University of Miami

GDF/pg

cc: David Cunningham
Ann Lebusch



N-2

December 13, 1989

aggressive toward humans? ICIL fears that these aggressive dolphins' spirits will be broken by trainers who will try to "museeum" them rather than releasing them to a more natural environment. To avoid the potential for abuse of dolphins by trainers, and the harm dolphins will most likely inflict on the public handlers, the swim-with-the-dolphin program should be discontinued.

Dr. Nancy Foster, Director
Office of Protected Species
and Habitat Programs
NOAA Fisheries
1335 East-West Highway
Silver Spring Maryland 20910

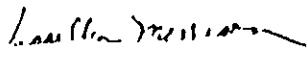
O-1

ICIL would like to question the statement made in the Senate Report (100-542, p.28-29) Section 104 (c) of the 1988 Amendments to the MSA regarding:

"The Committee recognizes that the recreational experience is an important component of public display and the public display has served a useful educational purpose, exposing tens of millions of people to marine mammals and thereby contributing to the awareness and commitment of the general public to protection of marine mammals and their environment."

What scientific data was this statement based upon if any? Has the Congress ever appropriated funds to independent institutions like Westat or the National Opinion Research Center to conduct longitudinal questionnaires? Such qualified institutions can measure the public's awareness and commitment to marine mammals to determine if there is a correlation to the viewing of them in display settings or swim-with-the-dolphin programs as compared to the viewing of marine mammals in educational films, studying them in classrooms, or the boycotting of yellow tuna organized by grassroots groups in protecting dolphins? ICIL believes the latter to be a true commitment for educational awareness and the protection of marine mammals.

We appreciate the opportunity to submit our comments. Please inform us of the results.

Sincerely,

Vasilika Morrison
Legislative Director

cc: Dept. of Commerce

Dear Dr. Foster,

I have several comments on the CEIS statement on Swim-with-the-dolphin Programs. I have been involved in animal care, handling and training animals for 35 years. I spent 12 years at a public oceanarium, Marineland in Los Angeles. While I am not a veterinarian, I was Assistant Curator of Mammals in charge of training and shows for five years where I had direct and daily responsibility for marine mammal health and welfare. In addition, I supervised all training activities with marine mammals. These activities included not only show behavior including water work activities, but also such of the pioneering work in marine mammal husbandry training, training to combat neurotic behavior, and training animals to comfortably tolerate and work in as many different situations as possible. I left in late 1985 to start a animal behavior and show consulting firm that has worked in zoos and aquariums. One area of specialization is in development of behavioral programs for maintenance of the psychological well-being of captive animals (see brochure).

I am frankly dismayed at the increasing polarity that I see between so called "animal rights" or "protest" groups and "industry" groups. No where is the negative impact of this polarity seen more clearly than in the current discussions surrounding regulation of marine mammal activities. It is critical that the regulatory agencies exercise extreme caution not to display bias or pre-judgement in a document such as the CEIS statement on Swim-with-the-dolphin Programs. I suggest you give this document a general review to eliminate such bias. Now, on to several specific points.

While I agree that stress can play an important role in disease, I can not delve the purpose or intent of the following discussion on page 33 and 34. It seems very jumbled. How does capture stress relate to stress encountered in a swim with the dolphin program? Stress cited in Walker's paper on capture stress published in 1975 seems suspect because it deals with information

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no more recent than 15 years out of date. Capture techniques have changed radically since then. In addition, I don't know of anyone personally who has captured delphinus delphis for display in the last ten years. The primary reason for not capturing delphinus delphis is that they are generally very prone to stress. However, that susceptibility to stress does not automatically translate to Tursiops truncatus.

There was no discussion on the fact that the level of stress an animal encounters is greatly influenced by the behavioral requirements to which the animal is exposed. The vast majority of behavioral techniques that deal specifically with desensitizing animals to aversive stimuli have developed since that paper was published.

The former trainer (page 34) who claimed that "many of dolphins in captivity ... etc". Was he referring to swim programs or all captive programs? Well, he didn't visit the facility that I worked at. While a small number of animals that I've had experience with had ulcer or possible ulcers as a primary problem. Most of the ulcer treatment that occurred at the facilities that I had experience with occurred secondary to other health problems usually as a result of the stress of the primary health. Something that, to my understanding, happens with great frequency in the wild.

Stress is an important issue that does impact animal care. However, the current discussion does little to shed light on the issue. I believe it should be completely re-worked and approached from the point of view of: what specific sources of stress occur in a swim program; how do these compare to other situations; and what can be done to minimize their affect.

On page 39 the author makes the statement that "However, the comments ... remind us that these are trained animals for which the concept of voluntary or involuntary behavior may no be relevant. Obviously, if an animal participates in swim sessions because of food rewards or other behavioral conditioning, it is not likely to terminate the session regardless of provocation." I find this statement outrageous. Are we to believe these dolphins are brainwashed robots mindlessly marching into terrible situations for a fish? The author has a woeful misunderstanding of what operant conditioning does and does not do. Any animal in nature encounters conflicts in motivation. The mouse that sees a tasty morsel on dangerous ground. The bear that sees a bee hive full of honey and angry bees. The dolphin that sees a fish and a chance to socialize weighed against getting close to somebody that may do something odd.

Perhaps a brief comment on the positive aspects of training is in order. It is the goal of responsible animal management to design and implement a system that ensures the physical and psychological well-being of every animal. In my opinion training is one of the best tools to meeting this goal. Behavior enrichment research, in general, and our work with primates

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provide strong proof that training can provide psychological stimulation for animals. The greater the awareness of the animal, the more important that psychological stimulation becomes. Through training, handlers come to know their animals better in two very important ways. First, they see their animals react in a far greater variety of situations than if the animal was untrained. Second, when animals perform trained behaviors, the trainer has a clear point of reference from which changes in an animal's behavior can be detected. This added information is extremely important in determining if an animal is sick or injured - the exact opposite to what the author has inferred. Training also provides methods of handling and caring for animals with a minimum of stress, as in voluntary cooperation with husbandry procedures. Finally, training can provide a means of controlling animal behavior without taking away their control over their lives. In fact, proper application of behavioral techniques gives animals greater freedom than if they are left alone in displays. For instance, social situations can be manipulated to allow dominant animals to be dominant and let sub-dominant animals in the same environment get what they need to be healthy.

The effectiveness of programs to educate the public depends far less on our ability to bury people in fact and guilt than our ability to emotionally involve them with the animals and habitats we wish to protect. Proof is found on both sides of the animal industry. The next time you check your mail, look at the fund raising literature you receive from animal rights and conservation groups. How many times have you opened that envelope to peer at the forlorn face of some poor creature or other. Clearly, emotional appeals are a key component of mail order fund raising. The funding raising efforts that led to the acquisition of a multi-million dollar renovation of Zoo Atlanta (once rated among the nation's worst) was based on the appeal to build "Willy B", a 28 year old lowland gorilla who had never been outside in 25 years, a new home. Personalizing an animal to the public, establishing an emotional connection human and animal is powerful conservation medicine.

In this regard, the swim-with-the dolphin program represents about the most powerful vehicle I've seen for engendering respect for dolphins and marine life in general. Just the huge popularity of these programs should indicate something of their potential benefit to public.

I strenuously object to the comments made by (M)SUS under ethical concerns on page 35 without any discussion of other points view. Many animal protect groups have taken the position that commercialism and conservation are mutually exclusive and that only they can define "true" education. They infer a conflict of interest that must necessarily put commercial activity in conflict with conservation. However, many large and responsible conservation groups such as World Wildlife Funds have adopted conservation strategies that are based upon local people

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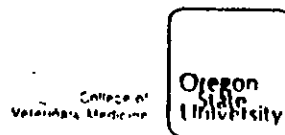
profiting from conservation activity. I see no ethical problem in terms of the educational value of captive display. This paragraph more than any other perhaps reveals a blatant bias on the part of the author(s) of the document.

In the interest of balance, there is another ethical question that should be raised if these other ethical comments are allowed to stand. Many of the animal protest groups that have taken violently opposed positions on the swim-with-the-dolphin have a subtle but very significant conflict of interest as regards this and other conservation issues. Their political power, status, and economic resources have been obtained based very specific public positions that they have taken on animal health, care and ethical issues. These positions are by nature highly simplistic and emotional in order to support the media efforts which generate their emotional and financial support. To change one of their basic positions to meet what is in reality the best interests of animal can jeopardize their political and funding base. This is a real conflict that can influence the motives and bias the judgement of animal protest organizations in the same fashion that operating costs can influence the motives of those in the animal display industry. I submit that it is valid to raise and explore the question when weighing comment for the community: is a commenting animal rights group acting in the best interest of the animals or is it acting in its own self interest. The need to consider this issue is made even more important by the fact that many of these groups, who in many cases are now large and powerful groups with political lobbyists, are completely free from responsibility to document what they say.

I hope that you find these comments useful. I believe that most people on both sides of this issue are responsible and ethical. However, a balanced position on your part will help all of us deal more effectively with our biases and misconceptions in this situation, and arrive at the best situation for the animals and nature.

Sincerely yours,

Tim Desmond
Tim Desmond, President
Active Environments, Inc.



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December 20, 1989

9-27-89-22-200

Dr. Nancy Foster, Director
Office of Protected Resources and
Habitat Programs
NOAA Fisheries
1235 East West Highway
Silver Spring, MD 20910

P-1

Dear Dr. Foster

The following comments are offered regarding the disease transmission aspects of the "Swim with the Dolphin" programs and your kind offer 14 November 1989 for me to review and comment.

First of all, let me compliment you on your review of the literature. It was quite good and my comments are not intended in any way to detract from that.

One could easily get the impression that entering the water with dolphins could be life threatening or at least health threatening from a disease acquisition viewpoint. And, of course, this is not a true reflection of either the threat or the incidence of disease sharing between dolphin and man.

This section should be prefaced with some statement pointing out that the documented instances of disease transmission between humans and dolphins are very rare but that the mechanisms for detecting such disease transmission is also woefully inadequate to assign risk. One should also understand that disease transmission between species is far more likely to occur if one or the other is ill (diseased) and that there are many diseases known to be transmissible from animals to man. Many of these involve common pets (dogs, cats, etc.) and farm species (cattle, swine, goats, etc.), yet actual disease transmission from a healthy animal to a healthy person is rare. When transmission does occur, much of it is due to working with diseased animals and, in fact, necropsies are far and away the most common mechanism reported for disease transfer from marine mammals to man.

There is one additional factor that should be aggressively addressed, and that is examining closely the propriety of putting sick people in intimate contact with animals. For example, if these people have a depleted or suppressed immune function, they could

Dr. Nancy Foster
"Swim with the Dolphin"
December 20, 1989
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more easily become overwhelmed with either a very numerically few pathogens or by those microorganisms not usually known as pathogens. One might suppose in a water medium that mucous membranes and other portals of entry could be more readily breached than the normal exposure routes for the land species, i.e. man in this case.

What this suggests is some measure of health profiling for both the dolphins and the people going into the water with them, not only to preclude a diseased person, purpose or seal from shedding overwhelming numbers of pathogens into the aquatic environment, but also to prevent people or animals with low disease resistance (either temporary, such as occurs with stress and transient disease, or permanent, such as might be seen with any terminal illness or any other condition which compromises the usual defenses to microbial invasion) from becoming unnecessarily exposed to potential pathogens.

Specific comments are as follows:

1. Page 22, line six, under heading "Disease Transmission". The statement regarding individuals contracting skin disease needs to be referenced. This is very important especially if it occurred by contacting dolphins which were said to be dying of a marine toxin. There is a rather serious contradiction of data here that needs to be resolved and documented.
2. Page 22, paragraph regarding vibrio - delete the word virus. Vibrios are bacteria not viruses.
3. Last paragraph, page 22. This sequence of transmission is suggested. Second Sentence should read "Cetacean calicivirus (CCV Tur 1) was thought to have spread..."
4. Page 26, under "Viral Diseases", first paragraph. This is a very troubling paragraph. First of all, it suggests that all the viruses known to infect seals also have pathogenic potential for man and, of course, that is neither known nor even suspected. None of this material is referenced and must be. For example, two statements which are included are not yet published to my knowledge, although I am familiar with the work (pryncipal rotavirus or Hen virus and calicivirus induced vesicular disease in man). If seal or cetacean pox has been transmitted to man, this needs to be documented and adenovirus infection of seals has been reported but no source of the virus is known nor, to my knowledge, any suggestion that these adenoviruses could be transferred to man. Adenoviruses have a propensity for host species specificity. Also, cite the literature reference to sea lion and seal herpes viruses.

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Page 29, 3rd sentence under the heading "Survival in Captivity". There has been reported in one seaquarium the implication of Hepatitis B-like disease and antibodies in dolphins. This should be substantiated and if true may shed real light on the hepatitis deaths here. Especially when one realizes that infected humans can shed this agent for extended periods.

I hope these comments are helpful. Thank you for giving me this opportunity.

Sincerely,

Alvin W. Smith, DVM, PhD
Professor

AWS:pl

cc: Dr. Sam Ridgway

1067 Knoch PI.
Pailua, HI 96714

28 Dec. 1987

Dr. Nancy Foster, Director
Office of Protected Resources
and Habitat Programs
NOAA Fisheries
1315 East-West Hwy.
Silver Spring, MD 20910

Dear Dr. Foster:

Q-1

Thank you for the opportunity to comment on the Draft Environmental Impact Statement (EIS) on the use of marine mammals in Swim-With-The-Dolphin (SWD) programs. Papers I have authored or co-authored as well as a pre-publication chapter I co-authored have been cited and quoted rather extensively in the EIS. Since health and safety issues, including possible disease transmission, have received special emphasis in the EIS I will start my comments in that area, continue with comments on stress induced disease and finish with my personal observations of the SWD program at the Hyatt Waikoloa Resort in Hawaii.

Health and safety of people and dolphins in SWD programs are important and of high concern. The selective editing, misquoting and misuse of a non-published chapter, Public Health Significance of Disease Transmission Between Marine Mammals and Man, Burk, C. B. and Schroeder, J. P., written specifically as a chapter in a Handbook for Veterinarians, employees of oceanaria and aquaria that house marine mammals, as well as persons involved in marine mammal strandings, does not address that concern. It appears that the information in that chapter was edited and used selectively to support a previous conclusion. In my 23 years of experience as a marine mammal veterinarian and scientist I have not seen or do I know of an instance of disease being transmitted from a dolphin to a swimmer. Your own records, from SWD programs, collected over a four year period, support those observations. The obvious conclusion is that the chapter as literally interpreted does not apply to SWD programs and the EIS process would have been better served by consulting with experts in the field. The conclusion of the chapter I co-authored was that all marine mammals (not only dolphins) may carry human pathogens and appropriate care must be exercised by individuals who come into CLOSE contact with these animals. It is impossible for swimmers, with flotation vests on, to come that close to dolphins in SWD programs.

Page 30 of the EIS states, "incidences of disease transmission from humans to dolphins do not appear to have been reviewed in the recent veterinary medical literature." Since these kind of cases did not appear in the chapter referred to in the previous paragraph, it follows that there are no reported incidences of disease transmission from humans to dolphins. That does not preclude common sense measures and currently existing regulations

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outlined in Appendix A of the subject EIS designed to prevent such an occurrence.

Under section IV.E., Stress-induced disease; the EIS mixes literature publications with non-authored statements and comments. This demands the peer reviewed literature and gives unwarranted attention to non-documented hear-say. On page 30 a quote of a curator of an aquarium starts, "We felt". On page 34 "one former trainer" is quoted as an expert on stress. Another un-named person quoted on page 35 says, "I am constantly treating dolphins with ulcer therapy because every sick dolphin must be considered an ulcer sufferer". This person is either a poor diagnostician or works in a facility that ignores good animal husbandry and preventive medicine programs. He claims that experts (unnamed) find by histopathology an inordinate amount of marked adrenal depletion in his dead dolphins. There are other more significant histopathology lesions that must also be present to reach the diagnosis he claims.

The Myrick '88 and Colorado '78 papers do not refer to conditions dolphins will be subjected to during capture for or inclusion in SWD programs. Once again, it appears that the references are used to support a preconceived position.

Dolphins do, as people do, experience gastric ulcers. The diagnosis is reasonably straight forward and the dolphins respond well to treatment. The page 34 EIS statement by a "former trainer" claiming that many of the dolphins in captivity are dependent on drugs such as tagamet, etc., is incorrect. I personally oversee, as the primary or consulting veterinarian, 107 dolphins and other small cetacea. Not one of those captive marine mammals is presently on tagamet or other anti-ulcer drug.

The 1987 quote attributed to me on page 34 points out the need for research of the pathophysiology of stress on marine mammals and the need for a way to quantify that. I have been involved as a principle investigator in a competitively funded research program in marine mammal health, including responses to stressors since 1981, and there is a continuing need for that type of research. Because of the difficulty in defining dolphins response to stress I am unable to accept the findings presented in the EIS. "Stress" and an animals' response to stressors is far from a unitary concept. Some stressors can actually be beneficial to organisms. Selye (1974, Stress without distress, J. B. Lippencott) proposed the term eustress to denote such beneficial sources of stimulation and distress to denote responses to potentially injurious stimuli. APNHS is in charge of preventing distress to marine mammals in SWD programs and, in view of the four years' data NOAA Fisheries refers to in the subject EIS, has done an excellent job of protecting SWD dolphins from distress.

In my professional judgment, a SWD program patterned after the Hyatt Waikoloa Resort, (the only one I've seen) produces eustress in bottlenose dolphins. These dolphins have absolutely free choice to interact with people or not. They do interact and

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clearly enjoy and probably benefit by the stimulation provided by the variety of input. An organism does not experience maladaptive stress responses if it can escape the adverse stimulus, and the Mauia dolphins can escape the swimmers. Additionally, the dolphins are parasite free and protected totally from predators so have escaped the stressors of the wild world which are truly distressing.

If a dolphin does not want to be touched by a person swimming with it, it won't be, even if they are confined together in a 20 foot by 20 foot pen. By regulation, SMD programs can be carried out in water areas providing a buffer zone and an escape area for each dolphin mitigating the negative effects, if any, of people in the water.

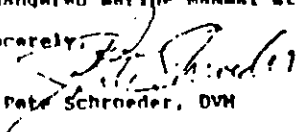
The third point of consideration for this EIS review concerns effects of additional SMD programs on wild stocks of *Tursiops truncatus*, the species of choice for this activity. This is not an endangered or threatened species. The experience of being touched by a dolphin in its environment will awaken thousands of people to the unique resource shared by all of us and the need to protect that resource as well as other more endangered and threatened species of marine mammals, a purpose of the Marine Mammal Protection Act. The numbers of bottlenose dolphins taken for present or future SMD programs is extremely small relative to the 740 dolphins that died and washed up on the East Coast in 1987. It is not known how many more died and drifted out to sea during that biological event. The wild population of *Tursiops truncatus*, is still estimated at 35 to 40 thousand individuals.

Additional funding for the oversight of SMD programs can be provided by reducing the numbers of areas counted by teams for stock assessment. Additional funds could also be provided by the SMD programs themselves. They have been doing this to some degree since the income they generate is taxed.

I find alternative C, the most reasonable of the four presented in the EIS and encourage NOAA fisheries to authorize Swim-With-the-Dolphin programs beyond December 31, 1989 with new conditions. Recommendations included in the EIS on pages 38 to 44 are excellent, provide NOAA fisheries a good framework in which to develop those conditions and will help avoid controversy by being objective.

The Swim-With-the-Dolphin EIS does not present any issue that cannot be mitigated by reasonable regulations, those in place as well as proposed. This very positive program using marine mammals should be allowed to continue to the benefit of disadvantaged and special people and to the advantage of endangered marine mammal stocks around the world.

Sincerely,


J. Pat Schroeder, DVM

Dr. Henry Foster,
Office of Protected Species and
Habitat Conservation
National Marine Fisheries Service
1115 East West Highway, Room 2110
Silver Spring, MD 20910

R-1

Re: Environmental Impact Statement on "Swim-with-the-Dolphin Programs"

Dear Dr. Foster:

I am writing in behalf of the Marine Mammal Coalition, a non-profit organization representing members of the marine mammal display and scientific research community. A list of current members is attached.

First, some general observations - we are concerned by what appears to be an excessive expenditure of government resources on this issue. Swim-with-the-dolphin currently involves four facilities and a handful of animals, yet the government has held four full-day hearings, has amassed large amounts of information from the facilities involved, and now has produced a 67-page draft Environmental Impact Statement (EIS) that it acknowledges is not necessary. However, when asked important questions on other issues, such as the status of various populations in the ocean, NOAA is unable to respond because there are no data. We think that acquiring data on marine ecosystems is the mandate of the MMPA and that more effort should be devoted to this objective.

On Page 8 you stated that the final decision will be based on the draft EIS, public comments, the public hearing record, and assessment of the draft EIS by the various federal agencies involved. In your Federal Register notice, Volume 53, Number 194 of October 6, 1988 you indicated that you were amending the General Conditions of permits, were allowing four experimental programs, and requiring those public display facilities to submit reports and data. You said, "Experimental programs may provide important

Dr. Nancy Foster
December 27, 1988

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Information on potential changes in the health or behavior of the animals involved in the human/dolphin swim programs. We have said this, we assume that this data will also be an important factor in the decision-making process.

We also suggest that NOAA distinguish among the public comments. Some are based on scientific evidence or empirical data, which is the ultimate criteria for decision-making under the MNEA; others express personal opinions, biases, and unsubstantiated anecdotes. We find the draft EIS weak where it repeats these unsupported statements.

The entire discussion under "Affected Environment" (p. 10) is misleading. You are seeking comments on dolphins that have already been taken from the wild. The issue is whether or not these animals may be used in swim programs. No matter what the decision, there is no impact on wild dolphin populations.

The draft EIS states that swim programs may induce undesirable modifications in the dolphins' behavior. It then points to increased aggressiveness during play as an example. First, this consequence may be normal behavior, not a modification. However, modification occurs in any environment. It results from both experience and available stimuli. Modification per se is neither good nor bad. Any facility that operates a dolphin swim program has an inherent and obvious need to structure its program in a way that protects both its animals and the public.

Some humans seek out recreational activities that include an element of danger. It is clearly not the job of NOAA to protect humans who voluntarily participate in a dolphin swim program. Certainly, the intent of NEPA is to monitor governmental activities that impose risks on a helpless environment, not consenting humans. The perceived harm to humans by dolphins is certainly no greater than the potential danger resulting from interaction with other kinds of animals. These risks include being scratched by a cat, being bitten by a dog or thrown from a horse.

The section of the draft EIS report dealing with disease transmission is misleading and inaccurate. Some of the citations are anecdotes in the form of letters (e.g. letter from K. Fryer, p. 30), or speculation in newsletters and other popular publications (IPATA newsletter, pp 23-24). Arguments attempting to show the threat of disease transmission between humans and

Dr. Nancy Foster
December 27, 1988

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dolphins cannot be made on scientific or medical grounds. A few examples should make this point clear.

The report states on page 22 that many pathogenic organisms are common to both humans and marine mammals, suggesting the possibility of disease transmission. This statement, written as it was in a narrow context, has limited validity, although the conclusion drawn from it (i.e., that both humans and dolphins at significant risk) has been greatly exaggerated. The organisms described are not necessarily 'pathogenic,' as the report states. At most, they are potential pathogens. Many - perhaps all - are part of the normal surface flora of healthy dolphins. Their presence does not necessarily place the dolphins at risk, nor are humans inevitably threatened. The dolphins are indeed infected, because infection is defined simply as the presence of a microorganism. In contrast, the term infectious disease describes the clinical signs (or symptoms) and pathological effects resulting from microbial invasion of the host's protected tissues. Thus the presence of microorganisms does not necessarily signal impending disease (i.e., pathogenicity).

There is no evidence that dolphins pose greater risks to humans than other wild or domestic animals to which a large segment of the population is exposed continuously. For example, home aquarium keeping rivals photography as the most popular hobby in the United States. Bacteria of several species have been isolated from human lesions in which fishes and other aquatic pets are the vectors. Among these are Mycobacterium marinum in skin lesions resulting from abrasions incurred after contact with fishes in home aquariums (Wayne and Kubica 1986). Mycobacteriosis has even been contracted from backyard swimming pools (Wayne and Kubica 1986). In our experience, public aquarium personnel who have contracted mycobacteriosis on the job received the infections after preparing raw fish that is fed to the dolphins, not from the dolphins themselves.

The draft EIS highlights vibrios as being of particular concern, but the discussion on p. 22 is inaccurate. First, Vibrio is a genus of bacteria, not viruses. Second, the vibrios that have been isolated from dolphins (e.g., Buck and Spotte 1986a, 1986b; Buck et al. 1988) are not Vibrio cholerae, the species responsible for epidemics in humans living near estuaries and coastal areas. Third, no mention is made of how widespread vibrios are in the marine environment; humans who swim in oceans and estuaries are

Dr. Nancy Foster
December 27, 1988

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exposed to them regardless of whether dolphins are present (Cohen, 1984). Viruses are normal surface constituents of marine fishes (e.g., Burd et al. 1984, Bullock et al., Colwell and Grimes 1984), and anyone who handles fresh seafood is exposed to them (Hartley et al. 1980).

The literature summary on disease transmission between marine animals and humans (p. 24) is also inaccurate. The case of vibriosis described by Hale et al. (1978), for example, had nothing to do with dolphins; the patient became ill from eating raw oysters. The next paragraph warns daily that the medical community receives reports of personnel involved in the rehabilitation of beach-stranded animals. This is contradicted by the quotation from the Navy on the same page, which states that resources are a threat only to those who dissect diseased animals.

NMMA has pointed out the increased costs that would result from a monitoring program. This is an unnecessary expense. What has to be monitored are the same husbandry standards now monitored by AFMS. Duplicate effort is unnecessary. The enforcement structure is in place and should be used. The species under discussion are not even endangered. Their numbers pale in comparison with dolphins killed incidental to commercial fishing, yet the government proposes spending an additional \$145,000 annually to watch over a few captive specimens. The money would be better spent on research that would increase our knowledge of marine mammals.

On page 32 of the draft EIS reports that a facility having a swim program must include an educational component; moreover, it suggests that a program must be offered that increases educational benefits that outweigh the potential risk to dolphins or humans. This is not the standard in the Act and imposes an unreasonable burden not envisioned by Congress (See the 1988 Amendments).

Stress-induced diseases in dolphins are incompletely understood and poorly described. Although the draft EIS cited several publications on stress, none is directly relevant to the question of whether swim programs are stressful.

Several of the commenters quoted in the draft EIS objected to the fact that the Marine Mammal Protection Act has an exception for public display; they would have that exception eliminated through NMMA regulation. Whether they like it or not, Congress has already

Dr. Nancy Foster
December 27, 1988

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decided on the ethics of the matter and has concluded that public display is a legitimate (educational, aesthetic, and scientific) use of marine mammals. Thus the issue of ethical considerations is left to you and should be ignored.

In summary, we urge you to confirm that the dolphin swim programs have no unique characteristics requiring special treatment under the MMPA. The components of these programs (e.g., petting pools, training exhibits) have been carried on without adverse impact on any species of the environment since before the MMPA.

Very truly yours,

Stephen Spittle, Jr.
Stephen Spittle, Ph.D.
President

Dr. Nancy Foster
December 27, 1988

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COMMENTS OF THE ANIMAL PROTECTION INSTITUTE

on a

DRAFT ENVIRONMENTAL IMPACT STATEMENT

on the

Use of Marine Mammals

in

Swim-With-The Dolphin Programs

January 8, 1990

Prepared by:

Nancy Dawn Hicks
Director, Eastern Region
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The Animal Protection Institute of America, a national conservation organization with 160,000 members, commends the National Marine Fisheries Service for publishing this draft Environmental Impact Statement on the use of marine mammals in swim-with-dolphin programs and thanks them for the opportunity to comment on it.

AIF is opposed to the commercial exploitation of animals. We believe that swim-with-dolphin programs represent a commercial use of marine mammals which, if allowed to proliferate, will pose further conservation problems to species of marine mammals which already face serious threats. We also believe that these ventures pose potential health and safety risks to both the dolphins exploited in this way and the humans engaged in swim-with-dolphin activities.

Conservation Impact

The Draft EIS fails to adequately address the potential impact of swim-with-dolphin programs on populations of wild dolphins. The current quota system for removals from the wild of bottlenose dolphins does not provide protection from the threat of depletion in stocks of bottlenose dolphins. Changes to the quota system will be necessary in order for the system to protect the animals which are used for swim-with-dolphin programs.

The system, in addition to being fundamentally flawed in structure and administration, is being applied by NOAA/Fisheries as a regulation which was adopted without the notice and comment required under the Marine Mammal Protection Act and the Administrative Procedure Act. NOAA/Fisheries must initiate formal rulemaking proceedings pursuant to 16 U.S.C. 1373(a) to protect the population for taking bottlenose dolphins from each of the stocks from which taken are permitted. As a sound policy measure, a moratorium on the live capture of bottlenose dolphins should be instituted until these regulations are finalized.

AIF has expressed concern about the current quota system for removals from the wild of bottlenose dolphins on previous occasions. Attachment A to these comments, incorporated herein, is a letter of 29 August 1989 detailing steps which must be taken in order to revise and administer the quota system. These comments pertain generally to needed revisions to the quota system. The following are our comments on the system as discussed in the DEIS:

1. The draft EIS fails to make it clear that the quota system for removals from the wild of bottlenose dolphins is meant to monitor all forms of taking. An adequate review of the quota system must detail NOAA/Fisheries plans for determining the

extent of removals by means other than live capture, such as incidental take, shooting and entanglement in fishing gear. The DEIS states that the extent of human-induced mortality is not known. Since this information is crucial to the structure and administration of the quota system, the final EIS must address methods that the agency will employ to gain and use this necessary data.

2. The Dolphin Research Center, a swim-with-dolphin facility, certified in Washington, D.C. that mature males are not suitable for human/dolphin programs due to sexual aggressiveness. This results in a preference for removing females rather than males. The draft EIS documents this preference also (see pages 11 and 50). Quotas have been set using the assumption that the percentage of females taken by live capture will reflect the sex ratio in the wild. Since current administration of the quota system has allowed an average of 75% of the collected animals to be females, the system has failed to protect the reproductive ability of the species in areas where they are captured. As stated in the Center's testimony, selective removal of females is inconsistent with sound resource management and the purpose and policies of the MMPA. Continuing approval of new applications for swim-with-dolphin programs will further threaten the species. Although new recommendations for administration of the system are likely, this is by no means assured in the near future. The final EIS should discuss the impact of this preference for females on the dolphin population if the quota system is not changed. It should also discuss whether there is a way to avoid adverse impacts from this preference, as well as possible changes in the quota system that might be necessary to remedy the impacts of this historical selective removal of females.

Marine mammal health and safety issues

The draft EIS details with alarming clarity the threats of disease faced by animals housed at swim-with-dolphin facilities. Most interesting is the discussion of respiratory ailments which can be transmitted from humans to dolphins. The DEIS cites a recent report of 431 bottlenose dolphins captured or born into captivity from 1975 to 1987. Of those 431 animals, 191 or 44% died within the study period. Respiratory disease was by far the most common cause of death.

According to former aquatic personnel, instances of respiratory infections befalling marine animals and their trainers within the same time period are common. Trainers at most facilities are under standing orders not to come to work if they have a cold or the flu. In addition, workers and babies in the areas adjacent to some aquariums are required to dip their shoes in an antiseptic

solution before entering areas where animals are maintained. Although there have been no scientific papers dealing with zoonoses at aquariums, NOAA/Fisheries should evaluate the precautionary measures taken by the industry as an indication of the need to protect captive marine mammals from human-borne infections.

NOAA/Fisheries should also consult with the Centers for Disease Control Zoonoses division for information that they might provide.

The description in the draft EIS of threats to captive dolphins due to stress-induced disease is perhaps of even more concern than direct threats to the animals, if only because we know so little about the role that stress plays in the lowering of the animals' immune response. Comments in the draft EIS about the incidence of ulcers in captive dolphins and the regular use of drug therapy for this condition hints at a major problem which should be investigated thoroughly before any additional animals are captured for any purpose.

The National Environmental Policy Act (NEPA) requires discussion of the impacts on dolphin health and well-being that cannot be avoided by the proposed action. Testimony at the Washington hearing by Felina Clibball, a former swim-with-dolphin facility trainer raised several unavoidable impacts that the final EIS should discuss. These include actions by the swimmers that might confuse and/or frighten the dolphins, and may lead to stress, stress-related disease and/or aggressiveness, the loss of interest in people, which may make the animal less desirable to the facility. Discussion should also be included on loud screaming by excited swimmers who ignore instructions against this behavior and petting the dolphins in places that annoy, confuse or sexually excite the animals despite instructions by the facility to avoid areas such as the blowhole, eye and belly.

APHIS regulations cited in the draft EIS (9 CFR 1.111, Handling) indicate that swim-with-dolphin programs could lead to lack of adherence to regulations which would violate the Animal Welfare Act. We do not agree with the assessment of the Animal and Plant Health Inspection Service. There is evidence that swim-with-dolphin programs will at times involve handling of dolphins in a manner that causes discomfort and behavioral stress to the animals in particularly stress. Testimony at hearings on the draft EIS and comments in the document indicate that violations of the Animal Welfare Act may well be occurring.

The final EIS should address whether swim-with programs are likely to violate the prohibitions on handling marine mammals in a manner that (1) causes unnecessary discomfort or behavioral

stress; (2) does not avoid harm to handlers; (3) does not insure minimal risk of harm to the public; (4) does not establish sufficient distances or barriers to assure safety to the public and the marine mammals.

Human health and safety issues

The draft EIS raises the problem of dolphins becoming aggressive and having to be taken out of the programs. Perhaps the most damaging information about aggression in animals used for swim-with-dolphin programs comes from the captive display industry itself in comments on the scope of the DEIS. The apparent pattern of animals becoming "terrible bullies," (in the words of one aquarium operator) they nature poses both safety questions and questions of conservation.

The concerns raised earlier about disease transmission between marine mammals and humans take on much more significance when combined with concerns about aggressive behavior in the animals. If a dolphin bites or rakes a visitor with his or her teeth, the safety of the visitor is threatened not only by direct injury, but also by the possibility of disease transmission via an open wound.

Aggressive behavior on the part of the dolphins over time may also threaten the well-being of individual dolphins in the programs and local populations of wild animals. What will happen to an ever-increasing group of animals who must be removed from money-producing programs? Will captures of younger animals from the wild for existing facilities and new swim-with programs combine with human-induced mortality to threaten local populations?

In considering the threats to the health and welfare of both the marine mammals and the humans in these programs, it is very distressing to us to read in the DEIS that accidents and injuries have occurred in these programs that have apparently not been reported in the facilities' quarterly reports to NMFS. The oversight provided by NOAA/Fisheries during the period during which data has been collected has been lacking to the point of negligence. The DEIS discloses that not only has one facility not submitted any required quarterly reports, but also that a California sea lion is being used in one of the programs, in direct disregard for the law and apparently with the full knowledge of the agency. In addition, although the DEIS describes "scientific research" being conducted at some swim-with-dolphin enterprises, not one facility has applied for or received the required permit for conducting research under the Marine Mammal Protection Act. The fact that NOAA/Fisheries has

allowed these blatant violations of the law to continue without so much as a comment raised serious questions about the ability of the agency to adequately monitor the program.

If these programs are allowed to continue, extensive monitoring by one or more federal agencies will be required. MPA requires discussion of methods to minimize potential harm and a statement of why a method discussed is not adopted by the agency. The final PIC should discuss what monitoring requirements are necessary for the government to insure that aggressive dolphins are taken out of the program before someone is injured. The discussion should include the following: how often inspections should be made; are undercover observers necessary; should operators be required to distribute and ask participants to return surveys written by NOAA/Fisheries; how much manpower and what cost is involved for monitoring per facility in the government; is monitoring likely to work; how can facility non-compliance with reporting requirements be addressed?

Therapy uses of Marine Mammals

APL has long supported the use of companion animals in therapy and for other assistive purposes. Guide dogs provide mobility and protection to blind people. Signal dogs alert the hearing impaired to sounds such as ringing doorbells and crying babies. Cats, dogs and other companion animals provide loving, non-judgmental interaction to sick and troubled people in a variety of not-facilitated therapy programs. The effectiveness of companion animals in these programs has been well-documented scientifically. In addition, the ability of these animals to bring their human counterparts out of the isolation of their illnesses and disabilities may be as useful as the direct help the animals provide.

We would like to point out, however, that these highly successful programs use only domestic animals, selected and bred over centuries to live with humans and to be responsive to their direction. We have serious questions about the suitability and safety of using wild animals for these purposes. If questions about aggression in dolphins are serious enough to merit concern for able-bodied participants in these programs, they should be of even more concern when the participants are ill, troubled or handicapped.

The Draft PIC details "scientific research" being conducted as part of therapy programs at one of the wild-with-dolphin facilities. We would like to point out that none of these facilities holds, nor have any applied for, a permit to do this research as required under the MMPA. This may be because none of

the "research" described in the draft PIC appears to follow a valid scientific method. Specifically, no research has been done which involves a control group. One study described in the draft PIC involved sessions conducted in a classroom and the dolphin pool. No assessment was evidently made of the various factors which might have affected the subjects' responses. For instance, with dolphins would be as beneficial as interacting with the animals?

The Animal Protection Institute believes that the Draft Environmental Impact Statement details serious threats to populations of wild dolphins and to the health and safety of sensitive marine mammals and the humans who might interact with them in wild-with-dolphin programs. These threats are ten serious for the National Marine Fisheries Service to ignore. Authorization for these programs should be allowed to expire as specified in Alternative A.

Thank you for the opportunity to present our views.



ANIMAL PROTECTION INSTITUTE OF AMERICA

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29 August 1989

James Brennan, Esq.
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Dear Mr. Brennan:

On 2 August 1989, a meeting took place in New Orleans attended by members of the environmental community and government representatives to discuss the current quota system for removal of bottlenose dolphins (*Tursiops truncatus*) from the Gulf of Mexico and Banana/Indian River complex. The objective of the meeting was to allow the non-governmental organizations to make recommendations concerning revision of the quota system and to determine NOAA/Fisheries' plans concerning it. This letter summarizes the meeting's discussion.

A hearing was convened in April, 1989, concerning a permit application from Ouwahanda Nierenpark, Rhonens, The Netherlands, to capture and maintain four bottlenose dolphins. At that hearing, a number of concerns were raised by animal welfare and environmental groups concerning the development and on-going administration of the quota system.

Testimony presented at that hearing included that of Sandy Goldberg of the Sierra Club Legal Defense Fund on behalf of the Animal Protection Institute of America and Greenpeace. Ms. Goldberg testified that the quota system is, in effect, a regulation which was adopted without the notice and comment required of rulemaking under the Marine Mammal Protection Act and the Administrative Procedure Act. Furthermore, she testified that there is substantial evidence that the current quotas are not adequate to protect stocks of *Tursiops* from being reduced below their current levels. Unfortunately, efforts by NOAA/Fisheries to address issues raised at the hearing appear to be stalled.

Accordingly, the Animal Protection Institute of America and Greenpeace make the following recommendations:

NOAA/Fisheries must initiate formal rulemaking proceedings pursuant to 16 U.S.C. 1373(a) to prescribe regulations for taking bottlenose dolphins from each of the stocks from which takes are permitted. We request that the Service take the following steps:

1. Re-evaluate the 2X rule.

A measurement of allowable removals by all forms of taking should be developed specifically for Gulf of Mexico and Banana/Indian River *Tursiops*.

2. Define "other forms of taking" besides live captures to be counted towards the allowable number of takes.

Possibilities include:

- o incidental take in fisheries
- o entanglement from ghostnets, fishing line and unattended traps
- o direct and indirect effects of pollution
 - o chemical
 - o marine debris
 - o noise/shock waves from explosions
 - o other (biotoxins?)
- o shootings
- o boat collisions.

3. Review and quantify possible effects of "other forms of taking" defined in the Step 2
 - o by type
 - o by geographic area.

4. Review current knowledge about management area boundaries to determine if changes are necessary.

5. Determine a method by which to administer the collection of data on number of takes.

Will individual removals determined to be human-related be counted one by one against the number of takes allowed for the area? Will the various types of taking be allocated portions of the number of takes allowed with the remainder reserved for live captures, requiring only those collections to be counted? Or will some other management scheme be used?

In addition to the above, other concerns about the live capture of *Tursiops* must be addressed. NOAA/Fisheries must:

1. Set standards for the sex ratio of animals live captured under the quota system.

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2. Set standards for minimum length at capture to ensure that nursing calves are not taken.
3. Review effects of chase, encirclement and capture on Tursiops in live capture operations. Require observers on all collection trips to gather this data and to ensure compliance with the provisions of the permit. Make post capture reports available for public and scientific community review.
4. Review best information on successful captive breeding programs for Tursiops. Develop methods to disseminate information and encourage cooperative captive breeding programs. Adopt a regulation prohibiting captures from the wild if captive-born animals are available or are likely to become available -- or if animals can be bred from existing captive animals held by the applicant.

I would like to thank those who participated in the meeting in New Orleans. I look forward to NOAA/Fisheries' speedy progress in developing a workable system to protect stocks of bottlenose dolphins in these important areas.

Sincerely,

Nancy Davis Hicks

Nancy Davis Hicks
Director, Eastern Region

cc: Jeffrey Brown
Dr. Robert Brownell
Dr. Nancy Foster
Sandy Goldberg
Larry Hansen
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December 22, 1980

COMMENTS ON

DRAFT ENVIRONMENTAL IMPACT STATEMENT

ON THE USE OF MARINE MAMMALS IN

SWIM WITH-A-DOLPHIN-PROGRAMS

Prepared By:

Edward Morlan, Director
and

Joy M. Cole-Stanford, Coordinator

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The Midwest U.S.A. Whale Protection Federation (MWPF) wishes to take this opportunity to state its position on the swim-with-the-dolphin issue as presented in the Draft Environmental Impact Statement (DEIS).

On behalf of our membership and supporters in the Midwest region, we wish to go on record as being in total opposition to any form of swim-with-the-dolphin programs and endorse Alternative A (No Action Alternative), which would allow swim-with-the-dolphin authorities to expire after December 31, 1989.

We endorse the recommendations of such other environmental organizations as the International Wildlife Coalition, the Humane Society of the United States and the Animal Protection Institute referencing this program, incorporating previously submitted testimony and comments on the swim-with-the-dolphin programs by reference.

The Midwest U.S.A. Whale Protection Federation has addressed what it feels are the most relevant areas of consideration regarding the swim-with-the-dolphin programs and they are as follows:

DISTURBANCES TO WILD POPULATIONS

Swim-with-the-dolphin operators have shown a marked preference to using young female dolphins for their interactive programs (75% as noted in the DEIS, p. 111). This places serious disturbances and imbalances on the reproductive recovery of wild stocks, the impact of which is not fully comprehended. Recent concerns that a Florida capture team were observed holding a mother and baby Tursiops raises questions over the ethical considerations of collectors and their insensitivity to wild stocks.

We are deeply concerned over the disturbances of chase, capture, separation, incidental injury and drowning which result from capture methods. Procurement for the display community has resulted in the ultimate form of harassment to the wild populations. Further, captures without the presence of either governmental or nongovernmental observers during captures can and has led to widespread abuse by these collectors.

Because of our concerns that the display community restrict its procurement of dolphins to beached, stranded or captive bred sources, we urge the Permit Division to curtail or cease altogether the issuance of any further permits for wild dolphin captures.

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AGGRESSIVE BEHAVIOR

While no swim-with-the-dolphin program operator has reported instances of sexual or other aggressive behavior involving their participants, as required under the Special Conditions on Human/Dolphin Swim Programs, members of the public and former employees of display facilities have reported several instances (DEIS, p. 20). Even as early as the 1960s, evidence of aggression was reported by the curator of an Hawaiian aquarium, indicating the dolphins' preferred dominance over the human swimmers to playing with them.

Because of the increase of aggressive and sexual display behavior with age, sexually mature dolphins are candidates for early removal from the programs. By this time, however, the dolphins are imprinted with undesirable behavior modifications. What happens to these animals? How does the Permit Division monitor the removal or relocation of these dolphins? Will the demand for fresh dolphins outweigh the existing OSP levels? Will levels be changed to meet with the demand for fresh dolphins?

Based on the lack of reporting injuries by the existing swim-with-the-dolphin facilities during their experimental, provisional permit period, it is conceivable that such nonconformance with the Special Conditions requirements will continue, if such permits are granted on a permanent basis, and possibly regarded as a "professionally recognized standard."

HEALTH/DISEASE

The continual introduction of large numbers of humans to dolphins raises serious health problems for both species.

Stress and stress-induced diseases associated with confinement and public harassment such as in human/dolphin swim programs are well documented as recognized health threats to dolphins. The recent publication of bleeding ulcers in four bottlenose dolphins at the National Aquarium in Baltimore clearly evidences the effects of close proximity of the viewing public. Capture stress syndrome is widely reported with high mortality rate directly attributed to stress factors (DEIS, p. 14).

As outlined in great detail in the DEIS, disease transmission between dolphins and humans is a serious health threat to be considered. As reported by Dr. Jay Sweeney in a recent issue of an IMATA newsletter, "Animals

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presented clinical symptoms during periods when the local (human) populations were experiencing similar afflictions. It is interesting to note Dr. Sweeney's testimony to the contrary during public hearings on this issue.

Swimmers anxious to participate in swim-with-the-dolphin programs unknowingly engage in the possible disease transmittal bilaterally via airborne aerosols or the presence of microorganisms in water contaminated with urine and fecal matter.

EDUCATIONAL AND CONSERVATION CONCERNS

NMFS can see no educational benefit to human/dolphin swim programs. On the contrary, such programs send the wrong signals to participants. Dolphins are perceived as friendly animals that willingly give humans a tow around the tank or like to be touched or petted. These are not programs that enhance the public's educational ideas about dolphins, their natural history, biology or behavior as a wild animal.

Similarly, conservation concerns which would draw attention to the need to protect the dolphin's wild populations or natural habitat are countered by the entertainment or amusement aspects of the swim-with-the-dolphin program. There is a dichotomy of interest between the conservation/protection needs and the totally exploitative, profit-motivated entertainment nature of the human/dolphin swim-with concept.

LACK OF ENFORCEMENT

We find the Permit Division spineless regarding enforcement. Under Special Conditions on Human/Dolphin Swim Programs (Appendix A, Items D.4. and D.5.):

D.4.: "... The program must be suspended immediately if the dolphins show signs of program-related health problems or undesirable behavioral modifications that are a result of the human/dolphin swim program."

In spite of clear reported evidence of both health related problems, aggressive/sexual behavior of swim-with dolphin programs and evidence of concealment of these concerns by the program operators, absolutely no action

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has been taken by the responsible federal agencies to impose penalties, punitive action, removal of dolphins in such programs or suspension of these programs.

D.5.: "Failure to submit adequate and timely reports may result in revocation of the permit holder's authority to use dolphins in an experimental human/dolphin swim program."

With clearly documented proof that some operators have failed to file timely reports and in some cases have even gone so far as to conceal adverse events, the responsible federal agencies have become a paper tiger by failing to revoke permits, thereby failing to enforce the Special Conditions in issuing permits for the human/dolphin swim programs.

NMFS responded to pressures of the display community to try an industry-sponsored, experimental human/dolphin swim program. NMFS did a very commendable job of establishing clear guidelines and reasonable reporting procedures but has failed to enforce clear cases of operator abuses. What has resulted was abuse, cover-up, distortion of facts, with serious and further stresses being placed on the wild populations. In one particular case involving the mysterious death of two swim-with dolphins, the owner/operator performed his own necropsy without the benefit of an outside opinion or any cross-check of his analysis or findings.

NMFS has allowed the growth of an abusive industry that it cannot manage, curtail, monitor or even discipline. It's unclear to us who controls whom. We argue that since NMFS is incapable of oversight and management of the subject programs, these programs should be allowed to expire on December 31, 1989. We fear that if NMFS does not curtail such programs that it will be faced with a host of permit requests from hotels, casinos, religious theme parks, amusement theme parks, psychic-religious organizations, physical-therapy research groups, travelling shows, trade shows and numerous other well intentioned organizations both domestic and foreign.

ECONOMIC IMPACTS

Considering display facilities existed and, presumably, profited before the advent of the swim-with-a-dolphin programs, it seems non-productive and inappropriate to even address the loss of income by the public display community. Regarding the resort swim facility, the hotel flourished previous to the program's beginning and, in all likelihood, would continue to do so if the swim program ceased to exist. There would be less incentive by competitive hotels to also seek swim-with-the-dolphin permits.

On the other hand, the costs incurred by enhancing and enforcing monitoring programs by NOAA Fisheries would spiral out of control and far exceed budget appropriations projected for this purpose, considering the other responsibilities that fall under this agency's purview. If authorization of swim-with-the-

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dolphin programs is permitted beyond December 31, 1989, the influx of permits and the resulting snowball effect could overwhelm and impact upon the efficiency of the Permit Division's monitoring procedure and have a detrimental impact on the wild dolphin populations.

NMFS DISCLAIMER OF RESPONSIBILITY

NMWF is amazed that the NMFS Permit Division assumes no liability for physical injuries or harm to individuals participating in the human/dolphin swim programs. We argue that the Permit Division and its advisory staff of scientific advisors are looked upon by the public as "the scientific authority" for scientific expertise in these areas. With numerous sources of documentation on human/dolphin interaction from previous trainer/dolphin history, it is clear that a reasonable preliminary study data base was available before issuance of human/dolphin swim program permits.

When the general public is exposed to a swim-with-the-dolphin program that has a federal permit, they assume that no such program would be allowed by our government if there is a potential for danger to the swimmers. The public is not aware that these programs have already resulted in swimmer injuries or that they expose themselves to the potential of disease transmission through physical contact or airborne or waterborne health hazards.

Continuation of such programs is the direct responsibility of the NMFS Permit Division and cannot be delegated to others or shirked off by a disclaimer. The Permit Division and its scientific advisors being "the scientific authority" are RESPONSIBLE FOR PROTECTION OF BOTH THE MARINE MAMMALS AND THE PUBLIC. In our opinion, this exposes the Permit Division and individuals authorizing such programs to any civil action by parties that suffer damages resulting from these programs.

How will the Permit Division respond to a civil lawsuit of an aggravated sexual attack by a dolphin on a human when the Permit Division has prior knowledge of the potential of such an act? Clearly, the federal government is responsible for establishment of the atmosphere leading to such a violation.

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In conclusion, it appears evident from the examples cited above that swim-with-the-dolphin programs serve no apparent useful benefit to either dolphins or humans, but present nothing more than exploitative attractions to draw hotel guests, tourism and more importantly, to profit the program operators. Human/dolphin swim programs are injurious to marine mammals as well as being potentially dangerous to human participants. NMWF believes swim-with-the-dolphin programs clearly violate the intent of the MMPA, going beyond the public display considerations as defined.

Harassment of marine mammals is not allowed by public display under the Act, yet placing various participants in pools with dolphins creates mixed messages, causing confusion which may ultimately lead to aggressive behavior.

We find that MMPA violations exist in the issuance of permits for human/dolphin swim programs. We note that direct hands-on interaction constitutes harassment and is also compounded when food inducement (or deprivation) is required to force the interaction. We also cite Section 1.111-Handling(a) of the Animal Welfare Act, since this section clearly requires that handling of marine mammals will not cause unnecessary discomfort, over-heating, behavioral stress or physical harm to animal or handlers, the swimmers in this case. Historical evidence clearly exists which affirms our allegations of harassment, stress, illness and injury to both humans and dolphins alike.

We urge the NMFS Permit Division to let the program expire on December 31, 1989.

The Midwest Whale Protection Federation would appreciate being informed as to the resolution of this controversial program.

Sincerely,

Edward Morlan
Edward Morlan
Director

Joy M. Peter-Stanford
Joy M. Peter-Stanford
Coordinator

cc: David Cottingham, Director
Office of Ecology & Conservation

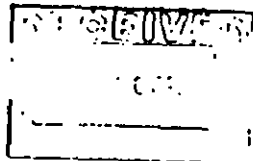
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U-1

January 8, 1990

Dr. Nancy Foster
Director
Office of Protected Resources
and Habitat Programs
NOAA Fisheries
1315 East West Highway
Silver Spring, Maryland 20910



Dear Nancy:

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Please accept the following comments from the State of Florida regarding the Draft Environmental Impact Statement on the Use of Marine Mammals in Swim-With-The-Dolphin Programs (DEIS).

The State of Florida, Department of Natural Resources has chosen to comment on the DEIS because five captive marine mammal facilities located in this state have offered such programs within the last few years (only three of which were permitted by NMFS). In addition, if swim programs are allowed by NMFS to continue and proliferate, it is likely that many will locate in Florida and that many of the dolphins needed to stock these programs worldwide will come from Florida waters, as allowed by the NMFS quota system for removals of Atlantic Bottlenose dolphins from the wild.

REMOVAL OF DOLPHINS FROM THE WILD

Currently the NMFS quotas for allowable removals of dolphins from the wild are based on 2% of the population estimate for the management area in question. Based on current quotas, a total of 29 dolphins may be removed from Florida waters each year by capture permitted by NMFS.

There are several questions with regard to the NMFS quota system. NMFS is bound by law to allow take only as consistent with the Marine Mammal Protection Act (MMPA). MMPA policy is to prevent a stock of marine mammals from diminishing below the stock's optimum sustainable population (16 U.S.C. 1361(2)). NMFS has stated that "The existing management regime for dolphin live-capture is based on the assumption that all stocks were at or near carrying capacity. This assumption was never tested and optimum sustainable



Tom Cochran, Executive Director

Administration	Research and Studies	Law Enforcement	Marine Resources	Recreation and Parks	Resource Management	State Lands
John Smith Secretary	Bob Butterworth Deputy Secretary	Carol Evans Deputy Secretary	Tom Cochran Executive Director	Jack Cannon Commissioner of Parks	Bill Egan Commissioner of Lands	

Dr. Nancy Foster
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population for these stocks was never determined." Therefore, it is not clear that the 2% removal allowance is in keeping with the requirements of the MMPA.

Although recommended by the Marine Mammal Commission, not all forms of human-related removals from the wild are being assessed as directed take comprising the allowed 2%. At this time, there is no formal attempt to determine the number of dolphins that are killed in the management areas by fisheries or nonpermitted human interactions. The Southeast Stranding Network is the volunteer group coordinated by NMFS that deals with strandings. Network efforts are not uniform throughout management areas. Not all Stranding Network members have the same degree of expertise in conducting dolphin necropsies and in identifying cause of death. If all members choose to respond to all Atlantic Bottlenose dolphin carcasses reported. In 1988, DNR found approximately 80 cases of strandings unreported to the Stranding Network. It is not possible to determine what percent of those deaths might have been human-related.

Other questions pertain to the determination of what degree manmade pollutants are affecting dolphin mortality. There may be a need, as was demonstrated on the East coast in 1987-88, to determine how biotoxins and man-made pollutants may possibly combine to cause mortality.

Additional questions exist that do not involve dolphin mortality, but that involve the issue of whether it is advisable to remove dolphins from what have been identified to be highly structured social groupings. Congressman Porter Goss has pointed out that while the take quotas may be structured so as to be inconsequential for the Atlantic Bottlenose dolphin globally, current allowed quotas may be very consequential for local populations within management areas. Management areas are based on geographic divisions not population boundaries, which compounds the difficulty of considering a single population. Also, since swim program operators have indicated that young female dolphins perform better in their programs, disproportionate pressure is put on a particular age and sex group within the population. Current live capture rates are approximately 75% female, 25% male; almost all are young animals. Concerns have been raised that young dolphins of the size allowed for capture may still be nursing and, to a large degree, still dependent upon their mothers.

In addition to all of the biological questions that exist, we must also consider the amount of public sentiment that has surfaced recently surrounding the removal of dolphins from the wild for any purpose, including swim programs. Both Lee County and the city of Tarpon Springs passed resolutions regarding the removal of dolphins from the waters in their areas. The Governor and Cabinet of

Florida asked that rulemaking occur to prevent removals of dolphins from within the boundaries of State Aquatic Preserves, marine sanctuaries, State or Federal parks or preserves. Advocacy groups such as Sea Shepherd and the Dolphin Project have dedicated themselves to preventing as many captures as possible. These groups have been quite active in Florida since July of 1989 and have taken dramatic action such as entering capture nets and threatening to cut fences in attempts to prevent captures or frequently captured dolphins.

REPORTING REQUIREMENTS

From a regulatory standpoint, the swim facilities are problematic. They may not be consistent with the goals of the MMPA. In order to assess a program, NMFS must rely heavily on reports requested from the facility program operators. Unfortunately, the operators of swim programs have not routinely met NMFS reporting requirements which are one of their swim program permit conditions. Approximately 40 to 50% of the statistics reported quarterly by NMFS for swim programs had to be estimated, based on partial reports from the facilities. In some instances, swim participants reported being injured (corroborated by hospital records), and such injuries were not reported by the swim program operators as was another condition of their NMFS swim program permits. Clearly, based on this level of self monitoring, the swim operators cannot be relied on to adequately police themselves. The governmental regulatory agencies charged with monitoring captive marine mammal activities cannot provide the daily observation needed to adequately record all instances of aggression or other program difficulties and to accurately monitor these new and unique programs. Therefore, we believe that it is not possible for NMFS to ascertain that the care and supervision of the swim programs is being conducted in a manner consistent with the MMPA as specified in 16 U.S.C. 1374 (c).

REPORTED BENEFITS

Several benefits are reported from the dolphin swim programs. Participants indicate that they find the programs to be entertaining and relaxing. Many of the swim facilities include conservation and marine education information in their pre- and post-swim briefings. In addition, Dr. Nancy Smith and Dr. Dave Nathanson of Florida International University use the dolphins as a part of therapy programs for mentally and physically handicapped children and adults. Swim program operators and some hotel and restaurant owners in swim program facility localities report that the programs attract additional visitor dollars to their businesses.

REPORTED PROBLEMS

However, many potential problems have also been reported in connection with the dolphin swim programs. Although most program participants have enjoyable encounters with the dolphins, there have been several reports from those who did not. There have been recorded instances of swimmers being nuzzled by the dolphins and some have actually been nipped by the dolphins' teeth. There have also been reports of sexual interaction by the dolphins toward humans. Such interaction is so common that one Florida swim facility tells clients that the dolphins use sexual interaction with humans as a form of communication. On some occasions, this sexual interaction has become aggressive and has resulted in serious injuries to swimmers. At least one person was hospitalized as a result of such interaction. Other forms of aggressive interactions that have been noted include dolphins slapping swimmers with their tails, ramming swimmers with their rostrums, and dragging exiting swimmers back into the water. This type of aggressive interaction is inconsistent with the USDA Animal and Plant Health Inspection Service Animal Welfare Act standard 9 CFR 3.111, which specifies that handling of marine mammals must be done so that there is minimal risk of harm to the public.

Based on the evidence found in current and past swim programs, it appears that older dolphins, particularly older male dolphins, gradually become unmanageable after being used in a swim program over a period of time. These dolphins must then be removed from the program for safety reasons, to protect the human swimmers. The problem then becomes what should be done with these dolphins. Few facilities are interested in obtaining dolphins that are unmanageable in the water and unpredictable with humans. It has not yet been established that such animals can be successfully reconditioned for release back into the wild, and such disposition may not be possible. It would be very difficult to keep such animals in captivity and to provide them with the appropriate degree of in-water observation and handling (such as routine and emergency veterinary care), or to properly enter their tanks to perform the required routine inspection and maintenance. We cannot condone a program that uses and then discards dolphins.

Trainers have reported instances of human initiated negative interactions in swim programs. Not all swimmers are familiar with snorkeling techniques or are comfortable being in deep water. Some of the therapy patients are unable to control their movements. As these individuals flail about in the water, dolphins trying to approach them are in danger of being poked or scratched in the eyes or blowhole. There have also been trainer reports of humans being excessively aggressive or forceful toward dolphins. In one case, the trainer reported that such interactions caused long-term behavioral changes in the young swim program dolphins.

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The potential for disease transmission has been frequently discussed by swim operators, marine mammal veterinarians, and regulators. While it appears that there are currently few documented cases of disease transmission through casual contact, it has not been ruled out entirely. Respiratory diseases seem to be the most frequently transmitted. In addition, it appears that both humans and dolphins may be susceptible to water borne bacteria and viruses that frequently occur in the dolphins' open water habitat. (All existing swim programs utilize open water pens with natural water flow.) Currently none of the Florida facilities have routine health screening to prevent clients with respiratory illnesses or open wounds from interacting with the dolphins. Another problem area is that of water quality. The current standards for water quality in dolphin enclosures are not as stringent as the Florida standards and practices for human saltwater swimming areas (Class 3 waters). Therefore, it is possible for a situation to develop where participants could be swimming in water that would be considered unsafe for humans.

In addition to problems mentioned above, there have been other instances of noncompliance with the NMFS swim program permit conditions. As indicated in the DEIS, one program continues to use a California Sea Lion in their swim program although that species is not permitted for such uses and is known to bite. Two Florida facilities operated swim programs without any authorization from NMFS. Dolphin facilities are currently required to provide an escape area for dolphins should they wish to avoid swimmers. Unfortunately, not all swim program dolphins have been trained to navigate the gates into these areas, and therefore, have severely restricted access to them. Trainers have reported seeing swimmers sent into the escape areas when dolphins became uncooperative and chose not to participate in designated public access areas.

THERAPY BENEFITS

While the therapeutic benefits that can be obtained from dolphin swim programs may be positive ones, these benefits can be adequately obtained through other methods. Therapy benefits may be more dependent upon the aquatic environment than its animal inhabitants and could be elicited by nonprotected species. Many of the entertainment and relaxation benefits that swimmers experience can be obtained from a lower level of interaction with the dolphins.

Dr. Robert Gordon of St. Louis, Missouri, has measured muscle tension to study the effects of people swimming with dolphins in conjunction with the Wild Dolphin Project in the Bahamas. His research indicates that being in the water with no animals present has a significant effect on relaxation. Much research has been conducted over the last several years to study the relaxing and

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therapeutic benefits of water therapy. Dr. Nathanson indicates that the known therapeutic effects of water were a deciding factor in his decision to use dolphins in his animal assisted therapy project.

The therapy dolphins are being used primarily as novel stimuli to focus the participant's attention, a role that may well be able to be filled by domestic animals. The concept of pet assisted therapy is not new. It has been effectively used for many years with companion species such as horses, dogs, cats, birds, guinea pigs, etc. These animals have been domesticated for thousands of years and can provide reliable therapeutic assistance. Although dolphins may also be able to elicit beneficial responses, the therapeutic use of large wild animals, which have proven aggressive in some cases, is questionable. The majority of dolphins used in swim therapy programs were taken directly from the wild less than 10 years ago.

The potential for using marine mammals in therapy programs is perhaps one of the newest and least understood benefits of direct marine mammal interaction; however, such programs constituted a small percent of the swim sessions conducted. Although positive results have been seen, Dr. Nathanson has noted that dolphin therapy should be considered a supplement to other forms of therapy, not a replacement. Dr. Smith, in a July 26, 1989 conference on Dolphin/Human Interaction, pointed out that dolphin therapy is not a magic cure-all and to consider it so would be a grave disservice to all of the efforts of doctors, therapists, and family members who work with the handicapped. According to the DEIS, therapy swims account for only 2% of the swim sessions at Dolphins Plus and only 6% of the swim sessions at Dolphin Research Center. No other swim facilities have dolphin therapy programs for the handicapped.

Some of the results that dolphin therapy has been associated with could perhaps be species specific. For that reason, we recommend that NMFS be open to considering for approval research permit applications that are based on peer reviewed (both therapeutic research community and marine mammal research community), bona fide research that meets all of the required criteria for NMFS research permits. None of the current swim facilities holds a NMFS research permit. The Dolphin Research Center has registered with the USDA/APHIS as a research facility, but no proof of research or research proposals are submitted as part of that registration process. We also recommend that no dolphins be removed from the wild for therapy research, since adequate numbers currently exist in captivity for these research activities, and that no therapy that involved dolphin interaction be allowed without the proper NMFS permit.

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NON-THERAPY BENEFITS

Dr. Gordon also found that people who observe others interact with the dolphins experience a significant level of relaxation. It is also clear that millions of visitors to the non-swim marine mammal facilities find watching the interaction between dolphins and humans relaxing and entertaining.

Although close physical interaction helps to motivate swim participants to learn more about conservation and marine education issues, it is not essential in the development of such interests. For example, there is much attention focused on the conservation and biology of the larger whales, but none are on display in captivity, nor is physical contact with them available through any type of swim program. Non-swim marine mammal facilities, universities, primary and secondary schools, environmental groups, and other organizations have developed methods to allow for conservation and marine mammal education without the aid of high level, direct interaction. In spite of the fact that it is often claimed, there is no evidence to indicate that commercial swim programs or dolphin therapy programs are having any more significant impact on cetacean conservation (particularly the yellow-fin tuna fishery issues) than any of the non-swim captive dolphin programs.

While businesses located in the same proximity as the swim program facilities do receive income from swim program participants, we are not aware of any businesses that are exclusively dependent upon swim program participants' patronage. No one from the hotel or restaurant business chose to testify at either of the two Florida swim program public hearings.

CONCLUSION

In conclusion, we feel that given the lack of a determination of optimum population size and cumulative human related take, additional removals from the wild for dolphin swim programs could have negative impact on populations even though numbers are consistent with current quota requirements. Removal of disproportionate numbers of young dolphins and females from a management area could have negative future impact on reproductive structure of populations. The citizens of Florida are becoming increasingly involved in anti-capture activities. Available monitoring levels cannot assure NMFS the ability to properly assess dolphin swim programs and to satisfy their MMPA directive to monitor dolphins after they have been placed in their captive roles. There have been documented cases of dolphins injuring swim program participants. Current information indicates that as dolphins used in swim programs mature, they develop aggressive tendencies and become unsuitable for swim programs. Although current data are inconclusive, it appears that some

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illnesses, particularly respiratory ones, could be transferred between dolphins and humans, and that the dolphins' aquatic environment does not always meet standards for human use. Instances of noncompliance have occurred throughout the experimental period for swim programs, and many of these deficiencies still exist.

Although some positive benefits can be derived from the swim programs, the majority of these benefits can be obtained in other ways such as: 1) the use of domestic companion animals instead of this protected species of wild animal; 2) lower levels of interaction, such as observation of wild or captive dolphins; and 3) already established conservation/education methods. Dolphin swim cannot be monitored in a manner consistent with 16 U.S.C. 1536 (c). The dolphins used in swim programs cannot be handled in such a manner so as to allow enough control to present minimal risk to the public, as required in USDA/APHIS Animal Welfare Act standard 9 CFR 3.111. These programs cannot be allowed to exist if they do not comply with the laws that regulate marine mammals. Therefore we recommend that NMFS adopt option "A" as listed in the DEIS, and allow all dolphin swim program permits to expire on December 31, 1989. We would, however, like to encourage NMFS to consider bona fide dolphin therapy research proposals for approval, based on the established research permit criteria.

Please feel free to contact me if you wish further clarification on our recommendations.

Sincerely,

DIVISION OF MARINE RESOURCES


Karen A. Steidinger, Ph.D.
Chief of Research
Florida Marine Research Institute

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Center for Coastal Studies

A Private Non-Profit Organization for Research and Education in the Coastal Environment

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December 19, 1989

Dr. Nancy Foster
Director
Office of Protected Resources and Habitat Programs
NOAA Fisheries
1315 East West Highway
Silver Spring, MD 20910

V-1

Dear Dr. Foster,

Thank you for the opportunity to comment on the use of marine mammals in swim-with-dolphin programs. I would also like to take this opportunity to comment NOAA Fisheries on its detailed and comprehensive DEIS on this subject.

I have spent the past twelve months collecting and analyzing data relating to mortality of three species of cetaceans (*Tursiops truncatus*, *Delphinapterus leucas*, and *Orcinus orca*) in captivity in the U.S. from 1975-1987. Mortality rates were compared across institutions and to physical differences within the institutions. Causes of death were also analyzed for trends. The vast majority of the data available were for Atlantic bottlenose dolphins (411 animals during the study period). A report was prepared on the study; several copies have been sent to NOAA Fisheries, and a manuscript is currently in preparation. In the process, I reviewed every permit file held by NOAA Fisheries for any one of these three species maintained by any U.S. institutions during the study period. I mention this only because I believe it qualifies me to comment on this DEIS from a relatively informed standpoint.

Lack of Data

During the process of my review, one thing became obvious: that in spite of the fact that we have captured and held a variety of species of cetaceans in captivity over a period of more than twenty years, we know very little about their basic physiological and psychological needs. This is indicated in part the fact that, of the 411 *Tursiops* captured or born into captivity after January 1, 1975, 170 were dead at the end of twelve years. The files are filled with conflicting notes relating to causes of death, necropsy reports, methods and place of capture, accidental transfers, and quarterly reporting errors.

Considering that this is an industry which takes pride in its inter-institution communication, self-regulatory procedures, and standard

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animal husbandry techniques, I was surprised to find that my report was the first in consultation to compare institutional differences in survivorship to physical parameters, or to analyze causes of death.

My experience leads to a simple concern that we frequently do not have enough data on general animal husbandry to supply the best possible conditions for the long term survival of the animals. More relevant here is that we have even fewer data on the effects of swim programs. Under these circumstances, I believe it would be irresponsible to expand these programs, and may even be questionable to allow the existing programs to continue.

The DEIS refers to Section 9, CFR 3.111 of the AHCIS Standards for care of marine mammals:

(a) Handling marine mammals shall be done as expeditiously and carefully as possible in a manner that does not cause unnecessary discomfort, over heating, behavioral stress, or physical harm. Care should also be exercised to avoid harm to the handlers of such marine mammals.

My main concern in relation to this section of the Standards is the term "behavioral stress." Very few data exist on identifying stress in marine mammals, and in cetaceans in particular. It has traditionally been the view of the captive animal industry that the "challenge" of performance - and therefore, we would assume, of swim programs - is beneficial to the animals. This issue has been addressed by Hediger in the *Psychology and Behavior of Animals* (1968) and by Maple in *Captivity and Behavior* (1979). Conversely, it was suggested by Caldwell and Caldwell in *Manuals of the Sea: Biology and Medicine* (1972) that there were some indications that both life span and reproductive capacity were reduced in regularly performing marine mammals. More recent information from St. Aubin and Geras and from Gibbons and Stoskopf as cited in the DEIS further supports the belief that long term stress in captive marine mammals should be an area of serious concern; it is also an area about which we have very little information relating to causal agents and therefore prevention.

In the process of my study, I attempted to correlate performance time in hours per week (including swim programs) to institutional survivorship. I could find no significant correlation, either positive or negative. However, there did appear to be the beginning of a trend that might indicate a rise in mortality levels with a rise in performance time. The data, unfortunately, are scanty. Until we can further investigate any possible correlations between the two, I believe it is essential to err on the side of the animals. Certainly the data do not confirm the traditionally held industry view.

Programs that would seem to be inherently high stress, such as swim programs, should be discontinued, at the very least, as experimental programs until more data are available. Moreover, if these programs continue, I suggest that they operate under very strict conditions, requiring reproductive rates, mortality data, and quarterly detailed medical reports specific to the animals used in the swim program.

Regular monitoring of high-stress indicators, such as low serum calcium and low thyroid hormone levels, should be required. NOAA Fisheries should then review these data in order to determine whether swim programs are "behaviorally stressful" to the animals. Responsible judgments cannot be made without quantifiable scientific data.

Therapy Sessions

Much of the publicity concerning swim programs has centered on the therapy sessions taking place at the various institutions. I believe these programs are not a valid use of the public display permit as intended by the Marine Mammal Protection Act and as such should require scientific research permits and include peer review. Permit requirements should include objective evaluation of improvement in the human subjects as a result of the swim therapy session, as well as the above suggested reporting procedures for the animals involved.

Alternatives should also be considered, as required under the National Environmental Policy Act. The DFIS states that two psychologists who have conducted therapy swims have reported increased cognition in their patients. However, no mention is made of "control" groups (commonly accepted medical and scientific practice) involving therapy sessions using other animals. Currently a number of successful therapy programs for the mentally, emotionally and physically handicapped exist nationwide that involve pets and domesticated animals; effective alternatives of this nature - which do not require a federal permit and do not use federally protected species - should be considered prior to granting permits for swim therapy with dolphins.

Impact on Wild Populations

The phenomenal growth of the swim program is also cause for concern, particularly as it relates to demand for animals from the wild. According to the DFIS 40,000 people are expected to swim with dolphins during 1989 in the four permitted facilities. The DFIS also states that somewhere from 6-32 individuals are currently involved in a swim program at any one time. In the latter case, it is assumed that placing any more people into the pool with the present number of animals would not be feasible; therefore, if the demand for the program continues - and the indications are that it will - additional animals will be required. If other facilities are permitted, the demand will also increase.

Information recently released by Randy Wells on a well studied population of *Inusupa leonatus* off Sarasota, Florida, indicates that juvenile bottlenose dolphins may remain with their mothers and continue to nurse for more than five years. Premature separation of mothers and nursing calves may not only cause psychological trauma, but increase susceptibility to disease by limiting natural antibodies passed to calves through lactation. In light of this data, takes from the wild, which have traditionally been sized at animals approximately two years of age, may have to be reevaluated on an industry-wide basis. Greatly increased demand for capture of new animals to supply popular swim programs may therefore not be in the animals' best interests, and contrary to the intent of the MMPA.

I hope that these comments will prove useful to your decision making process. Based on these observations, I would strongly urge that NOAA Fisheries either

a) continue existing programs only, on an experimental basis with much stronger regulations and a detailed monitoring system, or;

b) discontinue permits for all swim programs.

Sincerely,

Karen L. Steiner

Karen L. Steiner
Executive Director
Center for Coastal Studies

cc: D. Cottingham



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January 5, 1990

Dr. Randy Foster, Director
Office of Protected Resources
and Habitat Programs
N.O.A.A., Fisheries
1335 East Main Ave.
Silver Springs, FL 32910

W-1

Dear Dr. Foster,

As the operator of the former "Swim-With-The-Dolphin Program" at the Hawk's Cay Resort in Marathon, Florida, I am herein commenting on the 1987 ENVIRONMENTAL IMPACT STATEMENT of the use of Marine Mammals in Swim-With-The-Dolphin-Programs, issued in October 1987, by the U.S. Department of Commerce, N.O.A.A., N.M.F.S..

These comments are based upon not only my hands on experience with a "swim operation" of close to four (4) years duration but also my expertise as a veterinarian. I am a Board Certified Diplomate of the American College of Zoological Medicine. Fully fifty per-cent (50%) of my practice is devoted to marine mammal medicine. I am a N.M.F.S. permit holder for marine mammals, and I have a broad-based, world-wide clientele who also maintain many species of marine mammals, in particular members of the family Cetacea. My CV is enclosed I trust that it, along with my experience in operating a "swim"

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program, will present adequate credentials for these comments to be given the serious consideration in helping H.J.F.S. come to a properly qualified conclusion with respect to the future operation of "swim" programs. I emphasize education and experience since I believe comments made on this subject are based neither on expertise nor knowledge and inaccurately portray the interactions between dolphins and humans.

The swim program at Hawk's Cay Resort is no longer in operation due to a misinterpretation that the activity at the Resort was not open to the public. Over the years of operation a great deal of experience was obtained in relation to the activities over 6,000 people - guests at Hawk's Cay and individuals who stayed at the Resort - swam with the dolphins; there were no accidental disease transmission from dolphin to human or vice versa did not occur. There were no dolphin mortalities at the Hawk's Cay program since it was discontinued in 1984, the only mortality at the facility was a newly captured animal (ID) on my record inventory. Computerized records (names and addresses) of all individuals (hotel guests and non-guests) who participated in the swim program were maintained. In my Permit Modification application dated Dec. 6, 1980, I offered that list as a data base consisting of 5,000 - 6,000 names as a source for obtaining information on the swim activity. This information and basis for these facts is available to H.F.S.

To repeat, no injuries were sustained by any individual or dolphin; no disease transmission occurred; no adverse behavioral traits were acquired or exhibited by the dolphins, and no dolphin mortalities occurred in the program. Additionally, the popularity of the program can be fairly judged by the number of participants and phone request for reservations. Comments of participants in the activity were all positive.

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THE PROGRAM AT HAWK'S CAY INCLUDES THE INVOLVEMENT OF ADULTS CHILDREN LEARNING IMPAIRED OR OTHER MENTALLY OR PHYSICALLY HANDICAPPED CHILDREN. RECORDS OF THESE INDIVIDUALS WERE ALSO SUBMITTED WITH MY DEC. 6, 1973 PERMIT IDENTIFICATION APPLICATIONS. ONCE HAVING EXPERIENCED THE THERAPEUTIC VALUE OF THESE INDIVIDUALS' PARTICIPATION IN SUCH AN INTERACTIVE PROGRAM WITH DOLPHINS, IT WOULD BE APPROPRIATE TO DEPRIVE THEM OF THE MENTAL AND PHYSICAL BENEFITS WHICH THEY WOULD DERIVE FROM THEIR CONTACT WITH THE ANIMALS - IN OR OUT OF THE WATER. DURING MY YEARS OF PROFESSIONAL VETERINARY WORK I HAVE BEEN IN CONTACT WITH PROGRAMS INCLUDING ALL SORTS OF ANIMALS WITH HANDICAPPED INDIVIDUALS SUCH AS THE ADULT IN CALIFORNIA, THE ADULT IN CALIFORNIA INSTITUTE AND THERAPEUTIC (HORSEBACK) RIDING. THESE PROGRAMS HAVE A LONG RECORD OF PROVIDING THERAPEUTIC VALUES, AND THE SAME WITH THE DOLPHIN PROGRAMS HAVE PARALLEL BENEFITS. THIS IS AMPLIFIED BY THE RESULTS OF THE TWO PERMITTED PROGRAMS I.E. FINDINGS OF DR. DETSY SMITH AS WELL AS THE HAMANA HOSPITAL STUDY WHICH TOOK PLACE AT DOLPHINUS FLUS AND THOSE OF DR. DAVID HATHAWAY AT THE DOLPHIN RESEARCH CENTER.

1b. ACQUIRED AGGRESSION BY DOLPHINS

THE PROGRAM AT HAWK'S CAY NEVER EXPERIENCED A CASE OF ACQUIRED AGGRESSION ON THE PART OF ANY DOLPHIN WHICH PARTICIPATED IN THE "SWIM" PROGRAM. ALL DOLPHINS UTILIZED AT HAWK'S WERE SEXUALLY MATURE ANIMALS. TWO, IN PARTICULAR, DEVS WITH NEWBORN CALVES, HAD NO CONTACT WITH HUMAN SWIMMERS BECAUSE THE ACTIVITY WAS VOLUNTARILY SUSPENDED DUE TO THE RECENT BIRTHS OF THE CALVES. IN THE FIRST CASE TRAINERS ENTERED THE WATER 10 DAYS POST PARTUM AND EXPERIENCED NO ADVERSE EFFECTS ON THE COM; NOR WERE THERE ANY CHANGES IN BEHAVIOR I.E. AGGRESSIVE ACTIONS, VISUAL DISCOMFORT, OR ATTEMPTS TO ESCAPE OR FLEE FROM THEIR PROXIMITY TO THE TRAINERS. THE SAME PRACTICE WAS CARRIED OUT FIVE DAYS POST

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PARTLY IN THE CASE OF THE SECOND CALF. DURING SUBSEQUENT HUMAN/DOLPHIN ENCOUNTERS, THESE SAME ANIMALS ACTUALLY SWAM WITH THEIR CALVES TOWARD THE HUMANS WHO WERE IN THE WATER. BASED UPON MY EXPERIENCED DIFFICULTY IN ACTUALLY PHYSICALLY HANDLING NEONATAL DOLPHIN CALVES THE ABOVE OBSERVATIONS WOULD INDICATE THAT PLACING TRAINED PERSONNEL IN THE WATER WITH VERY YOUNG DOLPHINS MAY IN FACT BECOME PART OF A GOOD HUSBANDRY PROGRAM - SIMILAR TO CONCEPTS IN TRAINING "SPECIAL BEHAVIORS" I.E. PRESENTATION OF THE TAIL FLUME ALLOW IN THE WATER BLOOD TESTS.

THE FACT THAT THE HAWK'S CAY PROGRAM UTILIZED ONLY SEXUALLY MATURE AND VERY YOUNG (I.E. NEONATES) DOLPHINS CONTRADICTS THE VIEW, FOR EXAMPLE, EXPRESSED BY A DISABLED EMPLOYEE WHO COMMENTED IN THE C.I.S. AFTER BEING FIRED AFTER 7 MONTHS OF EMPLOYMENT AT A FACILITY WHICH OPERATES A SWIM PROGRAM.

2) HARM TO HUMANS

AS FAR AS "SEXUAL AGGRESSION" OR THE EXHIBITION OF "SEXUAL BEHAVIORS" BY MATURE ANIMALS (MALE OR FEMALES) CAUSING HARM TO HUMANS CONCERNED, ONE CAN, IF HE OR SHE HAS THE EXPERIENCE, RELATE TO OTHER SPECIES OF ANIMALS KNOWN FOR MODIFICATIONS IN BEHAVIOR CAUSED BY EITHER CYCLIC OR NON-CYCLIC SEXUAL ACTIVITY. IN THE CASE OF MANY SPECIES OF ANIMALS, SUCH CHANGES IN BEHAVIOR CAN BE MODIFIED WITH TRAINING OR CAN BE ELIMINATED AS A NOXIOUS CHARACTERISTIC, THREATENING OR NOT, BY ASTUTE RECOGNITION THAT THE ANIMAL IS IN "RUT" OR "HEAT". IN THE CASE OF ELEPHANTS, FOR EXAMPLE, MALES "IN RUT" ARE SIMPLY NOT ALLOWED CONTACT WITH HUMANS; THE SAME IS TRUE OF DEER "IN RUT". EQUINE STALLIONS ARE PERMANENTLY SEXUALLY AGGRESSIVE BUT ARE TRAINED SO THEY CAN BE CONTROLLED. EITHER SITUATION CAN BE APPLIED TO THE DOLPHIN - MALE OR

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Female - provided that adequate expertise exists to recognize sexually related behaviors. (Groups of humans from eliciting or soliciting sexually related "aggression" from dolphins, as well as other animals, can easily be controlled by qualified personnel.

Regardless of whether or not an animal is sexually mature and subject to behavior modification therefrom, we found at Hawk's Cay that some degree of training of the dolphins and education of the swimmers must be undertaken. This is done to afford a positive experience for the dolphin and to eliminate human behavior of annoyance to it. Marine swimmers with the ability to behave in a consistent manner including but not limited to exhibiting the proper responses to the animals' behaviors).

As to risk of injury to humans incidental to swimming with dolphins suffice it to say that any interaction with any animals can pose a risk - the risk is no greater to one swimming with a dolphin as it is with riding horses or ponies or participating in a petting zoo. Having had the experience of acquiring liability insurance and being examined by insurance companies with respect to loss records, I had no problem insuring our previous operation at Hawk's Cay Resort. I can only assume that the "track record" of the 4 permitted facilities has allowed them to acquire liability insurance.

No Adverse Impact on Breeding

As to the question of the utilization of animals (dolphins) who by virtue of their nature, personality, character, preference or other idiosyncracies choose not to participate in swimming programs, there's no reason to fear. Recent results, backed easily by published statistics and IETS records, have

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certainly proved that the marine mammals kept in captivity are breeding very well. It is now true because of the progression of the state-of-art of marine mammal husbandry and medicine and because of the emergence of animals into the breeding age range due to their increasing life span in captivity. It may well come to be that animals additionally acclimatized to their captive environment by being closely associated with humans will breed more prolifically although there's no statistics to support this hypothesis. However, significantly, four (4) dolphin calves were born to dolphins which, during their pregnancy, participated in the swim program at The Hawk's Cay Resort. All but one of the 4 calves, became totally acclimated to the swim program. The one (as mentioned previously) showed no behavioral effects (fear or aggression) to the human "swimmers".

No Transfer of Disease

The Draft E.I.S. contains no evidence that dolphins represent any significant public health problem. The E.I.S. simply provides a bibliography of bacterial, viral and fungal infections which have been found in other marine mammals but fails, except in the case of Crysiptelodirix, Brucellosis/Brucella and blastomycosis, to document any serious diseases passed on from dolphins to humans or vice versa. It is easy to hypothesize that if a given bacterial, viral or fungal disease is found in dolphins then it is potentially transmissible to humans (and vice versa). However, this hypothesis is not supported by empirical evidence. After 24 years of practicing veterinary medicine on marine mammals, I know of no cases of dolphin-to-human or human-to-dolphin transmission of disease. One cannot cite any companion animal (certainly much more in contact with humans) which does not pose a conceivable public health hazard to humans. A newly acquired

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FOOD, WATER OR FEED AND MILK PRODUCTS ARE MORE TREATABLE - AND SAFE - TO BE SO - TO IMPROVE HEALTH THAN A DOLPHIN OR OTHER MARINE MAMMALS. ON THE OTHER HAND, HUMAN PREVENTIVE MEDICINE I.E. VACCINES, STATE OF HYGIENE ETC., SIGNIFICANTLY REDUCES CHANCES OF PASSAGE OF HUMAN DISEASES TO MARINE MAMMALS. I'VE EXPERIENCED MARINE MAMMAL TRAINERS INFECTED WITH INFLUENZA, THE COMMON COLD, PNEUMONIA AND SEVERE INFECTIONS WORKING CLOSELY WITH DOLPHINS, PERFORMING TRAINING ACTIVITIES AND HAVE SEEN NO TRANSMISSION OF THESE DISEASES TO THE DOLPHINS.

I PERSONALLY HAVE TREATED MANY DOLPHINS FOR CANCER, EYE LESIONS, BRONCHITIS, ENCEPHALAS, KLEBSIELLA ~~GLAUBRIUM~~ PERFRINGENS, AND NEITHER I NOR ANY TRAINERS OR HANDLERS HAVE BECOME INFECTED WITH ANY OF THESE DISEASES. IN SUCH STATISTICS FROM SUCH INSTITUTIONS AS THE NAVY AND SEA HULLD AND OBTAINED ONE HUNDRED YEARS OF EXPERIENCE OF MINE OHS. SUCENEY, RINGDWAY, CORNELL, DEARBERT, BRUSE DO NOT SUPPORT POTENTIAL FOR ZOOSES. WHILE I REALIZE THAT POTENTIAL IS PART OF AN E.I.S., IT IS A MEANINGLESS POSSIBILITY.

COMMON SENSE WOULD DICTATE, "FOR EXAMPLE, THAT PERSONS SHOWING SIGNS OF AN INFECTIOUS DISEASE OR SKIN LESION REFRAIN FROM CONTACT WITH MARINE MAMMALS." BASED UPON 24 YEARS OF EXPERIENCE I HAVE NOT WITNESSED ANY CASE OF A DISEASE BEING TRANSMITTED FROM A HUMAN TO A DOLPHIN NOR DO I KNOW THROUGH MY EXTENSIVE COMMUNICATION WITH OTHERS, THAT ANY OF THE THIRTY FOUR (34) DOLPHINS EXPOSED TO IN EXCESS OF 10,000 HUMANS HAVE COME DOWN WITH ANY DISEASE TRANSMITTED TO THEM FROM HUMANS. IF YOU ADD THE HARK'S CAY STATISTICS THE NUMBER CHANGE TO 40 DOLPHINS EXPOSED TO 16,000 PEOPLE. A RATHER SIGNIFICANT TRAIL WHICH WOULD DEMAND THE PRODUCTION OF HARD MEDICAL FACTS FROM K. DRYER, RATHER THAN AN ARBITRARY SUBJECTIVE PREPOSITION PUT FORTH IN THE E.I.S. THAT WOULD EVENTUALLY BE FORCED TO CHANGE OUR POLICIES AND PROHIBIT VISITORS FROM

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SWIMMING WITH DOLPHINS, BECAUSE THE INCIDENCE OF LESIONS IN THE ANIMALS, APPEARED TO INCREASE IN DIRECT RATIO TO THE NUMBER OF STRANGERS THAT WERE ALLOWED IN THE WATER. APPARENTLY, THE PROPHET OF HUMAN SWIMMERS TO THE DOLPHINS WOULD INCREASED RISK OF INFECTION TO THE ANIMAL ACCORDING TO THIS COMMENT.

COST AND FINANCIAL BENEFITS

THE E.I.S. ASSESSES THAT THERE WILL BE AN ECONOMIC IMPACT OF A FACILITY IN THE ESTABLISHING THE DOLPHIN PROGRAM BEING ALLOWED. THE E.I.S. ALREADY THOUGHTS CAN BE DERIVED FROM OTHER ASPECTS OF PUBLIC DISPLAY. THE E.I.S. PROJECTS INCREASED COSTS OF \$145,000 FOR APPROVED SWIM PROGRAMS AND GOES ON TO CLAIM THAT THERE ARE ONLY FIVE FISHERIES AND ATHLETIC AND STATE AGENCIES, ANY OF IMPROVED FINANCIALLY.

THE E.I.S. HAS OVERLOOKED THE COSTS UNDERTAKEN BY VARIOUS FACILITIES EACH YEAR TO MAINTAIN STRAINED ANIMALS, DO RESEARCH AND SUPPORT THE BUY AND EFFORT IN MAN HOURS REQUIRED TO OPERATE SUCCESSFUL BREEDING PROGRAMS. INCOME FROM SWIM PROGRAMS WOULD SUPPORT AND INCREASE EFFORTS IN THESE AREAS.

ATLIS INSPECTS FACILITIES AND, IN MY EXPERIENCE DOES NOT OBJECT TO SWIM PROGRAMS. ATLIS COULD EASILY HANDLE INSPECTION, IS CURRENTLY REORGANIZING TO INTENSIFY ITS PROGRAM AND IS THE ONLY AGENCY IN POSSESSION OF THE KNOWLEDGE ADEQUATE TO PERFORM ANIMAL INSPECTIONS UNDER THE LABORATORY ANIMAL WELFARE ACT.

A REASONABLE IDEA PRESENTED IN THE E.I.S., IS THE "USER-PAY" PROGRAM; HOWEVER THIS SHOULD BE FEES PAID TO USOM/ATLIS.

DEATHS IN "SWIM WITH DOLPHINS" SUCH AS SURVIVABILITY, IN ADDITION TO THE 36 DEATHS WHICH ARE USED IN SWIM-WITH-THE-DOLPHIN PROGRAMS AT FOUR "AUTHORIZED FACILITIES". IT SHOULD BE NOTED THAT THE HAWK'S CAY RESORT UTILIZES 6 DOLPHINS WITH 0 MORTALITY. THIS WILL BRING THE TOTAL TO 42 ANIMALS "USED" WITH NO MORTALITY ATTRIBUTABLE TO THE SWIM PROGRAMS.

EDUCATIONAL ASPECTS OF THE PROGRAMS

THE E.I.S. MAKES AN ACCURATE CONCLUSION AS TO THE "EDUCATIONAL PROGRAM" AND REQUESTS THE ISSUING OF A SWIM-WITH-THE-DOLPHIN PROGRAM. THE EXISTENCE OF AN EDUCATIONAL PROGRAM WOULD BE A REASONABLE PRE-REQUISITE TO A Y HOLDER OF A PERMIT FOR A SWIM-WITH-THE-DOLPHIN PROGRAM. I WOULD RESERVE JUDGMENT ON THE ABILITY OF NOAA FISHERIES TO DEFINE AN "EDUCATIONAL" PROGRAM. "EDUCATORS" CANNOT DEFINE THE TERM OR MEET MINIMAL REQUIREMENTS TO COLLITERATE THE ILLITERACY IN THE U.S.. I SUGGEST EITHER A BROAD INTERPRETATION OF THE TERM OR THAT NOAA FISHERIES REFER TO THOSE MORE QUALIFIED TO JUDGE THE VIRTUES OF AN EDUCATIONAL PROGRAM. TO BE GOOD EDUCATION, THAT IS ACCEPTABLE AND EFFECTIVE TO THE MAJORITY WHO PARTICIPATE IN A VOLUNTARY PROGRAM, AN ACTIVITY MUST BE INTERESTING, AND THAT CAN BE ACHIEVED BY INJECTING ENTERTAINMENT VALUE. THE FACT THAT SWIM-WITH-THE-DOLPHIN PROGRAMS ARE ENJOYED BY THE PUBLIC CANNOT BE FAULTED. AT THE HAWK'S CAY RESORT THE PROGRAM WAS SO POPULAR THAT IT WAS FULLY BOOKED AT ALL TIMES. WHAT AN OPPORTUNITY TO SEIZE UPON TO TEACH PEOPLE APPRECIATION, RESPECT AND CONCERN FOR ANIMALS WHICH THE MFA SEEKS TO CONSERVE. THE NUMBER OF ANIMALS UTILIZED IN SWIM-WITH-THE-DOLPHIN PROGRAM CANNOT CAUSE ANY DEPLETION OF THE WILD STOCKS. AN INCREASE OF THESE PROGRAMS WOULD FURTHER THE PURPOSE OF THE MFA.

STRESS

RE STRESS INDUCED DISEASE THE E.I.S. MENTIONS NON-APPLICABLE POSTULATES FORMULATED AND INADEQUATELY EXTRAPOLATED BY ST. JERIN AND GERACI, STOKKOPF, TIERRELLI AND GERACI, WALKER (1975); CITED IN SELVY AND SHAY (1979) - THAT "STRESS INDUCED DISEASE" IN ALL INSTANCES EXCEPT GIRAFFES AND STOKKOPF ELL - IS COINCYDENT. A INTERESTING BEAST THAT BOTTLENOSED DOLPHINE OR CAPTIVE "CELESTIAL" HSC WILL KNOW FOR HUNDREDS OF YEARS THAT MAJOR PERMIT HOLDERS POSSESS DOLPHINS UP TO 20 YEARS OF AGE. THE ATLANTIC BOTTLENOSE DOLPHIN IN CAPTIVITY THAT SUFFER FROM ULCERS DO SO BECAUSE WE DE-PARASITIZE THEM AFTER WE CAPTURE THEM. THE HOLES LEFT IN THE G.I. TRACT CONTINUE TO ENLARGE - OVER LONG PERIODS OF TIME - DUE TO THE ACTION OF GASTRIC JUICES ON THE ALL READY IMPAIRED STOMACH LININGS.

THE VETERINARIAN WHO HAS REPORTED "ADRENAL DEPLETION" ATTRIBUTED TO STRESS SHOULD HAVE THE EXPERIENCE OF EXAMINING ADRENAL GLANDS OF DOLPHINS OF ALL AGES. THE ADRENAL GLANDS, PANCREAS AND LIVERS OF DOLPHINS DETERIORATE FROM BIRTH UNTIL THEY DIE. STRESS AND INDUCED DISEASE ARE MISUNDERSTOOD AND OVER DIAGNOSED. THE DEFINITIVE WORD ON THIS SUPPOSITION AND FACT WOULD BE THAT OF PROF. RICHARD J. HARRISON AT CAMBRIDGE UNIVERSITY.

THERE IS NO REFERENCE TO SELVE AND HIS WORK, THEORY AND PRINCIPALS OF STRESS. WITH RESPECT TO STRESS, AS WELL KNOWN IN HUMAN MEDICINE THERE ARE A TYPES, B TYPES AND C TYPES AMONGST ALL SPECIES. I SEE THIS IN GIRAFFES, ELEPHANTS, PRIMATES, DOGS AND CATS. LITTERMATES CAN BE A, B OR C. IN COLLEAGUES OPINION OF LIMITED DATA WITHOUT REFLECTING ON THE WORKS OF THE ABOVE AUTHORS AND RELYING ON NUMBERS TOO SMALL TO BE SIGNIFICANT (D) THE

EXTRAPOLATION OF DATA FROM ONE SPECIES TO THE NEXT (E.G. COMMON DOLPHIN VS. BOTTLENOSE DOLPHIN).

ON THIS SUBJECT THERE IS A LACK OF INPUT OF DATA FROM THE FORMERLY REMOVED SCIENTIFIC BOARD OF ADVISORS.

ETHICAL CONSIDERATIONS

THE MAINTENANCE OF MARINE MAMMALS IN CAPTIVITY HAS BENEFICIAL EFFECTS TO HUMANS AND DOLPHINS. THESE ARE NOT MINIMIZED OR VITIATED BY MENTAL SOPHISTICATION OF DOLPHINS. THEIR WELL DEVELOPED BRAINS ARE THE DIVERSITY OF THEIR EVOLUTIONARY HISTORIES AND ECOLOGICAL NICHES WHEN COMPARED TO THAT OF THE HOMO SAPIENS. THE SWIM-WITH-THE-DOLPHIN PROGRAM IS NOT AN UNETHICAL USE OF THESE ANIMALS; RATHER ANOTHER PHASE OF THEIR MAINTENANCE IN CAPTIVITY FROM WHICH BOTH DOLPHINS AND HUMANS BENEFIT.

SEVERAL INSTITUTIONS NOW HAVE SELF SUSTAINING POPULATIONS OF DOLPHINS; THIS ONE TO HAVING A SEED POPULATION OF ANIMALS WHICH REPRODUCE CONTINUOUSLY WITH THE RESULTS THAT LESS ANIMALS ARE REMOVED FROM THE WILD. ANIMALS 30 YEARS AND OLDER ARE REPRODUCING THIRD GENERATION OFFSPRING. PROGRAMS THAT INCREASE THE NUMBER OF A SPECIES ARE ETHICAL, AND SWIM PROGRAMS DO NOT CHANGE THAT RESULT.

FURTHER EXPERIMENTATION IS UNNECESSARY

THE EXPERIMENTAL PERIOD IS OVER. THE LACK OF DOLPHIN MORTALITY, OBVIOUS PUBLIC FAVOR OF SWIM PROGRAMS, UNREPORTED DISEASE TRANSMISSION FROM MAN TO

DOLPHIN AND VICE VERSA, CONFIRMED REPRODUCTIVE SUCCESS OF DOLPHINS INVOLVED IN SWIM PROGRAMS, PROVEN EDUCATIONAL AND THERAPEUTIC VALUE OF THE PROGRAMS, AN EXTREMELY LOW INCIDENCE OF PHYSICAL INJURY TO MAN OR DOLPHIN WHEN COMPARED TO OTHER ANIMAL/HUMAN CONTACT ACTIVITIES. ALL PHASES OF THE PROS AND CONS HAVE BEEN ADEQUATELY EXAMINED AND COMMENTED ON.

OF THE ALTERNATIVES WHICH IDA FISHERIES MAY TAKE THE BEST PATH WOULD BE ONE OF ABANDONING SWIM-WITH-THE-DOLPHIN PROGRAMS WITH THE EXISTING

CONDITIONS OF THE SWIM PROGRAMS

SOME GUIDELINES OR CONDITIONS IN THE U.S. ARE REASONABLE AND SHOULD BE ADOPTED. OTHERS, SUCH AS THE SPATIAL REQUIREMENTS SUGGESTED BY THE HYATT, ARE UNNECESSARY, UNCALLED FOR, UNWISEFUL AND OBVIOUSLY AIMED AT LEAVING THE HYATT AS THE ONLY EXISTING OPERATION WHICH COULD QUALIFY UNDER THEIR PROPOSED SPATIAL RECOMMENDATIONS. THERE IS NO DOCUMENT REQUIREMENT THAT DOLPHINS NEED THE SPACE WHICH THE HYATT HAS RECOMMENDED. DOLPHINS ARE PRESENTLY OCCUPYING AREAS SMALLER THAN THIS, ARE ACTIVELY IN "SWIM" PROGRAMS, AND ARE DOING VERY WELL. HANDS ON EXPERIENCE AT THE HAWK'S CAY RESORT FURTHER ENHANCES THIS POINT. THE HYATT ADVOCATES SUCH SPATIAL REQUIREMENTS BECAUSE THEY HAPPEN TO HAVE THIS SPACE AVAILABLE.

THE AREAS TO BE ADDRESSED IN ESTABLISHING GUIDELINES SHOULD BE:

1). QUALIFICATIONS AND PROFESSIONAL EXPERIENCE OF STAFF:

- a). EXPERIENCED MANAGEMENT PERSONNEL TO PROVIDE DIRECT SUPERVISION OF THE PROGRAM.

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- i). At least one trainer with 3 - 5 years of experience in training cetaceans and certified in scuba diving. This trainer should instruct swimmers prior to their entering the water.
- ii). An educator whose resume qualifies that person to maintain a behavioral program at the site. This person should provide ongoing information prior to or after a swim session.
- iii). A veterinarian who should visit the facilities and evaluate animals involved in a swim program on at least a monthly basis.

d). SWIMMER STAFF.

- i). Trainers, certified in scuba diving, to be in the water during the time there are swimmers in the water. There should be at least 1 trainer in the water and one trainer observing, out of the water, at all times.

e). SPATIAL REQUIREMENTS.

- i). Animals shall have a zone set aside, unaccessible to swimmers and unobstructive to the animal should the animal so choose not to socialize or participate with the swimmers. The size of this area should be 1/3 - 1/4 of the total swim area (below).

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- ii). Swim Area - providing at least 2000 square feet of water surface area with an average depth of 8 feet.
 - iii). Total water volume in the above 2 areas should not be less than 500,000 gallons for 4 - 5 animals.
- d). Animal Observations.
- i). Animals should be allowed to participate if they wish.
 - ii). No age limitation should be imposed; rather the animal's temperament and willingness to participate should be evaluated. Participation by the animal shall be on a voluntary basis only.
 - iii). The participating animal(s) should be evaluated by the staff based on its individual behavior with particular attention paid to aberrant behavior. In the event of the latter the animal should be removed from participation.

e). LENGTH OF TIME OF HUMAN/DOLPHIN CONTACT.

- i). 15 minutes per session per dolphin, 4 sessions per day, 7 days per week.

f). NUMBER OF SWIMMERS PER DOLPHIN.

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13. Two (2) swimmers per animal per session.

g). Public and Animal Safety and Assurances.

- i). Swimmers must be able to swim.
- ii). Only animals should be withheld from participation.
- iii). Swimmers should have liability insurance to a minimum of \$1,000,000 dollars.
- iv). Rules of conduct in the water should be provided orally and in writing prior to any participant entering the water.
- v). Members of the public should wear life jackets.
- vi). Handicapped individuals should be afforded extra aid appropriate to their disability.

h). Animal Safety from the Public.

- i). Humans with known infectious diseases or any skin disease should be excluded.
- ii). Disorderly, drunk or otherwise impaired individuals should be excluded from participation.

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NOTWITHSTANDING THE ABOVE ALL OTHER REQUIREMENTS UNDER GENERAL STANDARD AND SPECIAL CONDITIONS OF PERMIT HOLDERS, PRESENTLY IN EXISTENCE, SHALL BE APPLIED.

CONCLUSION:

It is concluded there is no basis for preventing swim-with-the-dolphin programs. These programs are highly beneficial, primarily because of their educational value, and qualified facilities should be allowed to maintain them. Reasonable conditions could be required and enforced by HES and ADHS.

DUNCAN FEDERAL VETERINARY HOSPITAL

Martha R. Quinn D.V.M.
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ENCLOSURE



DEPARTMENT OF THE NAVY
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NOV 11 1979
7 Dec 80

Dr. Nancy Foster
Director, Office of Protected Resources
and Habitat Programs
National Marine Fisheries Service
1301 Pennsylvania Highway
Silver Spring, MD 20910

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Dear Dr. Foster:

Thank you for the opportunity to comment on the draft Environmental Impact Statement (EIS) on the swim-with-the-dolphin program. The Naval Ocean Systems Center has no position on whether or not the dolphin program should be allowed. However, as a Federal agency with special expertise in the field, we accept your invitation to review and comment on the draft document. We believe that it is very important for this EIS to be as accurate as possible since it could strongly influence other Environmental Assessments and Impact Statements to be prepared in the future.

Unfortunately, in our opinion, the draft EIS does not present an accurate picture of the state of knowledge of disease transmission between man and dolphins. The section on disease transmission contains largely out-of-context plagiarisms of an unpublished, unfinished manuscript co-authored by Dr. J. P. Schroeder of this Center. It is impossible to tell whether the out-of-context selection is due to a lack of knowledge in the subject area or to the bias of the author(s). An example shows a numerous references to various piniped diseases not found in dolphins and insufficient distinction between disease transmissions occurring during necropsies and those transmitted from live animals. This entire section should be rewritten by someone with expertise in the field of marine mammal medicine. The Naval Ocean Systems Center would be pleased to have Dr. Sam Ridgway, DVM, Ph.D. assist in this review. We would also recommend Dr. Joseph Coraci, DVM, Ph.D. as a possible co-author with Dr. Ridgway.

In addition, the draft EIS is not well organized and does not appear to meet the objectives as stated in the cover letter. The cover letter states that the draft EIS considers "...the cumulative effects of possible increased demand for dolphins... and health and safety issues...". The section on environmental consequences (specifically see the last paragraph of page 45) does consider the effects of possible increased demand. However, this concern is dismissed because it will be controlled by the NOAA Fisheries quota system. Therefore it seems this consideration could have been omitted from the EIS. The health and safety issues are not addressed (except indirectly) in the environmental consequences section.

Finally, there is mention of a California sea lion being used in a swim program without authority. It would appear that NOAA Fisheries should stop

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Additional specific comments on the draft EIS are provided in enclosure (1) review.

Additional specific comments on the draft EIS are provided in enclosure (1)

Sincerely,

W. D. SPITZER
Naval Ocean Sciences Director
Director of the Command

Encl:
(1) Comments

Comments on the DRAFT ENVIRONMENTAL IMPACT STATEMENT on the use of Marine Mammals in Swim-With-The-Dolphin Programs dated Oct. 1988

Page 1 - The first paragraph of the abstract says the animals are used in meditation classes. The only reference in the document to meditation classes is one sentence on page 18 which says "The course includes swim programs at Dolphins Plus, "BREATH work and Dolphin Dreaming Meditation". A description of what Dolphin Dreaming Meditation is and what if anything it has to do with swim-with-the-dolphin programs is not given. Either the reference should be dropped altogether or explained more fully.

Page 1, paragraph 1 - "The dolphins have been trained in a variety of performance behaviors... who are often towed through the water by holding on to the dolphin's dorsal fin". On page 14, it says that 2 of the 4 swim-with-the-dolphin programs don't allow dorsal tows. This sentence is an inappropriate description of the swim-with-the-dolphin programs.

Page 1, indented excerpt - The statement that "...a similar program conducted in the 1960s was terminated after it resulted in problems of this nature" should be referenced to the original source.

Page 3 paragraph 1 - "...this EIS...will be used to help examine publicly the environmental consequences of a range of administrative options, and to identify risk factors and possible mitigating measures." This draft doesn't do a very thorough job of describing the environmental consequences, identifying risk factors or mitigating measures.

Page 8 & 9 describe the alternatives available to NMFS. The obvious alternative of authorizing swim-with-the-dolphin programs with no special conditions, that is, treating them just like any other public display permit, is not mentioned.

Page 10 & 11 - The annual quota of 91 animals is given and a reference to Table 1 which summarizes the take is given, but the fact that the most ever taken in one year (since 1972) was 56 and the average for the last 2 or 3 years is 34 or 44 is not mentioned.

Page 11, the last paragraph (starting with Table 2) - This section starting here and continuing through the top of page 14 should be deleted.

Page 11, the last paragraph (starting with Table 2) - This section starting here and continuing through the top of page 14 should be deleted and this section with the comment in the last paragraph on page 45. "However... there is a limit on the allowable take of dolphins equal to approximately 2 percent of the minimum estimated population level in a given area. Thus, although the number of dolphins taken from the wild might increase over current levels, it cannot increase beyond this quota limit. Consequently, any increase in take should be considered not expected." This is not an appropriate description of the take of dolphins in the Gulf of Mexico.

Page 14 - The comment that "none of the swim facilities has a permit to conduct scientific research or has any researcher been approved in association with their public display permits" fails to mention that previous NOAA Fisheries policy was that animals taken for public display could be used for incidental research.

Page 14, section B 1. Program Description - This section should include a more comprehensive description of what each of the four facilities do in their swim-with-the-dolphin programs. The general description is rather incomplete. For example, what does the statement "can be highly structured, e.g., including tricks and dorsal tows" mean? In addition, what are the 3 and 5 day programs conducted at the Florida facilities and what part is the swim-with-the-dolphin programs?

Page 16, 1st paragraph after excerpt - This is the first mention of the California Sea Lion, later described as being used in a swim program without authority. It seems like this would be the place to mention that the sea lion is being used without authority, since it is part of the program description. NMFS should do something about this situation and drop the sea lion references from this swim-with-the-dolphin review.

Page 16, 2nd paragraph after excerpt - The last 2 sentences are confusing. It would probably be more meaningful to say that number of swim participants has increased from 4000 the first year of record keeping to 35,000 the last year and the number of dolphins has increased from 6 to 34.

Page 16, last line - This is no reference for Smith (1988) in the bibliography.

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Page 16 & 19 - The section about the Desert Dolphin Project does not appear to have anything to do with the environmental impact of the project since they don't have, nor have they requested a permit. This whole section should be deleted. The statement about the course content of the Florida Keys Community College course "Human/Dolphin Interaction" needs amplification to explain what part of the course is related to the swim-with-the-dolphin program.

Page 19, section 3 - It is not clear from the special conditions that the permit for a dolphin program operators are required to report sexual or aggressive behavior, unless it is not intended that they have not.

Page 20, paragraph 1 - The swim-with-the-dolphin program operators are clearly directed to report any injuries. Did NMFS investigate these reports? What was the result of the investigation? If NMFS did not investigate them, why not? A discussion of the NMFS investigation would be useful.

Page 20, excerpts from letter - The excerpts from the letter from a fired ex-employee should either be deleted or NMFS should report it along with the results of their investigation. Having lived through the fabrications of an ex-employee, one could guess this letter is a combination of half-truths and outright lies. If the letter was not investigated, it should not be quoted in the EIS.

Page 21, paragraph 1 - The description of Karen Pryor (assuming that she is the person referred to, based on comments on page 30) as a "curator of an aquarium in Hawaii" is misleading. Most people do not refer to marine mammal facilities as aquariums (although some do, when they are part of an aquarium). There is an Aquarium in Hawaii and Karen Pryor was never the curator there. In the letter she refers to herself as the curator and head trainer of Sea Life Park.

Page 22 - 27 - This whole section should be rewritten by someone with expertise in marine mammal medicine and disease transmission. It has numerous references to various pinned diseases not found in dolphins and fails to distinguish between disease transmissions occurring during necropsies and those transmitted from live animals. Sam Ridgway and Joe Geraci would be willing to rewrite this section.

Page 22, 24 & 26 - The transmission of blastomycosis from an animal to a human is mentioned on these three pages. The report should state that: 1) it is all the same case and 2) that it occurred during a necropsy as

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opposed to an interaction with a live animal.

Page 24, fact on an echidna - This says "and the medical community involved in the study of echidna disease transmission." If this is correct, the reference should be included in the references, not in the text.

Page 25, 3rd paragraph - The discussion of Erysipelothrix fails to mention dolphins can be vaccinated to prevent the occurrence of this disease.

Page 27, Section C - This whole section could be done much better by collecting the data from the swim-with-the-dolphin program operators. Are you aware of you know the amount charged per person, the quarterly total of the gross income, and the percentage of the gross income over any past quarter or year?

Page 29, 2nd paragraph in section A - The first two lines should be deleted, since they reference a report which is no longer applicable. The newer data of Demaster and Drevenak should be used as it is more current and more applicable to the present situation. This paragraph also says that Demaster and Drevenak concluded that "it is not possible to compare the survivability of animals in captivity with that of animals in the wild", but does not go on to say that Demaster and Drevenak also said "indirect comparison of the survival rate of captive animals to free-ranging animals is possible" and then goes on to conclude "This range of survival rates is consistent with the rates estimated for captive animals."

Page 29, bottom and Page 30, top - This paragraph should be deleted. It adds no knowledge to that reported above and provides a great opportunity for out-of-context quotes such as "44 percent died" and "the number of capture-related mortalities among these animals after release is unknown."

Page 32, paragraph 1 - This paragraph states "The question to consider during this environmental review... is ...to what extent does the swim-with-the-dolphin program ... provide an incremental increase in educational benefits that might be weighed against potential risks to dolphins or humans". If this is the purpose of this environmental review, then it should be mentioned in the introductory section, not in the other considerations section.

Page 34, paragraph before the last excerpt - The quote from a "former trainer" sounds like the fired employee and is an unsubstantiated opinion. It should be substantiated or deleted.

Page 35, Section F - The excerpt (2 paragraphs) does not say anything pertinent to ethical considerations and should be deleted. This remainder of this section should be revised to present a more objective view or deleted.

Page 37 - 45 - This section needs to be entirely rewritten. At this point in an EIS, the effects of the proposed actions on the environment should be detailed. As written, this section does not do that very well. No mention is made of the health and safety issue and the other major issue (according to the cover letter and abstract) of the possible increased demand for dolphins is appropriately dismissed by the last paragraph of page 45. "However, there is a limit on the allowable take of dolphins equal to approximately 2 percent of the minimum estimated population level in a given area. Thus, although the number of dolphins taken from the wild might increase over current levels, it cannot increase beyond the quota level. Consequently, any increase in take, should it occur, is not expected to have an adverse impact on population levels of bottlenose dolphins in the Gulf of Mexico." Most of this section summarizes comments received from the swim-with-the-dolphin operators on suggested new conditions. These should be discussed in some other place.

Page 39, 1st paragraph after excerpt - The last sentence says "no surviving captive-born". The word "surviving" is superfluous in the sentence and should be removed.

Page 45, next to last paragraph - This section should be much earlier in the report and should include a statement as to why NOAA Fisheries chose not to enforce the regulations regarding reporting and the use of the sea lion.

Page 45, last paragraph - This should probably be the lead paragraph for this section, since it dismisses the concern for one of the major issues, taking additional animals for these programs.

Page 46, List of participants - The words Aquarium Industry Representatives should be replaced with Marine Mammal Industry Representatives to be more accurate. The list called Environmental Organizations should be named something else (perhaps Animal Rights And Welfare Organizations) since almost every organization listed on the page would consider themselves an Environmental Organization. There does not seem to be any reason for dividing the list by opinions or positions. They could all be listed alphabetically.



American Association of Zoological Parks and Aquariums

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28 December 1989

Y-1

Dr. Nancy Foster
Director
Office of Protected Resources and
Special Programs, NOAA Fisheries
1335 East-West Highway
Silver Spring, MD 20910

Dear Dr. Foster:

AAZPA is writing in response to the Draft Environmental Impact Statement (DEIS) on the use of marine mammals in Scientific and Educational Programs (SUTD). The purpose of this letter is to comment upon the content of the DEIS and the permitting process and not upon the appropriateness of the SUTD program.

AAZPA is disappointed in the overall quality of the DEIS. It is poorly written, vague and relies heavily on speculation and anecdotal references. Material appears to be quoted from numerous sources, but often there is no reference cited. Additionally, we do not believe the DEIS is written in an objective fashion, but presents a biased view against the maintenance of marine mammals in captivity.

AAZPA believes that all the references to disease transmission and stress induced diseases need to be rewritten. The information pertaining to these topics are filled with assumptions and inaccuracies. We urge NMFS to use the services of one of the professionally recognized marine mammal veterinarians in the United States to rewrite them. For specific comments on disease transmission, we also refer you to the responses submitted by Drs. Rossert and Ridgway.

In the DEIS, NMFS states on pg. 45 that implementation of the existing special conditions on SUTD permits has not been effective in maintaining the health and well-being of dolphins and humans in these programs. This should not be a factor for consideration in the DEIS. However, it is relevant to the ineffective use by NMFS of personnel, resources, and existing regulations.

llr p

Dr. Sam Foster
Director
Office of Protected Resources and
Habitat Programs, NOAA Fisheries
26 December 1989
Page Two

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Throughout the document, NMFS gives examples that demonstrate the lack of proper administration of existing personnel and resources. For example, three of the swim programs reportedly conduct authorized research, one program reportedly utilizes a veterinarian in a SWTD program, an action to authorize a del current permit, and required reports are not filed with NMFS. None of the above is required by the environmental impact of SWTD programs, but are related to effectiveness of regulations currently in effect.

AAZPA wishes to endorse the comprehensive recommendations of the Marine Mammal Interest Group.

The structure of our comments follow the organization of the FIS.

Abstract

NMFS states that "More than 40,000 people are expected to visit SWTD during 1989 in three authorized facilities in Florida and one in Hawaii." AAZPA suggests that it would be preferable to state the number of actual visitors to these four facilities during 1987 to 1988 as opposed to speculating about the attendance will be in only one year. This data should be readily available from the four facilities.

"NOAA Fisheries needs to decide whether the use of marine mammals in these or other programs should be allowed beyond December 31, 1989, ..." AAZPA assumes that this sentence is intended to address the future of the SWTD programs only and not the future of public display programs, but we wish to point out that it could be interpreted differently. We request that this sentence be clarified.

Purpose and Need for Action

In this section, reference is made to "a similar program in the 1940's which was terminated." AAZPA believes this program should not be referenced in the FIS because it supersedes the entire existence of the Marine Mammal Protection Act and is, therefore, irrelevant.

Dr. Sam Foster
Director
Office of Protected Resources and
Habitat Programs, NOAA Fisheries
26 December 1989
Page Three

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Additionally, under this section, NOAA Fisheries indicates that: In examining the issue of human/dolphin swim programs, it needs to determine whether such activities present significant additional risks to the health, physical and psychological of animals or the public. AAZPA recommends that the term psychological be deleted. In the best of our knowledge, the methodology does not exist to determine the psychological health of marine mammals.

National Environmental Policy Act

In this section, the use of FIS is explained. As stated in our 14 June letter to you, AAZPA does not believe that an FIS is required to determine the continued existence of the SWTD programs. We fail to see how a SWTD program is a major federal action significantly affecting the quality of the human environment, the issue being questioned is the effect on dolphins of a SWTD program within a captive environment.

Affected Environment

This section attempts to establish current wild dolphin populations and historical take for captive purposes, but does not evaluate the material. We question whether the information presented is directly related to the issue being addressed. There is no documented evidence that the continuation of SWTD programs will result in an increased take of dolphins from the wild.

Swim Programs

In general, we believe this section needs to be rewritten. It contains much anecdotal material and assumptions and includes material based on future plans for a new facility. This future facility is not currently a permit holder, and therefore, we do not believe it should be included in a description of swim programs.

Three of the swim programs are described as mentioning some association with ongoing dolphin research without possessing permits to conduct scientific research. Yet all permits are conditioned to require submission of a program protocol, continuous monitoring, and detailed quarterly reports. NMFS clearly has the authority to stop and/or control such research if they wish to do so.

1. Earl Foster
Director
Office of Protected Resources and
Habitat Programs, NOAA Fisheries
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Admission_Effects

This section is particularly weak. Other than the first sentence stating that there have been reports of diseases or injury for people and dolphins or recorded injuries to animals, AWP 522B the remainder of the section is anecdotal. To question the validity of statements made by an employee of 3 months who was hired and the relevance of some of the experiences of 26 animals.

Disease_Transmission

As stated previously, AWP7 believes that this section needs to be rewritten entirely, utilizing the set text of a professionally recognized marine mammal veterinarian.

Economic_Impacts

The statistics presented in this section are highly speculative. AWP7 does not believe the figures correlate with recent industry public relations publishing average costs per SWH permit. Furthermore, the section does not take into account the overall economic impact of the program's effect on the surrounding community. The entire section needs to be rewritten.

Other_Considerations

This section begins with the following statement: "Other factors, that need not be considered for purposes of the DFIS but will be considered in light of the MMPA and other relevant law, are discussed below." Given this introduction which negates the irrelevant nature of the section, we recommend that this entire section "Other Considerations" be deleted.

Should AWP7 decide to retain this section, each section should note the relevant law. We offer the following comments on the sections.

Survival_in_Captivity

Only the first two sentences of this section are relevant stating that three dolphins used in swim programs have died

Date:

Office of Protected Resources and
Habitat Programs, NOAA Fisheries
26 December 1988
Page Five

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since 1988 and none of these deaths appears to be related to the program. We recommend referencing that the three dolphins died during the period from 1983 to 1985. The remainder of the section is very confusing and does not address the discussion of the law.

Disease_Transmission_to_Dolphins

This section needs to be rewritten by a professional veterinarian. The section includes a comment that the use of human vaccines in a dolphin's blood has increased risk of infection to the animal and yet the comment is not supported by the quote to which it refers. It is not of necessity a pre-emptive throughout this and other sections of the report to disease.

Education_Programs

The DFIS states that the question to consider during this evaluation review is to what extent SWH programs at each facility provide an incremental increase in educational benefits that might be weighed against potential risks to dolphins or humans. AWP7 is not aware of the requirements for an incremental increase in educational benefits in current regulations. If SWH programs are determined to be public display programs, the education or conservation requirements are outlined in the 1985 amendment to the MMPA. There is no mention of a balancing test in these amendments.

Recreational_Benefits

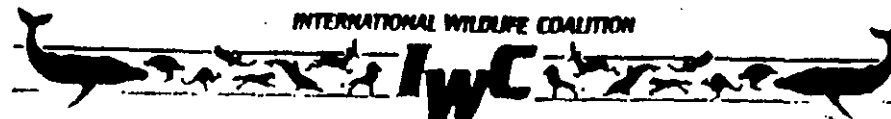
We question the relevancy of this section in this DFIS. All material contained in this section is anecdotal and cannot be substantiated.

Stress-Induced_Disease

We recommend that this section be reviewed and rewritten by a professionally recognized marine mammal veterinarian.

Ethical_Considerations

We do not believe that ethical considerations are an appropriate topic for inclusion in a DFIS. The information



INTERNATIONAL WILDLIFE COALITION

IWC

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Director
Office of Protected Resources and
Habitat Programs, NOAA Fisheries
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presented is not supported by scientific data. Furthermore,
it is not applicable. The U.S. Congress has already determined
on several occasions that the public display of marine mammals
is an authorized activity under the MMPA.

ACSPZ believes that the NMFS requires careful
consideration of the issues NMFS identified, whether the use of marine mammals
for additional taking of marine mammals for the wild
for use in such programs should be authorized, and if
authorized, what permit conditions are appropriate.
Additionally, the document relies heavily on unproven
assessments and irrelevant materials and contains no sections
requiring extensive revision. Several sections should be
deleted from the document as the relevancy or accuracy cannot
be substantiated.

Sincerely,

Robert D. Vinton
Executive Director, ACSPZ

cc: Dr. William W. Fow,
Assistant Administrative Designate NMFS
Jim Douglas,
Deputy Assistant Administrator NMFS
AAZIA Board of Directors

January 23, 1990

Dr. Nancy Foster
Director
Office of Protected Resources
and Habitat Programs
NOAA Fisheries
1335 East-West Highway
Silver Spring, MD 20910

Z

Dear Dr. Foster,

On behalf of the International Wildlife Coalition, and
in response to the request by NOAA Fisheries for written
comments to the public hearings regarding the swim with
dolphins programs, we offer the following comments.

The International Wildlife Coalition supports NOAA
Fisheries' comprehensive review of the permit program
pursuant to the MMPA and promulgation of revised permit
regulations for public display permits.

Thank you for the opportunity to comment.

Sincerely yours,

Nathalie F. R. Ward
Marine Mammal Programs Director

614 North Falmouth Highway, P.O. Box 388
North Falmouth, Massachusetts 02556 0388
508 564 4980 Fax 508 563 2841



The International Wildlife Coalition, representing a membership of 110,000, is opposed to the swim-with-dolphin programs. We believe that human/marine mammal swim programs do not constitute a legitimate use of marine mammals under the Marine Mammal Protection Act nor are they able to take adequate measures to protect the health and welfare of marine mammals.

The potential risks and adverse impacts for marine mammals participating in swim with dolphin programs include the following:

1. Public Display

Swim-with-dolphins programs do not constitute public display. We base this belief on the fact that while the MMPA does not define "public display," standard dictionary definitions are as follows:

Public: 1) of, or belonging, or concerning the people as a whole. 2) for the use of benefit of all.

Display: 1) to show, exhibit or make visible. 2) to put something in plain view and usually in a favorable position for particular observation.

These definitions for "public display" imply that exhibits for the community at large are not physically

interactive between marine mammals and humans. Additionally, interpretation of the MMPA implies that all "takes" and public display of marine mammals be conducted so as to insure humane treatment, protect the health and welfare, prevent injury and minimize disturbance to the animals. Swim-with-dolphin programs can not guarantee that these criteria are satisfied.

2. Educational Value

The Marine Mammal Protection Act requires that a public display facility offer "a program for education or conservation purposes that, based on professionally recognized standards of the public display community, is acceptable to the Secretary..." (Section 104 (c) (2) of the MMPA). In reviewing the educational programs of swim-with-dolphin programs, the critical question is not do the facilities offer an adequate education program, but more importantly do swim programs provide "an incremental increase in educational benefits that might be weighed against potential risks to dolphins or humans." (DEIS, Use of Marine Mammals in Swim-With-The-Dolphin-Programs, p. 32) We must not legitimize swim programs just to meet the demands for human entertainment through physical human-dolphin interaction. We question, what the "substantial

Z-3

public benefit" of direct in-water interaction with dolphins would be? The benefits have never been delineated nor is it our opinion that they exist.

Swim-with-dolphin programs implicitly limit or restrict public access because admission is discriminatory by taking into account participant's ages, swimming competence and medical backgrounds. These programs do not provide substantial public benefit or appreciation to a large sector of the public.

3 Health and Disease Transmission

Large numbers of humans swimming with marine mammals raise serious questions of monitoring sanitation, transmission of diseases and the increased potential of injury to dolphins and humans.

Bacterial, viral, and fungal zoonotic disease transmission between marine mammals and humans has been documented. (Blake et al. 1979; Chang and Pien 1988; Odgaard and Krogerud 1991; Schroeder et al. 1956, 1985; Smith et al. 1987; Tongredi and Hedway 1980; Webster et al. 1981 and Wood and Shuman 1981.)

The physically interactive nature of swim programs increases the possibility of contact between healthy dolphins and sick people. It is impossible for swim program coordinators to accurately screen humans that may be

Z-4

infectious or sick. Furthermore, swim programs rely on the public to monitor themselves concerning the possibility of disease transmission. Simply "advising" the public that persons with respiratory diseases or with open skin lesions refrain from contact places the responsibility on an uninformed and eager public that foremost wishes to have physical contact with dolphins.

The effects of dolphin and human disease transmission requires further study and documentation. These data may be taken from the people that normally handle and physically interact with marine mammals including trainers, handlers, veterinarians, biologists and volunteers that work within the industry. We feel the industry should have to answer these questions by monitoring within controlled aquatic settings, not by random public encounters.

4 Stress Induced Disease

Capture stress syndrome in cetaceans has been widely reported. Walker (1975; cited in Stuntz and Shay 1978) reported a mortality rate for common dolphins in captivity of 75 percent within the first 80 days after capture. Only 15 percent survived for 1 year after capture. Walker attributed this high mortality rate to stress factors.

2-5

Gibbons and Stankopf's recent publication (in press) details the effects of stress on four bottlenose dolphins at the National Aquarium in Baltimore. Studies of physical, behavioral and physiological data concluded that the relatively close proximity of the viewing public significantly affected the animals' behavior and contributed to medical problems, e.g. bleeding ulcers.

Recently one of the swim-with-dolphin programs reported that two dolphins were removed from the program for two weeks due to unusual behavior and a decrease in appetite. A possible stomach ulcer was diagnosed in one of the swim dolphins.

Stressful situations can deplete the animal's immune system and predispose it to infection. These examples suggest that continued study of stress-related/induced diseases be studied in captive marine mammals to objectively determine the presence of stress related behavioral or medical problems.

5. Aggression and Injury

Swim programs exponentially increase physical and acoustical interaction with humans which in turn may precipitate increased excitability or aggression by dolphins. Swim programs suggest that the public refrain from

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touching specific areas on the dolphin, e.g. ventral surface and blow hole, but such recommendations are not adequate to prevent mishandling or inappropriate responses. These factors cannot be controlled by trainers who view from above the water animal/human interaction. The onus of responsibility and caution is placed on a naive, inexperienced public.

No swim-with-dolphin operators have ever reported instances of sexual or other aggression involving dolphins and people or recorded injuries in association with swim programs. However, members of the public have contacted NOAA Fisheries to describe instances of aggressive behavior during swim programs. If such blatant examples of adverse effects are not reported by swim programs to NOAA Fisheries, how can we be assured that these programs will accurately report program protocols and the necessary quarterly reports such as describing the frequency and duration of human/dolphin encounters and the changes in health and behavior patterns of dolphins in the programs?

Swim programs potentially pose a high risk of injury to the general public ... that a swimmer will sustain injury by the aggressive actions dolphins exhibit such as charging, ramming, tooth-raking and slapping people on the head with the tail flukes.

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Regarding the effect of swim programs on dolphins, it has been noted that older dolphins subjected to swimmers for longer duration have the greatest difficulty, shown by aggressive behavior, general disinterest in humans and constant tooth-raking behavior amongst each other. Conversely, younger dolphins are playful and interested in swimmers and do not display aggressive, dominant behaviors.

Swim programs prefer younger animals rather than the sexually mature males who are more aggressive. In time, however, these younger animals mature and display inappropriate swim-program behaviors. How much time elapses before these animals must be replaced by new animals? What happens to these surplus animals that display aggressive tendencies or are no longer acceptable for swim programs? Will the industry have a surplus of captive dolphins that are unreliable when handled in the water? Are people's enjoyment satisfied at the expense of the animal's welfare? Do these programs provide educational value that cannot be provided in a safer manner?

Of 34 dolphins being used in swim programs in four authorized facilities, 23 are female, 8 juvenile males and 2 adult males. Since 1985, 14 dolphins have been collected from the Gulf of Mexico and one current program has an application for 6 additional dolphins. These statistics

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indicate that females are preferred. If so, will the take be biased toward an increase in the preferential take of reproducing females?

6. Status of Wild Dolphins

Swim-with-dolphin programs will ultimately increase the numbers of animals taken from the wild and provide the legal precedent for increased live capture operations because of a proliferation of programs and because programs will want a continuing supply of younger animals.

7. Conclusion

The paucity of information to address critical questions concerning the health and welfare to the marine mammals in swim programs necessitates that the programs be discontinued. Answers to relevant questions such as stress-related illnesses and behavioral modifications can be determined in standard aquaria facilities by research on the existing data base of animals in captivity.

Additionally, considerable doubt concerning the validity of swim-with-dolphin programs has been voiced by professionals within the aquarium community as well as the environmental, educational and public communities. Without factual resolutions to questions that have been addressed, the benefit of doubt must be given to the animals themselves, for such is the intent of the NMMA.

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The International Wildlife Coalition urges that existing permits for swim-with-dolphin programs be revoked and that no other permits be issued. We believe that swim-with-dolphin programs are not consistent with the policies of the NMMA. Sanctioning swim programs increases harmful human interference and exploitation of marine mammals and their ecosystems.

Thank you for the opportunity to comment.

Sincerely yours,



Nathalie F. R. Ward
Marine Mammal Program's Director

120 Gifford Street, Falmouth, Massachusetts 02540
617-540-8086

2-10

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FRIENDSHIP VETERINARY CLINIC, INC.

MEMBER SINCE 1988

111 WASHINGTON BLVD. #100

AA-I

RECEIVED
DECEMBER 26 1989

January 6, 1990

Administrator of Fisheries
National Marine Fisheries Service
Dept. of Commerce
Washington, D.C. 20007

Dear Sir:

I have reviewed the recent Environmental Impact Study on the dolphin swim programs. There are some interesting statistics and information present in the study. What concerns me the most is the section dealing with the possibility of dolphins spreading disease to humans.

As I understand the problem, this possibility of spread of disease from dolphin to humans is a major issue of the dolphin swim program. As I read through the section on the study dealing with that possibility I noticed very little fact or scientific proof was presented. The one case of a veterinarian contracting a disease during a post mortem examination surely is not likely to occur with these programs.

My biggest concern is that even a reasonably intelligent person who reads this section of the study will conclude that there is a major risk to people involved in these programs; I do not believe this is the case.

I would suggest that a more thorough and SCIENTIFIC study of this issue be made prior to any final decisions by NMFS on these programs.

Sincerely,

James E. Townsend, Jr.
James E. Townsend, Jr., D.V.M.

P.S. Please note that this letter is entered into the public record concerning the Environmental Impact Study on the dolphin swim program.



EARTHTRUST

Dr. Nancy Foster, Director
Office of Protected Resources and Habitat Programs
NOAA Fisheries
1335 East West Highway
Silver Spring, MD 20910

AB-1

December 26, 1989

RE: Earthtrust written comments on swim-with-dolphin programs

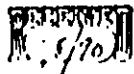
Pursuant to the Draft Environmental Impact Statement on the Use of Marine Mammals in Swim-with-the-dolphin programs of October 1989, and of public hearings held in association with this DEIS, Earthtrust submits the following comments:

Earthtrust, a nonprofit organization which has been working since 1976 on marine mammal conservation and education programs, is hereby submitting testimony recommending option "A": that swim-with-dolphin programs authorities be allowed to expire after December 31, 1989.

Earthtrust's expertise includes working with stranded and captive cetaceans, working internationally to affect cetacean killing, and conducting public educational programs on behalf of cetaceans in Hawaii and around the world. Earthtrust is one of Hawaii's largest providers of educational lectures on whale-watching boats, working in close cooperation with the National Marine Fisheries Service. In addition, Earthtrust has taken a lead role in educating the public to cetacean/fisheries interactions.

It is Earthtrust's position that the capture of dolphins solely for the purpose of allowing them to be handled and touched by untrained persons is improper exploitation of these animals. Further, it is felt that the "educational" value of this activity is marginal, and readily accomplishable by other means not requiring the handling of dolphins by untrained persons. It is perceived that there is significant risk of injury to humans with accompanying negative publicity concerning dolphins in general. Finally, it is Earthtrust's position that there is no reason to believe that continuation or expansion of such programs will benefit dolphins in the wild, or cause any significant benefit other than financial profits.

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A 501(c)(3) NON-PROFIT ORGANIZATION



The case for these programs benefitting wild dolphin populations is raised because it is this claim which is being primarily used by dolphin-swim operators to validate these programs.

As observed by dolphin-trainer Rick O'Harry on a recent trip to Hawaii, elephants have been in captivity, and in close contact with humans, for thousands of years; yet they are now approaching extinction in the wild. While an elephant ride may satisfy a person's need for dominance over nature, and is pleasurable, this practice has not demonstrably led to protection for wild elephants. Indeed, a commonly expressed belief among ordinary people is that the keeping of large numbers of captive elephants eliminates the need for maintaining healthy wild populations.

By contrast, protection measures for the great whales, instituted through the International Whaling Commission (with which Earthtrust has worked since 1979 as a registered NGO) were accomplished largely through the support of persons who had never seen a whale except in photos and video. Earthtrust now conducts programs which reach an estimated 30,000 persons per year and educate them to the need to protect whales and dolphins, through the viewing of wild cetaceans in controlled and non-harassing conditions, and can attest that it is possible for people to fully appreciate these animals without physically handling them.

Dolphin-swim operators who make financial contributions to unrelated dolphin-protection projects are appreciated; but it is important to realize that such funding of preservation projects is in no way intrinsic to dolphin-swim operations, and that the educational and philanthropic activities of such programs at this time may be an artifact of the permit-renewal process. One dolphin-swim operation approached Earthtrust during 1989 for video footage on drifting, to be inserted into a promotional videotape designed for showing before Congress, to create the impression that there is a direct causal relationship between dolphin-swim programs and international wildlife-protection regimes. This footage was not provided because there is no indication of any such connection. As the organization internationally recognized to have created most public pressure for a driftnet ban, Earthtrust can attest that this pressure was created through video and photo documentation and the written word, and that dolphin-swim programs were not substantially involved.

The potential for physical harm to humans interacting with dolphins has been discussed in some detail; however, Earthtrust has the additional concern that any such inevitable injuries could damage the reputation of dolphins at a time

when public support is crucial to programs aimed at ending or reducing dolphin kills in the wild.

Dolphins are amazingly gentle creatures, but they can play rough; and this fact is not appreciated by a great majority of the public. Thus, untrained persons may not heed warning signals such as jaw snaps which are often precursors to physical chastisement by a dolphin. In addition, injury to the dolphin by a person incorrectly handling the animal could result in immediate retaliation by the dolphin in pain. Such injury to a child, or physically or emotionally limited person, could result in extremely negative publicity for dolphins in general, and damage international programs to protect them in the wild.

In addition, litigation against operators and NMFS resulting from any such injury could pose the threat of more negative publicity and of diminished NMFS budgets for other programs. Since the potential for human injuries from dolphins is a well-established fact, the legal position of NMFS in such a case could be untenable.

Earthtrust believes that a proliferation of such programs would not be in the best interests of affected dolphin populations or of dolphins in general, and asks that program authorities be allowed expire on schedule at the end of 1990.

Best regards,

Donald White
Executive Director

December 5, 1989

AC-1

Dr. Nancy Foster
Director
Office of Protected Resources and
Habitat Programs
NOAA Fisheries
1335 East-West Highway
Silver Spring, MD 20910

Dear Dr. Foster:

I am pleased to have this opportunity to comment on the Draft Environmental Impact Statement (DEIS) on the Use of Marine Mammals in Swim-With-The-Dolphin Programs. Having read the report and having attended the hearings on December 4, 1989, at the Department of Commerce, I hereby submit my comments for review on behalf of the dolphins at the Dolphin Research Center in Florida.

As a graduate of the DolphinLab program at the Dolphin Research Center, I have had first hand experience swimming with the dolphins at one of the four existing swim-with-the-dolphin programs. I hope this experience, outlined in the below comments is helpful to those evaluating these programs and assist those responsible for enacting an immediate expiration of all federal permits allowing human/dolphin swim programs and terminating the existing swim-programs.

The most important factor determining the continuation of the swim-programs should be the educational benefit that the programs offer to the public, as this is the goal and objective of such programs and the only reason that a swim-program should exist. Too much attention has been swayed away from the true intention of the programs -- which is education. The sole purpose of subjecting dolphins to swim programs is to educate the public and for no other reason. Unfortunately, the swim programs have developed into a money making venture at the expense of the dolphins.

Having spent 10 days at the Dolphin Research Center learning about dolphins, I must commend the Dolphin Research Program for an outstanding educational program, dedicated staff, and what seems to be, a very well run operation. During that week and a half, the class (consisting of about 12 people) studied dolphins and their behavior from 9:30 am until 10:00 pm each day. Most of this education took place in classroom

Dr. Nancy Foster
December 5, 1989
Page 2

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settings, reviewing slides, movies with lectures on specific topics such as the anatomy of the dolphins / their feeding habits/ intelligence/ social behaviors/ training techniques used at the Dolphin Research Center, etc.

However, the most important education came from actually swimming with the dolphins. I will never forget the impact it had on me as a student while studying these magnificent animals. The education was in the bucket of fish the trainer had with her during the swim session -- it was the education for both the dolphin and humans involved. The education was quite simple -- for the dolphin, if they wanted food, they drag humans on their dorsal fin around an enclosed pen and perform other trained acts, such as giving kisses, jumping over students legs, shaking hands (like in their case), etc. For the humans, the education was that swimming with these wild animals is not a flipper episode. The dolphins are not voluntarily swimming with you. It was a controlled, trained, rewarded behavior. If the dolphin does not perform properly for you, they do not get fed.

Yes, by all means, this is a thrill of a life time. But from an educational point of view, one gets as much education from the swim program as a child receives riding a pony in an enclosed pen for the first time. A thrill, but at what and whose expense.

As a past student at DolphinLab, and as an individual who has had the opportunity to swim with these incredible animals, I feel it is a selfish act on my part to want to deny others the opportunity of experiencing this magnificent thrill. But the honest education in these swim programs is that the adult learner learns that these swim programs should not be in existence. It is not natural and is inhumane.

There is a misconception by these swim programs that the dolphins want to swim with the public. People who are honest with themselves and who care about the dolphins know that after they swim with the dolphins, you come away with a bit of disappointment realizing the misconception that dolphins swim with people on a voluntary basis. They don't and should not be forced to do so for food.

Again, in evaluating a program, we must look at the purpose -- in this case -- education. The deaths of dolphins in captivity, the stress related diseases from the swim programs, the improper care that goes along with these programs, the question of transmittable diseases -- all of these are important debatable factors when evaluating the

Dr. Nancy Foster
December 27, 1980
Page 1

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overall swim programs, but researchers and NOAA should not be wasting their time on these issues, as the programs should be terminated on the mere fact that the purpose is not being met and will never be met.

The reality is that these highly intelligent, social animals are being forced to swim with the general public for a "thrill". When I was at the Dolphin Research Center, there were daily swim programs for the general public, who were not even enrolled in the Dolphinair program. Simply vacationing people who paid money because they wanted their children to have the thrill of riding a dolphin -- where is the education???

The Dolphin Research Center and other dolphin related groups should be encouraged to continue and expand on education programs about dolphins and their high intelligence, importance to society, dependence on humans for healthy seas, and most importantly, their right to be free. But if people want to swim with dolphins, it should be done in the wild, on the dolphins terms, respecting their environment, not in an enclosed pen for food. As a human race, we are barbaric if we think such an act for food is educational.

On behalf of my dolphin friends at the Dolphin Research Center, and as a student who participated in an intensive swim-with-the-dolphin program, I urge all those involved in this decision making process to grant the dolphins the respect and freedom they have a right to and deserve, by putting an end to these cruel and inhumane swim programs.

I would be happy to discuss this issue in further detail at any time.

Respectfully submitted,

Mary E. McGowan

Mary E. McGowan
159 James Street
Falls Church, VA 22046
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ANIMAL LEGAL DEFENSE FUND

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December 27, 1980

Dr. Nancy Foster, Director
Office of Protection Resources
and Habitat Programs
NOAA Fisheries
1-11 East-West Highway
Silver Spring, MD 20910

AD-1

RE: Swim-With-The-Dolphin Programs

Dear Dr. Foster:

I have just recently received the Draft Environmental Impact Statement on the Use of Marine Mammals in Swim-With-The-Dolphin Programs. The Animal Legal Defense Fund is opposed to the use of dolphins for commercial/recreational human use that removes the mammals from their natural habitat. We believe it is impossible to provide viable living conditions for them in confinement. Also, the risk of harm and death through the process of capture, transportation and constant exposure to the "paying public" by the individual dolphins does not justify their commercial exploitation.

We are very interested in this issue and would appreciate being added to the mailing list for information and EIS materials.

Very truly yours,

David S. Favre

David S. Favre
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DSF/an

cc: Mr. David Cottingham, Director
Office of Ecology and Conservation



Box of Directors: Steven M. Wise, Dan and Susan Ann Chambers, Vice President Kenneth D. Bass, Secretary David S. Favre, Treasurer
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11-11-80

Dr. Nancy Foster, Director
Office of Interceptor Resources
and Habitat Programs
NMMA Fisheries
1335 East-West Hwy.
Silver Spring, MD., 20910

AF-1

AF-2

I am writing in regard to the Draft Environmental Impact Statement on the Use of Marine Mammals in Swim-with-the-dolphin programs. I found the DIES to be well written and very informative and after close examination I have come to several conclusions.

Swimming, snorkeling, or scuba diving activities with captive marine mammals should be discontinued. All public display permits which allow for these activities should be discontinued and current permits held should not be renewed. The additional taking of dolphins for use in these programs should be discontinued. I strongly believe that these programs are in violation of the Marine Mammal Protection Act, Animal Welfare Act, and the National Environmental Policy Act. If not in direct violation then certainly in violation of the spirit of the law.

I recommend that the course of No Action should be taken and that all permits be allowed to expire after December 31, 1980. Conservation, research, and educational programs would be better served by studying marine mammals in the natural environment. The survival rate of dolphins in captivity is not good and many ethical considerations should be taken into account when it is obvious that there is such large amounts of money to be made from these captive programs. Here in Hawaii we have many opportunities to watch whales and dolphins in their native environment for free or at little cost on whale watching trips. It is not reasonable to continue the swim-with-the-dolphin program here at the Hyatt Regency Waikoloa for the exclusive pleasure of wealthy tourists when they can enjoy marine mammals along the coast of this island.

From what I can gather there is very little research or educational value in these captive programs. I have seen no published research regarding the dolphins at the Hyatt Regency. The 1980 deaths of two dolphins from a botulism in the native fish which they ate was very disturbing for the community here. I do not believe that this captive program is supported at large and it really appeared as a gross exploitation of these animals.

Marine mammals are a resource that should be available to everyone. We should give more respect to these animals existing in their native habitat and not exploit them until they become useless for the purpose of making money for some hotel/resort. As it stands they are disposable animals and when they expire a need will be claimed to capture more. For the best interests of both humans and dolphins I recommend that all permits for these captive programs be allowed to expire and not be renewed.

Thank you for your time and consideration.

Thomas R. Beilfield
Thomas R. Beilfield

Chris McCarthy
1601 N. 27 Avenue
Fort Worth, TX 76104

November 10, 1989

Dr. Max J. Ellis
Director
Office of Protected Resources and Habitat Programs
NOAA Fisheries
1315 East West Street
Silver Spring, MD 20910

AG-1

Please take into consideration the following comments and include them in the NOAA Fisheries Program. I hope you can help me by the 13th of November 1989.

The NOAA Fisheries Service should permanently disallow marine mammals use in swim with the dolphins (SWIM) program.

In particular:

1) Dolphins are highly intelligent animals. They should not be imprisoned, harmed and sometimes killed for such trivial use.

2) Re Section III B 2 of the October 1988 NOAA Draft FIS on the Use of Marine Mammals in Swim With The Dolphin Program.

A number of important questions are not addressed:

2a) Compared to other animals used by animal therapists, have dolphins been shown to be time-wise more therapeutic than say horses, dogs, mice, whales, etc?

2b) On a cost benefit scale how does the dolphin rate as a good candidate to be used as a therapeutic animal. For example, the cost involved with using a mouse as a dog in a therapeutic capacity are small compared to the costs of using a dolphin.

2c) If dolphins are superior (not considering cost vs. benefit) as a therapeutic animal, what property from the dolphin process which makes it superior?

2d) If the property distinguishing the dolphin as superior for therapy, regardless of cost and supporting that in fact the dolphin is superior in high intelligence, superior communication abilities, a human like consciousness, then shouldn't these abilities prevent the dolphin from being taken from the wild from being harmed and sometimes killed from being made a captive?

3) Should SWITD program prove profitable a large industry will be created employing many people. It should be seen or should it occur that dolphins taken as a

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regarding impacting on wild dolphin population levels on this program in those programs. The program is being implemented at this point in time. A large industry has been developed. It is difficult to see at this point in time how the program would be impacted by SWITD. The likelihood of impact on the dolphin population would cause unacceptable economic loss to the program, as well as the dolphin companies and their many, many employees.

It is noted that the growth of such an unacceptance that potentially harmful industry before the procedure that industry precludes effective regulation.

4) I hope that no hearings are being held in the New York City area on the west coast.

Thank you.

Yours truly,
Chris McCarthy
New York, N.Y.

David Cunningham, Director of the Office of Policy and Conservation
U.S. Marine Mammal Program, Director of the Office of Protected Resources and Habitat Programs.

Please acknowledge receipt of this letter, send me all updates and the full FIS regarding SWITD program.

MARINE MAMMAL COMMISSION
1621 EYE STREET NW
WASHINGTON DC 20006

5 February 1989

Nancy Foster, Ph.D.
Director
Office of Protected Resources
and Habitat Programs
National Marine Fisheries Service
Department of Commerce
1115 East-West Highway
Silver Spring, MD 20910

AH-1

Dear Dr. Foster:

The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the Draft Environmental Impact Statement (DEIS) on swim-with-the-dolphin programs. The Commission offers the following comments and recommendations concerning the assessment of the effects of these programs on the animals and humans involved and the options presented for consideration with respect to the programs' continuance.

General Comments

The DEIS presents questions regarding the legal authority for swim-with-the-dolphin programs, discusses the possible effects on wild dolphin populations resulting from removal of animals for use in such programs, provides a summary description of currently authorized experimental swim programs, discusses the observed and potential health and safety risks to humans and dolphins associated with swim programs, estimates the potential economic impacts to swim program operators as a result of curtailment of existing programs or costs of enhanced monitoring associated with an extension of swim programs beyond 31 December 1989, and considers the environmental consequences of a range of administrative options with respect to the elimination or continuation of swim programs.

In regard to legal authority, the DEIS indicates (p.2) that the Service is deferring a determination as to whether swim programs constitute public display until it has completed its overall permit program review and has developed an acceptable definition of "public display". Consequently, the Commission notes that continued authorization for swim programs, if granted, should be only on a provisional basis, until such determination is made -- something that should be possible by 31 March 1990.

With respect to effects on wild dolphin populations, the DEIS notes that new proposed quotas and supporting research reports are currently being reviewed and that any increase in

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taking from wild populations as a result of swim program demand would not be permitted to exceed the quota level. It concludes that any increased taking, should it occur, is therefore not expected to have an adverse impact on population levels of bottlenose dolphins in the Gulf of Mexico. The Commission notes, however, that in arriving at this conclusion, the DEIS does not take into consideration the cumulative effect of removals from the wild of dolphins for swim programs in conjunction with other authorized captures and takings incidental to commercial fishing and other activities. In the Commission's 18 December 1989 letter to the Service regarding geographic management of bottlenose dolphins in the Gulf of Mexico, the uncertainties concerning the numbers, sex, and ages of bottlenose dolphins being taken incidentally in commercial fisheries in the Gulf of Mexico are discussed. These uncertainties raise serious questions about the validity of the assumptions upon which the Service's live-capture quotas presently are based. If the uncertainties cannot be resolved, the Commission believes that the Service will be unable to justify authorizing any live-captures and removals in or near management units where incidental take may be occurring.

Although the description of currently authorized swim programs (III.B.1) is generally adequate, the inclusion of a detailed description of only one operator's program in this section could give the impression that a particular program is representative of all swim programs. Therefore, a detailed description of each program should be provided or the detailed description of the one program should be deleted. Similarly, in the discussion of Aggression Effects (III.B.3), comments regarding conditions at one facility could be misconstrued as being representative of conditions at all facilities. As a related matter, while various sections of the DEIS present information which implies that there are differences in the four existing swim programs, the DEIS does not specifically discuss those differences nor whether and to what extent such differences appear to influence the effects or effectiveness of swim programs in general. In addition, although information from quarterly reports that have been submitted by swim program operators is cited in various sections of the DEIS, the DEIS contains no assessment of the quality and value of those reports, DIX 29.

While therapy and other human-dolphin interaction programs are currently being conducted as scientific research at two facilities under the authority of those facilities' public display permits, we note that, whether or not swim programs are continued, therapy and other types of programs should more appropriately be considered for authorization under separate authority (e.g., scientific research or waiver). As a related matter, the Commission notes that the theoretically therapeutic value of swim-with-dolphin programs does not appear to have been described based upon any controlled experiments that have either

unambiguously documented therapeutic value or demonstrated benefits not achievable with other stimuli. Therefore, a more detailed description of the other human/dolphin interaction programs, including the relevance of dolphins to the programs, should be provided.

The DEIS provides a review of the conditions under which disease causing agents can be transmitted between dolphins and humans. It does not describe the relative risks involved or the likelihood of the transmission of any of the agents that are listed as known to occur in literature or in the personal accounts cited. We note that many of the referenced cases of disease transmission in the DEIS involved close contact with dead or sick animals or close, daily, long-term contact between humans and dolphins (e.g., trainers, attendants, etc.). Thus, while recognizing that under certain circumstances, transmission of disease causing agents between dolphins and humans is possible, the discussion appears to over-estimate the potential for disease transmission. It may be more reasonable to assume that casual contact between a healthy dolphin and a healthy human presents limited risks. On the other hand, inasmuch as humans and animals go through cyclical events which affect their health and make them more or less at risk from potentially harmful agents, the strictest possible measures should be taken to minimize potential health risks to both dolphins and humans. Consequently, the EIS should provide a more comprehensive and objective evaluation of possible risks associated with interspecific disease transmission. In this regard, it is unclear whether the Service requested and received comments from Federal and state public health agencies concerning incidents of disease transmission between marine mammals and humans and/or biotoxin occurrences.

The Commission understands that since publication of the DEIS, two dolphins that may have participated in a swim program have died. Although the level of the animals' participation in the swim program prior to their deaths is not clear to the Commission at this time, the Commission recommends that a detailed report of the circumstances surrounding the animals' deaths, including the dates of the animals' participation in the program, complete necropsy, histopathology, and medical history information be provided for review by the Service, in consultation with the Commission. The Service in preparing its final EIS should examine the causes of these deaths and determine to what extent, if any, mortality may have resulted from stress or exposure to disease-causing organisms associated with the swim program.

The discussion of aggression contained in the DEIS should be more comprehensive. A literature search should be conducted to obtain and help evaluate the full range of relevant information. As a related matter, the DEIS notes contradictory statements with respect to injuries to human participants in swim programs (i.e.,

injuries reported to the Service by individual participants or trainers which have not been reported by swim program operators). It does not, however, indicate what, if any, actions have been initiated by the Service to investigate the reports.

At the time the DEIS was issued, a motion to dismiss a lawsuit challenging the Navy's use of dolphins (Progressive Animal Welfare Society, et al. v. Department of the Navy, et al.) was pending before the United States District Court for the Western District of Washington. The Navy sought the dismissal, arguing that the National Environmental Policy Act did not require an analysis of the effect of the proposed placement on the dolphins themselves, but only on the surrounding, pre-existing environment. The Commission assumes that the pendency of the Navy's motion was in large part responsible for the curious division of the discussion in the DEIS between Chapter III, Affected Environment, and Chapter IV, Other Considerations, in which the survival of dolphins involved in swim programs and the potential for disease transmission to dolphins were not considered to be part of the affected environment.

The District Court denied the Navy's motion to dismiss on November 7, 1989. In so ruling, the court found that the Navy's decision to use dolphins "is a major federal action that requires an analysis of the effect of such use on the dolphins themselves." In keeping with this ruling, the Service, in preparing its final EIS, should reorganize the discussion to indicate clearly that the captive marine mammals are part of the affected environment and that impacts upon those animals are being fully considered as required by the National Environmental Policy Act.

With respect to the alternatives presented in the DEIS, at least one additional option should have been included for consideration. That is, continuation of existing swim programs on an experimental basis with enhanced and enforced reporting requirements in order to gather additional, substantive information on such programs.

Specific Comments

Page 2 (A, Introduction) first complete PAR: As indicated in the general comments, the Service is deferring a determination as to whether swim-with-the-dolphin programs constitute public display until it has completed its general permit program review and has developed a definition of "public display". We therefore note that other issues notwithstanding, the continuation of existing swim programs, if permitted, should be authorized only on a provisional and experimental basis.

Page 4 (B, Marine Mammal Protection Act) second complete PAR: The discussion of the 1988 Amendments to the Marine Mammal

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Protection Act should be expanded to note that inasmuch as the American Association of Zoological Parks and Aquariums does not have standards for judging public display programs, the National Marine Fisheries Service will be developing standards based upon information obtained through its permit program review.

Page 9, (C, Animal Welfare Act) second complete PAR: For purposes of clarity, we suggest that sentences four through seven of this paragraph discussing Animal and Plant Health Inspection Service Standards and Regulations for the Humane Handling, Care, Treatment and Transportation of Marine Mammals be changed to read: "The APHIS Standards set minimum requirements for the maintenance in captivity of marine mammals with respect to facility construction and operation, animal health and husbandry, and transportation. The primary responsibility under the AWA for licensing, registering, and inspecting facilities holding marine mammals in captivity rests with APHIS, although overlapping responsibility for specifying care and maintenance methods under the MMPA lies with NOAA Fisheries."

Page 9, third complete PAR: This paragraph includes a statement by the Animal and Plant Health Inspection Service that: "The Animal Welfare Act is concerned with the humane care and handling of covered animals only. The Act does not address injury to the humans involved." We note, however, as the DEIS indicates, that this issue is addressed in the Service's implementing regulations at 9 CFR 3.111, "Handling", which state that "During public display, all marine mammals must be handled so that there is minimal risk of harm to the public or the marine mammal, with sufficient distance allowed, or barriers placed between the marine mammals and the viewing public to assure safety to both the public and the marine mammals." In light of this apparent discrepancy in interpretation of the Animal Welfare Act, the Commission recommends that the Service seek clarification from the Animal and Plant Health Inspection Service and discuss the issue fully in the Final EIS. In particular, the following questions should be resolved: 1) Does the Animal and Plant Health Inspection Service regulation requiring marine mammals to be handled so as to minimize risk to the public mean that swim programs could or should be discontinued if there is any risk of harm to the public that can be reduced by such a limitation? 2) Is there any threshold of risk to the public beyond which interactive displays would violate the Animal and Plant Health Inspection Service regulations? 3) Does the Animal and Plant Health Inspection Service have any plans to revise its marine mammal care and maintenance standards to address issues specific to interactive displays, such as elimination of the current requirement that barriers be placed between animals and the public to assure the safety of both, if the Service decides to authorize swim programs on a long-term basis?

Page 9, Option A1 The second sentence of the paragraph

AH-6

describing Option A indicates that the expiration of authority to conduct swim-with-the-dolphin programs "would in no way affect the validity of the four facilities' permits to display bottlenose dolphins in other programs and to use the animals to educate the public on conservation issues and for other purposes." The "other programs" and "uses" to which the Service refers should be clarified. In this regard, we note that display of animals in programs other than those authorized under each facility's existing permit (based on information provided in the original permit application) would require a permit modification or the specific authorization of the Assistant Administrator for Fisheries. Also, we note that the content of educational programs need not be restricted to conservation issues, but rather may focus on the conservation, biology, or natural history of marine mammals. The sentence should be revised accordingly.

Page 9, Option B: The first sentence of the paragraph describing Option B gives the impression that present reporting requirements are not enforced. The sentence should be revised or an explanation provided as to why enforcement of present requirements is not occurring.

Page 10, (A, Wild Dolphin Populations) first PAR: The first two sentences of this paragraph regarding the number of Atlantic bottlenose dolphins in captivity in United States and foreign facilities should be revised to clarify how many of these animals were collected from United States waters. In regard to the last sentence in the paragraph, Section 109 of the MMPA provides that "nuisance" animals may be taken only by nonlethal means. The term "nuisance" is not being applied appropriately here and should be deleted.

Page 10, second PAR: The last sentence of this paragraph states that "New proposed quotas and supporting research reports are currently undergoing peer-review." Inasmuch as there is not an identifiable group of professionals whose job it is to develop quotas and supporting research, the word "peer" in "peer-review" should be deleted.

Page 10, third PAR: The management scheme recommended by the Commission is confusingly and inaccurately described in this paragraph. We suggest that the paragraph be changed to read: "The scheme recommended by the Commission is based on four assumptions: (1) that concentrations of bottlenose dolphins in localized geographic areas (e.g., coastal embayments) comprise more or less discrete breeding populations; (2) that abundance in the selected geographic management areas is at or near historic levels; (3) that live-captures and removals are the only source of non-natural removals from the population; and (4) that the maximum rate of growth of exploited bottlenose dolphin populations is at least 4 percent so that there virtually is no possibility that affected populations will be reduced below their

Maximum Net Productivity (MNP) level if the annual take is limited to 2 percent of the minimum estimated population size in each management area."

Page 11, second PAR: The first sentence of this paragraph states that "the rate of removal of females from wild populations (i.e., 75 percent) is believed to be out of proportion to the sex ratio of the wild populations...." There is little doubt that the removal of more females than males is due to industry preference for females, rather than being representative of a highly skewed sex ratio in the wild population. Therefore, the words "believed to be" should be deleted.

Page 14, (1. Program Description): This section does not, but should, provide an assessment of the content, quality and value of the quarterly reports that have been submitted by swim program operators, as well as a discussion of whether and, if so, to what extent, differences among programs appear to influence the effects and effectiveness of the programs.

Page 14, second complete PAR: The third sentence of this paragraph states that "Three of the four swim facilities mention some association with ongoing dolphin research; however, none of the swim facilities has a permit to conduct scientific research nor has any research been approved in association with their public display permits." This statement is somewhat misleading inasmuch as the conduct of certain scientific research activities does not require a permit (e.g., aerial surveys, if conducted at altitudes at which harassment of animals is not expected to occur; purely observational activities having no potential for harassment (i.e., taking) of animals); and compilation and analysis of existing scientific data).

Pages 14-15, CARRYOVER PAR: The overview of swim programs should include the number of days per week programs are conducted. It should also provide additional details with respect to the "three and five day programs" provided by two of the Florida facilities.

Page 15, first PAR: As indicated in our general comments, the inclusion of a detailed description of only one operator's program could give the impression that that program is representative of all swim programs. A general description of each program should be provided or this paragraph deleted.

Page 16, second PAR: This paragraph states that one California sea lion is currently being used in swim programs, apparently without authorization from the Service (DEIS, page 45, first complete paragraph). An explanation should be provided as to why the unauthorized use of this animal in swim programs is being permitted by the Service.

Page 16, third PAR: Sentences four and five of this paragraph state that "During the second quarter of this year each dolphin used in a swim program was exposed to a reported average of 24 people each week.", and that "The number of hours each dolphin spent in direct contact with swim participants each week ranged from 1.8 to 13." The precise meaning of "exposed" and "direct contact" should be provided.

Pages 16-19 (Therapy and other uses): From the information provided in this discussion, it appears that none of the described "experiments" have had a control and that the results have been hypothesized, not demonstrated. Consequently, it can be argued, for example, that any perceived results were the product of a new and unusual environment, not of the dolphins per se, and that the same results could be achieved with less risk with other species or without actually entering the water with dolphins.

Page 19, third complete PAR: The last sentence of this paragraph states that "It is not clear what role dolphins play in this (BREATH program) activity." A discussion of the role of and specific need for dolphins in the "BREATH" and other similar human/dolphin interaction programs should be provided.

Page 20, third PAR: As noted earlier, this description of conditions at one facility could be misconstrued as being representative of conditions at all facilities conducting swim programs, and should be deleted or expanded to describe all four facilities.

Page 22, (4. Disease Transmission) first complete PAR: A citation should be provided for the third sentence in this paragraph which states that "...individuals assisting in studies of the bottlenose dolphin die-off of 1987-88 on the Atlantic coast contracted a skin disease of unknown etiology." A citation or person's name should also be provided for the fourth sentence in the paragraph. The last sentence of the paragraph indicates that erysipelas "has been reported in bottlenose dolphins and other cetaceans." Clarification should be provided as to whether these reports involved wild and/or captive dolphins.

Page 23, second complete PAR: A citation should be provided for the second and fifth sentences in this paragraph.

Page 25, first PAR: The last sentence in this paragraph should be revised to indicate that infection resulting from necropsy or handling of stranded animals is possible, rather than "likely".

Page 27, third complete PAR: As indicated in our general comments, many of the cases of disease transmission cited in the DEIS apparently involved close contact with dead or sick animals

or close, daily, long-term contact between trainers, attendants, etc. This paragraph should be revised to more accurately reflect this point.

Pages 29-30 (Survival in captivity), third par.: The "M" in DeMaster should be capitalized throughout this section.

The final four sentences of paragraph three on page 29 may create an erroneous impression regarding the referenced study by DeMaster and Dravenak and should be revised. While it is true that the average survival time of bottlenose dolphins in captivity analyzed in their study was 5.13 years, DeMaster and Dravenak explain that such mean survival times are misleading and should not be used "unless all of the animals acquired at a certain time have died and can be included in the analysis." It is also true that this study estimated that the life expectancy of bottlenose dolphins in captivity was 14 years, assuming that the annual survival rate is constant over all ages. It was not expected, however, that the estimated lifespan would be used for management purposes, since, as their paper indicates, "relatively small differences in the annual survival rates can result in large differences in estimates of life expectancy..." Moreover, the assumption that the annual survival rate remains constant throughout a dolphin's life is probably incorrect, casting further doubt on the point-estimate of life expectancy in captivity.

As the DEIS notes, DeMaster and Dravenak cite other studies that have reported lower annual survival rates for dolphins than they found. The DEIS does not explain, however, that DeMaster and Dravenak found the methodology in those other studies to be flawed in such a way that they produced negatively biased estimates of survival.

The last sentence of the paragraph should be revised to note that the conclusion reached by DeMaster and Dravenak was that, with currently available data, it was not possible to compare the survivability of animals in captivity with that of animals in the wild.

Page 29, CARXYOVER PAR.: The third sentence in this paragraph should be revised to state that "digestive disorders including those caused by ingestion of foreign objects" or "diseases of the digestive system", rather than the "digestive system" accounted for 19 of the 191 dolphin deaths between 1975 and 1987.

Page 31-32 (C. Educational Programs) CARXYOVER PAR.: The 1988 Amendments to the Marine Mammal Protection Act require only that public display programs offer "a program for education or conservation purposes that, based on professionally recognized standards of the public display community is acceptable to the

Secretary...." Using educational benefit as a factor in evaluating the extent to which risk associated with a program or activity is justified goes beyond the apparent intent of the amendments.

Pages 32-35 (E. Stress-induced Disease): This discussion should be improved. For example, the serious conditions, described in the second sentence of the paragraph, noted to occur as a result of transportation and capture, generally occur only in cases of extreme physical stress or trauma (e.g., exertion and/or injury). Likewise, with respect sentence three, while it is true that depression of thyroid hormones occurs, the harm, if any, resulting from this condition is unknown. While it is recognized that prolonged stress of a psychogenic or physiologic nature may affect disease susceptibility in humans and animals, a more detailed discussion of stress induced disease should be provided, utilizing, in addition to available literature, current information obtained from interviews and medical records. It may, for example, be useful to determine the comparative levels of Tagamet and Zantac given to dolphins in swim programs and dolphins in other types of public display programs. Also, the Service should provide citations to all referenced studies, including Walker, 1975.

Page 31, second complete PAR.: This paragraph indicates that a recent study, the citation for which should be provided in the References section of the DEIS, of the effects of stress on four bottlenose dolphins at the National Aquarium in Baltimore (Gibbons and Stoskopf, in press), concluded "that the relatively close proximity of the viewing public significantly affected the animals' behavior and contributed to the medical problems, i.e., bleeding ulcers." Although we have not reviewed this report, information available from our files (e.g., 1 March 1983 report on comparative sound studies at the National Aquarium by Melba C. and David K. Caldwell) indicates that "the three most likely problem(s) in the dolphins are (1) underwater noise of irritating quality and intensity, (2) in-air noise of irritating quality and intensity, and (3) 24-hour low-level light intensity. Reduction of pump noise would permit the dolphins relief from the first and an escape from the second factor. It is also possible that reduction of pump noise could reduce the overall noise levels in the building, but this is speculative. Our general impression was that the acoustic problem in the building became extremely uncomfortable only after the public had been admitted." Thus, this paragraph should be revised to clarify precisely what is meant by "relatively close proximity of the viewing public" in the Gibbons and Stoskopf report, as well as whether and if so, in what way(s) the report considers the stress factors identified by the Caldwells.

Pages 32-39 (Option A) CARXYOVER PAR.: Sentence four of

this paragraph states that "If they are found to qualify, therapy sessions might be authorized as scientific research." We note that, in order to qualify as scientific research, such therapy and other human/dolphin interaction projects would need to be designed as such and would need to include a scientific research protocol.

Page 39 (Option C) first complete PAR: This paragraph states that one program operator has found that "captive born and young wild caught dolphins tend to be the most amenable to sharing their pool with humans." While this may or may not be the case, we note that aggression is stimulated in dolphins by numerous factors and situations (e.g., individual temperaments, hormones, displacement behavior relative to social interactions with other dolphins, general handling techniques, inconsistency in handling and training, etc.). This also applies to female dolphins which are generally considered to be less sexually aggressive than males and thus, better candidates for swim programs. Therefore, it should be clearly noted that the use of captive born, subadult, and female animals in swim programs does not assure that aggressive acts resulting in injury to humans will not occur.

Page 39, second complete PAR: This paragraph should provide a more complete discussion of the potential problems inherent in swim programs with respect to the potential problems which may result from a possible need for captive born versus wild caught animals, females versus males, and subadults versus adults, and the possible alternative provisions for maintenance and potential uses of animals that are, for whatever reason(s) considered no longer suitable for swim programs.

Page 39, second complete PAR: The reference to "this swim operator" in the third sentence of this paragraph does not make sense. In addition, the paragraph states that the concept of voluntary or involuntary behavior may not be relevant with respect to trained animals and that animals participating in swim sessions because of food rewards or other behavioral conditioning would not likely terminate participation in a session regardless of the provocation. These statements are not accurate and should be revised. For example, the purpose of using positive reinforcement in training is to modify the subject's behavior by eliciting a voluntary response from the subject. In addition, it has been noted, for example, that "Dolphins are generally cooperative when they understand us, but frequently do what they please, regardless. Even though they respond well to food reinforcement, there are times when food becomes secondary to some other reinforcer such as sexual activity, manipulating or startling a person." (R. Kreiger, "Human/Marine Mammal Swim Programs" in *Soundings*, Winter 1989). It is reasonable to assume therefore, that an animal provoked to anger or frustration might exhibit aggression or withdraw from the situation entirely.

regardless of the training method used.

The sixth sentence of the paragraph should be revised inasmuch as the need for gate training of captive dolphins is not only a probability, but a likely certainty. The meaning of the seventh sentence of this paragraph is unclear, however, it should be noted that food deprivation of animals is an inappropriate training method and should not be used in this or any other situation.

Page 44, second complete PAR: The second to the last sentence in this paragraph states that the quota system "will prevent adverse effects on Gulf of Mexico populations as a result of a potential increase in captures if Alternatives C or D are chosen." As noted in our general comments, this conclusion apparently is based on the assumption that there are no other significant sources of take from wild populations -- an assumption of questionable validity given that the "magnitude of annual removals due to other human-induced causes is not known" (p. 10, DEIS).

Page 45 (Option D) first complete PAR: The word "our" in the first sentence of this paragraph should be changed to "NOAA Fisheries." The first sentence states that "In our view, implementation of the existing Special Conditions has not been very effective in monitoring the health and well-being of dolphins and humans in this program." Subsequent sentences provide examples of noncompliance and conclude that "This alternative may not have adequate safeguards...." In this regard, it should be noted in the second sentence of the paragraph that the Service imposed no penalty on the swim program operator who declined to report for 1 1/2 years and it continues to allow the unauthorized use of a California sea lion in a swim program. Thus, the extent to which Special Conditions will be effective in assuring the health and safety of human and dolphins depends not only on program operators' compliance, but also on the amount of responsibility the Service is prepared to assume with respect to monitoring and enforcing program requirements. As a related matter, an explanation of why the above-mentioned violations were/are allowed to continue should be provided. It should be noted in sentence five of the paragraph that data on possible increases in aggression or other changes over time relating to swim programs is not only "important" but essential, and therefore required, in making a determination as to whether swim programs should continue.

Page 45, second complete PAR: This paragraph should provide a more complete discussion of the possible alternative provisions for maintenance and potential uses of animals that are, for whatever reason(s), considered no longer suitable for swim programs. The last sentence of the paragraph states that "any increase in take, should it occur, is not expected to have

an adverse impact on population levels of bottlenose dolphins in the Gulf of Mexico." As noted above, this conclusion may be based on an erroneous assumption.

Conclusions and Recommendations

In reviewing the information contained in the DEIS, it is apparent that many questions remain unanswered with respect to the effects of swim-with-the-dolphin programs on both humans and dolphins. Among other things, additional information is needed with respect to: the likelihood of disease transmission among dolphins and humans; the occurrence and incidence of stress-induced disease in dolphins used in the programs; the potential for human injury as a result of dolphin aggression; the types and numbers of injuries to humans since the inception of swim programs; uncertainties surrounding the disposition of animals that are considered no longer suitable for swim programs (e.g., their maintenance and usefulness in other types of displays); the capability of the National Marine Fisheries Service to monitor the programs and enforce reporting and other requirements imposed on program operators; and the effect of removal from the wild of dolphins for swim programs in conjunction with other authorized captures and takings incidental to commercial fishing and other activities, if authorization for continuation of swim programs should be granted.

It is unfortunate that so little information has been gathered over the four years that the experimental swim programs have been in effect. This situation appears, in no small measure, to be attributable to the absence of reporting or inadequate reporting of essential data by swim program operators and inadequate and inconsistent monitoring and enforcement of the program by the National Marine Fisheries Service. Consequently, it is only with the Service's agreement to certain carefully described and implemented controls that the Marine Mammal Commission recommends that authorization of the four existing swim programs be extended as necessary, but not beyond 30 June 1991, to obtain the necessary information upon which to base a determination regarding their continuance. The Commission recommends that: no additional animals be removed from the wild for swim programs; no additional swim programs be authorized; new conditions be designed to mitigate potential adverse impacts of the existing programs on the well-being of dolphins and humans; substantially improved reporting requirements be established, in consultation with the Marine Mammal Commission; these requirements be carefully structured to obtain, to the maximum extent possible, information useful in assessing the effects of swim programs; and thorough, consistent, and effective monitoring and enforcement of the four programs by the National Marine Fisheries Service be established and carried out to assure that they are being conducted as responsibly and safely as possible and that required reports are submitted as and when specified in

the authorization. Specific details with respect to these recommendations are discussed below.

Disease Transmission/Stress Induced Disease

While one should not overreact to the potential for disease transmission, one must also recognize that such potential does exist. Consequently, the public should be informed of this fact and the strictest measures possible should be taken to minimize the risks to health of both dolphins and humans.

With respect to disease transmission from dolphins to humans, such measures should include, among other things: rigorous monitoring of dolphin health (regular (e.g., at least monthly) examination by a veterinarian); prompt removal from the program of any animal showing signs of illness; maintenance of comprehensive daily behavior and health records; and monthly, on-site monitoring of the programs and health records by the National Marine Fisheries Service, in consultation with the Animal and Plant Health Inspection Service and the Marine Mammal Commission, as well as consistent, thorough reviews, and evaluations of quarterly reports. It should be noted that, no matter how careful the facility, it will be difficult to prevent some human contact with fecal material.

Likewise, every reasonable effort should be made to assure that dolphins will not be exposed to disease-causing organisms from human participants. Inasmuch as the personal hygiene of swimmers cannot be regulated, and thus, the sanitary conditions of the water are going to vary with the individuals occupying it, certain requirements should be established for swim program participants (e.g., individuals with upper respiratory or other infections or open sores should be prohibited from participation; participants should be required to shower before entering the water; and consideration should be given to requiring participants to attest to their health and freedom from disease). Consideration also should be given to the possibility that the immunological system of young dolphins may not be sufficiently mature and developed to protect such animals from disease.

As a related matter, closed water systems present a much greater potential for organisms to flourish and to be retained within the system, thereby exposing dolphins and humans to such organisms in greater concentrations and for longer periods of time. In addition, the level of water treatment required to overcome the potential threat of disease transmission from disease causing organisms would be greater than what one would want to risk for both dolphins and humans. Consequently, the Marine Mammal Commission recommends that the conduct of swim programs in closed water systems be prohibited.

With respect to stress induced disease, the Commission notes

that while there are stressors in all environments, including captive environments, the introduction of large numbers of strangers into the captive environment introduces additional elements of stress. Thus, every effort should be made to identify and eliminate/minimize potential sources of stress and to provide the animals ample opportunity to retreat from the interaction process. Measures which should be taken in this regard, some of which are already discussed in the DEIS as suggestions from swim program operators, include: restrictions on the number of hours per day and per week dolphins may participate in swim activities (e.g., no more than two hours in any one day nor more than 10 hours in any one week); limitation on the duration of swim sessions (e.g., no more than 30 minutes); limitation on the number of people allowed in the water at any one time (e.g., a maximum of six with a human/dolphin ratio of 2:1 or 1:1); requirements on the amount of training provided to dolphins to prepare them for participation in swim programs (at least one year -- longer for newly captured animals); required instruction of swimmers as to appropriate behavior while in the water; and adequate provision for dolphins to escape easily from swim activities, if they so desire (i.e., a private space and buffer zone should be provided and all animals should be gate trained). In addition, a detailed medical protocol should be developed and put in place by 1 March 1990 to determine the extent to which stress is a problem and the incidence of stress induced disease.

Aggression

With respect to potential injury to humans as a result of dolphin aggression, dolphins can become aggressive. Aggressive or injurious behavior includes, but is not limited to, tooth-raking, physical blows from fins, rostrum, or tail, and, in males, penis erection and attempted copulation. These are all behaviors which have been shown in the scientific literature to be normal in bottlenose dolphins and to be associated with both sexual arousal and social dominance conflicts. In the circumstance of having unknown human individuals available in the water, it is to be expected that some or many animals will manifest these normal behaviors -- to the potentially serious detriment of human swim program participants -- unless carefully controlled by training. In this regard, rules of conduct for dolphins, as well as people, should be established and consideration should be given to establishing a program of independent observation of human-dolphin swim programs. Trainers should have ample experience in working with dolphins to recognize the early signs of aggressive behavior. In addition, the Marine Mammal Commission recommends that trainers have at least three years of experience working in the water with dolphins.

The standard correction usually preferred by trainers is a time-out (i.e., all swimmers leave the water and interaction is

discontinued for a prescribed period). Other methods of control should include direct, continuous pool-side observation and supervision of human-dolphin interaction by experienced training staff (e.g., two or more trainers pool-side, depending upon the number of dolphins participating in a program) to insure early recognition and correction of potential problems. We note that inasmuch as the potential for aggressive behavior may increase with the level of frustration experienced by the animal, the restrictions recommended to minimize stress to dolphins, also apply to averting potential aggression. Guidelines should also be established as to the limitations which should be imposed as to participants' ages, physical limitations, swimming ability, etc.

As a related matter, the DEIS provides no description of how therapy or other therapy-related human/dolphin interactive programs are conducted and monitored. The Commission does not believe that these activities constitute public display and recommends that, if authorized, these programs be authorized as scientific research permits or under the Marine Mammal Protection Act's general waiver provisions. Detailed research plans, which include provisions to obtain unambiguous experimental results with well-designed controls, should be developed by those engaged in therapy and research related programs and be subject to review by experts in the field of psychiatry and medicine. Furthermore, the same precautionary measures as discussed above should be implemented in these programs, as well. The Commission is concerned, however, that some programs contain too great an element of danger. For example, with respect to the proposed birthing program, it should be noted that there is frequently a tremendous amount of activity in pools after dolphin births (e.g., stealing newborn animals, holding newborns on the bottom of the pools, a large amount of rapid swimming, and agitated behavior). While it is unknown if a human birth would stimulate similar activity, the potential hazards are, in the Commission's view, too great and the potential benefits, if any, too speculative, to justify this activity.

Monitoring and Enforcement

If continuation of experimental swim programs is authorized, more effective monitoring and enforcement by the National Marine Fisheries Service must be put in place to assure that program operators are complying with reporting and other requirements and conducting the programs as responsibly and as safely as possible. The Commission is concerned, for example, that the DEIS mentions at least three instances of apparent violations -- one of which continued unaddressed by the Service for over one year and two of which are currently continuing (i.e., the failure of one swim program operator to file quarterly reports for 1 1/2 years without penalty; the continued unauthorized use of a California seal lion in a swim program; and contradictory statements from

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swim program participants and program operators concerning injuries sustained as a result of dolphin aggression). The Commission's recommendation for the temporary continuance of swim programs is contingent, therefore, upon the Service's establishing those protocols described earlier, carefully monitoring the programs, and enforcing the provisions under which the programs are conducted. By 31 March 1990, the Commission should be provided detailed monitoring and enforcement protocols. If the Service will not or cannot conduct the rigorous monitoring and enforcement of the programs necessary to ensure the well-being of dolphins and humans as well as to ensure the thorough collection and analysis of essential data, the programs should be discontinued. If swim programs are discontinued on this basis, the Service should provide a full explanation to swim program operators and to the Commission setting forth what monitoring and enforcement programs would be necessary and explaining why the Service is unable to carry out its responsibilities in this regard.


To help establish a firm basis both for management of existing programs and for obtaining information upon which to base the ultimate decision as to whether swim programs should be permitted to continue, the Service should, among other things: obtain outside consulting services from experienced scientists in designing and carrying out behavioral programs; rigorously evaluate the educational benefits of such programs; establish and implement any new conditions for existing swim programs; establish and implement a consistent and rigorous monitoring program; establish strict penalties, such as stopping the program, for noncompliance; and enforce program requirements promptly and consistently. In addition, the Service, based upon consultation with swim program operators and other members of the public display industry, should establish policies and procedures to provide for the maintenance and potential uses of animals that are considered no longer suitable for swim programs.

The above comments do not include recommendations with respect to taking of animals from the wild for use in swim programs -- an activity to which the Commission is opposed. In the event, however, that the Service should ever contemplate authorization for such removals for swim programs, additional information with respect to the possible effects on wild dolphin populations would be necessary. Among other things, the Service would be required to consider the cumulative effect of removals from the wild of dolphins for swim programs in conjunction with takings incidental to commercial fishing and other activities, as well as the potential of over-exploiting the females in a given population as a result of the stated suitability of and need for female over male animals in swim programs and public display in general.

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If you have questions about this letter, please let me know.

Sincerely,


John R. Tolan, Jr.
Executive Director

cc: Ms. Ann D. Terbush



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

11/10/80

DEC 28 1980

OFFICE OF
FEDERAL ACTIVITIES
ENVIRONMENTAL PROTECTION AGENCY

Honorable Jennifer Joy Wilson
Assistant Secretary for Oceans and Atmosphere
United States Department of Commerce
14th and Constitution Ave., N.W.
Washington, D.C. 20210

AI-1

Dear Ms. Wilson:

In accordance with Section 109 of the Clean Air Act and the National Environmental Policy Act (NEPA), the Environmental Protection Agency (EPA) has reviewed the draft environmental impact statement (DEIS) on the Use of Marine Mammals in Swim With The Dolphin (SWTD) Programs, prepared by the National Marine Fisheries Service (NMFS).

The DEIS describes impacts on dolphins and humans who participate in SWTD programs at four National Oceanic and Atmospheric Administration authorized locations, three in Florida and one in Hawaii. These facilities allow members of the public to enter the water with marine mammals for recreational swimming activities. Two of the SWTD facilities are associated with animal therapists who use the swim programs as therapy for autistic children, learning impaired or other mentally or physically handicapped children and adults.

The DEIS provides four regulatory options: (1) allow SWTD program authorities to expire after December 31, 1982; (2) continue existing SWTD programs on an experimental basis; (3) authorize SWTD programs beyond December 31, 1982, with new conditions; and (4) authorize SWTD programs beyond December 31, 1982, with existing Special Conditions.

We do not believe this program raises environmental issues within EPA's areas of jurisdiction and expertise. Accordingly, we have rated the environmental impacts of the action proposed in the DEIS "LO" (Lack of Objection) and the adequacy of the DEIS as "1" (Adequate). (A sheet describing EPA's rating system is enclosed for your information). Our review of the DEIS does, however, suggest to us that some of the options may be preferable to others from the standpoint of human safety and dolphin welfare.

While EPA commends the NMFS and the operators of SWTD programs on its use of therapy based swim encounters and support the continuation of this type of scientific research, there

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appears to be some concern about the incidence of injury to participants that have not been reported by operators at these facilities. The DEIS states that "no swim with the dolphin program operator has ever reported instances of sexual or other aggression involving people and dolphins or recorded injuries in association with swim programs." However, written comments and public testimony indicate that injuries have occurred and have gone unreported. If in fact a dolphin has shown aggressive tendencies, then that dolphin could pose a threat to the welfare of future participants of a SWTD program.

The National Oceanic and Atmospheric Administration acknowledges that "implementation of the existing Special Conditions has not been very effective in monitoring the health and well being of dolphins and humans in these programs." Several cases of these problems have been documented, including the following incidents: (1) an operator did not submit a report for 1.5 years; (2) the death of two dolphins were not reported in a timely manner; (3) the death of one dolphin was not reported at all; and (4) one facility is using a California sea lion in a swim program without authority. These cases suggest that the expansion of these types of programs at this time may not be beneficial to dolphins or increase the educational experiences that cannot otherwise be gained at non SWTD facilities. Elements of a regulatory program should include more aggressive reporting and monitoring requirements, very strict controls on program design, and suspension or revocation of permits if these guidelines are not explicitly observed. Thus, it may be that a combination of options 2 and 3, involving the continuation of only the existing four programs on an experimental basis, with new conditions as appropriate, would provide a suitable regulatory framework for these programs.

We appreciate the opportunity to review the DEIS. If you have any questions please call me (182-5051) or have your staff call Cathy Banks at 182-5006.

Sincerely,

Richard F. Sanderson
Director
Office of Federal Activities

Enclosure

AI-3

Summary of the EPA Review System
for Major Environmental Impact Statements
of Actions and Plans of Action

Environmental Impact of the Action

18. Lack of Objectives

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have detected opportunities for optimization of mitigation measures that could be accomplished with no more than minor changes to the proposal.

19. Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or optimization of mitigation measures that can reduce the environmental impact. EPA intends to work with the lead agency to reduce these impacts.

20. Environmental Objectives

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantive changes to the preferred alternative or optimization of some other project alternatives (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

21. Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CBO.

Adequacy of the Impact Statement

Category 1--Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project at this time. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2--Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analysis, or discussion should be included in the final EIS.

Category 3--Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analysis, or discussion are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA public review, and thus should be formally reviewed and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CBO.

* From EPA Manual 1040 Policy and Procedures for the Review of Federal Actions Impacting the Environment

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Nancy Foster
Director
Office of Protected Habitat
National Marine Fisheries

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RE: COMMENTS ON HUMAN/DOLPHIN SWIM DRAFT EIS

Dear Ms. Foster:

Included are my comments on the Human/Dolphin swim program Draft EIS. But before I delve into those comments I wanted to take a moment to commend your office undertaking this project. All too often, government agencies, faced with the amazing demands that the modern world places on them, choose to ignore projects that require the agency to step back to observe the direction their programs have taken.

In undertaking this EIS, you are not only fulfilling the obligations of NEPA, but are also gathering information that will undoubtedly be valuable in the Permit Review your office is conducting. Together, these two reviews should undoubtedly put your programs in touch with the concerns of the public.

If my comments on the Draft EIS seem to be extensive, it is not meant as a negative reflection on the work that has been completed. On the contrary, I believe the preparer of the current document did an excellent job in exploring the issues presented. My goal in presenting the comments I have, is with the hopes that the final impact statement will be expanded in scope by incorporating all the requirements of NEPA.

Once obtained, this additional information will provide the Congress and the public and other policy makers with the information needed to make a meaningful analysis of the environmental impacts of the proposed project. Only in this way can an 'excellent' decision be made regarding the Human/Dolphin swim programs.

COMMENT ONE: THE NEED FOR EXPANDED SCOPING:

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Under Sec 1501 NEPA states " There shall be an early an open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action

(a) As part of the scoping process the lead agency shall

(1) Invite the participation of affected Federal, State, and local agencies, and any affected Indian tribe, proponent of the action, and other interested persons.

There is no indication in the Draft EIS that NMFS invited the participation of Federal agencies such as the Center for Disease Control or the Environmental Protection Agency. State agencies such as the Florida or Hawaii Department of Natural Resources, or local health departments of the counties in which the current swim programs are currently conducted. This even though

- * The Center for Disease Control has expertise in disease transmission
- * The EPA has expertise and jurisdiction over air and water quality
- * The Florida Department of Natural Resources has indicated their interest in the swim program via a memorandum dated 7/27/89 from Willie Roche of Southeast Fisheries to Ann Turbush of NMFS DC, regarding aggressive behavior of dolphin in the swim program. And has authority regarding land and water use
- * The State of Florida Department of Environmental Regulation, regarding any laws about land or water use, and/or any laws which the swim program might violate (i.e., water quality for swimming areas) Or for any licences which might be required to conduct such an activity.
- * Local health departments in which the swim programs are currently being conducted, which might have regulations directly conflicting with these activities (i.e., water quality for public swimming/bathing areas) Or for any licences which might be required to conduct such an activity.
- * Local planning and building departments who have regulatory authority over land and water use.

NEPA is clear in its mandate for the lead agency to include agencies at various levels of government in the NEPA process as is indicated in

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* 40 CFR Sec. 1501.101 which requires integrating NEPA requirements with other environmental review and consultation requirements

* 40 CFR Sec 1500.5(b) which requires agencies to reduce delay by emphasizing interagency BEFORE the environmental impact statement is prepared rather than submission of adversarial comments on a completed document.

* 40 CFR Sec. 1501.6(b) which emphasizes cooperative consultation among agencies BEFORE the environmental impact statement is prepared rather than submission of adversarial comments on a completed document

* 40 CFR Sec. 1501.102) which provides for cases where actions are planned by private applicants of other non-Federal entities before Federal involvement so that the Federal agency consults early with appropriate State and local agencies and Indian tribes and with interested private persons and organizations when its own involvement is reasonably foreseeable

* 40 CFR Sec. 1501.7(a)(1) which states there shall be an early and open process for determining the scope of the issues to be addressed and for identifying the significant issues related to a proposed action. As part of the scoping process lead agency shall invite the participation of affected Federal, State, and local agencies, and any affected Indian tribe, the proponent of the action, and other interested persons

* 40 CFR Sec. 1502.16(c) which requires the discussion of environmental impacts of the alternatives to include possible conflicts between the proposed action and the objectives of Federal, regional, State, and local (and in the case of a reservation, Indian tribe) land use plans, policies and controls for the area concerned

* 40 CFR Sec. 1502.19(a) which requires the agency to circulate the entire draft and final environmental impact statements to ANY Federal agency which has jurisdiction by law or special expertise with respect to ANY environmental impact involved and ANY appropriate Federal, State or local agency authorized to develop and enforce environmental standards.

* 40 CFR Sec. 1502.25(b) which requires that the draft environmental impact statement shall list all Federal permits, licenses, and other entitlements which must be obtained in implementing the proposal

* 40 CFR Sec. 1501.1(a)(1) which requires that after preparing a draft environmental impact statement and before preparing a final environmental impact statement the agency shall obtain the

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comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved or which is authorized to develop and enforce standards.

• 40 CFR Sec. 1501.1(a)(2) which requires that after preparing a draft environmental impact statement and before preparing a final environmental impact statement the agency shall request the comments of appropriate State and local agencies which are authorized to develop and enforce environmental standards.

• 40 CFR Sec. 1506.2(d) which requires that to better integrate environmental impact statements into State or local planning processes, statements shall discuss and inconsistency of a proposed action with any approved State or local plan and laws. And where an inconsistency exists, the statement should describe the extent to which the agency would reconcile its proposed action with the plan or law.

The importance of involving Federal, State and local environmental agencies as NEPA requires, cannot be underestimated as no matter where a swim program is authorized, it will be subject to these agencies regulations. Therefore it is imperative to include them in the NEPA process to explore, in depth, what is actually required by swim programs to comply with all environmental concerns.

According to the Council on Environmental Quality, "Sec. 1501.2(d) of the NEPA regulations requires federal agencies to take steps toward ensuring that private parties and state and local entities initiate environmental studies so as federal involvement in their proposals can be foreseen. This section is intended to ensure that environmental factors are considered at an early stage in the planning process.

And,

"Agencies must integrate the NEPA process into other planning at the earliest possible time to insure that planning and decisions reflect environmental values, to avoid delays later in the process, and to head off potential conflicts. The regulations emphasize agency cooperation early in the NEPA process. Sec. 1501.6, Sec. 1501.7, on "scoping" also provides that all affected Federal agencies are to be invited to participate in scoping the environmental issues and to identify the various environmental review and consultation requirements that may apply to the proposed action."

And,

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"After a lead agency has been designated, that agency has the responsibility to solicit cooperation from other Federal agencies that have jurisdiction by law or special expertise on any environmental issue that should be addressed in the EIS being prepared. Where appropriate, the lead agency should seek the cooperation of state or local agencies of similar qualification. When the proposal may affect an Indian reservation, the agency should consult with the Indian tribe (Sec. 1501.5). The request for cooperation should come at the earliest time possible in the NEPA process.

The courts have also held that information from all agencies with an environmental mandate is required in the Scoping, Draft EIS and final EIS. This is exemplified in the Gillham Dam case, Environmental Defense Fund v. Corps of Engineers in which the ruling against the Corps was

The evidence of the defendant's consultation with state agencies leads the Court to conclude that in some cases such might have been rather superficial. And this also appears to be the case with respect to their consultation with certain federal agencies.

The court listed ten instances of noncompliance, three of which concerned the commenting procedure.

(7) *The evidence does not indicate that prior to making the statements, the defendants did "consult with and obtain the comments of" all Federal agencies which have "jurisdiction by law or special expertise with respect to any environmental impact involved."*

(8) *The statements do not include the "comments and views" of all appropriate "State and local agencies which are authorized to develop and enforce environmental standards."*

(9) *The evidence does not indicate that the "statements and comments and views" of all the appropriate Federal, State and local agencies did "accompany the proposal through the existing agency review process."*

COMMENT TWO: THE NEED TO PRESENT ALL ISSUES OF CONCERN.

Sec. 1501.7(b) requires the lead agency identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec. 1506.3), narrowing

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the discussion of these issues in the statement; in a brief presentation of why they will not have a significant effect on the human environment or provide a reference to their coverage elsewhere.

In their scoping comment, the Marine Mammal Commission and other commenters requested specific issues be addressed in the Draft FIS. A number of these have not been addressed in the Draft FIS and therefore should be addressed in the final. There needs to be either a brief discussion of why these issues are not of significance, or there needs to be reference made to their coverage elsewhere.

Some issues requested but not addressed were:

From the Marine Mammal Commission:

- The legal authority for swim-with-a-dolphin programs: i.e. do these programs constitute legitimate public display under the Marine Mammal Protection Act.

- Whether and observed or reported differences in the effects of effectiveness of the experimental programs are attributable to differences in those programs;

- What limitations, if any, should be placed on the number of human participants in dolphin swim programs or on the number of encounters during a specified time period for any one dolphin, and

- The types of facilities in which swim programs may be conducted, e.g., open water versus closed water systems, minimum space and depth requirements; whether swim programs may be conducted in an open ocean setting using wild population.

From the Animal Protection Institute:

- In cases where programs are located adjacent to natural areas, assessment of threats to habitat areas due to introduction of non-native wildlife;

- Liability of federal government agencies for injuries suffered by humans or animals during permitted activities;

- Adequacy of current regulation affecting liability of owners of swim-with-dolphin facilities in cases of injury to humans or dolphins;

- Applicability of current USDA Animal Welfare Act regulations, such as 9 CFR 3.135, and NOAA/Fisheries' responsibility for ensuring that any newly-developed regulation do not conflict with those rules, and

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- Definition of public display to determine whether swim-with-dolphin programs fall with NOAA fisheries permitting authority.

From Craig Karnoff:

- Addressing Sec. 1506.27(6) on precedent setting activities.

If the swim program is allowed, does this mean that NMFS will allow similar programs to be conducted with other protected marine mammals such as captive killer whales, or seals, or California sea lions? What argument would NMFS use to allow the swimming with dolphins and not other marine mammals?

- Addressing Sec. 1506.27(7) on cumulative effects.

If the swim programs are allowed and they increase in popularity, how will the cumulative taking of dolphins needed for this type of invasive program affect dolphins needed for non-invasive programs and research? How will the dolphins be allocated to the various programs (i.e. public display, swim programs, research, etc.)?

- Addressing Sec. 1506.27(10) on violation of environmental standards and laws.

If these programs are increasing human activity within a given area, it must be discussed if the increase is creating a violation of local environmental regulations. Does the increased auto traffic created by this activity effect local air quality? If more programs are allowed, what effect will they have? Is, or will the increase in traffic generated by these programs impacting the local standards?

- Addressing Sec. 1506.27(10) on violation of environmental standards and laws.

Do these programs comply with the purposes and policies of the Marine Mammal Protection Act? Do they qualify as educational and do they significantly benefit the public? If so, how?

- Finally, is the example NMFS is setting by allowing the public to "invade" the space of captive dolphins encouraging the public to approach these animals in the wild (a violation of the Marine Mammal Protection Act)?

The concerns that led to the enactment of NEPA require that the terms "environmental effect" and "environmental impact" in Sec. 102 of the Act, be read to include a requirement of a reasonably close causal relationship between a change in the physical environment and the effect at issue. The Council on Environmental Quality has clarified this in their NEPA memorandum which states:

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"NEPA requires that impact statements 'at a minimum' contain information to alert the public and Congress to all known possible environmental consequences of agency action. Thus one of the Federal government's most important obligations is to present to the fullest extent possible the spectrum of consequences that may result from agency decisions and the details of their potential consequences for the human environment.

"The EIS must identify all the indirect effects that are known, and make a good faith effort to explain the effects that are not known but are 'reasonably foreseeable' (Sec 1509.8(b)).

Reasonable effects do include threat to habitat, air and water quality degradation, socio-economic impacts, and violation or conflict of existing laws which have been established by other agencies, whether Federal, State, regional or local whose mission it is to protect the quality of the environment.

The Final EIS needs to take into account the scoping comments and issues raised in the Draft EIS. This satisfies not only the NEPA requirements for scoping, but also satisfies the NEPA requirements to "rigorously explore and objectively evaluate" all reasonable alternatives including the proposed action, their effects on the environment, and the environmental consequences of each.

The importance of having this information is explained in Sec 40 CFR Sec 1502.14, which is considered the heart of the environmental impact statement. Its substance is based on the information and analysis presented in the sections on the Affected Environment (Sec 1502.15) and the Environmental Consequences (Sec 1502.16). Its purpose is to provide guidelines to present the environmental impacts of the proposal and the alternatives in comparative form, thus defining the issues and providing a clear base for choice among options by the decisionmaker and the public. Among other things, this section requires agencies to:

(a) rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.

(b) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.

(c) Include reasonable alternatives not within the jurisdiction of the lead agency.

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(d) Include appropriate mitigation measures not already included in the proposed action or alternatives.

COMMENT THREE: THE NEED TO EXPLORE THE AFFECTED ENVIRONMENT.

This heart of the environmental impact statement is based on the information which is collected in 40 CFR Sec 1502.15 Affected Environment and 40 CFR Sec 1502.16 Environmental Consequences.

Under 40 CFR Sec 1502.15, the environmental impact statement shall succinctly describe the environment of the area(s) to be affected or created by the alternatives under consideration. The descriptions shall be no longer than is necessary to understand the effects of the alternatives. This section is the starting point to assure that the requirements of 1502.11 are satisfied. If the requirements of this section are not met, the impact statement becomes inadequate and ineffective.

The key term in 40 CFR 1502.15 is 'effect', as in the effects of the alternatives on the environment. In the terminology of NEPA regulations, effects (40 CFR Sec 1509.8) is defined as including:

(a) Direct effects, which are caused by the action and occur at the same time and place.

(b) Indirect effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.

Effects and impacts as used in these regulations are synonymous. Effects includes ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), esthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative.

Once an agency has satisfied the requirements of 40 CFR Sec. 1502.15, it can proceed in 40 CFR Sec. 1502.16, the section on environmental consequences. This section forms the scientific and analytic basis for the comparisons for the comparisons under 40 CFR Sec 1502.11. The discussion in this section is to include the environmental impacts of the alternatives including the proposed action, (uncovered in 40 CFR 1502.15) any adverse environmental

environmental effects which cannot be avoided should the proposal be implemented, the relationship between short term uses of man's environment and the maintenance and enhancement of long term productivity, and any irreversible or irretrievable commitments of resources which would be involved in the proposal should it be implemented. The section is not to duplicate the discussions in 40 CFR 1502.14. Some of the things to be included in the discussions are:

- (a) Direct effects and their significance.
- (b) Indirect effects and their significance.
- (c) Possible conflicts between the proposed action and the objectives of Federal, regional, State, and local (and in the case of reservation, Indian tribe) land use plans, policies and controls for the areas concerned.
- (d) The environmental effects of alternatives including the proposed action.

It is the information gathered in 40 CFR 1502.15 and the required evaluation of this information under 40 CFR 1502.16, which gives the substance to 40 CFR 1502.14 which is the 'heart' of NEPA, or its purpose for existence. And that purpose is to "insure that environmental information is available to public officials and citizens to 'foster excellent action.'"

NMFS has discussed some of the direct effects such as disease transmission between the dolphin and human, but the Final EIS needs to take into consideration the other direct effects on the environment such as the dolphins impact on the habitat; the effects on the environment of using an open-water system versus a closed-water system; and the effects the facility and the humans have on the dolphins, who are now part of the environment which is being effected by the program.

The Final EIS will also need to discuss the environmental effects that increased traffic will have on the quality of the air in the areas where the programs are being conducted. And there will also need to be discussion of the socio economic effects, such as population or commercial growth that these programs will have on the areas in which they are conducted.

* The Final EIS will have to discuss the irretrievable resources which would be if indeed NMFS was liable for injuries suffered by humans in these programs.

* The Final EIS will have to include all the laws and permits required and any possible conflicts between the proposed action and the objectives of Federal, regional, State and local land use plans, policies, and controls for the area concerned.

It's only with this information that there can be an intelligent discussion of the mitigation measures required under NEPA (Sec 1501.14(f)). Because according to the CEQ, the mitigation measures discussed in an EIS must cover the range of impacts of the proposal. The measures must include such things as design alternatives that would decrease pollution emissions, construction impacts, esthetic intrusion, as well as relocation assistance, possible land use controls that could be enacted, and other possible efforts. Mitigation measures must be considered even for impacts that by themselves would not be considered significant.

It simply follows that if an agency does not explore the total range of effects to the environment a particular action may have, then they cannot discuss either the environmental effects of the alternatives or the possibilities for mitigating those effects.

The key requirement of NEPA is for an agency to consider and disclose the actual environmental effects in a manner that will ensure that the overall process, including both the generic rulemaking and the individual proceedings, brings those effects to bear on decisions to take particular actions that significantly affect the environment. This is an important goal for the Final EIS to try and achieve.

COMMENT FOUR: REASONABLE ALTERNATIVES NOT PRESENTED.

Alternative One

Section 1502.14 requires that the lead agency "rigorously explore and objectively evaluate all reasonable alternatives". In the Draft EIS, there is no discussion of alternative means to achieve the same goal as the proposed action.

According to testimony provided by the operators of the swim programs one of the main reasons to conduct them is to educate people about the animals involved. In the Draft EIS, NMFS fails to offer any discussion of alternative means to educate the public about

AJ-12

the animals involved. In other words, they offer not alternative on how the same end - education - might be achieved without using the dolphins in a swim program. Thereby eliminating many of the current concerns related to the program such as disease transmission and physical injury.

It seems if the purpose of the Human/Dolphin programs is truly an educational experience (which is also the mandate of the Marine Mammal Protection Act) then it is reasonable that alternative means of education be explored, especially if those alternatives would have less of an environmental impact than the ones currently conducted.

Alternative Two:

A second important alternative which was not included in the Draft FIS is one which allows the Human/Dolphin swim program to continue, but subject to the NEPA.

According to the CTO, "Programatic EISs must be prepared prior to an agency's decision regarding a major program, plan, or policy with significant environmental impacts. It may be broad in scope followed by site-specific EISs or EAs prepared at subsequent stages.

This Human/Dolphin FIS is in fact a programatic FIS. It is clearly reasonable to think that any Human/Dolphin swim program permitted by NMFS in the future could clearly warrant an EIS. One only has to look at some of the direct and indirect effects mentioned in this document to see this.

The reason this alternative should be considered and discussed in the Human/Dolphin programatic Draft FIS is stated under Sec. 102(2)(c)(v) of NPA which states:

all agencies of the Federal Government shall include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

Should it turn out that NMFS allows the Human/Dolphin swim programs to continue, and it is determined that the programs are subject to either EAs or EISs, then this would be a commitment by NMFS of the irretrievable resources they would have to expend to

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conduct these assessment or impact statements. Those resources (of personal and money) would be tied up in these programs and could not be allowed to other NMFS programs.

SUMMARY

Though I believe the preparer of the Draft FIS did an excellent job on the material presented, I believe, for the above mentioned reasons, that the Draft FIS has left some areas which need to be explored and presented in depth in the Final FIS.

In trying to achieve the goal for the Final FIS, NMFS might consider using one facility as a case example in the steps necessary for complying to NEPA regulations. Though each facility will vary greatly in environmental impacts, the process they will have to go through to comply with NEPA will be the same.

Take for example a program like the Dolphin Research Center in Marathon, Florida. I recently spoke with Randal T. Grau, who is the Environmental Supervisor of the Division of Permitting for the State of Florida Department of Environmental Regulations. He advised me on what some of the State and county requirements would be to implement this type of program. Taking that information and combining it with the Federal requirements, compliance with NEPA would indeed.

Scoping

Federal agencies

- 1) Corps of Engineers: if they planned to build pens or dredge in the ocean.
- 2) USDA: permits to satisfy APHIS requirements for marine mammals in captivity.
- 3) NMFS: permit to capture and maintain cetaceans for either research or public display.
- 4) EPA: to discuss air and water quality impacts.

State agencies

- 1) Florida Department of Natural Resources: land and water use permits.
- 2) State of Florida Department of Environmental Resources: Land and water use permits.
- 3) State Health and Rehabilitative Services: health codes.

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4) State Department of Transportation regarding traffic and traffic patterns.

County agencies

1) Monroe County Health Department regulations and permits regarding public swimming and bathing areas

2) Monroe County Building Department land and water use permits

And the local planning agency to discuss traffic increases and other effects of the project. And perhaps the South Florida Coastal Development Council (depending on the size of the project). And interested environmental groups and the interested public.

By approaching the Final FIS in this manner, all the direct effects (many of which have been discussed in the current Draft FIS and in these comments) and the indirect effects, such as air and water quality and socio-economic impacts could be discussed in the manner NEPA requires.

I appreciate this opportunity to comment on this very important issue. I hope these comments are taken in the spirit in which they were written and will be given due consideration.

Sincerely,

Craig Kasloff

4007 Latona Ave. N.E.
Seattle, Wa. 98105
(206) 612-0811

December 20, 1989

AK

Dr. Nancy Foster, Director
Office of Protected Resources
and Habitat Programs

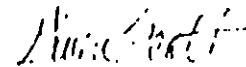
NOAA Fisheries
1105 East West Highway
Silver Spring, MD 20910

Dear Dr. Foster:

Please find enclosed my written testimony in response to the public hearings recently conducted on your office's policy and environmental impact statement concerning the Swim-With-The-Dolphin programs.

If you should need any additional information or desire to confirm any of the information included in my testimony, please feel free to contact me during the day at 512-863-1477. Thank you.

Sincerely,



Gwendolyn H. Scott
512 Clearcreek
Georgetown, TX 78626

cc: Georgia Crannore

December 17, 1989

Dr. Nancy Foster, Director
Office of Protected Resources
and Habitat Programs
NOAA Fisheries
1336 East-West Highway
Silver Spring, MD 20910

AK-1

Dear Dr. Foster:

In response to your Office's recent environmental impact statement on Swim-With-The-Dolphin Programs, since I was unable to attend any of the recent public hearings conducted to gather reaction to this issue, I offer this letter in lieu of testimony. I would very much appreciate your consideration of this testimony and its inclusion in the final statement produced by your office.

First of all, let me say that I am unequivocally opposed to the captivity of marine mammals for any purpose, educational or otherwise. As custodians of this magnificent world we live in, it is our duty to protect these creatures, not use them for our own selfish purposes no matter how altruistic those purposes may be.

This past May, I participated in a personal growth seminar called Dolphin Camp which was conducted by Bill and Cary DeLano (Dolphin Learning Institute) at Hawk's Cay on Marathon Key, Florida. The week I spent with the DeLano's and the other Dolphin Camp participants was one of the best experiences I have ever had in that particular type of workshop setting. Even though I my overall experience with that particular program was very positive, the most disheartening portion of the entire week was, in my opinion, our interaction with the captive dolphins at Hawk's Cay.

When I had first inquired about this particular program, I was very ignorant of the dolphin swim programs and was concerned about whether or not the dolphins used were in a captive situation. I was assured by Mr. DeLano that the dolphins we would be interacting with were in "voluntary captivity," and that there were gates on their pools that opened and they could come and go as they pleased. In fact, he even went so far as to say that the dolphins were allowed to leave during the day and play in the open ocean and would return in the evening for feeding. In my ignorance I believed him but, of course, after being there I realized that the scenario he described was pure fantasy. While the gates Mr. DeLano described were present at the Dolphin Research Center, where we observed their swim program one afternoon but did not swim with their dolphins, I never saw them opened. The statement about "voluntary captivity" was the primary reason I had determined that this particular program was acceptable and was the deciding factor in my decision to spend more than \$2,000 to attend. I might also add that in speaking with other Dolphin Camp

AK-2

participants, other aspects of the program were misrepresented to them as well. For example, one participant said that he attended Dolphin Camp because he had been told he would be allowed to establish a one-on-one relationship with an individual dolphin during several days of interaction, which definitely was not the case.

I was never comfortable with the dolphin swim program at Hawk's Cay. It was conducted in what I considered to be a "circus like" atmosphere. We were given dorsal fin tows, allowed to hold the hoop for the dolphins to jump through, and all the while photos were being taken which would be marketed to us later. However, I did participate in two swims there. By the time we were allowed to get in the water with the dolphins for the first time we had been through about a day and a half of workshop and the build-up had been tremendous. We had been talking about interspecies communication and building rapport, seen a film about dolphins, and participated in a guided dolphin meditation. As you can imagine, the anticipation was terrific and we were all very anxious for our first interaction. However, at Hawk's Cay we were just part of the show.

The most positive experience I had with dolphins during the Dolphin Camp program was with a pod of wild dolphins we visited off of Key West during three separate trips on Captain Ron Canning's 31 foot catamaran. It was obvious that Canning, who conducts Dolphin Watch, has worked very hard at establishing a rapport with this particular pod. It appeared that these dolphins knew his boat, knew his voice, and were not threatened by his presence. And, of course, they had the option of leaving the area at any time they might choose. Canning obviously has a deep respect for dolphins and is very protective of their welfare.

It was during one of these visits off Key West that I had a very profound in-the-water interaction with three members of this pod of wild dolphins. Needless to say, the quality of that interaction and the interaction I had had with the dolphins at Hawk's Cay was practically incomparable. While the dolphins at Hawk's Cay were only going through the motions, the dolphins in this wild pod interacted with me because they chose to, not because it was something they were trained to do.

I was very distressed to read of the high mortality rates regarding captive dolphins cited in your Office's environmental impact statement. The true meaning of these mortality rates are additionally emphasized by the death of Slympie, a dolphin we swam with at Hawk's Cay who expired last June after being transported to a northern zoo.

I do not believe that the educational benefits for humans, no matter how lofty, outweigh the rights of these animals to live long and free in their natural environment. Anyone who consistently conducts or participates in dolphin swim programs condones the violent capture of these wild creatures. I regret that, through my ignorance, I patronized such a program at one time. And, while my

AK-3

attendance at Dolphin Camp did result in increased knowledge and interest in these issues. I do not believe that my interaction with captive animals was necessary to formulate those conclusions.

The proliferation of these profit making enterprises which are conducted under the guise of "education" must be halted or one of the most important of the marine mammals - the dolphin - will be just another notation on our growing list of endangered species. I urge the National Marine Fisheries Service to stop pandering to the human exploitation of these animals and protect this species from unwarranted capture by halting the proliferation of these programs and other currently acceptable practices such as display and performance. I sincerely question how programs requiring animals to jump through hoops and interact with humans for rewards of food create a better appreciation for and understanding of this species. These programs, no matter how well organized or presented, are degrading and I disagree with your organization's position that they create a "commitment" on the part of the general public to protect marine mammals and their environment. In fact, it is my opinion that such programs are by their very nature contradictory and, in reality, foster what your organization claims it is trying to avoid by teaching people that exploitation is acceptable. I would be very interested in knowing exactly what facts the committee used to formulate its apparently insubstantial conclusion regarding these educational benefits. Therefore, I encourage the committee to adopt alternative "A" presented in the environmental impact statement and "allow swim with the dolphin program authorities to expire after December 31, 1989" and, thereby, halt the capture of wild dolphins for this dubious purpose. It is not the dolphins' responsibility to educate us; it is our responsibility to protect them from exploitation and extinction.

Additionally, I urge the National Marine Fisheries Service to become protectors of this species rather than exploiters of its commercial value by encouraging the establishment of release and rehabilitation programs for captive dolphins. Granted, not all dolphins are suitable for release back into their natural environment, but for those who are, there should be carefully constructed programs and facilities for this purpose. And, while I do not advocate the proliferation or government regulation of programs for the interaction of humans with wild dolphins, I believe that anything other than the observance of dolphins in their natural environment creates a distorted and unrealistic viewpoint of this species which is degrading and unacceptable.

Thank you for allowing me this opportunity to voice my opinion regarding this matter. I look forward to the committee's decision and final report.

Sincerely,

Swendolyn B. Scott
Georgetown, Texas

In Defense of Animals

December 27, 1983

Dr. Nancy Foster
Director
Office of Protected Resources
and Habitat Programs
National Marine Fisheries Service
1221 East-West Hwy.
Silver Spring, MD 20910

AL-1

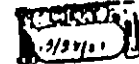
Dear Dr. Foster:

After reading the draft Environmental Impact Statement on the Use of Marine Mammals in the Swim-With-The-Dolphin program, In Defense of Animals recommends that you adopt Alternative A, or the No Action Alternative.

There are a number of reasons for our decision to discontinue the Dolphin program on December 31, 1989. The first area of concern involves the ethical considerations of capturing and confining wild dolphins for human amusement.

Marine mammals should exist undisturbed in their natural environments in all circumstances, except in rehabilitation programs. The process of removing a dolphin from the wild, placing the animal in a restrictive and sterile environment and allowing direct interaction by the public is inherently inhumane. These practices require the destruction of social groupings and cause stress during capture and transportation. It is particularly cruel when one considers that the dolphin has a well-developed brain, complex social and behavioral repertoires and sophisticated communication systems.

Our second reservation concerning the Swim-With-The-Dolphins program relates to the health and safety of both humans and dolphins involved in the program. There have been a number of documented cases where dolphins have displayed aggressive behaviors during the swim sessions. Multiple bleeding cuts, scratches and bruises have been reported. One swimmer was reportedly sent to the hospital. There is evidence that the longer a dolphin lives and participates in these programs, the more prolific and more serious the aggressive behaviors become.



AL-2

Dolphins are reacting to the program with stress-related diseases. . . capture, confinement and public display resulted in . . . stress levels in the dolphins, traumatic events, ulcers and bleeding in the gastrointestinal tract. . . In one program, four bottlenose dolphins were diagnosed with bleeding ulcers caused by stress from close proximity of the viewing public. How could any program, using the dolphin as "play toy" for human amusement, justify the deterioration of the animal's health and well-being?

Our last concern centers around disease transmission from one species to another. As stated in the DEIS, there are a number of pathogenic organisms which are common to humans and other mammals, and there is a potential for stress-related disease. Several serious cases have been reported, including histomoniasis transmitted from a bottlenose dolphin to a human treating veterinarian; contractitis in an ungulate from Atlantic Coast bottlenose dolphins; and a study of the dolphins; evidence of viral disease in the populations living along estuaries and in coastal marine areas. A few moments of interaction with a dolphin is clearly not worth the risk of disease to either dolphin or human.

In Defense of Animals truly believes that the Swim-With-the-Dolphins program is inhumane and deleterious to the health and well-being of the dolphins and the humans who interact with them. We urge you to adopt Alternative A.

In Friendship,

Ellicot M. Katz, DVM
President

December 26, 1991

Dr. Nancy Foster
Director, Office of Protected Resources and Habitat Programs
NOAA Fisheries
1115 East-West Highway
Silver Spring, MD 20910
(301) 427-2000

AM-1

Dear Dr. Foster,

Thank you for the privilege of reviewing and commenting upon the Draft Environmental Impact Statement on the Use of Marine Mammals in "Swim-With-the-Dolphin" (SWD) Programs.

After reading the Draft and reflecting upon my experiences as a volunteer at the Dolphin Research Center as well as a participant in their SWD Program, I suggest to the NOAA/IRIS to proceed with "Alternative C" (of the Draft) and authorize SWD programs beyond Dec. 31, 1992 with New Conditions.

The human benefits of the programs are considerable as proven by the positive responses of those who have participated in the programs, by many of the trainers in the programs, and by my own experience. The human/dolphin swims indeed provide an educational experience which is truly unique, enjoyable, and, most importantly, memorable. What more memorable way to learn who a dolphin is than by firsthand experience in the animal's own element? Perhaps through this the human is more likely to act in support of the dolphin's welfare (as a species) in some way in the future.

However, even though I feel the programs should not be terminated, the evidence of problems (such as development of aggressive behavior in certain dolphins which could result in injury to humans or dolphins and considerable risks of disease transmission between the species) suggests that a plan is called for which allows for consideration of new ideas for conditions (and not just the increased enforcement of current conditions as in "Alternative B", although current conditions for operating a SWD program could be included if they were revised and deemed "satisfactory"). This could be a way, perhaps, for the conditions to be periodically "updated."

Also, I would suggest that there be no new swim programs issued overall since some current programs still need to be in an experimental state with some restrictions. . . problems that need to be worked out before others are allowed to begin. It does not seem logical to allow more programs to begin when there already seems to be a need for more regulation and improvement of conditions in current participating programs.

AM-2

I do not mean to accuse any SWD program of laxer practices; I realize that problems can occur in any organization of this kind, no matter how professional. I simply want to say any problems that do happen to occur be kept to a distance by a diligent number of programs.

Finally, I have a few questions I feel should be considered:

- What is the possibility of dolphins passing on microorganisms which may not produce any apparently unhealthy symptoms in dolphins but could prove harmful to humans? (or vice-versa?)
- What do the current SWD programs tell their participants about the possibility of disease transmission? Is this "sufficient"?
- Is there the possibility of transmission of harmful microorganisms to either humans or dolphins which do not produce any apparent symptoms until after a considerable period of time (such as a few months to a few years)?

Hopfully the above questions amount to not much more than needless worry on my part. Once again the object is to learn all we can so we can nip any problem "in the bud", and, more importantly, continue to interact, respectfully and enjoyably, with perhaps the greatest creatures of the oceans, the cetaceans. From whom we have much to learn about them and about the entire world.

If you have any questions, please do not hesitate to contact me. Thank you for your time and consideration.

Sincerely,

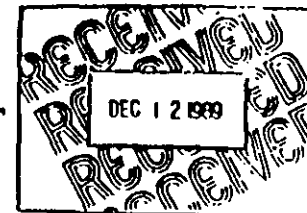
Michael Priolo, Assoc. Member I.N.A.T.A.
3906 W. 113rd St.
Cleveland, Ohio 44111
(216) 252-1070

copy to: David Cottingham
Director, Office of Ecology and Conservation
Washington, D.C.

AN

10 DEC 89

Dr. Nancy Foster, Director,
Office of Protected Resources/Habitat Program
NOAA Fisheries
1115 East West Hwy.
Silver Spring, MD. 20910



Dear Dr. Foster,

Thank you for the opportunity to comment on the draft EIS regarding the swim with the dolphin programs. My Letter of Comment is attached. Please feel free to contact me if you require clarification or additional information.

Sincerely,

Bruce Lane
Associate member, IMATA/AAZPA
91 Sunset Tll.
Berkeley, CA. 94705-1538

AN-1

LETTER OF COMMENT
on the
Draft Environmental Impact Statement

Use of Marine Mammals
in
Swim-With-the-Dolphin Programs

By Bruce Lane, Associate member,
IMATA/AAZPA

10-DEC-89

AN-2

The EIS presents four possible courses of action on the marine mammal swim programs. One of these courses, (to allow program authority to expire after 11-DEC-89 with no further action), I consider to be completely unacceptable. I feel that swim programs, given the proper guidelines, can succeed and become an important part of the public display community.

What I would like to do is comment first on the overall EIS, then comment on each alternative specifically and suggest additional program guidelines.

In reviewing the EIS, I found it to be extremely comprehensive as far as the quantity of information was concerned. However, I feel that the section dealing with potential disease transmission, between human and animal, grossly exaggerated the actual risk.

Certainly such a hazard would be present in any type of interactive situation, but the wording in the EIS makes it sound like a person could be splashed by pool water and die a week later. References are made to Dr. Jay Sweeney's researches in this area (pages 23-24), but they are confined to his "Dangers of the Job" articles in "Soundings", with no mention whatsoever of his later articles on Zoonosis ("Soundings", vol. 13, #1, Winter 1988 and vol. 14, #1, Late Spring 1989).

Having reviewed all of Dr. Sweeney's articles on this subject, over four different "Soundings" issues, I believe that the "Dangers of the Job" articles are intended primarily as guidelines for those who work with the animals as a profession. These people would, as a matter of course, run a higher risk than someone 'off the street', if you will.

As a counterpoint to the concerns expressed in the EIS, I would like to refer to the aforementioned Zoonosis articles. In the Winter-1988 "Soundings", Dr. Sweeney states, among other things:

"...As our body of knowledge on cetacean diseases grew, potentially pathogenic microorganisms were recognized which could also cause disease in humans. These organisms, however, were found almost without exception, to be the same as found normally within the marine environment, with or without cetaceans present..."

In the same article, he goes on to say:

"...since my involvement with marine mammals in a veterinary capacity beginning in 1969, I have yet to see one single case of disease in a dolphin that was transmitted from humans, or in a human transmitted from a dolphin..."

Dr. Sweeney has conducted extensive computer database searches (using the MEDLINE and BIORIS indexes), as detailed in the article, and has consulted with several other medical and veterinary experts. His conclusions read as follows:

"...From the information outlined above, it is apparent that there is no evidence suggesting a health threat to either man or cetacean either in the maintenance of cetaceans close to human environs, or in the allowance of contact between humans and cetaceans."

In his second article on the subject, in the late Spring 1989 "Soundings", Dr. Sweeney states, among other things:

"...First, let me state unequivocally, that there is no evidence whatsoever, either in the published literature or within our now vast experience with marine mammal health, to support concern for the transmission of disease in either direction, at least where cetaceans are concerned..."

My personal experiences with cetaceans have certainly verified these statements. I've maintained an active (although non-professional) in marine mammals for almost 16 years. I've spent a large amount of that time (weekends, holidays, vacations, etc.) around captive cetaceans at various parks all over the country.

I've taken full advantage of the opportunities offered, at facilities with petting pools or swim programs, to spend many a pleasant hour in close contact with the animals. I was able to, at one point, work with dolphins as an assistant to a friend of mine who is a professional in the field.

Out of all the parks and facilities I've visited, out of all the time I've spent around the animals, and the people that work with them, I have yet to contract a disease or infection from such activities. Nor have I heard of, or seen, any incident of this type.

In summary, I feel that NOAA Fisheries should seek a more balanced perspective than what was presented in the EIS. Good common sense and good personal hygiene are more than adequate to meet the risks involved. If you get bitten, wash the wound promptly and bandage it. If you've got open sores, or some similar rupturing of the skin, don't be around the animals. Essentially, let's not be overly paranoid about a subject that's already been cleared up.

I'll now present specific comments on each of the courses of action proposed.

"A: Allow swim-with-the-dolphin program authorities to expire after December 31, 1989"

As mentioned in my opening statements, I find this alternative to be completely unacceptable. I am also disappointed with NOAA Fisheries for, on the one hand, considering exemptions for therapeutic swim programs, and on the other hand, believing that the economic impact is the only issue worth considering should the programs be ended. There is another, very important, aspect that has been outright ignored.

To be specific, the potential negative impact on the people and animals involved in the programs currently operating should be considered. Having participated in three of the four programs (September 1989, Dolphins Plus, Theater of the Sea and Dolphin Research Center), and observing other swimmers and the animals involved, I feel confident in saying that both animals and swimmers enjoy the experiences very much.

It's very obvious to me that people simply enjoy coming into contact with animals in general, and (apparently) dolphins and whales in particular. From my own observations and experiences, the animals enjoy it as well. If you opt to eliminate this contact, I believe it will create stress in the animals involved due to the loss of something they enjoyed. In addition, you'll make yourselves very unpopular with a very large number of people, both general public and marine mammal professionals.

Swim programs can work, and flourish, with the proper guidelines. Remember, it's one thing to see cetaceans in books, magazines or TV. It's another to see them at oceanariums, yet another to see them in the wild. Coming into direct contact with them through a swim program is a very emotional, eye-opening experience that has not left anyone I've observed completely unchanged.

The potential for, at the very least, making people more receptive to being educated about the animals and the marine ecosystem is staggering, and should not be ignored. Consider, also, what future generations could experience and learn.

Think about it; all of a sudden, any member of the general public can have a chance to see, touch and experience for themselves, animals that they may never have even seen before, outside of the occasional TV program or magazine article. I myself would not care half as much about the animals as I do, had it not been for petting pools and swim programs.

In summary, I'm not trying to say that all facilities should start swim programs. All I'm getting at is that, if properly administered, swim programs can be an extremely valuable educational and recreational resource. I say, give them their chance! Let's not outright destroy something that both of our species seem to enjoy very much. Let's explore the potential of what we have here, and see where it leads us. We might well be pleasantly surprised.

"B: Continue swim-with-the-dolphin programs on an experimental basis after December 31, 1989."

Although worth considering, I feel this option to be somewhat redundant. The swim programs have, apparently, proven themselves to be relatively trouble-free, with one exception. My advice to NOAA Fisheries is not to let one bad apple spoil the lot, if you'll pardon the expression.

AN-5

If this course of action is adopted, I feel that the following guidelines should be implemented, in addition to those currently in effect.

- 1). No further captures of wild cetaceans, specifically for the swim programs, should be permitted. However, transfers between parks of animals should be permissible, provided that the animal was held at the initial facility for a minimum of one year.
- 2). Existing facilities should be encouraged to apply for permits to develop their own swim programs. This will help to expand the database.
- 3). Existing swim program operators, unless there has been a failure to file the required quarterly reports, should be allowed to make such reports semi-annual (every 6 months). New swim program permit holders should be required to file quarterly reports for the first year, after which semi-annual would be acceptable.
- 4). The suggestion that APHIS time it's inspections to coincide with ongoing swim sessions is commendable, and should be implemented.

"C: Authorize swim-with-the-dolphin programs beyond December 31, 1989 with new conditions".

I feel that this is the best of the four alternatives offered. As a point of interest, I find myself agreeing with almost every guideline suggested by other commenters (pages 38-44). However, I would like to offer a few of my own.

- 1). New applicants for swim program authority should be required to seek already-captive animals before wild captures are attempted.
- 2). Wherever possible, the animals involved in the swim program should be rotated, on a regular basis (to be determined), between the swim program activities and show/presentation activities. I believe that this can help to alleviate boredom in the animals, and thus help prevent aggression.
- 3). Animals being considered for entry into the swim programs should:
 - (a): Have been held at the facility for a minimum of six months.
 - (b): Shall have undergone professionally-directed training for a minimum of six months.
 - (c): Shall be monitored during this time for signs of unsuitable temperament for the program, and should be either used for shows/presentations or transferred to other facilities if deemed unsuitable for the program.

AN-6

- 4). Behavioral and medical monitoring of the animals involved in the program, for signs of stress and stress-induced illnesses, should be required.
- 5). Swim program operators should be required to submit quarterly reports during their first year of operation, after which semi-annual would be acceptable.

There are some parts of the guidelines proposed by other commenters that I find myself in disagreement with. To start with, on pages 39-40, one swim program operator comments:

"...We highly recommend that input for the development of such guidelines be gathered from current swim operators and other professionals in the marine mammal field. Inclusion in this process of non-professionals would be apt to create confusion and delay this development process..."

As you might expect, I could not disagree more strongly. There are well-informed non-professionals whose input could be valuable in such a process. Since NOAA Fisheries already has a well-established public comment environment, I see no reason to explore this point any further.

On page 40, another swim operator comments that swim facilities should be limited to open-water types. Again, I disagree. I have seen several concrete-pool facilities where I believe a swim program could be successfully implemented. I do, however, feel that any concrete-pool type facility should be required, as another commenter notes, to have a minimum total water volume. I do, however, disagree with the figure stated of 1,000,000 gallons. I feel that 750,000 would be adequate.

I find myself in full agreement with the spirit of all other comments submitted for option (C), as noted on pages 38-44 of the draft EIS. Final details can be easily resolved if this course of action is adopted.

"D: Authorize swim-with-the-dolphin programs beyond December 31, 1989 with existing Special Conditions."

In light of my comments on option (C), I do not feel that this course of action would be appropriate. NOAA Fisheries makes the observation that implementation of the existing Special Conditions "...has not been very effective in monitoring the health and well being of dolphins and humans in these programs."

To put it very bluntly, I interpret this observation as an attempt by NOAA Fisheries to disguise their lack of enforcement of the Special Conditions, rather than a failure of the conditions themselves.

AN-7


The statement is made that one swim operator failed to file quarterly reports for 1 1/2 years of operation. OK, let's see a written warning issued, and the operator's swim program permit suspended if this action is repeated.

Mention is also made of one facility where the death of two dolphins was not reported until one month after the fact. OK, issue a warning to the program operator regarding prompt notification of an animal's death. And another facility fails to report a death in their quarterly report.

Same problem, same action. Issue a written warning, and suspend the permit if the action is repeated. My bottom-line advice to NOAA Fisheries: don't blame the regulations if you're failing to enforce them in the first place.

In closing, I would like to thank NOAA Fisheries once again for the opportunity to comment on this subject, and would also like to extend my thanks for reviewing these comments. Please feel free to contact me if you require clarification or further information.

Sincerely,


Bruce Lane
Associate member, IMATA/AAZPA
93 Sunset Trl.
Berkeley, CA. 94705-1538
(415) 841-6722

A0-1

Dr. Bruce Lane

I have read the draft environmental Impact Statement on the Sea World Marine Mammals In Captivity. I am in Miami and live on the Isle of Palms and have visited the International Dolphin Program at the Hyatt Hotel and favor alternative A in the Impact Statement which allows the program to expire. These dolphins are confined in too small a space and if the Hyatt is one of the better facilities then the standards are very inadequate. The two smaller holding tanks cannot be 25x25 ft. and it breaks my heart to see them stuck in those small spaces.

The research being done with the captive dolphins is very basic and does not merit keeping them in captivity and the research needed the Hyatt is giving outside studies can be obtained in other ways.

Allowing the programs to continue will result in many more permits being issued, already there are other hotels and so called "research" programs waiting for a permit. Of course every hotel is going to want dolphins because they are a big attraction, so how many more dolphins are going to be captured to fulfill the selfish desire to have physical contact with them.

If the permits are renewed I believe that no more wild dolphins should be captured and when the existing captive dolphins die that no more permits be issued.

If the permit is renewed the small holding tanks at the Hyatt should be enlarged to at least be legal and preferably much bigger.

In the impact statement it notes that older male dolphins get more sexually aggressive so what happens when these dolphins reach that age? They are thrown out to capture new ones?

It is true that programs like Sea World and the Swim-With-The-Dolphins programs have helped to increase awareness but I think we have to go beyond that now and the study of marine mammals in the wild shown in the world through media is much more humanitarian. How many people know that the life span of these mammals is shortened considerably and that there have been many "Shamus" because so many have died? Would these people still want to fulfill their selfish desire to touch them and see them do tricks.

Please do not renew the permits and if you do at least allow no further capture of wild dolphins!

Thank You

Jacqui Robinson
73 1186 Malibu Ln. #1
Van Nuys, CA 91411
94740

10/1/88

Dr. Henry Foster
Director
Office of Protected Resources
and Habitat Programs
NOAA Fisheries
1115 East-West Highway
Silver Spring, MD 20910

Kelly Moorhead
73-4445 Old Govt. Rd.
Kailua-Kona, HI 96740

November 7, 1989

Dear Dr. Foster,

AP-1

Thank you for sending the EIS pertaining to the Dolphin Swim programs. I am an aquatic biologist residing in Hawaii. I have had numerous encounters with wild schools of *Tursiops truncatus* along the California coast. Rather than capture dolphins for public interaction programs for wild encounters should be promoted. I have several comments regarding the content of the EIS.

The EIS mentions APHIS Standards 9 CFR 3.111 b, "Marine mammals shall only be displayed for periods of time and under conditions consistent with their good health, and well-being." Certainly one measure of good health should be lifespan. A decreased animal is not a healthy animal! Page 29, however, quotes a researcher as saying "it is not possible to compare survivability of animals in captivity with that of animals in the wild." How can APHIS standards be followed without such a comparison? The description of the health of the animals in one of immune-impaired dolphins with a survivability of 3.4 years and 25% mortality within one year of capture. Does this compare favorably with wild populations? Should these animals be considered healthy?

The discussion of educational benefits suggests that the public becomes informed as a consequence of these programs. The clientele of the Hyatt Waikoloa should hardly be considered representative of the public. They run an exclusive resort with visitors paying around \$300 per night. The management has publicly described the dolphin swim as a "fantasy island" feature. Clearly this is commercial program. Page 33 mentions the lottery system being developed because "the dolphin programs are so popular." With 1224 rooms and only 35 swims per day it is obvious why they have a lottery system.

Under ethical considerations there is no mention of the size of the dolphin pens. According to U.C. Santa Cruz cetacean biologist, bottlenose dolphins are capable of recognizing an object the size of a tennis ball at a distance of 600 feet. To confine a dolphin in a pen is in effect, putting blinders on the animal and should be considered cruel.

The feasibility of continuing therapy with a significant number of handicapped persons with captive dolphins should be considered remote. It is a manipulation appealing to people's sense of humanity. Discussion of therapeutic values, because of the small number of people who benefit is highly inappropriate.

All these programs are anthropomorphic in nature and not in the best interest of the dolphins. People are interacting with

AP-2

their concept of dolphins rather than a normal dolphin. Many people actually mistake the structure of their face for a smile indicating happiness. I doubt many realize that 75% of the animals die within the first year of captivity.

Thank you for your attention. I urge you to allow the swim programs to expire after December 31, 1989.

Sincerely,

Kelly Moorhead
Kelly Moorhead

cc: David Collingham

~~CONFIDENTIAL~~

24 December 1989

To: Nancy Foster
Director, Office of Protected Resources & Habitat Programs
NOAA-NMFS
1335 East-West Hwy.
Silver Spring, MD 20910

AQ-1

Following are my comments on Swim-With-the-Dolphin Programs. I commend you on quite thoroughly addressing the pros and cons of these programs in your Oct. 1989 DEIS. The information presented in the DEIS compellingly indicates that NMFS should select the No Action Alternative allowing all dolphin swim program authorities to expire after Dec. 31, 1989. Dolphin (or other marine mammal) swim programs should never be permitted in the future either.

At the Marine Mammal Conference in Pacific Grove, CA, you said that NMFS was working on a definition of public display. I advise you to make this the narrowest possible definition, so as to minimize the pressure to take marine mammals out of the wild. The primary goal of the MMPA was to protect wild populations. The only justification for holding marine mammals in captivity - used both by oceanarium owners and by those with misgivings about the ethics of keeping animals captive - is education. I am pleased to see that the 1988 amendments to the Act stress the educational requirements of captive display permits, and I suggest that educational goals can be more readily accomplished without incorporating dolphin swim programs into the definition of public display. Physical contact with an animal is thrilling and memorable but not a vital component of the educational experience. Dolphin petting pools also should be examined from the point of view of disease transmission and injury; if the data indicate that dolphin and human diseases and injuries are insignificant, petting pools provide a possible reasonable compromise between viewing programs and swim programs. Petting pools should be conditionally permitted/continued pending a thorough investigation of their positive and negative aspects.

The DEIS presents convincing evidence and testimony to demonstrate that the risks to humans and dolphins in swim programs are significant. Having swum often with captive dolphins in the past, I can testify that they can be very rough and sexually aggressive. Placing inexperienced people in such a vulnerable position is unfair both to them and to the dolphins who can be frustrated or confused by human responses. As noted in the DEIS, trainers cannot adequately monitor all dolphin interactions with all people during a swim. As most is left to chance in the water, so the honesty of people about their own health when they wish to swim with dolphins is left to chance. The desire to swim with dolphins may motivate people to bend the truth about their health status, and thus, endanger the dolphins. Likewise, swim program operators have clearly not been honest with NMFS, since they have failed to report injuries by dolphins that have been reported by other parties. The evidence in the DEIS incontrovertibly shows that both the risks of injury and disease and the actual occurrence of injury to humans are sufficient to ban swim programs. The benefits of a thrilling personal experience for those relatively few people able to afford the swim programs are far outweighed by both the proven and potential risks.

Of greatest concern to me is the increasing pressure on wild populations that approval of swim programs would create. This pressure is inextricably tied to the economic aspects of swim programs. The true motivator for opening any captive marine mammal program, but particularly a swim program, is money. Education is either a secondary motivator or an acceptable smokescreen. The MMPA was passed to protect marine mammals, not human pocket books. If swim programs were permitted, they would proliferate, not because of an altruistic wish to educate the public about marine mammals, but because they are proven money-makers. It is inappropriate for NMFS to weigh the economic consequences to four businesses when deciding whether or not to permit swim programs (and, as you point out on p. 28, the economic impacts of prohibiting swim programs could be minimal, for the four businesses could maintain the public display/educational aspects of their programs). NMFS's chief obligation is to protect marine mammal populations. Not only should live captures of wild animals be limited, but quotas should be reduced to reflect the number of all other human-caused takes of these animals, as well.

AQ-2

Two other issues that you must resolve are the research and therapy uses of marine mammals at oceanaria with public display permits. You say that none of the four facilities has a scientific research permit, though three claim to be conducting research. To make such a claim, they should be required to file for a scientific research permit and have their work peer-reviewed and subjected to an evaluation of its bona fide research character. By claiming to do research, these facilities may be like wolves dressed in sheep's clothing. Permission to use dolphins for therapy purposes should be granted according to a peer review process similar to the scientific research permit process. NMFS must write regulations for therapy uses of marine mammals, if you decide to allow this use at all.

In conclusion, your own DEIS convincingly shows that swim-with-the-dolphin programs should be prohibited after Dec. 31, 1989. I trust that you will take this action, as it is the only course which adequately protects both dolphins and people.

Sincerely,

Susan H. Shane

Susan H. Shane, Ph.D.
250 Cottini Way
Santa Cruz, CA 95060

P.S. I apologize for the many typos. I'm on vacation and only have access to an ancient typewriter with no correction tape....

November 6, 1980

AS-1

Dear Dr. Harry Foster:

This past July I had a very positive experience at the Theater of the Sea since I was able to participate in the swim with the dolphins program. I have read the Draft Environmental Impact Statement on the use of Marine Mammals in the swim with the dolphins program prepared by the Department of Commerce National Oceanic and Atmospheric Administration. Although there are many factors to be considered for review in order to decide about future d'elphin swim, I sincerely urge you and your office to be very open minded about your decisions. Only with continued monitoring and required specifications can this program be successful and safe. (The way it was for me at the Theater of the Sea). Aside from the waiver forms which we sign against liability for the facility in case of injury, it should list the dolphin-human transmissions of diseases to further protect the facility. This is an activity which you should undertake after much thought and sincere desire to make it a safe one. For me it was a life long dream and when I heard about it I called long distance from my home to reserve a spot more than nine months in advance. I was very careful to listen to my instructor's directions and what to look for in case of any aggressive behavior. I think that my companions did so likewise.

I pray that these programs do continue and are carefully monitored not only for our well being but for our dolphins as well. Some day when my children are older (5 and 6 7 yrs.) I hope that they will be able to experience the joy I received and still maintain in my memory from my dolphin swim. Since I cannot attend the hearings, please keep me informed as to the decisions made.

Sincerely,

Ana Henrique
 Mrs. Ana Henrique

November 11, 1980

Dr. Harry Foster, Director
 Office of Protected Resources,
 and Habitat Programs,
 NOAA Fisheries
 1315 East West Hwy
 Silver Spring, MD 20910

JAN 29 1980
 RECEIVED

Andrew Miller
 110 Harvard St
 Syracuse, NY 13210

AU-1

Dear Dr. Foster,

Thank you for sending me the draft EIS on the use of marine mammals to swim with the dolphin program. Based on what I have read in the report I strongly favor alternative (A) which allows swim with the dolphin program authorization to expire after December 31, 1989.

The EIS simply illustrates the negative effects of the program on the dolphins themselves raising a multitude of questions as to why dolphins should have been subjected to such stress in the first place. I could not see any benefits to the program to the dolphins. Many effects such as disease transmission, adverse social behavior, and most probably decreased life span in captivity are detrimental to the dolphins and all could use further documentation which would further reduce the damaging effects of the program.

The ethical considerations have barely been touched upon. The comment in 221 by a person who spoke very highly of another swim operator ended by saying how to be "forced to avoid all those attractions and products that exploit the dolphins." (She was oblivious to his/her participation in this exploitation as they speak, talking to their about the withdrawal of a wild and free social animal to be captured and placed in a prison-like confinement facility to live a dull stress filled life. One wonders how the dolphins could appreciate denial of an unconstrained life to live in the aquatic stress.

The dolphins programs are abusing the authorization as it stands. In the comments it states that barely any bother to report regularly in fully on these dolphin programs. AHS is underrepresented to monitor all these programs. The reporting by the operators will be abused in the future as they attempt to display the positive effects of these programs to the continued detriment of the dolphins. The economic interests of the operators will not allow them to objectively judge the program.

We have a chance now to halt this irresponsible idea before any damage is done. The dolphin species are not amusement devices, or tools, or objects to be removed from their natural environment for human folly. I have already heard of all of a supposed wishing to acquire dolphins swim programs as "a relaxing and attractive" to have more people to their facilities and spending. This is not and not

A. W. A. R. E.

Awareness of Wildlife and Animal Rights Through Education, Ltd.

AU-2

December 26, 1989

Nancy Foster, Ph.D.
Director
Office of Protected Resources & Habitat Programs
United States Department of Commerce
NOAA Fisheries Service
1335 East West Highway
Silver Spring, Maryland 20910

AV-1

Dear Dr. Foster:

We would first like to commend the NOAA Fisheries for preparing such an honest, well organized and informative "Draft Environmental Impact Statement on the Use of Marine Mammals in the Swim-With-The-Dolphin Programs", and also for holding public hearings to evaluate the four alternatives presented in the "Draft"

A W A R E without reservation recommends that NOAA Fisheries adopt Alternative A or the "No Action Alternative", which would allow the Swim-With-The-Dolphin authori- ties to expire on December 31, 1989.

We are opposed to the capture and confinement of wild dolphins for swim programs. The removal of dolphins from the wild and placing them in unnatural environments for the purpose of public interaction programs such as the "Feeding pools", "Patting pools" and the "Swim With" programs pose problems severe enough to warrant that these programs be discontinued. With regard in particular to the "Swim With" pro- grams, the health and safety of both humans and dolphins involved is one primary concern of ours. As stated in the DEIS, NOAA Fisheries received two complaints from the public about aggressive dolphin behavior during the swim session: In July 1988 a certified diver reported that one captive dolphin tried to mate with her, and in January 1989 another woman reported that she received multiple cuts, scratches and bruises after being tooth-raked and bumped by a male dolphin. As these incidents were [redacted] reported to NOAA Fisheries it seems very likely to us that many more such inci- dences must have occurred though not reported.

P.O. Box 1954, Des Plaines, IL 60017 - (312)635-1533
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AV 2

According to the DEIS (page 20) there is evidence that the longer a dolphin participates in these programs and the older it becomes the more aggressive its behaviour becomes. A former "Swim With" program employee stated that during his seven months of employment there were at least three occasions where people had to receive medical assistance, two at a hospital after an incident with a dolphin in the "Swim With" program. He observed such behaviour as jaw clapping, head nodding, tooth-raking, butting and tail-slapping.

As evidenced in DEIS (page 21) an unknowing public often encourage roughhousing antics and increase the chances of being hurt by the dolphins aggressive behaviour. With so many different people interacting with the dolphins confusion is caused, frustration results, with aggressive behaviour sometimes as the consequence. Also because of lack of stimulation similar to their natural environment, and no break in the programs, the dolphins can also become bored also leading to aggressive behaviour.

Although it is evidenced that aggressive behaviour is most often observed in older more mature dolphins, what then becomes of those dolphins when they are no longer appropriate and safe for the "Swim-With" programs? And how many of them will have to be replaced by younger less aggressive dolphins taken from the wild? We do not consider this proposed cycle to be humane or proper treatment of dolphins.

Disease transmission to both humans and dolphins is another major concern of ours. As evidenced by DEIS (page 22 and 30) a number of pathogenic organisms are common to both humans and marine mammals and there is serious potential for disease transmission. Viral, bacterial and fungal diseases are observed to be transmitted from humans to dolphins and visa versa. Several serious cases of disease transmission have been reported, and even though precautions are encouraged there is no true precaution or prevention for disease transmission as evidenced in our own day to-day routine living. In particular there can be no way to judge the health of the public who visit the pools. What kind of tests would have to be run to ensure safety and would this even be cost or time effective.

With regard to the "Swim-With" programs used for therapy, it is our opinion that in light of the above it is not in the best interests of the autistic children, learning impaired mentally or physically handicapped to be allowed in these programs. It is true that "pet therapy" is a most effective method of successful therapy for the above noted groups, but it is our opinion that this type of program is best left to the more appropriate type of animals already in use, that being dogs and cats. It is also our opinion that cancer patients and other possible terminally ill patients also participate in programs using dogs and cats, not dolphins.

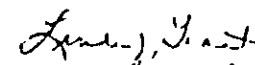
AV-3

As the Marine Mammal Protection Act was instituted to protect marine mammals it is our utmost concern that the decision regarding the Swim-With-The-Dolphin Programs should reflect that concern. It is also our concern that the MMPA amendment requiring a program for education and conservation also be remembered. A truly effective educational program using dolphins would not only have an environment as closely similar to their natural environment as possible, giving them the most stimulating and comfortable living arrangement, but would be one that the public could learn about their habits and their "natural" life style, not the "tricks" they can accomplish through training.

To truly serve and educate the public, programs instituted that use captive dolphins must be those that are truly educational, where the public can "learn" about dolphins and how they live and what makes them so fascinatingly different and similar to us.

Thank you very much for the opportunity to write you and express our opinions on the "Swim With The Dolphin" programs.

Sincerely yours,


Linda J. Grant
President

P.O. Box 100
Somerville, CT 06070
12/10/89

AX-1

Dear Dr. Foster,

Thank you for allowing me to review the Draft Environmental Impact Statement on the Use of Marine Mammals in Swim-with-the-Dolphin Programs (11/89).

Alternative A - "Allow swim with the dolphins program authorities to expire after 12/31/89" is the only ethical and humane course of action, for the following reasons:

1. impact on dolphins:

- a. physical -- disease, wounds (from jewelry, fingernails, etc.), bruises from clumsy swimmers, muscle pulls from unusual hauling.
- b. psychological -- definite behavioral signs of discontent, retaliation were witnessed by me during my visit to BRC (Grassy Key, FL). Twice during our swims, we were ordered to exit the water immediately as the dolphins were aggregating (physically via "kisses" and sexually via extensive rubbing).

2. ultimate impact on humans:

- a. physical - the week before my visit to BRC, a student had left the program with a broken nose from an "accidental" fall slap. It is only a matter of time until someone gets seriously hurt.
- b. psychological - this activity only enhances the concept that man is the ruler of the universe and can use any resource for its every whim.

3. impact on the bottlenose species - the tourism and hotel industries are burgeoning. The novelty of a dolphin in every pool will deplete an already endangered species. This is a very lucrative endeavor and greed knows no bounds.

Swim programs are really just another form of prostitution. The dolphins have no choice, regardless of the rhetoric offered. The paradox here is that while we endow them with high intelligence, we do not hesitate to subjugate them to slavery for our emotional and monetary gain.

Let us stop these programs and allow our species to evolve to a higher level of consciousness, if only in this small area.

*Sincerely,
Ann S. Bell*

100 Box 169
P.O. Box
Havert Hill, NY
November 16, 1989

Dr. Nancy Foster
Director
Office of Protected Resources
and Habitat Programs
NOAA Fisheries
1335 East-West Hwy
Silver Spring
MD 20910

AY-1

NOV 1989
RECEIVED

1. To suspend the dolphin programs

The submitted herewith my written comments with regards to the above program.

I submit that the swim-with-the-dolphin program authorities should be allowed to expire after December 31st 1989.

I object to any further taxing of marine mammals from the wild for use in any dolphin programs.

Moreover I object to the display of dolphins over the past 40 years but more educational for humans; i.e. we have learned that dolphins are intelligent, sensitive creatures. I see no evidence that such learning has created a commitment of the general public to protect dolphins - given that we continue to allow the murder of thousands of dolphins each year by the tuna and distant fishing industries.

Is it educational to teach humans that it is acceptable to IMPRISON creatures accustomed to thousands of square miles of roaming space and thousands of feet depth to 30'x30'x6' holding tanks? To halt starve them in order to ensure they "perform" for us, to reduce their lifespan to 4 or less, to deny them their social and family orientation, the use of their Sonar, their natural sexual activity and their freedom of choice.

What we are displaying in the display and swim programs are no longer real dolphins. They are human aberrations that have taken on many of the less admirable qualities of human beings in exchange for their NATURAL qualities of friendliness, unconditional love and compassion.

2
A1-2

... behavior as a violent, uncooperative...
... behavior and uncooperative...
... and stress diseases...
... and various levels of...
... interacting with humans indicates that the dolphins
do not "love" interacting with infinite numbers of strange humans
in the swim operations would have us believe.

This might be "negative education".

CONSUMPTION

The page 10 of the ITC states that only 21300 dolphins used
in the program since 1991. None of these deaths
appears to be related to the program.

... 1991... all dolphins...
... in the wild? or is this the result of a
... environment? Would the two...
... environment where they live and
... their elders which fish to eat and which not?
... dolphins were injured or died in the capture
... process that never even made it to the swim programs? How many
dolphins have truly died for us to have the approximately 352
dolphins we currently have in captivity? According to Stuntz
and Shaw 1979, page 39 only 7.5% dolphins survived past 1 year
of captivity. We killed 13 dolphins in order to have one to
look at. They pay for our "recreation and education" with their
lives.

ECONOMIC IMPACT

2.2 million plus a year. The industry is bawling the loss
of this? Let them be grateful and shameful for exploiting these
beautiful creatures to the tune of 2.2 million dollars a year.
Now let them re-imburse the dolphins somewhat by providing
"return to the ocean" programs for the dolphins.

ESCAPE ACCESS

Escape access which consists of narrow gates to negotiate into
tiny pens may well be as uncomfortable or more so to the dolphin
than staying with the swimmers. True escape access would be
unobstructed passage to large swim areas..

MINICEP

Are all captive dolphins kept at a constant hunger level to
ensure that they will perform? I would challenge any captive
program to feed their dolphins till they do not want to eat
any more and then not them to do tricks or swim with humans.

AY-3

My experience swimming with dolphins in the wild is: when a
new swimmer enters the water they will withdraw, sonar the
swimmer, take sometime, about 20 to 40 minutes apparently
deciding whether or not they want to swim with that person
and then return or not to interact with them. From this I deduce
the dolphins ARE particular about who they swim with and about
how many they swim with. Thirteen people for a pod of about
25 dolphins seems to be maximum.

Why are the swim programs 'taking' additional dolphins? Have
they created additional space for these dolphins? Are they
releasing uncooperative dolphins? What do they do with them?
Let them rot in a tank?

1. PERMIT SWIM

2. DESIGNATE AREAS

PERMIT SWIMMING TO THE WILD through re-adaptation programs
as per permit area.

These dolphins that cannot be returned to the wild be moved
to ocean pens of minimum 1/2 sq. mile. Cordon off a small area
of these pens and allow dolphins to interact with
them. IF THEY WISH and without coercion.

PERMIT SWIMMING PROGRAMS WITH "SWIM WITH WILD DOLPHIN" PROGRAMS

1) designate areas that dolphins are already frequenting to
be permissible for human dolphin interaction.

2) designate other such areas as dolphin conservation area.

3) Number of people entering the water to be limited and
monitored at all times.

4) People receive extensive briefing prior to entry in the
water as to appropriate and non-aggressive behaviour.

5) Entire program to be monitored by National Marine Fisheries
Service and paid for by permit fees paid by the operators.

IN THE WILD dolphins can truly teach us a very great deal.
Every time I have swum with them I have learned lessons: lessons
of synchronicity, group harmony, true freedom, mothering,
adolescent training, joy, peace, contentment, trust, harmony
with nature, my own inner strength etc. etc... It is probably
quite endless what they can teach us when we stop teaching
them cute tricks and let them teach us how to live on this
planet in joy and harmony. For 30 years we have been in the
dolphins pre-school. Didn't we get it yet? They are more
intelligent, compassionate, sociable, family oriented, patient
sonar sophisticated, sensitive and body controlled, to name
a few, than we are. Let us finally graduate from being
insensitive murdering egotists into the dolphins 1st grade.

IN THE WILD.

AY-4

On page 05 of the EIS it states the MMPA exists to protect marine mammals from exploitation and to...
...granting of permits to the tuna...
...20,000 dolphins a year...
...with the MMPA to discontinue...
...take an active role in creating...
...All tuna net and driftnet...

I wish to fully applaud and agree with the commenters' statement on page 35 and 36 of the EIS.

I hope there will be some immediate positive action...

Thank you.

JAMES WHITE

Barbara Pagan, ID
Director of Government Relations

Deborah Weber
Associate Director



ASPCA



America's First Humane Society

Legislative Office
1735 Massachusetts Ave.
Suite 6410
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1 202 232 5020
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December 20, 1989

Dr. Nancy Foster
Director
Office of Protected Resources
and Habitat Programs
NOAA Fisheries
1315 East-West Highway
Silver Spring, Maryland 20910

BA-1

Draft Environmental Impact Statement
on the Use of Marine Mammals in
Swim-With-The-Dolphin Programs

The American Society for the Prevention of Cruelty to Animals, the ASPCA, America's first private humane organization, on behalf of its 350,000 members, submits these comments for the record. Of the four alternatives proposed in the draft environmental impact statement, we urge adoption of Alternative A which allows the Swim-With-The-Dolphin programs authorities to expire after December 31, 1989. We would like to see the discontinuation of these types of programs for the following reasons:

1. Wild dolphin populations are at risk.
2. Live capture of dolphins is stressful and disruptive of the complex social structure of dolphins. Because 75 per cent of the dolphins removed from the wild are female, future populations, genetic diversity, and the current stock of dolphins are certain

BA-2

to be seriously, adversely impacted. In addition, dolphin survival in captivity is very poor. Between 1975 and 1987, 44 per cent of all captive dolphins died. We cannot tolerate the death of animals and the decimation of a wild population for some peoples' entertainment.

2. The Marine Mammal Protection Act means dolphins deserve protection.

The MMPA was not enacted to promote or protect commercial interests in dolphins. Rather, its purpose is to make the capture and the harassment of dolphins and other marine mammals illegal.

3. Swim-With-The-Dolphin Programs can be unhealthy for humans and dolphins.

A number of pathogenic organisms are common to both humans and marine mammals. The transmission of bacterial, viral, and fungal disease poses risks to all participants. In addition, stress-induced diseases, such as bleeding ulcers, are the frequent cause of death in captive dolphins. Capture stress syndrome also is widely reported and is responsible for a 75 per cent mortality rate within 60 days of capture.

4. Swim-With-The-Dolphin Programs foster aggressive behavior in the dolphins and create potential risks, even dangers, for the swimmer.

Because these swim programs allow inexperienced people to closely interact, touch, play, even unintentionally excite, provoke, or frighten the dolphins, it can be stressful to them. The more inconsistent handling and inappropriate responses they

BA-3

experience, the higher the confusion and frustration. These responses tend to bring out aggressive behavior, particularly with dolphins that have already established dominance over human swimmers. Such aggressive behavior can have negative effects on the dolphins as well as the swimmers.

5. These programs are inhumane.

Dolphins are exceptionally intelligent animals with an advanced communication system, wide and varied behavioral responses, and multi-layered social structure. To remove these animals from the wild and their social context, force them to live in a confined space, drastically alter their natural eating practices, and impose constant human harassment or encounters on them (one program schedules four swims a day, seven days a week), is abusive, inhumane, and must end.

For these reasons we urge NOAA to adopt Alternative A and phase out the Swim-With-The-Dolphin programs.

BD-1

Kenneth W. LeVasseur
47-389 Ahaolelo Rd.
Kaneohe, Hawaii 96744

December 26, 1989

Dr. Nancy Foster, Director
Office of Protected Resources and Habitat Programs
NMMA Fisheries
1315 East West Highway
Silver Spring, MD 20910

Re: Navy campaign of misinformation about dolphin mental abilities

Dear Dr. Foster,

The attached information entails my testimony before the National Marine Fisheries Service hearing on the Swim With The Dolphin (SWTD) Draft Environmental Impact Statement (DEIS) November 20, 1989. Because it is the first hearing on the subject of captive dolphins since the Marine Mammal Protection Act was created fifteen years ago, I felt obliged to get this information entered into the public record. I hope that it does not die on the vine.

A second National Marine Fisheries Service action makes it even more important that these charges receive a fair hearing. The Agency (NMFS) is reviewing all federal rules governing captive marine mammals, the first comprehensive evaluation since the regulations took effect in 1974.

What is described in the attached information is just the tip of the iceberg as this campaign of misinformation about the dolphins mental abilities by the Navy operates with impunity under the protection of the Black Budget, the same Black Budget which spent five billion dollars on the Stealth Bomber before the rest of Congress or anyone else knew it existed (Tim Weiner of the Philadelphia Enquirer).

My objective is to facilitate an honest, scientific atmosphere for research and accurate education of the public about dolphins and their mental abilities. My long range objective is to show that the existing employment of dolphins and those who work with dolphins can continue but without the 44% mortality rate and the injuries to those who work with dolphins by using the Three Phase Oceanarium and Research concept (TPOR). To this end I work with Dr. Robert Rappay, an osteopath. This concept allows the resident dolphins access to the open ocean for from one third of the day or one third of the year depending on the facility. Thus the shoe is on the other foot and the dolphins may leave if they are mistreated. With oceanarium and research facilities virtually unanimous in their claims of how happy their dolphins are, they should have no problem in getting the dolphins to come back. There are also two facilities where the dolphins do have access to the open ocean (Dolphin Plus one of the SWTD programs in Florida and

BD-2

twenty five years experience of releasing dolphins into the open ocean and having them return. Given a pleasant environment, the dolphins territorial nature and a constant "on demand" food source these programs will be successful in eliminating the 44% mortality rate. Dolphins have demonstrated repeatedly that they will respond and react to other than a food reward.

Anything you can do to help me in this endeavor will be greatly appreciated.

Mahalo,
(Thank You in Hawaiian)

Kenneth W. LeVasseur

Kenneth W. LeVasseur

Enclosed: 1. Testimony of Dr. Robert Rappay and Ken LeVasseur (4 pages)
(The Three Phase Oceanarium Concept)

2. Testimony of Ken LeVasseur

a. Introduction (1 page)

b. Research and Research Prejudice (6 pages)

c. Three Experiments (70 pages)

d. Bibliography (6 pages)

ON FILE
AT
NMFS

BD-3

Testimony of Dr. Robert Reppy and Ken LaVasseur

THE THREE PHASE OCEANARIUM CONCEPT

The major objection of individuals and organizations to swim with the dolphin programs (SWTD) that we have found is the same for other uses of captive dolphins. The mental abilities of dolphins are just too great to justify a life sentence in captivity. This problem is compounded by the high mortality rates of captive dolphins.

It is our understanding that the majority of these deaths are stress related and due to the radical reduction of the open space in the dolphin environment from the ocean and estuaries into man made enclosures. As hard as the dolphin care givers try, and many of them try very hard until they burn out, they will not be able to compensate for this stress inducing problem. Fifty years of effort in this area has only cut the losses to 44% according to the SWTD DEIS. This figure is appalling and requires a mandate for a better solution.

Those of us who abhor this futile effort of keeping dolphins in captivity until they die would like to offer another option that does not close these facilities down. Letting the dolphins go after the five or ten years is not the answer especially when you consider that most of the deaths occur in the first few years.

The novel approach we are proposing is called the three phase oceanarium. Most dolphin holding facilities have two phases, training and display (show), with separate locations. We propose to add a third phase conducted in the open ocean which can include income generating programs such as SWTD. These open ocean programs may use enclosures where the dolphins can go at night and be secure, but access to and release from the enclosures must be available to the dolphin. The third phase requires that the dolphins have access to the open ocean for four months of the year. Depending on the type of facility and program, a flexible interpretation would allow this one third breakdown to apply to the hours in a day, when the ocean pens are used year round so long as some sort of gate, which the dolphin knows about and/or how to operate remains open for eight hours. These various interpretations of the one third rule would allow flexibility when dealing with a dolphins ability to resist stress.

Obviously for a program like this to work the dolphins will have to want to stay. The best motivator for this is excellent treatment and human companionship as well as interest generating activities. Well designed programs could achieve these goals and generate income at the same time.

BD-4

The Three Phase Oceanarium Concept

Page 2

There is also abundant information available through the U.S. Navy's Open Ocean Release program that could be helpful in achieving the third phase. They have been operating these programs for twenty five years.

There is also the consideration of the fairly recent proliferation of oceanarium far inland. These oceanarium would have to associate themselves with an open ocean program where the dolphins would reside for one third of the year. This opens up the possibility of "Multiple Employment" dolphins where one dolphin is employed by two or more institutions. Should the transportation requirements of such programs lead to the dolphins not returning at the end of the open ocean period, then these programs are left without dolphins. Therefore it behooves these programs to be sure that each dolphins travel is more than comfortable, maybe even something to which the dolphin might look forward.

Currently the institutions holding dolphins in captivity are unanimous in saying how happy the dolphins in their programs are. Most of these dolphins are regularly transported between training areas and show or display areas. Such idyllic environs are perfect for the three phase release programs.

Once again we reiterate that there should be no new dolphins added to the third phase program. It is possible that dolphins who have come ashore in strandings and require medical attention can be offered an opportunity to participate in these programs since they are undergoing the same trauma of human handling and captivity during treatment. Also dolphins that are born in captivity would be eligible to participate in third phase programs.

Should there be any objection from a constituent base about the introduction of Atlantic dolphins into the Pacific environment or Pacific dolphins into the Atlantic environment, then they should be informed about the Navy's Open Ocean Release program where a percentage of their dolphins do not return after release and no one has seen a problem with that situation.

The problem can be remedied by releasing Atlantic dolphins in the Atlantic waters where they were caught, Pacific dolphins would only be in open ocean waters in the Pacific, etc. This may disrupt normal or traditional operations but to extinguish a 44% mortality rate there are no other intelligent options than the open ocean programs or stop keeping dolphins in captivity!

There have been numerous SWTD experiences throughout history and they have all educated local populations and been good for the local economy. Currently Monkey Mia on the west coast of Australia is host to a pod of dolphins which allow an encounter experience but no swimming, snorkeling or scuba diving (the dolphins shy away from those activities). Recent history has seen Sandy and other

spotted dolphins in the Caribbean, Donald in England, Nina in Spain and many others especially in New Zealand and Australia. These are and were all free roaming dolphins who chose human companionship. Dolly in Florida was a captive dolphin who sought out human contact after her release. The stories and anecdotes of these experiences are endless and a strong indication that these programs can work.

As for injuries to persons from rough play by the dolphins, there are only two instances known where dolphins injure people or kill them; in the captive environment where the inability to escape from improper treatment forces the dolphin to engage in rough treatment, and in the Navy's well known (but denied by the Navy) Swimmer Nullification Program used in Viet Nam where forty divers were killed by sentry dolphins who injected the unauthorized divers with carbon dioxide gas from cartridges using a hypodermic needle mounted with the cartridges on a nose cone thus causing death (the commercial version of this device is called the Shark Dart for use on sharks by human divers).

There is a possibility that when dolphins are kept at facilities where there is a free flow of fish between open ocean and the dolphin enclosure, the dolphins may forage on the intruding fish and thus suffer food poisoning as seen at the Waikaloa Resort in Hawaii. Because of this possibility, food deprivation or controlled feeding as a part of conditioning and communication paradigms must be avoided. Instead a feed on demand schedule, possibly with automatic fish dispensers, should be employed. Dolphins have proved repeatedly that they will respond and interact without food reinforcement.

PROGRAM MONITORING

The monitoring program is important because it offers extra help with the programs (the observers can work in the program while observing conditions and treatment) because NMFS and the concerned organizations would be providing the observers. The monitoring program costs would be shared between the permit holder, the NMFS and concerned organizations. Exact percentages would be negotiated.

The open ocean facilities cost would have to be born by the permit holder who would then have the right to develop an open ocean program which generates income but is once again subject to negotiation.

A grievance procedure would be worked out between the permit holder, the NMFS and the concerned organizations. A panel would be appointed by the permit holder, vetoed or impeachable by the concerned organizations and approved by NMFS, to address and resolve grievances, all subject to sunshine laws.

IMPLEMENTATION

The first step is to hold a symposium for NMFS, concerned organizations and permit holders to present program possibilities and information sharing, followed by negotiations on implementing and funding monitoring programs.

With programs designed, workshops for training observers would be held. Observers would be present during all operations, and operate the interview or canvas program to get the public opinion and reaction to the dolphin facility and program.

There should be no new SWTD programs added until the next review and all current SWTD programs must implement the third phase. The third phase will go a long way toward eliminating the 44% dolphin mortality rate currently seen in dolphin holding facilities.

November 27, 1989

CA -2-

Mr. Joy Hampp
c/o Dolphin Research Center
PO Box 1875
Marathon Shores, FL 33052

*For dissemination to the
Meeting re. the...
-----*

Dear Mr. Hampp,

CA-1

We are requesting that a member of the DRC speak in our behalf, due to our presence in Colorado.

We feel that the program you present in your cover letter is most acceptable and appropriate with the assurance of rules which you have set forth in your delineation of permits. Under: appendix A- Section D especially paragraph D 3 and D 4 : under Permits (16 U.S.C. 1374 appendix B, most particularly page 17 section 104-D- (11); (3) on page 17, would most certainly negate any use by hotels or resorts as mentioned in your cover letter.

This last paragraph noted (3) page 17, would not seem in any way to fulfill the requirements of such specified permits, hence, why would those entities who do fulfill the requirements both to the spirit and letter of the law, establish a precedent which you fear?

Of course, I am assuming that all those who attend this meeting will be allowed full access to the DEIS of October 1989 issued by the Department of Commerce, National Oceanic and Atmospheric Administration and National Marine Fisheries Service. All of the aforementioned references are found starting on page 61-66.

There is one paragraph which I find pathetic in reference to the subject at hand. Page 64, the fourth paragraph. I can

only sadly visualize the thousands upon thousands of dolphins who provide a set on Yellow Fin Tuna, and because of the inadequacies, most pathetically, of the National Marine Fisheries Service, die at the hands of Tuna fishermen. The NMFS not only permits, allows, but sanctions the kill of only 20 or 25,000 wild Dolphin. You state that three have been lost in the swim encounters. I find a pitiful discrepancy in your concern, Gentlemen.

When I was a child, my closest friends were the wild Dolphins with which I swam every morning. These years were spent in preparation in the ocean for AAU competition. I never knew an act of roughness, bullying or hostility. I swam with the same pods for years. At times they were annoying because they wanted to play and I wanted to work.

We have boycotted Tuna in our home for 30 years. We have marched, protested and written.

I would only ask now that you direct more of this very time consuming effort on your part to the salvation of their lives in the wild, and far more stringent safeguards on the American Tuna boat Association. Recent figures have shown that optimum sustainable population far below those, which have been reported to you: (Greenpeace-Ocean Ecology-Spring 1988).

We can all only pray for your understanding in the real welfare of our Marine friends.

*John Fisher
Member - DRC*

November 27, 1989

CA -2-

Ms. Joy Hampp
c/o Dolphin Research Center
PO Box 1875
Marathon Shores, FL 33052

*For Presentation to the
Meeting re. DEIS. Please help.*

CA-1

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*John Kelson
Member - DRC*