



To All Interested Government Agencies and Public Groups:

JAN 23 2012

Under the National Environmental Policy Act (NEPA), an environmental review has been performed on the following action.

**TITLE:** Environmental Assessment and Supplemental Environmental Assessment on the Effects of Issuing a Permit and Permit Modification for Scientific Research on Protected Sea Turtles in the Western Pacific Ocean

**LOCATION:** Northern Mariana Islands and Palmyra Atoll

**SUMMARY:** NMFS proposes to issue a scientific research permit and permit modification for takes under the authority of the Endangered Species Act. The purpose of File No. 15661 is to characterize population structure, size class composition, foraging ecology, and migration patterns for green and hawksbill sea turtles in the Northern Mariana Islands. The purpose of File No. 10027-04 is to study the population biology and connectivity of green and hawksbill sea turtles at Palmyra Atoll National Wildlife Refuge. The preferred alternative is not expected to have more than short-term effects on sea turtles and will not significantly impact the quality of the human environment.

**RESPONSIBLE OFFICIAL:**

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The environmental review process led us to conclude that this action will not have a significant effect on the human environment. Therefore, an environmental impact statement will not be prepared. A copy of the finding of no significant impact (FONSI) including the supporting environmental assessment/supplemental environmental assessment (EA/SEA) is enclosed for your information.

Although NOAA is not soliciting comments on this completed EA/SEA and FONSI we will consider any comments submitted that would assist us in preparing future NEPA documents. Please submit any written comments to the responsible official named above.

Sincerely,



Patricia A. Montanio  
NOAA NEPA Coordinator

Enclosure





UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
Silver Spring, MD 20910

**Environmental Assessment and Supplemental Environmental Assessment**  
on the Effects of Issuing a Permit and Permit Modification  
for Scientific Research on Protected Sea Turtles in the Western Pacific Ocean

January 2012

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**Lead Agency:** USDOC National Oceanic and Atmospheric Administration  
National Marine Fisheries Service  
Office of Protected Resources

**Responsible Official:** James H. Lecky, Director, Office of Protected Resources

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**Document Being Supplemented:** Supplemental Environmental Assessment for Issuance of a  
Modification to Scientific Research Permit No. 10027-01  
held by the American Museum of Natural History  
(AMNH), Center for Biodiversity and Conservation for Sea  
Turtle Studies [Permit File No. 10027-02]

**Location:** Northern Mariana Islands and Palmyra Atoll

**Abstract:** The National Marine Fisheries Service (NMFS) proposes to issue Scientific Research Permit No. 15661 and a modification to an existing permit, File No. 10027-04, pursuant to the Endangered Species Act of 1973 (ESA; 16 U.S.C. 1531 *et seq.*). The actions would exempt the permit holders from takes of sea turtles under the ESA, by capture, harassment, wounding and harm. The purpose of the research for Permit No. 15661 is to characterize population structure, size class composition, foraging ecology, and migration patterns for green (*Chelonia mydas*) and hawksbill (*Eretmochelys imbricata*) sea turtles in the Northern Mariana Islands. The permit would be valid for five years from the date of issuance. The objective of the research for Permit No. 10027-04 would not change: to study the population biology and connectivity of green and hawksbill sea turtles at Palmyra Atoll National Wildlife Refuge. Permit No. 10027-04 would increase the number of green sea turtles which may be taken annually during research. No other changes (location, duration, or manner of take) to the permit would be authorized. The permit modification would be valid until the permit expires on July 31, 2013.



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## 1.0 PURPOSE OF AND NEED FOR ACTION

**Proposed Action:** NMFS proposes to issue Scientific Research Permit No. 15661 and a modification to scientific research Permit No. 10027-03 pursuant to the Endangered Species Act of 1973 as amended (ESA; 16 U.S.C. 1531 *et seq.*) for “takes”<sup>1</sup> of protected sea turtles in response to requests from the following applicants:

File No. 15661: Commonwealth of the Northern Mariana Islands (CNMI), Division of Fish and Wildlife, (Responsible Party: Arnold Palacios)

File No. 10027-04: American Museum of Natural History (AMNH), Center for Biodiversity and Conservation (Responsible Party: Dr. Eleanor Sterling). This request (a.k.a. File No.) is to modify existing Permit No. 10027-03.

**Purpose and Need for Action:** The ESA prohibits “takes” of threatened and endangered species with only a few specific exceptions. The applicable exceptions in this case are an exemption for scientific purposes related to species recovery under Section 10(a)(1)(A) of the ESA.

The purpose of the permits are to provide the applicants with an exemption from the take prohibitions under the ESA for harassment of threatened or endangered species, during conduct of research that is consistent with the ESA issuance criteria.

The need for issuance of the permits is related to the purposes and policies of the ESA. NMFS has a responsibility to implement the ESA to protect, conserve, and recover threatened and endangered species under its jurisdiction. Facilitating research about species’ basic biology and ecology or that identifies, evaluates, or resolves specific conservation problems informs NMFS management of protected species.

**Scope of Environmental Assessment (EA):** This assessment is a batched analysis serving as an EA for File No. 15661 and a supplement to the previous Supplemental EA (SEA; NMFS 2009b) prepared for Permit No. 10027-03. This document focuses primarily on effects on green (*Chelonia mydas*) and hawksbill (*Eretmochelys imbricata*) sea turtles, listed as threatened and endangered under the ESA, respectively. These are the target species of the applicants’ research.

The National Oceanic and Atmospheric Administration (NOAA) has, in NOAA Administrative Order 216-6 (NAO 216-6; 1999), listed issuance of permits for research on protected species as categories of actions that “do not individually or cumulatively have a significant effect on the human environment...” and which therefore do not require preparation of an environmental assessment (EA) or environmental impact statement (EIS). A possible exception to the use of these categorical exclusions is when the action may adversely affect species listed as threatened or endangered under the ESA (NAO 216-6 Section 5.05c). Hence, NMFS has prepared this EA,

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<sup>1</sup> The ESA defines “take” as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.”

with a more detailed analysis of the potential for adverse impacts on threatened or endangered species resulting from takes of a specified number of the target sea turtles, to assist in making the decision about permit issuance under the ESA. In addition, note that although Permit No. 15661 is a new action, this action is a renewal of previously authorized research under Permit No. 1556. An EA was prepared for that permit concluding that the issuance of the permit would not result in significant impacts to any portion of the environment (NMFS 2006). A SEA then was prepared in 2009 to modify the permit to add a research activity; that SEA likewise concluded that issuance of the modified permit would not result in significant impacts to the environment (NMFS 2009a).

## 2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

**Alternative 1 - No Action:** Under the No Action alternative, the requested permit and permit modification would not be issued and the applicants would not receive an exemption from the ESA prohibition against take.

**Alternative 2 - Proposed Permit:** Under the Proposed Permit alternative, a permit and permit modification would be issued to exempt the applicants from the ESA take prohibition during conduct of research that is consistent with the purposes and policies of the ESA and applicable permit issuance criteria.

### *File No. 15661*

The purpose of the CNMI's research is to characterize population structure, size class composition, foraging ecology, and migration patterns for green and hawksbill sea turtles in the Northern Mariana Islands (NMI) with an eye toward identifying potential conservation or critical habitat areas for immature and adult green and hawksbill turtles in nearshore NMI waters. The objectives in accomplishing this goal are to use: 1) mark-recapture to track individuals regionally and internationally, evaluate population structure, size class composition, growth rates, health status, diet, and determine population residency and movements, 2) sonic tagging and telemetry to determine the home range, site fidelity, and residence times of immature hawksbill and green turtles at coastal foraging and resting habitats in the nearshore waters of the NMI, 3) satellite tagging and telemetry to locate migratory corridors and potential areas of fisheries by-catch and directed hunting hazards to NMI adult green and hawksbill turtles, 4) DNA analysis to locate genetic origins of NMI green and hawksbill turtles and to study their ontogenetic migrations in the Western Pacific. The permit would contain terms and conditions standard to such permits as issued by NMFS.

The following is a summary of the applicant's request to take threatened and endangered sea turtles.

Action Area: The proposed research would take place in the nearshore waters of the NMI. Activities would occur around the islands of Saipan, Tinian, Guam, and Rota (see Appendix A for maps). Sampling would also take place at Aguigan, Farallon de Medinilla, Anatahan, Sarigan, Guguan, Alamagan, Pagan, Agrihan, Asuncion, Uracas, and Maug should the opportunity arise.

Methods: The research protocols are described in detail in the application on file for this action and are briefly summarized here. Visual counts of sea turtles would be recorded during vessel surveys. Collected sea turtles would be captured, measured, weighed, flipper tagged, passive integrated transponder (PIT) tagged, temporarily marked, tissue sampled, photographed, and released. A subset of the turtles would be transported to a land-based workstation for epoxy-based attachment of transmitters before release, tracked from the vessel. If needed, transmitters may be removed if the animal is recaptured during the life of the permit. The turtles would be collected by free-diving or SCUBA hand-capture. No nets or devices would be used to capture them. Researchers also would salvage the carcass, tissues and parts of dead sea turtles that are encountered during fieldwork. However, no lethal take would be authorized.

Duration: The applicant intends to conduct the research year-round with surveys occurring every 2 weeks, for five years from the date of issuance.

Target species or stocks: The applicant proposes to take green and hawksbill sea turtles. The proposed annual take for each species is summarized in Table 1.

Table 1: Proposed annual takes of juvenile, sub-adult, and adult green and hawksbill sea turtles under Permit No. 15661.

Number of Turtles	Sea Turtle Species	Take Activity
285	Green	Count/survey, capture, measure, Mark, carapace (temporary), weigh, flipper tag, PIT tag, tissue sample, photograph/video, and release
15	Green	Count/survey, capture, measure, Mark, carapace (temporary), weigh, flipper tag, PIT tag, tissue sample, photograph/video, Instrument, epoxy attachment (e.g., satellite, VHF tag), gear removal if recaptured, transport, release and tracking
45	Hawksbill	Count/survey, capture, measure, Mark, carapace (temporary), weigh, flipper tag, PIT tag, tissue sample, photograph/video, and release
5	Hawksbill	Count/survey, capture, measure, Mark, carapace (temporary), weigh, flipper tag, PIT tag, tissue sample, photograph/video, Instrument, epoxy attachment (e.g., satellite, VHF tag), gear removal if recaptured, transport, release and tracking
5	Green	Salvage of carcass, tissue and parts from dead animals
5	Hawksbill	Salvage of carcass, tissue and parts from dead animals

### Mitigation Measures

In addition to the applicant's stated methods, the proposed permit would include language that would minimize impacts to the target animals and prevent impacts to bottom habitat such as sea grasses and live bottom.

*File No. 10027-04*

### Permit History

Permit No. 10027-03 authorizes the AMNH to study the population biology of sea turtles inhabiting the Palmyra Atoll in the Pacific Ocean and their relationships to other regional sea turtle groups. Permit No. 10027 was originally issued in 2008. An EA (NMFS 2008) was prepared for issuance of Permit No. 10027 which determined that issuance of the permit and the associated research was expected to minimally affect the physical environment and would be unlikely to affect the socioeconomic environment or pose a risk to public health and safety. NMFS determined that research would not result in significant impacts to any portion of the human environment. An ESA Section 7 biological opinion (BO; signed July 21, 2008) also determined that the action would not jeopardize listed species or destroy or adversely modify critical habitat.

Since 2008, the permit has been modified three times:

No. 10027-01: On January 26, 2009 a minor modification was issued to allow the use of satellite tags in place of sonic tags. The effects to the environment or listed sea turtles did not differ from what was analyzed in the EA or BO prepared for the original permit.

No. 10027-02: On July 26, 2009 a major modification was issued to increase the number of green sea turtles AMNH is authorized to capture, tag, sample, and lavage. A SEA (NMFS 2009b) was prepared and Section 7 consultation was re-initiated reaching the same conclusions as for the original permit.

No. 10027-03: On February 24, 2010 a minor modification was issued to modify the authorized hand capture methods to include the use of the rodeo technique and authorize underwater tow count surveys. The action did not cause effects to listed sea turtles or other portions of the environment in a manner or to an extent not previously considered in the previous Section 7 BO or SEA.

Permit No. 10027-03 currently authorizes the AMNH to study the population biology and connectivity of green and hawksbill sea turtles focusing on distribution and abundance, ecology, health, and threats to sea turtles at the Palmyra Atoll. Researchers are authorized to perform the following procedures on sea turtles: capture, measure, weigh, photograph, flipper and passive integrated transponder (PIT) tag, tissue biopsy, blood sample, gastric lavage, carapace sample, shell etch and paint, fecal sample, measure temperature, and/or attach a transmitter, and release. Researchers may also conduct tow surveys and salvage carcasses, tissues, and parts of dead turtles encountered. The permit is valid through July 31, 2013.

Modification Request

The proposed modification would increase the number of green sea turtles that may be captured and sampled annually due to the need for increased sampling effort based on recent capture rates and field season logistics. Increased takes would be used to advance turtle population biology research including demographic and tagging studies (metal flipper, PIT, and acoustic tags), as well as blood, skin, and carapace sampling for stable isotope, health, and genetic analysis. The applicant has also asked to make a minor change to the manner of sampling stomach contents based on their veterinarian’s guidance and lack of successful results from the standard lavage method. This change would involve the use of a forceps grasper to gently remove a small sample of contents from the sea turtle’s crop rather than flushing the crop with water. The modification would be valid through July 31, 2013.

Since the proposed modification would not change the timing, location, or significantly change the manner of research activities, the effects on physical, social, and economic environment are not re-examined in this SEA. Therefore, the scope of this SEA for this permit is limited to the potential impacts to green sea turtles associated with the proposed increase in take. The research methodologies would remain unchanged from how they are described in the 2008 EA and 2009 SEA with the exception of the grasper noted above. The permit conditions of the existing permit included to mitigate the effects of the research would also remain in effect. Table 2 outlines the current authorized takes of green sea turtles and the proposed changes to the permit. Text in bold indicates the take rows affected by the modification.

Table 2. Authorized and proposed annual takes under Permit No. 10027-04 for juvenile, subadult and adult green sea turtles at Palmyra Atoll.*			
Species	Currently Authorized Takes**	Proposed Takes**	Take Action
Green Sea Turtle	4	<b>144</b>	Capture†, measure, weigh, photograph, flipper and PIT tag, tissue biopsy, blood sample, carapace sample, shell etch and paint, fecal sample, measure temperature, and release
Green Sea Turtle	50	50	Capture†, measure, weigh, photograph, flipper and PIT tag, tissue biopsy, blood sample, carapace sample, shell etch and paint, fecal sample, measure temperature, gastric lavage, and release
Green Sea Turtle	16	16	Capture†, measure, weigh, photograph, flipper and PIT tag, tissue biopsy, blood sample, carapace sample, shell etch and paint, fecal sample, measure temperature, satellite tag, and release
Green Sea Turtle	30	<b>40</b>	Capture†, measure, weigh, photograph, flipper and PIT tag, tissue biopsy, blood sample, carapace sample, shell etch and paint, fecal sample, measure temperature,



Table 2. Authorized and proposed annual takes under Permit No. 10027-04 for juvenile, subadult and adult green sea turtles at Palmyra Atoll.*			
Species	Currently Authorized Takes**	Proposed Takes**	Take Action
			sonic and/or radio tag, tracking, and release
Green Sea Turtle	6	6	Salvage dead carcass, tissue, and parts

\* Researchers may also conduct tow surveys.

\*\*A maximum of 25 green sea turtles may have a satellite transmitter attached over the course of the permit; and a maximum of 200 turtles may be gastric lavaged/stomach sampled over the course of the permit.

† Authorized captures are limited to the following methods: rodeo capture, hand capture, tangle nets, dip nets, throw nets, and scoop nets.

The following conditions would be removed from the permit that capped take numbers for specific activities:

- A maximum of 60 green sea turtles may have acoustic tags attached over the course of the permit.
- A maximum of 350 green sea turtles may be skin and blood sampled over the course of the permit.

These conditions are being removed because the proposed modification would only be valid for the last year of the permit by the time the permit modification could be issued, resulting in overall lower level of takes than would be authorized with the caps in place. In addition, conditions for gastric lavage would be slightly reworded to acknowledge that the forceps grasper can be used in place of lavage flushing to sample stomach contents.

No other changes to Permit No. 10027-04 would occur.

#### **Alternatives Considered but not Carried Forward**

Two additional alternatives were considered but not carried forward for further consideration:

- Alternative 3: Issue Permit No. 15661 and deny Permit No. 10027-04.
- Alternative 4: Issue Permit No. 10027-04 and deny Permit No. 15661.

The denial of either permit request would represent a lost opportunity to gain valuable information on the biology and ecology of the target species in remote areas in which no other Permit Holder is working. These alternatives were eliminated from further detailed study because neither alternative would meet NMFS' need to protect, conserve, and recover threatened and endangered species under its jurisdiction to the same extent as the Proposed Action (Alternative 2), nor would they allow monitoring of sea turtle populations with respect to

managing impacts from human activities as required by NMFS legal mandates. Although either alternative 3 or 4 would technically limit the cumulative level of harassment to the target sea turtle populations, takes of sea turtles by harassment using the proposed methodologies have generally not been shown to result in long-term or permanent adverse effects on individuals regardless of the number of times the harassment occurs (See Cumulative Impacts in Chapter 4 for details).

### 3.0 AFFECTED ENVIRONMENT

#### Location

As identified in Ch. 2, research would occur in nearshore NMI waters for Permit No. 15661 and at the Palmyra Atoll for Permit No. 10027-04. See Appendix A for maps of the NMI action area and locations of past capture efforts at each of the main study islands. The location for Permit No. 10027-04 would not change.

#### Status of Target ESA Species

##### *ESA Endangered*

Green sea turtle

*Chelonia mydas*\*

Hawksbill sea turtle

*Eretmochelys imbricata*

*\*Green sea turtles in U.S. waters are listed as threatened except for the Florida and Mexico's Pacific coast breeding populations which are listed as endangered. Due to the inability to distinguish between these populations away from the nesting beach, green sea turtles are considered endangered wherever they occur in U.S. waters.*

Because the status of these species has not markedly changed from their descriptions in the 2010 Biological Opinion (BO; NMFS 2010a) prepared for issuance of Permit No. 14381, the BO's descriptions of the species is hereby incorporated by reference. A short summary of each species is provided here.

##### *Green sea turtle*

Green turtles are found throughout the world, occurring primarily in tropical, and to a lesser extent, subtropical waters. Throughout the Pacific, nesting assemblages group into two distinct regional clades: 1) western Pacific and South Pacific islands, and 2) eastern Pacific and central Pacific, including the rookery at French Frigate Shoals, Hawaii. In the Hawaiian Islands, green turtles are site-specific and consistently feed in the same areas on preferred substrates, which vary by location and between islands (in Landsberg et al. 1999). In Hawaii, green turtles lay up to six clutches of eggs per year (mean of 3.7) and clutches consist of about 100 eggs each. Females migrate to breed only once every two or possibly many more years. On the Hawaiian Archipelago, females nest every 3 to 4 years (Balazs and Chaloupka 2004). Eastern Pacific green turtles have reported nesting between two and six times during a season, laying a mean of between 65 and 86 eggs per clutch, depending on the area studied (Michoacán, Mexico and Playa Naranjo, Costa Rica) (in Eckert 1993 and NMFS and USFWS 1998a). Mean observed and estimated clutch frequency for green turtles nesting at Colola beach (Michoacan, Mexico) was

2.5 and 3.2, respectively (Arias-Coyotl et al. 2003). Nesting populations are doing relatively well in the Pacific, Western Atlantic, and Central Atlantic Ocean but are doing relatively poorly in Southeast Asia, Eastern Indian Ocean, and perhaps the Mediterranean (NMFS and USFWS 2007a).

#### *Hawksbill sea turtle*

The hawksbill sea turtle occurs in tropical and subtropical seas of the Atlantic, Pacific, and Indian Oceans. Within the Central Pacific, nesting is widely distributed but scattered and in very low numbers. Foraging hawksbills have been reported from virtually all of the island groups of Oceania, from the Galapagos Islands in the eastern Pacific to the Republic of Palau in the western Pacific (Witzell 1983; Pritchard 1982a,b in NMFS and USFWS 1998b). NMFS and USFWS (2007b) suggest that some regions are doing better than others based on available trend data, and explain:

“Although greatly depleted from historical levels, nesting populations in the Atlantic in general are doing better than in the Indo-Pacific. In the Atlantic, more population increases have been recorded in the Insular Caribbean than along the Western Caribbean Mainland or the Eastern Atlantic. In general, hawksbills are doing better in the Indian Ocean (especially the South Western and North Western Indian Ocean) than in the Pacific Ocean. In fact, the situation for hawksbills in the Pacific Ocean is particularly dire, despite the fact that it still has more nesting hawksbills than in either the Atlantic or Indian Oceans.”

#### **Non-Target Marine Animals**

In addition to the sea turtle species that are the subject of the permit, an assortment of sea birds, marine mammals, fish and invertebrates may be found in the action area. The permit would only authorize takes of the target sea turtles. For Permit No. 15661, no nets or devices would be used so non-target species would not be captured during research. For Permit No. 10027-04, non-target species would remain unchanged from those identified in the 2008 EA that could be incidentally caught in tangle nets: blacktip reef shark, whitetip reef shark, and bonefish. Permit No. 10027-04 would not result in an increase in effort by researchers; therefore, impacts to these species would not change nor result in additional effects not previously analyzed. As was concluded in the 2008 EA, the action is not expected to significantly impact any non-target marine animals and they are not considered further in this SEA.

#### **Biodiversity and Ecosystem Function**

The proposed action is directed at the target sea turtles and does not interfere with benthic productivity, predator-prey interactions or other biodiversity or ecosystem functions. Living sea turtles will not be removed from the ecosystem or displaced from habitat, nor will the permitted research affect their diet or foraging patterns. Further, the proposed action does not involve activities known or likely to result in the introduction or spread of non-indigenous species, such as ballast water exchange or movement of vessels among water bodies. Thus, effects on biodiversity and ecosystem function will not be considered further.

### **Ocean and Coastal Habitats**

The proposed action is directed at the target sea turtle species and would not affect habitat. The majority of the proposed activities and captured methods would have no contact with substrate. As noted in the 2008 EA, AMNH's tangle nets would have little to no impact to the sediment or other bottom habitat. Further, research vessels would avoid sensitive habitat areas and divers would take precautions to avoid damaging coral during capture. Based on the proposed research methods and mitigating conditions of the permits, the proposed action does not involve substantive alteration of substrate, movement of water or air masses, or other interactions with physical features of ocean and coastal habitat. Thus, effects on habitat will not be considered further.

### **Unique Areas**

The action would take place at Palmyra Atoll National Wildlife Refuge and in local NMI sanctuaries, reserves and conservation areas. No other park lands, prime farmlands, wetlands, or wild and scenic rivers are found within the action area. The proposed action is directed at sea turtles and as noted above would not alter or affect habitat, unique areas, including any components of EFH. As noted in the 2008 EA, protected areas and EFH around Palmyra is not likely to be significantly impacted by the proposed action. Thus, effects on such unique areas will not be considered further.

### **Historic Places, Scientific, Cultural, and Historical Resources**

There are no districts, sites, highways or structures listed in or eligible for listing in the National Register of Historic Places in the action area. The proposed action represents non-consumptive use of sea turtles and does not preclude their availability for other scientific, cultural, or historic uses. Thus, effects on such resources will not be considered further.

### **Social and Economic Resources**

The proposed action does not affect distribution of environmental burdens, access to natural or depletable resources or other social or economic concerns. It does not affect traffic and transportation patterns, risk of exposure to hazardous materials or wastes, risk of contracting disease, risk of damages from natural disasters, food safety, or other aspects of public health and safety. Thus, effects on such resources will not be considered further.

## **4.0 ENVIRONMENTAL CONSEQUENCES**

### **Effects of the No Action Alternative**

There are no direct or indirect effects on the environment of not issuing the proposed permits. The takes of sea turtles resulting from the applicants' research would not be exempted. The No Action alternative would result in the loss of valuable information about the biology and ecology of these species.

### **Effects of the Proposed Permit Alternative**

Effects would occur at the time when the applicants' research results in takes of the target sea turtles.

#### ***Environmental Consequences to the Biological Environment-Turtles***

The applicants have requested authorization to take sea turtles as described in the table included in Ch. 2. The BO prepared for this action concluded that the proposed action would not likely jeopardize the continued existence of any listed species and would not likely destroy or adversely modify designated critical habitat. Impacts of take methods for Permit No. 10027-04 would remain unchanged from those identified in the 2008 EA and 2009 SEA. Those analyses determined that although individual animals may experience short-lived stress or minimal injury during procedures, NMFS expects that animals would recover overall from the proposed activities within the course of a day. No mortalities or serious injuries from activities authorized by the permit would be expected. While the method of sampling stomach contents would have a minor change, based on the applicant's vet, Dr. Thierry Work's, past experience with this technique, no significant impacts to sea turtles are expected. Dr. Work has successfully performed this variation in sampling on 27 green sea turtles. Each animal was sampled three times and in no cases caused bleeding. In only one early instance did the method result in trauma, in which a single esophageal papilla was obtained. No bleeding accompanied the tissue and the protocol was modified as a result, thereby preventing it from occurring again. Dr. Work expects that the change in sampling would result in less stress to the animals as it is a faster method of collecting the contents and reduces risk of harm to the animal since no flushing with water is required. Based on his past performance he also feels that this is a more reliable method of obtaining stomach samples. Based on this information, NMFS does not expect the variation in stomach sampling or the increase in take for the proposed modification to significantly impact the target sea turtles.

Similarly, NMFS does not expect the proposed methods for Permit No. 15661 to result in serious injury, mortality or other significant impacts to the target sea turtles. Moreover, because the suite of activities is very similar to those conducted under the applicant's prior permit, NMFS expects the effects of the proposed activities to be similar to those evaluated in the 2006 EA and 2009 SEA which are hereby incorporated by reference. Both analyses determined that:

- no serious injury or mortality would result from the activities;
- any stress from capture would be temporary;
- the stresses of flipper and PIT tagging would be minimal and short-term and that the small wound-site resulting from a tag would heal completely in a short period of time;
- individual turtles would experience no more than short-term stress during tissue sampling;
- turtles would experience some small additional stress from attaching satellite transmitters, but not significant increases in stress or discomfort to the turtle beyond what was experienced during capture and other research activities;

- transmitters would not significantly interfere with the turtles' normal activities after they are released;
- the holding and the transport of animals to and from the work station would have minimal and insignificant effects on the animals; and
- overall the effects of the research activities have the potential to elicit short-term changes in sea turtle behavior, but are not likely to result in long-term effects on individuals or populations.

The proposed action differs from the applicant's prior permit in that the following additional activities would be authorized during fieldwork: weighing sea turtles and conducting vessel surveys in which researchers observe and count sea turtles (no physical contact involved). These activities have been analyzed in a recent EA (NMFS 2010b) for two other research permit actions and likewise have been found to not result in significant impacts to sea turtles. The 2010 EA is hereby incorporated by reference which determined that these activities are not expected to result in more than temporary, minimal disturbance of target animals.

The BO prepared for the proposed action concluded that the proposed action would not likely jeopardize the continued existence of any of the species and would not likely destroy or adversely modify designated critical habitat. NMFS expects the proposed research activities not to appreciably reduce the species likelihood of survival and recovery in the wild by adversely affecting their birth rates, death rates, or recruitment rates. In particular, NMFS expects the proposed research activities not to affect adult female turtles in a way that appreciably reduces the reproductive success of adults, the survival of young, or the number of young that annually recruit into the breeding populations of any of the species.

### **Controversy**

Federal agencies are required to consider "the degree to which effects on the quality of the human environment are likely to be highly controversial" when evaluating potential impacts of a proposed action. [40 CFR §1508.27] The applications for the proposed permits were made available for public review and comment. No public comments were received for either proposed permit.

### **Cumulative Impacts**

Summary of Effects from Total Number of Permits: In general, takes of sea turtles by harassment during permitted research using the proposed methodologies have not been shown to result in long-term or permanent adverse effects on individuals regardless of the number of times the harassment occurs. The frequency and duration of the disturbance under the proposed permit would allow adequate time for animals to recover from adverse effects such that additive or cumulative effects of the action on its own are not expected.

No measurable effects on population demographics are anticipated because any sub-lethal (disturbance) effects are expected to be short-term, with the animals recovering within a day, and the proposed action is not expected to result in mortality of any animals. There exists the possibility that adverse effects on a species could accrue from the cumulative effects of a large

number of permitted takes by harassment relative to the size of the population. However, there is no evidence that current or past levels of permitted takes have resulted in such population or species level effects.

Other than the applicants' current permits, No. 1556 (CNMI) and No. 10027-03 (AMNH), which the proposed permits would replace, no other NMFS permits authorize takes of the target sea turtles for research in the action area, largely due to their remote location in the Pacific. Two other research permits in nearby regions (Nos. 1581 and 14381 in the Hawaiian Islands) authorize take of these species, but not enough information is known of these populations to determine whether either of these permits would target and therefore affect the same individual animals or populations as the proposed research. Even if the proposed permits are able to target the same animals as other Permit Holders in the Pacific, NMFS would not expect cumulative impacts since effects of research activities would dissipate within a day as previously discussed. Moreover, researchers working under NMFS permits are required to notify the appropriate NMFS Regional Office in advance of field work. The Pacific Islands Regional Office is tasked with coordinating activities under multiple permits for the action area to ensure there is not unnecessary duplication of research.

Summary of Other Actions: The target sea turtle populations may be exposed to other human activities including subsistence harvest, entanglement in fishing gear, and noise from vessel traffic. Effects of past and ongoing human and natural factors (fisheries, existing NMFS research permits and other activities) occurring in or near the action area that have contributed to the current status of the species are described in the baseline section of the attached biological opinion done for the ESA Section 7 Consultation for this permit. General threats facing sea turtle species range-wide are also discussed in the opinion. These activities and threats are expected to continue into the future. It should be noted, however, that due to the remote location of the action area which is less populated, other human activities in the NMI occur at a substantially lower magnitude and frequency than more populated areas such as the coastal United States.

Summary of Cumulative Effects: Overall, the proposed action would not be expected to have more than short-term effects on endangered and threatened sea turtles. The incremental impact of the action when added to other past, present, and reasonably foreseeable future actions discussed here would be minimal and not significant. The data generated by the research activities associated with the proposed action would help determine the movement and habitat use of sea turtles found in the waters of the action area. The research would provide information that would help manage and recover threatened and endangered species and would outweigh any adverse impacts that may occur. The proposed action would not be expected to have any more than short-term effects any marine life species or other portions of the environment and would not result in any cumulatively significant effects.

## 5.0 LIST OF PREPARERS

This EA was prepared by Amy Hapeman with the National Marine Fisheries Service, Office of Protected Resources in Silver Spring, Maryland. No other agencies were consulted on the action.

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Appendix A: Maps of the Action Area

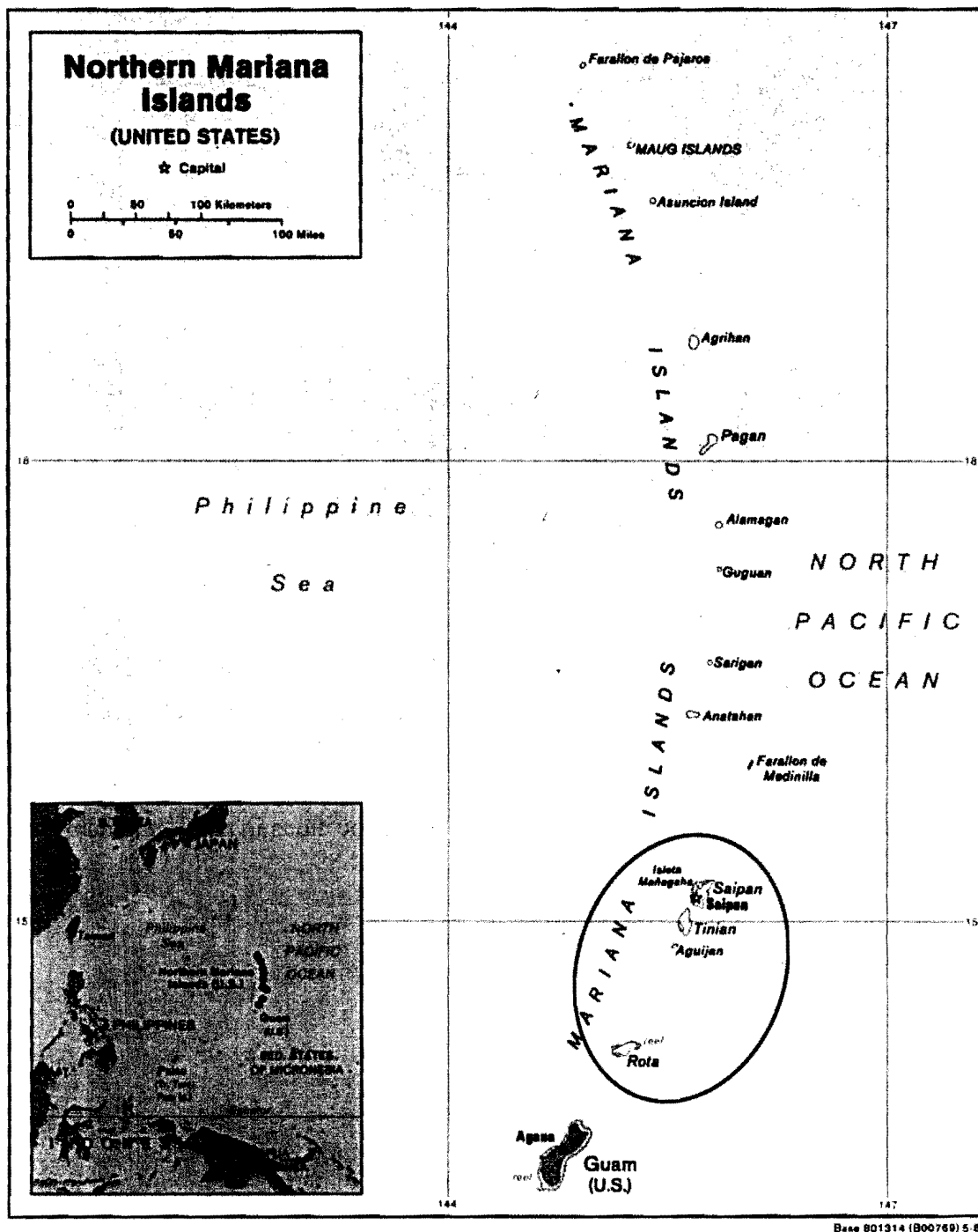


Figure 1: Location of the Northern Marina Islands. Main study areas are circled.

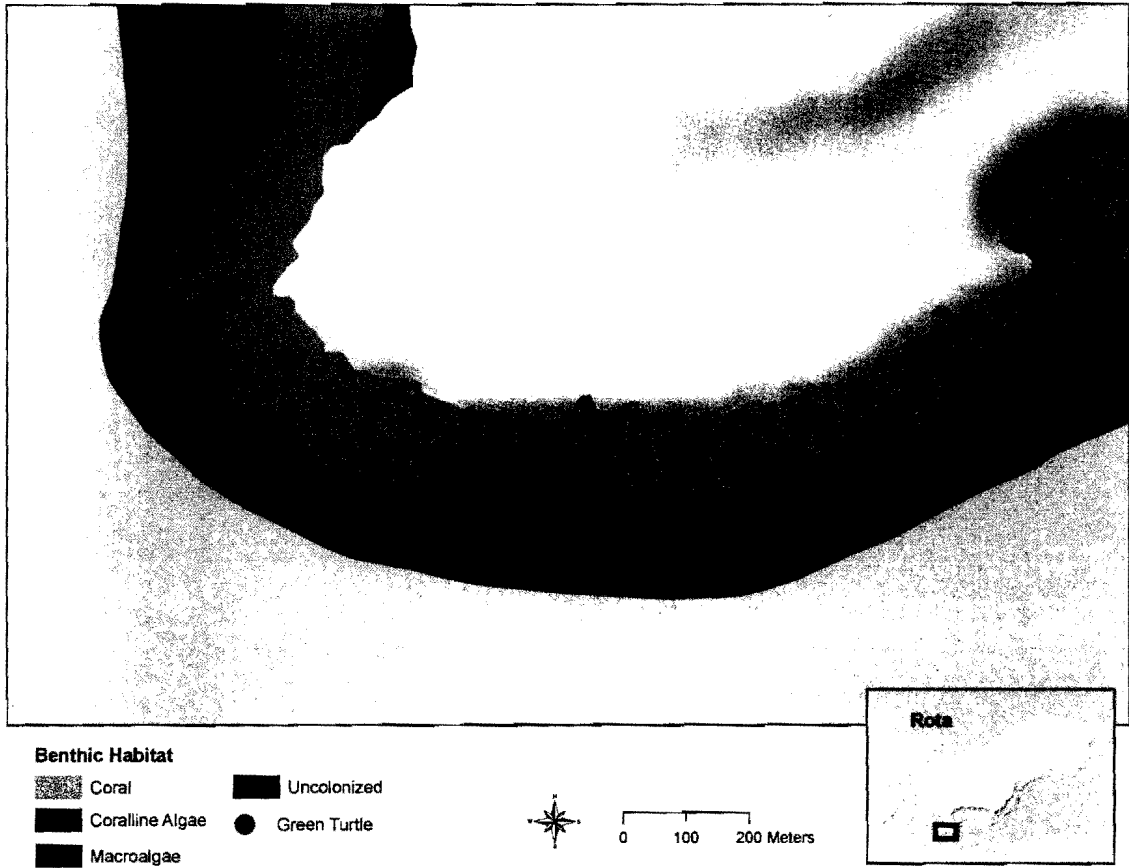


Figure 2: Rota Island. Turtle symbols identify past capture locations in relation to habitat type.

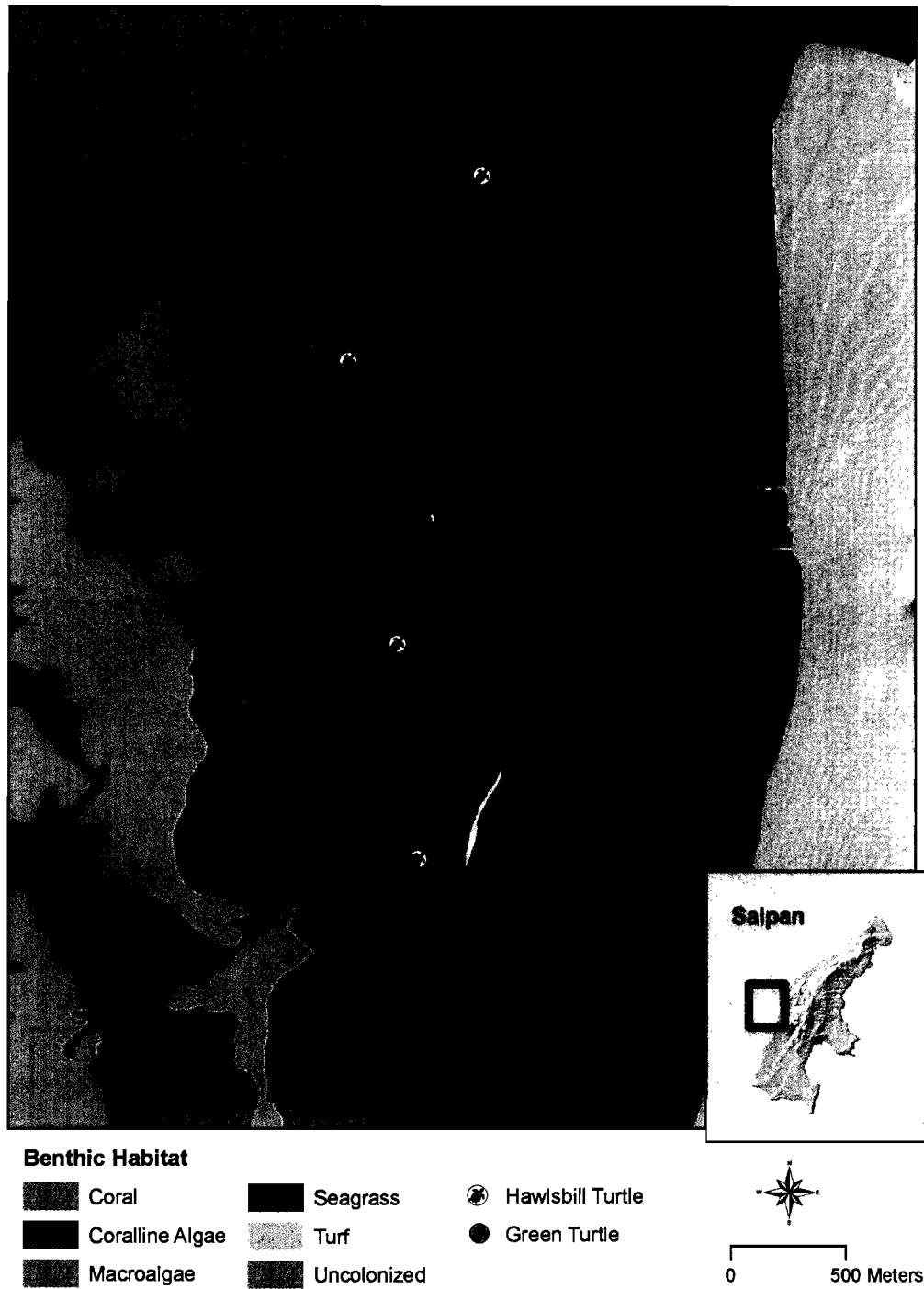


Figure 3: Saipan Island. Turtle symbols identify past capture locations in relation to habitat type.



Figure 4: Tinian Island. Turtle symbols identify past capture locations in relation to habitat type.



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE  
Silver Spring, MD 20910

**Finding of No Significant Impact  
for Issuance of Scientific Research Permit Nos. 15661 and 10027-04  
to Conduct Research on Protected Sea Turtles**

National Marine Fisheries Service

National Oceanic and Atmospheric Administration Administrative Order 216-6 (May 20, 1999) contains criteria for determining the significance of the impacts of a proposed action. In addition, the Council on Environmental Quality (CEQ) regulations at 40 C.F.R. 1508.27 state that the significance of an action should be analyzed both in terms of “context” and “intensity.” The proposed action is to issue Permit No. 15661 and a modification to existing Permit No. 10027-03 for research on sea turtles in the Pacific Islands. Each criterion listed below is relevant to making a finding of no significant impact and has been considered individually, as well as in combination with the others. The significance of this action is analyzed based on the NAO 216-6 criteria and CEQ’s context and intensity criteria. These include:

1) Can the proposed action reasonably be expected to cause substantial damage to the ocean and coastal habitats and/or essential fish habitat as defined under the Magnuson-Stevens Act and identified in Fishery Management Plans?

Response: This action would not cause substantial damage to any ocean, coastal habitats, or essential fish habitat (EFH). Research would not affect the quality of the water column in which it would work. Permit No. 15661 would not involve the use of nets or any gear that could damage habitat. Permit No. 10027-04 would continue to use the same methods of capture currently authorized by the permit; these methods were previously analyzed for the permit in the original EA (NMFS 2008) and SEA (NMFS 2009); both of these analyses found the permitted activities would not result in significant impacts to the environment.

2) Can the proposed action be expected to have a substantial impact on biodiversity and/or ecosystem function within the affected area (e.g., benthic productivity, predator-prey relationships, etc.)?

Response: The research authorized by the permits would not substantially affect biodiversity and/or ecosystem function. The research would cause short-term effects to target sea turtles but not significantly affect them, and the research would not have any population level effects. No other species or portion of the environment would be affected.

3) Can the proposed action reasonably be expected to have a substantial adverse impact on public health or safety?



Response: The proposed action involves basic research of sea turtles and does not involve hazardous methods, toxic agents or pathogens, other materials, or activities that would have a substantial adverse impact on public health and safety.

4) Can the proposed action reasonably be expected to adversely affect endangered or threatened species, their critical habitat, marine mammals, or other non-target species?

Response: The proposed action would affect sea turtles. However, the effects of the proposed action would not be severe and would be short-term in nature. No significant injuries to any animals would be expected and they would be released after they are sampled. The permit would contain mitigation and minimization measures to minimize the effects of the research and to avoid unnecessary stress to the sea turtles by requiring use of specific research protocols. The proposed action would not likely jeopardize the continued existence of any ESA endangered or threatened species and would not destroy or adversely modify any critical habitat. The action would not interact with marine mammals or other non-target species.

5) Are significant social or economic impacts interrelated with natural or physical environmental effects?

Response: There would be no significant social or economic impacts interrelated with significant natural or physical environmental effects. No significant social or economic impacts would result from the proposed research because both researchers work in remote areas that either are not civilized or have small local populations. Research would not impact use of the area by others.

6) Are the effects on the quality of the human environment likely to be highly controversial?

Response: A *Federal Register* notice was published to allow other agencies and the public the opportunity to review and comment on each permit request. No comments were received for either request. Given the proposed research methodologies are well known and are expected to have minimal effects, NMFS believes that it is not likely to be controversial.

7) Can the proposed action reasonably be expected to result in substantial impacts to unique areas, such as historic or cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers, essential fish habitat (EFH), or ecologically critical areas?

Response: See response to question #1. Activities that have been shown to adversely affect EFH include disturbance or destruction of habitat from stationary fishing gear, dredging and filling, agricultural and urban runoff, direct discharge, and the introduction of exotic species. None of these activities would occur under the proposed action. The proposed action would not affect any unique or ecologically critical areas.

8) Are the effects on the human environment likely to be highly uncertain or involve unique or unknown risks?

Response: The research activities of the proposed research are not new or novel. Researchers have previously conducted the same type of research with no significant impacts to the environment. NMFS believes that the effects on the human environment would not be highly uncertain and the risks would be minimal and known.

9) Is the proposed action related to other actions with individually insignificant, but cumulatively significant impacts?

Response: The proposed action is not related to other actions with individually insignificant, but cumulatively significant impacts. If the permits are issued, it is not expected that the additional effects of this research would result in cumulatively significant impacts given the remote study areas in the Central Pacific Ocean. The short-term stresses (separately and cumulatively when added to other stresses the species face in the environment) resulting from the research activities would be expected to be minimal. Animals would be exposed to low level harassment and no serious injuries or mortalities would be expected. The permits would contain conditions to mitigate adverse impacts to species from these activities.

Overall, the proposed action would be expected to have no more than short-term effects on protected sea turtles and minimal to no effects on other aspects of the environment. The incremental impact of the action when added to other past, present, and reasonably foreseeable future actions discussed in the environmental assessment would be minimal and not significant.

10) Is the proposed action likely to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural or historical resources?

Response: The action would not affect any districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places as none are found in the action area. The research would not cause loss or destruction of significant scientific, cultural or historical resources.

11) Can the proposed action reasonably be expected to result in the introduction or spread of a nonindigenous species?

Response: The action would not remove or introduce any species; therefore, it would not result in the introduction or spread of a nonindigenous species. The research activities would not involve bilge water or other issues of concern relative to nonindigenous species.

12) Is the proposed action likely to establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration?



Response: The decision to issue these permits would not be precedent setting and would not affect any future decisions. Issuing a permit to a specific individual or organization for a given activity does not in any way guarantee or imply that NMFS will authorize other individuals or organizations to conduct the same or similar activity, nor does it involve irreversible or irretrievable commitment of resources.

13) Can the proposed action reasonably be expected to threaten a violation of Federal, State, or local law or requirements imposed for the protection of the environment?

Response: The action would not result in any violation of Federal, State, or local laws for environmental protection. In addition, issuance of the permits would not relieve the Permit Holders of the responsibility to obtain any other permits, or comply with any other Federal, State, local, or international laws or regulations necessary to carry out the action.

14) Can the proposed action reasonably be expected to result in cumulative adverse effects that could have a substantial effect on the target species or non-target species?

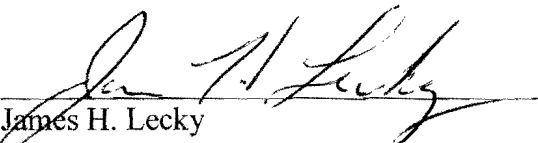
Response: The action is not expected to result in cumulative adverse effects to the species that are the subject of the proposed research. The proposed action would be expected to have no minimal effects on affected species' populations. No substantial adverse effects on other non-target species are expected. No cumulative adverse effects that could have a substantial effect on any species would be expected.

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## DETERMINATION

In view of the information presented in this document and the analysis contained in the supporting batched Environmental Assessment and Supplemental Environmental Assessment (EA/SEA) prepared for Issuance of Endangered Species Act Section 10(a)(1)(A) Scientific Research Permit Nos. 15661 and 10027-04, and the ESA section 7 biological opinion, it is hereby determined that the issuance of Permit Nos. 15661 and 10027-04 will not significantly impact the quality of the human environment as described above and in the EA/SEA. In addition, all beneficial and adverse impacts of the proposed action have been addressed to reach the conclusion of no significant impacts. Accordingly, preparation of an Environment Impact Statement for this action is not necessary.

  
James H. Lecky  
Director, Office of Protected Resources

JAN 18 2012

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Date