FEDERAL COASTAL PROGRAMS REVIEW

ISSUE I

INFRASTRUCTURE

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OFFICE OF COASTAL ZONE MANAGEMENT
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
OFFICE OF COASTAL ZONE MANAGEMENT
Washington, D.C. 20235

July 25, 1980

TO: FCPR Task Force Agency Representative

FROM: Dan Boydysh, FCPR Infrastructure Coordinator

SUBJECT: Review of First Draft

Attached is the first draft of the Infrastructure Section of the Federal Coastal Program Review (FCPR) for your review and comment. Four other sections: Improved Predictability/Energy; Improved Coordination through Special Area Planning; Development and Reconstruction Assistance in Coastal Hazard Areas; and Public Access to the Coast, are being prepared for separate review.

We would appreciate your comments and recommendations regarding the accuracy of conclusions and the feasibility of the recommendations. Additional examples and clarification of analyses will be incorporated in the next draft.

This copy of the report has been delivered to you by messenger. In order to expedite the review process please return your comments by messenger before August 8. Please call me at 634-4120 if you have any questions regarding the review of this report.

Your cooperation and assistance are appreciated.

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INTRODUCTION

The President's August 2, 1979, Environmental Message announced a national coastal protection policy that included as an essential element the protection of significant natural resources such as wetlands, estuaries, beaches, dunes, barrier islands, coral reefs, and fish and wildlife. The President's message expressed concern as well that despite substantial achievements in improving the protection of these resources, Federal programs were still contributing to their unwarranted destruction. This portion of the Federal Coastal Programs Review has reviewed key Federal programs that support infrastructure development (i.e., permanent installation of public facilities, such as roads, bridges, sewers, and water supply systems essential to community development) to determine whether implementation of those programs conflicts with national coastal protection objectives and contributes to environmentally unsound development.

Infrastructure development represents the clearest and most dramatic threat to coastal resources. Infrastructure projects carry with them the potential for a wide array of impacts on natural resources, from the direct effects attributable to construction of the project (e.g., placement of fill in a wetland to accommodate a road bed) to the less visible and often overlooked indirect impacts of population growth and development (routing a new road through an undeveloped, previously inaccessible area or by expanding sewage treatment capacity).

Although infrastructure projects are normally initiated by state or local interests, their completion in most cases depends on Federal support--through direct construction, financial assistance, or permit approval. In this manner Federal programs are often compelling factors in determining the pattern of development in the coastal zone. Similarly, the number of Federal programs involved in infrastructure decisions is large; this review identified at the outset no less than 15 programs with substantial impact on infrastructure development in coastal areas.

In conducting the review, we were unable to evaluate all of the Federal programs which influence infrastructure investments--limitations on time and other resources made such an effort impractical. Instead, we selected a few key programs for review. These programs include:

- The Environmental Protection Agency's (EPA) section 201 wastewater treatment construction grants program, which provides grants to local communities for the construction of public wastewater treatment facilities to solve identified water quality problems;

- the Federal Highway Administration's (FHWA) federal aid highway program, which provides financial assistance to states for the construction of major highway systems and improvements;

- the Economic Development Administration's (EDA) economic development assistance programs, which provide financial and technical assistance to states, localities, and the private sector in the construction of public works and development facilities;

- the National Oceanic and Atmospheric Administration's (NOAA) coastal energy impact program, which provides financial assistance to states and local communities to mitigate the impacts of coastal energy development by, among other methods, construction of public facilities;
- the Corps of Engineers' (COE) civil works program, which carries out water management projects authorized by Congress, including measures to improve navigation in channels and harbors, flood control, prevention of beach erosion, hurricane protection, water-based recreation, and water supply;
- the Farmers Home Administration's (FmHA) programs which assist farmers and other members of rural communities by providing financial assistance for conservation, development, use and control of water, and the installation or improvement of drainage or waste disposal facilities, recreational developments and other essential community services;
- the Coast Guard's bridge permit program, which issues permits for the location and construction of bridges in or over navigable waterways; and
- the Corps of Engineers' section 404 and section 10 permit programs, which prohibit respectively (a) the placement of dredged or fill material in the waters of the United States (including wetlands) without a permit issued by the Corps in accordance with guidelines developed by EPA and (b) the construction of any structures in or over navigable waters without a Corps permit.

The fact that other programs have been omitted from the review does not indicate a lack of significant effects on coastal resources. We have chosen those programs that have the most salient impacts by virtue of substantial investments of Federal funds or key approvals in the infrastructure development process. In fiscal year 1979 they resulted in the investment of over two billion dollars for the development of infastructure in coastal counties.

In conducting the review, we focussed on the decisionmaking processes of the selected agencies; primarily whether agency policies, procedures, and regulations are structured in a fashion to ensure that agency decisions are consistent with national coastal protection policy, as embodied in the National Environmental Policy Act, the President's Executive Orders on Wetlands Protection and Floodplain Management, and the Coastal Zone Management Act. The review was not able to assess conclusively the extent to which agency decisions under these programs are resulting in environmentally unsound development for two reasons. First, the President's Floodplains and Wetlands Executive Orders should have a major effect on decisionmaking in sensitive coastal areas, and, although the orders are three years old, the agencies are just beginning to implement them. We note that the President's Water Resources Council has just begun an assessment of agency compliance with the orders. Second, a complete assessment of the "on the ground" effects of these programs would require a commitment of time and resources beyond those available for this initial broad scope review of Federal programs.

The review is styled in terms of needed improvements. This approach does not do full justice to the positive achievements Federal agencies have made toward environmentally sound decisionmaking. The past ten years have seen enormous strides in this regard. This review has found that the existance of Federal environmental protection policies embodied in the National Environmental Policy Act, the Floodplains and Wetlands Executive Orders, and the Coastal Zone Management Act, has often discouraged the development of projects that on their face would result in egregious environmental damage. In that perspective, the recommendations in this review are for refinements in an already much improved system. The analysis which follows identifies and recommends changes in Federal infrastructure programs to improve protection of significant natural coastal resources.

II. General Conclusions and Recommendations

Over the past several years Federal agencies have achieved significant progress towards assuring that protection of coastal resources is fully considered in agency decisionmaking. Recent implementation of the Executive Orders on Floodplain Management and Wetlands Protection, the consistency provisions of the Coastal Zone Management Act, and revised procedures to implement the procedural provisions of the National Environmental Policy Act should further strengthen the Federal commitment to protect valuable and irreplaceable coastal resources. Nevertheless, this review has identified lingering inadequacies.

A. Information concerning the coastal impacts of infrastructure decisions in coastal areas by Federal agencies and the impacts of such decisions is diffuse, difficult to obtain, and not easily available to decisionmakers.

One of the immediate problems this review encountered in trying to assess Federal infrastructure programs is the difficulty in assembling information with respect to agency decisions in coastal areas. For example, records of individual permit decisions are not kept in a central location by the Corps of Engineers, but are retained in each of the district offices. As a consequence, the determination of the number of acres of coastal wetlands authorized by the Corps to be filled in a given year requires the inspection of individual permits at each of the 18 district offices whose jurisdiction includes coastal areas. The assessment of the cumulative impacts on coastal resources of the Corps' regulatory decisions is difficult and, more importantly, a task not routinely performed by the Corps in making permit decisions. Similar problems arise at other agencies, such as EPA, FHWA, EDA, and FmHA, whose programs are administered regionally. Exceptions to this general rule are NOAA's

Coastal Energy Impact Program and the Coast Guard's Bridge Administration Program, which have central repositories of project information. Even these programs do not have information systems that permit the easy retrieval of coastal environmental impact information.

Even at the regional or district level, Federal programs do not generally keep separate records of the environmental impacts on coastal resources of their project decisions, and a mechanism for sharing that information among agencies in particular regions does not exist. Because of the lack of information regarding project decisions made by other agencies, an agency cannot accurately assess the cumulative impacts of multiple Federal decisions in a particular region. For example, NOAA was recently requested to fund the expansion and relocation of water lines in Gulf Shores, Alabama, to accommodate a highway improvement. The impact of the proposed action was determined by NOAA to be not significant. After the destruction of the town by Hurricane Frederick, it came to light that the proposed CEIP project was only a small part of a larger water redevelopment proposal that had been submitted to the Department of Housing and Urban Development. Although this fact was discovered before final action was taken, the discovery was not the result of deliberate information sharing. And although the impacts of an individual project may not be significant, the cumulative effects of a number of such decisions may indeed be significant. The Council on Environmental Quality's 1979 Annual Report,for example, reported that human activities ranging from airport construction to resort development destroyed over 30% of the Nation's estuarine habitat in the 20-year period from 1950-1969.

In addition, the lack of information exchange among agencies may permit some degree of "shopping" by project applicants. Because a particular project may be eligible for funding by several agencies, an applicant has some freedom in seeking funding, and one agency may not know that funding for a given project has been denied for environmental reasons by another agency.

Recommendations

1. The Council on Environmental Quality should be directed to convene an interagency task force to design and recommend a system for sharing information on the environmental impacts on significant coastal resources of proposed, ongoing, and completed projects. CEQ should be directed to report back to the President with its recommendations within one year.

2. On the basis of CEQ recommendations, Federal agencies conducting infrastructure programs, should be directed to implement systems for collecting information on the impacts of their programs on significant coastal resources. These Federal agencies should be directed to report annually on the cumulative impacts of their projects on significant coastal resources.

3. The Council on Environmental Quality should be directed to undertake a followup study to the Federal Coastal Program Review, designed to evaluate fully the "on the ground" impacts of Federal infrastructure decisions and to ascertain whether Federal programs are contributing to environmentally unsound development. The Council should be directed to report back to the President with its conclusions and recommendations within two years.

This follow up study is necessary because, as of this review, many new Federal initiatives for protecting environmental resources; e.g. Wetlands and Floodplains Executive Orders, have not been fully institutionalized by Federal agencies.

B. Federal coastal protection policies are often brought into the decisionmaking process too late to be fully effective in protecting coastal resources.

Although infrastructure projects proposed for Federal funding are usually initiated by state or local interests, these projects must be developed and selected in accordance with federally approved planning or prioritization processes. For example, wastewater treatment facilities must be selected through an EPA-approved state priority listing process; eligibility for Federal highway funds is determined in accordance with an FHWA-approved state action plan; and CEIP funds are made available pursuant to a NOAA-approved intra-state allocation process.

These federally approved project selection mechanisms, however, do not contain specific policy guidance regarding Federal coastal protection goals. For example, although the Federal Highway Administration approved State Action Plan (SAP) is the basic framework used by a state to determine the configuration of its federally funded highway system, the SAP contains only very general guidance with respect to Federal environmental protection goals. In addition, Federal approval of these state plans is generally considered by the Federal agencies as not subject to the National Environmental Policy Act or the Executive Orders on Floodplain Management and Wetlands Protection. As a result the Federal policies relating to these critical areas are frequently not fully reflected in the projects--whether highways or other--proposed for Federal approval.

Federal coastal protection goals are brought to bear once a site-specific project has been presented to the Federal decisionmaker. However, once a project is proposed for funding sufficient political and special interest pressure for approval may have developed to make difficult

rejection or substantial modification of the proposal. The Federal decision maker is therefore hampered in preventing environmental damage by avoiding projects that are incompatible with coastal resource protection goals.

Recommendations:

Federal agencies that require state planning processes as a condition of eligibility for infrastructure assistance should amend their regulations to make clear that NEPA and the Executive Orders on Wetlands Protection and Floodplain Management apply to Federal approval of the processes and to require states to incorporate in their planning processes the national resource protection policies set forth in NEPA and the Executive Orders. State project selection processes already approved should be amended where necessary to incorporate these policies.

C. The secondary and cumulative effects of infrastructure development-projects are often not adequately considered during project review.

Although the Floodplain and Wetlands Executive Orders and NEPA are not so limited, Federal agency policies and procedures for protecting significant natural resources tend to concentrate on mitigating or avoiding the direct impacts of the project construction and give much less attention to the secondary or cumulative impacts of infrastructure projects. In part, this lack of attention can be traced to the fact that secondary and cumulative impacts are difficult to identify with certainty. Nevertheless, secondary impacts such as induced population growth and the cumulative effects of several unrelated projects in an area, are often far more damaging to coastal resources than the

direct impacts of project construction. For example the Monmouth County Planning Board (New Jersey) reports that the Northeast Monmouth County Regional Wastwater Treatment Facility has made possible the development of high density housing (townhouse, apartments, highrise condominiums) in coastal towns previously served by small treatment plants. According to the Board, this secondary development has destroyed wetlands, increased traffic congestion and air pollution (and local demands for better highways), and exposed more people and property to the hazards of coastal storms and flooding.

Recommendation:

1. Federal agencies should be directed to develop programs to improve procedures and methodologies for evaluating the secondary and cumulative impacts of project decisions. Federal agencies should be directed to report to CEQ on the status of their efforts within a year.

2. Federal agencies should adopt a policy of giving equal weight to primary, secondary and cumulative impacts that are identified during the NEPA process.

D. While full implementation of the Executive Orders on floodplain management and wetlands protection should substantially reduce federal decisions in favor of environmentally unsound development, agency implementation has been uneven.

The Executive Orders on Floodplain Management and Wetlands Protection establish as an element of Federal coastal protection policy the avoidance of actions which adversely affect wetlands and floodplains, unless no practicable alternative exists. The President's Water Resources Council has issued detailed guidelines for implementing the Floodplain Executive Order. Unfortunately, however, the unevenness of the agency responses to the orders and guidelines may undercut their promise.

The range of agency interpretations has been broad. Some agencies have established detailed procedures and policies for actions affecting floodplains and wetlands patterned after the WRC's guidelines. For example, CEQ has commended EDA on its excellent floodplain procedures. Other agencies such as DOT and FHWA have taken a more narrow view of their responsibilities, relying merely on general paraphrasing of the executive orders. Still other agencies, such as the Coast Guard, have yet to issue final procedures even though the Executive Orders were promulgated nearly three years ago.

In part, the diversity of agency responses may reflect ambiquities in the two executive orders that render them susceptible to varying interpretations. Both executive orders call on agencies to provide "leadership" and to "take action" to minimize the degradation of the natural and beneficial values of floodplains and wetlands;" E.O. 11988 directs Federal agencies to "avoid direct or indirect support of floodplain development;" and E.O. 11990 directs Federal agencies to avoid direct or indirect support of new construction in wetlands." Despite the apparent policy to avoid secondary impacts on floodplains or wetlands, specific requirements in the executive orders to seek alternatives and mitigate environmental loses are imposed only if a proposal action is located <u>in</u> a floodplain or wetland. In response to specific direction in the Floodplains Executive Order, the Water Resources Council has issued broad guidelines to assist the agencies in developing procedures to implement the executive order. The guidelines interpret the executive order to apply to activities in <u>or affecting</u> the floodplain; however, these guidelines are only advisory, and no comparable guidelines have been prepared for the Wetlands Executive Order.

Further obscuring the specific contours of Federal coastal protection policy is the exemption in the Wetlands Executive Order of the issuance by Federal agencies of permits licenses or allocations to private parties for activities involving wetlands on non-Federal property;" E.O. 11988 contains no similar exemption. Although the basis for E.O. 11990's exemption was not explained, it apparently was premised on on the view that this exemption was very narrow and that the Corps' review procedures under Section 404 of the Clean Water Act, provided equivalent protection to wetlands. As indicated in section III below, in the discussion of the Corps of Engineers' regulatory program, the soundness of this belief may be suspect.

As a consequence, Federal actions are still being undertaken or contemplated three years after the Executive Orders were issued which support questionable development in floodplain and wetlands areas. For example FHWA recently approved as not significant a $37 million grant to rebuild Dauphine Island causeway the destroyed by Hurricane Federick. This action is currently the subject of pending litigation. EPA is considering funding a sewage treatment plant on this same barrier island that would provide capacity for an additional 2,000 residences. Similarly Coast Guard recently approved a permit for a bridge to a barrier island off South Carolina whose sole purpose was to provide vehicular access for a future housing development. COE is deciding whether to issue permits for a housing development near Marco Island, Florida that could destroy over 8,000 acres of valuable coastal wetlands. FmHA is funding a $53 million water supply line that would significantly increase the amount of available water to and therefore increase the probability of growth on the Florida Keys -- an sensitive coastal area extremely vulnerable to hurricane damage.

In short, although it is too early to assess fully "on the ground" impacts of the executive orders, it is fair to say that Federal agencies have not uniformly demonstrated the leadership called for in each of the executive orders in order to minimize the loss or degradation of wetlands values, to reduce the risk of flood loss, and to restore and preserve the natural and beneficial values served by floodplains. As a result Federal actions continue to threaten significant coastal resources.

Recommendations

1. The Water Resources Council should be directed to evaluate annually agency implementation of the Floodplain and Wetlands Executive Orders. In order to facilitate such oversight, Federal agencies should be directed in to develop, in consultation with the WRC, mechanisms for regularly reporting their implementation of the executive orders. Federal agencies should be directed to cooperate fully with the WRC in this evaluation.

2. WRC should be directed to issue expanded guidelines implementing the Floodplains and Wetlands Executive Orders which focus on protecting significant coastal resources in floodplains and wetlands. The WRC guidelines should be binding on the Federal agencies, just as the Council on Environmental Quality's regulations implementing NEPA are binding on Federal agencies.

3. The Wetlands Executive Order should be amended to eliminate the exemption for the issuance of Federal permits, licenses, or allocations to private parties for activities involving wetlands on non-Federal lands. The policies set forth in that order should apply fully to Federal regulatory programs.

E. Agency policies with respect to protection of significant coastal resources are frequently too vague to assure consistent and predictable implementation.

Federal agencies generally have good broad statements of Federal environmental protection policy. For example, it is the policy of the Department of Transportation to:

(1) avoid or minimize adverse effects wherever possible.

(2) restore or enhance environmental quality to the fullest extent practicable;

(3) preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites;

(4) preserve, restore, and improve wetlands;

(5) improve the urban physical, social and economic environment;

(6) increase access to opportunities for disadvantaged persons, and

(7) utilize a systematic, interdisciplinary approach in planning and decision making which may have an impact on the environment.

However, agencies do not generally have specific policies for responding to projects which affect coastal resources per se. In some cases, wetlands, beaches, barrier islands, wildlife habitat, fish and shellfish are singled out as worthy of special consideration, but little guidance is provided as to how the agency will respond when a proposed activity adversely impacts those resources. Environmental reviews tend to be procedural with few restrictions or prohibitions on the type of projects that can be approved.

The absence of clear, substantive guides reflects the fact that environmental decisionmaking with respect to infrastructure projects is fundamentally a balancing exercise--an exercise in which the agency's principal statutory mission (whether it be providing safe, efficient road transportation systems in the case of the Federal Highway Administration or restoring the economic health of areas burdened with high unemployment and low income in the case of the Economic Development Administration) has primacy and typically in which measurable economic benefits are weighed against difficult-to-quantify environmental values. In such a calculus, decisions in favor of projects will be rule, and the issue in most cases will be the extent of environmental harm that will accompany the project.

Admittedly, the Floodplain and Wetlands Executive Orders have taken a significant step toward establishing substantive decisionmaking criteria. However, the orders apply only to actions in wetlands or floodplains and, more importantly, direct agencies not to take actions only where "practicable" alternatives exist. The determination of practicability, which in the case of most agencies includes economic, technological, and logistical factors, it itself fundamentally a balancing exercise without clear boundaries for decision.

As a consequence, decisions affecting coastal resources are left to the discretion of the action agency and its interpretation of certain key words such as "practicable," "significant," "major," "notable," and "substantial" -- terms that are defined only vaguely or not at all by the agencies. For example, the WRC guidelines define "practicable" as

"capable of being done within existing constraints" and indicate that the "test of what is practicable depends upon the situation and includes consideration of the pertinent factors, such as environment, cost or technology." DOT's regulations implementing the wetlands executive order neither define practicalbe nor refer to the WRC definition. FHWA is, floodplain procedures, on the other hand, define "practicable" as "capable of being done within reasonable natural, social, or economic constraints."

The problem of imprecision is compounded by the fact that in most cases decisions on infrastructure projects are made by regional or district offices without significant environmental review by headquarters. For example, EDA, COE, and FHWA are all highly decentralized.

In particular, agencies lack clear policies in the following important areas:

1. Growth impacts--Relatively few agencies have adopted by regulation or otherwise an explicit policy to minimize growth impacts in environmentally sensitive coastal areas. An exception is, EPA's policy not to award a grant for a new sewer system unless "the system would not afford capacity to new habitations or other establishments to be located in environmentally sensitive lands" such as wetlands, floodplains or prime agriculture lands (40 CFR 35.925-13) Yet, as noted above, growth induced by Federal infrastructure investments can be more damaging than the direct impacts of project construction.

While legitimate question may be raised about the propriety of the Federal Government's prohibiting growth altogether, it cannot be doubted that the resources at risk in coastal areas are of national significance. At the least, therefore, the Federal Government should not encourage growth in sensitive coastal areas -- rather, its role should be limited

to remedying existing problems (whether water quality, unsafe road conditions, or others) in such areas.

2. Unacceptable environmental damage--As noted above, most project decisions represent a balancing or tradeoff of environmental and other concerns, with the tradeoff being made on an essentially ad hoc basis. There are very few policies or criteria to guide those tradeoffs--policies or criteria which indicate when an environmental loss is unacceptable. In the course of such tradeoffs, the higher the economic or social gain perceived to result from a proposed action, the greater the environmental destruction is that will be tolerated.

A notable exception is the EPA/COE Section 404 Guidelines used to review permits for discharging dredge or fill material into coastal waters and wetlands. The Guidelines prohibit any discharges that would have an unacceptable environmental impact -- i.e., "no discharge of dredged or fill material will occur at a proposed disposal site in a navigable water if the Administrator of EPA determines...that such discharge will have an unacceptable adverse effect on municipal water supplies, shellfish beds and fishery areas (including spawinging and breeding areas), wildlife or recreation areas."

The consequences of the general absence of clear agency guidance to decisionmakers as to when environmental damage is too much is that, while tradeoffs in individual cases may seem reasonable, no assurance exists that the total of all such tradeoffs in a region or along the entire coast is acceptable. Moreover, individual project decisions become in effect negotiations whose bottom lines become the starting points for the next

round of negotiations. When it is considered that over 30 percent of the nation's wetlands have been destroyed, that over 60 percent of the Nation's barrier islands are developed, and that over 80 percent of the population is expected to reside in the Nation's coastal areas by 2000, the necessity for establishing limits on the acceptance of damage to coastal resources becomes clear.

3. Mitigation--Although most agencies, and the executive orders, require adoption of measures to mitigate environmental damage as part of project approvals, few agencies provide clear guidance as to the precise circumstances under which mitigation is required and what measures constitute adequate mitigation. For example, FHWA procedures implementing the Floodplains Order require only that adverse impacts on the floodplain be minimized -- "minimize" is defined as "to reduce to the smallest practicable amount or degree." No further guidance is provided on this issue. Mitigation measures which could be prescribed in the highway context include engineering design standards (e.g., elevation requirements for highways in wetlands areas or measures to control road surface runoff), restrictions on development along the right-of-way, or the exchange of an equivalent amount of land for that destroyed during construction. Establishment of such standards in advance would provide some assurance that adequate mitigation would be applied in all cases and would eliminate much of the current regional disparity in decisionmaking.

Recommendations:

1. The Executive Order on Wetlands Protection should be amended, in addition to those amendments already suggested, to extend its coverage to sensitive coastal resources other than wetlands. Such resources, which

include those identified in the President's Environmental Message, should receive the same degree of protection--for their values other than those related to flood loss--as wetlands. In the alternative, the President should issue a new Executive Order on coastal resource protection which embodies the following principles:

(a) that actions in or adversely affecting significant resources are contrary to the national interest and should not be undertaken unless no other alternative exists;

(b) that in the case of non-water dependent development, alternatives are presumed to exist unless demonstrated by compelling evidence to the contrary; and

(c) that actions undertaken despite harm to such resources shall be accompanied by requirements for mitigation equivalent to the coastal resources lost or harmed.

CEQ should be directed to issue binding implementation guidelines within on year of issuance of the Executive Order.

2. Federal agencies supporting infrastructure projects should be directed to adopt and implement clear and precise policies and criteria for minimizing growth impacts in sensitive coastal areas. These policies and criteria shall at a minimum provide that Federal support or approval shall not be provided to projects that permit or encourage new development in such areas.

3. Federal agencies supporting infrastructure projects should be directed to amend their regulations to prescribe clear policies and criteria for determinign when losses of significant coastal resources

will be considered unacceptable and require project denial. Equal weight should be accorded to primary and secondary impacts when making this determination.

4. Federal agencies should be directed to develop and adopt specific policies and guidelines for mitigating adverse impacts on coastal resources. Such guidelines should establish clearly when mitigation will be required and what measures are appropriate and sufficient. Such guidelines should include design standards for construction projects, requirements for the exchange (protection) of an equivalent amount of land for that destroyed, and measures to limit growth impacts.

F. Post-construction project monitoring by Federal agencies is minimal.

Federal approvals for infrastructure projects generally rest on conclusions about (1) unavoidable environmental harm from the project and (2) measures necessary to mitigate or avoid other environmental impacts. The validity of these conclusions, however, is seldom tested since post-construction monitoring of infrastructure projects is minimal. For example, both EDA and the Coast Guard report that they have insufficient resources monitor rountinely grant or permit conditions.

Without monitoring, Federal agencies are seldom able to test their predictions of environmental harm -or of the efficacy of particular mitigating measures both to improve assessments for future projects and to decide whether additional protective measures are needed for particular porjects. More importantly, enforcement of mitigation measures or other grant conditions is thereby given up. As a result, Federal support of infrastructure projects may produce unanticipated environmental damage

if public facilities are used in a manner not intended by the approving agency or if conditions imposed on project approval are disregarded by the applicant.

Resource limitations obviously preclude monitoring the effects of every project. Nevertheless, Federal agencies currently emphasize delivery of service (financial assistance, permits) to the virtual exclusion of monitoring. Efforts should be made to redress that imbalance.

Recommendation:

Agencies should be directed to develop and implement procedures for monitoring the impacts on coastal resources of infrastructure projects and for enforcing compliance with any mitigation requirements adopted as part of project approval. Agencies should report on monitoring and enforcement efforts as part of their annual reporting process.

G. Agency statements of coastal resource protection policy are not readily available to the public.

A final general finding of this review was the difficulty in many cases of locating all agency statements of policy and procedures for protecting wasted resources. Such information is often found both in published regulations and in various unpublished internal directives, memoranda, letters, and other documents not readily available to those outside the agency. For example, an important COE policy statement concerning mitigation measures appears in a letter from the Chief of Engineers to COE field offices. Understanding of agency policies -- both within and outside the agency -- would be greatly improved by

consolidating such policies in a single, publicity available document.

Recommendations:

Agencies should be directed to consolidate their policies and procedures for protecting coastal resources in an appropriate document. This document should be updated as needed and made readily available to the public, applicants, and other interested persons.

A. Wastewater Treatment Construction Grants Program
Environmental Protection Agency

1. Program Description

The environmental Protection Agency (EPA) provides financial assistance to municipalities pursuant to Section 201 of the Clean Water Act for the planning, design and construction of publicly-owned wastewater treatment facilities and sewer interceptors. The wastewater treatment construction grants program is administered through ten regional offices which have primary authority to approve, condition or deny grants for wastewater treatment facilities. In fiscal years 1976- 1979, EPA obligated a total of about $17.6 billion for construction of wastewater treatment facilities, of which roughly $7.3 billion went for projects in coastal counties.

Projects eligible for 201 construction funding include sewage treatment facilities (new, expanded, or upgraded); interceptor sewers (new or rehabilitated); sewage collection systems, including pumping stations (new, expanded or rehabilaitated); and combined sewer overflow control systems for reducing storing, treating, separating, or disposing of wastewater from combined storm and sanitary sewer systems. EPA provides up to 75% of the allowable project costs. The federal match may be increased by an additional 10% for project involving innovative and alternative technologies.

EPA establishes a yearly grant allotment per state for the construction grants program. Grants from these funds are provided directly to municiipalities based on a state priority list and a three step decision process.

a. Priority List

States are required to established an annual Priority List that rates and ranks eligible projects. The priority list "must be designed to achieve optimum water quality management consistent with requirements

of the Act" states much consider the following criteria in establishing the priority list:

- o the severity of the pollution problem
- o the existing population affected,
- o the need for preservation of high quality waters,
- o national priorities,
- o total funds available,
- o treatment works sequence,
- o and any additional factors considered pertinent by the state.

The priority list is prepared for projects for which localities plan to receive Federal assistance during the 5 year period starting at the beginning of the next fiscal year.

Following placement of a project on a state's Priority List, the state delineates a preliminary planning and service area boundary for the preparation of a facility plan. The facility planning areas and the state priority list are then submitted to the EPA administrator for approval. Thereafter, the state may submit project-specific applications, consistent with the approved state priority list for financial assistance. Financial assistance follows a three-step sequence.

b. Step 1 Facility Planning Grant

Step 1 grants are awarded to localities to produce facility plans and studies that include:

- o a description of the waste treatment works for which plans and specifications will be prepared;
- o a cost-effectiveness analysis of alternatives for the treatment works and for the complete waste
- o an identification and examination of alternative waste treatment facilities

- o an assessment of expected environmental impacts oar alternatives; and
- o documentation of potential opportunities for recreation access and open space.

The local agency is required to prepare an environmental assessment as part of the facility plan. The information in the environmental assessment provides the basis for a decision on whether or not to prepare an environmental impact statement. Following certification by the state for conformance with the requirements of the Clean Water Act and any applicable water quality plans, the facility plan must be submitted for approval to the EPA regional office, which may require modification or issue conditions on subsequent grants. It is at this point that the regional office examines the environmental assessment and makes a determination if the project requires preparation of an environmental impact statement. EPA's regulations provide that an EIS must be prepared when the proposed project may directly or through induced development have a significant adverse effect upon surface or groundwater quality or quantity, fish, wildlife, and their natural habitats.

Approval of the facilities plan is also subject to the Executive Orders on the Management of Floodplains and Protection of Wetlands. EPA's implementing regulations require avoidance of actions that adversely affect wetlands or floodplains or, if no practicable alternatives are found adoption of measures to mitigate the adverse effects. In addition, if EPA determines that a proposed project will significantly affect the coastal zone of a State with a federally approved Coastal Zone Management Program (CZMP), that action will be made consistent, to the maximum extent possible, with the approved program. The primary environmental review is conducted during

the step 1 facilities plan approval. After approval further environmental review is conducted only if the project is substantially modified.

c. Step 2 - Engineering Design Grant

The Step 2 grant award provides for the preparation of detailed engineering plans, specifications, and cost estimates suitable for bidding and construction purposes. Final step 2 plans are reviewed by the state and the EPA regional office before to award of a Step 3 construction grant.

d. Step 3 - Construction Grant

Step 3 grant awards are made to fund actual construction of waste water treatment projects pursuant to designs and plans developed during Steps 1 and 2. EPA conducts an on-site inspection during construction to ensure that grant conditions are being met. After completion of the treatment facility, a financial audit is conducted which may take up to one year to complete.

EPA has implemented the Floodplains and Wetlands Executive Orders through adoption of an agency statement of procedures (40 CFR Part 6 Appendix A, Section 3), which states EPA's policy to "avoid wherever possible the long- and short-term impacts associated with the destruction of wetlands and the occupancy and modification of floodplains and wetlands development wherever there is a practicable alternative", and to mitigate adverse impacts when no practicable alternative exists. In addition, EPA has extended the general policy to its construction grants program by prohibiting interceptors into environmentally sensitive areas unless necessary to correct an existing water quality problem and by encouraging grant conditions to protect such areas from new development.

2. Conclusions and Recommendations

a. Federal coastal protection policies are not sufficiently incorporated in the state planning process.

As noted above, priorities for use of Federal funds under section 201 of the Clean Water Act are established by the states pursuant to state priority systems approved by EPA. These systems are designed to produce lists of the relatively most important projects based on the severity of pollution, existing population affected, and the need for preservation of high quality waters. Applications are then submitted for projects on the list and must demonstrate the cost effectiveness of the project, assess the environmental impact of alternative sites, and show consistency with applicable water quality management plans approved under sections 208 and 303 of the Clean Water Act.

EPA must review and approve both the state priority system and the state priority list. Federal environmental review, however, does not begin until specific project applications are submitted to EPA--approval of the state priority list is subject neither to NEPA nor to the Floodplains and Wetlands Executive Orders. In addition, approval of the list is not subjected to review by the pertinent state coastal management agency for consistency with its approved state coastal zone management program, whether or not projects on the list will require a later consistency determination. As a consequence, hard decisions may be deferred until a stage in the process when substantial political or special interest pressure for approval can develop. At that point, the bias in the system is toward mitigation rather than avoidance of environmental damage. That bias is exacerbated by the fact that EPA prepares environmental impact statements for

very few wastewater treatment facilities, in fiscal year 1979, for example, EPA prepared EIS's for only 2 percent of its projects.

In our view, explicit coastal protection requirements should be built into the decision procession at as early a stage as possible--when the greatest leeway for action exists--so that resource protection goals are reflected in the list of projects sent forward for Federal approval.

Recommendations:

(i) EPA should amend its regulations to provide that projects on the priority list indicate their relationship to sensitive coastal areas and the possible impacts on these sensitive areas by development in the service area;

(ii) EPA should amend its regulations to provide that approval of the state priority list is subject to the Floodplain and Wetlands Executive Orders and to ensure that states apply the policies embodied in those orders in their priority process; and

(iii) EPA should amend its regulations or issue interpretive guidelines indicating that state priority list decisions are subject to the federal consistency provisions of the Coastal Zone Management Act.

b. Current EPA practice does not adequately account for or protect against growth impacts in sensitive coastal environments.

As noted above, EPA's regulations and internal guidance regarding impacts on sensitive environmental areas indicate that growth is to be directed away from such areas. For example, EPA Program Requirement Memorandum 75-26 (June 6, 1975) requires that environmental assessments and impact statements analyze secondary as well as primary environmental effects. 40 CFR 35.925-13 in turn provides that no new sewer system award may be made unless "the system would not afford capacity to new

habitations or other establishments to be located in environmentally sensitive lands." Similarly, section 8(f)(1) of Appendix A to 40 CFR 35.900-970 prohibits funding for interceptors into environmentally sensitive areas unless necessary to eliminate existing point source discharges and accommodate flows from existing habitations. Both regulations indicate as well that grant restrictions (e.g., restricting sewer hookups) should be used to protect environmentally sensitive areas from new development. Finally, EPA's regulations implementing the Floodplains and Wetlands Executive Orders require that where "there is no practicable alternative to locating in or affecting the floodplain or wetlands the agency shall act to minimize potential harm to the floodplain or wetlands."

Nevertheless, our review indicates that the reality may be less than the ideal. A case in point is the proposed upgrading of a sewage treatment facility on Duphin Island -- a barrier island off the coast of Alabama. In addition to solving an existing water quality problem the proposed project would provide service to 2000 subdivided but as yet undeveloped lots. In 1978 a Step 3 construction grant of $3.5 million was awarded to constuct the facility. This step 3 award included no conditions on hoop-ups nor on the placemnt of interceptors. Before the start of construction, Hurricane Frederick devastated the island washing away or damaging the entire existing sewage treatment system. Dauphin Island subsequently requested that the funding for the new system be delayed pending reconstruction of the causeway connecting the island to the mainland. The Alabama Water Improvement Commission has stated that once the bridge is rebuilt, the Dauphin Island sewage treatment proposal will receive top priority.

Several factors may contribute to this less than ideal state. First, EPA's regulations require that Step 1 facilities plans accommodate

growth anticipated in the service area over a 20-year period. The growth projections which accompany such plans, however, are seldom sufficiently detailed to indicate where growth is expected to occur and, thus, whether sensitive areas are likely to be affected. In addition, capacity design studies and cost-effectiveness analysis during the Step 1 facility planning phase may overshadow environmental factors because non-monetary factors such as social and environmental impacts need only be presented descriptively in order to determine their significance. More broadly, EPA has not developed specific criteria for evaluating growth projections. Evaluations of growth projections is handled by the regional office on a case-by-case basis with little national guidance.

Second, facility plans are not ordinarily accompanied by detailed plat maps of the service and adjacent areas which indicate the location of environmentally sensitive coastal areas and distinguish developed from undeveloped areas. Absent such information, precise decisions about appropriate mitigating measures (e.g., sewer hookup restrictions, in-fill limitations) cannot be made.

An exception to this general finding is illustrated by EPA's handling of a proposed treatment facility in Cape May, New Jersey. In June 1978 the Cape May County Municipal Utility Authority (CMCMUA) completed the step 1 facility planning process for the design and construction of a 3.2 million gallon per day wastewater treatment facility. After review by the regional EPA office, a finding of no significant impact (FONSI) was released on the proposed facility in January 1979. The FONSI reduced the size of the facility from 3.2 mgd to 3.0 mgd but failed to examine the environmental impacts on sensitive coastal areas and the associated secondary growth impacts of the proposed project. Environmental organizations opposed the original plan because they felt that the treatment facility would allow

development in critical wildlife habitats, floodplains, and sensitive coastal areas, which they claimed had not been adequately analyzed during the step 1 facility planning process. They were also concerned that the growth projections used to justify the plant's capacity were not accurate and provided excess capacity that could stimulate development in sensitive coastal areas. After extensive review and discussion with environmental organizations and state agencies, EPA Region II, in June 1979, directed the CMCMUA to amend its step 1 facility plan to include a thorough analysis of environmentally sensitive areas which will and will not be served by the treatment facility. EPA is currently establishing a series of grant conditions which will prohibit sewer hookups for 50 years in identified sensitive areas. The Cape May county case may set the precedent for future analysis of sensitive coastal areas; however, it has not become adopted agency policy which will be applied nationwide.

Recommendations:

(i) EPA should amend its regulations and program guidance to require all step 1 facility plans to identify by detailed maps or otherwise all environmentally sensitive areas within the proposed service area;

(ii) EPA should amend its regulations and program guidance to require that step 2 and 3 grants be conditioned to prohibit sewer hookups for new development in environmentally sensitive coastal areas and establish an effective enforcement policy to terminate funding for projects that fail to comply with these grant conditions.

(iii) EPA should as a matter of policy require preparation of an environmental impact statement for any treatment facility proposed in or affecting an environmentally sensitive coastal area. The impact statement should be prepared during the step 1 facility planning process and integrated into the development and evaluation of alternatives that occur during the step 1 process.

(iv) EPA should provide detailed program guidance with respect to appropriate and necessary grant conditions and other measures for mitigating the adverse impacts, both direct and indirect, of projects on environmentally sensitive coastal areas. Guidance could take the form of model grant conditions, restrictions on municipal zoning, plot restrictions, and plant capacity caps. EPA should examine utilizing the 10% increase in match requirements for innovative and alternative technologies as an incentive to localities to provide facility plans that incorporate growth caps and mitigation techniques.

c. Post-construction monitoring of compliance with grant conditions is not adequate to ensure protection of environmentally sensitive coastal areas.

Once a wastewater treatment facility is completed, EPA does not routinely monitor the project to ensure that mitigation conditions are being met. The only post-construction review undertaken by EPA is that performed during a financial audit within one year after completion. NPDES permits has not been tied directly to construction grant conditions restricting hookups in sensitive areas. In the absence of some form of monitoring, there is little to prevent a community from allowing additional hookups or collectors even if the initial grant conditions prohibited such action.

Recommendation:

EPA should establish specific policies and procedures for monitoring and enforcement of compliance with grant conditions, particularly in environmentally sensitive coastal areas. Such procedures could include:

- incorporation of grant conditions into NPDES permits;
- delegation of monitoring responsibilities to states with approved NPDES programs;
- direct EPA monitoring of all facilities affecting environmentally sensitive coastal areas; or
- cooperative arrangements with state coastal managaement agencies to monitor sewer hookups and placement of interceptors.

d. EPA lacks policies or criteria which indicate when losses of significant coastal resources will be considered unacceptable.

EPA's construction grants program presents something of an anomaly in that its primary and direct purpose is to remedy existing or anticipated water quality proglems, yet in doing so it may harm environmentally sensitive areas, through construction losses, soil runoff, fill activities, and the like. The South Monmouth County, New Jersey, Regional Sewage Treatment Facility completed in 1979, for example, was located on filled land within the wetlands and floodplains of Polypod Brook. Similarly, the original proposal for the North Central Ocean Basin Regional wastewater treament facility in West Ocean City, Maryland called for construction of a secondary treatment sewage facility with an ocean outfall crossing Assateague Island, a sensitive barrier island. The National Parks and Conservation Association has objected to the construction of the outfall.

Recommendations:

EPA should establish, in cooperation with CEQ, policies and criteria for determining when losses of significant coastal resources will be considered unacceptable and a choice of the no action or other alternatives required. Such policies and criteria should be incorporated into EPA's program and environmental review regulations and communciated to regional and state decisionmakers by way of detailed program guidance.

A case in point is the proposed upgrading of a sewage treatment facility on Dauphin Island -- a barrier island off the coast of Alabama. In addition to solving an existing water quality problem the proposed project would provide service to 2000 subdivided but as yet undeveloped lots. In 1978 a Step 3 construction grant of $3.5 million was awarded to construct the facility. This Step 3 award included no conditions on hook-ups nor on the placement of interceptors. Before the start of construction, Hurricane Frederick devastated the island washing away or damaging the entire existing sewage treatement system. Dauphin Island subsequently requested that the findings for the new system be delayed pending reconstruction of the causeway connecting the island to the mainland. The Alabama Water Improvement Commission has stated that once the bridge is rebult, the Dauphin Island sewage treatment proposal will receive top priority. Thus, in some number of cases, decisions will be madew to sacrifice valuable coastal resources, and indeed, the greater the water quality benefits, the more substantial the loss which can be justified.

Recommendations:

EPA should establish, in consultation with CEQ, policies and criteria for determining when lossess of significant coastal resources will be considered unacceptable and a choice of the no action or other

alternatives required. Such policies and criteria should be incorporated into EPA's program and environmental review regulations and communicated to regional and state decisionmakers by way of detailed program guidance.

B. The Federal-Aid Highway Program
Federal Highway Administration
Department of Transportation

1. Program Description

The Federal-aid highway program provides financial assistance through categorical grants to states, and to municipalities through the states, to assist in the construction and improvement of roads and major highway systems. Although FHWA was unable to identify the amounts that were spent on coastal projects, apportionments for the coastal states (i.e., appropriated funds set aside for use in these states) in FY 1979 exceeded $_____billion.

The states, acting through their respective state highway or transportation agencies, submit annually to the Secretary of Transportation (Secretary) for his approval a program of proposed projects to be funded by the state's apportionment. Projects proposed for Federal funding are developed by the state in accordance with a federally approved State Action Plan (SAP) -- a document that sets forth the process the state follows to assure (a) that possible social, economic, and environmental effects of proposed highway projects are fully considered and (b) that final decisions on highway projects are made in the overall public interest. An SAP must conform to Federal requirements set forth in Process Guidelines (Guidelines) issued by FHWA and is approved by the Regional Federal Highway Administrator. FHWA gives funding preference to projects that: (1) will expedite the completion of an adequate and connected system of highways which are interstate in character; (2) are important to the national defense; and (3) that incorporate improved safety standards and features with safety benefits. The states are encouraged to submit

projects providing direct and convenient public access to public airports and to public ports. Other types of projects are honored by the Secretary as submitted by the states.

FHWA environmental review generally does not begin until the state has identified a site specific proposal. FHWA's primary mechansim for addressing Federal-aid highway project effects on coastal resources is the environmental review process mandated by NEPA. The NEPA process is used as a vehicle for complying with all other relevant federal environmental requirements, including the executive orders on floodplains management and wetlands protection and the consistency requirements of the Coastal Zone Management Act. In addition, FHWA has issued procedures for implementing the floodplains executive order. FHWA relies on DOT wetlands directive to comply with the wetlands executive order. Project proposals are also subject to A-95 review. The task of preparing relevant NEPA documents has been delegated to the states. FHWA, however, retains the responsibility for complying with Federal requirements.

FHWA must also comply with Section 4 (f) of the Department of Transportation Act which prohibits the use of land from a significant publicly owned park, recreation area, or wildlife refuge unless a determination is made that there is no feasible and prudent alterative to the use of the land and all harm to the area is minimized.

2. Conclusions and Recommendations

a. <u>Federal coastal protection policies are not sufficiently incorporated into the state highway planning process to assure full protection of significant coastal resources.</u>

The State Action Plan (SAP) "describes the organization to be utilized and the process to be followed" in the development of highway projects.

As such, it serves an important screening and shaping function in which national highway policies are brought to bear. With respect to natural resource protection, however, the guidelines for developing the SAP's policy statements indicate only that "It is FHWA's policy that full consideration be given to social, economic, and environmental effects throughout the planning of highway projects." The guidelines offer no further direction with respect to this issue. Moreover, FHWA does not consider approval of the SAP to be subject to the Executive Orders on Floodplains Management and Wetlands Protection or to NEPA. As a result national policies for protecting these valuable and vulnerable areas are not incorporated into the guidelines. The absence of specific coastal protection policies to guide the planning process may allow projects to be submitted for Federal approval that adversely affect coastal resources. Once projects are submitted, sufficient special interest or political pressure may have developed to make rejection or substantial modification of the proposal difficult or impossible. Early consideration of these policies is the surest way to minimize projects inconsistent with them.

Recommendations:

(i) FHWA should amend the guidelines for developing State Action Plans to require states to consider fully national coastal protection policies during highway project planning. In particular, national floodplain management and wetlands protection policies should be specifically stated in the guidelines. The concept of the "public interest" presented in the guidelines should also be expanded to indicate the public benefits derived from coastal resources such as flood control, pollution control, food and fiber protection, wildlife habitat, and recreation. Finally, the guidelines should be amended to require explicitly coordination with state coastal

managment agency early in the planning process.

(ii) FHWA should require states to amend their SAP's to bring them into conformace with the revised Guidelines.

b. FHWA's implementation of the Floodplains and Wetlands Executive Orders is not consistent with the intent of the executive orders to avoid development in floodplains and wetlands.

The Floodplains and Wetlands Executive Orders were promulgated on May 24, 1977. Guidelines for implementing the Floodplains Executive Order were issued by the Water Resources Council on January 25, 1978. A final DOT floodplain order was published on April 26, 1979. A DOT wetlands order was published on August 8, 1978 -- this order is current being revised. FHWA issued its floodplain procedures on November 15, 1979. FHWA does not have specific procedures to implement the Wetlands Executive Order; FHWA projects are subject to the DOT order.

While the DOT and FHWA regulations state a policy to "encourage a broad and unified effort to prevent uneconomic, hazardous, or incompatible use and development of the Nation's floodplains," the "action" components of the regulations fall short of the promise of the executive order and the WRC implementing guidelines. Under DOT's regulations alternatives to a proposed action must be considered and mitigating measures must be implemented only if the proposed action is located in the floodplain and has a "notable adverse impact on natural and beneficial floodplain values and functions." No clear guidance is provided as to what is required when a proposed action is located outside the floodplain but will support development in the floodplain. Moreover, what constitutes a "notable " impact is not defined.

Similarly, FHWA's regulations require that proposed actions located outside the floodplain that would support development in the floodplain

must be evaluated in terms of the probable impacts on natural and beneficial floodplain values, the regulations prescribe no further requirements with respect to such actions. Only those proposed actions that are located in the floodplain and have (among other things) a significant adverse impact on floodplain values will require a finding that there are no practicable alternatives outside of or less damaging to the floodplain. Furthermore, FHWA's regulations do not require mitigating measures for actions located outside the floodplain even if there are adverse effects inside the floodplain.

The DOT wetlands order states a policy to assure the protection, preservation, and enhancement of the Nation's wetlands to the fullest extent practicable during the planning, construction, and operation of transportation facilities and projects. It is also DOT policy to provide leadership to minimize the destruction, loss or degradation or wetlands in carrying out the agency's responsibilities. New construction in wetlands is to be "avoided unless there is no practicable alternative to the construction and the proposed action includes all practicable measures to minimize harm to wetlands which may result from such construction." When "making a finding of no practicable alternative, economic, environmental and other factors may be taken into account." The DOT order further provides that when the use of wetlands is proposed, it must be "demonstrated that there is no practicable alternative to the use of wetlands and that all practicable measures to minimize harm to wetlands have been included." In addition for any "major action which entails new construction located in wetlands, "a specific finding should be made by the affected operating administration that (1) there is no practicable alternative to construction in the wetland, and (2) that all practicable measures to minimize harm have

been included.

These general statements of DOT policy, however, are not sufficiently specific to assure that wetlands protection policies will be uniformly implemented from FHWA region to region. In addition, the DOT order primarily focuses on minimizing damage from projects located in wetlands; guidance is not provided for minimizing adverse impacts on wetlands caused by projects located near wetlands or other sensitive coastal resources.

Recommendations:

(i) DOT and FHWA should amend their floodplain management policies and procedures to fully comply with the intent of the executive order, as interpreted by the WRC Guidelines.

(ii) FHWA should develop program specific procedures for implementing the Wetlands Executive Order. These procedures should be sufficiently specific to provide uniform guidance to FHWA field offices concerning wetlands protection.

c. FHWA does not have design and construction policies sufficiently specific to assure that adverse impacts of highway construction are fully mitigated.

Many adverse impacts of highway construction can be avoided through careful engineering design and construction techniques. For example, highways over wetlands can be constructed on pilings as opposed to filled land; runoff from the road surface can be provented from entering the water; access to the right-of-way can be controlled to minimize secondary development.

FHWA does not have specific national guidelines for implementing mitigating measures in sensitive coastal areas. Design standards for highway construction set forth in FHWA floodplain procedures are concerned primarily with minimizing damage to the highway and protecting the highway

from impeding flood waters. For example, Section 9.a.(2) requires that "Free board shall be provided, where practicable, to protect bridge structures from debris and scour - related failure." Similarly, Section 9.a.(4) requires that: "the effect of existing flood control channels, levees and reservoirs shall be considered in estimating the peak discharge and stage for all floods considered in the design." With respect to protecting natural and beneficial floodplain values, however, the regulations indicate only that the design selected "shall be supported by analyses of design alternatives with consideration given to ...environmental concerns;" no further guidance is given on this issue.

A notable exception to the lack of mitigation policies has been established by FHWA Region 3 which independently promulgated a wetlands mitigation policy because the Region "did not expect to receive any national guidance in the near future." According to this policy, Region 3 will approve broad mitigation measures. For example, when wetlands are impacted by highways, Region 3 will approve acquiring privately owned wetlands, not contiguous to the highway right-of-way, for the purpose of placing them in public ownership and assuring their conservation. Such measures are particularly encouraged when existing wetlands are threatened by private drainage or development pressures. In addition, Region 3 is sponsoring a manual ("Highways and Wetlands") to be used as a design guide for implementing authorized mitigating measures.

Recommendation:

DOT should promulgate engineering design standards and criteria with respect to highway construction techniques, control of surface

runoff, control of access to rights-of-way and other appropriate mitigation measures in sensitive coastal areas. These standards and criteria should be mandatory and part of the eligible project costs.

d. FHWA Administation does not have policies sufficiently specific to assure the protection of coastal resources from seconday growth impacts of highway projects.

That highway projects are stimulators of secondary development cannot be disputed. Commerce, industry and residential development tends to locate along transportation routes. That such induced development often results in greater environmental damage than the direct impacts of highway construction is also clear. However, neither DOT nor FHWA appears to have developed specific policies with respect to minimizing secondary growth in sensitive coastal areas.

For example, proposed FHWA NEPA procedures provide no guidance concerning the importance of considering secondary impacts of highway projects. DOT's NEPA directive (Order 5610.1C) states only that the EIS should contain "the effect of the proposed project on land use, development patterns, and urban growth." As noted above, FHWA and DOT procedures for implementing floodplains and wetlands executive orders require neither the consideration of alternatives nor imposition of mitigating measures to affect the effects of induced growth in sensitive coastal areas.

Recommendations:

(i) FHWA should adopt a policy of not supporting growth in environmentally sensitive coastal areas. This policy should include denial of projects in or providing access to sensitive coastal areas such as barrier islands unless the project is clearly in the national interest, no alternatives

exist, and appropriate mitigating measures, such as access restrictions, have been imposed. The agency should give priority to solving existing transportation problems and deemphasize projects that stimulate or accommodate development in or adjacent to sensitive coastal areas.

(ii) FHWA should adopt a policy of giving secondary impacts equal consideration with primary impacts in determining the significance of a proposed project.

C. Economic Development Assistance Programs
Economic Development Administration
U.S. Department of Commerce

1. Program Description

The Economic Development Administration (EDA) of the U.S. Department of Commerce provides financial and technical assistance to states, cities, counties, multi-county areas, the private sector, and Indian tribes to restore the economic health of areas burdened with high unemployment and low family income. Under the Public Works and Economic Development Act of 1965, as amended, EDA administers programs of grants and loans for public works and development facilities, business development assistance, special economic development and adjustment assistance, and planning grants to develop a capability for economic development planning. In 1976 and 1977, it administered a two round local public works program to provide immediate stimulus to the economy and increase job opportunities.

Areas submitting project proposals under EDA programs must qualify and be designated as distressed areas on the basis of high unemployment, low median income, or other measures of economic distress. Two types of areas are designated--Redevelopment Areas and Economic Development Districts (EDDs). Redevelopment Areas are counties, labor areas, or cities where employment or income figures reveal conditions of economic distress. EDDs are multi-county areas containing at least one Redevelopment Area, which must be of sufficient size and economic interdependence to plan and undertake overall economic development programs that are beyond the capacity of individual Redevelopment Areas. Redevelopment Areas and EDDs must also prepare and submit an Overall Economic Development Plan (OEDP) for approval by EDA in order to be eligible to submit project applications. Projects must be consistent with the OEDP and respond to the Area's or EDD economic and employment needs.

EDA programs encompass a wide range of investments intended to stimulate economic growth and employment. EDA projects can be small or large (several thousand to several million dollars) and range from investments with little or no environmental impact (e.g., working capital loans to existing businesses) to investments with substantial potential impacts (e.g., roads, water and sewer systems, industrial parks, port facilities, convention centers and industrial facilities). When located in coastal areas, these projects can have impacts due to their size, design and siting, and their capacity to stimulate growth in sensitive areas. During the period 10/01/76 through 3/31/80, EDA spent $3.286 billion in coastal counties, of which $2.688 billion came from the local public works program and $598 million from EDA's continuing economic development programs.

EDA programs most likely to affect coastal areas include:

a. Local Public Works

The Local Public Works (LPW) program was directed at providing an immediate stimulus to the economy; increased job opportunities; and needed public facilities. The program originated in July, 1976, with the enactment of legislation authorizing a $2 billion countercyclical public works program. The Local Public Works Capital Development and Investment Act of 1976, which provided 100 percent Federal grants for state and local public works projects, was implemented by EDA during the first two quarters of FY 1977. In accordance with its countercyclical objective, the legislation authorizing the program required a decision on each project application within 60 days of its submission and further mandated that projects were to be under construction within 90 days of their approval.

In early May 1977 Congress passed and the President signed the Public Works Employment Act of 1977, which authorized a $4 billion second phase LPW program (LPW II), and the Economic Stimulus Appropriations Act, which appropriated $4 billion to carry out the program. Eligible projects included the construction of public works facilities, including water and sewer lines, streets and roads, recreational facilities, convention centers, civic centers and other public facilities, and the transportation and provision of water to drought-stricken areas. By September 30, 1977, EDA had approved 8,555 LPW II projects [1] of which 3,718 projects, totalling $2.688 billion, were in coastal counties.

A third phase LPW program is proposed in the House version of EDA's new legislation, the National Public Works and Economic Development Act of 1979, which is currently in conference with the Senate.

b. Public Works and Development Facilities Program

EDA's public works program provides grants and loans to acquire and develop land and to acquire, construct, rehabilitate, alter, expand, or improve facilities, including related machinery and equipment, needed to attract new industry and encourage business expansion.

Eligible projects in designated areas may receive grants of up to 50% of total eligible project costs for such public facilities as water and sewer systems; industrial parks, including related utilities, streets and access roads; port facilities; regional airports; public tourism facilities; skill centers; flood control projects; and other facilities to stimulate economic development. Eligible projects in severely depressed areas may receive additional assistance in the form of supplementary grants to augment

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1/ Local Public Works Program Status Report, U.S. Department of Commerce, Economic Development Administration, January 1978, page 30.

basic grants from EDA or from other Federal agencies when applicants are unable to supply the required local share. The combined Federal grant may not exceed the maximum grant rate that EDA has established for the area in which the project is located.

Loans may also be made for public works and development facilities projects. Loans may pay the full cost of a project and may run for as long as 40 years, at an interest rate determined by government borrowing costs. However, none of the EDA officials interviewed could recall an instance where EDA's loan authority has been used in the past 8-10 years.

c. Business Development Assistance Program

This program provides loans, loan guarantees and interest subsidies to encourage business expansion and, thereby, increase employment, increase incomes, and diversify local economies. Assistance may be used to enable applicants to purchase, develop or lease commercial or industrial land and facilities, and to provide working capital.

d. Special Economic Development and Adjustment Assistance Program (Title IX).

Title IX, a 1974 amendment to the Public Works and Economic Development Act, created a special program to assist areas experiencing Sudden and Severe Economic Dislocation (SSED) or Long-Term Economic Deterioriation (LTED).

The SSED program is designed to assist areas that have experienced, or are about to experience, a special economic development need. This need may arise from actual or threatened severe unemployment caused by economic dislocation, including unemployment caused by actions of the Federal government or by compliance with Federal regulations, or

from economic adjustment problems resulting from severe changes in economic conditions, such as the closing of a major source of work.

The LTED program is designed to assist areas that have demonstrated long-term economic deterioration in their local economic base which contributes to the out-migration of economic activity and results in a decrease in employment opportunities.

To qualify for either form of assistance under these programs eligible recipients must prepare an economic adjustment plan, either on their own or with a planning grant from EDA. When the adjustment plan has been approved, EDA may make an adjustment grant to implement the plan. The grant may be used for "public facilities, business development, planning, research, technical assistance, public services, rent supplements, mortage payment assistance, relocation of business or individuals, training or other assistance which demonstrably furthers the economic adjustment objectives of this part."

e. Planning Programs

EDA's planning programs are designed to develop state and local capability for economic development planning. There are two basic programs. The State and Urban Planning Program provides grants to strengthen the economic development planning capacity of states, cities, and other eligible sub-state entities. The Economic Development District (EDD)/ Redevelopment Area Planning Program funds preparation and revision of Overall Economic Development Plans (OEDPs), which are required as a condition of designation and eligibility for EDA public and private sector investment funding.

Professional Services and Incentives Grants supplement EDD planning programs. Professional Services grants provide funds to allow

EDDs to provide assistance to their local governments in such areas as export development, city management, basic engineering, and energy conservation. Incentive grants provide funds to allow EDDs to address special planning needs, such as developing economic diversification and industrial development strategies.

EDA is sponsoring a demonstration effort to develop Comprehensive Economic Development Strategies (CEDS). A CEDS is based on the OEDP, but provides greater detail and specificity. It is intended to describe an area's multi-year economic investment strategy. The purpose of CEDS is to provide a better link between an area's Overall Economic Development Plan and specific project investments. In addition, and partly based on the CEDS experience, EDA is revising the entire OEDP documentation system to make the OEDP more useful in investment decisionmaking.

EDA administers its programs through six regional offices and Economic Development Representatives (EDRs) in each state. The EDR works with community representatives to develop an OEDP. Once an area is designated as a Redevelopment Area or Economic Development District, the EDR works with the area on a continuing basis to develop programs and projects consistent with the goals and objectives of the OEDP. Project proposals are processed in the Regional Offices. Funding decisions are made by the Regional Director on the basis of recommendations by the EDR and the Regional Office Project Review Committee.

EDA's environmental policies and procedures are contained in its proposed NEPA directive, issued June 17, 1980 in the Federal Register, and an August 2, 1979 directive implementing the Executive Orders on Floodplain Management and Wetlands Protection. The policy contained in the NEPA

directive is procedural and general, stating that "it is the policy of EDA to assure, through the procedures set forth in this Directive, that proper environmental review of program activities takes place, that there is a proper balance between the goals of economic development and environmental enhancement and that adverse environmental impacts are mitigated or avoided to the extent possible." In contrast EDA's directive implementing the Executive Orders states that it is EDA's policy to "avoid, to the extent practicable, the long and short term impacts associated with the modification and occupancy of floodplains and wetlands; avoid, to the extent practicable, direct and indirect impacts on floodplain and wetland values and functions; promote the use of non-structural flood protection methods to reduce the risk of flood loss; minimize the impact of floods on human health, safety and welfare; restore and preserve the natural and beneficial values and functions of floodplains and wetlands; and incorporate the Unified National Program for Floodplain Management into its decisionmaking process." In carrying out these policies, the directive states that EDA "shall not participate, either partially or wholly, in any action that would impact a floodplain or wetland unless the Agency determines that no practicable alternative exists to the action," "...shall give primary emphasis to locating actions outside the floodplain or wetland," "...shall explicitly consider the no action alternative," "...shall insure that the proposed action is the practicable alternative which minimizes impacts on the natural values and functions of floodplains and wetlands and that all practicable mitigation measures are incorporated into the action" and "...shall continuously monitor the action to ensure that the action and its mitigation measures are carried out in accordance with the Agency's findings and recommentations."

Environmental assessments of projects are made by the Regional Environmentalist based, in some cases, on a preliminary environmental review prepared by the applicant at the request of the EDR. The procedures according to which the reviews are made are determined by the project's potential to affect floodplains or wetlands. The floodplains/wetlands directive applies to projects in or affecting floodplains or wetlands, except "when the Regional Environmentalist determines that the locational impact is minor to the extent that floodplain values and functions...are not affected." For projects not in or affecting floodplains or wetlands, or to which the above exception has been applied, the only procedures contained in the NEPA directive are used. Based on the environmental assessment, the Regional Environmentalist makes a recommendation to the Regional Director concerning whether the project has potential for significantly affecting the quality of the human environment and, hence, requires an environmental impact statement. The Regional Director makes the environmental impact determination.

2. Conclusions and Recommendations

In a letter to the Assistant Secretary for Economic Development dated July 5, 1979, the Council on Environmental Quality expressed concern over "a number of serious problems with past and current environmental policies and management within EDA." CEQ noted in particular the "need for EDA to develop strong NEPA implementing procedures," the "lack of clear policy guidance, inadequate environmental assessments and environmental impact statements, insufficient attention to comments from agencies (such as EPA) and the public," the "illegal manner in which EDA is handling the environmental reviews of the Section 204 and Title IX revolving funds," and EDA's "minimal environmental staff." According to CEQ, these problems were

amplified by the "Administration's desire to expand economic development programs under the proposed National Public Works and Economic Development Act." While praising EDA's excellent procedures implementing the Executive Orders on Floodplain Management and Wetlands Protection and EDA's "helpful participation in the environmental review handbook for water and sewer agencies," the Council was concerned that "EDA faces some of the most varied and difficult environmental reviews of any agency, yet EDA is one of the least equipped to handle them."

This review has found that EDA's environmental program has not significantly improved since the CEQ letter.

a. Although EDA's environmental staff has been increased from 3 to 4 in Headquarters and from 6 to 9 in the regions, minimal environmental staffing and resources are still the most basic impediments to achieving the President's coastal protection goals.

The present environmental staff consists of a Special Assistant for the Environment, with a staff of three professional positions (two of which are vacant), and nine regional environmental staff members. The nine regional staff members are divided among six regions, making for one and two person offices. For example, the environmental staff of the Philadelphia Regional Office consists of one person who is responsible for environmental reviews of all EDA projects in 13 states, Puerto Rico and the U.S. Virgin Islands. His workload included 47 public works projects last year, totalling $53 million, and $56 million in public works projects in the first two quarters of this year. He estimates that the number of business development assistance, Title IX and planning and technical assistance grants reviewed is three to four times the number of public works projects.

The Special Assistant's staff is similarly limited. While it has commendable plans for preparing a handbook on how to conduct environmental reviews, and instituting a program of monitoring and audit of the environmental review process, these measures cannot be implemented without additional staff.

Funds for travel and preparation of environmental impact statements (EISs) are also greatly restricted. Site visits are seldom approved unless a controversy already exists. Very limited funding is available for EISs. As a result, of the more than 15,000 projects funded since 1965, EDA has prepared only 42 EISs.

Thus, even though EDA now has strong policies and procedures for evaluating projects located in or affecting floodplains or wetlands, it does not have the resources to assure their implementation. Although some of the regional environmental staffs appear to be quite effective in relation to their small size and available resources, overall regional environmental staffing and resources are inadequate to carry out an effective environmental review of EDA's programs.

Recommendations:

(i). The Assistant Secretary for Economic Development should be directed to evaluate EDA's environmental staffing pattern in the headquarters and regional offices and report promptly to the Secretary of Commerce on the minimum numbers and types of additional environmental personnel needed to carry out adequately the environmental functions of existing programs. The Assistant Secretary's report should describe as well how EDA proposes to implement its recommendations.

(ii). EDA should be directed to budget for funds adequate to support its environmental program, including regional travel budgets for visits to

project sites, and funds for preparation of EISs.

b. EDA's proposed NEPA procedures are inadequate.

EDA recently published its revised NEPA procedures, as required by CEQ's July 30, 1979 regulations. In general, these procedures provide less guidance than the 1976 directive they replace.

A review of the revised directive implementing NEPA reveals a number of deficiences. First, as noted earlier, the directive contains virtually no expression of substantive agency policy to guide review and decision-making on environmental issues in general or protection of significant coastal resources in particular. In the absence of such policies, EDA has funded projects with significant adverse environmental impacts. For example, in late 1978, EDA funded a $4.5 million project to construct a 237 berth marina on Woodley Island in Humboldt Bay, California. This decision followed a supplemental EIS which examined the project's environmental impacts, including the destruction of wetlands, and concluded that "the Humboldt Bay Harbor, Recreation and Conservation district's proposed Woodley Island marina would convert approximately 25 percent of Woodley Island from open space/wildlife habitat to a public marina in support of the region's commercial fishing industry. The proposed change in land use requires the immediate destruction of several environmentally sensitive habitats in support of a facility whose merits have been questioned by several parties on both ecological and economic grounds. HBHRCD and the San Francisco District (of the Corps of Engineers) rejected several alternative sites which appear to provide similar or greater economic benefit without the adverse ecological impacts associated with the Woodley Island marina."

Second, EDA proposes to exclude categorically projects funded under Section 204/Title IX (Revolving Loan Funds) and grants to states under

Section 304. Revolving loan funds may be established to implement an area's economic adjustment strategy under Title IX. When this is done, the grantee develops eligibility criteria and processing procedures, including procedures for environmental review. The loan approval procedures are usually incorporated as conditions of the grant. However, the grantee, not EDA, is responsible for approving projects that will receive loans from the fund. As a result, decisions on individual projects are not subject to NEPA or the Floodplains and Wetlands Executive Orders. The proposed exclusion would continue this practice. Up to now, projects funded through Section 304 grants to states have been individually reviewed by EDA. If excluded, they, like the revolving loan fund projects, would not be subject to NEPA or the Floodplains and Wetlands Executive Orders.

Third, although the guidelines for determining significant environmental impacts have been made more precise, they relate only to the direct effects of the project and do not mention secondary or cumulative impacts. Yet interviews with EDA officials indicate that these secondary and cumulative impacts form the basis for the problems and controversies that have led to the preparation of most of EDA's EISs.

Fourth, the directive contains virtually no guidance for evaluating projects or their impacts. Its only guidance on the natural resource values that need to be addressed in the impact identification process is a fifteen question checklist. It does not require identification of alternatives to proposed actions that will affect these resources adversely, nor does it describe the factors and methodologies to be used in evaluating and comparing the alternatives that have been identified. The only requirement for mitigation is contained in the overall policy statement, which says it is EDA policy "to assure...that adverse environmental impacts are mitigated or avoided to the extent possible." The directive provides no guidance on when mitigation will be required or how it will be achieved.

The general guidance on these matters that was contained in the Appendices to the old NEPA directive apparently has been deleted.

Finally, EDA has not established procedures for coordination and consultation with state coastal zone management programs or for complying with the Section 307 consistency requirement of the Coastal Zone Management Act.

Recommendations:

(i). EDA should be directed to amend its proposed NEPA procedures to:

(a). provide substantive policies for protecting coastal resources,

(b). remove revolving loan funds and Section 304 grants to states from its list of categorical exclusions,

(c). require that secondary and cumulative impacts of projects be assessed,

(d). require that alternatives be identified and evaluated for projects with adverse environmental impacts, including secondary and cumulative impacts,

(e). establish standards for mitigating unavoidable adverse impacts, and

(f). establish a specific procedure for coordinating with state coastal zone management agencies on coastal projects and for complying with the Federal consistency requirement of the Coastal Zone Management Act.

(ii). EDA should be directed to develop an environmental review handbook containing detailed guidance on the natural resource values that need to be addressed in the impact identification process, the assessment of secondary and cumulative impacts, the identification and evaluation of alternatives, and the measures that may be used to mitigate unavoidable

adverse impacts. The handbook should also identify sources and processes for obtaining data necessary to perform the impact assessment.

c. EDA's post-construction monitoring does not assure compliance with required mitigation measures.

As noted, EDA's directive implementing the Floodplain Management and Wetlands Protection Executive Orders requires continuous monitoring of projects that impact floodplains and wetlands values and functions to ensure that mitigation measures are carried out effectively. However, no guidance on has been provided how this should be done. If the mitigation measures can be implemented prior to the final disbursement of grant funds, they can be monitored by EDA's construction management staff. However, if implementation is of longer duration or involves a continuing commitment (such as restricting hookups to water and sewer systems from floodplains or wetlands), EDA has no mechanism for assuring that the mitigation is achieved.

An illustration of this problem is the Tampa Port Authority Shrimp Fleet Relocation Project. This $3 million project involved relocating shrimp fleet suppliers and processors to a site separated only by a causeway from an undeveloped bay with good quality wetlands. EDA has attempted to prevent the Port Authority from encroaching on this area by conditioning its approval of the grant on passage of a Resolution by the Authority indicating its intent to preserve the area in an undeveloped state. Such a resolution was passed. However, EDA has no procedures or mechanism for monitoring compliance with its terms or taking action if the terms are violated.

Recommenation

EDA should be directed to establish a specific procedure for monitoring and enforcement of compliance with grant conditions, especially in sensitive

coastal areas. This procedure could involve a cooperative arrangement with state coastal zone management agencies for monitoring long-term or continuing mitigation measures.

d. As currently conceived, a third round local public works program carries the potential for significant harm to coastal resources.

A third round LPW program is proposed in the House version of the National Public Works and Economic Development Act (H.R. 2063), containing the same 60-day processing time limits as LPW I and LPW II. Many LPW projects cannot be reviewed adequately within 60 days because of their substantial environmental consequences. For example, one of the projects approved during LPW II was a $1.25 million grant to the Port of Camas-Washougal, Washington, for expansion of its industrial park. The proposed site consisted of 140 acres next to the existing industrial park and bounded by lowlands and wetlands associated with Gribbons Creek and the former Steigerwald Lake. Port Authority plans indicated that the project was a first step in the overall development of the area, all of which, including the floodplain and wetlands, was zoned industrial. Because of local controversy that arose after the grant was approved, the project ws halted while EDA prepared an EIS. The final EIS, issued March 11, 1980, concluded that "full development of the project area would seriously compromise its ecological integrity..." Because EDA was unable to assure that the proposed project would not lead to unnecessary development within the adjacent floodplain and wetlands, it funded an alternative project.

The Camas-Washougal project was an exception. While it received a full environmental evaluation, most LPW projects did not. For example, EDA approved a project for a $3 million municipal marina on Biscayne Bay near

Miami Beach, consisting of twelve 300' finger piers, a 340' fuel dock, a 330' concrete dock, and a 450' bridge, occupying 1.6 million square feet of shoreline and creating 432 boat slips. In Titusville, Florida, EDA approved a $1.7 million project for public improvements involving construction of water and sewer facilities, storm drainage facilities, and sidewalks in a neighborhood along Indian River on the Florida east coast. In both cases, the environmental review consisted of a short applicant's assessment and a one page checklist on which the EDA reviewer checked off the project's compliance with NEPA, the Clean Air and Water Acts, the National Historic Preservation Act, the Historic and Archaeological Data Preservation Act, the Wild and Scenic Rivers Act, Endangered Species Act, and Section 106(a) of the Local Public Works Capital Development and Investment Act, which prohibited projects whose principal purpose was the channelization, damming, diversion or dredging of natural waterways.

Because of the 60 day processing time constraint, this type of environmental assessment was the standard practice. Except in unusual circumstances, if a project appeared to have the potential for significantly affecting the quality of the environment, the only recourse was to deny it. Experience with LPW I and LPW II indicates that officials were reluctant to take this severe action. (While 8,555 projects were approved during LPW I and LPW II, only a handful were denied.) Thus, clear policies that identify in advance the kinds of projects that can be considered -- or more importantly those than cannot -- are essential environmental protection tools. Neither the proposed legislation nor EDA plans to implement the legislation now contain such policies.

Recommendations:

(i). EDA should be directed to develop internal policies to encourage environmentally sound LPW proposals. These could include:

- encouraging smaller scale systems and facilities to accommodate existing residents;
- encouraging projects that rehabilitate, renovate, and adaptively reuse existing structures and systems;
- encouraging the siting of proposed facilities so that they can be served by existing infrastructure;
- discouraging projects which involve environmentally destructive activities such as stream channelization and dredging;
- discouraging projects which affect critical habitat for endangered or threatened species, designated historic and cultural sites, and land and water resources designated as important by state and local agencies, including the state coastal zone management program, and
- not funding growth-inducing infrastructure in sensitive coastal areas.

(ii). EDA should be directed to develop a procedure for complying with the Coastal Zone Management Act in its processing of LPW proposals. The procedure should require clearance from the appropriate state agency administering an approved state coastal zone management program of all LPW proposals for projects to be located in the state's coastal zone. This clearance should be a prerequisite for filing an application.

e. Coastal resource protection policies are not incorporated in EDA's planning guidance.

As noted above, EDA's planning programs are designed to be the key to individual project selection. EDA's regulations governing these programs, however, provide no guidance on how to incorporate consideration of natural resource impacts into local plans.

The regulations for the State and Urban Planning Program require that State Planning shall "support sound land use" and "enhance and protect

the environment." However, these requirements have not been carried over into agency guidelines and review criteria, and there is no requirement for urban planning to consider these factors. Similarly, EDA's guidelines for the preparation of Redevelopment Area and EDD Overall Economic Development Plans (OEDPs) contains one paragraph on environmental considerations which states only that "...environmental considerations will be incorporated into the Grantee work programs consistent with the provisions of the National Environmental Policy Act of 1969." Although the EDD OEDP Guide suggests consultation between EDDs in the coastal zone and the state coastal zone management program, no procedure is specified as to how the Coastal Zone Management Act's consistency requirement is to be incorporated into planning and project development.

EDA's floodplains and wetlands directive encourages "each grantee receiving assistance under these programs to initiate a process to identify floodplains and wetlands within its planning jurisdiction or study area," and states that "the program office shall condition (planning) grants to require all grantees to identify the location and extent of floodplains and wetlands within the planning area based on published data in order to initiate a data base and to consider the impacts of the plan on floodplain and wetland values and functions." However, these requirements have not been incorporated into the planning guidelines and apparently the condition has not yet been applied to new planning grants.

Review and approval of State/Urban Annual Reports, OEDPs, and revised OEDPs are functions of the regional offices. Regional office reviews are conducted in accordance with extremely general guidance. Specific review criteria, including criteria for evaluating the consideration of

coastal resource impacts, are absent. Because of critical environmental staff shortages in the regions, environmental reviews appear to be minimal. Actions to approve economic development plans are not considered subject to NEPA and actions to approve planning grants are proposed as a categorical exclusion under EDA's proposed NEPA regulations.

Economic development plans are critical determinants of subsequent investment decisions. Good environmental guidance and review at the plan approval stage would result in early identification and resolution of problems by the planning agency, would reduce the potential for project specific problems and conflicts, and would maximize achievement of Federal coastal protection goals. EDA's revision of its OEDP documentation system provides a timely opportunity to integrate the goal of protecting coastal resources into both the guidance and review criteria.

Recommendation:

(i). EDA should integrate the goal of protecting coastal resources into its OEDP and state/urban planning documentation systems by:

(a). Preparing substantive standards and guidance on the decision-making process through which protection of coastal resources can be achieved, including substantive policies regarding new development in sensitive coastal areas, and guidance on impact identification, consideration of alternatives, consideration of secondary and cumulative impacts, mitigation measures, and public involvement.

(b). Developing EDA review criteria that incorporate the above factors. This should include a review and projection by the Regional Environmentalist of the overall environmental impacts of the plans.

(c). Requiring that plans in coastal areas be coordinated with the state coastal zone management programs.

(d). Informing applicants that Professional Services and Incentives Grants may be used to assist them in obtaining the expertise to inventory coastal resources and evaluate the impacts of their plans on sensitive coastal areas.

D. Coastal Energy Impact Program
National Oceanic and Atmospheric Administration
Department of Commerce

1. Program Description The Coastal Energy Impact Program (CEIP) was established in 1976 under Section 308 of the Coastal Zone Management Act (CZMA) to mitigate or prevent adverse environmental, social, and economic impacts in the coastal zone caused by coastal and offshore energy development. To accomplish this purpose the CEIP provides financial assistance in the form of grants and loans to states and local governments for planning, public facility construction, and environmental protection projects.

Funds appropriated to the CEIP are allotted to eligible coastal states in accordance with formulas specified in CEIP regulations. Only those states developing coastal management programs that are found by NOAA to be consistent with the policies of the CZMA are eligible for CEIP assistance In the period from FY 1977 through FY 1979 NOAA obligated over $135 million for infrastructure projects in coastal areas.

Section 308 (g)(2) requires that CEIP funds allotted to a state be allocated among units of local government "to the maximum extent practicable" on the basis of "need". CEIP regulations require states to accomplish this allocation by a NOAA approved intra-state allocation process. The intra-state allocation process is also used to determine the priority of funding projects.

Project specific applications are submitted to NOAA after undergoing review through state clearinghouses -- the so called A-95 review. No funds are awarded unless the designated state coastal management agency certifies that the project is consistent with the state's developing or

approved coastal management plan. Upon receipt of the project application, NOAA reviews the proposed project for eligibility according to criteria established by Section 308 and CEIP regulations. In general, a project to construct a public facility is eligible if a causal connection can be established between the need for the proposed project and an impact generated by some form of coastal energy activity.

The award of CEIP funds is subject to NEPA, the Floodplain and Wetlands Executive Orders, and all other applicable federal environmental requirements. CEIP does not have specific policies for conditioning financial assistance to mitigate adverse impacts on coastal resources. Environmental assessment information for each proposed project is prepared by an applicant in accordance with CEIP Environmental Guidelines. These guidelines describe the type of information that an applicant must submit to assist NOAA in determining the environmental impacts of a proposed project. Where the proposed project involves another agency as the lead (e.g., a project which requires a COE permit) NOAA generally relies on the environmental findings prepared by the lead agency. However, NOAA reviews the lead agency's decision to determine whether it is reasonable. Environmental documents are prepared by the CEIP office and reviewed by NOAA and DOC before a final decision is made.

2. Conclusions and Recommendations

a. National coastal protection policies are not required to be during considered during the State project selection process.

As noted above, the state must distribute alloted funds among eligible applicants in accordance with its federally approved intrastate

allocation process. CEIP regulations (15 CFR 931.111) state that the objective of the intra-state allocation process is to distribute CEIP assistance "in amounts which are proportional to need and in a manner which is equitable and expeditious." The form of the allocation process that a state must use depends on the amount of assistance allotted to the state. States that receive in a fiscal year an allotment of $1 million or more in grants must develop a so-called "A" process for that fiscal year's allotment (including any allotted loan funds). States that receive an allotment of less than $1 million in grants must comply with the so-called "B" process for that fiscal year's allotment. U.S. Territories are exempt from the requirement to develop an intra-state allocation process.

The "A" process requires states to "evaluate and select projects" based on criteria which include "protection of the environment" (15 CFR 931.112 (a)(3)). CEIP regulations, however, present no further guidance with respect to the environmental protection policies that should be reflected in the intra-state allocation process. The "B" process requires states to submit along with applications for CEIP assistance a process which describes the "methods used to evaluate and select projects and to allocate financial assistance." As of June 1980, 14 states have approved "A" process, and 15 states have approved "B" processes.

The degree to which environmental concerns have been integrated into state prioritization processes has varied. For example, Louisiana, an "A" state, prioritizes public facility projects according to the following scheme:

(1) Immediacy of impacts (20 points);

(2) Effect on population (20 points)

(3) Fiscal capacity of the locality (10 points)

(4) Consistency with CZM program (10 points)

(5) Consistency with regional and local plans (10 points)

(6) Environmental impacts. (20 points)

With respect to environmental impacts, the Louisiana process provides:

> "f. Environmental Impact: Protection of the environment is an important consideration under CEIP. This factor is an indication of the potential impact of the public facility/service on the community and regional environment. The highest points would be assigned for projects that have minimal effect, themselves, on the community as determined by the environmental impact assessment or that had beneficial effects on existing conditions (e.g., a sewage treatment plant that improves water quality). A major impact on the environment would receive no points and will be returned to the applicant for reconsideration of the project."

Maryland, a "B" state, prioritizes projects according to the following criteria:

(a) Urgency or immediacy of need;

(b) potential severity of economic and environmental impact;

(c) area of impact;

With respect to environmental impacts, the Maryland process provides the following:

> "Environmental and safety impact will be considered as severe, moderate, or low, based on existing studies of the impact of similar facilities, and available data on the site. Information generated by the Maryland Major Facilities Study, the OCS Facilities Factbook, the Maryland Upland Natural Areas Study, the Wetlands Vegetation Mapping Study, land use information supplied by the local jurisdiction and the Department of State Planning and information available from other appropriate sources will be used.

Although both states require environmental considerations to enter into the prioritization process, the guidance provided is too general to

assure the full protection of coastal resources. The lack of specific policies for protecting coastal resources may account, in part, for the fact that $135 million has been expended for infrastructure projects while only 9 million dollars has been expended for environmental protection projects.

Recommmendation:

CEIP should incorporate specific policies for protecting significant coastal resources into the intra-state allocation process and loan project selection so that projects with adverse effects on coastal resources receive lower priority than projects with no adverse coastal effects.

b. CEIP legislation may impede achievement of national coastal protection goals.

Section 308(b)(5)(B) prohibits NOAA from disapproving "any project or program for highways and secondary roads, docks, navigation aids, fire and police protection, water supply, waste collection and treatment (including drainage), schools and education, and hospitals and health care"--projects frequently associated with substantial secondary impacts. In addition, Section 308 (i) prohibits the NOAA from interceding "in any land use or water use decision of any coastal state with respect to siting of any energy facility or public facility by making siting in a particular location a prerequisite to, or a condition of" CEIP financial assistance.

The impact of these provisions on coastal resource protection is not clear. A flat prohibition against denying projects that cause unwarranted environmental damage or subject a Federal investment to unwarranted risk of flood loss would be clearly contrary to Federal coastal resource protection goals. However, it is unclear to what extent these provisions prevent NOAA from applying the policies of the Floodplains and Wetlands Executive Orders in particular cases. Indeed, this very ambiguity appears to be hampering the CEIP in exercising its responsibility to protect

coastal resources.

Recommendations:

The Administration should seek to amend Section 308 of the CZMA by deleting any restrictions on NOAA's authority to condition financial assistance to site public facilities out of sensitive coastal areas, to modify substantially such projects when necessary, and to impose appropriate mitigating measures.

c. CEIP does not have coastal resource protection policies sufficiently specific to assure protection of coastal resources.

CEIP regulations, explicit goals fo the CEIP are:

- to preserve and enhance the Nation's valuable coastal recreational and environmental resources; and
- to advance the National objective of obtaining a greater degree of energy self-sufficiency by encouraging the rational and timely development of domestic coastal energy resources and energy resource transportation systems.

Conflicts between these goals, when they arise, are resolved by balancing:

> "CEIP will be administered in a manner that will strike a balance between the major national goals of obtaining a greater degree of energy, self-sufficiency, and protecting the coastal environment."

However, there is little written policy guidance as to how the balancing will be carried out. Although a major purpose of the CEIP is to prevent or reduce environmental damage, CEIP regulations provide no criteria for deciding when an application for a project that could damage the environment while accomplishing some social or economic goal will be denied. As a result, projects are frequently approved without evidence of careful balancing. For example, CEIP recently approved a $1.4 million grant to

fund the transportation of dredge spoil in connection with a flood control project. The proposed project involved the dredging of a drainage ditch and the destruction of "11 acres of highly productive tidal marsh, 11 acres of shallow benthic habitat and a 1.5 acre oyster reef." According to the environmental analysis, the proposed project was approved because the no action alternative would "increase the risk of flooding upstream." The assessment provides little evidence of "balancing" competing values.

Environmental review procedures embodied in CEIP regulations are very general and provide little policy guidance for either the applicant or the decisionmaker. The regulations provide that NOAA "will consider the environmental consequence of each proposed use of CEIP funds, "before awarding financial assistance." The regulations provide no further guidance for protecting significant coastal resources. NOAA Directive 02-10 implementing the National Environmental Policy Act (NEPA) is entirely concerned with procedure -- it provides no substantive guidance for protecting coastal resources. CEIP guidelines for preparing environmental assessments contain general policies for protecting wetlands and floodplains but lack the specificity needed to assure that coastal resources will be fully protected. NOAA has issued a directive implementing the floodplains and wetlands executive orders which require NOAA to avoid floodplains and wetlands when practicable and to implement practicable measures to mitigate adverse environmental impacts. However, the NOAA directive has just recently been implemented and its impact on CEIP procedures cannot yet be fully evaluated. In addition, the NOAA procedures suffer from a lack of specificity that may inhibit their effectiveness in protecting coastal resources.

The general absence of environmental protection policies may, in part, account for the criticism leveled at the CEIP by the Deputy Assistant

Secretary for Environmental Affairs of the Department of Commerce (November 2, 1979), that CEIP environmental documentation was of "poor quality."

RECOMMENDATION:

(i) NOAA should develop and implement specific policies and criteria to prevent or minimize direct and indirect impacts to coastal resources that may result from CEIP public facility projects. Included should be policies with respect to conditioning of financial assistance to mitigate adverse impacts.

(ii) NOAA should update and reissue the CEIP Environmental Guidelines. In addition to providing guidance on the preparation of environmental assessment information, these Guidelines should present potential applicants with a clear statement of CEIP coastal protection policy.

(iii) NOAA should develop specific policies with respect to minimizing the secondary impacts on significant coastal resources that may result from CEIP infrastructure projects. Included should be policies requiring the conditioning of grants to assure that mitigation measures are carried out, as well as policies against funding projects which support development in or affecting sensitive coastal areas. For example, grants to construct water supply projects should be conditioned to prohibit new hook-ups located in floodplains, wetlands, and other vulnerable coastal areas.

d. CEIP does not have specific policies for conditioning financial assistance to mitigate adverse impacts on coastal resources.

Neither CEIP regulations nor CEIP environmental review guidelines contain any specific policies for conditioning financial assistance to mitigate adverse impacts on coastal resources. As a result, for example, the Velasco Drainage District Project noted above involved dredging

approximately 320,000 cubic yards of clay and sand adjacent to property used by the Dow Chemical Corporation to dispose of waste materials including chlorinated hydrocarbons, asbestos, magnesium cell sludge, plant trash, and miscellaneous barrel wastes. The environmental assessment indicated a concern over resuspending toxic wastes during the dredging and recommended awarding the grant for the project as proposed contingent on the applicant's supplying the CEIP office with a chemcial analysis of dredge spoil. It is not clear whether the recommended condition as stated could have been used to protect coastal resources if the chemical analysis revealed the presence of toxic substances. In any case, the issue is moot because the special condition was not attached to the grant award.

As a general rule, NOAA has not attached grant conditions that would minimize growth in sensitive coastal areas. A notable exception involves the Gulf Shores Waterline project. The award for that project was subject to conditions to minimize growth in an area that was environmentally sensitive and was recently devastated by Hurricane Frederick.

In addition, NOAA does not have specific policies or procedures for monitoring the post-construction impacts on coastal resources of CEIP funded projects. As indicated elsewhere in this report, absent such monitoring compliance with mitigating measures cannot be assured and the effectiveness of such measures cannot be assessed.

RECOMMENDATION:

(i) CEIP should adopt a policy of conditioning grants to mitigate adverse impacts on coastal resources.

(ii) CEIP should adopt a policy and procedures for monitoring the post-construction effects of infrastructure projects and adherence to imposed mitigating conditions.

E. The Civil Works Program of the Army Corps of Engineers
U.S. Army Corps of Engineers

1. Program Description

The Department of the Army and the Corps of Engineers are charged by Congress with the major Federal program of water resources development. The Corps responsibility began with an Act of Congress in 1824 for the improvement of rivers and harbors for navigation. Subsequent legislation has expanded the basis for Corps participation in water management to encompass navigation, flood control, beach erosion control, hurricane protection, stream bank erosion control, hydroelectric power, recreation, water supply and quality management, fish and wildlife conservation, wetlands conservation, and aquatic plant control.

House Public Works and Transportation and Senate Environment and Public Works Committee resolutions and specific legislation provide basic authorization for feasibility studies by the Corps. Generally, water resource development projects recommended to the Congress in response to study authorizations may not be implemented without specific authorization in law. The majority of the Corps water resource projects fall into this category. In addition, Congress has delegated continuing authority to the Secretary of the Army for construction of certain small projects for navigation, flood control, beach erosion control, and stream bank protection that meet specified criteria.

The Corps data base is not organized to allow a break out of obligations by coastal county. However, it does contain data by major project type. In FY 1979, the Corps obligated $1.392 billion in coastal states for channel and harbor navigation, flood control, and beach erosion control projects --

projects generally agreed by commentors during the review to have the greatest potential to impact coastal areas adversely.

Decentralization through delegation of authority is a basic tenet of the Corps organization and structure. U.S. Army Engineer Districts are the principal planning and project implementation offices, with responsibility for conducting planning investigations, post-authorization studies, and engineering designs; constructing civil works facilities; and operating and maintaining projects that have been legislatively determined to be Federal responsibilities.

All Corps of Engineers pre- and post-authorization planning is carried out according to the Water Resources Council's Principles and Standards for Planning Water and Related Land Resources. The Principles and Standards (P&S) establish a formal planning process which involves identification of objectives, determination of technical feasibility, identification of alternative plans -- including one which maximizes national economic development (NED) objectives and one which maximizes environmental quality (EQ) objectives -- analysis of the tradeoffs among the alternatives, and recommendation of the preferred alternative.

A System of Accounts is used to display "the significant beneficial and adverse impacts of alternative plans for the purpose of tradeoff analysis and decisionmaking." Four accounts are used -- NED, EQ, Regional Economic Development (RED), and Other Social Effects (OSE). The contents of RED and OSE are "benefits traditionally termed intangible under existing practice." Alternatives are evaluated by establishing their contributions to the planning objectives and the four accounts.

Selection of the preferred alternative is made according to the Net Benefits Rule, which provides that a recommended plan must be justified on

the basis that combined beneficial effects outweigh combined adverse effects. Only NED and EQ effects are considered in applying the Rule.

Study reports are prepared at the District level and are reviewed by the Division Engineer and, in the case of Congressionally authorized projects, by the Board of Engineers for Rivers and Harbors or the Mississippi River Commission prior to transmittal to the Chief of Engineers. For projects under continuing authorities, approval by the Chief of Engineers constitutes project authorization. For Congressionally authorized projects, the report is transmitted to the Secretary of the Army, then to OMB, and then to the Congress, which must authorize construction and appropriate funds.

Provisions for public involvement and interagency coordination in the planning process are many. When a study is initiated, public notice is sent to persons known to be interested and one or more public meetings are held as means of fostering public involvement. At the Headquarters level, coordination is accomplished by the Chief of Engineers through the transmittal of the proposed report, including an environmental impact statement, to the affected states and Federal departments for their review and comments. Letters expressing the views of Federal, state and local agencies are included in the study report and transmitted to the Congress along with the report of the Chief of Engineers.

The principal environmental review and consultation requirements applicable to all Corps civil works projects are listed in its proposed NEPA procedures. (44 FR 127, 6/29/79, Section 230.25). Procedures for coordinating its planning with state coastal zone management programs and complying with the Section 307 consistency requirement are contained in these NEPA regulations.

Expressions of Corps water resources policy are contained in its proposed NEPA procedures, its final procedures implementing the Floodplains Executive Order (44 FR 95, 5/15/79), its proposed regulations implementing the Wetlands

Executive Order (45 FR 113, 6/10/80), its regulations (40 FR 217, 11/10/75, updated in 44 FR 104, 5/29/79) and internal guidelines implementing the Principles and Standards, and a variety of other regulations, manuals, technical letters and memoranda. All but the most recent policies are set forth in in the Digest of Water Resources Policies and Authorities, which summaries Corps policies as follows:

> It is the policy of the Corps of Engineers to develop, control, maintain, and conserve the Nations' water resources in accordance with the laws and policies established by Congress and the Administration. In accordance with those laws and policies, the Corps carefully considers and seeks to balance the environmental and development needs of the Nation. Actions taken comply with all relevant environmental statutes, have no significant safety problem, and are in the overall public interest.

The President's June 6, 1978 Water Policy Message to Congress proposed a comprehensive set of water policy reforms based on a review of Federal water policy conducted by the Water Resources Council, the Office of Management and Budget, and the Council on Environmental Quality. The review found, among other things, that "...projects often are planned without a uniform, standard basis for estimating benefits and costs," and that "some water projects are unsafe or environmentally unwise and have caused losses of natural streams and rivers, fish and wildlife habitat and recreational opportunities." Several of the reforms affect the Corps of Engineers' Civil Works Program. These reforms, and the status of their implementation, will be noted wherever applicable in the following discussion.

2. Conclusions and Recommendations

a. Coastal protection policies contained the Floodplains and Wetlands Executive Orders are not sufficiently incorporated into Corps planning for civil works projects.

Like the Regulatory Programs' public interest review, the Principles and Standards (P&S) employ a process of balancing economic development and environmental quality objectives, rather than establishing substantive policies to guide planning and decisionmaking. Even though the Floodplains and Wetlands Executive Orders have imposed substantive coastal protection policies, they appear to have been interpreted by the Corps to require balancing rather than positive action. For example, the Floodplains Executive Order states that it is each agency's responsbility "to avoid to the extent possible the long and short term adverse impacts associated with the occupancy and modification of floodplans and to avoid direct or indirect support of floodplain development whenever there is a practicable alternative." The Corps implementing regulations state that it is Corps policy "to avoid or minimize adverse impacts associated with use of the base floodplain and avoid inducing development in the base floodplain unless there is no practicable alternative." The Corps regulations provide that "the decision on whether a practicable alternative exists will be based on weighing the advantages and disadvantages of floodplain sites and nonfloodplain sites." Even if a "practicable alternative" to taking action in a floodplain is identified, the regulations contain no requirement that it be adopted.

Similarly, the Wetlands Executive Order states that it is each agency's responsiblity "to avoid to the extent possible the long and short term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands

wherever there is a practicable alternative." The Corps' proposed implementing regulations state that it is Corps policy "to avoid undertaking actions in wetlands...unless the District Engineer concludes that no practicable alternative to undertaking the action in wetlands exists...The decision on whether to undertake an action in wetlands and the conditions under which it will be allowed to occur are...determined by the outcome of the general balancing process. That decision should reflect the national concern for both protection and utilization of important resources." The regulations state that "the test of what is practicable depends upon the situation and includes consideration of pertinent factors such as economic, environmental, social or technology." Like the regulations implementing the Floodplains Executive Order, these regulations contain no requirement that practicable alternatives be adopted.

As noted in the discussion of Regulatory Program policies above, balancing alone may be inadequate to protect sensitive coastal resources because the larger the economic benefits to be derived, the larger the environmental costs that can be justified.

Recommendations:

(i). The Corps should develop criteria and standards for determining when coastal resource losses from proposed civil works projects will be considered unacceptable.

(ii). The Corps should amend its floodplain management and wetlands protection procedures to incorporate the objectives of Executive Orders as Corps policy. Revised procedures should include substantive standards for identifying "practicable alternatives" and require that practicable alternatives to actions in or adversely affecting floodplans or wetlands be adopted.

b. The water resources planning process overestimates the beneficial effects of projects on economic development and underestimates their adverse effects on environmental quality.

While the Principles and Standards, and the Corps implementing directives, contain detailed procedures for estimating economic effects, guidance for evaluating environmental effects is given only in the most general terms. As a result, a review of 23 Corps project reports submitted for authorization between August, 1976 and April, 1980 showed that useful techniques for measuring habitat and resource losses are not applied and that environmental effects are accordingly understated. The Corps is cooperating with the Water Resources Council and other water resources agencies in the preparation of a 3-year work plan to develop EQ measurement procedures. The work plan is expected to be approved at the Council's July 30 meeting.

The Corps does not evaluate fully the potential of proposed projects to cause shoreline damages, although it justifies later projects on the basis of ameliorating these damages. For example, one quarter of the benefits justifying a project to extend the jetties at the mouth of the Chetco River in Oregon were reductions in the annual maintenance dredging costs caused by extensive shoaling between the existing jetties. Although the environmental impact statement noted that extension of the jetties beyond the surf zone, as recommended, "could potentially affect erosion of the beach to the south" and could affect the productivity of the Chetco River estuary, these effects were not evaluated. According to the National Taxpayers Union, the proposed Water Resources Development Act of 1979 contains 27 projects, totalling more than $86 million, which correct problems caused by already constructed Corps projects.

Another problem is that economic benefits can be substantially overstated by computing benefits based on savings to particular companies

or sectors of the economy rather than savings to the Nation as a whole. This practice is used in computing transportation savings of navigation projects. The derivation of these savings by comparison with the rates versus the costs of the competitive transportation mode has been used for at least 15 years and is still considered to be necessary because there is no acceptable methodology for computing transportation costs.

Other practices that can overstate benefits are (a) counting as benefits the value of land created by dredge spoil disposal, but not counting as costs the value of acreage destroyed by the dredging, and (b) not considering the capacities of alternative ports in evaluating deep-draft navigation projects.

Another problem is the discount rate applied to all water resources projects. In accordance with the provisions of Section 80(a) of the Water Resources Development Act of _____, the Water Resources Council annually establishes the discount rate to be used for all water resource project planning. However, the law allows the rate to be increased by only one-quarter percent per year. Thus, the rate presently used by water resource agencies is $7^{3}/_{8}\%$, a rate below the present cost of money. As a consequence of using unrealistically low discount rates, more projects are approved, larger projects are approved, and projects approved tend to be those with high initial costs and long term, speculative benefits.

The President's Water Policy Message stated that "benefit-cost analyses have not been uniformly applied by Federal agencies, and in some cases benefits have been improperly recognized, 'double-counted' or included when inconsistent with Federal policy or sound economic rationale." He directed the Water Resources Council to "prepare...a manual which ensures that benefits and costs are calculated using the best techniques and provides for con-

sistent application of the Principles and Standards and other requirements." In response to this directive, two manuals have been prepared; one containing procedures for evaluating the economic development impacts of water resource projects (the NED Manual, issued on December 14, 1979) and one containing procedures for evaluating their environmental quality impacts (the EQ Manual, proposed on April 14, 1980). However, the procedures for benefit and cost calculations contained in the NED Manual are essentially the same as before, although the Water Resources Council is revising the deep-draft navigation section. If approved, the revised procedures will improve the evaluation of these projects by requiring consideration of alternative ports and removing benefits from dredge spoil land creation and reduction in maintenance dredging costs. While incorporating the concept of external diseconomies, the NED Manual does not apply this concept to an economic evaluation of the potential of proposed projects to cause shoreline damage. In addition, the EQ Manual states that "the state of the art for analysis of EQ effects have not matured to the point where acceptable, specific, quantitative measurement and evluation techniques could be adopted as requirements." At the same time, other sources have concluded that,"Sufficient knowledge of ecological processes does exist for reasonable predictions to be made in most cases."In fact, many methods are available; the problem is rather to select the right method in the right situation.

Recommendations:

(i). The Corps should incorporate into its directives implementing the Principles and Standards requirements to:

- Apply available techniques for forecasting and measuring environmental effects.
- Assure thorough evaluation and documentation of the environmental and economic costs of altering the natural profile

of the shoreline, in terms of environmental degradation or exacerbated effects of natural hazards, including erosion.

(ii). The Water Resources Council should accelerate the promulgation of its revised deep-draft navigation procedures, including the provisions discussed above.

(iii). The Water Resources Council should develop and incorporate into the Principles and Standards:

(a). techniques for evaluating external diseconomies, particularly as they apply to the potential of water resources projects to cause shoreline damages, and

(b). an acceptable methodology for determining costs of competitive transportation modes.

(c). The Corps procedures for assessing the secondary and cumulative impacts of its projects on sensitive coastal areas are insufficiently precise to be effective.

Procedures to consider cumulative and secondary impacts of civil works projects are extremely general. The Corps procedures on feasbility studies provide that "the aggregate or systems interaction of combined economic, social, and environmental effects should be considered along with evaluation of individual effects. In addition, the possibility of individual effects being part of a larger cumulative process should be investigated."[1] The Corps regulations implementing these procedures, however, neither restate this requirement nor provide guidance on the manner in which these impacts

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[1]National Research Council of the National Academy of Sciences, Ecological Effects of Highway Fills on Wetlands

will be addressed.

As discussed in the section on the Corps Regulatory Program, Information for cumulative impact assessment is inadequate. The Corps has no system for retrieving environmental information on the projects it has undertaken in an area short of examining every project report. It has no system for determining the effects of activities undertaken by other public and private entities under Corps permits.

The Corps' floodplains management regulations state that impact identification and assessment will apply to "any induced development likely to occur in the base floodplain with the proposed action," and that "whenever there is no practicable alternative to undertaking an action in the floodplain, steps should be taken to minimize the impact of floods on human safety,... and any induced development likely to occur as a result of the action." However, no specific guidance has been issued on how to account for such induced development in sensitive coastal areas.

As a consequence, project report discussions of possible secondary or cumulative impacts tend to be muted at best. For example, the total discussion of secondary effects in the Chetco River project report was only that the jetties would "facilitate increased use of the (Chetco River) estuary;" the nature of the increased uses and their effects were neither described nor evaluated.

In addition, there appears to be some reluctance to assume responsibility for secondary effects. For example, in recommending a Santa Ana (California) main stream flood control project, the District Engineer recommended acquisition and preservation of an 84 acre area which the Fish and Wildlife Service indicated might be designated a critical habitat for the endangered California Least Tern. The Board of Engineers for Rivers and Harbors rejected this recommendation, noting the regulatory authority

of other Federal, state and local agencies to protect the area and stating it was "not convinced that the alleged indirect effects of the project, which may result from induced residential and commercial development following improved flood protection, are a Corps of Engineers project responsibility."

The Corps definition of "effect" may also impair consideration of secondary impacts. While CEQ defines effects as events caused by a Federal action, the Corps defines effect as "the difference between the specific without-plan and with-plan condition of an EQ resource..." This can encourage forecasts of intensive resource exploitation in the "without" plan condition so that the difference between the without-plan and with-plan condition is minimized when structural plans are proposed. For instance, if development of wetlands and floodplains were forecasted to be reasonably likely to occur, the Corps definition could lead to the conclusion that a particular proposal would have no effect since the area would likely be developed under either the with or without plan scenario. A project where this occurred was Gulfport Harbor Mississippi. There, the Corps noted that "construction of the proposed project could encourage further expansion and industrialization in the Gulfport environs resulting in higher economic losses in the event of natural disasters such as hurricanes." In its comments on the project, the Southern Mississippi Planning and Development District stated that

> "everyone on the Coast knows that the primary reason for the channel deepening is so that DuPont can ship titanium dioxide to Gulfport for its proposed plant on the Bay of St. Louis. In the Gulf Regional Planning Commission's land use plans, the area in which DuPont wanted to locate was zoned recreational/residential. Unfortunately, the plan is not a legal document. The deepening of the channel will allow DuPont

to ship its raw material. It is reasonable to conclude that once the bay becomes heavy industrialized, additional industries will locate on its shores. Very definitely, the proposed deepening will have an effect on proposed land use."

The Corps response was that DuPont was already committed to the construction of the DeLisle plant and that "continued industrial development is projected for the Gulfport area, with or without improvement of the port, and no development is projected as a result of such improvements."

Recommendations:

(i). The Corps should develop detailed and specific procedures for identifying and assessing the secondary and cumulative impacts of its projects, including relating the effects of separate projects within the same shoreline system.

(ii). The Corps should develop a data system that collects and disseminates environmental information on proposed, ongoing and completed projects by geographic areas that are important in Corps planning, such as drainage basins. This information should be shared with the Corps Regulatory Program so that each program will have knowledge of the other's activities in planning for a geographic area.

(iii). The Corps should to develop specific program guidance on measures to avoid induced development in environmentally sensitive coastal areas, including wetlands, floodplains, barrier islands, and important habitat for fish and wildlife, and on measures for mitigating adverse impacts where they cannot be avoided.

(iv). The Corps should to redefine "effect" to be consistent with CEQ's NEPA definition.

d. In spite of recent changes, Corps policies and procedures do-not assure full consideration of nonstructural alternatives.

As the natural processes of the shoreline have become better understood, the application of structural solutions to problems of navigation, flood control, and beach erosion control has become a source of mounting controversy. Scientists point out that the rate of shoreline erosion along the Nation's Atlantic, Pacific and Gulf coasts is controlled by sea level, and that sea level is generally on the rise. In addition, the shoreline is not a static environment amenable to the maintenance of fixed points and property lines. Rather, it is a dynamic environment which is contantly being molded and remolded by natural processes. Wind and wave action moves sand onshore, offshore and along the shore. This sand movement causes alternate erosion and accretion of the shoreline depending on the weather conditions, the seasons, and the direction and violence of the wave attacks on the shore. In the natural state, this movement seldom produces a significant loss or gain in the overall are of beaches, but it does produce changes in the shape of the beaches--hence the problem in trying to hold a fixed point.

People have introduced changes both onshore and offshore that have seriously interrupted the natural shoreline processes. Changes such as the construction of dams and roads and the urbanization of large land areas have reduced the supply of sand needed to nourish and maintain the shores. In addition, recently years have seen a rapid encroachment of development and population along the Nation's shoreline. Unwise development too close to the shore has created a demand to "stabilize" inherently unstable areas. Unfortunately, such stabilization efforts have frequently caused more harm than good. Many examples illustrate that structural measures may actually accelerate erosion in nearby areas.

On December 14, 1979, in response to the President's water policy initiatives, the Water Resources Council published revisions to the Principles and Standards which require the preparation of "a primarily non-structural plan as one alternative whenever structural project or program alternatives are considered." Prior to the revised rule, the Corps procedures implementing the P&S recognized that "nonstructural measures should be formulated if they are economically and/or environmentally sound..." and required that "if a nonstructural plan is not developed, the report of the District Engineer will fully describe how nonstructural measures were considered throughout the planning process and the role they played in the development and selection of the recommended plan." The revised rule will mean that in future a "primarily nonstructural" alternative must be developed and carried to the plan selection stage. In addition, the Corps has reduced the cost-sharing requirement for non-structural flood control projects to make the local contribution requirement equal for both structural and non-structural flood control projects.

However, many impediments still exist to full consideration of non-structural alternatives. Some of these are outside the Corps' control, especially strenuous local opposition to evacuation and relocation, but some are the result of policies, procedures and practices that do not reflect the national interest in promoting non-structural alternatives:

First, the most serious impediment to full consideration of non-structural alternatives appears to be the lack of clarity within the Corps about what a non-structural alternative is and under what circumstances it can be effectively applied. The Corps' proposed procedures on use of non-structural measures define non-structural measures as

"all other (than structural) actions, including flood-

> proofing designed to reduce or or avoid flood damages, or to enhance the value of the floodplain. They also include bridge modifications, relocations or removals that do not fall within the definition of 'structural measures' as defined above."

As a result, aside from levees, channels and reservoirs, which are clearly structural, it is unclear where to draw the line between structural and non-structural alternatives or how to evaluate non-structural measures once the line is drawn. In addition, the concept of instituting a range of non-structural measures to deal with different aspects of a problem seems absent from the procedures. Recently revised Water Resources Council rules specify what benefits can be claimed for structural flood control measures, and for floodproofing and evacuation. However, it is unclear how non-structural measures other than floodproofing and evacuation are to be evaluated. The non-economic characteristics and values of non-structural alternatives are also not well addressed.

Second, benefits from more intensive use of the floodplain within the same land use category and from the addition of new uses to the floodplain, which can be claimed only by structural flood control alternatives, seem inconsistent with the national policy expressed in Executive Order 11988 to "avoid direct or indirect support of floodplain development wherever there is a practicable alternative."

Third, although some project reports note that useful non-structural measures are being applied by local communities, the Corps has not made its assistance contingent on the institution of such measures where they were not already present.

Fourth, although a requirement to consider non-structural alternatives

has been a part of the P&S and Corps procedures since 1973, the team was able to identify only one coastal project that recommended a non-structural alternative. That project, in Baytown Texas, recommended evacuation and relocation of residents of a subsiding area which is now being flood at high tides. Ironically, it has not been implemented because local residents oppose paying the local contribution requirement to help compensate others for their poor judgment in locating in this hazardous area.

The New England River Basin Commission, under contract to the Water Resources Council, is sponsoring a study to determine the problems water resources agencies are experiencing in implementing the provisions of Section 73 of the Water Resources Development Act of 1974 on consideration of non-structural alternatives. A draft report of this study is expected by the Council at the end of July.

Recommendations:

(i). The Corps procedures should be revised to provide a more detailed definition of non-structural measures and alternatives and better guidance on how they can be applied. The Economic Development Administration's regulations on this point provide a useful model. The regulations specify that non-structural measures are those that (a) eliminate or reduce the need for structural alteration of waterbodies and their associated floodplains and wetlands, (b) are intended to preserve, restore or imitate natural hydrological conditions, and (c) may be either physical or managerial in character. EDA's regulations also state that a non-structural alternative may be composed of a range of non-structural measures which:

a. control the uses and occupancy of floodplains and wetlands, e.g., flooplain zoning,subdivision regulation;

b. preserve floodplain and wetland values and functions through public ownership, e.g., fee title, easements, development rights;

c. restore the natural values and functions of floodplains and wetlands, e.g., move existing structures out of the floodplains;

d. delay or reduce the amount of runoff from paved surfaces and roofed structures discharged into a floodway, e.g., construction of retention basins, use of flow restricting barriers on roofs;

e. maintain natural rates of infiltration in developed or developing areas, e.g, construction of seepage or recharge basins, minimization of paved areas;

f. protect streambanks and shorelines with vegetative and other natural cover, e.g., use of aquatic and water loving woody plants;

g. restore and preserve floodplain and wetland values and functions and protect life and property through regulations, e.g., flood-proofing building codes which require all structures and installations to be elevated on stilts above the level of the base flood.

h. control soil erosion and sedimentation, e.g., construction of sediment basins, stabilization of exposed soils with sod, minimization of exposed soil.

(ii). The Water Resources Council should amend the NED and EQ Manuals to reflect the non-economic characteristics and benefits of non-structural flood control measures. The Council should also reconsider whether intensification and location benefits should be used in the benefit-cost analysis.

(iii). The Corps should amend its procedures to require that its flood control assistance be conditioned on the institution by the benefiting community of all practicable non-structural measures to reduce the future risk of flood loss and degradation of the natural and beneficial values of floodplains. At a minimum, this should include an acceptable floodplain zoning ordinance.

e. <u>The Corps coastal engineering research program does not address important questions concerning the geological effects of "stabilized" shorelines</u>.

Substantial and growing controversy exists among experts about the effects of "stabilized" shorelines and whether, in the long run, shorelines can be stabilized. An inlet stabilization and channel deepening project at Oregon Inlet, North Carolina illustrates this point. The proposed project provides for stabilizing Oregon Inlet with a dual rubble-mount jetty system projecting about 3,000 feet beyond the adjusted shoreline. To prevent accelerated erosion around the jetties, the Corps has proposed a sand by-pass system involving a pipeline dredge which would operate initially on an annual basis during summer months and later at 2-3 year intervals. In August, 1979, the National Park Service, which operates the Cape Hatteras National Seashore to the south of Oregon Inlet, retained the services of four coastal scientists to review and assess the proposed jetty system. Their unanimous opinion, in direct conflict with the opinion of the Corps experts, was that the sand by-pass system was "woefully inadequate" and that "the proposed jetties will produce accelerated and severe erosion far exceeding normal rates." Their disagreement even extended to the efficacy of the jetties in stabilizing the navigation channel.

As a principal Federal funder of shoreline projects, the Corps has a substantial interest in providing sound answers to such issues. Nevertheless, its coastal engineering research program is not currently designed to respond to them. The program is carried out by the Coastal Engineering Research center, a small organization of about 50 professionals. The CERC research program emphasizes laboratory studies of various structural devices, primarily to improve their engineering efficiency and reduce their cost. Although research on coastal processes is a major and continuing program element, most work has concentrated on hydrologic effects of stabilized structures on adjacent water bodies. Although CERC has done

work on beach profiles (collecting and analyzing data on specific beaches over several years) and has begun to develop a mathematical model to predict sediment erosion and deposition patterns on nourished beaches, significant questions remain to be addressed. These include long-range, long distance and seasonal effects of sand trapping on the long-shore sand transport system; effects of shoreline "stabilization" on offshore changes in topography, wave refraction and current patterns; and comparative erosion rates on natural, nourished and structurally stabilized shorelines. Basic data gathering is also need to establish a data base on erosion rates and sea level rise in order to provide the basis for comparative erosion rate studies and to determine the effect of sea level rise on erosion patterns. CERC has begun this process with a contract to the NOAA Natural Hazards Group to compile data on erosion rates and trends, nationwide, over up to 100 years.

Recommendations:

(i). The Corps of Engineers should develop and begin a program of geological investigations of the shoreline equilibrium on stabilized shorelines. These investigations should embrace the entire shoreline system, including the long-shore transport system and the effects on the continental shelf.

(ii). The Coastal Engineering Research Center should undertake long-term (3-5 year) field studies of processes and erosion rates of nourished beaches and adjacent inlets and lagoons, and compare these to the processes and erosion rates of natural beaches.

f. The Corps policies and procedures are not sufficiently precise to assure uniform application of adequate mitigation measures.

The basic mechanism for addressing adverse environmental impacts from Corps projects is the Fish and Wildlife Coordination Act.

The Act requires the construction agency to include in its report for authorization "...such justifiable means and measures for wildlife purposes as the agency finds should be adopted to obtain maximum overall project benefits." In an article prepared for the September 1978 edition of Fish and Wildlife News, Major General Charles I. McGinnis, Director of Civil Works for the Corps of Engineers, interpreted this requirement as follows: "Congress was aware that it would not be justifiable to mitigate for all damage and that some damage would have to be accepted to gain the economic benefits of water resource projects." Current Corps mitigation policy states that "the Coordination Act authorized the inclusion in water resource development plans of justifiable measures to offset damages to fish and wildlife. Thus, when the cost of measures for this purpose are justified by the monetary or non-monetary effects attributable thereto, they will be included in the project responsible for the damages. All such measures will be considered a part of the water project for purposes of economic evaluation and appropriate cost sharing." No criteria for when mitigation will be required, independent of the cost/benefit analysis, have been provided.

Mitigation is a term used in at least two different ways. It can mean taking action to reduce harmful impacts or providing compensation in light of unavoidable impacts. The Corps attempts to reduce harmful impacts by successive refinements of its planning alternatives to eliminate harmful features. However, the application of this practice appears to be uneven. A review of 23 recently completed Corps projects revealed that in some reports specific mitigation features were enumerated, in others mitigation was not addressed, and in still others, like the Los Angeles-Long Beach navigation project, "no mitiga-

tion measures were identified as being required."

Another issue which has resulted in uneven application of mitigation measures is the question of who should be responsible for operation and maintenance of wildlife areas developed for mitigation purposes and how the costs of operation and maintenance should be borne. The Corps maintains that the Fish and Wildlife Service, National Marine Fisheries Service or state fish and game agencies are better equipped than the Corps to manage areas for wildlife purposes.

The resource agencies feel that the current practice, under which the Corps is responsible for implementing mitigation measures associated with its projects and for funding related operation and maintenance costs, is correct.

All of these issues -- when is compensation required, how much is required and how is this determined, and who should bear the responsibility for operation and maintenance of wildlife areas developed for mitigation pruposes -- should be addressed by new procedures on the Fish and Wildlife Coordination Act. Unfortunately, although President Carter directed their promulgation by March 1, 1979, final rules have still not been issued.

Recommendations:

(i). The Secretaries of Interior and Commerce should make promulgation of final Coordination Act regulations a top priority.

They should establish a schedule for promulgation and report quarterly to the Council on Environmental Quality on their progress.

(ii). The Corps should amend its mitigation policy to require that all practicable mitigation measures be incorporated into its proposed projects and to provide detailed guidance on what types of mitigation

measures may be appropriate to various types of impacts.

g. Post-construction monitoring of Corps projects is minimal.

Depending on the type of project, operation and maintenenace may be a Federal (Corps) or non-Federal responsibility. However, in either case, except in unusual circumstances, there is no post-construction follow-up and monitoring of projects to determine (1) if mitigation measures are being implemented as intended and if they are efficacious, and (2) if projected benefits have actually materialized.

A report on Water Resources Priorities for the Northeast issued in September, 1979 by the Consortium of Northeast Organizations, an organization providing staff support to the Northeast Congressional delegation, noted that

> "benefit calculations used to 'sell' many dubious water resource investments have rarely been reviewed after the fact -- to see if the promises of increased employment, navigation, recreation and others were actually delivered. Only one major pilot effort in such retrospective research was identified during the Consortium's review: a study of the McClellan-Kerr project on the Arkansas River, continued since substantial project completion in 1970, found annual benefits whose value ranged from only 2 to 7 percent of project cost."

Similarly, a recently completed doctoral thesis by Barry Allen of Ramapo College in New Jersey, showed that of 52 Corps navigation projects initiated between 1952 and 1979, only 9 projects yielded any net benefits. Most projects were found to have benefit/cost ratios of between 0.0000 and 0.0009.

Recommendations:

(i). The Corps should establish a procedure for post-construction monitoring of its projects (a) to determine if mitigation measures are continuing to be implemented and if they are efficacious, and (b) to validate projections of benefits and costs to provide feedback for future

planning of similar projects.

(ii). The Corps should report to the Council on Environmental Quality in three years on the results of its monitoring, including (a) the problems it has identified and how they are being solved, and (b) the conclusions it has drawn respecting both mitigation and cost/benefit analysis and how they will be integrated into future planning.

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F. Agricultural and Rural Development Assistance
Farmers Home Administration

1. Program Description

The Farmer's Home Administration (FmHA) provides agricultural and development assistance to rural communities through a combination of loans, loan guarantees, and grants to individuals, local governments, non-profit organizations and private business enterprises. During FY 1979, FmHA's allocation of funds to coastal states and territories totalled $_____

FmHA programs affecting coastal areas include:

a. Community facilities-- Under the Consolidated Farm and Rural Development Act of 1965 and the Rural Development Act of 1972, FmHA provides loans and grants for rural water and waste disposal systems and other community facilities, such as fire stations, community halls, hospitals, nursing homes, medical clinics, libraries, schools and recreation centers. Projects lacking other means of financing can receive FmHA loans for up to 40 years at a statutory maximum interest rate of 5 percent. Grants can be added where necessary to prevent a system's debt repayment from imposing excessive service rates on patrons of the system. Since 1965, FmHA has financed some 10,500 water and sewer systems nationwide, ranging in coverage from small local communities to intercommunity or multi-county areas.

FmHA also finances the local costs of projects developed under the Soil Conservation Service's Small Watershed and Resource Conservation and Development Programs. Eligible projects include irrigation and drainage systems; projects

for soil conservation, flood prevention, solid waste management, and agriculture-related pollution control; and water storage facilities.

b. Housing-- Under Title V of the Housing Act of 1949, FmHA administers a large program of loans and loan guarantees for individual home ownership and a program of loans to build or purchase and rehabilitate multi-family rental housing units for low and moderate income persons in rural areas and towns with populations of not more than 10,000 persons.

c. Business and Industry-- Under the Consolidated Farm and Rural Development Act, FmHA provides loan guarantees to businesses in towns and cities with populations of up to 50,000 persons to stimulate business and industrial growth. These loan guarantees can be used for expenses such as the purchase of land, buildings, and equipment and for working capital. In addition, industrial development grants are available to public bodies to buy land, install utilities, and make other improvements on rural industrial sites.

d. Farm Programs-- Under its farm assistance programs, FmHA provides loans to family farmers to buy, improve or enlarge farms and to provide operating capital. Program elements with special potential to affect coastal areas include emergency loans to cover farming losses inflicted by natural disasters and loans for water resources projects, such as irrigation and drainage systems.

FmHA administers its programs through more than 1800 field offices at the county, district (multi-county), and state levels. Under a recent reorganization, most assistance to individuals is made through county offices, while district offices process "group" projects--that is, those assisting farmers associations, non-profit organizations, and public bodies. Except for single family housing, most projects are reviewed by the state

offices to verify eligibility, authorize an application, and approve the loan or grant. Only the largest or most controversial projects are reviewed by the national office.

FmHA's environmental policies are contained in its 4-year-old NEPA instruction (FmHA 1901-G) and in Secretarial Memorandum No. 1827, Statement of Land Use Policy, dated October 30, 1978. The policies contained in the NEPA instruction state that FmHA will "...assess the environmental impact of any proposed FmHA actions that the State Director determines may significantly affect the environment," "...act to avoid or minimize adverse envrironmental effects, including secondary effects, and restore or enhance environmental quality," comply with the requirements of this instruction "at the earliest possible time before any agency decision is made...," and provide "training and guidance ...as needed as an integral part of program administration." The statement of environmental policy contained in the Secretarial Memorandum says that it is the Department's policy to "advocate the retention of Important Farmlands and Forestlands, Prime Rangeland, Wetlands, or other lands designated by state or local governments...," "advocate actions that reduce the risk of flood loss, minimize impacts of flood on human safety, health, welfare, and restore and preserve the natural and beneficial functions and values of floodplains...," "advocate the protection of threatened and endangered animal and plant species and their habitats, designated archaeological, historic, and cultural sites, and designated ecosystems..." and "advocate the conservation of natural and man-made scenic resources...."

Field loan officers are responsible for the complete processing of applications, including environmental review. Environmental assessments usually consist of an applicant's assessment and a fifteen question checklist filled out by the FmHA loan officer. If the FmHA official who receives an

application believes it might have a significant impact on the environment, he/she refers the application to the state office. In such cases, the state director is responsible for determining whether or not an environmental impact statement is needed.

2. Conclusions and Recommendations

a. FmHA has made substantial strides in the last few months, but is still far behind other agencies in developing an environmental program.

As noted above, the principal vehicle for considering coastal resources protection is FmHA's NEPA directive. That directive, however, does not contain a procedure to insure the identification and assessment of adverse impacts including primary or secondary effects of the project on floodplains wetlands, barrier islands, or other sensitive areas.

The environmental assessment checklist prepared by field loan officers asks for little information on substantive environmental issues. Only three of the questions address environmental matters (effects on air quality, effects on water supply, and effects on waste disposal), and these require only "yes" or "no" responses. State directors determine the need for an EIS, but only if a project has been referred to them by a lower level. As a consequence, EIS's are seldom prepared. In interviews FmHA's environmental staff was able to identify only three EISs completed by FmHA since 1970. Only one of these, a 1977 project to construct a water line from Buxton to Avon on the Outer Banks of North Carolina, was in a coastal area, and it was prepared after the loan was approved. Finally, FmHA's NEPA directive does not contain any specific policies or procedures for coordinating with state coastal zone management programs or complying with the Federal consistency requirement of the Coastal Zone Management Act.

These procedures are inadequate for evaluating the many complex resource protection issues that arise in FmHA funded projects. For example, FmHA has funded water and sewer projects all along North Carolina's coast. Many of these projects raise the full range of primary and secondary impacts and long- and short-term impacts to floodplains, wetlands, barrier islands and prime habitat for fish and wildlife. Several projects have involved interconnections to regional watersystems that involve construction of water mains on highway rights-of-way that cross or are immediately adjacent to floodplains and wetlands. For example, a project approved in February 1980 involves expansion of the Brunswick County regional water system, including the construction of several high service water mains to link Ocean Isle Beach and Sunset Beach to the system. The preliminary engineering report on the project stated that "portions of the proposed water mains will cross Shallotte Inlet, the Intracoastal Waterway, and the Calabash River." It concluded that "these areas are relatively low in value relative to wildlife and marine resource production. Construction of the water mains in these areas is not expected to cause significant adverse impacts; however, every effort will be made to return disturbed areas to their original condition." No evidence was provided to support this conclusory statement and there was no elaboration of the effort that would be made at mitigation. The applicant and FmHA environmental assessments did not cover the water main element of the project or its impact.

In the absence of strong in-house procedures, great reliance is placed on project controversy and state reviews through the A-95 process to bring up environmental issues. However, with the exception of the Avon project mentioned above, the North Carolina Community Facilities Program

staff could recall no instance of real controversy and no instance where the A-95 review had raised an environmental issue.

The environmental staff is aware of these deficiencies and is trying to institute needed changes, including substantial revision of the NEPA instruction. The revised draft now undergoing review within FmHA is a vast improvement over the current instruction. It contains substantive policies which incorporate and extend the policies of the Secretary's Land Use Memorandum, and specific and detailed criteria and procedures for determining the level of environmental assesment required, conducting the assessment, and determining what constitutes a significant environmental impact requiring an EIS. It also contains procedures for complying with the consistency requirement of the Coastal Zone Management Act.

As noted earlier, FmHA has not yet issued final procedures implementing the Executive Orders on Floodplain Management and Wetlands Protection. FmHA issued proposed procedures in the Federal Register on September 14, 1978. These proposed procedures provided no guidance for evaluating projects or their impacts, and contained no substantive requirements for FmHA policy. They were considered unacceptably vague by the Department of Agriculture and the Water Resources Council. FmHA is revising these procedures, but could not say when the revisions would be completed.

Recommendation:

(i). FmHA should be directed to accelerate the revision of its NEPA procedures and preparation of final procedures implementing the Executive Orders on Floodplain Management and Wetlands Protection. It should be directed to consult with the Water Resources Council on the development of

procedures which require the agency to consider secondary impacts and avoid funding projects in or affecting floodplains and wetlands whenever there is a practicable alternative.

b. FmHA's environmental staff is inadequate to carry out its environmental program.

FmHA's environmental staff currently consists of two people, both in the national office and both recent additions. A vacancy announcement has just been issued for a third environmental staff member. FmHA has no environmental staff in any of its field offices, where almost all environmental reviews are performed.

Important policies for protecting coastal resources are contained in FmHA's proposed NEPA rule and in the Secretarial Memorandum on Land Use Policy, but with current staff, the agency does not have the capability to assure their implementation. The environmental staff has proposed the creation of a staff of six regional environmental specialists to provide advisory services and training to FmHA's field offices in carrying out their environmental review responsibilities. However, a decision on these positions has apparently been deferred during the current hiring freeze. Another proposal would involve appointing existing staff in the state offices to serve as state environmentalists and conduct the environmental review of projects the state director approves. The appointees would usually be the state engineers who, in some instances, are already overworked. For example, the North Carolina State Office has one engineer who reviews about 120-125 projects, worth $80-100 million per year, including reviewing preliminary engineering reports, prices, and plans and specifications, attending preconstruction conferences, inspecting projects during construction,

and conducting the final inspection. Thus, while this proposal is not without merit, it must be considered in terms of existing resources and constraints within each state and should not be considered as a substitute for adequate environmental staffing.

Recommendations:

(i). FmHA should be directed to conduct a review to determine the minimum numbers and types of additional environmental resources needed to carry out its statutorily mandated environmental responsibilities. It should be directed to report the results of its review within one year to the Secretary of Agriculture along with a description of how it proposes to implement the recommendations.

c. FmHA's loan officers need better guidance for carrying out their environmental responsibilities.

FMHA's decentralized structure results in little national control over local FmHA decisions. As noted above, loan officers in FmHA's more than 1800 field offices are responsible for environmental reviews. Few of these loan officers have any specific training or experience in environmental issues and problems. While they may receive expert advice from the state offices on architectural and engineering matters, not a single environmental specialist is available outside the two-person national office environmental staff. The problems this creates were illustrated during this Review on June 19, 1980 -- three years after the executive orders were issued -- when members of the FMHA staff of the North Carolina State Office indicated that they had only just learned of the existence of the Floodplains Executive Order the day before.

Recommendation:

(i). FmHA should be directed to develop handbooks for each major program, which provide detailed guidance to field loan officers on how to conduct an environmental review, what factors must be evaluated, what information is needed, and how to obtain it.

d. FmHA has no mechanism or guidelines for mitigating adverse environmental impacts.

Consideration of project alternatives appears to be almost non-existent. As discussed above, EISs are seldom prepared and the environmental checklist does not ask for an identification of alternatives or mitigation measures. FmHA has the authority to attach mitigation conditions to its loans and grants, but so far these have addressed financial matters and state requirements, such as erosion and sedimentation plans. When asked, FmHA's environmental staff could recall only one FmHA application that was denied or modified for environmental reasons.

Recommendations:

(i). FmHA should be directed to develop specific criteria for determining when mitigation will be required and the manner in which it will be achieved.

(ii). FmHA should be directed to develop and include in its revised NEPA procedures specific guidance on the identification and analysis of alternatives for projects affecting sensitive coastal areas, including wetlands, floodplains, barrier islands, areas of substantial habitat value for fish and wildlife, groundwater recharge areas, and prime coastal agricultural land. The guidance should require preparation of a detailed environmental assessment, including

an analysis of alternatives, for any project having potential for direct adverse environmental effects or for supporting expanded development in these areas. The assessments should include a thorough analysis of at least one alternative that includes conditioning the FmHA assistance to prohibit new or expanded development in sensitive coastal areas.

e. FmHA does not have adequate policies for minimizing the secondary impacts of infrastructure project in sensitive coastal areas.

Because FmHA supports basic infrastructure projects in relatively undeveloped areas that have greater potential for growth effects than they would have if the projects were in already developed areas, the need for careful review of its projects is especially great. While some FmHA programs try informally to encourage projects providing for the needs of existing residents and to discourage projects based on projections of need far into the future, this is not a stated agency wide policy, and agency practice is uneven. For example, FmHA has approved and is reviewing the final plans and specifications for a project which will provide a $53 million, 5% loan to the Florida Keys Aquaduct Authority for the construction of a new water line through the Florida Keys with more than double the capacity of the old line. The line will allow new development throughout the Keys, an area whose vulnerability to hurricane damage has been repeatedly demonstrated.

Recommendation:

(i). FmHA should amend its regulations to adopt, as formal agency policy, the avoidance of growth in sensitive coastal areas.

f. FmHA lacks a mechanism and adequate data for assessing the cumulative impact of its programs.

Many FmHA projects are small in size and potential impact when taken individually, but have potential for substantial cumulative effects. This

is especially true of the housing programs--with FY 1980 authorizations of $4.496 billion ($ billion in coastal states). FmHA's current and and proposed NEPA procedures both recognize the concept of cumulative impact, but provide no guidance on how to assess it. FmHA has started a data base to keep track of its projects, but no environmental data are tracked, and so far only two programs are included.

Recommendations:

(i). FmHA should redesign and broaden the development of its Rural Facilities Tracking System to track and provide meaningful environmental data on all FmHA proposed and approved projects by county (e.g., flood-plain acres affected by project, wetland acres affected by project, agricultural lands converted, acres preserved or restored, etc.). It should develop a retrieval system to allow loan officers at all levels easy and rapid access to the data base including, in particular, information on the environmental impacts of proposed and approved projects. Loan officers should be required to use this data, along with any other available data on related Federal actions in the area, to evaluate the cumulative effet of agency actions when considering new requests for assistance.

(ii). FmHA should be directed to conduct a retrospective study in 3-5 geographically representative counties to determine the cumulative impacts of its assistance over the years. The results of this study should be used to develop procedures for assessing cumulative impacts in the future and should be reported to the Council on Environmental Quality for use in developing government-wide guidance on this issue.

g. FmHA does not have adequate procedures for coordinating the environmental review of jointly funded projects.

FmHA assistance is frequently used to supplement other agencies' projects.

For example, FmHA assistance can be used to pay the local contribution requirement for such projects as EPA 201 wastewater treatment facilities and EDA public works projects. When this is done, care must be taken that environmental assessments are properly coordinated and that major environmental issues do not "fall through the cracks."

A sewage treatment system in Payette Lake, Idaho, although not a coastal project, is a classic example of the problems that can be encountered in jointly funded projects where environmental reviews are not coordinated and no one looks at the secondary and cumulative impacts of the project. The project at Payette Lake involved three agencies. EPA was to fund a sewage treatment plant in McCall, a town at the tip of the lake. EDA would run connecting lines 12 miles up each side of the lake, through land that contained only a few houses. FmHA would fund sewers from these connecting lines to the houses. The projects combined would be an $8 million regional sewage treatment system that could open the entire, mostly pristine lake to development.

EPA's environmental assessment considered only the direct impacts of the project, and hence it saw no problem with any of the alternative sites it considered. EDA declined to prepare an EIS and approved the project. FmHA did no environmental review at all until one year after to gave clearance to its part of the project. FmHA did not consider restricting its sewer hookups to the existing houses. Since FmHA's NEPA procedures only cover coordination on projects requiring EISs, they provided no guidance in this case. The project has been referred to the Council on Environmental Quality and the local residents association is demanding an EIS. The issue is not yet resolved.

Recommendation:

(i). FmHA should be directed to develop a specific and detailed procedure for coordinating the environmental review of jointly funded projects in which it participates. Whenever another agencies' environmental review does not consider the entire project or does not treat adequately major environmental issues, such as secondary impacts, the procedure should make clear that it is FmHA's responsibility to supplement the review to deal with these factors.

G. Bridge Administration Program
Coast Guard
U.S. Department of Transportation

1. Program Description

The primary mission of the Coast Guard Bridge Administration Program is to insure safe and unencumbered passage of marine traffic on the Nation's waterways by approving the location and clearance of bridges and causeways in or over navigable waters of the United States. The Coast Guard determines whether a proposed bridge or causeway will provide for reasonably safe and unobstructed navigation on the waterway, while also accommodating land modes of transportation that will use the bridge. Authority for the permitting process is found in 33 USC sec. 401, 491, 525-533, the International Bridge Act of 1972, and various Acts of Congress.

Permits issued for bridges under the Coast Guard's Bridge Administration Program are often for projects where the lead Federal agency is not the Coast Guard. This is especially true when the bridge is part of a highway, railroad or pipeline project. In these instances, the lead Federal agency retains the primary environmental responsibility, while the Coast Guard insures that the environmental documentation addresses the bridge-related impacts of the project. When the bridge-related impacts are not adequately addressed, the Coast Guard may require the revision of the lead agency document or it may issue a document of its own which describes the environmental impacts associated with the bridge construction.

The permit review process is initiated by an applicant requesting that a permit be issued for a particular project. This application is reviewed

in accordance with Coast Guard Regulations and the Bridge Administration Manual by the Coast Guard District Commander who has jurisdiction over the area where the proposed project is to be constructed.

In conducting this review, the major determinant of whether a permit is issued is the effect of the proposed work on navigation. Coast Guard regulations list technical factors for evaluating bridge construction permits, e.g., the height of the bridge above highwater, the direction of the current. The Bridge Administration Manual, now being revised, consolidates all Coast Guard instructions, notices, and management policies applicable to the processing of permit applications, including NEPA and other environmental review procedures.

The review process also includes state and local review of the project through the state-A-95 clearinghouses and public involvement through the public notice and public hearing process. The review procedure takes approximately three to nine months, except for projects requiring preparation of an EIS which may take longer. All environmental documents are centrally prepared and processed by the Bridge Permits Branch in Washington, D.C.

Pending revision of the Bridge Administration Manual, the Coast Guard is complying with NEPA by adhering to the Department of Transportation's NEPA order and the CEQ regulations. The issuance of bridge permits is subject to the Floodplains and Wetlands Executive Orders, but the Coast Guard has not adopted specific procedures to implement the Orders and relies instead on DOT's implementing regulations.

2. Conclusions and Recommendations

a. The Coast Guard has not adopted adequate policies to assure protection of significant coastal resources.

Although the Coast Guard is committed to complying with all applicable Federal environmental requirements, a serious impediment to achieving this objective is the general lack of specific policies and procedures for protecting significant coastal and other environmental resources.

Coast Guard regulations contain no statements of environmental policy. The Bridge Administration Manual (which is presently being revised) contains only very general statements of environmental policy, e.g., the Coast Guard will "give careful attention and appropriate weight to environmental effects of the proposed project". To comply with NEPA, the Coast Guard is following the CEQ regulations and DOT Order 5610.1C. As noted previously, these documents provide only very general guidance for protecting significant coastal resources.

The Coast Guard also has not developed specific program procedures implementing the Wetlands and Floodplains Executive Orders. As a result, the Coast Guard is relying on DOT's Order 5650.2, Floodplain Management and Protection, to comply with E.O. 11988. As noted previously, the DOT Order is not consistent with WRC's interpretation of E.O. 11988 that Federal agencies should avoid supporting development in the floodplain unless there is no practicable alternative. The Coast Guard is relying on DOT Order 5650.1A to comply with E.O. 11990. As noted previously this Order provides only very general guidance for protecting wetlands. The Coast Guard does not appear to have any policies for minimizing the secondary impacts of bridge construction in sensitive coastal areas. In addition, the Coast Guard does not have specific policies for conditioning permits to mitigate the adverse effects of bridge construction. In addition, Coast Guard reports that monitoring of permit conditions when they are

imposed is normally not carried out because of staffing limitations.

The lack of specific coastal resource protection policies has produced mixed results in practice. For example, despite the lack of specific wetlands procedures, a permit to replace a bridge across Shinaccock Bay, Suffolk County, New York, was denied because the proposed alignment would destroy 3.5 acres of wetlands designated as prime wildlife habitat by the U.S. Fish and Wildlife Service. The permit was denied on the authority of the wetlands Executive Order because a practicable alternative alignment could have been used that would not damage the wetlands.

On the other hand, the Coast Guard approved a permit to construct a bridge to an undeveloped barrier island off the South Carolina Coast in order to provide automobile access for a proposed housing development. Sixty-six acres of the 100-plus acre island are wetlands. As a mitigating measure, the Coast Guard obtained an agreement that the applicant would not build any units in the wetlands and would reduce the number of dwelling units from of 160 to 125. Although the Coast Guard was aware that approval of the permit would lead to development in an environmentally sensitive (and hazardous) area, approval was granted because denial would "deny the right to develop" and "was not justifiable due to the minor environmental effects of the proposed project (bridge construction)." Apparently, the Coast Guard focused on the primary impacts of the actual bridge construction when deciding to grant the permit and did not fully consider that the Coast Guard action would allow a pristine 100-acre barrier island to become a housing development.

Recommendations

(i) The Coast Guard should be directed to develop and adopt policies and procedures specific to the Bridge Administration Program for implementing NEPA and the Executive Orders.

(ii) The Coast Guard should be directed to develop and adopt specific policies for determining when permits for causeways and bridges that adversely affect coastal resources will not be approved. For example, the Coast Guard should deny permits for projects that provide access to undeveloped barrier islands when the primary purpose of such access is to accommodate non-water dependent development unless such development is clearly in the National interest.

(iii) The Coast Guard should develop and adopt specific policies for conditioning permit approvals to protect significant coastal resources. Policies which should be considered include:

(a) In-kind replacement of coastal resources destroyed by bridge or causeway construction.

(b) Access limitations on highways through sensitive coastal areas leading to Coast Guard permitted bridges or causeways.

(c) Buffer zones or other growth minimizing controls around bridges or highways leading to Coast Guard permitted bridges.

(iv) The Coast Guard should develop an effective program for monitoring permit conditions imposed to protect significant coastal resources. Such a program may include memoranda of understanding with the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and the Corps of Engineers defining ways these agencies can assist the Coast Guard in meeting its monitoring responsibilities. In addition, the Coast Guard should require periodic reports from the permittee describing compliance with imposed conditions.

(v) The Coast Guard, in consultation with FHWA, should develop mandatory standards for designing and constructing bridges and causeways in sensitive coastal areas. These standards should be aimed at preventing

and minimizing damage to coastal areas.

3. Recommendations

(1) The Coast Guard should be directed to develop and adopt policies and procedures specific to the Bridge Administration Program for implementing NEPA and the Executive Orders.

Recommendations:

Agencies should be directed to consolidate their policies and procedures for protecting coastal resources in an appropriate document. This document should be updated as needed and made readily available to the public, applicants, and other interested persons.

III. Detailed Program Reviews

This section presents analyses of each of the Federal infrastructure programs chosen for review. Specific conclusions and recommendations follow each of the program discussions.

H. The Regulatory Program of the Corps of Engineers
U.S. Army Corps of Engineers
Engineers Department of Defense

1. Program Description

The Corps of Engineers (COE) administers permit programs under section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act. Section 10 prohibits construction activity in navigable waters or the excavation of material in such waters without the prior authorization of the COE. Section 10 permits are required for such activities as the construction of piers, placement of pipelines, erection of structures for oil development, and dredging of barge canals. Section 404 authorizes the COE to issue permits for the discharge of dredged or fill material into the waters of the United States, including coastal and inland waters, lakes, rivers, streams, and adjacent wetlands. Section 404 permits are required for placement of material in coastal waters and wetlands regardless of the activity associated with the placement. Each year the COE issues thousands of permits for activities in coastal areas ranging from the construction of private boat docks to offshore terminals for supertankers.

The principal consideration in COE permit decisions is whether issuance of the proposed permit in the public interest. In determining the public interest, the COE balances the benefits that reasonably may be expected to accure from the proposal against its reasonably foreseeable detrimental effects, weighing general environmental concerns, fish and wildlife values, flood damage prevention, land use, water supply, water quality, and food production. The following general criteria are considered during the evaluation of every permit application:

(a) the relative extent of the public and private need for the proposed project;

(b) the desirability of using appropriate alternative locations and

(c) the extent and permanence of the beneficial and detrimental effects the proposed project may have on the public and private uses to which the area is suited; and

(d) the probable impact of each proposal in relation to th cumulative effect created by other existing and anticipated projects in the area. Proposed regulations implementing NEPA provide that environmental values are to be given equal consideration with economic, social and technical factors in determining the public interest.

The COE public interest review is illustrated by its denial in February 1977 of a permit for work in navigable waters of Chincoteaque Bay at the Captain's Cave Development in Accomack County, Virginia. The requested permit would have authorized work, some of which had already been completed, involving the dredging of canals through wetlands for private boat access to the bay and the filling of wetlands to create waterfront housing. In weighing the application, the COE determined that "achievement of water oriented recreational benefits" for the community " did not require each property owner to have direct access to Chincoteaque Bay." The COE found that "such benefits can be derived through the construction of group use facilities" such as a marina. In addition to the COE found that deadend canals degrade the environment from a water quality stand point. Consequently the COE denied the permit for the proposed (and existing) canals and directed the applicant to plug the existing canals.

The COE also found unacceptable the proposal to fill additional wetlands in order to create waterfront property. According to the COE, such "activity would benefit a limited number of individuals while resulting in environmental

damage adversely affecting the general public" because "destruction of wetlands degrades the aquatic environment and thus reduces the public benefits derived from this important resource." However, with regard to wetlands that had previously been destroyed in violation of Section 10 and 404 the COE found that "restoration of these areas is not warranted." In reaching this decision the COE was "mindful of the fact that most of the lots fronting on the existing and proposed canals have been sold and that these purchases were made by individuals anticipating direct access to Chincoteaque Bay." The COE also recognized and appreciated public demand for second-home communities offering water-oriented recreational facilities in coastal waters. For these reasons restoration of the disturbed wetlands was found not to be in the public interest.

In addition to the general policies outlined above, Section 404 permits must be found to comply with guidelines developed by the Environmental Protection Agency (EPA) in conjunction with the COE. The guidelines were issued on September 5, 1975, and proposed revisions were published on September 18, 1979. The guidelines prohibit issuance of a permit to discharge at a specific site when the discharge will have an unacceptable adverse effect on municipal water supplies, shellfish beds and fishery areas, or wildlife or recreation areas.

The COE has not published specific procedures implementing the wetlands executive order. However, COE regulations set forth the policy that "the unnecessary alteration or destruction" of wetlands should be "discouraged as contrary to the public interest." No section 10 permit will be granted for work in wetlands that perform important public functions unless "the benefits of the proposed alteration outweight the damage to the wetlands resource and the proposed alteration is necessary to realize those benefits."

Final procedures implementing the Floodplain Executive Order were published in the Federal Register on May 15, 1979. These procedures, however, do not apply to the COE regulatory program since, in COE's view, its public interest balancing process fulfills the requirements of the executive order.

COE has broad authority to condition permits to protect the public interest in the waters of the United States. COE policies with respect to conditioning permits as a means of mitigating adverse effects on fish and wildlife values are briefly discussed in 33 CFR 320.9(c). It is COE policy to condition permits "in appropriate cases" to protect fish and wildlife values.

2. Conclusions and Recommendations

a. COE coastal protection policies are not sufficiently specific to assure full protection of coastal resources.

COE has established a policy framework that should assure general environmental concerns are adequately addressed. However, with respect to protecting coastal resources, this policy framework is very general. Only wetlands are currently considered in detail. COE's regulatory policies lack explicit recognition of the importance and vulnerability of beaches, sand dunes, barrier islands, coastal reefs estuaries, shellfish habitat and other coastal resources articulated in the President's Environmental Message. The inherent danger, from a resourcce protection viewpoint, in balancing economic benefits and environmental costs is environmental costs that would be acceptable. Without clear guidance as to when environmental losses are unacceptable, regardless of the potential economic benefits, degradation of coastal resources is likely to continue unchecked.

The problem of relying on balancing alone to protect coastal resources is illustrated by the issuance of a Section 404 permit for dredge disposal in connection with the development of the Portsmouth refinery complex in Hampton Roads, Virginia. The site selected for the refinery met with serious

opposition from EPA, FWS and NMFS as environmentally one of the least desirable sites on the East Coast. In addition, these agencies concluded that the refinery at Portsmouth would measurably increase an existing risk of long-term damage to the environmental resources of the area. Nevertheless, the Secretary of the Army approved the permit because:

> "The potential national economic development benefits to the Nation are substantial and far outweigh the costs (potential resource losses) of oil spills which would be anticipated during the expected life of the refinery."

Therefore the lack of specific coastal resource protection policies impairs the effectiveness of the COE public interest balancing process in protecting these vulnerable resources.

Recommendation:

COE should develop specific policies for protecting significant coastal resources. Such policies should provide standards and criteria for determining when permits for actions that adversely affect coastal resources will be denied.

b. The COE regulations implementing the Floodplain Executive Order is not consistent with the intent.

COE regulations (33 CRF 239.1) state that only Section 2(c) of the Floodplain Executive Order pertains to the issuance of permits or licenses and that Section 2(c) requires agencies to: (a) consider and evaluate flood hazards for actions in the floodplain; (b) provide early public review of plans or proposals in floodplains for which the impact would not require an EIA; and (c) provide guidance to applicants to enable them to evaluate the effects of their proposal on the floodplain. The COE regulations conclude further that existing COE policies and procedures satisfy Section 2(c) of the

Executive Order.

Existing COE policies and procedures set forth the basic policy that no permit will be issued unless it is in the public interest; however, they provide no specific guidance concernign the public interest in avoiding the disruption of the natural and beneficial values served by floodplains.

The intent of the Executive Order, as interpreted by the Water Resources Council, was to weight decisionmaking against providing Federal support for floodplain development -- i.e., actions that support floodplain development or harm natural and beneficial floodplain values are to be avoided unless no practicable alternative can be found. This anti-floodplain development bias is not fully reflected in the COE balancing approach. COE regulations state that "available alternatives to avoid adverse effects from any incompatible development in floodplans shall be considered." So long as the reasonably foreseeable benefits that may accure from a proposal outweigh its reasonably foreseeable detriments no requirement exists to seek less damaging alternatives or initiate mitigating measures.

Recommendation:

COE should be directed to amend their floodplain management procedures to bring them into full compliance with E.O. 11988 and the WRC guidelines. In particular, COE permit regulations should be amended to require adoption of practicable alternatives for permits in or affecting the floodplain, the avoidance of secondary development in the floodplain, and the mitigation of adverse impacts on natural floodplain values and functions.

c. COE does not have specific policies for minimizing the secondary impacts of permitting actions.

Although the COE regulations recognize the need to weigh secondary impacts of permit decisions, its procedures provide little guidance concerning the

consideration to be given to such impacts during the public interest review process. Its "general policies for evaluating permit applications" (33 CFR 320.4), for example, provide no explicit treatment of "secondary" impacts. Similarly, the current 404 guidelines provide little guidance for dealing with secondary impacts. The guidelines state that "no discharge of dredged or fill material will occur at a proposed disposal site if the Administrator of EPA determines...that such discharge will have an unacceptable adverse effect on municipal water supplies, shellfish beds and fishery areas (including spawning and breeding areas), wildlife or recreational areas." Unacceptable impacts are defined in terms of site specific impacts of the discharge itself. There is no explicit treatment of secondary impacts related to the activity made possible by dredging. For example, 40 CFR 230.5(a)(4) requires avoidance of "discharge activities that will destroy wetland areas having significant functions in the maintenance of water quality."

The proposed revised 404 guidelines only briefly discuss secondary impacts. "Secondary impacts are changes in the aquatic ecosystem that are attributable to the purpose of the discharge of a dredged material disposal site or a fill, and not to the actual placement of dredged or fill material." Although the definition would seem to cover "all" changes in the aquatic ecosystem that are attributable to the activity which necessitates the discharge, the examples provided in the proposed regulation appear to narrow the definition somewhat in that they illustrate activities at the site of discharge.

> "Septic tank leaching and surface runoff from residential or commercial developments on fill; leachate and runoff from a sanitary landfill located in waters of the U.S., and development of real estate improvements on a dredged material disposal site in a wetland in a manner that results in pollution of adjacent wetlands or other waters through runoff or other effects." (emphasis added)

Although the proposed guidelines discuss secondary impacts they only require that secondary impacts be "considered."

Recommendations:

1. COE should adopt a policy of giving equal consideration to primary and secondary impacts during the public interest review.

2. The 404 Guidelines should be amended to require that the COE consider the primary and secondary impacts of the activity or project that would be made possible by the issuance of a 404 permit when determining the unacceptability of an impact.

d. COE does not have adequate procedures or methodologies for assessing the cumulative impacts of permitting actions.

Each year COE District Offices process thousands of permits in coastal areas. Most of these permitting actions involve relatively minor impacts to coastal resources. For example, the District office in Charleston, South Carolina on May 19, 1980 issued three public notices for permit applications that proposed filling relatively small wetland areas: (1) .1 acre to accommodate a private dwelling and septic tank; (2) 1 acre to accommodate commercial development; and (3) 13,650 sq. ft. for a parking facility to serve a board launching ramp.

Individually these actions may not have a significant impact; however, the cumulative effect of thousands of such actions may seriously diminish the coastal resource base. Although COE is required to review permit actions in light of cumulative impacts, COE does not have an effective methodology or procedures for accomplishing the task. Neither COE headquarters nor District offices maintain complete records detailing the impacts of permits they issue.

Visits to the District offices at Norfolk, Baltimore and New York showed that COE decisionmakers do not have adequate information concerning the cumulative effects on coastal resources of the many permits issued annually. These Districts, however, were actively engaged in developing information systems to assist in analyzing cumulative impacts. In addition the COE's Institute for Water Resources has been for sometime conducting a study of cumulative impact analyses. This study, however, has not been completed and appears to be losing momentum.

Recommendations:

1. COE should accelerate its efforts to develop information systems for assessing the cumulative impacts of permitting actions. Such information systems should track the number of acres of coastal resources destroyed, show which shorelines are bulk headed and locate groins and other erosion control structures. This information would greatly enhance the COE's ability to evaluate fully the impacts of discrete actions.

2. Each District office should be directed to compile an inventory of wetlands and other significant coastal resources within its jurisdiction and prepare annual reports describing the status of this resource base -- e.g. numbers of acres filled; numbers of acres restored.

e. COE does not have a sufficiently detailed definition of wetlands to assure the uniform protection of this significant coastal resource.

COE regulations define wetlands only in general terms:

> "The term 'wetlands' means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically accepted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas."

The interpretation of this general guidance is left to the individual

District Offices, 18 of which have jurisdiction over coastal areas. The lack of a detailed national methodology for defining COE jurisdiction over coastal wetlands has resulted in uneven application of Section 404's protective policies to this valuable national resource.

An example of the confusion that can result from application of this general guidance was submitted in public comments on the FCPR. On Folly Island, South Carolina, the COE has declined to take jurisdiction over a proposed project because (according to the COE) the project is not located in a wetland. The proposed project consists of upgrading a dirt road to service a 540-unit condominium development proposed for the rapidly ercoding, undeveloped southwest end of Folly Island. This existing road runs between the dunes and a backside marsh and will require fill. Traffic over the dunes has destroyed the vegetation, so wetlands species are not found on the road itself. The road is periodically inundated, however, and pockets of wetlands (high marsh) vegetation grow on either side of the road. After a site visit the COE drew its jurisdictional lines to exclude the area of the proposed project. The Fish and Wildlife Service, also after a site visit, concluded that the jurisdictional line should have included the area of the proposed project. As of June 6, 1980, the issue is still unresolved. The proposed development, however, appears to have been postponed for economic reasons.

<u>COE policy discouraging land exchange as a measure for mitigating adverse environmental impacts may conflict with national coastal protection goals.</u>

The COE has broad authority to condition the approval of permits. According to 33 CFR 325.8 (b), District Engineers are authorized to issue

permits "subject to such special conditions as are necessary to protect the public interest in the waters of the limited states." According to 40 CFR 230.3 (d)(1), a Section 404 permit may be subject to "appropriate discharge conditions to minimize unacceptable effects on the aquatic environment." COE policy with respect to conditioning permits to protect fish and wildlife values as stated in 33 CFR 320.4(c) is to consult with appropriate fish and wildlife agencies "with a view to conservation of wildlife resources by prevention of direct and indirect loss and damage due to the activity proposed in a permit application. COE regulations further state "the applicant will be urged to modify his proposal to eliminate or mitigate any damage to such resources, and in appropriate cases" to condition the permit to "accomplish this purpose."

These very general guidelines were expanded in a policy guidance letter issued by the Chief of Engineers on February 13, 1978. One specific issue focused on in the letter is "the extent of mitigation required for fish and wildlife values, and whether this mitigation should take the form of land exchange." According to the Chief of Engineers the "primary emphasis in the formulation of conditions should be directed toward the avoidance or mitigation of impacts on fish and wildlife values directly associated with the construction and subsequent operation of the permitted activity." However, the memorandum indicated that "District Engineers generally should not become directly involved in negotiations with a permit applicant to achieve commitments on land acquisition as a primary means of securing another Federal agency's concurrence to the issuance of a permit or of tilting the balance in favor of issuing a permit in the public interest, especially when the land to be acquired is not associated with the impacts

of the proposed work." Land exchange agreements, states the letter, "generally should not be included as special conditions to the permit," but instead should remain enforceable only through the parties to the agreement. The COE does, however, recognize that there may be exceptions to the general guidance.

The COE reluctance to encourage land exchange as a mitigating measure is based on their assessment that in "recent years, public attitudes and values have changed" and that "acquisition of separable lands for wildlife mitigation is becoming less acceptable on both social and economic grounds." According to the COE "many resource managers now believe that the public interest can best be served by acquiring the minimum amount and interest in lands for the purpose of mitigation, and investing more effort into the development and management of these and existing public lands."

COE policies with respect to conditioning permits as a means of protecting natural resources is too passive and narrow to be in agreement with the fundamental national policy articulated in Section 101 (b) of NEPA "to use all practicable means" to "preserve" the "natural aspects of our environment" and with COE regulations authorizing the use of "such special conditions as are necessary to protect the public interest in the waters of the United States." An illustration of the effect of the COE's bias against land exchange as a mitigation measure follows.

On August 30, 1976 the COE issued a permit to the Port of Gray's Harbor to fill 45 acres of salt marsh wetland at the mouth of the Hoquiam River in Gray's Harbor at Hoquiam, Washington, to accommodate development of a site for construction of offshore oil drilling platforms. The U.S. Fish and Wildlife Service reluctantly agreed to this development because

an urgent and national energy requirement existed for drilling platforms in the region and suitable alternative sites were not available. On May 30, 1979, the COE issued a public notice requesting a one-year time extension and other modifications to the permit. As of that date a a qualified teneant to develop the site for water dependent, energy-related uses had not been found.

The FWS proposed that if a qualified tenant was not found within two years the permit holder be required to elect within 30 days, one (among others) of the following mitigation measures:

"a. Removal of the entire fill of 457,500 cubic yards and restoration of the iste to natural or as near the preexisting conditions as possible."

"b. Provision of an equal type, amount, or quality and value of new wetland habitat comparable to that filled under this [original] permit. This habitat to be created, established or restored within Gray's Harbor estuary."

In response to this proposal the Seattle District of the COE acknowledged that it had authority to require restoration of the project site but dismissed without further explanation the idea of "acquiring separate lands for wildlife mitigation" as "inappropriate."

Recommendations:

1. COE should adopt a strong policy of requiring applicants to use all practicable means, including land exchange, to mitigate adverse impacts on significant coastal resources as a condition of obtaining permit approval. In this regard, COE should require the conditioning of permits to protect against all secondary impacts that are reasonable foreseeable and are identified during the environmental assessment process.

2. COE should adopt a uniform policy of requiring the replacement or restoration of destroyed coastal resources with an equivalent amount of coastal resources. For example an acre of wetlands destroyed should

be replaced with an acre of wetlands either by creating a new wetland or by transfer to the public domain or other suitable method of protection.

G. The "water dependency" test embodied in the 404 Guidelines is not sufficiently strong to prevent filling of wetlands for non-water dependent uses.

33 CFR 230.5(b)(8)(ii) states:

"Discharge of fill material in wetlands shall not be permitted unless the applicant clearly demonstrates the following:

(a) the activity associated with the fill must have direct access or proximity to, or be located in the water resources in order to fulfill its basic purpose, or that other site or construction alternatives are not practicable; and

(b) that the proposed fill and activity associated with it will not cause a permanent unacceptable disruption to the beneficial water quality uses of the affected aquatic ecosystem..."

If a proposed fill does not cause permanent unacceptable damage, the 404 Guidelines appear to allow the filling of wetlands to accomodate a water dependent activity solely on the basis that the activity "must be located in the water resources to fulfill its basic purpose." There is no requirement to seek sites that have access to water but are not located in wetlands. There is no requirement to find that the filling of wetlands to accomodate water dependent uses is the only practicable alternative or that there is a need for the activity that rrecessitates the fill. The policy as stated in the guidelines not only does not protect wetlands but on its face encourages the filling of wetlands to accomodate water dependent uses. The protection offered by the water dependency test is therefore illusory.

Proposed revised 404 Guidelines remedy this deficiency in part, by providing that the "discharge of dredged or fill material does not comply with the Guidelines if there is a practicable alternative to the proposed discharge that is environmentally preferable and will have less adverse impacts on the aquatic ecosystem." The proposed Guidelines further state:

> "In the case of a discharge of fill material into special aquatic or wetland areas, where the activity associated with the fill does not require access or proximity to or siting within, the water resource in question to fulfill its basic purpose, the discharge may be allowed only if, in addition to the other requirements of the Guidelines (alternatives, impacts, mitigation), there is a showing that the activity associated with the fill is necessary."

A comment to the regulations, the legal significance of which is uncertain, explains that:

> "This test is intended to prevent the destruction or adverse alteration of wetlands and special aquatic areas by non water dependent activities except in cases where the applicant can show that the basic purpose of the activity is one for which the local community has a demonstrable need. In assessing the basic purpose of an activity, one must look at the basic service or product it provides. For example, the basic purpose of a housing development located in a wetland site is still housing. Thus, to meet this test, the applicant would have to show a need for housing, per se, not merely a demand for waterfront housing."

However, for water dependent uses there is still no requirement to show a "demonstable need" for the activity that necessitates the fill.

Recommendation:

(i) The 404 Guidelines should be revised to prohibit the filling of wetlands unless the applicant can clearly demonstrate that the activity associated with the fill is in the national interest and there are no practicable alternatives.

(ii) The 404 Guidelines should be amended to require full mitigation for wetlands destroyed by discharge of dredge or fill material.

(iii) EPA should be directed to implement vigorously a program to designate pursuant to Section 404(c) and 40 CFR 231, areas where all discharges will be prohibited.

(iv) The 404 Guidelines should be amended to require the applicant to clearly demonstrate that the fill is necessary.