ALTERNATIVE CONCEPTUAL FRAMEWORKS FOR EXPANDING THE NATIONAL MARINE SANCTUARIES PROGRAM PHASE II OF A STUDY FOR THE FRAMEWORK OF THE MARINE SANCTUARIES PROGRAM

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PHASE II OF A STUDY FOR THE
FRAMEWORK OF THE MARINE SANCTUARIES PROGRAM

CONTRACT NUMBER #CNA/OCZM 7-35118

PREPARED FOR

THE OFFICE OF COASTAL ZONE MANAGEMENT
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
DEPARTMENT OF COMMERCE

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U.S. National Oceanic and Atmospheric Administration.
Office of Coastal Zone Management.

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CHAPTER 1

INTRODUCTION

A. A SUMMARY OF PROGRAM NEED

The need for a national Marine Sanctuaries Program (MSP) was analyzed in detail in the Center for Natural Areas' Phase I report to the Office of Coastal Zone Management. (1) That study evaluated the Program's potential in terms of the increasing pressures being placed upon the marine environment's natural resources, and concluded that in light of the authority contained in Title III of the Marine Protection, Research, and Sanctuaries Act, its legislative history, and the administrative policies which have been developed to implement the legislation, the Program possesses the capability to assume a major role in the nation's still developing national oceans policy.

CNA's Phase I study also assessed the Marine Sanctuaries Program in the context of other existing federal and state resource management programs, in order to determine whether the Program's potential could be realized through other means. The findings of the study demonstrate that these programs, neither singularly nor in combination, can offer the kind of positive, comprehensive, yet flexible protection to marine areas of special value that is available under the Marine Sanctuaries Program. Significant opportunities do exist for the Program to enhance its effectiveness by developing mechanisms that would enable it to coordinate activities with other federal and state programs. However, because these other programs are land oriented (e.g. National

Parks, Forests, Wildlife Refuges, Wilderness Reserves); species limited (e.g. Marine Mammals, Endangered Species and Fisheries legislation); confined to the regulation of particular marine activities (e.g. dredge or fill, water quality discharge, and ocean dumping permit programs, as well as OCS mineral leasing withdrawals); or jurisdictionally limited (e.g, state marine reserves programs), they cannot be viewed as viable substitutes for a comprehensive Marine Sanctuaries Program. But perhaps the best evidence of the acute need for a national Marine Sanctuaries Program lies in the ever increasing pressures being placed upon the marine environment. As the Phase I report illustrates, these competing pressures include demands for recreation, energy, raw materials, food, waste disposal, and scientific research. The simple demographic facts of the nation serve to underscore the severity of these pressures -- in 1970 over 53% of our population resided within 50 miles of the coast (2), and indications are that this percentage will continue to increase.

As the nation continues to look seaward for its food, energy, and recreation, a Conceptual Framework must be developed to assure that in satisfying the needs of the present we do not overlook those of tomorrow, and that development be accompanied by increased efforts to preserve, maintain and enhance marine resources. The recognition was implicit in the nation's recent expansion of jurisdiction over fisheries resources to the 200 mile limit.

ning, marine areas can be protected on the basis of ecological values rather than political boundaries.

Similarly, the Marine Sanctuaries Program appears well suited to complement the Estuarine Sanctuaries Program. But by its very nature the latter program is geographically confined to estuaries and their adjacent uplands. Moreover, because its emphasis is clearly on preservation of representative areas for research purposes, it does not possess the rather open-ended mandates conferred upon the Marine Sanctuaries Program to protect and restore diverse marine areas for their natural or cultural values. However, the intelligent integration of designated estuarine sanctuaries with marine sanctuaries, as well as with coastal zone planning efforts, will afford an opportunity to establish a continuum of protection and national management over the land-water interface from the uplands to the estuary and out to sea.

Thus, the Marine Sanctuaries Program can be seen as fulfilling many functions -- from complementing the protection afforded federal and state territorial reserves, to extending coastal zone/estuarine sanctuaries planning efforts, to serving as a balance to the nation's current emphasis on marine resource exploitation. In order for it to fulfill these various functions, however, the Program needs to be guided by a coherent and comprehensive Conceptual Framework. This Phase II Report is the initial

step in developing such a framework.

The Phase II report was designed to identify specific program objectives; to develop alternative Conceptual Frameworks to guide the national Marine Sanctuaries Program; to recommend a Conceptual Framework from these alternatives; and, to identify alternative mechanisms for achieving these objectives.

After concurrence by the Department of Commerce with the recommended Conceptual Framework or with one of the alternatives, the Center for Natural Areas will proceed to develop the approved Conceptual Framework into a detailed management plan in Phase III.

B. THE PHASE II REPORT - METHODOLOGY AND GUIDE TO THE REPORT

The methodologies employed by the Center in the preparation of this report were initially formulated in the preparation of the Center's grant proposal to the Department of Commerce. This, in turn, was based on the Center's experience with other public and private efforts intended to foster sound management of the nation's natural and cultural resources. During Phase I of our work, we expanded our knowledge of the nation's attempts to establish a viable ocean policy and refined our understanding of the human and institutional experiences in attempting to preserve and restore our nation's marine and Great Lakes environments. This process has led to the present structure of this report.

In Chapter 2, the process by which institutions and individuals interpret and formulate specific program objectives from broad, general objectives is described. The Center believes this is essential, first, because of the rather confusing language that has arisen in recent years with the growth of resource management and resource planning efforts, and second, because our experience has confirmed the need to establish a common terminology when a variety of professions and a variety of responsiblities are involved. Moreover, Chapter 2 considers the danger, however remote, of formulating a set of specific

objectives that only partially fulfills the broad general objectives set forth in the legislative mandate.

Turning to the general objectives established by the Congress for the national Marine Sanctuaries Program, Chapter 2 sets forth specific Program objectives together with a rationale and discussion of these specific objectives. While the legislation establishing the Program speaks in terms of four values -- ecological, conservation, esthetic, and recreational -- the Center has concluded that the use of two categories -- natural and cultural -- was more appropriate for ensuring understanding and orienting the Program's missions.

As originally designed, what is now Appendix I -- alternative mechanisms -- was to follow the discussion of specific objectives. This section, designed to identify and discuss the necessary mechanisms to achieve Program objectives, was divided into three sub-sections including mechanisms to 1) demonstrate the Program need in order to enlist the support of other marine-related entities, 2) develop nomination and designation procedures and criteria, and 3) manage those sanctuaries that are designated. During the final stages of the writing of this report, we determined that the scope and level of detail involved in developing these mechanisms would not, necessarily, be of primary concern to those charged at this time with approving a Conceptual Framework for the purposes of our Phase III study. It should be noted,

however, that Appendix I is an integral part of the Phase II report. In fact, the preparation of the Appendix was critical to the formation of the alternative Conceptual Frameworks and its present value should not be underestimated.

In the course of the development of the Phase II report, it became evident to the Center staff that there were three distinct Conceptual Frameworks which could achieve the specific objectives of the national Program. Each of these Conceptual Frameworks encompasses all of the specific objectives and mechanisms to be used in achieving the general objective of this study -- an effective national Program. Within Chapter 3, Framework I emphasizes the pre-nomination phase; Framework II the nomination/ designation process; and Framework III the post-designation phase.

In Chapter 4, the Center recommends Framework II as the most effective conceptual guide to initiate Program expansions, as well as outlining time phased Program objectives for further refinement in Phase III.

FOOTNOTES

1. Center for Natural Areas, "An Assessment of the Need For a National Marine Sanctuaries Program" (1977).
2. Senate Commerce Committee Report on the National Coastal Zone Management Act of 1972, S. Rep. No. 753, 92nd Cong., 2d Sess., p. 2, (1972).
3. President's Message on the Environment, May 23, 1977, pp. 9, 14.
4. See CNA "supra" note 1, p. 27.

CHAPTER 2

DEVELOPMENT OF OBJECTIVES FOR A NATIONAL SYSTEM OF MARINE SANCTUARIES

A. INTRODUCTION

The primary purpose of this section is to provide the administrators and staff of the MSP with both meaningful, achievable and specific Program objectives and the criteria and rationale upon which they are based. In section B of this Chapter, a common language problem associated with such confusing terms as goals, objectives, and purposes is first addressed and defined. Then, the method of transition from general objectives to specific objectives for the national Marine Sanctuaries Program is described in general terms. The authors presume that the reader either has reviewed the Phase I "National Need" study by the Center or has carefully examined the summary of this study contained in the preceeding section of this report.

In section C, specific Program objectives are identified together with the rationale supporting their identification. This section, along with the Phase I "National Need" study, provides the foundation upon which an informed decision regarding an appropriate Conceptual Framework for the Program can be made. The authors' proposed Conceptual Framework is set forth in Chapter 4; a detailed discussion of the alternative Conceptual Frameworks is set forth in Chapter 3 of this report.

B. CRITERIA FOR DEVELOPING SPECIFIC PROGRAM OBJECTIVES

1. Legislative Mandate

The Marine Sanctuaries Program's (MSP's) enabling legislation establishes four general objectives towards which the Department of Commerce is to proceed. These general objectives -- to preserve or restore ocean and Great Lakes areas for their conservation, recreational, ecological, or esthetic values -- are not sufficiently precise to provide administrative officials with either a clear sense of priorities or definitive criteria for determining whether adequate progress is being made towards the achievement of these general objectives.

2. Definition of Key Words and Phrases

During the early years of a new program's existence, when short-term and longer-term planning efforts are most needed, it is essential that key words and phrases be defined and understood by those involved or affected by the Program.

Moreover, since this study is designed to be used by both policy level and management level decision-makers, and because the scope of the national Program encompasses many distinct fields of knowledge, it is essential to define certain key terms and phrases used throughout.

The definition of terms is particularly important when the Program requires close cooperation among individuals with

widely ranging backgrounds, such as scientists, lawyers, economists, managers, planners and accountants. For this reason, the following terms are defined and synonyms set forth. A preferred word for common Program usage is also set forth.

a. Something towards which effort is directed; aim or end of action; the thing sought to be accomplished:

   Preferred Word: Objective

   Synonyms: Goal; purpose.

b. A process or tool used for achieving an objective:

   Preferred Word: Mechanism

   Synonyms: Technique; method.

c. The general precepts by which government is guided in its management of public affairs, or legislatures in their measures; prudence or wisdom in the management of affairs; a guide to present and future decisions; a high-level overall plan embracing the general objectives:

   Preferred Word: Policy

   Synonyms: Principle.

d. A standard on which a judgment or decision may be based:

   Preferred Word: Criteria

   Synonyms: Measure; rule.

The consistent use of these terms, coupled with a clear perception of the programmatic role and responsibilities of participating individuals, will significantly aid the formulation and implementation of the national Program. While some may consider the point obvious, it must be clearly understood by all participants in the Program that one person's general objectives can be another person's specific objectives. The specific objectives of the Program administrator, for example, are perceived as general objectives by an individual with Program management responsibilities. Thus, by way of illustration, a policy-maker's specific objective to protect a type of marine area such as coral reefs is formed from the general objectives established by the Congress -- to preserve areas of ecological value. Similarly, the policy-makers specific objectives to protect coral reefs becomes, in turn, the general objective of one of the individuals responsible for administration. The latter, in turn, forms specific objectives, such as which coral reefs and in what order of priority they are to be preserved and protected. The phenonmenon continues throughout the hierarchy of the organization.

Unless this phenonmenon is appreciated, hierarchial communication can easily breakdown. Moreover, the odds would be substantially increased that the transition from general to specific objectives will result in a series of objectives which do not address, in toto, the general objectives.

C. PROPOSED PROGRAM OBJECTIVES

1. The Role of Objectives in the Marine Sanctuaries Program

The reasons for translating from the general objectives established for the Marine Sanctuaries Program in Title III to the specific Program objectives is to convert the former abstract, generic objectives into precise, well-defined terms. If this statement is to be complete, the sum and substance of all the specific objectives combined should beidentical to the original general objective. In simple terms, the sum of the parts should equal the whole.

This literal translation from the general to the specific may not always be the most desirable or useful application of a legislative authority. Statutes that delegate management authority to implementing agencies are often written in broad terms in order to leave a great deal of discretion to agency administrators. This is often done in recognition of the expertise that exists within the implementing agency. The latitude within the law allows the agency to develop specific objectives where their experience indicates the greatest need exists.

In this context, the Center recommends that, during the initial period of establishing a national Program, the MSP focus its attention on preservation of marine areas rather than on restoration. Marine habitat and ecosystem restoration is, at present, an undeveloped science. However, it is also a science that must be developed if the

full range of our native marine diveristy is to be retained. Thus, this recommendation does not imply that restoration should be ignored. Important marine areas that may require restoration should be designated to protect them from further degradation. Restoration efforts should, however, be postponed until enough sancturies have been designated to allow the emphasis to shift from designation to sanctuary management. This recommendation results from the Conceptual Framework recommended by the Center in Chapter 4 of this report.

2. Specific Program Objectives

The Center has grouped the recommended specific objectives into two major categories: natural and cultural. All objectives dealing with natural ecosystems, and the parts thereof, are grouped under the "natural" heading. Although the act separately identifies areas with conservation and ecological value, the Center believes a "natural" area category more closely reflects an ecosystem perspective that will, in turn, facilitate recognition of the interrelationships within a specific site and its surrounding areas. Moreover, "conservation" is normally taken to mean a management concern, not a distinct value. Thus, conservation relates more to management objectives such as "to restore" or "to preserve" than to a resource value, such as "ecological" or "recreational". Thus, conservation is subsumed by the "natural" category.

All objectives concerned with recreation and esthetics are

grouped under the "cultural" heading because the line between the two topics is even less distinct than that between ecosystems and their components. The "cultural" category also includes those objectives relating to historical value.

a. Natural

GENERAL OBJECTIVE:

To preserve or restore the integrity and diversity of a representative series of the nation's living marine systems and the environments within which they exist.

SPECIFIC OBJECTIVES:

1. To establish a system of sanctuaries that recognize and protect major community relationships that are representative of the marine ecosystem.
2. To preserve or restore specialized environmental habitats and areas that provide essential ecological benefits of regional significance.
3. To preserve or restore sites which exhibit unique or exceptional examples of living system relationships (e.g. a coral reef community established at the extreme limit of its natural range).
4. To preserve or restore productive or diverse examples of living marine systems (e.g. marine grassbeds, coral reefs, kelp beds).
5. To preserve or restore marine habitat areas critical to the life histories of exploitable marine species for the long-term benefit

of society (e.g. spawning grounds, migratory corridors, nursery areas).

6. To preserve or restore marine habitat areas critical to the life histories of rare and endangered marine species for the long-term benefit of society (e.g. spawning grounds, migratory corridors, nursery areas).

7. To preserve or restore natural marine processes and the genetic relationships connecting freshwater and marine environments by coordinating with land, marine, and estuarine preservation or restoration initiatives.

8. To preserve or restore marine areas of exceptional value for research and education on marine processes.

9. To preserve or restore marine areas of exceptional value for the development of baseline marine data for use by present and future generations.

RATIONALE:

The marine waters and submerged lands over which the United States and the many coastal states have jurisdiction or a significant interest contain a wide variety of habitat and ecosystem types and sustain a vast array of marine species. In the face of extensive exploitation and environmental degradation, the natural system components of the marine ecosystem are clearly in jeopardy. Many of these system components are not expected to survive in an unaltered state without deliberate protective intervention.

As has been documented in the Center's Phase I report, such system components are valuable to society in many ways. They are certainly important to support the continued existence of present and potentially exploitable stocks of marine species. Furthermore, they offer sites for continued scientific study of marine systems, thereby providing the knowledge required for effective marine environment management.

Therefore, pursuant to the letter and intent of Title III of the MPRSA, in the face of real and potential threats, and to retain for future generations of Americans the natural values deriving from our marine heritage, steps must be taken to locate, designate and preserve a series of marine systems fully representative of the native diversity and to manage such systems in a manner consistent with maintenance of the primary natural values for which the systems are preserved.

The specific objectives are designed to direct Program attention to those types of marine sites whose protection will maximize ocean and Great Lakes preservation and conservation interests. Thus, the first objective is intended to encourage the establishment of a system of sites that protect representative examples of the nation's broad marine zones characterized by a regionally dominant combination of climate, species compositions, current patterns, and physiogeographic features. The second objective ensures the protection of localized marine areas that contribute a disproportionately large

amount of nutrients, species restocking functions, or other qualities that, in turn, sustain biological productivity throughout a broad marine area. The third objective calls for the protection of certain noteworthy but uncommon marine habitats that result from an unusual combination of physical, chemical and biological oceanographic factors. (The Flower Gardens Reefs, which has been considered for sanctuary nomination, is a coral reef modified by the oceanographic conditions found at the northern extreme for reef-building coral communities and provides an example of the unique and highly unusual living systems included in this objective.) The fourth objective includes more common marine sites such as coral reefs, algae reefs, kelp beds, and grass beds, whose great productivity and/or diversity makes them exceedingly valuable components of the marine ecosystem.

The fifth and sixth objectives are designed to direct attention to the environmental features and habitats critical to the life histories of exploitable species and rare and endangered species. Location and protection of such features and habitats should aid in the management of the stocks of such species for the long-term use of society. Such features and habitats would include breeding, spawning, and nursery areas, migratory routes, current patterns, sensory cues, and other variables determined to be important to their life histories.

The commericially exploitable species of concern might include those species for which fisheries managemnt plans have been prepared under the authority of the Fisheries Conservation and Management Act of 1976. Many of the environmental features and habitats critical to the life histories of some of our exploitable marine stocks have already been severely degraded. The Marine Sanctuary provisions of the MPRSA should be fully utilized to provide for the restoration and continued maintenance of appropriate environmental and habitat conditions in those areas determined to be critical for the survival and long-term health of the stocks of exploitable marine species.

The rare and endangered marine species might include those on the U. S. Fish and Wildlife Service endangered and threatened species list. Currently limited to a few species of sea turtles, marine mammals, and fish, this list may expand in the future and include additional species including some coral.

The seventh objective focuses attention on those sites whose protection will complement other aquatic protection efforts in rivers and estuaries. This will not only aid in protecting a large segment of the hydrologic cycle and the resulting physical/chemical interrelationships that unite fresh water, estuarine and marine ecosystems, but will also afford a previously unfeasible degree of protection for those species who migrate through all these environments. Among the important species that spend critical life stages in each of these aquatic ecosystems are the commercially and

recreationally valuable blue crab, striped bass, certain species of shrimp, red hake, drum, sea trout, salmon, shad, and others.

The eighth and ninth objectives are intended to set aside marine sites of value for scientific study of natural marine processes. Certain potential sites may have particular attributes which provide unique opportunities for both pure and applied research and/or education. For example, an area which has been continuously studied and monitored for several years by an oceanographic institute may be critical and irreplaceable to signficant long-term climatology, population dynamics, or environmental degradation studies. Moreover, in order to effectively manage any natural system, it is essential to understand the principles through which its processes combine to create the whole. By setting aside research areas and encouraging interdisciplinary marine study, the knowledge necessary to manage marine areas in the most efficient manner possible will be developed.

DISCUSSION:

In its full development, the national system of Marine Sanctuaries should include representative examples of every major marine system type native to our coastal waters. Some will be essentially in the natural condition. Others will be systems restored to near-natural condition from states of prior degradation. The system should be managed to preserve the natural values for which the individual areas have been set aside, and under such management the integrity of our native marine heritage should survive and

remain available for the use and enjoyment of future
Nation.

The life histories and environmental requirements of our exploitable marine species are very complex and, in general, poorly understood. Yet, it is clearly in the interest of society to ensure that the populations do not collapse (as did the California Sardine population). The sensitivities of the various species must be studied, understood, and protected to provide for their continued harvest. In the relative absence of explicit knowledge of the requirements of these species, it behooves us, as a society, to preserve those features and habitats known or thought to be critical. It is a clear maxim that the best way to protect species is to preserve habitats. Habitat protection in the marine environment is a new endeavor, but one which is considered essential to the long-term protection of our marine species.

b. Cultural

GENERAL OBJECTIVE:

To preserve or restore marine areas of special recreational, esthetic or historical value for the long-term enjoyment and benefit of society.

SPECIFIC OBJECTIVES:

1. To preserve or restore a system of sites which include opportunities for a diversity of marine recreational activities including, but not limited to, fishing, diving and nature study.
2. To preserve and restore significant marine recreational sites near urban centers to ensure the protection of marine recreational activities nearest areas of population density.
3. To preserve or restore significant marine sites of value for tourism and education of the general public.
4. To preserve or restore near shore marine sites of recreational value that complement shoreline recreational opportunities, particularly those afforded by national seashores and other coastal park systems.
5. To preserve or restore seascapes and other esthetic values seaward of coastal parks, cultural centers or seashore communities whose quality is significantly dependent on marine esthetic factors.

6. To preserve or restore marine sites of significant archeological or historic value.

RATIONALE:

In our rush to develop the various types of marine resources of economic value, the nation finds itself relying solely upon market mechanisms to allocate the marine resources among competing commercial, recreational, esthetic, and historic interests. Currently, however, there is no effective means of assigning economic values to marine recreational, esthetic or historic concerns. This should not imply that these cultural uses are less valuable, but it does imply that unless special measures are taken on behalf of these marine uses, many of the nation's prime marine recreation, esthetic and historical sites may fall victim to the path of economic development in our oceans and Great Lakes waters.

Over the span of the past two decades, increases in leisure time, prosperity, and mobility have, in general, combined to tremendously expand outdoor recreation activity. Accompanying this trend has been a desire for greater harmony with nature and more contemplative pursuits. The effects on past marine recreational growth and the implications for the future are significant. Virtually all marine recreation activites, including fishing, swimming, diving, and nature study, have grown rapidly in popularity.(1) Moreover, with the trend toward more contemplative pursuits, and a corresponding

desire to visit more remote places, it is likely that the nation's marine environment will become a recreational frontier of even greater importance.

As with the specific objectives in the natural category, the objectives concerned with cultural aspects are designed to direct Program attention to those types of marine sites the Center believes to be of greatest cultural significance. The first specific objective is designed to ensure that the Marine Sanctuaries Program provides a series of sanctuaries that protect those marine areas presently used extensively by recreationists or which possess exceptional recreation potential. All types of marine recreation that would be dependent on a localized marine area should be included. The second objective is intended to recognize and protect those marine recreation areas near major coastal cities where ocean and Great Lakes waters of recreation value are in greatest demand and face the most severe pressure from competing uses. The third objective focuses attention on incorporating into the system, special marine areas whose attraction provides a resource upon which a significant portion of the economy of various coastal communities depends.

The fourth objective encourages the Marine Sanctuaries Program

to work with other coastal recreation efforts to establish sanctuaries that complement coastal, land-based recreation initiatives such as those associated with the National Park Service's National Seashore and Lakeshore systems, and state coastal parks. The fifth objective provides for the establishment of sanctuaries to protect Great Lake and ocean scenic qualities that form an integral part of the appeal of certain coastal settings. The sixth objective insures the protection of marine sites valuable for the submerged human artifacts they contain. As the science of underwater archeology is refined, former habitation sites or sunken ships now lying hidden from view and inspection will likely become an increasingly important source of information and investigation.

DISCUSSION:

Governmental intervention in the market place for the benefit of present and future generations has substantial precedent in U.S. history. Through the far-sighted efforts of conservationists and others in the previous and present century, relatively large tracts of federal lands, such as national parks, national forests, national recreation areas, and wilderness areas have been set aside. Those behind these efforts realized that the nation needed to recognize and conserve its land resources. Even though many areas, such as the Grand Canyon and Yosemite National Parks, appeared remote and isolated

from people and development at that time, it was recognized that these areas would be faced with substantial development pressures in the future. It was also recognized that if these significant land areas were not protected, their natural and cultural values might be lost forever.

A similar opportunity now exists for far-sighted protection efforts focusing on significant marine areas. As emphasized in Phase I of the Center's report, Title III of the MPRSA provides one of the few effective means of focusing protection efforts on significant marine areas.

FOOTNOTES

1. Clark, John, David Laist, Ellen Thomas, and Langdon Warner, "Marine Recreation - A Literature Review and Status Report," Prepared for NOAA, p. 291 (Dec. 1974), (an unpublished paper)

CHAPTER 3

ALTERNATE CONCEPTUAL FRAMEWORKS

FOR THE

NATIONAL MARINE SANCTUARIES PROGRAM

A. INTRODUCTION

1. The Objective

The primary concern of the administrators and managers of the National Marine Sanctuaries Program is to establish an effective program. An effective Marine Sanctuaries Program will be one that meets its stated general objectives -- to preserve or restore marine and Great Lakes areas of exceptional natural and cultural value. Once a national Program is put in motion, proper administration requires a framework through which day to day decisions can be related to Program progress. This Chapter is designed to portray, to Program administrators, a range of Frameworks that will provide this necessary direction. (For the most thorough understanding of these Frameworks, it is strongly recommended that the reviewer also examine the more detailed presentation of necessary program functions and mechanisms in Appendix I.)

The danger implicit in managing a growing and potentially large program with seemingly multiple objectives, is that it is often difficult to measure the impact of individual day to day management decisions on the Program's overall progress towards its objectives. The Program administrator can separate priority items from items of minor import by recognizing that there is basically only one criterion by which to measure all decisions and activities. The single criterion is whether a particular action contributes to achieving an effective Marine Sanctuaries Program. This criterion will be reflected in the Conceptual Framework chosen to guide the Program.

The choice of a Conceptual Framework does not necessarily minimize the challenges facing the Program administrator, for there are a multitude of questions to be considered and decisions to be made after a Framework is selected. In fact, a full array of mechanisms to implement the Framework must be picked at that time. However, if everything done by the administrator satisfies the basic criterion, the Program will, at the least, have a positive direction. The Conceptual Framework chosen to guide the development of the national MSP will ensure that this positive direction is achieved in the most effective manner.

The key to understanding each of the Conceptual Frameworks developed in this chapter is that each of the Frameworks could achieve the specific objective of the National Marine Sanctuaries Program. Each Framework can, if properly implemented, result in an effective Program that fulfills the national objectives discussed in Chapter 2 of this report. The choice among Frameworks, therefore, should be made on the basis of how well the presumptions of each Framework correspond with the informed judgment of the Program administrator. Accordngly, the decision should focus on which Framework is felt to be most effective in addressing Program objectives. The facts influencing this choice among Frameworks are partially discussed in this Chapter within the rationale section. Following the description of each Framework, it is also of critical importance for the reviewer

to carefully consider the detailed examination of the Program phases and mechanisms described in Appendix I and outlined immediately below. In addition, section E of this Chapter fully discusses the issues and ramifications involved in the choice of a Framework.

2. Marine Sanctuaries Program Phases

The three basic phases in the Marine Sanctuaries Program are pre-nomination, nomination/designation, and post-designation. In the pre-nomination phase the emphasis is upon gaining Program support; in the nomination/designation phase the emphasis is upon obtaining designations; and, in the post-designation phase the emphasis is upon managing designated sanctuaries. It is clear that a successful MSP must contain all of these phases simultaneously. It would be futile to attempt to obtain nominations if they cannot be designated. It is infeasible to designate sanctuaries without nominations, and it is counterproductive to designate sanctuaries without managing them. Finally, it is a contradiction in terms to manage sanctuaries that have not been designated.

The major distinction among the three Conceptual Frameworks presented in this Chapter is the degree of emphasis placed on the three basic phases in the Program. The degree of emphasis placed on each of the phases of the Program will affect the choice of mechanisms used to accomplish the objectives of the steps, the type and number of personnel the Program will need to achieve the primary objective and the initial direction the Program will take to achieve the primary

objective. The choice of emphasis will also affect the distribution of expenditures by phase within the Program, and may also affect the total cost of the Program, the speed at which the Program objectives are reached, and the number of sanctuaries designated within a given time frame. The key to understanding the three Conceptual Frameworks is that each is designed to achieve the same specific objectives; the Frameworks differ only in the means they utilize to achieve these objectives.

3. Conceptual Frameworks Defined

The dictionary provides some assistance in defining a Conceptual Framework. It is defined as a basic structure consisting of abstract ideas or thoughts. (1) The Center for Natural Areas (CNA) has applied this definition of the Conceptual Framework to the realities of the Marine Sanctuaries Program by putting full faith in the proposition that there are actually not alternative Program objectives, but only alternative Conceptual Frameworks for achieving the Program's objective. Thus, the Marine Sanctuaries Program as viewed in this report stands at a junction of three roads. Each of the roads leads to the same place, but the roads pass through different terrain, each will require slightly different skills to navigate, and each uses a slightly different vehicle to traverse the road. Further, because of their abstract nature, the Frameworks should not be assumed to define clearly marked roads, but instead, general courses, the design of which are flexible.

portions of its public lands as national parks, forests, wildlife, refuges, and more recently, wilderness areas. But while substantial areas of land have been preserved and protected, the focus has been almost entirely on lands above the high water mark of the oceans and Great Lakes. (4) Consequently, since 43% of the nation's public lands lie offshore, they have not benefited from similar protection. Properly viewed, the Marine Sanctuaries Program constitutes the marine equivalent of these territorial-based reserves, and can serve to extend the protection afforded by them to adjacent marine ecosystems -- protection which is currently unavailable or not asserted. Marine sanctuaries, therefore, can not only be employed to temper development pressures, but can also serve to expand seaward the effective scope of protection of areas of exceptional natural and cultural value.

Marine sanctuaries can also be viewed as the logical extension of coastal zone planning efforts, as well as the preservation of estuarine sanctuaries. In fact, state coastal zone plans, through the identification of geographic marine areas of particular concern in their coastal zones (i.e. within the 3 mile limit), can help to identify potential marine sanctuary sites. In this manner, the Marine Sanctuaries Program can effectively complement and enhance state coastal zone planning and vice versa. Moreover, since the Program is not burdened with the jurisdictional limitations which encumber the marine side of coastal zone plan-

4. The Three Frameworks In Brief

The differences among the three Conceptual Frameworks is their focus or emphasis. Each Framework utilizes a different priority ranking among the three phases of the Marine Sanctuaries Program. Figure 3-1 portrays the three Conceptual Frameworks schematically.

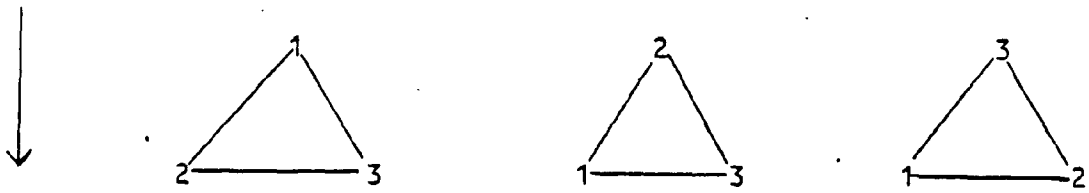
Figure 3.1

The Three Conceptual Frameworks

Decreasing

Degree of

Emphasis



Framework I Framework II Framework III

1 = Pre-Nomination Phase

2 = Nomination/Designation Phase

3 = Post-Designation Phase

Figure 3-1 shows that Framework I places primary emphasis on pre-nomination efforts as the method of achieving Program objectives. Framework II places primary emphasis on nomination/designation as the method of achieving Program objectives. Framework III places primary emphasis on post-designation as the method of achieving Program objectives. Thus, Framework I concentrates on gaining Program-wide

support, Framework II on obtaining designations, and Framework III on sanctuary management. Figure 3-1 also indicates that each of the three Frameworks includes all three phases of the Program.

The remainder of this Chaper will describe each Framework in detail, discuss the rationale for choosing to use each particular Framework, and discuss the ramifications and implications of choosing each Framework. However, before proceeding to this task, the schematic representation of the Conceptual Frameworks must be further examined.

Figure 3.1 compares the structure of the three Frameworks by showing one phase with primary emphasis, and the other two phases with less, but equal emphasis. The Conceptual Frameworks do not, however, have to be structured this way. For instance, in a given framework, one phase may have the greatest emphasis, another phase secondary emphasis, and the final phase the least emphasis. This point is graphically illustrated and discussed in further detail in section E of this Chapter. Moreover, section E of this Chapter, discusses the longer-term usefulness and flexibility of the Frameworks in terms of their ability to selectively emphasize the three phases and their ability to adapt to changing conditions throughout the life of the Program. The recommended Framework in Chapter 4 illustrates how the frameworks can be designed to relatively weigh the emphasis of the various phases.

B. FRAMEWORK I: Stressing Program-Wide Support

1. Framework Description

The first Conceptual Framework seeks to accomplish Program objectives by concentrating Program efforts towards enlisting the active support of and full coordination with other private and governmental entities in order to facilitate the successful accomplishment of necessary nomination/designation and sanctuary management functions. Thus, Framework I places highest priority on demonstrating, to private interests and relevant federal, state and local governmental agencies, the need for the Program and, then, attempting to encourage and orchestrate their active involvement in necessary Program functions.

Under Framework I, the other Program phases -- the nomination/designation process and sanctuary management -- are, of course, still essential to Program success (and will be operating simultaneously with the pre-nomination phase); however, the key to their successful operation will rely to a large extent, on the amount and quality of input from entities other than MSP staff. The Program's primary function is, therefore, to stimulate and solicit participation from outside interests and to direct that involvement toward Program functions that will designate and then protect valuable marine sites. With a majority of the Program's funds and manpower devoted to developing Program-wide support, the MSP's active efforts toward

implementing the other two phases must be minimized. For example, the nomination/designation process might be divided up into those functions or tasks that could be performed by entities outside of the MSP, with MSP oversight, and those that most probably will have to be performed directly by the MSP staff. Similarly, sanctuary management requirements might be divided into MSP tasks and those that could be carried out by other entities. In this manner, the MSP's emphasis could be focused on obtaining Program support and then soliciting active participation from the groups most able and willing to perform the other necessary Program tasks.

2. Rationale

The basis for selecting Framework I as the means to initiate Program expansion is the underlying presumption that the most effective means of establishing a system of marine sanctuaries that fulfills specific national Program objectives is by emphasizing the coordination of a broad array of public, private, and international groups that will throw their support behind Program efforts and take part in the necessary tasks leading to sanctuary designation and operation.

This Framework also presumes that a workable nomination/designation process can be established with relative ease. The key to Framework I's successful and efficient operation lies, however, in its ability to draw upon the existing expertise possessed by other public and private entities and by enlisting their full support and

cooperation. Stressing the need for Program-wide support will therefore generate the enthusiasm from outside entities needed to drive the nomination/designation process. A similar presumption could be made for the sanctuary management phase of the Program, as well. Here, the key to successful management lies in the cooperative efforts of entities outside of MSP staff to assist with management functions, or to carry out their own marine activies in a manner that will not impair established sanctuary preservation or restoration purposes.

By way of illustration, the MSP administrator may conclude that the development of a broad based support for the MSP will have an overriding positive affect on the nomination and designation of sanctuaries. Thus, it may be concluded that the most effective means of developing a sanctuary system that achieves Program objectives is for the majority of sanctuary nominations to originate from entities other than the MSP. Similarly, the Program administrator may conclude that the most efficient way to develop information on nominations that will permit adequate evaluation is to develop a network of information sources housed in non-MSP private, government or international organizations. Moreover, the Program administrator may conclude that the most cost-effective and timely means of enforcing, monitoring and generally managing designated marine sanctuaries is to transfer much of this responsibility from MSP staff to other willing federal, state, or local agencies or even

to some qualified private groups. If decisions such as the above favor extensive involvement of outside entities and their active involvement is deemed to be a key element in the success of the Program, this Framework could be determined to be the best approach.

Framework I might also be chosen if the Program administrator, in drawing upon his experience with the Program, concludes that the reasons for the slow rate of past Program development include: (1) the lack of public and governmental recognition of Program need, (2) the lack of support and coordination from other marine related governmental and private entities and (3) the lack of public support from coastal communities and residents who will be among the most affected by sanctuary efforts. In essence, a constituency for the Program has not been developed. Resolving these deficiencies in Program support could be a central focus of this Framework.

It should be noted that selection of Framework I to initiate Program expansion need not represent a commitment to this Framework for the life of the Program. Although this eventuality is possible, it may be determined that once a certain level of Program acceptance and support is attained, MSP administrators may deem it appropriate to shift emphasis to that more closely in line with those priorities represented in Frameworks II or III. Thus, as the Program expands under the guidance of Framework I, emphasis may shift, at a later date, to operation of a nomination/designation process or to sanctuary management.

Finally, although the above presumptions may indicate that this Framework might prove the best approach for initiating Program expansion, it may also be concluded that emphasis on the pre-nomination phase should be delayed until after the nomination/designation process or sanctuary management functions have been precisely refined. At that point in time the MSP administrator may determine that the other two phases of the Program are working effectively and do not require immediate increases in emphasis. Thus, the administrator may conclude that emphasis on developing Program-wide support should be a focus of efforts in order to increase the efficiency of Program functions.

3. Discussion

The choice of Framework I has certain implications in terms of which mechanisms (see also Appendix I) to emphasize for accomplishing the national Marine Sanctuaries Program's objectives. Accordingly, the necessary staff expertise and job responsibilities will be affected.

Mechanisms for directly achieving Program-wide support will be drawn primarily from those mechanisms presented in Appendix I B. Appendix I B2 focuses on mechanisms for initiating public support and coordination, Appendix I B3 discusses mechanisms for developing international support and coordination, while Appendix I B4 describes mechanisms for achieving support and coordination from domestic governmental entities. Finally, Appendix I B5 examines mechanisms for developing or assisting in the development of data bases on and

inventories of significant marine areas. The actual mechanisms selected by the MSP will likely depend on factors such as the types of groups and entities from which support is sought, budget constraints, the experiences of the MSP staff, or other factors. Mechanisms to ensure that the nomination/designation process focus on attaining Program support will be drawn from Appendix I C, while mechanisms which ensure that sanctuary management aids in attaining Program support will be drawn from Appendix I D. Again, it should be stressed that although the mechanisms for developing Program-wide support would be emphasized, those mechanisms not directly related to this function, which would focus more on nomination/designation and sanctuary management, will remain vital parts of this Framework.

The composition of the MSP staff should probably include people with knowledge of intergovernmental relations and public participation. Additional staff may be necessary or the present staff efforts may have to be refocused on obtaining governmental coordination and broad-based public and private suppport for the MSP.

If the Program administrator concludes that Program support is necessary, Framework I can go into operation, staff hired or refocused, and the appropriate mechanisms designed and utilized to solicit support from public and private entities (domestic and international), familiar with the marine environment, as well as from the general public. Efforts to obtain outside assistance in the nomination of sanctuaries and the effective management of designated sanctuaries

should probably also be initiated by the MSP staff. To the degree that these other necessary Program functions can be partially supported by those outside of the MSP, more direct Program emphasis can be focused on obtaining Program-wide support. Additionally, if the other two phases of the Program -- nomination/designation and sanctuary management -- are structured and operated in a manner that builds further Program support, Framework I is likely to be more effective.

It should be noted that in terms of demonstrating Program need and developing Program-wide support, the Center has already made some important contributions including the Phase I report assessing Program need (2), preparing some descriptive brochures for general distribution, and soliciting input from state CZM programs and other public and private contacts recommended by state CZM program staff (see Appendix III).

C. FRAMEWORK II: Stressing the Nomination/Designation Process

1. Framework Description

Framework II seeks to accomplish the national Marine Sanctuaries Program's objective by emphasizing the nomination/designation phase. Efforts towards directing nominations through the nomination/designation phase will be maximized.

Obviously, to designate sanctuaries, it is probable that the Program will require a certain level of public support, including suggested nominations. It is also obviously necessary to manage those sanctuaries already designated. Thus, recognition that a successful Program will include sanctuaries at varying stages of sanctuary nomination, designation and management, dictates that each of these phases will be essential parts of this Framework. Framework II, however, focuses attention on those mechanisms which ensure that nominations are carried through the nomination/designation process. Correspondingly, a lesser emphasis is directed to generating Program-wide support and conducting sanctuary management.

2. Rationale

The basis for choosing Framework II is the presumption that the best way to achieve an effective national Marine Sanctuaries Program is to use the nomination/designation process as the primary vehicle to move the Program. This presumption may be based upon any number of conclusions.

should probably also be initiated by the MSP staff. To the degree that these other necessary Program functions can be partially supported by those outside of the MSP, more direct Program emphasis can be focused on obtaining Program-wide support. Additionally, if the other two phases of the Program -- nomination/designation and sanctuary management -- are structured and operated in a manner that builds further Program support, Framework I is likely to be more effective.

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2. Rationale

The basis for choosing Framework II is the presumption that the best way to achieve an effective national Marine Sanctuaries Program is to use the nomination/designation process as the primary vehicle to move the Program. This presumption may be based upon any number of conclusions.

For example, the Program administrator's experience may indicate that there is no immediate need to directly emphasize attaining broad-based Program support. Instead, it may be determined that the key to attaining long-term support for the Program lies in establishing a nomination/designation process which is effective. In order that the MSP's direct efforts can be focused on establishing this effective nomination/designation process, the Program administrator may also decide to rely upon other indirect means of obtaining Program support, such as assistance from willing entities outside of the MSP to develop support and the momentum for the MSP initiated by President Carter's environmental message. (3)

Additionally, the Program administrator may conclude that concentrating on the management of designated sanctuaries is premature since so few have been designated. Therefore, the administrator may choose to delegate certain functions of sanctuary management to other federal agencies, to a proximate state or local agency(s), or to a private group(s) with experience in resource management.

These conclusions free the administrator to place primary emphasis, including both funds and staff time, on establishing and operating a well conceived, effective nomination/designation process. Establishing this process and shepherding nominations through the process by concentrating on the generation of local support and establishing locally oriented evaluation processes (See Appendix I C 6) is likely to result in a maximum quality and number of

designated sanctuaries throughout our marine and Great Lakes environments.

As more sanctuaries are designated, it is presumed that the Program will receive more publicity and support. The natural progression of this process may result in increased long-term national awareness and overall Program support.

Framework II is partially based on the premise that success breeds success. The underlying presumption is that the success of the Program can initially be defined in terms of getting as many significant areas as possible designated and thus protected by the Program. Thus, in the Program administrator's judgement, the most pressing need at this juncture in the Program's development is to protect or restore as many significant marine areas as possible, and that this can most effectively be accomplished through the nomination/designation process.

3. Discussion

The choice of Framework II has certain implications to the MSP administrator in terms of which mechanisms to emphasize (also see Appendix I) for accomplishing the Program's objectives. The staff expertise and job responsibilities required are also likely to be affected.

Mechanisms for directly achieving an effective nomination/designation process will be primarily selected from Appendix I C. Mechanisms for obtaining nominations are discussed in Appendix I C 2.

implementing the other two phases in a manner that positively benefits the nomination/designation phase. For instance, sanctuaries could be designated that are likely to increase support for the Program, either from the local, regional or national governmental entities or from various private entities. Thus, as sanctuaries are designated, a constituency for the MSP could be indirectly developed. Further, sanctuaries could be designated which are relatively easy to manage. Thus, the MSP would not have to devote greatly increased emphasis, at the present time, toward managing those sanctuaries.

In Framework II, the Program administrator is likely to be establishing the necessary mechanisms to confer (perhaps for specific time periods), the functions of gaining program support and managing sanctuaries to other governmental entities or to private organizations. It should be pointed out, however, that while the decision to use Framework II may have a sound basis in meeting the Program's immediate needs, exclusive use of this framework over the long run is partially limited by the lack of emphasis on individual sanctuary management. Although techniques to minimize this disadvantage through outside entities has been suggested above, at some point in the Program's development, emphasis may shift to managing the national network of designated sanctuaries. Because of this potential shift, it may be desirable to limit the duration of any management agreements to a relatively short period of time -- such as one or two years.

D. FRAMEWORK III: Stressing Sanctuary Specific and Programmatic Management

1. Framework Description

The third Conceptual Framework, like Frameworks I and II, is aimed at achieving the successful accomplishment of the Marine Sanctuaries Program's specific objectives (see Chapter 2 B). The key to Framework III is deemed to lie with the Program's ability to convert the 'paper' recognition of a marine site's value (i.e. designations of a marine sanctuary) into an effective management effort that accomplishes the perceived preservation or restoration needs for which each sanctuary is established. The management of marine sanctuaries includes not only the management structure developed to run an individually designated sanctuary, but also the management structure to oversee the entire system of marine sanctuaries.

As with the first two Conceptual Frameworks, the other two Program phases-Developing Program-wide support and the nomination/designation process -- remain essential, albeit less demanding, Framework elements. The focus of Program attention is, however, centered on ensuring that management functions are, indeed, capable of achieving their intended preservation or restoration mandates. Thus, most of the Program's capital and manpower are devoted toward post-designation tasks which will facilitate the implementations of

sanctuary protection measures (i.e. monitoring, enforcement, and coordination between site specific and programmatic management functions -- see Appendix I section D). Moreover, with this focus of attention, the selection and operation of mechanisms to attain Program-wide support and those to operate the nomination/designation process, would shift respectively from emphasizing Program need and the designation of sanctuaries, to that of aiding in the implementation of effective, operational sanctuary protection measures. Thus, Program-wide support mechanisms might focus on describing existing sanctuaries and their accompanying regulations, and distributing information which helps to ensure that marine related decisions, made by other private and governmental entities, do not adversely affect established or nominated sanctuaries. Similarly, during the nomination/designation process, particular attention might be given to the development and use of evaluative criteria for assessing whether the sanctuary can be feasibly protected and to what extent.

2. Rationale

The basis for selecting Framework III as an initial starting point for Program expansion is a series of presumptions that lead to the conclusion that this Framework provides the most effective means of achieving the specific national Marine Sanctuaries Program objectives. One of the key presumptions is that once

a limited number of marine sanctuaries are designated and managed successfully, subsequent efforts to develop Program-wide support and to refine an optional nomination/designation process can be completed with relative ease. Moreover, this Framework presumes that a base of experience with sanctuary management responsibilities and problems will permit the accomplishment of Program-wide support and nomination/designation functions in a manner that will be much more effective and efficient.

Thus, this Framework presumes that the best and most effective way to develop a broad base of Program support, capable of sustaining an expanded Program effort is to first demonstrate the Program's potential by establishing a few well run sanctuaries that exemplify the Program's mission and capability. This approach will require a relatively small scale effort towards enlisting the support of public and private entities who could participate in, or be affected by, the few exemplary sanctuaries; however, the level of effort called for would be small in comparison to that which would be needed to develop support for a fully expanded Program. After these "showcase" sanctuaries are established and prove successful, they would then serve to illustrate the importance and significance of the overall Marine Sanctuaries Program to other entities who might then, more readily contribute voluntarily to expanded Program efforts.

Therefore, this approach also assumes that the value of

the marine sanctuary concept can be proven through demonstrated "showcase" or exemplary sanctuaries. Moreover, the presumption is made that the Program-wide support needed to sustain expanded Program initiatives, will more assuredly be obtained by illustrating what the Program can do or what management actually means rather than what the Program's intent is or what the designation process might do.

Finally, in terms of obtaining the necessary level of Program-wide support for an expanded Marine Sanctuaries Program, the experience gained during the small scale effort to implement the "showcase" or exemplary sanctuaries will likely guide the efforts to attain Program support for an expanded sanctuary initiative. In this way, efforts to solicit Program support and cooperation can be more efficiently targeted to those key public and private entities that will be of greatest assistance in establishing new, successful sanctuaries. MSP staff will also be in a better position to know precisely what form that support and cooperation should take and who might be best able to provide it.

Selection of Framework III also assumes that the best way to develop the nomination/designation process is to first establish a base of sanctuary management and implementation experience. Again, this could be developed through establishing a minimal number of "showcase" or exemplary sanctuaries. As with developing Program-wide support, this approach could require a relatively

small scale effort, on the part of MSP staff, that would be designed simply to create a workable nomination/designation process that designated good exemplary sanctuaries. After a base of experience had been derived from these implemented sanctuaries, the MSP staff would be better able to assess which factors are crucial to the evaluation of a nominated site for future designations. This experience could, in turn, be efficiently transformed into procedures and criteria that will ensure the consideration of factors and information necessary to produce designated sites that are both deserving and manageable.

Thus, Framework III also presumes that crucial factors essential to the success of marine sanctuaries in general can be deduced from a relatively modest number of exemplary sites. Morever, this framework presumes that whereas an acceptable nomination/designation process can be devised prior to sanctuary designation, a process that is of optimal efficiency and value to an expanding Marine Sanctuaries Program would best be delayed until Program staff has a better grasp of the relative importance of the various elements that contribute to the implementation of successful sanctuaries. When this understanding is realized, the interim nomination/designation process can be elaborated upon or revised with relative ease. In the absence of post-designation management experience, it would be possible that the implementation of expensive, detailed procedures for the evaluation of nominations

might increase the risk of designating sanctuaries that are unmanageable. Since the selection of Framework III delays the major work on developing a nomination/designation process until after sufficient post-designation management experience is accumulated, poor or counterproductive nomination/designation decisions might be minimized.

As with Frameworks I and II, selection of this Framework to initiate Program expansion need not represent a commitment designed to last the life of the Program. For example, it may be determined by the Program administrator that, after a few exemplary sanctuaries have been established, Program efforts should shift emphasis to the nomination/designation process or to development of Program-wide support. Thus, selection of this Framework may be only a temporary decision. Moreover, at some point after a shift has been made from this Framework to either of the other two, it may be decided that a second shift back to Framework III might be desirable.

Finally, it should be also be noted that as an alternative to selecting Framework III as an initial point for Program expansion efforts, focus on sanctuary and Program management mechanisms might be delayed until after an initial emphasis has been placed on either of the previous two Frameworks. For instance, after Program-wide support has been established and/or an effective nomination/designation process developed, it may be determined

that emphasis should shift to enforcement, monitoring or some other function(s) of Framework III.

3. Discussion

Although the emphasis of Framework III is placed upon sanctuary and programmatic management, the distribution of capital and manpower effort remains quite flexible. Thus, even if it were known that this Framework was the preferred choice, the qualification and number of personnel would remain uncertain. For example, MSP administrators may seek to develop within their own staff, sanctuary managers, rangers or general operations personnel. In this way, a significant portion of the MSP staff would, themselves, constitute the major sanctuary management force. Alternatively, MSP administrators may choose to allocate funds to other groups or agencies such as the Coast Guard, state or local agencies anxious to assume management responsibilities, private organizations, or others. Through this path, MSP responsibilities would focus on funding and oversight and would, in turn, require a staff that included more grant administrators.

Selection of this third Framework would tend to emphasize those mechanisms described in section D of Appendix I. Thus the principal functions that would be carried out would probably include monitoring designated sanctuaries (section D 2), sanctuary enforcement (section D 3), and coordination between specific

sanctuary management decisions and national Program management decisions (section D 4). Again, as with the previous two Frameworks, mechanisms designed to carry on the development of Program-wide support and the nomination/designation process, will not be eliminated but rather reduced in importance in terms of funding allotment and staff time.

E. FLEXIBILITY OF CONCEPTUAL FRAMEWORKS

1. Alternative Framework Structures

Sections B, C and D of this Chapter present three Conceptual Frameworks, each of which provides a structure for the further development of the Marine Sanctuaries Program. Once the basis for the Conceptual Frameworks is understood and the above descriptions are reviewed, it becomes clear that many variations on the three Conceptual Frameworks are possible.

Figure 3.2 illustrates four alternative ways of structuring the Conceptual Frameworks. Example 1 places primary emphasis on the nomination/designation phase, secondary emphasis on the post-designation phase, and tertiary emphasis on the pre-nomination step. It should be noted that the relative degrees of decreasing emphasis between phases 1 and 2 is approximately equal to that between phases 2 and 3. Example 2 places equal and primary emphasis on the pre-nomination and nomination/designation phase and secondary emphasis on the post-designation phase. Example 3 places equal emphasis on all three phases. Example 4 is a variation on example 1, placing primary emphasis on the nomination/designation phase, slightly less emphasis on the post-designation phase, and much less emphasis on the pre-nomination phase.

Of course, within each of the examples the numbers can be changed so that primary, secondary or tertiary ranking is switched.

Figure 3.2

Alternative Ways of Structuring the Conceptual Frameworks

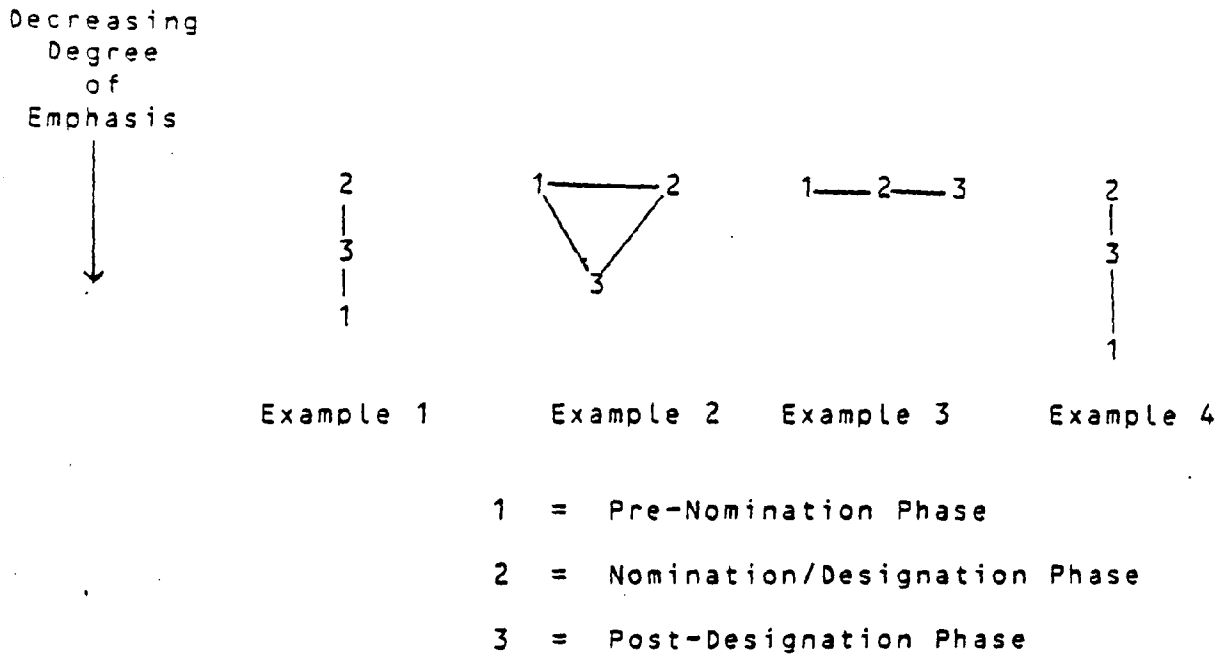
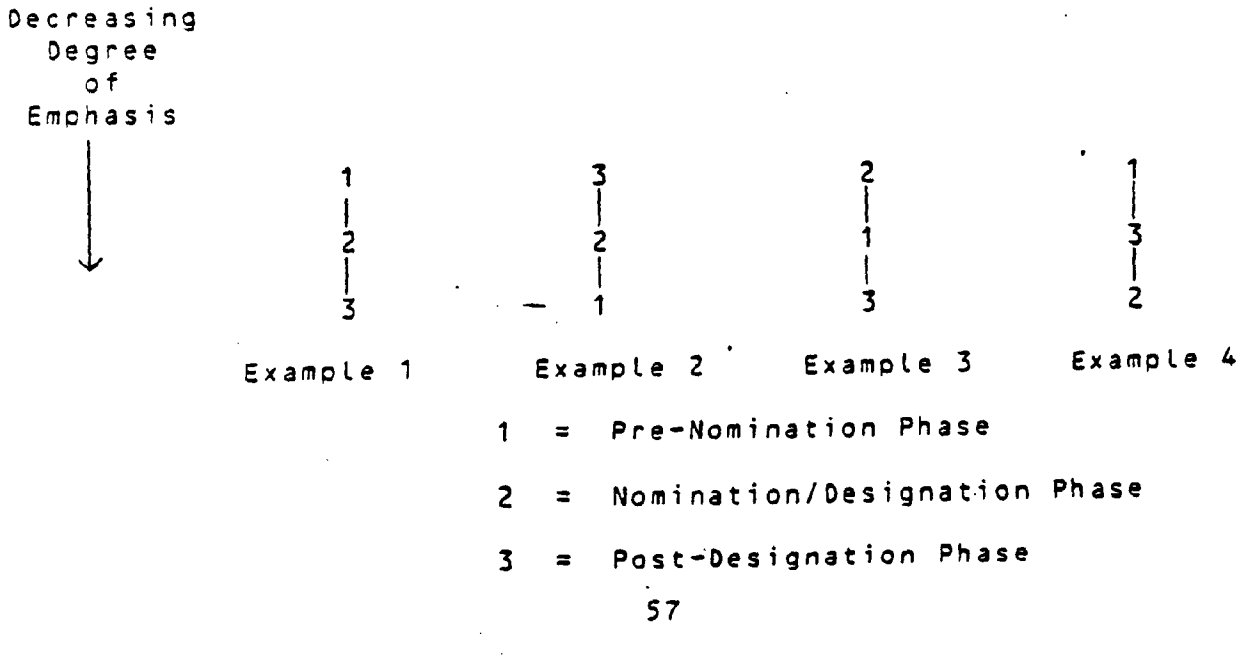


Figure 3.3

Alternatives Ways to Rank Example 1, From Figure 3.2



for example, Figure 3.3 shows four of the possible combinations derived from example 1 in 3.2. The four examples in figure 3.3 simply change the relative ranking of the three phases.

The use of the Conceptual Framework approach allows the Program administrator a wide range of flexibility in two areas. First, the administrator may draw upon his experience in the development of the MSP to determine the optimum overall relative ranking of the three Program phases. Second, this flexible structure gives the Program administrator the ability to adopt the direction and emphasis of the Program to changing conditions. For example, in the early stages of establishing the national MSP one set of priority rankings may be best, but as the program grows and the number of nominations and designated sanctuaries increases a second set of priority rankings may be more appropriate. Finally, as the Program matures a third set of priority rankings may be necessary.

2. Time-Phased Objectives

Before describing the time-phased objectives suggested by CNA, (See Chapter 4) it is important to understand the distinction between Program objectives and management objectives. Program objectives are those general and specific objectives which the Marine Sanctuaries Program has been established to fulfill. These objectives are suggested and discussed in Chapter 2 of this report and will not change over the life of the Program. Management objectives, on the other hand, are the objectives set by the Marine Sanctuaries Program

administrator to gauge the success of the Program in fulfilling its programmatic objectives. Because the Program administrator needs to know whether the Program is achieving its programmatic objectives in an orderly and timely manner, management objectives often have projected start and completion dates associated with them.

It is, of course, possible to prioritize the specific programmatic objectives of Chapter 2 and then establish management objectives for the Program that work toward establishing, for example, some number of sanctuaries corresponding to each category of specific programmatic objectives, directly relating in terms of numbers programmatic objectives with management objectives. This approach, however, has two distinct disadvantages. First, little is actually known about the ecosystem and cultural landmarks in the marine environment. Therefore, it is probably premature to establish a quota system for sanctuary designation. The second disadvantage is that quota systems tend to turn the management Program into a self-defeating numbers game. For example, the Program may focus more on just obtaining a certain number of sanctuaries than on the quality of the sanctuaries. Unless the assigned priorities and quotas correspond to the actual parameters and needs of the marine environment, achievement of this type of objective might yield very little information about the progress of the Program.

The recommended time-phased objectives, described in Chapter 4 are designed to provide management direction and feedback to enable the Program administrator to evaluate the Program's progress toward achieving the National Marine Sanctuaries Program's primary objectives.

The time-phased objectives are presented as a sequential list of accomplishable tasks. No schedule of completion, however, is included with this Phase II report. The task of providing an estimate of completion times for each objective will be accomplished during the development of the complete management plan in Phase III.

3. Choosing Among the Conceptual Frameworks

The choice among the Conceptual Frameworks depends upon the administrator's judgement as to which Framework provides the most effective vehicle for accomplishing the programmatic objectives. There are, however, many interrelated factors to be considered in this decision. For instance, one Framework may be deemed more effective because it may foster the objectives of the MSP quicker than the others; another Framework may be easier to manage and require less MSP staff and funding than the others, while the third Framework may decrease the risk of losing significant areas in the marine environment. Thus, the Conceptual Frameworks provide an inherent flexibility to the administrator to choose a structure that appears to meet the most pressing needs at a particular juncture in the Program's development. The Conceptual Frameworks also provide the opportunity,

if it is deemed necessary, to utilize a different Conceptual Framework to suit distinct Program needs. For instance, it may be determined that it is most effective to utilize one Conceptual Framework for the near-shore, state controlled waters, and another further offshore for federally controlled areas.

Additionally, after the choice of a Conceptual Framework for use at the present time is made, the administrator must then determine the relative weightings to be placed upon each of the three phases of the Program. In light of this decision, mechanisms for achieving the purposes of the selected Framework must also be selected and adapted to the present situation. Finally, as needs or requirements change, the administrator may decide to shift the Program's emphasis either within the Framework or, alternatively, by selecting a different Conceptual Framework.

FOOTNOTES

1. Webster's New Collegiate Dictionary, G & C Merriam Co, Springfield, Mass. 1975 and Britannica World Language Edition of Funk & Wagnall's Standard Dictionary, Encyclopedia Britannica, Inc. Chicago, Ill. 1958.
2. Center for Natural Areas, "An Assessment of the Need for a National Marine Sanctuaries Program" April 1977.
3. President Carter's Environmental Message, May 23, 1977.

CHAPTER 4

RECOMMENDED CONCEPTUAL FRAMEWORK

A. INTRODUCTION

This Chapter discusses the Conceptual Framework recommended by the Center for Natural Areas (CNA or the Center), as well as the rationale for selecting this Framework. It should be noted that the final selection of the Conceptual Framework rests with the Program administrator based on his assessment of the Program's immediate and long-term priorities and needs. Time-phased management objectives and their relevance to Phase III of this study are also discussed.

B. RECOMMENDED CONCEPTUAL FRAMEWORK

CNA recommends that Conceptual Framework II be selected to initiate Program expansion. Specifically, we recommend that the Program's primary emphasis be placed on developing an effective process for obtaining sanctuary nominations and ensuring that feasible nominations are designated. CNA further recommends that the Program focus secondary emphasis, at least initially, upon achieving a process that ensures sanctuaries are well managed once designated. It is recommended that the least Program emphasis be placed on obtaining Program-wide support that is not directly related to inducing specific marine sanctuary nominations and designations.

The recommended Framework is represented schematically in Figure 4.1 below.

Figure 4.1

Recommended Conceptual Framework: Framework II

Decreasing Degree of Emphasis ↓

2

3

1

1 = Pre-Nomination Phase

2 = Nomination/Designation Phase

3 = Post-Designation Phase

C. RATIONALE

Framework II has been recommended by CNA because it appears to provide the best vehicle for achieving the specific programmatic objectives (see Chapter 2). Several key factors have led CNA to this conclusion. First, by emphasizing mechanisms for obtaining nominations, for achieving support for and coordination with the nomination/designation process, and for developing evaluative techniques for evaluating nominated marine sanctuaries, the infrastructure for managing the Program will be established. Within this infrastructure, problems and needs relative to the national Program or a specific sanctuary can be effectively addressed.

Second, the Center contends that it will be easier to obtain support for the Program by actually demonstrating its potential and value through the nomination and designation of significant marine areas, rather than through techniques such as mass media advertising that only describe the MSP's potential. Moreover, we believe that the nomination/designation process itself, provides the most effective forum to address the future management needs regarding a proposed sanctuary. One of the key functions of the nomination/designation process could be to determine whether a proposed sanctuary, which meets all other basic criteria, can also be effectively managed and at what cost. Thus, one factor

in the designation decision could be to minimize the total cost to the public of managing a sanctuary over the long-term. For instance, proposed sanctuaries which can be managed effectively with little support from the MSP and other public and private entities could be given a relatively high priority, all other factors being equal. Further, many of the preliminary functions of the post-designation process could be integrated directly into the nomination/designation process. Then, once a sanctuary is designated, the other management functions would only have to be fine-tuned with the major issues before actual implementation.

At this time, we recommend that primary emphasis not be placed on the management of designated sanctuaries. This is due to the fact that only two sanctuaries have presently been designated. In the absence of additional sanctuaries to manage, the Center believes that greater emphasis on this phase at this stage in the Program's development would be misplaced.

Since Framework II is, however, encouraging an increased number of nominations and designations as additional sanctuaries are designated, the importance of the management phase will necessarily increase. To maintain an effective nomination/designation process and indirectly foster support for the MSP from outside entities, it is necessary to ensure that the specific objectives for which the sanctuaries were designated are attained and maintained. This can only be accomplished through the effective

management of de gnated sanctuaries.

Therefore, we believe that the second and third phases of the Program -- nomination/designation and sanctuary management -- working together, can positively aid in obtaining the general public's support. Interested entities outside of the MSP and the general public are likely to become aware of the Program's worth once a sanctuary is designated and effectively managed. It also appears that effective nomination/designation and sanctuary management will provide additional incentives for outside entities to nominate sanctuaries -- knowing that if the nomination is feasible, it will receive thorough consideration in the nomination/designation process, and once designated, its values will be effectively protected from degradation.

Finally, because it appears that Program support will be increasing indirectly by primarily emphasizing the other two phases of the Program, we recommend that the MSP place the least emphasis on gaining Program-wide support. Several reasons support this recommendation. First, as noted above, it appears that Program support will be generated by the nomination and designation of marine sanctuaries, and by the effective management of designated sanctuaries. Thus, it is likely that the MSP's potential for protecting and restoring marine areas of exceptional natural or cultural value will be clearly demonstrated. Second, other entities and the public may feel more strongly about participating

in the Program once the Program's effectiveness has been demonstrated. Their participation could take several forms, including: informing other entities about the value of the MSP, nominating marine sanctuaries, aiding in other aspects of the nomination/designation process, or helping (directly or indirectly) in the management of sanctuaries. For example, other entities could participate in sanctuary management by discouraging or preventing activities which would degrade the sanctuary or which are not permitted in the sanctuary, or by taking an actual management role in a particular sanctuary or sanctuaries.

D. TIME-PHASED OBJECTIVES

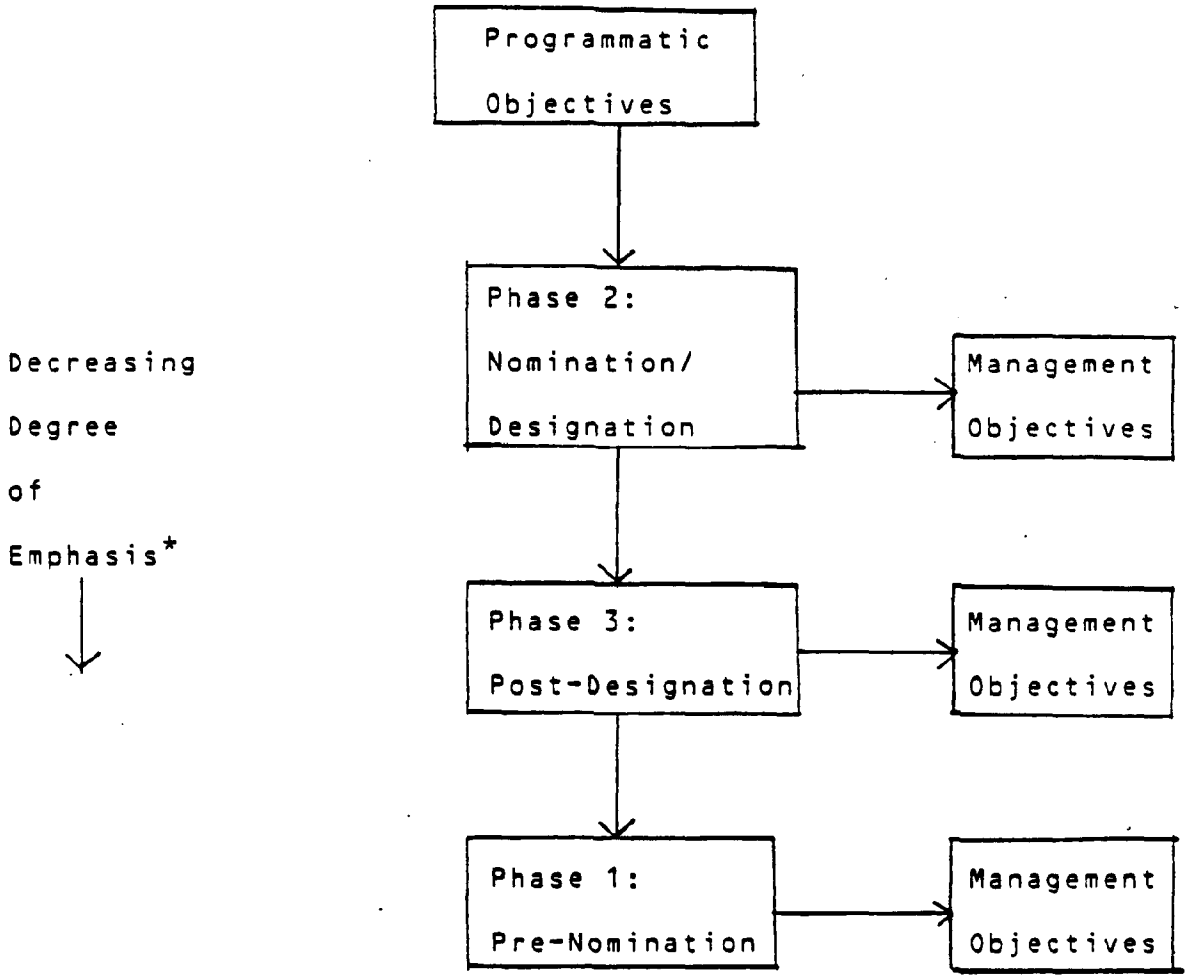
As discussed in Chapter 3 A, there is a distinction between programmatic objectives, such as those presented in Chapter 2, and management objectives, such as those discussed below (see also Figure 4.2). Management objectives represent milestones set by the Program administrator for marking the progress towards establishing an effective Marine Sanctuaries Program and meeting the programmatic objectives. The choice of Framework II provides: (1) an initial ranking of how the phases of the Program should be emphasized (see Figures 4.1 and 4.2) and (2) a preliminary structure upon which to build the management plan which will be prepared in the Center's Phase III report.

Since the final decision on a Conceptual Framework will be made by the Program administrator based upon this study, specific management objectives will not be selected until Phase III. This selection will be based upon an identification of Program priorities by the administrator and the requirements of the selected Conceptual Framework. After the management objectives are chosen, completion schedules and priorities will be assigned to each management objective by the Program Management Plan in Phase III. They will then become time-phased management objectives.

It should be noted that while the nomination/designation process has primary emphasis in Framework II, it is possible that one or more of the other management objectives (in either phases

Figure 4.2

Framework II



*Note: As discussed in this Chapter, Phase II of this study does not assign relative emphasis to the specific management objectives. This assignment will be carried out in Phase III of the Center's study. Thus, the location of the management objectives does not necessarily imply a priority ranking.

1 or 3 of the Program) could have a higher priority. For instance, it may be crucial that certain management objectives pertaining to enforcement be initiated as soon as possible.

E. CONCLUSION

CNA has developed and recommended a complete Conceptual Framework, Framework II, for establishing and administering the national Marine Sanctuaries Program. In addition, CNA has developed, and analyzed in detail, a wide array of mechanisms which can be used to accomplish the various management objectives (see Appendix I). CNA has also outlined the level of detail that will be necessary in selecting time-phased management objectives as part of the development of a Program Management Plan in Phase III of the Center's study.

The basic decisions that must be made in developing the Program Management Plan will affect both the cost of the Program and the distribution of these costs. It is, therefore, essential that the Program administrator carefully assess the present Program's overall needs, examine the three Conceptual Frameworks presented in Chapter 3, and analyze the various implementation mechanisms described in Appendix I when selecting the Conceptual Framework.

APPENDIX I

ALTERNATIVE MECHANISMS FOR ACHIEVING PROGRAM OBJECTIVES*

*Note: Unless otherwise specified, all cross-references are to sections within this appendix.

I. INTRODUCTION

The following Appendix should be viewed as an essential part of this report possessing a value no less important than any of the Chapters contained in the body of the text. Its importance derives from the fact that it describes those Program functions that the Center considers essential regardless of which Conceptual Framework is selected. Moreover, the mechanisms described and discussed in this Appendix were chosen as those which offer the greatest variety in terms of cost and effectiveness and which will be most critical for successful program implementation.

Thus, whereas the Objectives Chapter (Chapter 2) identifies the ultimate destination of the MSP, and the Conceptual Frameworks Chapter (Chapter 3) identifies the alternative routes to reach that destination, this Appendix evaluates the "how to" aspect of moving the Program towards its objective.

The basic structure of this Appendix corresponds to the three essential Program phases discussed in the Conceptual Frameworks Chapter (Chapter 3) -- i.e. development of Program-wide support (pre-nomination); nomination/designation; and specific sanctuary and overall program management (post-designation). For each phase, this Appendix identifies what the Center considers to be the necessary Program functions. For example, in the Program-wide support section, the essential functions include development of public awareness

and support; coordination with relevant international organizations, institutions, treaties, and laws; coordination with relevant domestic governmental entities; and identification of potential sanctuary nomination sites. Each function is, in turn, subdivided into the potential mechanisms available to complete that function. Finally, after a description of each mechanism, there is a discussion of the advantages and disadvantages among the various mechanisms for achieving the identified function.

Once a Conceptual Framework is identified by the Office of Coastal Zone Management, the final step in Phase II of the Center's ongoing study, the Center will focus its attention in Phase III on choosing the most cost-effective mechanisms which will ensure that the Conceptual Framework chosen leads to the accomplishment of the specific objectives of the national Program. During Phase III, these mechanisms will also be examined in more detail in terms of specific funding and personnel requirements. At this time, however, the Appendix allows the reader to become familiar with the diverse array of mechanisms and the relative advantages and disadvantages of each.

MECHANISMS FOR ESTABLISHING PROGRAM-WIDE MARINE SANCTUARY SUPPORT

B 1 INTRODUCTION - THE NEED FOR PROGRAM-WIDE SUPPORT

A critical element in making the Marine Sanctuary Program a viable and successful undertaking is the development of a broad base of acceptance and support for the program. Without this widespread acceptance and support, the day-to-day operation of the MSP, nominating, designating, and managing marine sanctuaries, will be made considerably more difficult. If popularly supported, program funding will be more easily obtained (and possibly at an increased level) and non-MSP entities will more likely cooperate with MSP officials and take an active role in the program.

The choice of persons or groups from which to solicit support is, of course, a function of time, money, and the type of support desired. Optimally, however, the support of all segments of society would be sought -- domestic and international, governmental and private.

Support for the MSP would, in general, be fostered by demonstrating the need for and importance of the program and how it would operate. In some cases, solicitation of program support might end with either format or informal endorsement of the program's overall concept. However, in a majority of the cases, more concrete support, in the form of active nomination, desig-

nation or management assistance, would be the ultimate objective. In this manner, MSP officials might wish to coordinate the operation of their program with that of other marine related programs in order to increase efficiency and better achieve MSP goals.

This section of the report explores those mechanisms which can be used to demonstrate the need for the MSP, develop support for it, and initiate coordination with other entities. Section B 2 concerns mechanisms for initiating public support. B 3 deals with mechanisms for soliciting the cooperation and support of other countries and international organizations, B 4 relates to mechanisms for initiating governmental coordination at all levels, and B 5 deals with mechanisms for identifying potential sanctuary sites.

2 MECHANISMS TO ASSURE PUBLIC AWARENESS AND SUPPORT

The public must be generally informed about the nature of and need for the Marine Sanctuary Program (MSP) for at least two critical reasons: (1) informed citizens are more likely to support the Program, and (2) informed citizens will be better able to communicate the public's needs and desires for the MSP to the policy and budgetary decision-makers. This support and communication are essential to the success of a national program. Also, it should be recognized that citizen awareness efforts will be closely associated with participation mechanisms which assure the public an effective voice in the decision-making process of the MSP. One aspect should not be addressed without the other. This section, however, will concentrate on public awareness and support of the MSP. The emphasis here will be upon awareness and support for the overall program, although many of the mechanisms could also be used to inform the public of specific pending nominations. Section C 3 discusses increased citizen input into the actual operation of the MSP.

People who are made aware of the existence of and need for the Marine Sanctuaries Program, and are afforded an opportunity to participate in the formation of the Program, are more likely to support the efforts to achieve the Program's objectives than the uninformed. It is particularly important that the public know the nature and extent of potential restrictions that might

be imposed by sanctuary designation as well as the benefits they may derive. These are critical points upon which public opinion may turn, and every effort must be made to avoid confusion. Recent studies of planning programs have demonstrated that these programs will not be successful unless they have the support and understanding of the people affected. (1) Thus, public education and efforts to increase public participation can be viewed as an integral part of the process of developing a MSP constituency.

The purpose of this section is to explore those mechanisms which will increase public awareness of the Marine Sanctuaries Program. The specific mechanisms discussed include: (1) mass media publicity (including television, radio, newspapers, and speciality magazines); (2) descriptive literature (including brochures, program summaries, and newsletters); (3) public information sessions (including a speakers bureau and audio-visual presentations); and, (4) travelling exhibits (including information site visits, and model demonstration projects).

a. Types of Mechanisms

1. Mass Media

Effective use of the media is an important component of a successful public awareness and education effort. Mass media publicity is the process most commonly utilized to inform the general public. A broad media campaign serves two important

functions: (1) the public will be informed about the program, and (2) those individuals wishing to participate and who have not been identified through any other source will be given additional information.

-- Newspapers: Newspapers are a primary source of in-depth news and information for most Americans. Press releases represent one means of using newspapers to inform the public of the program. Two types of press releases should be considered: (1) press releases described in MSP guidelines which encourage NOAA to announce that a nomination has been received, that a draft EIS is in preparation, or that designation of a specific site has been recommended; and, (2) more general releases which would briefly inform persons of the MSP and its nomination/designation process, and also include the names, addresses and phone numbers of people to contact for further information. In order to reach an even wider audience, copies of these releases could be sent directly to identified user groups in the potentially affected areas.

Another technique that may be used is a series of newspaper articles explaining the MSP and describing an exemplary sanctuary designation effort. These articles might contain an introduction to the MSP and answer pertinent questions, such as: (1) how nominations take place; (2) what steps are followed for designation; (3) why it is important to protect marine resources and ecosystems; and (4) what opportunities exist for public input. Not only is

this technique informative, but it can serve to stimulate enthusiam for the project.

Open letters, which are announcements intended for the general public, are another way to use newspapers. These might be particularly effective to announce sanctuary nominations, appeal for public response to a site under evaluation, or announce a public workshop or meeting.

-- Speciality Magazines: Speciality magazines such as environmental organization publications, fisherman's journals, boating magazines, oil industry publications, and international publications should also be considered by the MSP as a means of increasing public awareness. Readers of these speciality magazines will include an audience likely to be affected by the designation of sanctuaries. Their early exposure to the need for the Program may generate support and avoid later controversy. Articles tailored to the needs and concerns of these groups could be an important ingredient in the MSP education efforts.

-- Television: Television has become the most popular of all mass media in this country. It commands the largest audience of all communication media. Television can be used to reach national, regional, or local audiences. Although Public Service Announcements (PSAs) can be expensive, they could provide widespread publicity for the Program. A 30 second PSA which could catch the viewers' attention, arouse their interest, and provide general

MSP information, would be a particularly effective mechanism to generate public awareness.

-- Radio: Radio provides the second largest of all audiences in the mass media. PSAs are also available through this medium. Here, the emphasis would switch from a visual focus to a catch-phrase focus. The effective programming of radio messages will also increase awareness for the MSP.

2. Descriptive Literature

In any public participation effort it is important to have material available to the general public, not only to inform them of the Program and its important components, but also to stimulate further participation. Three types of descriptive literature - brochures, program summaries and newsletters - will be discussed.

-- Brochures: Brochures are brief (two to six page) general information summaries which would be used to provide the reader with an overview of the Marine Sanctuaries Program. In addition, they are useful in outlining the nomination process and listing contacts for further information. Several MSP brochures have already been prepared, including: (1) a general presentation of the MSP, (2) a discussion of the nomination process, (3) a description of the Key Largo Sanctuary, (4) a description of the Monitor Sanctuary, and (5) a presentation of the enabling statute and regulations for the MSP.

-- Program Summaries: Program Summaries would present a more

ailed program analysis than brochures. They would be designed more fully inform citizens of the legal and administrative hanisms under which the MSP operates. The purpose of these naries is to translate professional or bureaucratic jargon › language the layperson can easily understand.

Newsletters: Newsletters are one of the most suitable forms nforming and educating the public. Newsletters can be used nform citizens of the Marine Sanctuaries Program, its mandate, ificant public policy, recommended designations, and other opriate information. Newsletters can also serve as a motiva- al tool by informing citizens in an affected area at regular vals of progress toward sanctuary designation. Newsletters also provide up-to-date information on any proposed guide- for a designated sanctuary.

Mailing lists would be almost a necessity if newsletters are used. The scope of the mailing list would depend upon several s, including the segment of the population for which the tter is intended and the sources used to compile the list. is desirable for the general public to receive the newsletter, ing list of all registered voters may be used. Alternatively, is desirable for only certain key groups to get the news- s, a more specialized mailing list may be compiled. For e, if oceanographers are one of the preferred groups for ng, the American Association for Advancement of Science

ay provide a listing of all their members whose specialty is oceanography. The usefulness of mailing lists would not be limited to distribution of newsletters. Brochures, program summaries, nomination forms, and announcements of meetings could also be distributed through mailing lists.

3. Public Information Sessions

Public information sessions, usually speaking engagements, would be designed to inform the public of the need for and operation of the Program, and thereby generate public support. It should be noted that this mechanism is not limited to formal speeches but could also include less formal sessions such as workshops and group meetings. The sessions would be aimed particularly at coastal reas likely to be affected by sanctuary designation.

Information sessions may be held at schools and colleges, with civic, church or fraternal organizations, with special interest groups or with others who might be interested in the Marine Sanctuary Program. A result of this educational effort would be expanded contact with potential supporters of the MSP. Public speaking engagements also allow interchange between the public and MSP personnel, and thus provide an essential opportunity to exchange information and ideas, clarify policies and plans, and rectify misunderstandings.

Audio-visual aids, such as films, slides, graphs, and charts, would, of course, be helpful in these public information sessions.

Such aids maintain audience attention, help the audience retain the most pertinent information, and encourage audience attendance. In addition, films and slides may be used effectively without a speaker from the MSP staff.

4. Travelling Exhibits

Travelling exhibits are displays set up to visually or verbally acquaint the general public with the scope, necessity, and issues of the Marine Sanctuary Program. Travelling exhibits can be effectively used in conjunction with planned public information sessions to generate interest and increase attendance. These exhibits could be set up in visible and convenient locations near proposed or nominated Marine Sanctuary sites. Depending on the availability of volunteers or other assistance, exhibits may be staffed with someone to answer questions. Written material, in the form of brochures describing the MSP and the nomination/designation process should be available. Timetables should also be provided, so the public will know when meetings, workshops, speakers, or hearings are scheduled in their area.

b. Advantages and Disadvantages of Mechanisms

Discerning the relative advantages and disadvantages of the various mechanisms to assure public awareness and support turns on three related factors. These include the quantity of people informed, the quality of people informed, and the gross cost, where

people informed" is defined as the people who are made aware of the issues. Initially, a distinction must be made between people informed and people reached; people reached are those who come in contact with the mechanism but are not made aware of any issues. For example, a brochure which was mailed to every address in a locality would reach nearly every household, but if the brochures were merely discarded without even a cursory review, it would not inform those people. Therefore, the "quantity of people informed" is a function of not only the number of people who come in contact with the awareness mechanism but also the substantive effectiveness of the mechanism in making people aware of the issues. A meaningful evaluation must also recognize that different mechanisms will affect different segments of the population. The "quality of people informed" takes into consideration which segments of the population will be reached and which need to be informed. For example, if support from the general public in coastal areas is most important to the success of the Program, a newspaper ad in Topeka, Kansas may not reach the people who need to be informed. The third relevant factor in discerning the relevant advantages and disadvantages of the various mechanisms is gross cost which is merely the total cost of utilizing the mechanism.

An analysis of the cost-effectiveness of the various mechanisms to assure public awareness and support involves all three of the factors described above. It should be noted that an evaluation

of the effectiveness (i.e. using the quantity and quality of people informed) is particularly complex -- it involves an analysis of not only how many people will be reached, but whether they are within a segment of the population which needs to be reached and to what degree they will be informed. Therefore, a key initial decision for MSP directors will be which groups of the population should be the targets of an awareness and support campaign.

Television reaches large audiences within most identifiable segments of the population. It is uniquely effective in influencing the so-called "grass roots" elements of the population as evidenced by the emphasis given to television ads by political candidates. Limitations of this method include the small amount of information which can be conveyed in a short ad and the fact that there is no opportunity for feedback and further clarification. However, it should be noted that there are many elements of the populace who are not interested in detailed information or an opportunity for feedback, and viewing a short engaging television ad may be all the effort these people would be willing to devote to the MSP.

The total cost of television time and producing a quality film restrict the use of this medium. The cost per person informed, however, may make it the most cost-effective mechanism. Total costs to the MSP could be minimized by producing only one general film clip which could be shown on selected local stations where public support is particularly critical, (e.g. where sanctuary

minations are contemplated or pending). Television would probably be most effective to merely inform the general public of the Program's existence or to make a specific point in an effort to influence public opinion. For example, if the nature and extent of restrictions imposed by sanctuary designation became a confused issue, and there was an outcry from the general public, a television ad which clarified the situation could be beneficial.

Radio has many of the same attributes as television, including a large listening audience within most segments of the population. Thus, radio is another effective mechanism to reach the grass roots element. Because of radio's limited capacity to maintain audience attention, radio ads, like television clips, would probably be limited to short presentations. Radio talk shows, particularly in areas known to be near several valuable marine areas, offer a unique opportunity to introduce and arouse interest in the concept of marine sanctuaries. The cost of such talk shows would be limited to the expenses of the representative visiting the show. Radio could thus be an excellent medium for introducing the public to the MSP, providing names and addresses for further information, and even eliciting feedback to judge the public's receptivity to the Program.

Radio ads have financial advantages over television because costs of both ad production and air time are lower for radio. Thus, the cost per person reached may be less for radio than

television. Television, however, is generally recognized as having an unparalleled capacity to inform and influence. (2) Consequently a comparative cost-effectiveness analysis of the two media or the cost per person informed would probably turn on the substance of the ad to be presented. Radio could be best suited to announce that public nominations for sanctuaries were being sought and explain where nomination forms were available. A television ad with eye-catching film footage could be best to introduce the public to the MSP in an attempt to generate a broad base of general and longlasting support for the Program.

Newspapers can be most effectively utilized by issuing frequent informative news releases. Generally, newspapers will print these with minimum changes. Newspapers should also be informed of meetings, workshops, speakers, and travelling exhibits, in anticipation that a reporter will attend and write an article or perhaps announce the event in advance. The population influenced by newspapers can be generally categorized as the informed general public. Most households receive newspapers, but those who read the articles are considerably fewer in number; (3) thus, newspaper articles may have a limited influence on grass roots elements.

The cost of newspaper coverage is limited to the salary of a press secretary. However, the facts and tone of newspaper articles are subject to the interpretation and bias of the reporter or editor, and some articles may not support the MSP. Some use of

..e newspapers will, in any case, be essential, and they may be particularly effective in informing the public of the existence of the MSP, but it should be kept in mind that newspapers cannot be depended upon to influence the public to support the Program. Further, depending upon the vested interests of the newspaper (particularly in a locale facing sanctuary designation), a strenuous effort may be necessary just to get the paper to "play it straight." It should be noted, therefore, that a special effort to secure the support of the editor may be worthwhile if more coverage is sought.

As with television and radio, paid ads or announcements could be placed in newspapers. The cost of such an ad would, of course, ..e dependent on its size and the newspaper in which it is placed. As opposed to television and radio, a great deal of information can be placed in the newspaper. However, the chances are not great that the average reader would pay close attention to a lengthy discussion of the MSP. Therefore, the most effective ads may again be those which are short and general. As mentioned above, newspapers do not attract the same grass roots audience as do radio and television, and this would apply equally well to paid newspaper announcements as to reported stories.

A general brochure on the MSP is probably essential, but one must also recognize this mechanism's limitations. The means used ..o distribute brochures will depend upon which segments of the popula-

tion are the preferred recipients. If brochures are provided to only those people who solicit them, only a few people will be reached; however, recipients would likely read the brochure, and the publication and distribution costs would be small. A larger but still specialized group would be reached by using mailing lists from environmental groups and other federal agencies. The general public could be reached by a mass mailing to all addresses in a locality or distribution on the street, but the cost would be greatly increased.

Brochures are probably not the best way to reach the general public since the cost per person reached (of a mass mailing, for example) would probably be more than television. Moreover, a brochure would be largely ineffective to inform the general public, because, on balance, only a few people would read them. For people who are well informed, seriously interested in the MSP, and willing to read material, a newsletter may be more effective than a brochure because it would provide much more information. Thus, the brochure would appear best designed for the person who is casually interested in or is just learning of the Program. For this person, brochures have several advantages. A quality brochure with pictures and an imaginative layout is interesting and readable. The format allows considerable information (more than television, for example) to be presented in a small space. Brochures also have the advantage of being relatively inexpensive. Thus, while brochures may not be an effective mechanism to approach the grass roots populace, when

,ed properly, brochures can play an effective role in a general publicity effort.

Newsletters are an excellent way to present detailed, up-to-date and site-specific information. Again, it is unrealistic to expect the general public to read such material. However, newsletters would have a special impact because they would help sustain a high level of interest among concerned citizens; they would also provide the information essential to those individuals or groups who may campaign in their locality to generate support for the MSP or a specific site. Morever, a newsletter may be effectively complemented by individual consultation with these cooperative groups. Thus, a newsletter may be an efficient means of expanding the MSP's capacity to reach the general population. It should be noted, however, that newsletters are most effective when published on a regular basis, and therefore could represent a substantial commitment of time and money. A staff will be necessary to prepare the letter, and there will be publishing costs as well. If the newsletter is circulated on a very limited basis, publication costs could be minimized.

Speaking engagements and other personal communication methods appear to be another necessary element in a comprehensive publicity campaign. Speakers would influence only those groups interested enough to request and listen to them, and, thus, will be of limited value for directly influencing the general populace, particularly

if there is no pending nomination in the area. Like newsletters, however, speakers could provide the information and spark to citizens who may, in turn, influence others. Moreover, like exhibits, speakers provide the opportunity for an exchange of ideas between MSP personnel and the public and allows feedback and clarification of any misunderstandings. This two-way communication would be even more common in the case of workshops or group meetings. Of all the mechanisms discussed, public information sessions are uniquely capable of presenting the MSP case to groups which may oppose the MSP since specific information, feedback, and dialogue are critical in an effort to influence opposing groups. The cost of speakers is relatively small - only salary and expenses. One caveat deserves mentioning: speakers must be informed and capable (particularly when debating or speaking to opposing groups) -- otherwise, they do more harm than good.

Finally , travelling exhibits could be used to directly inform and influence the general public. An advantage of the travelling exhibit is that it provides the opportunity for dialogue between the public and MSP personnel. Such interchange allows for feedback and clarification of misunderstandings. The cost of such an exhibit may be less than with some other methods of reaching the general population (e.g. television), and may also be more effective in influencing the general public than some other mechanisms (e.g. brochures). There are several disadvantages, however, which

must be noted. First, the initial cost of such exhibit(s) may be substantial, e.g., a custom outfitted camping trailer which could be moved from location to location would represent a sizeabe investment. Moreover, the number of people visiting such an exhibit may be small. Further, the exhibit may attract only interested individuals who would already support the MSP. Even if the exhibit was outstanding, attracted attention and people, and was located in populous areas, the percentage of people reached may still be small. Locating several exhibits in an area could help remedy access problems to a single exhibit, but, of course, this would proportionately increase the cost.

In conclusion, it should be clear that no one mechanism will be sufficient to inform the public of the MSP and elicit their general support for the overall program. Funding will certainly be important in deciding which mechanisms will (or can) be used to formulate a comprehensive publicity effort. However, a comparative evaluation of the cost-effectiveness of the various mechanisms will often turn on which segments of the population need to be reached. Many of the mechanisms have great potential to meet specific needs. Limiting each mechanism to its most effective use and coordinating it with other methods will result in the most cost-effective means of informing the public of the MSP and gaining their support.

FOOTNOTES

1. Center for Natural Areas, 1975, Public participation plan submitted to the State of Alaska Coastal Management Program, S. Gardiner, ME.; and Mc Crea, Maureen and J. Feldman, 1975, "Washington State Shoreline Management: An Interim Assessment," Unpublished paper.
2. Sandman, Peter, D. Rubin, and D. Sachsman, 1976, Media, Prentice-Hall, Inc., Englewood Cliffs, N.J. 483 pp., p. 317-.
3. Charles E. Swanson, "What They Read in 130 Daily Newspapers," Journalism Quarterly, Fall, 1955, p. 414.

3 MECHANISMS TO COORDINATE THE MARINE SANCTUARIES PROGRAM WITH RELEVANT INTERNATIONAL TREATIES, LAWS AND CONVENTIONS, AND INTERNATIONAL ORGANIZATIONS

Mechanisms for initiating coordination of the overall MSP with international laws, treaties, conventions, and international organizations concerned with the marine environment are important for several reasons. First, prior to sanctuary designation, the Administrator is required by section 302(a) of the MPRSA to consult with the Secretary of State. The State Department has the opportunity to review and comment on the proposed designation, particularly as it affects international relations and is affected by international law. Section 302(c) requires that after a sanctuary has been designated which includes ocean waters outside of the territorial jurisdiction of the United States, the "Secretary of State shall take such actions as may be appropriate to enter into negotiations with other governments for the purpose of arriving at necessary agreements with those governments in order to protect such sanctuary and to promote the purposes for which it was established."

Section 302(g) requires that any regulations promulgated for a marine sanctuary must be developed in accordance with "recognized principles of international law." Beyond the limits of the nation's territorial jurisdiction, these regulations are in conformity with such principles or are otherwise authorized by intergovernmental agreements.

It is therefore essential that a solid foundation for international cooperation and coordination in the development of the MSP be established. Successful efforts in this area will allow potential disagreements and confrontations with other governments over a sanctuary nomination or designation to be minimized or avoided altogether. The coordination process must start in the program development stage and be continued in succeeding phases. Proper coordination, either directly or indirectly through the State Department, will require that MSP staff keep up-to-date with relevant treaties, laws, and conventions. Ongoing coordination with the State Department in the program development stage and throughout the nomination and designation process can help ensure that the actual MSP is in compliance with sections 302 (a), (c) and (g) of the implementing legislation, and is able to function smoothly in the international environment.

The coordinative mechanisms described within this section will be of particular importance in relations with Canada and Mexico because of the possibility of sanctuary nominations and designations in areas adjacent to their waters. Moreover, the opportunity to establish complementary designations in certain instances warrants consideration.

Coordination between the MSP and international organizations involved in marine affairs is also desirable. Significant potential exists for 1) cooperative enforcement, joint surveillance and en-

nced protection of potential and designated sanctuaries, particularly in the OCS; 2) expansion of the constituency of the MSP to include interested citizens of many other countries, thus increasing support for the program; 3) joint demonstration or support projects; 4) transfer of data, enforcement techniques, nomination techniques and other mechanisms used to operate similar programs; 5) feedback on the operation and management of similar sanctuary-type areas; and 6) joint forums to work out common problems, concerns and issues affecting sanctuary-type marine areas.

Mechanisms to ensure coordination between the MSP and other countries, and to ensure that sanctuaries are nominated and designated pursuant to principles of international law are presented below. International issues relating to the enforcement of sanctuary regulations are discussed in D 3.

a. Types of Mechanisms

1. Coordination with the Department of State

As discussed in the introduction, ongoing coordination between the MSP and the State Department is both essential and required by sections 302 (a), (c), and (g) of the MPRSA. Mutually agreeable procedures for coordinating the MSP with other nations can be arranged before actual negotiations begin. This is not only desirable but is, in fact, encouraged by the predesignation consultation requirement contained in 302(a).

2. Development and maintenance of a checklist of treaties, laws, and conventions of relevance to the MSP

This mechanism would serve as a means of identifying and tracking international developments affecting the Program. This mechanism will be of increasing importance as sanctuaries are nominated in the OCA outside of the territorial jurisdiction of the United States. Compilation of the checklist should begin during the program development stage. It can then be expanded and tailored to meet the needs of sanctuary nomination and designation.

The following checklist is not intended to be an all-inclusive list, but rather a guidance document of the types of treaties, laws, and conventions which should be considered.

Conventions and Treaties

-- 1958 Geneva Convention on the Territorial Sea and the Contiguous Zone (in force 1964) 15 U.S.T. 1606, T.I.A.S. No. 5639 576 U.N.T.S. 205:

This Convention has a direct and important bearing on the portion of section 302 (g) of the MPRSA dealing with application of sanctuary regulations to foreign vessels and citizens. National sovereignty and its use in oceanic waters are governed by principles of international law. The Convention, subject to the constraints of promulgating laws by consensus, attempted to establish principles applicable to national sovereignty in waters adjacent to a nation's shores. Section D 3 of this study provides an evalua-

-ion of relevant articles. The effect of the Fisheries Conservation and Management Act on these articles, however, has not been determined.

-- 1958 Geneva Convention on the Continental Shelf (in force 1964) 15 U.S.T. 471, T.I.A.S. No. 5578:

This Convention provides that a coastal nation has control over the shelf (the seabed and subsoil of ocean waters) "to a depth of 200 meters, or beyond that limit to where the depth of the superadjacent waters admit the exploitation of the natural resources of the area...." Article 5 (1) of the Convention provides that the exploitation of natural resources (defined by Article 2 (3) as mineral and other nonliving resources of the seabed and subsoil together with living organisms belonging to sedentary species) -ust not result in unjustifiable interference with navigation, fishing, or the conservation of the living resources of the sea. Thus the Convention, while not conferring enforcement authority, nevertheless, imposes responsibilities upon those who would exploit the continental shelf and, thus, can be taken as a "recognized principle of international law." Section 302 (g) requires that regulations controlling activities within sanctuaries be in accordance with such principles.

-- Geneva Convention on High Seas (in force, 1962) 13 U.S.T. 2312, T.I.A.S. No. 5200, 450 U.N.T.S. 82:

High seas are defined as ocean areas not included in the territorial sea or in the internal waters of a state. The Convention

provides that all nations have freedom of navigation and fishing and freedom to lay submarine cables and pipelines. This Convention also imposes certain responsibilities. Articles 24 and 25 require states to draw up regulations and take measures to prevent pollution of the seas by the discharge of oil, radioactive wastes, and other harmful agents. The identity of such harmful agents has not been defined with specificity; nevertheless, the burden of due care and concern for conservation in high seas areas is clearly established.

-- 1973 Convention on International Trade in Endangered Species of Wild Flora and Fauna (United Nations Treaty 7/1/75) (adopted by U.S. in 16 U.S.C. 1538 (c)):

The goal of this treaty is to protect those species of flora or fauna threatened by extinction or those species which require careful regulation to prevent such a threat. In addition, a party may unilaterally designate a species as being subject to regulation within its jurisdiction for the purpose of preventing or restricting exploitation, and as needing the cooperation of other parties in the control of trade (Articles II & III). The control provisions of this Convention consist of trade restrictions in the form of export and import permits. Specific requirements are a function of the category into which the species is placed by the Convention. Effective enforcement mechanisms are not provided against states which do not comply. As of November 1976, only 33 countries had ratified or acceded to the Convention.

1958 Convention on Fishing and Conservation of the Living Resources of the High Seas (in force, 1966) 559 U.N.T.S. 285, 17 U.S.T. 138, T.I.A.S. No. 5969:

This Convention concerns the exploitation of the living resources of the sea and measures to conserve these resources. Conservation is to be undertaken to achieve maximum sustainable yields. A state, subject to specific requirements, may take unilateral action in areas of the high sea adjacent to its territorial sea. Article 9 of the Convention provides a mechanism for the resolution of conflicts.

-- United Nations Law of the Sea Conference:

The law of the Sea Conference (1977) is presently under way. The purpose of the conference is to establish international guidelines for the exploration and exploitation of the oceans' natural resources.

U.S. Laws Affecting International Coordination

-- Fishery Conservation and Management Act (FCMA) of 1976:

This federal law, effective March 1, 1977, established a 200 mile fishery conservation zone in our adjacent coastal waters. This extension of U.S. control over its fishery resources required extensive reevaluation and renegotiation of its prior treaties and international fishery agreements. Sections 202 (b) and (c) of the FCMA direct the Secretary of State, in cooperation with the Secretary of Commerce, to initiate renegotiation of any treaties

or agreements pertaining to foreign fishing in waters within the zone by May 1, 1977. Most treaties and agreements were renegotiated before the deadline and are in accord with the FCMA. Those agreements not yet renogotiated, but expected to be, are observed by the U.S. in as much as they do not violate the provisions of the FCMA. (1)

The FCMA is not intended to interfere with or preempt pending negotiations at the third session of the United Nations Law of the Sea Conference. It is the declared policy of the FCMA "to support and encourage continued active United States efforts to obtain an internationally acceptable treaty which provides for effective conservation and management." (2) Section 401 of the FCMA provides the Secretary of Commerce with the authority to conform regulations issued pursuant to the FCMA to provisions of any international fishing agreement resulting from a United Nations Law of the Sea Conference once that agreement has been ratified by the U.S.

Commissions of Which the U.S. is a Member (3)

-- Inter-American Tropical Tuna Commission (IATTC) (1949):

This Commission, representing the eastern Pacific Ocean, conducts research on tuna and recommends joint action for their conservation. This treaty has been renegotiated pursuant to the FCMA.

-- International Commission for the Conservation of Atlantic Tunas (ICCAT):

This Commission was established in 1966. It covers the Atlantic

ean and is involved in research and recommendations on tuna. It has been renegotiated pursuant to the FCMA.

-- International Commission for the Northwest Atlantic Fisheries (ICNAF):

This Commission was established in 1949 and covers the northwest Atlantic excluding territorial waters. The purpose of the Commission is to carry out studies and research and to propose stock conservation methods (e.g. the use of closed areas and seasons, size limits, gear controls and quotas.) The U. S. has withdrawn from the ICNAF, but renegotiations are now in progress.

-- International North Pacific Fisheries Commission (INPFC):

This Commission was established in 1952 and covers the North Pacific cluding teritorial waters. The purpose of the Commission is to study fish stocks and to recommend joint conservation actions. In accordance with Section 202 (b) of the FCMA, the U. S. has filed a notice of withdrawal with the INPFC, but presently is renegotiating with the Commission.

-- International Pacific Halibut Commission (IPHC):

This Commission was established in 1953 to study halibut stock and adopt conservation measures including regulation of catch, size control, and use of seasons. The Commission covers the territorial sea and high seas off the western coast of Canada and the U. S. The U. S. has filed a notice to withdraw from IPHC and is in the process of renegotiating.

-- International Pacific Salmon Fisheries Commission (IPSFC):

This Commission was established in 1930 to adopt conservation

measures such as gear control, catch regulations, and quotas in the Frazier River, its tributaries, and the territorial sea and high seas off the estuary. The U.S. has given notice of withdrawal and is presently renegotiating what will hopefully be a more comprehensive agreement.

-- International Whaling Commission (IWC):

This Commission was established in 1946 to promote and carry out studies and research, and adopt conservation measures -- seasons, areas, size limits, quotas -- for whales. All waters are covered by the IWC.

-- North Pacific Fur Seal Commission (NPFSC):

This Commission was established in 1957 and amended in 1975 to develop research programs, and to recommend conservation measures and methods of sealing. The area covered by the Commission is the north Pacific Ocean.

Bilateral Agreements to Which the U.S. is a Partner

-- U.S./Canada -- Agreement on Reciprocal Fishing Privileges in Certain Areas Off the Coasts of the United States and Canada (in force, April, 1973; renegotiated in 1976):

This agreement allows fishermen of the two nations to take fish from within each nation's territorial waters.

-- U.S./Japan -- Agreement Concerning Certain Fisheries Off the Coast of the United States (in force, 1974):

This agreement provides for salmon quotas and enforcement. It has been renegotiated pursuant to the FCMA.

U.S./ Japan -- Agreement Concerning an International Observer Scheme for Whaling Operations from Land Stations in the North Pacific Ocean (in force, 1974):

-- U.S./U.S.S.R. -- Agreement on Certain Fishing Problems on the High Seas in the Western Areas of the Middle Atlantic Ocean (in force, 1973):

This agreement has been renegotiated pursuant to the FCMA.

-- U.S./U.S.S.R. -- Agreement Regarding Fisheries in the North-Eastern Pacific Ocean off the Coast of the U.S. (in force, 1975):

This agreement has been renegotiated pursuant to the FCMA.

Commissions and Agreements Concerning the Great Lakes (U.S./Canada)

-- U.S.-Canadian Boundary Waters Treaty (in force, 1909):

This treaty resulted in the establishment of the International Joint Commission (I.J.C.) in 1912. The IJC was originally established as an advisory and arbitration board for resolving boundary disputes. Its broader function is to facilitate cooperation between the two nations and to resolve common problems. The IJC can investigate and make recommendations on specific problems referred to it by either nation. The IJC focuses on: pollution control, navigation, lake level, hydropower, flow regulation, and unique resource preservations (Niagara Falls).

-- Great Lakes Fisheries Commission (GLFC):

The GLFC was established in 1955 with the goal of reconstructing the fisheries of the Great Lakes for economic and biological reasons.

The GLFC has the power to regulate seasons, gear, and catch quotas, and may establish stocking programs.

-- Agreement on Great Lakes Water Quality with Annexes (in force, 1972) 23 U.S.T. 301; T.I.A.S. 7312:

This agreement provides for the collection, analysis, and dissemination of data and information on the water quality of the Great Lakes. Matters concerning this agreement are handled by the IJC (see above). This agreement has effectively broadened the IJC's field of operations and has helped to develop a more comprehensive management plan for the Great Lakes. The agreement also established the Great Lakes Water Quality Board.

-- Agreement Relating to the Establishment of Joint Pollution Contigency Plans for Spills of Oils and Other Noxious Substances (in force, 1973) T.I.A.S. 7861:

The goal of this agreement is to coordinate responses to significant pollution threats. Agencies involved include the Canadian Ministry of Transportation and the U.S. Coast Guard.

Other Treaties:

Numerous other treaties dealing with navigation, fishing, undersea cables and pipelines, migratory birds and so on, should be consulted. Successful coordination and cooperation with the State Department may result in an automatic updating of information relevant to the MSP.

- Establishment of contacts with key international organizations and programs, and with governments adjacent to proposed or potential sanctuaries

The maintenance of a contact with foreign countries involved in marine affairs could provide the MSP staff with knowledge of what is being done by these nations in terms of marine parks or sanctuaries. This contact probably would be initiated by the State Department. Similarly, a liaison or formal contact with international organizations could provide information to the MSP on their marine sanctuary and related activities. For instance, liaisons could assess the coordination, nomination, designation, and management processes employed in other countries in an effort to apply them to the MSP. Also, a liaison could seek to stimulate the joint development, by NOAA and selected international organizations, of important data.

The international organizations mentioned below may also be able to aid the MSP in their coordinative efforts with other governments involved in utilization of the marine environment. Although they may have no authority, these organizations might aid the MSP by providing publicity and generating support for the program.

-- International Organizations

* United Nations Economic, Scientific, and Cultural Organization (UNESCO)/Man and the Biosphere Program (MAB):

The purpose of the Man and Biosphere Program is to develop an international network of "biosphere reserves" which would stress the conservation of genetic diversity, environmental monitoring, and education.

* World Wildlife Fund:

The World Wildlife Fund (WWF) is an international conservation organization based in Morges, Switzerland which has developed a marine program, "The Seas Must Live." WWF pursues its programs by awarding grants to other organizations to perform tasks which contribute to the overall program goals set out by WWF. WWF obtains its funds through donations from individual supporters and foundations.

* International Union for Conservation of Nature and Natural Resources (IUCN):

IUCN is jointly sponsored by the United Nations Environmental Program and the World Wildlife Fund. IUCN's charter encourages nations to conserve species, including the widest range of genetic varieties and biotic communities. IUCN began the International Biosphere Preserves Program which surveys and inventories potentially endangered habitats and species throughout the world. IUCN is also involved in a marine parks program similar to that of the MSP.

Ecosystems Conservation Group:

This is an international body composed of (1) IUCN, (2) United Nations Environmental Program (UNEP), (3) UNESCO, and (4) the Food and Agriculture Organization (FAO).

4. International Conference or Symposium on Marine Parks and Sanctuaries

This conference(s) would represent a means of focusing on the national and international aspects of establishing and managing marine parks. The conference or symposium could be sponsored, in whole or in part, by NOAA and focus on the MSP, as well as other international marine sanctuary-type programs. The conference would attract international attention to both the MSP and other existing proposed marine sanctuary-type programs.

Speakers, panels, and papers presented at the conference could focus on developing international support for these programs, coordinating these programs on an international scale, and transferring data, research and experience gained in one program to other similar programs. Additionally, discussion or question and answer periods could be conducted to provide participants with the opportunity to discuss various issues and concerns or ask questions about material presented.

Participants could include representatives from the MSP and other federal agencies involved in marine affairs, as well as other

countries and international organizations concerned with marine parks.

Published proceedings of the conference could serve as another means of publicizing not only the conference and what was discussed, but also the MSP, itself. Moreover, information on the MSP, as well as other programs and participating organizations, could be distributed at the conference.

b) Advantages and Disadvantages

Close contact with the State Department during the Program's development can aid MSP officials in determining potential concerns or conflicts which other countries might have with the Program. Also, early coordination with Mexico, Canada, and other countries affected by marine sanctuary designations could be initiated through the State Department. A disadvantage is that working through the State Department can be a slow process.

The checklist of treaties, laws, and conventions provides a means of assessing how they may affect the MSP or, in turn, how the MSP can affect these treaties, laws, and conventions. The checklist can be updated as international laws are modified.

A disadvantage of the checklist is that it will require considerable effort to bring it up-to-date and then to maintain it, but it can be a valuable tool if used effectively. Another disadvantage is that MSP staff should recognize the limitations of international treaties, laws, and conventions. The Fishery Conser-

tion and Management Act and the resulting 200 mile fisheries conservation zone is, in part, one response to the ineffectiveness of fishery treaties. If the checklist is used, careful attention must be paid to fishery treaties negotiated in response to the requirements of the FCMA. Also, if the Law of the Sea Conference is successful, changes to any relevant treaties should be closely monitored. One viable option would be for the MSP to rely on the State Department to monitor changes in treaties which affect or may be affected by the MSP.

Contact with international organizations may be most advantageous for publicizing the MSP. The international organizations may also provide an entrance into other countries having sanctuary-type programs. In addition, to the degree that a contact with other international organizations can aid in the transfer of information on nomination and management techniques, and the establishment of joint enforcement of sanctuaries, it can prove very worthwhile. However, having a formal MSP contact in each organization may prove costly and require additional staff. A viable option would be to maintain close contact with the staff of international organizations in a less formal, but regular manner.

Contact with other countries, particularly those which may be most affected by the designation of marine sanctuaries, such as Canada and Mexico, can be valuable in coordinating the sanctuary nomination and designation process with the affected countries

during the program development stage.

One of the advantages of a conference or symposium is the potential for gathering a rather large group of representatives of various countries and organizations, as well as individuals from throughout the world, who are concerned with marine parks and sanctuaries. Through the conference, international recognition of and support for the MSP is likely to increase. The conference also provides a forum for the discussion of problems or concerns that occur in setting up or managing these programs. One disadvantage of such a conference is likely to be the cost of sponsoring the conference and of transporting the participants to and from the conference. Another disadvantage is that the conference is likely to be one of a kind in nature with little follow-up by the participants. A further disadvantage is that probably only a select number of people from throughout the world will be able to participate. Publishing the conference proceedings is one means of partially rectifying this disadvantage.

JOTNOTES

1. Conversation with Ms. Katherine Clarke-Bourne, Office of Fishery Affairs, Department of State, 6/28/77.

2. Fishery Conservation and Management Act of 1976 (FCMA) s. 2 (c) (5).

3. Information relating to renegotiation of treaties and commissions was obtained from Ms. Katherine Clarke-Bourne, supra note 1.

B 4 MECHANISMS TO COORDINATE THE MARINE SANCTUARIES PROGRAM WITH RELEVANT DOMESTIC GOVERNMENTAL ENTITIES

The near and offshore marine environment that falls within the scope of the Marine Sanctuaries Program (MSP) is presently subject to a fragmented matrix of regulation and protection efforts from a variety of federal, state and local agencies. Coordination of the Marine Sanctuaries Program with these domestic programs, as well as gaining their support for the Marine Sanctuaries Program, is necessary to ensure that the various programs do not work against each other, but rather complement each other to the maximum extent possible. (See B 3 for a discussion of coordination on the international level.) As these various governmental entities begin to recognize and understand the Marine Sanctuaries Program's unique role in protecting marine areas, overall support for the program will increase.

This section will examine potential mechanisms available to the Marine Sanctuaries Program staff for use in making initial contact with other governmental entities at the federal, state and local levels. The purpose of this contact is to explain the Marine Sanctuaries Program's mission and to initiate discussion pertaining to the potential relationships each might have with the Marine Sanctuaries Program. It should be emphasized, however, that obtaining governmental coordination and support is not a one-shot process.

stead it must be a continuous and evolving concern that will be reflected throughout the subsequent nomination and evaluation phases (see also sections C 5 & C 6). Thus, although these subsequent coordination measures will be important to the continued growth of overall program support in future years, the focus of attention in this section concerns the generation of that crucial initial base of program support.

The design and selection of mechanisms for attaining governmental coordination must be tailored to suit the varying needs and responsibilities of individual agencies at each of the federal, state and local levels. Since meaningful cooperation and support from these groups will be essential, it will be necessary to identify areas of common concern, particularly those areas where close cooperation would be of mutual benefit. In this regard, an important element of initial coordination efforts will be presenting the Marine Sanctuaries Program in terms that will provide a compelling reason for these agencies to participate. This aspect is also discussed in the succeeding section with respect to assistance in the identification of potential sanctuary nominations.

Federal agencies with marine-related programs have primary jurisdictional responsibilities beyond the state's three-mile ocean boundary. Each of these agencies will be concerned with the ways the Marine Sanctuaries Program might benefit or impair their own missions. Concerning the former, mutually beneficial work efforts ight include the development of joint data bases and research

projects, technical and management training or assistance, joint monitoring and surveillance programs, cost/labor savings, and a maximization of the overall potential of the individual programs. Moreover, on a site-specific level, federal agencies might find the protection provided by marine sanctuary designation to be of mutual benefit (see B 5). Concerning possible conflicts between the Marine Sanctuaries Program and other agency missions, it should be stressed that the sole purpose of the Marine Sanctuaries Program is protection or restoration of selected marine sites due to their own merits; the program is not intended to be a roadblock to potentially unpopular activities such as oil and gas development or offshore power plants. Additionally, the flexibility in sanctuary regulations should allow the concerned agencies to reach mutually agreeable solutions and to reduce the chance of conflict.

As discussed more fully in B 5, and outlined in Appendix II, important federal agencies with marine-related programs include the following: BLM's OCS leasing program, F&W's fishery management responsibilities, EPA's ocean dumping program, the NPS's national seashore system, F&W's coastal wildlife refuges, the NRC's offshore power plant licensing responsibilities, the DOT's deepwater ports licensing duties, Sea Grant Program's funding of various research, EDS's marine data storage and retrieval system, BOR's wild and scenic river system, and OCZM's estuarine sanctuary and coastal zone management programs. The marine mammal programs associated with the

Endangered Species Act and Marine Mammal Act, which are administered by the Department of Commerce and the Department of Interior, are also important.

Section 302 of the MPRSA provides several opportunities for federal and state agencies to review and comment on a particular sanctuary nomination while it is being evaluated for designation. Similar opportunities for review and comment should be provided as the program evolves as a means of obtaining overall support and of monitoring any conflicts between other federal and state agencies and the Marine Sanctuaries Program.

In summary, federal coordination at an early stage could provide an opportunity to minimize potential conflicts and duplication in marine research during the implementation of the various programs. In addition, early coordination will promote the possibility of jointly monitoring areas that require enforcement or impact assessment. Since agencies will also have the opportunity to participate in and support the further development of the program, their comments and recommendations on such topics as ocean dumping sites, ocean outfalls, or the location of potential deepwater ports can be utilized in making the Marine Sanctuaries Program an effective mechanism for protection of significant marine areas. The Marine Sanctuaries Program staff can provide similar information and technical assistance to other federal programs.

Within the three-mile ocean limit and in all U.S. areas of

the Great Lakes, states have the primary jurisdiction. Thus, they will be interested in the relationship between the developing Marine Sanctuaries Program and the various state marine-related programs, particularly the state coastal zone management programs. Moreover, since the Governor of any involved state can effectively veto a sanctuary designation within his state's jurisdiction, coordination with all coastal states is necessary early in program development. As noted previously, coordination with governmental entities cannot be a one-shot procedure, but rather, it must be a continuous, evolving process. State coordination in the initial development of the Marine Sanctuaries Program will foster more efficient coordination throughout the program's life, particularly when sanctuaries within a particular state's jurisdiction are nominated and later evaluated (see section C 5 & section C 6). Of particular interest to states will be the added influence they could exert, through the Marine Sanctuaries Program over the fate of particularly valuable marine areas lying within their three-mile jurisdictional limit. This influence, coupled with their ability to check off on the consistency of federal actions affecting their coastal zone, gives the states substantial power to protect near-shore marine areas.

The support and participation of local agencies in coastal communities has been critical to the success of other Federal programs, such as the Coastal Zone Management Program. This support and participation will also be crucial to the overall success of the MSP. Local

ncies, representing in part those citizens most directly affected by sanctuary designation, have influence not only with state agencies (particularly the Governor), but also with federal agencies. Local opposition or support for the program or a particular sanctuary nomination will be critical in determining the ultimate fate of the program or nomination.

Local agencies might be interested in supporting the Marine Sanctuaries Program for several reasons. Specifically, local agencies may be concerned about the protection of marine recreation or fishing resources. For example, the nomination of the Palau Islands as a marine sanctuary is motivated by a concern for local fishery resources. The Municipality of Ngardmau, along with the Save Palou Organization, is working with several national and international environmental protection groups to preserve the marine ecosystem encompassed by the Palau nomination. Thus viewing the Marine Sanctuaries Program as a positive mechanism for accomplishing the desired goals of protection, these local agencies might strongly support the program and bring pressure on the State to exert similar support. Another reason for program support could be that the local agencies have found other governmental programs ineffective in dealing with their particular marine problems. In this instance, the Marine Sanctuaries Program could serve their purposes more efficiently by bringing about the desired protection that might otherwise be beyond their sphere of influence.

These examples of the varying needs and responsibilities of

different levels of governments should be recognized by the Marine Sanctuaries Program staff during the development and implementation of mechanisms for obtaining program-wide support. Among the different types of coordinative mechanisms, some will be more effective than others in eliciting program participation and support at different governmental levels. Specific mechanisms for achieving governmental coordination and support are suggested in section B 4 a. The advantages and disadvantages of the mechanisms for use at the federal, state and local levels are analyzed in section B 4 b. The Marine Sanctuaries Program staff will be directly in charge of designing these mechanisms to suit the specific requirements of individual agencies at each of the different levels of government. It is essential to point out that one of the overriding factors in the program's successful development (as well as in the eventual nomination/designation process) will be the establishment of close links between the Marine Sanctuaries Program and the existing OCZM/state CZM agencies. Here, the existing channels of formal and informal communication and coordination should be utilized to the greatest extent practicable. The support of the state CZM agencies for the Marine Sanctuaries Program could be a pivotal factor in its continuing success. The state CZM agencies may also provide an essential channel to coastal state governors through which the purposes of the overall Marine Sanctuaries Program can be described and any potential conflicts over nominated sanctuaries can be resolved. In return for these benefits the Marine Sanctuaries Program can offer a cost-effective marine area protection mechanism

t should provide a high degree of visibility and a favorable public image for state CZM efforts.

a. Types of Coordinative Mechanisms

1. Informal Techniques

Informal techniques include phone calls and meetings with contacts in other federal, state and local government agencies. The mechanism provides a means of explaining and publicizing the Marine Sanctuaries Program, answering questions about it, and working out particular problems quickly and efficiently. It is particularly advantageous for initiating preliminary coordination efforts between the Marine Sanctuaries Program and similar or complimentary programs.

Memorandums of Understanding and Interagency Agreements

Memorandums of understanding and interagency agreements are entered into by governmental entities whose jurisdictional responsibilities or control over a particular geographic area and subject matter overlap. The memorandums and agreements seek to minimize duplication of effort and maximize the efficiency of the signatory agencies. This mechanism may be utilized to gain support for the Marine Sanctuaries Program, as well as to aid the nomination, designation, and enforcement processes (see C 5 and C 4).

Memorandums of understanding or interagency agreements would be beneficial where more than one agency is required to issue licenses for a particular project or to engage in planning for a particular area. Through cooperative study, evaluation, and processing of the

application (or planning activity), both time and money would be saved and a unified governmental stance presented.

Interagency agreements have been used in the past by OCZM (for example, with HUD in conjunction with HUD 701 and CZM planning programs) and could potentially be used by OCZM again in connection with the Marine Sanctuaries Program. The memorandums could be generic or site-specified in scope.

Generic memorandums would pertain to subject matters that are not necessarily tied to a single sanctuary site. Potential topics might address assistance in identifying potential sites, mutual cooperation in the transfer of information, or participation during nomination and evaluation processes. As an example, OCZM might seek a generic agreement with the Bureau of Land Management (BLM) concerning OCS leasing. Another option would be for the Department of Commerce to seek an agreement with the Department of Interior to achieve the same purpose. These agreements would seek to limit OCS leasing in sensitive and unique areas (potential marine sanctuary sites) so as not to preclude the designation of valuable sites as marine sanctuaries. An understanding might also be sought by OCZM with EPA concerning potentially conflicting ocean dumping practices and the siting of ocean outfalls for discharging water pollutants. Another possibility is a memorandum of understanding with each federal, state or local governmental agency, which conducts activities in near or offshore marine areas to ensure that each governmental entity identifies

potential marine sanctuary sites and either nominates them or suggests their nomination (see C 2). Through this increased recognition of potential sanctuary sites, public support for the Marine Sanctuaries Program should correspondingly increase. Memorandums with ocean and Great Lakes coastal states, enlisting their support for the Marine Sanctuaries Program, would also be valuable.

3. Interagency Advisory Committee

Interagency advisory committees are, as the name implies, bodies whose membership is formed from existing agencies. These committees are generally formed around a subject matter of interest to all members. An advisory committee's functions most often entail gathering information, coordinating agency activities, advising, and providing general leadership to member agencies. Interagency advisory committees rarely, by themselves, take positive definitive action to achieve stated goals but they can, through study, data dissemination, and publicity, encourage and facilitate desired agency action.

Two noteworthy examples of interagency advisory committees are the U.S. Water Resources Council and the Federal Committee on Ecological Reserves. Both are independent, federal executive agencies composed of representatives of various federal agencies and departments. The Water Resources Council is composed of the Secretaries of Interior; Agriculture; Army; Health, Education and Welfare; Transportation; and the Chairman of the Federal Power Commission; and the Associate Members are the Secretaries of Commerce, and Housing and Urban Development, and the Administrator of the Environ-

mental Protection Agency. The function of the Council is to encourage the conservation, development and utilization of water and related land resources on a comprehensive and coordinated basis by federal, state and local governments and by private enterprise.

The Federal Committee on Ecological Reserves, formerly the Federal Committee on Research Natural Areas has as members representatives of the Agricultural Research Service, Bureau of Indian Affairs, Bureau of Land Management, Bureau of Outdoor Recreation, Cooperative State Research Service, Council on Environmental Quality, Department of Defense, Department of Transportation, Energy Research and Development Administration, Environmental Protection Agency, Fish and Wildlife Service, Forest Service, General Services Administration, Geological Survey, National Oceanic and Atmospheric Administration, National Park Service, National Science Foundation, Smithsonian Institution, Soil Conservation Service and Tennessee Valley Authority. The Federal Committee is to provide the leadership for a coherent national program on ecological reserves. The goal of the program is the creation of a system of field research sites encompassing the entire array of terrestrial, freshwater, and marine ecosystems. Over 400 Research Natural Areas, as well as a number of experimental areas, have so far, been established on federal lands by the various member agencies.

The Office of Coastal Zone Management (OCZM) could take advantage of either of these committees to gain support for the Marine

nctuaries Program. Both committees are concerned with the conservation and protection of water-related resources, a goal of the Marine Sanctuaries Program. The Federal Committee on Ecological Reserves, in particular, is a ready and suitable vehicle for the MSP since OCZM is already represented on the Committee and shares with the Federal Committee the goal of preserving ocean and coastal waters of exceptional ecological value. Thus, active participation by OCZM on the Committee would lead to a familiarizing and sensitizing of other federal agencies to the MSP. Also, the data gathered and advice given by the Federal Committee could be used by MSP staff to assist them in the nomination and designation of sanctuaries (see C 5 a 3).

A further possibility is creating a federal interagency advisory committee which would specifically represent marine sanctuary interests and foster support for the program. Such a committee could also assist in the nomination and designation process. A new committee would seem to offer few advantages over utilization of the Federal Committee on Ecological Reserves since the Federal Committee is already equipped to serve the needs of the Marine Sanctuaries Program. To date, however, the Federal Committee has been primarily concerned with terrestrial activities and has given only minor attention to marine areas. A new committee may, thus, be helpful if the Federal Committee on Ecological Reserves does not expand its focus to meet the needs of the Marine Sanctuaries Program.

4. Executive Orders

An executive order is a written document issued by the President

specifying directions or action. When founded on the authority of the President derived from the U.S. Constitution or a Federal Statute, executive orders essentially have the force and effect of law.

Executive orders potentially cover the entire spectrum of governmental administration and have been widely used. Interestingly, executive orders were "at first employed mainly for the disposition of the public domains, for the withdrawal of lands for Indian, military, naval, and lighthouse reservations." (1) Presently, Executive orders are generally directly to and govern actions by federal government offices and agencies. Usually their effects on private citizens are only indirect.

In terms of the Marine Sanctuaries Program, an executive order could be an effective mechanism for greatly increasing the program's visibility and building a strong base of program support. For instance, the order could instruct other federal agencies to work toward achieving the purposes of the Marine Sanctuaries Program by aiding in the inventorying, nomination, and reviewing of potential sanctuaries.

5. Regional Workshops

Regional workshops provide an informal opportunity for federal, state and local officials, or their representatives to learn about the Marine Sanctuaries Program. The regions themselves might incorporate several neighboring states, a single state, or even a segment of one state. Through this mechanism, program staff

n explain the program's purposes, discuss why program support and coordination from all levels of government is necessary, and describe the process for nominating, designating, and managing sanctuaries. Any questions, problems, and concerns which the officials have can be raised at the workshops and discussed. Information, including brochures, nomination forms, or other handouts describing the Marine Sanctuaries Program can be provided for distribution by the participants thoughout the region.

The state CZM program's contacts within the coastal areas could be very valuable in setting up and operating these workshops. Close cooperation, as mentioned previously, should be maintained between he Marine Sanctuaries Program and the state CZM programs.

Several variables will influence the location and number of workshops held in a region, including the level of government participation desired, federal, state, or local as well as the funds and staff time available. For instance, if one workshop is to be held in a region comprising several coastal states, agency officials in the more distant locations may not be able to participate. This could occur particularly where agency officials do not have adequate travel budgets for such purposes. Thus, their input into the program's development would not be available , and the officials may, in turn, feel slighted or passed over. If the Marine Sanctuaries Program staff felt that more involvement was necessary to ensure that all areas of the region are involved in the workshops -- and funds and

staff time are available -- then additional workshops could be held within the region or travel expenses could be provided to participants. Regions where marine-related problems and concerns are similar may only require one or two workshops, but in more diverse regions, particularly those faced with increasing marine development pressures, numerous workshops may be required.

One of the key premises behind the concept of regional workshops is that if key government officials within the region -- whether at federal, state, or local levels -- are intimately involved in the program's development and their involvement is continually sought in the nomination and designation process, the Marine Sanctuaries Program's chances for success are greater. These key officials should be able to summon vital support for the Marine Sanctuaries Program throughout the governmental heirarchy.

Although the workshops are discussed in the context of obtaining support for and coordination with the overall Marine Sanctuaries Program, they are also useful in obtaining governmental (and, indirectly, public) support and coordination for the nomination and designation of marine sanctuaries. The regional workshops could be designed to serve all of these purposes or subsequent workshops could be planned. Again, it is worthy of mention that government coordination must be a continous, evolving process and that the results of the workshop should be followed up.

6. Conference or Symposium on Marine Sanctuaries and Related Issues

A conference or symposium on marine sanctuaries and related issues could serve a purpose similar to that of workshops. One conference or symposium could be held at the national level or a series of regional conferences coud be scheduled. The MSP staff can structure the presentations, speakers, and panels for the conference or symposium in a manner that best suits its needs.

The format for the conference or symposium would include speakers and panels describing the MSP, including the nomination, designation, and management processes. Techniques for initiating coordination of the MSP with other governmental entities at all levels of government, as well as with the general public, can also be discussed either by a speaker(s) or on a panel(s). Additionally, the program's role in the marine environment and its relationships to and affect on other marine-related programs (federal, state, and local) could be examined. Topics such as OCS leasing and energy development could also be emphasized.

The MSP staff could invite specific participants or the conference could be open to all federal, state, and local officials who are involved in marine affairs, as well as interested citizens. State CZM agencies, other federal, state, and local agencies, and any existing MSP advisory committees could assist the MSP in selecting participants if the first option were selected. In either case, the MSP staff, dependent upon budget and program priorities (see chapter 3), could decide whether to fund the participants or to charge a fee to

cover costs.

7. Consistency

The consistency provision in section 302 (f) of the MPRSA is explained in detail in section C 5 and amplified in section D 4. Although it does not come directly into play until after a sanctuary has been designated, it is mentioned here because the broad authority contained in the consistency provision will be an important focal point that other government agencies at each of the federal, state and local levels will need in order to grasp the mission of the overall program. As noted in more detail in C 5, the consistency provision can be of particular importance in matters concerning oil and gas development. This is particularly true if the Marine Sanctuaries's consistency provision is interpreted to encompass activities not only within, but "affecting" the sanctuary. Thus, even activities outside of the designated sanctuary, but still affecting it, could be subject to the Secretary of Commerce's certification and made to conform to the regulations established for the designated sanctuary.

b. Advantages and Disadvantages of the Mechanisms

As discussed in the introduction to this section, support for and coordination with the Marine Sanctuaries Program must be gained at all levels of government -- federal, state and local. Not only must the advantages and disadvantages of the mechanisms described above be discussed in general, but their advantages and disadvantages in

meeting the specific needs of the various levels of government must also be discussed. Each of the mechanisms provides a tool which can be utilized by the Marine Sanctuaries Program staff in obtaining program-wide support and coordination.

The informal techniques are a particularly quick and often efficient means of obtaining a preliminary understanding of how other government agencies perceive the Marine Sanctuaries Program. Similarly, problems these entities may have with the program, or any other issues which they feel must be addressed by the Marine Sanctuaries Program, can quickly be identified. In many instances, these concerns can be rapidly resolved by the Marine Sanctuaries Program staff. In addition, informal techniques serve the function of notifying other governmental entities, especially federal and state agencies, of what the purposes of the program are and how it might relate to their missions. Moreover, the U.S. Congress and the legislators of the coastal and Great Lakes states should also be kept informed of the direction the MSP is taking. In return, the Marine Sanctuaries Program staff is provided with early feedback on any problems and opportunities that might exist concerning the relationship between the two agencies. One of the disadvantages is that the comments do not represent a formal record, and thus, there is less assurance that the requests or coordination objectives will be achieved than with a more formalized mechanism.

Memorandums of understanding represent a more formalized approach. Memorandums of understanding would help gain long-term support for

the Marine Sanctuaries Program by fostering cooperation among governmental entities and encouraging operation efficiency. Also, since this mechanism is flexible, agencies would be able to structure the agreements as they wished. However, OCZM may find it difficult to reach agreement with other agencies, particularly where the bargaining power of the agencies is not equal. For instance, federally approved coastal zone management programs are statutorily required to be in conformance with the Federal Water Pollution Control Act and the Clean Air Act (2) but EPA is not similarly restricted by the Coastal Zone Management Act. Another disadvantage is that enforcement of the memorandums is likely to be difficult; since the agreements do not carry the force of law, an agency may choose to neglect it. Further, an agreement between the Marine Sanctuaries Program and federal or state administrators may prove largely ineffective at the field level or may simply be forgotten once negotiated. Another disadvantage is that if the agreement tries to encompass too broad a range of future developments, it may be ambiguous or ineffective in certain situations.

While memorandums of understanding between the Marine Sanctuaries Program and the federal and state agencies (particularly state CZM programs) could be an important coordinative mechanism, the use of memorandums would not appear to be a very effective tool for gaining local government support for the Marine Sanctuaries Program, since too many memorandums would have to be formulated. This may

..en be the case for memorandums with state agencies. Thus, other mechanisms would have to be initiated to gain local agency support. One potential solution would be to encourage the state CZM agency to provide local agencies with the opportunity to participate in the development of the Marine Sanctuaries Program and keep them continuously informed of events occurring with respect to the program.

Interagency advisory committees are another formalized technique for ensuring that program support is obtained from other governmental entities. Among the advantages of interagency committees are their ability to coordinate the activities of a number of agencies which have an interest in a particular subject or area, and to provide baseline data to these agencies. The committees, however, generally have no authority themselves to set aside and protect areas which they deem deserving of such attention; rather, they are dependent upon the discretion of member agencies. A further disadvantage is the possibility that committee work may never pass from the individual participant to the agencies they represent, thus negating the committee's potential as a data gathering, coordinating, and publicizing vehicle.

One advantage of interagency advisory committees is that they can be structured to include representatives from all levels of government. For example, since it is desirable to attain federal, state and local support for the Marine Sanctuaries Program, an advisory committee can be established with representatives from

federal agencies and the state and local governmental entities. Additionally, ad hoc members representing various regions of the U.S., states, or other interests, such as state governors or their representatives, or representatives from local governments, can be drawn on as necessary by the advisory committee.

Executive orders are another formalized mechanism for obtaining program support and coordination. A principal advantage is that executive orders can be promulgated more readily than Congressional legislation. They are particularly advantageous as a vehicle to demonstrate executive interest/concern in a particular area -- such as the recent executive order on wetlands. (3) If a similar concern is expressed for the need to establish and protect marine sanctuaries, the Marine Sanctuaries Program's visibility would be substantially elevated. This is a very significant advantage, particularly for obtaining the support of and achieving coordination with other federal agencies, including the Office of Management and Budget.

However, executive orders possess several limitations. Most obviously, they are directly applicable only to the federal level, although they may provide an incentive for state and local officials to follow its philosophy. There is no legal compulsion for state and local agency compliance with the order. In addition, just as they can easily be created, executive orders can also be easily repealed, modified, or rendered meaningless. This can be done by the President issuing the executive order or succeeding Presidents,

well as by an act of Congress or by a decision of the Judiciary. Another potential disadvantage is that if executive orders are not created as a part of a carefully implemented program, their issuance may give the appearance (and reality) of ad hoc resolution of problems deserving or requiring a more considered response. If, however, the executive order is issued as an integral component of the Marine Sanctuaries Program, this potential disadvantage would be avoided. Finally, executive orders, like other legal pronouncements, are subject to administrative dilution by the implementing agencies.

Regional workshops are particularly advantageous for gaining the input and cooperation of federal, state and local officials or their representatives at the regional level. The source and quality of this input and cooperation will, however, be dependent upon the location and number of workshops conducted. This, in turn, is dependent upon the funds and staff time available and the level of participation desired. If local participation is desired, workshops will have to be held in locations accessible to local officials or the participation of these officials must otherwise be ensured.

Workshops can provide MSP staff an informal opportunity to address government officials concerning the MSP. How marine sanctuaries are nominated, evaluated and designated can be explained. Information on the MSP can be provided to the participants who can then distribute it within the region. Questions or issues concerning the MSP can be raised and subsequently addressed by the MSP staff.

The overall result of these efforts is governmental support for the MSP.

The workshop provides a means of getting the officials involved in the MSP and, through possible follow-up workshops, keeping them involved throughout the sanctuary nomination/designation process. The mechanism is equally applicable to all levels of government and the public. Once participants understand the MSP and begin to support it, a broader base of local citizen support should be forthcoming.

The use of a conference or symposium focusing on the Marine Sanctuaries Program and related issues would serve, first of all, as a means of promoting the program. Moreover, the conference/symposium could serve as a forum for discussion with a wide audience of federal, state and local officials concerned with marine affairs, the purposes of the MSP, the need for a broad base of program support, and the nomination, designation, and management processes. A further advantage is that the panels could be used to openly discuss interesting issues or potential conflicts, and a question and answer period could provide the participants with the opportunity to comment on or learn of specific aspects of the MSP. Information concerning the program, such as pamphlets or brochures, could be provided at the conference for the various agencies to distribute to the public.

A disadvantage would be that possibly a large percentage of the federal, state and local officials connected with marine affairs would not be able to participate, even if the convention was quite

large or if several were sponsored. A potential means of partially resolving this problem is to publish a set of proceedings of the conference. The proceedings would not only be useful to the MSP staff, but also to the officials participating in the convention, other interested federal, state, and local officials and the general public.

The consistency provision is briefly discussed as an indirect mechanism for obtaining program-wide support and governmental coordination (see section C 5 a for a more detailed description of the consistency provision). The primary advantages and disadvantages of the consistency provision are discussed in C 5 b. One advantage that should be noted is that the mechanism would apply equally to all permitting authorities -- whether federal, state or local.

In summary, the introduction to this section emphasized that the MSP staff must choose and modify these coordinative mechanisms to suit the varying needs of each level of government. Certain of the [illegible] mechanisms described will work more effectively at one level of government than another.

For instance, informal techniques can be used by the MSP staff at all levels of government, but would be most efficient with federal agencies and state agencies (especially the state CZM agencies or the Governor's office). Programmatic memorandums of understanding between the MSP and local agenices (and to a certain degree, state, agencies) would not be practicable because of the time consuming aspects of their

preparation. Moreover, site-specific memorandums between the MSP and certain local or state agencies for a specific proposed sanctuary can be valuable, as will be discussed in C 5 & D 4. Advisory committees can be structured to suit the needs of all levels of government by using representatives of federal, state and local governments as well as ad hoc members from various regions of the country. Executive orders would primarily affect the activities of federal agencies even though the President's concern for the program and resultant elevation of the program's visibility would indirectly affect other state and local government agencies as well. The consistency provision provided in section 302(f) of the MPRSA, although only an indirect mechanism, applies equally well to all levels of government. Finally, regional workshops and conferences can be structured to fit the needs of all government levels. The former is particularly useful on the local level, while the latter would be more national in scope.

FOOTNOTES

1. Congressional Research Service, "Executive Orders: A Brief History of Their Use and the President's Power to Issue Them." p. 3 (Feb. 26, 1974).
2. CZMA, s. 307 (f).
3. Executive Order 11990, "Protection of Wetlands", 42 Fed. Reg. 26961 (May 24, 1977).

B 5 MECHANISMS TO IDENTIFY POTENTIAL SITES FOR NOMINATION

Prior to major expansion in the number of marine sanctuaries, it is essential that Marine Sanctuary Program (MSP) administrators clearly define the role that the program will perform in assisting outside interests with the identification of candidate nomination sites. To date, the program has operated on a laissez-faire basis. It has relied on outside interests to evaluate the program's regulations and, based on that appraisal, to select candidate sites and nominate them. (1) Although MSP staff has offered encouragement and advice to nominators after a site has been selected (2), budget constraints have precluded their assuming an active role in identifying potential candidate sites. Thus far, this approach has resulted in two sanctuary designations in the program's first four years. Although budget limitations have contributed to this significantly slow rate of progress, it would appear necessary that MSP administrators reassess their past efforts and take a more active part in the encouragement of identifying sites for possible nominations.

This section will examine mechanisms that could be used by the MSP to take a more assertive role in encouraging and guiding interested agencies and groups (including the MSP staff itself) in identifying sites with potential for sanctuary nomination. This active role will be an important element in obtaining program-wide support by demonstrating a clear sense of program direction. This approach will also contribute to the assurance that the best possible sites will be nominated. For these reasons, and because this effort

must precede actual site nomination, the mechanisms to identify potential sites are discussed in the program-wide support section of this report.

The mechanisms in this section are closely related to those of the previous section, on domestic agency coordination (B 4), and the section concerning the means of obtaining nominations (C 2). The relationship to the previous section lies in the fact that one of the best ways to foster coordination is to demonstrate areas of mutual interest. Thus, where the protection of specific marine sites can be shownto be a common interest, the likelihood of close cooperation will be greatly increased. Although the agencies that would be interested in identifying and nominating sites will not represent all groups with whom the MSP will wish to coordinate, they will comprise a large and important percentage and should be considered among those groups that will make up the core of early program support. This section is also closely related to the mechanisms to obtain nominations because identifying possible sites is an obvious prerequisite for nomination. It has, however, been separated from that section in order to stress the importance of not just receiving nominations but receiving good nominations.

The need for the MSP to take a more active role in site identification was most recently stressed in the President's environmental message. That message instructed the Secretary of Commerce "...to identify possible sanctuaries in areas where development appears imminent and to begin collecting the data necessary to designate them as such under the law." To avoid being a purely

reactive program, the identification of possible sanctuary sites should not be restricted to "areas where development appears imminent", but should instead include "all" possible ocean and Great Lakes areas. This would ensure that valuable areas threatened by over use or mulple use, as well as valuable areas not presently threatened at all (but nonetheless significant), will also be recognized.

By whatever mechanisms selected, efforts to elaborate upon those types of sites considered to have nomination potential will serve several functions. First, as mentioned above, a clear statement of the types of sites that will be considered for inclusion in the program will provide a common focal point around which other entities will be able to assess how the MSP might provide a mechanism to further their own respective missions. Second, it would provide needed guidance to agencies, groups, individuals, and other non-MSP entities wishing to participate in the nomination of marine sites. Third, increased awareness and consideration on the part of MSP staff of the range of sites available for, and in need of, sanctuary designation will permit them to develop a prioritization system for sanctuary designation efforts. For the program to expand in the most efficient manner, designation efforts must, at least initially, focus on those sites with the most pressing as well as most deserving need for sanctuary protection. To determine which sites throughout the nation's vast marine waters are most deserving, and

then to determine which among those deserving sites are facing the greatest threat to their continued value, requires a precise knowledge of the full range of sites that might eventually be designated The four mechanisms that have been selected for approaching the problem of identifying potential sites for nomination incude 1) reliance on the regulations and detailed site identification criteria, 2) an inventory of potential nomination sites, 3) site identification by regional councils, and 4) a list of potential sites recommended by other agencies and groups. None of these mechanisms are mutually exclusive. Following a brief discussion of each mechanism in a), there is a part b), a review of advantages and disadvantages among the mechanisms and a discussion.

a. Mechanisms

1. Reliance on Regulations and a Detailed Set of Site Identification Criteria

As part of a general nomination information packet, further discussed in sections C 2 and C 3, this mechanism would provide all nominators with the necessary information to identify potential nomination sites by themselves. Most simply, the nominators would apply the criteria described in the nomination packet to those marine areas which are to them of interest or concern. The nominator would then make his own assessment as to whether or not the site(s) should be considered for sanctuary nomination.

Included in the guidance material might be a list of specific program objectives, clearly written site identification guidelines elaborating on those portions of the program regulations

that describe purposes for which sanctuaries can be established, a description of criteria that will be used during the evaluation of submitted nominations, and a list of possible sites and designated sites.

2. An Inventory of Potential Nomination Sites

This mechanism provides for a formal inventory or series of inventories to be conducted for the purpose of identifying and briefly describing marine areas holding potential for sanctuary designation. This inventory could be conducted either in-house, by other NOAA personnel, by some other Federal agency (such as BLM), or by a private contractor or group of contractors. Its focus could include all relevant portions of the nation's oceans and Great Lakes, including both nearshore and offshore areas; or alternatively, it could include some subset of areas such as those facing imminent development (e.g. deepwater ports, offshore power plants, or oil and gas development).

For each site included on the list, the following information might be presented to portray a brief site profile: location, present use, natural characteristics, outstanding values which might permit its consideration for sanctuary status, the existence or probability of development pressure threatening its outstanding values, the existence of available or developing information on the site, or other salient information topics.

This list, which should be periodically updated, would not necessarily require that sites identified in the inventory be nominated, but it could be used by MSP staff or others to select

sites for nomination. The list could also be used by MSP staff to develop general criteria for prioritizing sanctuary designation efforts or for developing a more specific sanctuary "want list."

3. Site Identification by Regional Councils

Under this approach, a series of regional councils would be established to locate potential sanctuary nominations. Each council would focus its attention on sites within its geographic boundaries and would be composed of individuals representing different interests familiar with the marine enviornment in that general area. The fields of interest represented might include recreation, archeology, sport and commercial fishing, scientific disciplines, local and state governments, environmental groups, industry, MSP staff, the appropriate OCZM regional coordinator, and others. Although these councils could also be requested to submit nominations, participate in subsequent feasibility studies and evaluations, and enlist local support for nominations, an important portion of their responsibility should be the identification of potential sites. Those sites that a council identifies could be submitted to MSP staff where it could be compiled into a master list with sites selected by other regional councils. The developed list would then constitute an inventory similar to that described in 2 above and could be used to accomplish the same purposes (e.g. selecting nominations, providing guidance to others wishing to nominate sites, and prioritizing sanctuary designation efforts).

4. A List of Potential Sites Recommended by Other Agencies and Groups

Under this mechanism, entities representing all levels of the government and the private sector would be individually encouraged by different means to identify possible sites for marine sanctuary nomination. This request for recommended sites would encourage both public and private entities to view marine resources and resource areas as having special values that would benefit from the recognition and protection offered through marine sanctuary status.

When soliciting sites, the MSP staff should focus upon groups whose interests are most intimately concerned with the marine environment. They might include fishing interests (such as Regional Fisheries Management Councils, State Fish and Game Departments, or private fishing associations), local coastal community officials, ocean development concerns (such as those related to offshore power plants, deepwater ports, or oil and gas development), coastal marine laboratories and universities, conservation and environmental groups, coastal citizen groups, state governmental agencies dealing with the marine environment (including state coastal zone management agencies, state departments of natural resources, and others) governmental marine wildlife agencies (including the Marine Mammals Commission, National Marine Fisheries Service and the U. S. Fish and Wildlife Service).

As with mechanisms 2 and 3 above, all recommended sites, regardless of whether or not they are eventually designated, could be compiled into a comprehensive list of valuable marine sites.

Again, the suggestion of sites would not necessarily require that nomination efforts be initiated. It should be noted that requests for potential sanctuary sites may be made independently or as part of a larger request seeking nominations, assistance with the collection of information concerning a nominated site, assistance with evaluation, or even participation in the management of designated sanctuaries.

b. Advantages and Disadvantages of the Mechanisms

The first mechanism mentioned above, reliance on the regulations and a detailed set of site identification criteria is, essentially, a basic step of each of the other three mechanisms described in this section. The preparation of this information will provide easily distributed instructions and criteria for site identifications to anyone who may express interest in participating in the nomination process. This information also affords MSP staff the opportunity to ensure that nominators are considering those types of sites best suited for designation. In this way, sincere but misdirected efforts will be minimized. The principal disadvantage of this mechanism is the difficulty in preparing criteria that are general enough to be applicable to all parts of the nation's marine environment yet specific enough to be of assistance in defining the value of a particular site.

The second mechanism, conducting an inventory of potential

sites, provides MSP staff the opportunity to apply criteria similar to that which would be developed in the previous mechanism for the nation's marine areas. This, in turn, will give MSP staff a firm base of information from which to direct sanctuary designation efforts. The principal disadvantage of this mechanism is cost. Although the inventory could be based on existing information, (particularly BLM's marine literature and baseline surveys that are part of the OCS leasing process) and could draw heavily upon the Environmental Data Service's computerized information systems (available free to NOAA personnel), the effort involved in analyzing information will still be difficult and time consuming, as the information will not be in a form readily suited to potential site identifications. In addition, available information on marine areas is typically incomplete, and geogrphically spotty, making a comprehensive review of sites impossible. Despite these severe limitations it should be possible to identify a list of sites that would be among the most eligible candidates for nomination and designation.

The third mechanism, establihsing regional councils whose responsibilities could include site identification and nomination, would serve to pull together interdisciplinary groups of individuals with firsthand familiarity of potentially valuable sites in each of their respective regions. Although each council would follow a basic set of criteria similar to those mentioned in the first mechanism, their intimate knowledge of a region's marine environ-

ment should enable the group to rapidly narrow down a list of potential sites to those which are important. A major disadvantage of this mechanism is, again, cost. The combined operating expenses of each council could be substantial particularly if each council requires separate funds for surveying potential sites. It is also possible that council site lists might represent a listing of favorite sites preferred by individual members rather than an objective analysis of potential sites. Another possible disadvantage lies with the interests that might or might not be represented by individual council members. If certain interests are not represented, a resulting list may be biased against certain deserving sites which could have been included had there been a supporter on the council to bring the area's value to the attention of other members. This last disadvantage also points out the fact that a key to the success of regional councils is achieving a proper mix of represented interests.

The fourth mechanism listed relies on the existing expertise of other agencies and groups familiar with the marine enviornment to identify and nominate sanctuary sites. Like the previous two mechanisms, each possible site identifier would base his decisions on a common set of criteria similar to those developed in the first mechanism. As with the regional council technique, these groups and agencies will have firsthand knowledge of certain marine areas which, if tapped, will greatly facilitate the identification of

worthy sanctuary sties. A disadvantage of this mechanism is the large amount of time and effort necessary to first, contact each of the many agencies and groups that could provide assistance, and second, to establish the necessary procedural changes. Individual attention on the part of the MSP to the needs and interests of each participating group will be a key element in maximizing their potential contributions. However, the expense in terms of staff time and dollar cost will establish a limit to the number of entities that can be contacted. It should be noted, however, that this contact, aimed at soliciting the identification of potential sites, might be part of a larger effort aimed at overall coordination with a particular entity. Costs would, in this way, be shared. There is also a danger of trying to contact too many groups and then not being able to adequately respond to their questions and concerns about the MSP. Thus, by spreading themselves too thin, MSP staff may fail to elicit the desired quality of participation.

Another possible disadvantage of the fourth mechanism is the possibility of offending some groups by not designating sanctuaries of immediate concern to them. The hope of having a sanctuary designated to protect a site of particular interest to a group will be a major incentive encouraging their participation in the program. However, the MSP will be able to designate only a limited number of sanctuaries. Therefore, some groups may feel misled if their nominations are rejected. Although one of the major functions of

guidelines for evaluating nominations (see C 6) is to introduce an objectivity that will minimize potential conflicts of this nature, any set of guidelines are open to a degree of interpretation and discretion, and therefore, the possibility of upsetting some nominators who disagree with the MSP's evaluation will always exist. (3) Conversely, if the MSP designates several sanctuaries that are proposed by a single entity, the Program could leave the door open to the criticism of favoritism. In short, extensive involvement of outside interests could politicize the program to such an extent that the legislative mandate centering on inherent values of the protection of certain marine sites could be obscured.

As mentioned in the introduction to this section, at least three important functions can be accomplished or assisted by mechanisms to identify potential sites for nomination. First, the process of potential site identification will provide a focal point towards which non-MSP entities will look to assess how the MSP could affect their own efforts. Where site protection can be demonstrated to be of mutual interest and benefit, likely support and participation from that particular group should be heightened. Second, these mechanisms will provide guidance to entities interested in participating in the program and will assure MSP staff that the best possible sites will be nominated. Third, a detailed analysis of potential nominations will assist MSP staff in the development of a prioritization system for designation efforts. The remainder

of this section will present a discussion of the four identified mechanisms in light of these functions.

The first function concerns the close relationship betwen site identification and the development of program-wide support. Many public agencies and private groups share missions and interests that are closely aligned with those of the MSP. These organizations can not only provide valuable information for use in identifying potential nominations, but can also provide a core of program support. To the extent that the MSP can demonstrate to these "core organizations" the complementary nature of the marine sanctuary concept to their own marine-related interests, program-wide support will be enhanced.

Obviously, one of the best ways to demonstrate mutual interest and concern over marine resource areas is to direct attention toward sites where protection of certain values is a common goal. Thus, the mere identification of potential nominations, irrespective of the mechanisms, groups or persons used to identify them, should provide an initial focus for efforts to coordinate activities between the MSP and these core organizations. By providing information and assistance in the identification of potential sanctuary sites of mutual interest, the MSP can offer these organizations an avenue through which they could expand their respective spheres of influence over the fate of certain marine resource areas. That avenue, of course, lies through participation in the MSP. As discussed

throughout this report, their participation might include varying degrees of influence in the actual sanctuary nomination, evaluation, designation and management responsibilities (see sections B 4, C 4, C 5, C 6, and D 3). Thus, even though the principal incentive for coordination with the MSP will lie in the influence these organizations would gain in the designation and sanctuary management processes, the opportunity to direct site selection attention to areas of immediate concern will remain a crucial component in developing a firm base of program support.

Although each of the four mechanisms described in this section would seek information from these organizations, the greater the organization's participation and interest in the program, the greater will be their support. Therefore, individually tailored agreements and contacts with these agencies encouraging them to identify and submit potential sites to MSP staff (mechanism 4 above) might be the most desirable. By shifting some of the burden of site identification to other entities, the dollar cost of this mechanism can be reduced. The money saved could be applied toward the cost of coordinative mechanisms that would also benefit the nomination/designation process and sanctuary management.

As mentioned above, the site identification is but one aspect of the coordination and participation objectives. The cooperation developed should be an ongoing process that would be carried on through subsequent stages of program development including both

designation and operation processes. In years hence, as new information is developed and priorities shift, cooperating organizations should continue to submit potential nominations to the national master list maintained by MSP staff. The following presents a brief review of some key organizations that would present important MSP contacts for identifying marine sanctuary nominations.

Under the Fishery Conservation and Management Act of 1976, eight fishery management councils have been established. Each regional council is charged with the preparation of fishery management plans for each major commercial species of fish within its geographic boundaries. In the process of collecting fishery resource data for the preparation of these plans, the councils will compile information useful in identifying vital breeding and habitat areas which could qualify for sanctuary designation. In return for making this information available to the MSP and participating in the nomination/designation and sanctuary management processes, the MSP could offer an important and convenient cost-effective mechanism through which fishery management councils could extend site protection efforts to include regulation other than those applying to the harvesting of fishery resources. Because the mandate to these councils is to protect fishery resources, which includes in its definition fish habitat, the merging of the MSP with fisheries management efforts should be essential.

Fishery interests comprise one of the most important and influential marine user groups. Therefore, their support will not only be

ssential but the knowledge and information they possess concerning particular marine areas of value should be exceedingly important in terms of identifying sanctuary sites. It should be noted, however, that the Fisheries Act and its councils do not apply to the Great Lakes and that a different approach will be necessary to ensure representation in this area. Moreover, although the cooperation of fisheries management councils will be important, it should not be considered as the only fisheries contact that need be pursued. Coordination with other fishery interests should also be sought.

State coastal zone management agencies could also provide valuable information useful in the identification of potential sanctuary sites. The plans required of each state CZM agency must include an element that identifies geographic areas of particular concern in their coastal zone. (4) That definition includes, among others, marine areas extending from the shoreline out to the seaward edge of the state's jurisdictional limits. In addition, the Coastal Zone Management Act stipulates that participating state CZM agencies identify "...procedures whereby specific areas may be designated for the purpose of preserving or restoring them for their conservation, recreational, ecological or esthetic values...." (5) These requirements essentially mandate a mini marine sanctuary program in the state waters of each state participating in the federal CZM program. With the already established ties between OCZM and the state programs, each should be encouraged, if not required, to work closely with MSP staff by providing information

describing these sites and by considering the possibility of their designation as marine sanctuaries. In return, the MSP could provide an added initiative and mechanism for protection, as well as the funds to ensure management implementation.

Another group of sources for potential site information and program support are public agencies and private groups administering coastal parks, refuges, reserves, and preserves. These organizations will be able to provide information concerning marine areas adjacent to their existing coastal holdings. Inasmuch as the value of these coastal parks is dependent on the condition and use of adjacent marine waters, strong justification may be made for designating some of these areas as marine sanctuaries. In addition, contact with these agencies may encourage new initiatives to develop coastal preserves or reserves that recognize the natural continuity and interrelations between the land and sea environments by incorporating components of each. This ecosystem approach would be particularly valuable where the Marine and Estuarine Sanctuary Programs focus on the same geographic area. Among the important agencies that could be included here are the U. S. National Park Service (especially for their National Seashores), the U. S. Fish and Wildlife Service (for coastal wildlife refuges), the U. S. Bureau of Outdoor Recreation (for their wild and scenic rivers), and state and local coastal park systems.

Ocean and Great Lakes development interests and regulatory agencies offer a fourth group from which site specific information and program

support might be enlisted. As mentioned earlier in this section, the President in his environmental message has tied marine development decisions closely with the Marine Sanctuary Program. Perhaps foremost therefore, groups associated with oil and gas development in the continental shelf, should be consulted. In this instance, the environmental information compiled by both industry and the Bureau of Land Management (the Federal agency responsible for leasing ocean bottoms to industry for mineral development) would provide excellent source material for the identification of potential sanctuary sites. An agreement between the MSP and the BLM could ensure that this information would be analyzed with the intent of locating valuable marine areas prior to any commitment to development. In this manner, prime sanctuary sites could be spared intrusion by development that would otherwise destroy or reduce that value. Similar arrangements should be explored in relation to the Nuclear Regulatory Commission's regulatory authority for offshore nuclear power plants and the Department of Transportation's responsibilities for deepwater ports.

Other ocean and Great Lakes regulatory agencies should also be considered. For example, the U. S. Coast Guard (U.S.C.G.), which is within the Department of Transportation, is responsible for the establishment and relocation of commercial shipping lanes. Although, for the most part shipping lanes into and out of coastal ports are already establihsed and not likely to change, as new deepwater ports are constructed, new lanes will doubtlessly develop. As the orienta-

tion of these routes are mapped, the U.S.C.G. should consider the possibility of preempting or otherwise affecting potential sanctuary sites. From the information that is analyzed during deliberations on possible shipping corridors, the U.S.C.G. may wish to nominate, or perhaps merely bring to the attention of MSP staff, some particularly valuable ocean sites. Other important regulatory authorities include the Environmental Protection Agency's permit responsibilities for ocean dumping and sewage outfalls, and the Army Corps of Engineers' dredging and dredge spoil disposal activities.

A fifth group of nomination sources are agencies charged with the protection of species of marine wildlife. The principal federal agencies of concern are the National Marine Fisheries Service, the Marine Mammal Commission, and the U. S. Fish and Wildlife Service. Under the authority of the Marine Mammal Protection Act of 1969 and the Endangered Species Act of 1973, these agencies protect marine mammals, several species of sea turtles, and several species of fish. Where a localized but vital habitat for one or more of these species can be identified, sanctuary designation could provide an important new means for these agencies to expand their species protection efforts. Therefore, these agencies may wish to use data and information they have on file pertaining to marine animals to identify potential sanctuary sites and develop nominations. Protection of these marine animals is clearly within the scope of the MPRSA's mandate to conserve marine resources. Thus, each of these agencies should be

contacted and encouraged to consider the applicability of sanctuary designation to protection of marine animals.

The scientific community, composed of marine scientists working at coastal universities and laboratories, represents a tremendously valuable storehouse of information and source of knowledgeable people who could be of assistance in identifying potential sanctuary nominations. Although their familiarity with the marine environment along our coast is perhaps greater than any other single group, their ability to directly influence its fate is limited. In return for their participation in the MSP, the marine scientists would gain an important voice in marine protection objectives of intimate concern to both groups. Their participation could also foster a multidisciplined scientific focus on the interrelationships of natural processes as they affect resource values located within a particular marine geographic location.

Coastal communities are a seventh group whose support for the program and participation in site identification should be considered essential. As the people most directly affected by marine conditions, their familiarity with valuable ocean and Great Lake resource areas, particularly those close to shore, will be substantial. For those sanctuary nominations close to shore, coastal communities could have a pivotal influence on selected regulations and the ultimate designation decision. Therefore, active involvement of these entities in the site identification process will greatly reduce the likelihood of opposition during later designation and operation efforts.

Last to be mentioned among the potential sources of nominations are NOAA's Environmental Data Service and the Office of Sea Grant. Although the former is primarily a data storage and retrieval agency and the latter is principally a funding agency for marine research, both, on occasion, become actively involved in marine research and both deal intensively with marine data and information. As a result, both groups may wish to prepare or sponsor a sanctuary nomination by drawing upon this knowledge, available information, and familiarity with the nation's coastal waters. Alternatively, they may wish to simply bring a particular site to the attention of MSP staff or some other group for their consideration as a potential sanctuary candidate. In addition to their potential as a source for sanctuary nominations, the vast storehouse of various related information maintained by these two agencies could provide other nominators considering a particular site with pertinent information that would assist in the preparation of a nomination form. Thus, as both a source of nominations and of information, the MSP should contact each agency to discuss their possible participation in the nomination process.

Consideration of the second function, providing guidance to entities interested in participating in the MSP, requires recognition of the MSP's role in site identification. Before selecting or implementing any mechanism, MSP staff must decide whether or not (or to what extent) they intend to rely on nominations submitted by outside groups and interests. If reliance on outside nominations is expected to be grea

MSP staff might prefer to emphasize development of a detailed set of site identification criteria and to encourage other agencies and groups to submit recommendations for potential sites. If, on the other hand, MSP administrators anticipate a more active role for themselves where they would be pushing or even nominating certain sites, they may wish to emphasize the establishment of regional councils or the completion of a "potential site" inventory. By these latter methods MSP staff would be assured of the identification of sites and would not be as dependent on the interest and concern of outside parties. Of course, all methods identified could be combined to achieve varying degrees of MSP direction to the site identification process. For example, a list of identified sites could be included with developed guidelines for site identification in an effort to encourage nomination of particular sites by groups other than MSP staff.

Regardless of which mechanism is selected, a basic set of guidelines and criteria will be necessary to provide direction during the selection of sanctuary nominations. At this point, it would be worthwhile to digress briefly to consider what guidelines are, what they might include, and why they are important.

Based on specific program objectives, the site identification guidelines and criteria, along with the nomination evaluation criteria mentioned in C 6, will provide a detailed picture of what the program hopes to achieve. Briefly, they will describe what will, and what will not, constitute a marine sanctuary. Thus, as an extension of the

legislative mandate and the specific program objectives, the site identification guidelines and the nomination evaluation criteria can be conceptually viewed as the basic components of the program skeleton. The coordination and implementation mechanisms, on the other hand, would make up the muscle to move the program forward.

Functionally, the site identification guidelines and criteria represent the first of several filters that serve to narrow the focus of sanctuary designation from the total U. S. coastal marine environment down to a relatively select group of valuable but localized areas. (The remaining filters would include the criteria employed in each of the major decision-making steps in the nomination/designation process - see section C 1). The criteria itself, cannot be developed until the general categories of program objectives (see Chapter 2 B) are refined into specific program objectives.

Because the MSP contains a broad mandate that permits the establishment of marine sanctuaries for several purposes, the criteria must be capable of addressing the needs of each category of purpose. For each defined purpose (e.g. recreation areas, species areas, habitat areas, etc.) the most important criteria for site identification will be those that assist in translating an area's intrinsic value into terms that permit analysis of the site's potential for satisfying specific program objectives. Once an area's value has been defined, the nominator can then apply additional criteria that would also be considered during the formal MSP nomination evaluation. The latter

criteria would enable the nominator to better estimate the likelihood of designation and would also ensure that necessary information for MSP staff evaluation was submitted. These criteria would be the same as (or some condensed version of) the criteria used during the actual MSP evaluation process (see section C 6).

An important consideration that will have a direct bearing on both the site identification and evaluation guidelines will be the degree of attention (if any) the MSP wishes to give certain distributional or representational objectives. If, for example, the MSP staff believes a longer-term goal for the Program might be the incorporation of certain representative examples of marine enviornments, it will be necessary to establish some form of classification system for the nation's coastal marine waters. Such a system might be established prior to major program expansion or might be delayed several years for fear of distracting efforts to protect the most threatened sites in danger of losing their value to some ocean or Great Lakes development pressure.

If a classification system is deemed desirable, the MSP staff might adopt a simple system to be applied to all purposes for which a sanctuary could be designated. Alternatively, they may select two or more systems and apply each to only that (those) purpose(s) for which it was most appropriate. From an environmental point of view, a biogeographic classification system similar to that employed for the Estuarine Sanctuary Program might be most desirable. However, other

classification systems could also be devised to suit other needs. For example, regions could be established according to existing political or administrative boundaries such as state borders or boundaries coinciding with those of the Regional Fishery Councils established under the Fisheries Management Act of 1976. Ocean and Great Lakes regions could also be defined according to coastal population density. This might be particularly attractive if an objective was to ensure a reasonable distribution of marine recreational opportunities for the nation's population. Yet another type of classification system is one based on a somewhat arbitrary listing of ecosystem types with categories such as coral reefs, grass or algae beds, topographic highs, submerged rocky outcrops, or shellfish beds. As for applying a classification system to the mechanisms described in this section, it should be possible to introduce classification factors into each with equal ease.

The third function mentioned, to which the site identification mechanisms could be expected to contribute, is the development of program sanctuary designation priorities. The mechanisms of probably the greatest value in the achievement of this function would be either the formal inventory of potential sites or identification by Regional Councils. These two mechanisms will produce the most complete lists of potential sites and will permit comparison of actual sites with one another. In this manner, MSP staff will have an early opportunity to assess the full range of values and pressures they are likely to

face during evaluation of sanctuary nominations, and thus the staff will be better able to decide which types of sites should be the focus of early program efforts. Whereas the list developed through contributions from various federal, state and local agencies and private groups, could be used for the same purpose, it will take longer to develop and is not likely to be as thorough or complete. The experience gained through developing a detailed set of site identification guidelines and criteria will, of course, be valuable, but since each of the mechanisms described would require this as a basic element, those other mechanisms which provide a more detailed picture of the marine environment (i.e. a list of possible sites), will be of greater value in determining priorities.

The MSP may also wish to consider some form of site protection or recognition other than actual sanctuary designation. The basis for several possibilities could be a "National Listing of Significant Marine Sites" derived from the mechanisms discussed in this section. Consisting of rejected or pending nominations as well as other identified sites of value, this list could be applied in the form of a restricted inhouse file used for the purpose of commenting on Federal licenses or permits concerning ocean or Great Lakes activities. Alternatively, the list could be formalized to require administrative review of Federal actions that could affect the identified value of included sites.

The major disadvantage of a publicized listing of valuable marine

sites is that without some form of site surveillance and protection, the list could, in certain instances, attract divers or others to the site and thereby subject it to increased use pressure. A significant advantage of such a list is its potential to encourage non-MSP entities to participate in site identification efforts. Designation efforts will, by economic necessity, be restricted to a relatively small number of valuable marine sites. By offering a means of extending some form of limited recognition and protection to sites that cannot be fully designated as a sanctuary, outside interests will perceive a greater likelihood of making a significant and influential contribution to the MSP.

FOOTNOTES

1. Garrett, James J.; Barry E. Carter, Morrison and Foerster. Nominations by Several Paluan, U. S., and Japanese Groups to Designate Certain Coastal Waters of the Palau Islands a Marine Sanctuary, June 1977. Law Offices of Morrison and Foerster, San Francisco, California.
2. For example, MSP staff awarded several thousand dollars to the Florida Keys Citizens Coalition to enable this group to develop a nomination for the Looe Key located on the West Coast of Florida.
3. It is also possible that, by finding a valuable use for rejected nominations, hurt feelings can be somewhat blunted. Such a use could be inclusion of nominated sites on a master list of sites that could, in turn, provide a basis from which to direct some form of protection initiative short of sanctuary nomination.
4. 16 U.S.C. s. 1454(b)(3).
5. Id., s. 1455(c)(9).

C MECHANISMS FOR ESTABLISHING AN EFFECTIVE NOMINATION/ DESIGNATION PROCESS

C 1 INTRODUCTION - THE NOMINATION/DESIGNATION PROCESS

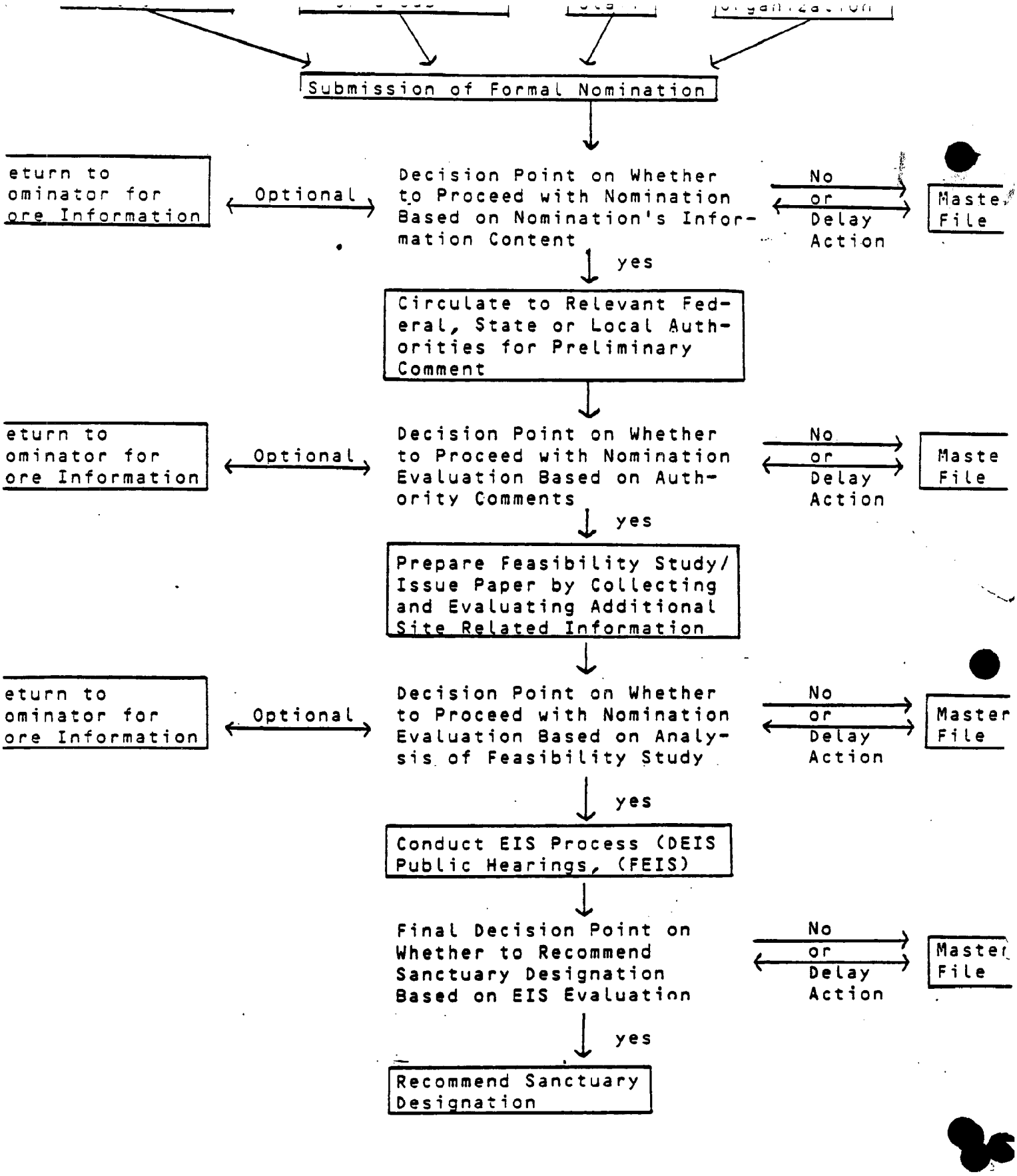
The sections included in this segment of the Appendix focus on mechanisms designed to stimulate the preparation of sanctuary nominations, funnel them to the MSP staff, and carry those deserving sites through designation. As important functions of the nomination/designation process, coordinative mechanisms for obtaining input from the public, international entities, and domestic governmental agencies, have also been included in this section.

Although these mechanisms have been grouped to represent an important phase or segment of the overall Marine Sanctuaries Program effort, there is a necessary feedback between this phase and that of the Program-wide support and sanctuary and Program management phases (see sections B and D). This interaction makes the grouping of mechanisms under the nomination/designation heading a somewhat artificial decision with no distinct beginning or ending points. For example, communication with other groups for the purpose of developing Program-wide support may gradually blend into communication for the purpose of comment on nomination/designation decisions. Similarly, decisions made during the nomination/designation process greatly affect the implementation of sanctuary management efforts. Conversely, the experience gained

during the management of designated sanctuaries will affect the outcome of certain future nomination/designation decisions.

The procedure currently followed by the Marine Sanctuaries Program is presented in Figure C 1.1. Although this is not necessarily the format that will be recommended during the Center's Phase III study, it does provide a convenient point of departure from which to consider other optional formats and will assist the reviewer in understanding the role and nature of the various mechanisms discussed in this section. It should be noted that the only step in this decision-making process which must, of necessity, remain fixed are the first and the last; the process will start with the receipt of a nomination form, and end with a decision on whether or not to recommend designation. In between, any number of formal or informal decision points could be imposed involving a decision whether to proceed with consideration of the nomination, request further information from the nominator, or recommend against designation. These decision points might come after consideration of the nomination form only, after preliminary data gathering, after a detailed feasibility study, after preparation of an EIS,or after circulation of the nomination form and any other information possessed by the MSP staff to relevant federal, state, or local authorities.

The order in which the decision-making tasks should be performed will not, at this time, be suggested; this recommendation will



igure C 1.1. Current Marine Sanctuary Program Nomination/Designation Process

accompany the Center's Phase III report. At least one variation of the present MSP nomination/designation process that will be considered is to conduct some of the identified decision points simultaneously with one another. Another possibility that will be considered is use of the master file containing active, inactive, and rejected nominations for purposes of commenting on marine permits being considered by other federal agencies.

C 2 MECHANISMS TO OBTAIN NOMINATIONS

The general objective of this section is to portray the mechanisms through which specific marine sanctuaries can be formally encouraged and nominated. Specifically, this section identifies those who might make a sanctuary nomination and how those nominations might be encouraged. Accordingly, the structure of this section is such that part (a) briefly reviews the broad segments of society that might be involved in submitting nominations (i.e. MSP staff, domestic governmental agencies, the private sector, and international interests) and lists, for each segment, the mechanisms through which those nominations might be encouraged. It should be noted that these mechanisms include a subset of mechanisms that have been identified and described in the coordination sections of this appendix. Part (b) of this section then evaluates the utility of the listed mechanisms for encouraging potential nominators to prepare nominations. In essence, part (b) examines the potential of the mechanisms for pushing possible nominators past the threshold dividing passive program interest and active involvement in the preparation of nomination.

The statute and its legislative history do not prescribe explicit requirements or procedures for nomination although the statute does set forth certain procedural and substantive requirements for formal designation. However, OCZM has existing guidelines which presently provide the mechanism for obtaining nominations. The existing process may or may not provide the best means to achieve a caliber of nomina

ions which best serve a "national" Marine Sanctuary Program. Moreover, the President's recent Environmental Message explicitly addresses the nomination process. In part, the President has directed the Department of Commerce to inventory and designate marine sanctuaries in ocean and Great Lakes areas facing future "development." It should be noted that sanctuary nominations may entail a unique process of nomination/ designation, particularly regarding OCS development.

To date, only a limited number of marine sanctuary nominations have been formally submitted. Nevertheless, the sources of nominations have been widely varied. Included among the nominators have been U. S. Senators, a State Governor, a citizens coalition, a private environmental organization and members of the academic community.

Although the source of nominations has varied, each has had a single common element -- a nomination document, of some type, that provides MSP staff with sufficient information to make an informed judgement as to the desirability of proceeding with subsequent site designation consideration. For the sake of convenience, this submitted nomination documentation will be referred to here as a "nomination form" even though this form may be of either a rigid or loose structure and may be of either a single or variable format. Nomination forms are discussed briefly in the introduction to this section because of their universal application to all nominators. In short, a nomination form of some type or types will provide the common vehicle through which all marine sanctuary nominations will be brought to the formal attention of

MSP staff.

As mentioned above, nomination forms might take on various structures. At one extreme, the form may be exceedingly unstructured, requiring only that certain minimal information topics be addressed. On the other hand, the forms may be highly structured and require in-depth knowledge of various fields; so much so that their preparation is similar to completing a tax form.

In addition to variations in the degree of structure, nomination forms might also vary from a single standard form for all potential nominations, through a series of specific forms, each of which would be tailored to informational needs of the various purposes for which sanctuaries may be designated. Intermediate to these extremes would be a general form for all nominations with requirements for certain supplemental information the nature of which would depend on the type of sanctuary to be nominated.

The nomination form should be part of a larger packet of additional information which would provide nomination instructions and guidelines. The instructions should clearly express all types of information which will be required for MSP staff analysis, as well as an accurate description of the degree of detail necessary for each informational category. To the extent practicable, sources of information, assistance and advice should also be suggested. At a minimum, there should be provided a list of contacts to whom questions concerning form preparation could be addressed. Other useful assistance material might include a

listing of state agencies, federal agency field offices, universities and other groups with an interest in and information on marine areas.

The nomination packet might also contain materials to encourage nominators to submit a petition of signatures or letters from supporting groups contacted during nomination preparation. A list of potential sites developed through an inventory or compiled from some other source (see B 5) could also serve to assist nominators by providing examples of possible sites. Also in the nomination packet, should be the criteria to be used during the MSP staff's subsequent nomination evaluation process (see C 6) and a list of program objectives.(see Chapter 2 B)

The form itself should be designed to permit the layperson to complete it with a minimum of time, effort, and expense. However, the form must also provide MSP decision-makers sufficient information to permit an initial decision on the site's value and potential as a designated sanctuary. Therefore, in the case of a layperson nominator, there is a need to achieve a degree of both simplicity and informativeness in the nomination. To ensure that nominations submitted by citizens or individuals are not discriminated against in favor of larger groups or agencies possessing a higher degree of marine related expertise, MSP staff should either provide private citizens with less demanding forms or else be more tolerant of information deficiencies. To the exent practicable, where less demanding forms are not provided, MSP staff should offer a greater degree of assistance

to the citizen nominator during his nomination preparation efforts.

In light of the above discussion on nomination forms, part (a) will consider who, among the broad categories of MSP staff, domestic governmental entities, private citizens and organizations, and international interests might wish to submit nominations. Part (b) will then examine how these interests can be encouraged to develop and submit completed nomination forms, and the advantages and disadvantages of those methods.

a. Types of Mechanisms

1. Internally Initiated Nominations

MSP staff and administrators, in addition to being most familiar with the general and specific objectives of the Marine Sanctuary Program, are the only group specifically charged with sanctuary nomination responsibilities. Moreover, this responsibility has recently been reinforced by the President in his Environmental Message. In that message, he directed the Secretary of Commerce to identify potential sanctuaries in marine areas. Thus, MSP staff must be considered as one group who will supply sanctuary nominations.

The extent of the role MSP staff will play in actual site nomination will depend, in part, on their interpretation of the Environmental Message. By narrowly interpreting the President's use of the term "imminent development", MSP administrators could limit their nominating role to areas threatened by major developments including OCS oil and gas related development deepwater ports, and offshore power plants. However, in a broader context, "imminent

development" might be interpreted to include those uses which might impair the recognized values of certain sites. Among these uses might be ocean dumping, use as a major shipping lane, fishing, some forms of recreation, marine mining, a discharge from sewage outfalls.

Cost will be another important fact determining the extent of the MSP staff's nomination role. Because of the previous lack of funding and administrative staff, the MSP does not presently possess a sufficient base of information and expertise with respect to the marine environment to assume all nomination responsibilities. The cost of acquiring such a data base and staff can be high depending upon the sources and comprehensiveness of the data base desired. However, costs can be kept down by drawing upon outside knowledge and expertise. Thus, to a significant degree, the cost of the MSP staff's nomination role will depend upon their ability to identify and obtain existing information and expertise from other governmental agencies and academic or research organizations.

2. Nomination or Nomination Assistance from Governmental Entities Involved in Nearshore or Offshore Marine Activities

A wide variety of governmental programs at each of the Federal, state and local levels, conduct activities within the nearshore and offshore marine environment. In the process of conducting activities, substantial amounts of information on the marine environment have been developed which could be particularly useful in identifying significant marine areas.

The most direct form of input would be for the relevant governmental agencies to use their expertise and information, as the need or opportunity arises, to develop sanctuary nominations using nomination packets (discussed above) provided by the MSP. Alternatively, these agencies might take on a less active role by simply passing along relevant information and a recommendation that a particular site be studied for possible nomination as a marine sanctuary. These governmental agencies might also provide technical assistance to the MSP on joint studies or research efforts, or they might make available applicable information to other groups interested in preparing a nomination.

Among the governmental agencies whose support would be most valuable in nominating or assisting others with nominations are those mentioned in section B 5. Briefly, that list of agencies included the following:

Federal AGENCY		JURISDICTION/EXPERTISE
Bureau of Land Management	-	for OCS leasing and marine mining; environmental baseline data
U.S. Fish and Wildlife Service	-	for coastal wildlife refuges and endangered species
National Park Service	-	for National Seashores
Bureau of Outdoor Recreation	-	for recreation in the marine environment
National Marine Fisheries Service (and 8 Regional Councils)	-	for fisheries management and endangered species

Federal	AGENCY		JURISDICTION/EXPERTISE
	Department of Transportation	-	for deepwater ports
	Nuclear Regulatory Commission	-	for offshore power plants
	Environmental Protection Agency	-	for ocean dumping
	U.S. Coast Guard	-	for shipping lanes
	Environmental Data Service	-	for marine data & research
	Office of Sea Grant	-	for marine research
	Office of Coastal Zone Management	-	for estuarine sanctuary program
	Marine Mammal Commission	-	for marine mammal habitat
	U.S. Army Corps of Engineers	-	for navigation; dredge and fill disposal
State			
	Coastal Zone Management Agencies (see Appendix III)	-	for geographic areas of particular concern
	State Departmental Agencies	-	responsible for material, resources and environmental protection
Local			
	Coastal Community Officials		

Whereas the governmental agencies listed above include examples of major groups from whom MSP staff might obtain valuable nominations or nomination assistance, the actual methods of soliciting their

assistance include the following:

informal techniques	(See B 4 a 1)
memorandum of understanding	(See B 4 a 2)
regional workshops	(See B 4 a 5)
regional councils	(See B 5 a 3)
interagency advisory committees	(See B 4 a 3)
executive orders	(See B 4 a 4)

These mechanisms are discussed in detail in the sections in parentheses. The advantages and disadvantages of these mechanisms for assisting in the nomination process are discussed in part (b) of this section.

3. Private Nominations

The importance of involving private citizens and private groups in MSP nomination efforts lies with the need to develop a broad base of public acceptance and support. Moreover, by offering private citizens throughout the nation an opportunity to voice their concerns over marine sites which they believe to be of exceptional value, MSP staff will receive a more accurate indication of the general public's sense of what needs to be protected in the marine environment. This, in turn, should assist MSP in the establishment of its priorities during subsequent designation steps.

A variety of private sources exist from which nominations can be sought, and numerous methods can be used to obtain this participation.

Conservation and environmental organizations, whether international, national or local, make up a prime potential source for the nomination of marine sanctuaries. Many of these groups share, along with the MSP, the general objective of "preserving or restoring" marine areas "for their conservational, recreational, ecological, or aesthetic values" and should be quite willing to participate in both the nomination and designation processes. Through their membership lists, these conservation groups would have access to many concerned and informed individuals, and they often have the organizational framework to disseminate information, nomination forms, etc.

Marine sanctuary nominators might also be expected to originate from members of the industrial sector, although this motivation may include other factors. For example, by offering industry a means of expressing their concern for certain valuable marine sites, the nomination of marine sanctuaries would offer industry an avenue through which they could improve their public image. Many corporations, particularly those whose activities are perceived to adversely affect the marine environment, may find it advantageous to spend a modest amount of money towards developing nominations. Thus, a major oil company, whose offshore drilling activities are severely criticized, could publicize their interest and concern for the marine environment by nominating a marine sanctuary and fully supporting its designation.

Universities and laboratories working in marine related fields of study are another group from whom nominations or assistance with

information can be sought. Among the most knowledgeable members of the public concerning the marine environment, these groups and individuals have the interest, expertise, and information to complete and submit sanctuary nominations.

In addition to industry and other private interest groups, members of the general public might also be anxious to nominate, or organize a group whose purpose is to nominate a marine site which they feel is deserving of sanctuary designation. Depending upon the complexity and requirements of the nomination form, private citizens may be at a serious disadvantage in trying to complete a nomination which would entail significant interdisciplinary research. However, the general public is one of the best sources for nominations because of the vast storehouse of practical knowledge they possess. The difficulties a lay person may have in understanding the documentation supporting a marine sanctuary nomination must be recognized by the MSP staff, and to the extent practicable, MSP staff should aid or assist concerned citizens with their efforts and be sympathetic to their more limited capabilities. In return for their lenience, MSP staff should receive responses covering perhaps the broadest range of interests, geographic areas, and marine values of any generic group of nominators.

The mechanisms by which nominations can be solicited from the private sector involve dissemination of nomination packets, dissemination of the knowledge that packets are available from a particular place or address, and most importantly stimulation of these groups

or individuals to use this form. Thus, the mechanisms themselves are the same as those mentioned in the public participation sections of this report (see B 2 and C 3) and include: workshops, meetings, hearings, mass media, travelling exhibits, brochures, speaking engagements, and the nomination packets themselves.

Section (b) will discuss the advantage and disadvantages among these mechanisms in regards to their use in soliciting nominations.

4. International Nomination

Two broad categories are possible as potential sources for internationally initiated nomination -- international organizations and neighboring nations. First, there are several international organizations that might be willing to nominate marine sanctuaries or otherwise become involved in assisting in the nomination process. Their participation could bring to the MSP an international perspective that permits special marine sites and resource areas within the jurisdiction of MSP efforts to be evaluated in the context of their world-wide importance and significance. Among the many existing international organizations, those that deal with protection and preservation of wildlife and natural habitats would likely be most responsive since their respective objectives would be most closely in line with those of the MSP. Three of the better known groups that should be considered as potential sources are: the World Wildlife Fund; the United Nations Economic, Scientific, and Cultural Organization's (UNESCO) Man in the Biosphere Program (MAB); and, the

International Union for the Conservation of Nature and Natural Resources (IUCN).

The World Wildlife Fund (WWF) is an international organization devoted to protection and preservation of various species of wildlife. Headquartered in Morges, Switzerland, the group has initiated a marine program entitled "The Seas Must Live," which has compiled information that could be very useful in the sanctuary nomination process. A primary objective of the WWF is to work with programs, such as the MSP, to further wildlife protection efforts. Thus, they would be a group likely to develop and submit sanctuary nominations.

UNESCO's MAB program could be of immediate assistance in the nomination process. Part of MAB's work has been the establishment of biosphere reserves throughout the world, including numerous marine reserves set up in the United States. These reserves are set up to preserve unique areas for conservation and research purposes. Various agencies of the Federal government with missions similar to the MSP (e.g. the National Park Service and the Fish and Wildlife Service) have ongoing relationships with MAB. Similar communications could be easily established with the MSP to asst in the nomination and designation of possible sanctuary sites.

The IUCN is an umbrella organization which monitors conservation efforts throughout the world. It has a marine program similar in many respects to the MSP and has worked with individual agencies of the

Government on various conservation projects. Its expertise in marine areas and prior experiences in dealing with the United States could be of assistance in nominating and developing various marine sanctuaries.

Contact with any of the organizations discussed could be accomplished in a variety of ways. Among the methods are informal communications, seeking membership in existing international organizations, and information mailing lists.

The second potential source of nominations are adjacent countries interested in specific sites of mutual interest and concern. Among the principal countries which would be involved are Canada, Russia, and Mexico. Other countries adjacent to territories in the Caribbean and South Pacific might also be encouraged to participate. It should be noted that any communication with these countries would have to be initiated through the State Department rather than by some other mechanism. (see B 3)

b. Advantages and Disadvantages Among the Mechanisms

The following presents a brief analysis of the techniques for eliciting nominations from the broad categories of potential sources identified in the above part (a) of this section (i.e. MSP staff, domestic governmental agencies, the private sector and international interests). Although these techniques are considered elsewhere in the various coordination sections of this report (B 4 and C 5), the

following discussion will focus on the use of the mechanisms considered in soliciting, encouraging, or otherwise enlisting the active participation of these sources for sponsoring individual sanctuary nominations. Regardless of who submits a nomination or the mechanism used to solicit it, all candidate sites will be brought to MSP staff's attention via a completed nomination form.

A discussion of the means by which MSP staff are encouraged to submit nominations themselves is unnecessary in light of their responsibility to orchestrate the program and President Carter's recent (1977) Environmental Message. Consequently, the advantages and disadvantages of mechanisms to encourage MSP staff to develop nominations will be omitted. The information base and expertise upon which MSP staff can identify nominations was discussed in a previous section (see B 5) and the extent of the MSP's role in relation to non-MSP originated nominations was considered briefly in part (a) of this section.

Mechanisms that have been identified as having potential for eliciting nominations and nomination assistance from governmental agencies and entities, other than MSP staff, include executive orders, memorandum of understanding, regional councils, informal techniques, workshops, and advisory committees (see also section B 4). As discussed below, these mechanisms have varying attributes and limitations. Their effectiveness will depend upon both the size of the audience sought (i.e. the number of different agencies), and the levels at which they are located (i.e. federal, state or local).

An executive order requiring that applicable federal agencies cooperate with the MSP in efforts to identify, nominate and designate potential sites, would be the strongest means short of legislative action of assuring federal agency participation. Although an executive order, which carries the force of law for federal agencies, can be an extremely efficient means of reaching and ensuring that all relevant federal agencies participate, its effect is not binding on state or local agencies. Thus, although the prestige associated with an executive order may indirectly encourage non-federal entities to participate in the MSP nomination process, it does not compel them to do so.

It must be noted that an executive order on marine sanctuaries would be issued by the President and not MSP staff, although a recommendation for such an order might originate with the Secretary of Commerce. Therefore, a strong case for such an action will have to be presented. Executive orders, like other legal pronouncements, are also subject to administrative dilution by implementing agencies. Nevertheless, when an executive order can be obtained, it offers one of the surest and most efficient means available to focus recognition on the program and to enlist federal support for nomination efforts.

Memoranda of understanding offer a second mechanism for incorporating governmental participation in the process of obtaining sanctuary nominations. These agreements, sought between MSP staff and other

agencies, may include provisions designed to promote that agency's active involvement in the nomination process. Memorandums are particularly advantageous in that they are of equal applicability to entities at each of the federal, state and local levels. In addition, the process of reaching a mutual agreement affords MSP staff the opportunity to resolve any possible questions concerning the eligibility of a particular site or the nomination process itself.

A major disadvantage of this technique is the time consumed in the process of individually negotiating each memorandum. Therefore, in regards to obtaining nominations, memorandums may be best reserved for the most pertinent marine related agencies. The best targets for coordination by memorandums are those agencies involved in a planning process that affects the allocation of uses of marine resources (see review of agencies in part (a) of this section as well as B 5 b). Here, memorandums can be used to ensure that sanctuary considerations are introduced early into these planning processes. Accordingly, as these agencies evaluate ocean or Great Lakes sites for any of various proposed marine uses or developments, sites can also be evaluated as to their potential for sanctuary nomination. When sanctuary consideration can be introduced early into these planning processes, the pressure for development arising from a commitment of effort and capital can be kept to a minimum. This, in turn, will minimize the likelihood of potential site conflicts between the MSP and development/user interests.

The establishment of regional councils (as described in section B 5) whose responsibilities could include site identification and nomination, is a third mechanism for encouraging the development of sanctuary nominations from governmental entities. Although the number of members on the council would be limited, they could represent agencies from each of the federal, state and local levels. Here, government officials could unite to submit nominations through the council itself or, alternatively, would encourage the agency they represent to develop and submit their own sanctuary nominations. As discussed in B 5, councils have the distinct advantage of first, being able to focus attention on a limited geographic area; and second, they can be restricted to council members who have first-hand knowledge of that area's marine environment. A major disadvantage of this mechanism is the high costs of supporting the activities of several regional councils. Another disadvantage concerns restrictions placed on the size of council membership. When council membership is limited, the amount of interest that can be directly involved will similarly be limited. This disadvantage can be overcome by an active council that encourages other governmental entities to operate independently or with council assistance in identifying and submitting nominations. It should be noted that council participation should not be restricted to governmental officials, but should include private interests as well.

Informal techniques (as discussed in section B 4) can be applied with equal ease and value to agencies at each of the federal, state and local levels. They are a particularly useful means of informing other agencies of the existence and purpose of the program and attempting to stimulate their active involvement in preparing nominations. In terms of the nomination process, these techniques are also of value to MSP staff because they afford the opportunity to transmit to nominators, advice or assistance that will improve the quality of the actual nomination. The major disadvantage of informal techniques is the drain they can place on staff time that should be devoted to other tasks. Also, the potencial for misunderstanding to develop is great. Informal techniques are also applicable to private as well as international interests.

Although workshops can be organized to encourage nominations from federal, state and local officials, their greatest value will probably be their capacity to solicit participation from state and local entities. Because of the number and wide geographic distribution of state and local governmental agencies, a series of workshops is probably the most effective and efficient means of involving such a diversity of interest. The key to the value of workshops lies in their ability to present the program to state and local entities and to create an atmosphere conducive to a meaningful dialogue between MSP representatives and these regional concerns. Regional workshops could, of course, also include regional representation of federal

agencies and private interest. Personal contact with these entities allows MSP representatives to discuss the potential for marine sanctuary nominations and designations in light of regional concern and conditions. This approach can, in turn, generate enthusiasm for the program and help stimulate interest in developing nominations. The major disadvantages of this mechanism are its potential costs and the difficulty of scheduling mutually acceptable workshop times and locations.

A sixth possible mechanism for involving governmental agencies in the nomination processes is through advisory committees. This mechanism may be the least effective of those discussed because the primary role of advisory committees is policy guidance and not direct participation in routine program functions. Advisory committees can be designed to provide overall program guidance or they may be established with responsibilities to assist and oversee the operation of an individual sanctuary. Thus, a program-wide committee would not be a likely sponsor for new sanctuary nominations. They might, however, provide guidance to MSP staff on the procedures followed during the nomination process. Further, a sanctuary specific committee may recommend an expansion or change in the boundaries of a designated sanctuary to improve its protection capacity.

In addition to the above techniques, other mechanisms which inform and distribute information about the sanctuary program will play a role in encouraging agencies to prepare and submit nominations. These information techniques, which include distribution of brochures,

newsletters and other descriptive literature; public hearings; and A-95 clearinghouse review, are discussed in sections B 2 and C 3.

Private interests represent the third important source of potential nominations. Many of the mechanisms discussed in relation to soliciting governmental participation (for example, workshops, regional councils, informal techniques and advisory committees) may be used to involve private groups and have the same advantages and disadvantages. Additional techniques include public meetings, speaking engagements, mass media, travelling exhibits, brochures and distribution of the nomination packet (see B 2 and C 3). The advantages and disadvantages of these mechanisms for obtaining nominations are discussed below.

Public meetings and speaking engagements are perhaps the best means of encouraging the general public and private groups to develop nomination. The reasons for their value are basically the same as those for workshops. This mechanism brings the program to the people, permits analysis of the program's value, in light of concerns and conditions of local interest, and creates a forum for a two-way transmittal of ideas and concepts. Because of the large number of potential audiences, this mechanism should be limited to those groups or communities who express an active interest in the program, particularly those considering a certain area for nomination. In the course of these meetings or talks, enthusiasm for submitting a nomination could be generated and advice might be provided

concerning nomination preparation efforts. These events might be held either prior to or during the development of nominations.

Although the cost of these meetings could be held down to the salary and travelling expenses of a few spokespersons (probably 1 to 3) representing the MSP, the cost of these mechanisms is difficult to gauge as other factors, including preparation for and publicity of the meeting, would substantially increase the costs. Moreover, if the spokespersons do not have a firm grasp of the programs and cannot smoothly handle potentially opposing interests, the mechanism may be ineffective and even harmful.

The remaining mechanisms mentioned for generating public interest in the program and in developing nominations include various techniques that publicize general program information. As part of their information content, these mechanisms (e.g. mass media, brochures, travelling exhibits, and nomination packets), could each include encouragement to private citizens or groups to submit nominations. The advantages and disadvantages of these mechanisms in regard to the audience they reach have been discussed earlier (see B 2).

Mechanisms available for eliciting nominations from international groups include informal communications, MSP staff membership on existing international organizations or committees, and formal MSP contact with the State Department. Because informal techniques have been reviewed earlier in this section and would operate equally well in the international sector, the following discussion will examine

only international committee membership by MSP staff and State Department contact.

MSP staff membership on existing international organizations or committees is potentially the best mechanism for enlisting international support in the nomination process. By having staff members on these committees, the MSP will be able to maintain an awareness of the activities of international programs as they develop. In addition, membership will provide a mechanism for ensuring that these various organizations are kept abreast of MSP activities. The resulting close ties could encourage the development of nominations by these organizations which would establish sanctuaries in U. S. waters that have a worldwide significance. Conversely, by representing the U. S. government's interest in marine site preservation, membership on an international organization could provide the MSP an opportunity to put forward nominations for site protection initiatives in marine areas outside U. S. jurisdiction. Thus, the MSP could play an active role in fostering a worldwide marine site protectection effort.

Perhaps the major drawback of this mechanism is the cost that might be incurred in the form of dues or expected financial contributions to the international organization. Another possible disadvantage of this mechanism is the allocation of significant amounts of staff time to international committee business, much of which may not have a direct bearing on MSP concerns.

As discussed in section B 3, all officially recognized communications between the MSP and other countries must be initiated through the State Department. Accordingly, a nomination submitted by another country or an agreement between the MSP and another country on a nomination necessitates involvement of the State Department. The advantages of this mechanism include the availability of existing lines of formal contact with other countries and access to personnel who have had experience in dealing with other countries. The major disadvantage of this mechanism is the potential for complicating the issues through the involvement of a third party unfamiliar with the MSP. A discussion of the advantages and disadvantages of this mechanism beyond this general observation would only be conjecture as no such coordination has yet been attempted by the MSP. It can however, be stated that the ease of the effort may vary immensely from country to country depending on the individual competence of the officials with whom the MSP must deal. It must also be remembered that regardless of the advantages or disadvantages of this mechanism, it must be used if an official government stand is to be established.

FOOTNOTES

1. 15 C.F.R. s. 922.20, 39 Fed. Reg. 23254 (June 27, 1974).

of their opportunity to make nominations, of the availability of nomination forms, and of their chance to participate in the evaluation of sanctuary nominations. It should be noted that, when used in this way, these mechanisms can serve only to inform and prepare the public for the mechanisms discussed in the remainder of this section (mechanisms to encourage participation in the nomination and designation processes). They do not actually solicit public input.

However, some of the education methods, e.g. speakers and travelling exhibits, could be designed to allow dialogue and feedback between MSP personnel and citizens. Often a slight change in approach or a small addition to an educational mechanism may provide an opportunity for meaningful input by the citizens; for example, travelling exhibits could provide questionnaires to elicit public comments or the last page of a brochure could be a detachable nomination form.

2. Nomination of Areas for Designation

An obvious means of assuring that members of the general public will have the opportunity to participate in the Marine Sanctuary Program is to place no restrictions on who may nominate sanctuaries and to make the nomination process as simple as possible. As to the first suggestion, the Marine Protection Research and Sanctuary Act places no explicit limitation on the source of nominations, and the current regulations [15 C.F.R. s. 922.20(a)] state that nominations

may result from governmental studies or "from any other interested persons." The conclusion is thus drawn that, assuming OCZM has the authority to place limitations on the sources of nominations, they have not chosen to do so.

The first step in assuring that members of the public will take advantage of their opportunity to nominate sanctuaries involves educating the public about the Marine Sanctuaries Program and publicizing the nominations process. [See B 2 and C 3 a 1] Secondly, a nomination process should be established which facilitates public participation. This can be accomplished by (1) developing a nomination form which can be easily completed, and (2) disseminating the nomination forms in a manner which would permit easy access by members of the public.

The nomination form should be a document simple enough to be completed by any member of the public at little or no expense, but comprehensive enough to permit OCZM to make an initial decision as to the feasibility of the nomination. Included with the nomination form should be an instruction booklet, a listing of sources of information which would aid the nominator in completing the form, and a set of guidelines outlining the basic sanctuary criteria. The nomination forms could be available from the Office of Coastal Zone Management, state and local coastal zone management agencies, local marinas, courthouses, town meetings, public hearings, workshops and Marine Sanctuary Program brochures.

3. Evaluation of Nominations

Public hearings have served as the traditional vehicle for generating public participation. However, their use has been criticized because hearings have been relied upon as the sole method of soliciting public input. (3) To ensure maximum citizen participation, hearings need to be coupled with other mechanisms, such as public meetings and workshops. Nevertheless, hearings do serve a valuable function in the nomination/designation process by generating comments at various stages and also maintaining a formal record to use in potential appeals proceedings.

The MSP needs to fully review the hearing structure and improve the public hearing process for affected areas. An increase in pre-hearing publicity will be essential to ensure that the public is adequately represented. Summary information packets distributed to the affected public, the media through news releases, and established community groups should provide background to those interested in participating. Feedback mechanisms need to be developed in order to inform the public of the progress made during the nomination/designation stages and of final recommendations and comments made at the hearing.

As mentioned, public meetings may also be used to involve citizens in the evaluation of nominations. They are potentially effective in obtaining general public input early in the evaluation process. Such meetings should be organized on the local level in

order to allow residents to voice their opinions on particular sanctuary nominations which may affect them. Convenience for local residents and widespread announcement in advance of the meeting should help assure maximum citizen participation. In contrast to public hearings which are usually structured, these meetings should emphasize informality and dialogue between MSP personnel and residents in order to encourage citizen input.

Workshops are excellent formats for informally providing information and receiving feedback from the public. Of all the techniques for maintaining two-way communication with the public, the approach identified by citizens and community officials as the one preferred is that of community workshops. (4)

Several alternative workshop designs exist. They are: (1) open public workshop, where any interested citizen is invited to participate; (2) invitational, where invitations are issued to persons specifically wanted at the meeting; and (3) invitational/open where certain persons are invited, and the public at large is encouraged to participate. Those individuals invited to participate in the workshop may be representatives of special interest groups affected by the MS nomination, local leaders, or influential citizens who may have a particular interest in the designation.

Generally, workshops have organized programs and are much more structured than town meetings. They will be most effective when organized early in the evaluation process. The input gleaned from

workshops (as well as town meetings) is, additionally, helpful in preparing for the formalized public hearing.

As with other citizen involvement techniques, it is essential that advance preparation be as comprehensive as possible. Preparation for workshops might include distribution of brochures, media releases and direct contact with interested parties.

It is desirable that attendants to workshops be relatively well informed prior to the meeting(s).

Public hearings, workshops and town meetings would all have an important function in airing and resolving potential conflicts between citizenery use patterns in a nominated sanctuary and proposed sanctuary restrictions. This conflict often proves to be both the focal point of any opposition to a proposed site and a common source of misunderstanding. Misunderstandings hopefully could be clarified in these meetings before emotions overwhelm reason. More serious conflicts raised in these meetings may convince MSP planners and decision-makers to modify the restrictions rather than risk widespread and influential opposition to the nomination or a veto by the governor.

Citizen advisory committees are another potentially valuable public participation method which could be encouraged by MSP personnel. These committees would generally be formed upon the initiative of individual citizens, but the MSP staff could encourage formation

by expressing willingness (through the education mechanisms) to work with such groups. Most of these committees would likely form in response to a particular nomination, but others may be organized regionally and could be associated with more than one nomination. Because such committees would probably be small groups with a relatively stable membership of interested and informed citizens, these groups might be particularly suited for regular participation in decision-making and planning processes. They might also be instrumental in setting up town meetings and workshops in their localities, and they could take an active role in education efforts as well. Thus, the scope of an advisory committee could easily transcend participation merely in the evaluation process. They could participate at any stage from nominating sanctuary areas themselves to helping manage or oversee a sanctuary once designation is complete.

b) Advantages/Disadvantages

This analysis of the advantages, disadvantages, and limitations of the mechanisms to encourage public participation will begin by establishing several criteria for evaluation. First, because these are mechanisms to encourage public participation, they will be evaluated in terms of how much participation they would likely elicit and how public this participation would be. Second, because some input will be more valuable than other (e.g. a formal nomination may be more valuable than an off-the-cuff remark to MSP personnel at

travelling exhibit), the mechanisms will be evaluated with regard to the kind of participation they might encourage. Finally, these methods to assure public participation will be evaluated on the basis of their cost -- both in monetary terms and in terms of the demand for time and effort they will place on MSP personnel.

The effectiveness of the public education mechanisms as methods to encourage public participation in the nomination/designation process is wholly dependent on whether the people reached actually decide to participate. By itself, however, public education cannot guarantee public input. Therefore, these mechanisms should be designed to persuasively encourage public participation at later stages and also to solicit public input within the mechanisms themselves.

The advantages of encouraging public input during the education efforts include the fact that cost could often be low because the personnel and the presentation framework would already be established. An example mentioned above would be distributing questionnaires through travelling exhibits. A second advantage is that these education mechanisms would be used early in the designation process, and thus would provide some public input for the designing of later education efforts, town meetings, and workshops. There is no real disadvantage to soliciting public participation through the education efforts, but these mechanisms would be limited in their scope and ability to assure public participation. For example, allowing public comments after a speaking engagement could never supplant a workshop where various local

leaders were invited to participate in an organized program to exchange ideas and suggestions. Moreover, the number and types of people reached by this "piggyback" method would be only as large and diverse as those reached by the education mechanisms.

The nomination process provides an excellent opportunity for public participation. One advantage to a broad base of public input into the nomination process is the likelihood that this participation would generate support for the Program. There are two reasons why this input would generate support. First, nominations which reflect the public's interests and desires for the Program are likely to be more acceptable to the general public. Second, allowing public input in the nomination process will help counter the fear that the MSP represents federal control and further encroachment upon individual freedoms. A second advantage to a broad base of public participation in the nomination process is the valuable store of information the public has at its command. The marine environment has not been extensively catalogued or inventoried, and many valuable areas may not be uncovered through traditional channels such as oceanographic institutes or the U.S. Geological Survey; for example, few of the spawning areas of marine fish are known to the scientific community. The general public could undoubtedly bring to the attention of MS personnel significant marine areas which would otherwise be overlooked.

One potential disadvantage to widespread public participation

's the possibility of excessive nominations which would tax the MSP's resources for evaluation. It may be difficult to quickly screen out nominations which would not warrant serious consideration. If so, and some organization mounts a campaign to nomination every square inch of the Atlantic continental shelf, public input may become a financial and logistical burden resulting in an abbreviated screening and evaluation process. A limitation to public participation in the nomination process is the possibility that nominations from individuals would not represent the needs and desires of the population as a whole, or the intentions of the Program. This result could come about if the base of nominations is narrow and represent only the views of a narrowly defined special interest group, while other segments of the citizenry, either the general public or other special interest groups, refuse or are not given as great an opportunity to participate.

Encouraging public participation in the evaluation process has several potential advantages, but those mechanisms which facilitate the most public participation also impose the greatest financial and logistical burdens. Like participation in the nomination process, participation in evaluation of potential sanctuaries has the advantage of encouraging public support for the Program. Participation in evaluation may be more important than nomination input because citizens would be particularly concerned with a designation that would significantly affect them. Indeed, the MPRSA endorses such a policy

by requiring public hearings. Town meetings and workshops would provide the greatest opportunity for general public input; public hearings are not as likely to attract residents and are more likely to be dominated by special interest groups. Town meetings and workshops also have the advantage of receiving input early in the decision-making process. Thus, many misunderstandings may be resolved before becoming detrimental controversies, and some nominations may be rejected before much time and money is expended on their evaluation. Public hearings may occur later in the decision-making process, but even if scheduled early, hearings may not be the best forum for interaction and negotiation.

The disadvantages to public participation in the evaluation process are primarily related to the cost in time, labor, and money. Effective public participation using a combination of town meetings, workshops, and formal hearings would demand a major effort for each nomination which passes initial screening evaluations. Unfortunately, the possibility exists that any efforts to cut costs and labor will reduce public input; thus, decisions concerning how much citizen input is desireable (or feasible) must always be made.

FOOTNOTES

1. See, Bishop, A. Bruce, "Public Participation in Water Resources Planning," (U.S. Army Engineer Institute for Water Resources, Alexandria, Virginia, 1970); Lindsey, Joel L. "Communication: Interaction: A process for citizen participation in Lousisiana," (an address given at the 3rd annual Conference on Coastal Zone Management, Ansilomar, Ca., May 29, 1975); Warner, Katherine P., "Public Participation in Water Resources Planning," (University of Michigan, Ann Arbor, 1974).
2. Comptroller General of the United States, "Public Involvement In Planning Public Works Projects Should Be Increased," (a report to the Congress, Washington, D.C., 1974).
3. Supra, note 1.
4. Bishop, Supra, note 1.

C 4 MECHANISMS TO COORDINATE SPECIFIC MARINE SANCTUARY NOMINATIONS AND DESIGNATIONS WITH FOREIGN COUNTRIES AND INTERNATIONAL ORGANIZATIONS

As discussed in B 3, section 302 (a) of the MPRSA requires the Administrator of NOAA to consult with the State Department before a specific sanctuary is designated. The State Department could identify potential issues or other concerns that it or foreign countries may have if a sanctuary is designated in ocean waters lying beyond the territorial jurisdiction of the U.S. Moreover, section 302 (c) of the MPRSA requires the State Department to negotiate with foreign countries after a sanctuary which lies in ocean waters outside of the territorial jurisdiction of the U.S. has been designated. The negotiations are to ensure that the area is protected and that the purposes for which the sanctuary was designated are fostered. Building on the international coordination established in the development of the MSP, mechanisms for initiating coordination on specific nominations with other countries and international organizations can be designed. While general mechanisms are discussed below, each mechanism should be tailored to meet the specific needs of the particular nomination. This aspect of the nomination/designation process will be developed in more detail in Phase III.

Types of Coordinative Mechanisms

. Coordination with the Department of State

As discussed, the State Department's Office of Environmental Affairs is to be contacted before the designation of any sanctuary (see B 3). Whether a sanctuary designation will affect or restrict the activities or interests of other nations and any contemplated negotiations could be discussed. Section 302 (c) of the MPRSA specifies that if a sanctuary is designated in ocean waters outside of U.S. territorial jurisdiction, the State Department is to negotiate agreements with the affected nations to ensure the protection of the designated area and the purposes for which it was established. Although the State Department is involved in reviewing and commenting on proposed designations, contact with the State Department early in the nomination/designation phase for specific nominations outside of U.S. jurisdiction is advisable, particularly if designation of the area poses potential international problems. Such early contact can lead to either solving the problems or revising the nomination before final designation.

Examples of countries where contact through the State Department could be initiated early in the nomination/designation process include Canada, Mexico, Japan, and possibly the U.S.S.R. By contacting the potentially affected nations, through the State Department, early in the nomination /designation process, it is more probable that they will assist in accomplishing the purposes for which the

sanctuary was designated.

2. Checklist of Treaties, Laws, and Conventions Relevant to the Marine Sanctuaries Program.

As discussed in B 3, the purpose of the checklist is to ensure that the establishment of sanctuaries takes place in accordance with the principles of international treaties, laws, and conventions. (See B 3 for a more detailed discussion and sample checklist.)

3. Establishment of a Contact with Key International Organizations and Programs

As outlined in B 3, a contact or liason with other international organizations involved in marine affairs can be important in the nomination/designation process. For instance, through contacts, international organizations can be provided with the opportunity to comment on proposed sanctuaries, as well as on proposed regulations. Their influence in the international community and with other governments can also be an important tool for the MSP (see B 3 for a list of organizations).

b. Advantages and Disadvantages

As discussed in B 3, close contact with the State Department can aid MSP staff in determining potential issues or concerns which other countries may have with the MSP or with a specific sanctuary nomination. Moreover, contact with countries potentially affected by a proposed designation could be initiated through the

State Department. Working through the State Department can, however, be a slow process.

The checklist of treaties, laws, and conventions can provide information useful in evaluating specific sanctuaries for designation. The checklist will, however, require a substantial amount of effort by MSP staff to maintain and keep up-to-date. However, an appraisal of developments in international law or how a potential sanctuary designation could affect or be affected by treaties, laws, and conventions could be compiled and updated by the State Department for the MSP.

Contact with international organizations could be very helpful in soliciting the comments of other interested parties on the MSP. These organizations may also be helpful in ensuring that the comments of a foreign country are given consideration in the nomination/designation process.

C 5 MECHANISMS TO ASSURE THE COORDINATION AND PARTICIPATION OF FEDERAL, STATE, AND LOCAL GOVERNMENTAL ENTITIES IN THE SANCTUARY NOMINATION/DESIGNATION PROCESS

As discussed in section D 4, the coordination of the MSP with other governmental entities at all levels, should be a continuing, evolving process. Once overall program support and coordination is attained, the coordinative mechanisms can be utilized to pursue the goals of the various governmental entities involved in the sanctuary nomination and designation process.

The crucial importance of coordination is recognized in the MPRSA. Before any sanctuary can be designated, section 302(a) of the Act requires the Administrator of NOAA to consult with the Secretaries of State, Defense, Interior, and Transportation, the Administrator of the Environmental Protection Agency, and the heads of other interested federal agencies. This consultation process must include an opportunity to review and comment upon proposed sanctuaries. Further, if a proposed marine sanctuary would include ocean waters within the three-mile juridictional limit of any coastal state (1), or in any U. S. areas of the Great Lakes, section 302(b) stipulates that the Administrator of NOAA must "consult with, and given due consideration to" the views of state officials before designation. Moreover, the governor of the "involved" state may, in effect, veto designations within that state's jurisdiction by notifying the Administrator within 60 days of the notice of designation (2) that the designation is unacceptable to his state.

In addition, when sanctuaries include areas of ocean waters outside the "territorial jurisdiction" (3) of the United States, section 302(c) requires the Secretary of State to take "appropriate" actions to negotiate international agreements to protect the sanctuary and promote the purposes for which it was established (see section B 3 & C 4). Pursuant to section 302(e), before a marine sanctuary can be designed, the Administrator is to hold public hearings in the coastal areas "most directly affected." Local government entities will have a particularly important role in the final decision on a sanctuary's regulations and restrictions since the local citizens will usually be the most directly affected by the designation. Thus, as pointed out in B 4, it is crucial to the successful designation and later management of a marine sanctuary to obtain the coordination of all levels of government -- including state and local agencies, as well as federal agencies.

After a marine sanctuary has been designated, section 302(f) requires that the Administrator consult with other interested federal agencies before promulgating regulations regarding permissible uses within the sanctuary. As mentioned previously, the MSP staff should take steps to ensure that the state and local agencies are also closely involved in the preparation of the regulations.

Thus, the critical importance of governmental coordination in the nomination and designation of sanctuaries has been recognized by the drafters of the legislation. One of the primary reasons governmental coordination must occur in the nomination and designa-

tion process is illutrated by the consistency provision contained in section 302(f) of the MPRSA. This provision provides that after a sanctuary has been designated:

> ...no permit, license, or other authorization pursuant to any other authority shall be valid unless the Secretary shall certify that the permitted activity is consistent with the purposes of this chapter and can be carried out within the regulations promulgated under this section.

This requirement is similar in many respects to the federal consistency requirements of section 307 of the Coastal Zone Management Act. Since section 302(f) of the MPRSA applies to any permitting authority, it is essential that all relevant government agencies are given the opportunity to coordinate with the MSP, not only in the development of the program (see section 3 4), but also in the process of nominating and designating sanctuaries. Potential mechanisms for achieving governmental coordination, at all levels, in the nomination and designation of sanctuaries are discussed in C 5 (a). The advantages and disadvantages of these mechanisms are discussed in C 5 (b).

a. Type of Mechanisms

1. Informal Techniques

As outlined in B 4 (a) (1), information techniques would include phone calls or meetings between MSP staff and other federal, state, and local agency officials. In this case, the mechanism would be used to notify agencies of a sanctuary nomination and to solicit input on the specific nomination. This technique would partially aid in fulfilling the coordination requirements of section 302(a)-(c) of the MPRSA.

2. Memorandums of Understanding/Interagency Agreements

Section B 4 (a) (2), while describing memorandum of understanding and interagency agreements, discussed the possibility of using these mechanisms to assure the coordination and participation of governmental entities in the process of nominating and designating marine sanctuaries. (See B 4 (a) (2) for a description of this mechanism.) The memorandums and agreements would relate to the interaction between OCZM and other federal, state and local agencies concerning sanctuary nominations during the period before sanctuary designation.

The Marine Protection, Research and Sanctuaries Act of 1971, allows the Secretary of Commerce to designate marine sanctuaries "after consultation with the Secretaries of State, Defense, the Interior, and Transportation, the Administrator of EPA, and the heads of other interested Federal agencies...." [s. 1432(a)].

Memos of understanding and interagency agreements could serve to formalize the consultation process by designating when consulta-

tion is to take place, what material will be available to the consulting agency, the form and content of the advice given by the agencies, and the weight, if any, to be given by OCZM to this advice. Also, similar agreements could be sought with federal agencies, not specifically mentioned in the statute, who are considered "interested federal agencies."

Memos of understanding could also be sought with "responsible officials" of states within whose territorial limits a sanctuary designation is being considered. Consultation with and consideration of the views of these officials is required by the MPRSA [s. 1432 (b)]. These agreements would be similar to the federal interagency agreements discussed above.

Memorandums of understanding might also be sought with the governors of coastal and Great Lakes states since the MPRSA allows the governors to veto any sanctuary designation within the state's jurisdiction "unacceptable to his state" [MPRSA s. 1432 (b)]. The statute does not elaborate on the terms and conditions precedent to gubernatorial veto of a sanctuary designation. Memorandums of understanding could serve to clarify the boundaries of this power. Agreements could be sought in those states in which marine sanctuaries are contemplated; the agreements would specify those aspects of the nomination of concern to the state and the conditions under which the governor may exercise his power to declare a sanctuary designation unacceptable.

3. Interagency Advisory Committees

Interagency advisory committees have previously been described

(see B 4 (a) (3)). The use of this mechanism to assure the coordination and participation of governmental entities in the marine sanctuary nomination and designation process is discussed here.

An interagency advisory committee would act on a nomination-by-nomination basis, reviewing marine sanctuary nominations as they come in and then passing their comments on to OCZM. The member agencies would, thus, become familiar with the nomination process and could alert OCZM of any potential conflicts or suggested modifications to the nomination. As discussed in C 6, OCZM would make the final decision on whether the nomination should be approved.

The makeup of the advisory committee could take many forms. Only federal agencies or only state and local agencies or a combination of the two could be represented on the committee. The member agencies should have an interest and expertise in matters related to marine sanctuary designation such as natural areas, resource use, and commerical and recreational use of the water. State and local governments might be represented on the committee by selected members of various state and local government associations such as the National Governors' Conference, National Conference of State Legislatures or National Mayors' Conference.

Another possibility is that the committee include a number of standing members representing federal interests with ad hoc members being added to the committee for each nomination considered. The temporary members would represent state and local interests and would be chosen from the regional, state, areawide, county, and municipal governments affected by the nomination. The

committee might also include representatives of the non-government sector (see C 3 (a) (4)). It should be noted that any committee not composed wholly of full-time officers or employees of the federal government is subject to the procedural requirements of the Federal Advisory Committee Act. [5 U.S.C. App. I s. 3]

4. Circular A-95

Circular A-95 [41 Fed. Reg. (Jan 13, 1976)] is designed to promote maximum coordination of federal and federally assisted programs and projects with each other, as well as with state, areawide, and local plans and policies. Because the A-95 process does not carry the force of law, it cannot ensure coordination, but it is designed to create a climate for intergovernmental cooperation in which coordination is likely to develop.

Although Circular A-95 includes four major parts, only Part I, the "Project Notification and Review System" (PNRS), will be considered since it is the most relevant mechanism for coordinating the nomination/designation process with applicable governmental entities.

The PNRS could be used as a mechanism for disseminating information on a proposed sanctuary nomination. The first step of the PNRS's two-step process could begin when state and areawide A-95 clearinghouses (usually comprehensive planning agencies) receive notification that a sanctuary has been nominated in an adjacent area. The clearinghouses would forward information on the proposed nomination to applicable state, areawide, and local government agencies. Interested members of the public or citizen groups

could also be notified of the nomination by the clearinghouses. These agencies, as well as the public, would in this way be provided with an opportunity to review and comment on the nomination. The intent of notification is to identify potential issues, conflicts, or problems early enough in the process so that the applicant, as well as OCZM, will be saved the trouble and expense of proposing a project having serious problems.

The second state of the PNRS involves a clearinghouse review to determine if the earlier identified issues and problems have been resolved.

5. Executive Orders

As noted in B 4, executive orders are written documents issued by the President specifying directions or actions. If, for example, an executive order concerning marine sanctuaries instructed federal agencies to coordinate their activities with the purposes of the MSP, particularly in the nomination/designation of sanctuaries, the mechanism would serve an extremely important function. As also noted in B 4, an executive order on marine sanctuaries would tend to elevate the program's visibility as an important activity. This would further demonstrate the need for cooperating with the MSP in the nomination/designation process.

6. Consistency

Section 302(f) of the Marine Protection, Research and Sanctuaries Act of 1972, requires that once a marine sanctuary has

been designated:

> no permit, license, or other authorization issued pursuant to any other authority shall be valid unless the secretary shall certify that the permitted activity is consistent with the purposes of this chapter and can be carried out within the regulations promulgated under this section.

This restriction upon action by governmental entities, commonly referred to as a consistency requirement, will help assure harmony between these entities and the Marine Sanctuary Program. This provision discourages domestic governmental entities from engaging in permitting, licensing, or other authorizing activities without first giving careful regard to the activity's effect on designated marine sanctuaries.

This consistency requirement is similar to those contained in section 307 of the Coastal Zone Management Act [CZMA (16 U.S.C. s. 1651)]. In one sense, the Marine Sanctuary Program's consistency provisions are even broader that those in the CZMA since the marine sanctuary requirement applies to "any" permitting authorization and not merely to those on the federal level (i.e., federal, state and local governmental entities are subject to the consistency requirement).

However, it is not apparent from either section 302(f) of the MPRSA or the interpreting regulations whether consistency is to attach to all activities, wherever their location, which could

affect a designated sanctuary -- or only to those orginiating within the sanctuary. The former interpretation would permit the protection of entire ecoystems, an accomplishment within the spirit of the MPRSA. To protect less than the whole would limit the effectiveness of the entire Marine Sanctuary Program. As the only existing federal program capable of comprehensively managing marine areas as units, it would be anomalous to pretend that this can be accomplished while ignoring the potential impacts of activities requiring authorizations up-stream from sanctuaries. Resolution of this uncertainty in interpretation could be resolved either legislatively, judicially, or administratively.

The requirement of consistency clearly benefits the Marine Sanctuary Program by assuring that other governmental authorizations will not infringe upon designated sanctuaries and that they will not destroy the values for which the sanctuary was established. A potentially important use of the consistency provision would be to block the issuance of leases to exploit the resources of the seabeds of designated sanctuaries. This action could be taken by virtue of the Secretary of Commerce's statutory power to veto "other authorization(s)" not consistent with the purpose of the Marine Sanctuary Program. These purposes include the preservation or restoration of coastal or Great Lakes areas for their conservation, recreation, ecological, or esthetic values. It should be noted that the regulations which are intended to control the "activities permitted with the designated marine sanctuary" could be used to ban resource exploitation

within the sanctuary. This would eliminate the need to apply the consistency requirements to prohibited activities within the sanctuary. Consistency would still be crucial, however, to control activities outside, but affecting the designated sanctuary, if the consistency provision were interpreted to allow such application.

Because of the consistency provision, it is imperative that the activities of governmental entities at all levels are coordinated to the greatest extent practicable during the sanctuary nomination and designation process. Agencies should be given the opportunity to review a sanctuary nomination and comment on the proposed regulations.

7. Regional Workshops

The use of regional workshops and the ways that they can be structured are discussed in B 4 (a). They provide the MSP staff with a tool for achieving regional input from federal, state, and local agency officials or their representatives. The regional workshop concept described in B 4 for obtaining program-wide support can be broadened to include a discussion of the nomination and designation process as well. Thus, government coordination can be sought for both the overall program and the nomination/designation process at the same time. Or, the MSP staff might decide that an additional workshop in certain regions or in all regions would be useful in obtaining coordination in the nomination/designation process.

b. Advantages and Disadvantages of the Mechanisms

The advantages and disadvantages of the mechanisms for attaining governmental coordination in the nomination and designation of sanctuaries are discussed below.

As described in B 4, an advantage of informal techniques is that a relatively quick determination of what an agency feels about a potential nomination can be made. This determination can be useful, especially as a preliminary step. If substantial issues or problems about a nomination are raised they can be addressed immediately, or other more formal mechanisms can be set up.

One of the disadvantages is that the comments and responses of other government agencies are not recorded in a formal manner. Thus, for instance, if an agency states informally that there are no major problems with a nomination, no mechanisms exist to ensure that the agency does not later change its position. Conversely, if the MSP staff agrees informally to respond to an agency's comments in a specific fashion, there are no mechanisms for ensuring their response.

Information mechanisms can be used by the MSP staff to solicit the views of all governmental entities, particularly those of federal and state agencies. Informal techniques are also useful for coordinating the nomination of a sanctuary with local agencies in adjacent coastal areas.

Memorandums of understanding and interagency agreements, if used in the manner described in C 5, would clarify and define the statutorily established tasks of governmental entities, other

than OCZM, in the nomination and designation process. Since these tools are poorly defined in the MPRSA, particularly the ability of the governor to declare ineffective a sanctuary designation, memorandums are one suitable vehicle for both OCZM and the other governmental entities to fix agency responsibilities in the nomination and designation of sanctuaries. It must be remembered, however, that memorandums of understanding and interagency agreements do not carry the force of law and may be neglected by the participants. If memorandums are used in establishing program-wide support (see B 4), their purposes can be broadened to ensure governmental coordination in the nomination of sanctuaries.

Memorandums of understanding between the MSP and the state CZM agencies could be useful in gaining the desired coordination in the nomination and designation process. The memorandum would come into play if a sanctuary is nominated within or adjacent to a state's jurisdiction.

Interagency advisory committees present another type of coordinative mechanism which could be employed by the MSP staff in the nomination and designation of sanctuaries (see B 4), if such a committee was not created in the program development stage. If an advisory committee has been created to solicit program-wide support for the Program, then the purposes of the committee can be modified to ensure governmental coordination, at all levels, in the nomination and designation of sanctuaries.

The use of advisory committees by the MSP staff during the nomination/designation process allows other governmental enti-

ties to participate in the decision-making process. The use of a committee also facilitates the coordination of MSP activities with those of other agencies. The use of advisory committees does not, however, guarantee that coordination will take place or that the advice of the committee will be followed. As mentioned in B 4 (a) (3), advisory committees are wholly without authority to implement policies. The possibility exists that the committees efforts will be totally ignored. The committee is dependent upon its member agencies and in this case, the MSP itself, to take positive action.

As pointed out in B 4 (b), the composition of the committee can be structured to allow for the participation of all levels of government. If the MSP staff believes that it is particularly important to involve one specific level of government, the committee's composition can be slanted in that direction. It is perhaps best, however, to try to balance the composition of the committee so that the views of all levels of government are given equal attention.

The potential use of Circular A-95 as a coordinative mechanism in the nomination and designation process is also discussed. Probably, the chief advantage of the A-95 process is that it provides an established forum for communication and cooperation among agencies. A further potential advantage of the process is that the A-95 clearinghouses provide a means of securing state and local government inputs concerning Environmental Impact Statements. More specifically, the clearinghouses

help assure, pursuant to section 102(c) of NEPA, that appropriate state, multistate, areawide, and local entities are provided an opportunity to review and comment on the environmental significance of proposed federal or federally assisted projects. Thus, a draft EIS prepared on a marine sanctuary nomination could be reviewed by the A-95 clearinghouses. Comments on the draft EIS may be incorporated into the final EIS [see C 6 (a) (7)].

Another potential advantage of relevance to obtaining coordination in the nomination/designation process is that the A-95 clearinghouses are to assure that state coastal zone management agencies in states with approved CZM programs are given the opportunity to review proposed federal or federally assisted projects in the coastal zone (as defined by the Coastal Zone Management Act of 1972) for their relationship to and consistency with the approved program. Since a sanctuary nomination is part of a federal program, such a review could provide a considerable amount of information on how to coordinate the nomination with applicable governmental entities and plans.

It should be noted, however, that since the Marine Sanctuary Program is not listed under Attachment D to Circular A-95, "Coverage of Programs Under Attachment A, Part I," Marine Sanctuary Program activities are presently not subject to A-95 review. In addition, the A-95 process does have several other significant disadvantages. One is that states are not required to establish clearinghouses, and once established, there are no guidelines for organizing the clearinghouse. Secondly, the

A-95 process receives no direct federal funding. Other programs, however, such as the HUD 701 Comprehensive Planning Assistance Program, do recognize A-95 as an activity eligible for funds.

Another disadvantage is that the comments on the EIS's are advisory only. The A-95 process is only a procedural mechanism for obtaining intergovernmental review and comment. Once the A-95 procedures are complied with, federal agencies are free to disregard any comments received.

The advantages and disadvantages of executive orders in the sanctuary nomination/designation process would be similar to those discussed in B 4 (b). The chief advantage would be the President's demonstration of his concern and interest in the Program and the need for other federal agencies to cooperate with it, particularly in the nomination and designation of sanctuaries. Since an executive order would also elevate the visibility of the Program, other governmental agencies may make a stronger effort to nominate significant marine areas as sanctuaries.

A potential disadvantage is that that federal agencies might not fully comply with the President's directive to coordinate with the MSP in the nomination and designation of sanctuaries.

The consistency requirement provided in section 302(f) of the MPRSA is also discussed as a mechanism for obtaining government coordination in the sanctuary nomination/designation process. The importance of the consistency provision is that if governmental agencies are made to recognize before designation

that their permits will have to be consistent with the regulations of a designated sanctuary, the agencies might very actively participate in the nomination/designation process and the eventual development of the regulations.

Regional workshops can have advantages in obtaining the input and cooperation of federal, state, and local officials or their representatives, not only in the development of the program, but also in the nomination and designation of sanctuaries. The workshops provide the MSP staff with information and an opportunity to discuss with the regional officials the sanctuary nomination and designation process. Information about the process and nomination forms can be supplied for distribution throughout the region. Any questions the officials may have about the nomination/designation process or the MSP in general can be discussed. The workshops can be particularly effective because of the levels of government which can be involved. One of the principal disadvantages is that the funds and MSP staff time required to run the workshops will be considerable. This disadvantage must, however, be weighed against the potential advantages which can be achieved.

As noted in the introduction, governmental coordination at all levels is required. The efficiency of each of the coordinative mechanisms discussed in this section at different governmental levels is not constant.

Information techniques can be utilized by the MSP staff at all governmental levels, particularly at the federal and state levels. Once a sanctuary has been nominated, informal techniques

are also valuable in discussing the nomination with local agency officials in coastal areas adjacent to the proposed sanctuary.

Memorandums of agreement may also be formulated between the MSP and local agencies after a site has been nominated so that the local agency(s) is provided with an opportunity to participate in the designation process.

As discussed in B 4 (b), the agency advisory committees can be structured to provide input from all governmental levels. Circular A-95, if used, could be useful in obtaining the coordination of all governmental levels. Executive orders, on the other hand, would primarily affect the coordination of federal agencies. Although, by elevating the status of the MSP, executive orders might indirectly induce state and local governmental agencies to participate. The consistency requirement would also apply to all levels of government. Finally, regional workshops can be structured to ensure the participation of all levels of government.

Thus, many of the techniques are useful in gaining the input of one or more levels of government, depending upon how they are structured and utilized by the MSP staff. The structure and use of the mechanisms will necessarily reflect the types of participation that the MSP staff desires. For instance, if local government participation is felt to be urgently needed in the sanctuary nomination/designation process, the appropriate mechanisms can be structured to fill this need.

FOOTNOTES

1. As established by the Submerged Lands Act of 1953 (43 U.S.C. s. 1301), it should be noted that the jurisdiction of certain states bordering the Gulf of Mexico extends slightly beyond three miles.

2. Because the scope of authority possessed by "involved" states is not clearly defined by the statutory language, if the proposed marine sanctuary encompassed the waters of two states, s. 302(b) could possibly be read as allowing one state the opportunity to veto sanctuary designation not only to waters lying within the jurisdiction of that state, but also to waters lying within the jurisdiction of adjacent states. The language of s. 302(b) speaks only to "waters lying within the territorial waters of any state." Thus, while it may be unlikely that a court would choose to do so, it is at least conceivable that s. 302(b) could be interpreted as modifying the Submerged Lands Act to, in effect, give states a veto over areas of proposed sanctuaries lying within the jurisdiction of other states. Regulations could serve to clarify this ambiguity.

3. Id.

C 6 MECHANISMS FOR EVALUATING SANCTUARY NOMINATIONS

The process of appraising the merits of a nominated area with respect to the specific objectives of the National Marine Sanctuaries Program can be generally described as the evaluation process. Evaluation contemplates both a procedural and a substantive examination. While procedure should not control substantive merit, each must be adequately reflected in the entirety of the nomination/designation review period. This conclusion is supported by sound public policy as well as being a requirement of law. (1)

Proper consideration of a marine sanctuary nomination can be a time consuming and costly process for the staff of the MSP, as well as the nominee. Therefore, a pre-screening step, designed to assess the general acceptability of the nomination and supporting documentation, should be the first step in the formal evaluation phase.

Evaluation of nominated sanctuaries serves two principal functions. First, each nomination is reviewed to determine whether the area in question is deserving of the special protection afforded under Title III of the MPRSA. This question can only be answered by expert personnel with an intimate knowledge of the special or unique values attributed to the nominated area. Implicit in this first function of the evaluation process is an examination of how well the area fits into the overall objectives of the Marine Sanctuaries Program.

The second function served by the evaluation process is to provide a relative ranking of all pending nominations, considering existing sanctuaries. As the Marine Sanctuaries Program gains national acceptance, it is possible that more nominations will be received than can be designated within staff and budget limitations. Therefore, the assessment of the merits of a particular nomination must be capable of assigning a relative priority to each nomination, as well as confirming or denying the merits of the particular nomination. This should result in a prioritized inventory of potential marine sanctuary sites that could be designated as staff time and funding constraints allow. It will also give the program manager a strong data base from which to establish future program funding and staff needs.

While the primary purpose of the evaluation process should be a substantive determination of the relative merits of a nomination in light of the specific program objectives and the Congressional mandate, the mechanisms used to achieve a properly structured and managed evaluation system can result in additional benefits. It is possible, for example, to use public hearings both in the evaluation process and as a means to generate public support for the MSP. (See B 2) Similarly, proper utilization of memorandum of understanding or the A-95 process in evaluating nominations can help coordinate the program with other governmental entities. (See B 4) As a third possibility, publication of evaluative guidelines can help foster thoughtful, well-documented nominations.

C 3 MECHANISMS TO ENCOURAGE PUBLIC PARTICIPATION

This section explores those mechanisms that will provide the opportunity for and encourage citizen involvement in the Marine Sanctuaries Program. The MPRSA mandates public participation by requiring that public hearings be held prior to sanctuary designation [section 302(c)]. The current MSP regulations also recognize the need for public participation in both the nomination process (s. 922.20 provides "all...interested persons" the opportunity to nominate a sanctuary) and the designation process (s. 922.22 suggests mechanisms "to ensure that all interested persons have the opportunity to present their views" once a nomination has been made).

To date, the core of public interaction with regulatory agencies has been the public hearing. Public hearings alone, however, may not adequately solicit public input because relatively few people participate and hearings are often scheduled after many critical decisions, which would have benefitted from public input, have been made. (1) In its review of the public participation programs of federal agencies, the Comptroller General of the United States noted that, in order to be effective, these programs should insure that:

-- the public has an opportunity to be heard early, before major project decisions are made;

-- adequate notice of involvement opportunities be provided to those interested in or potentially

affected by a planned project;

-- frequent forums are held through all stages of project development. (2)

Accordingly, this analysis will present mechanisms which solicit public input beyond the scope of public hearings and which attempt to more adequately permit the expression of public concerns.

This section will concentrate on those mechanisms which encourage involvement and interaction with MSP personnel in the nomination/designation efforts. The section will be divided into three stages of opportunity for public participation during the sanctuary nomination/designation process:

(1) public education efforts,

(2) nomination of areas for designation, and

(3) evaluation of nominations.

a. Types of Mechanisms

1. Use of Education

The public education efforts which were discussed in Section B 2 as a means of gaining public support for the MSP can also be used to encourage public participation in the actual operation of the program. Typically, mechanisms such as the use of mass media, the distribution of literature, public information sessions, and travelling exhibits would be employed to inform the public of their role in the marine sanctuary nomination and designation process. Citizens would be advised

ing the views of parties other than the administering agency into the evaluation process. This mechanism brings together a group of individuals representing selected interests or concerns for the purpose of reaching a consensus of opinion of the desirability of approving a particular nomination. Their input could be sought at any stage in the evaluation process.

Several types of committees could be used. Interagency Advisory Committees (discussed previously in Sections B 4 and C 5) could be used to encourage participation of other interested Federal agencies, and possible state and local government entities. Another type of advisory committee could be composed of people from the private sector, including members of public interest groups, university professors, as well as the general public. A third type could include representatives from both the public and private sectors. In each of these committees, the administering agency could serve as either an integral member of the committee or as an observer.

Another type of committee could be established on a less formal basis using technical reviewers. In this case, recognized experts in the field -- from state, local or federal government, universities, public interest groups, and other private citizens -- would be contacted and surveyed as to their area of expertise, time availability, and willingness to evaluate particular sanctuaries. Their names, addresses and other pertinent information would be kept on file for future use. When a sanctuary nomination is to be evaluated, a selected number of these technical reviewers would be contacted and sent information about the proposed sanctuary, along with criteria

for evaluating its feasibility. The results of their evaluation would either be compiled by one selected member of the technical reviewers or by the MSP staff. In this type of committee, the MSP staff has the option of using the same reviewers each time or selecting specific reviewers based on the characteristics of each particular nomination and the expertise of the reviewers.

4. Public Hearings

Public hearings which are required by 302 (e) of the MPRSA and 15 C.F.R. s. 922.22 of the implementing guidelines, are to be held after a nomination has been determined feasible and a draft EIS prepared. Public hearings are to be held in the coastal areas which "would be most directly affected by [the designation]." (3) Hearings represent a valuable technique for receiving (and giving proper consideration to) the views of the interested public on the evaluation of a sanctuary nomination. Hearings can also provide helpful insight into establishing regulations for a marine sanctuary.

5. Public Meetings and Workshops

Public meetings and workshops represent a less formal mechanism than public hearings for soliciting the comments of the interested public and government officials on a specific sanctuary nomination. A public meeting or a series of public meetings could be held in the coastal areas most directly affected by the nomination.

Although a public hearing would still have to be held on the draft EIS, the MSP staff could use the public meeting concept as an informal means of exchanging ideas, publicizing the nomination, and involving key government officials. Public meetings could

be encouraged at almost any point in the evaluation process. (See also B 4 and C 3)

6. Evaluation of Nominations by Federal, State and Local Agencies Through Mechanisms Identified in Section C 5

-- Information Techniques: As discussed in Section C 5, information mechanisms would include phone calls or meetings between the MSP staff and identified contacts at the federal, state and local levels. Comments on the nomination can be solicited and any potential problems identified and resolved. If there are substantial difficulties with the nomination, more formal mechanisms may be required.

-- Memoranda of Understanding: As discussed in Section B 4 and C 5, memorandums of understanding are a very flexible mechanism which can be used for almost any purpose. In this case, the MSP would enter into memorandums of understanding with government agencies from whom formal comments on nominations are desired. The agencies would be given the opportunity to review the nomination and subsequent feasibility study, as well as the draft EIS. After the agencies have reviewed a nomination, their recommendations and comments would be sent to the MSP staff. The memorandum of understanding may specify that the MSP's guidelines (see C 5 a 1) would be used as an aid in evaluation and that the MSP has the authority to make the final decision.

Memorandums of understanding between the Departments of Interior and Commerce could be particularly useful for the identification and evaluation and potential marine sanctuaries located on the outer continental shelf. In addition, a memorandum would be a positive

response to President Carter's directive to the Secretary of Interior to work closely with the Secretary of Commerce "...as she identifies potential marine sanctuaries in areas [particularly OCS areas] where leasing appears imminent." (4) The memorandum could go beyond the provision of assistance in identifying potential sanctuaries (See B 5) and include procedures for obtaining assistance in evaluating nominations.

Memorandums of understanding between the MSP and the State coastal zone management agencies are also a potentially useful mechanism for evaluating sanctuaries. The memorandum could give these agencies the opportunity to evaluate potential nominations. These memorandums should be similar from state to state.

-- Circular A-95: The purposes and general uses of Circular A-95 as a mechanism for achieving governmental cooperation and involvement in the sanctuary nomination and designation process are discussed in Section C 5. The basic description of the process, provided in the previous section, also applies to the use of the mechanism in the evaluation of a nomination.

After a potential nomination has been determined to be feasible and a draft EIS prepared, the latter could be sent out to the A-95 clearinghouses for their review and comment, a procedure which normally occurs when the A-95 process is used. A similar type of review could, however, be set up through memorandums of understanding between the MSP and either the State coastal zone management agencies or the A-95 clearinghouses. (see above)

7. Environmental Impact Statements

The environmental impact statement process, established by the National Environmental Policy Act of 1969, (5) provides two important methods of evaluating sanctuary nominations -- the impact statement itself and comments made upon it. NEPA requires Federal agencies to prepare environmental impact statements (EIS) for all "major federal actions significantly affecting the quality of the human environment." (6) The designation of a marine sanctuary is such a major Federal action. Therefore, an EIS must be prepared by the Office of Coastal Zone Management (OCZM), acting for the Department of Commerce, before a sanctuary can be designated.

Part of the evaluation of a sanctuary nomination is provided through the EIS process in that a draft EIS is prepared after a feasibility study has been made. The EIS must include a discussion of the environmental impacts both positive and negative, of the proposed action, the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and the alternatives to the proposed action, including no action. MSP officials are thus required by law to conduct a complete evaluation of the nominated sanctuary and its surroundings. They must consider the beneficial effects of establishing a marine sanctuary and the harmful impacts such as offshore exploration and exploitation of resources, likely to follow denial of designation. In sum, NEPA requires that an investigation of the proposed sanctuary be conducted by OCZM which leaves "no stone unturned."

The second evaluative mechanism provided by the EIS process involves comments on the draft EIS by public and private groups, and individuals. Guidelines issued in 1973 by the President's Council on Environmental Quality (CEQ) require that draft impact statements be made available to federal, state and local agencies, as well as the public, for their review and comment as early as possible in the decision-making process. Comments are to be considered by the Federal agency and incorporated in the final EIS. An opportunity is thus given to both governmental and non-governmental entities to review a proposed designation and to have their views incorporated by the MSP into its decision-making process.

Another evaluative technique associated with the EIS process is the public hearing. Although not mandated by NEPA, public hearings are required by current MSP regulations. The hearings must be held after the preparation of the draft EIS in the areas most directly affected by the potential designation. (7) The use of public hearings as an evaluative mechanism is more fully discussed in Sections C 6 a 4 and C 3 a 3.

8. Cost Analysis in the Evaluation Process

Analysis of the expected costs of establishing and operating a marine sanctuary should be an integral part of the evaluation process. Utilization of cost as an element in the evaluation process would involve estimating the initial set-up costs of each particular site and then estimating the discounted annual operating costs (staffing, enforcing and maintaining) of each site. However, the benefits of establishing a given sanctuary will not in most cases,

be specifically quantifiable in monetary terms. Therefore, the cost data can be used as a benchmark to ask the question, "given these expected costs, are the expected benefits worth at least this amount?" Quite obviously, the answers to this question will call for a judgement based upon experience with other sanctuaries and an intimate knowledge of the expected benefits of the sanctuary being evaluated. It is, therefore, very important that cost never be used as the sole criteria for approval/nonapproval decisions. Cost data should only be used as an input to the various evaluators and the final decision-maker.

b. Advantages and Disadvantages of Evaluation Mechanisms

In-house evaluation guidelines provide a structured and relatively manageable evaluation mechanism that is relatively inexpensive, particularly in the long run, when compared to most of the other evaluation mechanisms. Once developed, the guidelines stand on their own and may be applied to each nomination by program administrators with minimal review expense. A written set of internal guidelines adds structure and formality to the evaluation process; moreover they also tend to reduce the discretion inherent in any evaluation process, thus resulting in more consistent evaluations of nominations. Guidelines, however, are not generally binding and may be ignored in special situations.

A simplified (or actual) version of the internal guidelines may be published as guidance to those preparing nomination documentation, thus yielding nominations more likely to conform to national objec-

tives.

Guidelines, even internal guidelines, are useful in most of the other mechanisms of the evaluation process as well. They can help to guide and structure the analysis made by an in-house committee or an evaluation advisory committee; they can be used to guide public hearings, meetings or workshops, and can be used by evaluation groups from the Federal agencies or state and local groups. Thus, the form and substance of internal guidelines may depend upon the mix of other evaluation mechanisms used in the evaluation process.

The in-house evaluation panel has the advantage of being a relatively inexpensive technique, particularly when compared to the non-OCZM committees discussed below. MSP staff hours involved in gathering information from knowledgable individuals and in scheduling meetings will be minimal. In addition, an in-house evaluation panel represents a means of applying the experience gathered in administering the overall program to the evaluation of potential sanctuaries.

However, it is possible that neither the MSP staff nor NOAA would have the technical expertise necessary to evaluate the wide range of possible and feasible nominations. Also, the perceived objectivity of the evaluation process may be open to question since the MSP is handling the entire evaluation process from start-to-finish. Such concerns would be particularly relevant where the MSP originally proposed an area for nomination.

The advantages and disadvantages of evaluation advisory committees depends on the amount of deference accorded the committee. For instance, if the administering agency is unwilling to give care-

ful consideration to the committee's recommendations and follow these recommendations in the majority of instances, the committee would have no particular feeling of responsibility, and thus no incentive to work diligently. If this occurs, then one of the mechanism's potential advantages, that different viewpoints and backgrounds will be brought into the process, will be partially nullified.

As outlined above, a strong advantage of evaluation advisory committees is their flexibility. A committee would be established on a permanent basis or on a sanctuary-by-sanctuary basis. The administrative agency has a choice of being a member of the committee and participating in the decision directly, or participating as an observer of the process. In either case, NOAA has the sole authority to approve a nomination for designation.

An advantage of using the ad hoc system of technical reviewers is that specific reviewers having professional experience with the type of sanctuary proposed and its geographic area in general, as well as the overall Marine Sanctuaries Program, could be selected on a nomination-by-nomination basis. This system has the potential of offering a well-informed and critical evaluation of the nomination.

However, this mechanism will be more expensive to administer than the in-house panel considered above because more staff time will be involved in selecting the members of each EAC and in monitoring its activity. In addition, it may be necessary to compensate members of the EAC for their service.

The primary advantage of public hearings is that interested citizens are given the opportunity to comment on the proposed

sanctuary nomination. Presumably, the citizens will be familiar with the specific objectives sought for the sanctuary and with the day-to-day problems that may arise. The hearing provides the MSP with an indication of the public's opinion of the nomination and any changes they would like to see made to the nomination. The comments serve as inputs into the final EIS and thus into the final decision on designating a sanctuary and designing the management plans and the regulations for the sanctuary.

On the other hand, as is discussed in Section C 3 a, public hearings cannot be expected to generate the only public input into the evaluation process both because the major participants in formal hearings are generally special interest groups and because the formal structure of public hearings permits little interchange between the partipants and the panel conducting the hearings. Public hearings do present a forum for public input for those sophisticated enough to know how to use them. In addition a public information campaign informing local residents of the forthcoming hearings is necessary if widespread public input is wanted from these hearings.

Public meetings and workshops as described in Section C 6 a 5 provide a much better forum for meaningful interchange between MSP administrators and the general public than public hearings. This method of soliciting public input should only be marginally different from public hearings in cost. It has the same requirement for publicity before a representative sample of the general public can be expected to attend. Public meetings and workshops, distinct from public hearings, provide a forum where problems and conflicts

can be discussed informally, and resolved, if possible. These mechanisms also provide a means for involving the area's key citizens and interest groups directly in the evaluation process, and could be particularly valuable early in the decision-making process. Meetings prior to public hearings offer MSP staff early feedback, expecially concerning potentially controversial sanctuary nominations. If the nomination has the support of key citizens in the local area, it is likely that other local and state support will be forthcoming.

While the benefits of this mechanism may be positive, the use of it can be very time-consuming and expensive if conducted by the MSP staff. This would be a particularly debilitating disadvantage if the program is not adequately staffed and funded. This disadvantage can be partially overcome by encouraging state and local groups to organize and run the meetings with the assistance of MSP staff.

Concerning evaluation by other federal, state and local agencies, informal techniques provide a relatively quick and often efficient means of determining how other agencies view a particular sanctuary nomination. Thus, the mechanism is particularly suitable, for example, as a first-check for potential feasibility. Agency questions concerning a particular sanctuary can be focused upon and responded to before a negative momentum sets in. Necessary modification in the nomination can also be discussed. Potentially, one of the primary disadvantages is that the comments and responses are not generally formally recorded. Thus, there are no mechanisms to ensure that valid concerns are actually addressed. This problem can be par-

tially overcome by the use of notebooks by the MSP staff to record these conversations.

Many of the general disadvantages of memorandums of understanding are discussed in Sections B 4 and C 5. One potential advantage of using memorandums of understanding to solicit the comments of other governmental entities on a nomination is that the procedures for evaluating the sanctary could be formalized and somewhat standardized. Thus, it would appear to be easier for the MSP staff to use the various agencies' comments and recommendations in making their final decision. At the same time, the use of formalized procedures may tend to overload the evaluation process with burdensome paperwork, but little other useful information.

The advantages and disadvantages of using the A-95 system are similar to those discussed in C 5. Again, it should be noted that presently the A-95 process cannot be used to review the Marine Sanctuary Program. As outlined in Section C 5, the clearinghouses would provide other interested state and local agencies with the opportunity to review the draft EIS. Once comments are received, the clearinghouses would forward them to the MSP staff. This mechanism could also be used to receive comments and input on other aspects of the evaluation, such as the determination of feasibility.

Use of the EIS process as a mechanism to evaluate sanctuary nominations is mandated by law. A Federal agency engaging in a major action which may significantly affect the quality of the human environment, such as the designation of a marine sanctuary, "must" prepare an EIS and thus set in motion the evaluative techniques

discussed. Further, the EIS assessment by OCZM will be published and open to inspection by the general public. The opportunity for comment by both governmental and non-governmental entities and the incorporation of these comments into the decision-making process must be considered another advantage of the EIS process.

Unfortunately, an EIS's use in the evaluation process has two serious disadvantages. First, since the draft EIS is not prepared and circulated until time and money has been spent preparing and approving a feasibility study, many critical decision points will be passed. The second disadvantage is that EIS's are often composed of mere lists of data that cannot be easily used and interpreted in a cost-effective manner by decision-makers.

A cost analysis of the expected expense involved in establishing and managing a particular sanctuary will bring a greater amount of certainty to the evaluation process. It gives the decision-maker a means of discriminating among sanctuaries judged to be of equal or nearly equal merit on all non-cost grounds. Thus, if two or more sanctuaries are proposed to protect a specific habitat, each of which is judged to yield the same benefits, the sanctuary with the lower total cost might be given a higher priority.

It should be noted, however, that the key phrase in the above statement is that each potential site is judged to yield the same (or nearly the same) level of benefits. The chief danger in using a cost criteria in the evaluation process is that the administering agency may find itself in a numbers game wherein cost criteria are used to give highest priority to the lowest cost sites

"regardless of potential benefits". This danger is most strongly present when the criteria used to judge the success of a program is the gross number of sanctuaries designated rather than the actual or potential value of the designated sanctuaries. It does not necessarily follow that more sanctuaries are always better. The question of success must be addressed both in terms of "quantity" and "quality".

FOOTNOTES

1. See NEPA, 42 U.S.C. ss. 4321-4361, and Administrative Procedure Act, 5 U.S.C. ss 500-570.
2. MPRSA, s. 302(a).
3. Id., s. 302(e)
4. "President's Environmental Message", May 23, 1977, p. 9.
5. NEPA, 42 U.S.C. s. 4332.
6. Id., s. 102(2)(c).
7. 15 C.F.R. s. 922.22(d).

D MECHANISMS FOR THE MANAGEMENT OF MARINE SANCTUARIES TO ACHIEVE PROGRAM OBJECTIVES

D 1 INTRODUCTION - THE MANAGEMENT PROCESS

Section D addresses the post-designation management phase of the Marine Sanctuary Program. This phase is not only of critical importance to those charged with the responsibility for the effective management of individual marine sanctuaries, but is also important to the national program managers and staff. This is so because the achievement of the national program's specific objectives is dependent on each sanctuary achieving its objectives.

Three categories of mechanisms are examined in this part. Monitoring mechanisms are discussed -- first in the familiar context of facilitation of enforcement efforts, and secondly, in the context of on-going sensitivity to ecosystem and sanctuary parameters. Within these general categories, specific options are discussed ranging from the use of simple voluntary assistance to the use of sophisticated technology. Enforcement mechanisms are also examined, focusing on existing and potential mechanisms that could be used to ensure that violations of established marine sanctuary rules are held to a minumum. This includes both preventative techniques and techniques for apprehending violators. Additionally, the entities who might perform this enforcement are reviewed. Finally,

ıis section examines the mechanisms which can ensure that individual marine sanctuaries are managed in a manner which is consistent with its own specific objectives and is also consistent with the national program's objectives and policy.

Section D does not assume that only the federal government will be effectively involved in the post-designation management process. To the contrary, the final part of this section presumes that effective post-designation management entails an array of participation by public officials and private citizens. The specific mix of the management team for an individual sanctuary, however, involves site specific questions. Consequently, this section identifies the roles and weighs the advantages and disadvantages of these roles, ut does not assert that all sanctuary management relations should or could be adopted on a standard basis.

D 2 MECHANISMS FOR MONITORING MARINE SANCTUARIES

In its most familiar usage, monitoring involves the detection, tracking and identification of vessels to ensure compliance with sanctuary regulations. The nature of marine sanctuaries is such that monitoring can both improve the effectiveness of enforcement efforts and allow more efficient allocation of enforcement resources, thus offering the possibility of cost savings. Current literature sometimes refers to monitoring which facilitates, and is in fact inseparable from, enforcement as direct monitoring. For purposes of this section the more descriptive term 'surveillance' monitoring will be used.

The figure below illustrates the close relationship between surveillance monitoring and enforcement and the effect of these efforts on the nomination, designation and operational phases of the Marine Sanctuaries Program. The chart is intended to be illustrative of the interrelation of these factors rather than definitive of the entire range of possibilities. Even in rudimentary form it reveals the necessity to investigate the potential impacts of monitoring and enforcement considerations at the earliest states of program formulation as realistic goals can only be set by adequate assessment of capability.

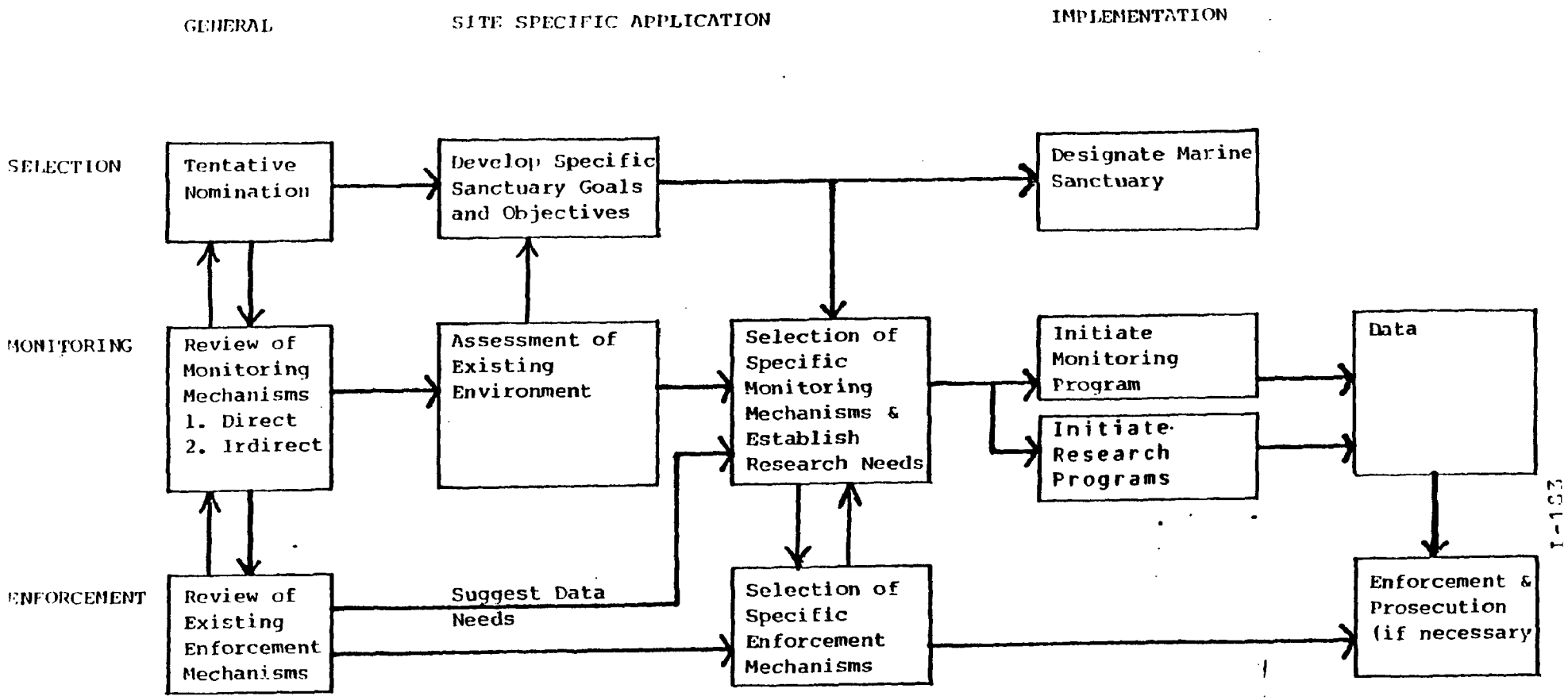

GENERAL
SITE SPECIFIC APPLICATION
IMPLEMENTATION
SELECTION
MONITORING
ENFORCEMENT
Tentative Nomination
Develop Specific Sanctuary Goals and Objectives
Designate Marine Sanctuary
Review of Monitoring Mechanisms 1. Direct 2. Indirect
Assessment of Existing Environment
Selection of Specific Monitoring Mechanisms & Establish Research Needs
Initiate Monitoring Program
Initiate Research Programs
Data
Review of Existing Enforcement Mechanisms
Suggest Data Needs
Selection of Specific Enforcement Mechanisms
Enforcement & Prosecution (if necessary

Figure D 2.1

The unique purposes of the MSP require that monitoring serve an additional function. Much as hospital equipment constantly monitors vital health signs of patients, preservation of marine sanctuaries may require monitoring of important natural parameters. Among these parameters are physical, chemical and biological, oceanographic conditions. Modern surveillance technology is moving into an era where such monitoring is possible. This aspect is referred to as oceanographic monitoring.

In discussing both surveillance and oceanographic monitoring mechanisms, progression will be from the simple to the complex, from the relatively mundane to the esoteric. The particular mechanism or mix of mechanisms, eventually selected will depend upon a variety of factors which will also be discussed briefly. The purpose is to survey the range of techniques and to delineate the most salient features of the various options.

a. Types of Mechanisms

1. Surveillance Monitoring for Human Activity

A variety of options are available for surveillance monitoring. Specific choices will depend on the purpose(s) for which a sanctuary is designated, the level of enforcement required/desired, funding availability for performing this aspect of MSP management, and proximity and accessibility of the sanctuary.

-- Local Voluntary Participation

Attention could be directed toward the possibility of utilizing local volunteers. For example, local citizens and members of conservation organizations can be used to monitor sanctuaries and to report activity having potential impact.

Various private groups, with limited assets and site surveillance responsibility, have used this approach to accomplish their monitoring needs. The Nature Conservancy Preserve Management Program utilizes volunteers through its Preserves Stewardship Committee. This Committee, which is also responsible for preparation of a resource inventory, preserve management plan, and annual status report, serves a variety of monitoring functions which are summarized in a portion of the Conservancy's annual report.

Similiary, the Barrier Island Coalition utilizes volunteer island watchers to alert the group of potential developments and to provide up-to-date information on barrier islands and beaches. Such programs could be expanded to provide immediate notification to appropriate enforcement authorities when a violation is detected or suspected.

The chief advantage of using volunteers is obviously cost savings. Nevertheless, citizen involvement, interest, and support, and heightened awareness of the conservation ethic are positive values which should not be overlooked.

Volunteer programs have some inherent disadvantages. The chief

disadvantage from a direct monitoring standpoint is the lack of enforcement authority. Because a communication link with enforcement authority is required, there is a time lag between detection and apprehension of violators. Potential problems of turnover of personnel, lack of expertise, and lag time in implementing management changes must be recognized when considering this type of mechanism. MSP-specific factors may also mitigate against wide use of this option as volunteers would be limited to day-time monitoring of sanctuaries which are reasonably accessible and of a size which can be protected without resorting to airborne surveillance. Efforts of volunteers might best be used to supplement or augment professional management or enforcement personnel.

-- Professional Surveillance

Professional surveillance may take the form of a permanent, full-time sanctuary staff. Alternatively, professional surveillance could involve periodic Coast Guard patrolling. Although costs are increased, professional monitoring provides enhanced expertise and an immediate enforcement capability. Entities such as the Coast Guard will have access to vessels and aircraft to provide monitoring of large isolated sanctuaries. This option also provides continuous, all weather surveillance capability if used in conjunction with available technology, discussed below. Without such technology, professional efforts will be subject to many of the limitations associated with volunteer programs. In addition as discussed in D 3 (Enforcement),

Coast Guard efforts are subject to diversion for higher priority missions.

-- Technology

A clear understanding of the possibilties and limitations of technological methods for monitoring efforts will greatly facilitate an effective sanctuary program. As previously mentioned, technology can improve both the effectiveness and efficiency of enforcement efforts. Effectiveness is served by timely detection, an accurate determination of vessel location, and the possible inclusion of identification capability. Efficiency (in terms of allocation of resources) is served in that electronic systems are capable of monitoring large areas. Such coverage combined with accurate determination of position of vessels saves search time and allows the use of fewer aircraft and vessels. Determination of the identity of detected vessels may save the effort of inspecting vessels which have permission to be carrying on activities within a sanctuary.

Procurement and operational costs are the most visible limitations, concerning the use of advanced technology. Therefore, instead of developing an advanced technological monitoring system expressly designed for the MSP, any available funds for such monitoring capability might better be devoted to similar efforts for other marine surveillance activities. For example, timely input of MSP funds to the development of a larger, complementary program, such as the operational surveillance systems being developed for monitoring the

fishery conservation zone, may result in enhanced protection at reduced cost.

A recent Office of Technology Assessment study (OTA) acknowledges potential benefits of multiple usage of remote sensor technology but also realizes certain institutional difficulties in coordinating monitoring efforts:

> It is probably in the national interest to actively plan and pursue interagency use of some of these new technologies, especially those in which there already has been significant investment in development. However, it is unlikely that military agencies which now have such advanced technology will volunteer or be receptive to suggestions that they share their capabilities for use in enforcing fishery regulations. (1)

The study makes repeated reference to the need for close cooperation between the Department of Defense (DOD), National Aeronautics and Space Administration (NASA) and the Coast Guard to develop new systems and to find efficient ways to using technology in a multimission context. (2) It appears unlikely that effective enforcement of the 200-mile fishery conservation zone can be accomplished without such cooperation.

Data valuable for surveillance monitoring of potential marine sanctuaries is presently being collected. Following are some areas

of existing or developing technology which may be useful in surveillance monitoring of marine sanctuaries.

Microwave Radar: This technology has been developed over the past 40 years and is capable of detecting vessels with a high degree of accuracy. Microwave radar can perform the following basic functions:

- detect vessels in a given area;
- determine position of a detected vessel at a given time;
- track course and speed of detected vessels;
- estimate gross shape and size.

Microwave radar detection is limited to the line-of-sight and, depending on distance and power output, requires that vessels be of a minimum size. Use of transponders on vessels (discussed below) enhances radar detection. Modern shipboard radar can detect fishing boats at a distance of 12-18 nautical miles (NMI). Existing ground-based surface-search radar, currently in use by the Coast Guard and others, can detect vessels at a distance of up to 40 NMI from the land base. (3) Such capability may be sufficient for short-term marine sanctuary requirements.

For the longer term, a study by the Stanford Research Institute, part of the OTA report, ascribes a 300 mile detection range for high attitutde (70-KFT) aircraft. (4) Although efforts are underway to incorporate microwave radar in satellites which would then be capable of detecting surface vessels, this technology is seen as being ten years away. (5)

Microwave radar, which the OTA study found to have the best potential for fisheries enforcement, may be useful to the MSP management efforts.

Transponder: At its simplest, a transponder enhances the ability of radar or other electronic transmission systems to detect surface vessels by amplifying the transmitted signal. Advancing technology allows transponders to transmit information along with the reflection signal. A very simple and widely used function involves the transmission of identification codes; simple transponders can reply with a variety of codes. Sanctuary permit systems might require that authorized vessels transmit a permit-specific pre-assigned code, thus enabling enforcement authorities to respond selectively. Additional information can be relayed via transponders. However, varying levels of cooperation on the part of vessel operators are required.

Although the technology is simple in nature costs, particularly for the land based or on board detection units are substantial. The cost for transponders would be in the neighborhood of $2500 per vessel and $1,500,000 per control craft (vessel or aircraft) per year. (6) Furthermore, it is unlikely that either domestic or foreign vessels could be forced to equip themselves with transponders simply to satisfy MSP requirements. A more likely eventuality would be a transponder requirement as part of the FCMA implementation program. MSP input in favor of such a program could be in order. Even under the auspices of FCMA implementation, a transponder program would be

applied only to foreign vessels, and would require 2 years work for installation on vessels and 7 years before an ideal system with long range potential could be devised. (7)

Over the Horizon Radar: Refraction of high frequency waves off the upper atmosphere and ionosphere enables over-the-horizon radar (OTHR) to cover larger areas than microwave radar. Like most other remote sensing technology OTHR was developed primarily for military use. The two types of OTHR which may be useful for fisheries (and possibly for sanctuary) enforcement are Skywave OTHR (useful from distance of 500 to 2000 NMI) (8) and Groundwave OTHR (having an operational radius of a few hundred miles) (9). It would seem that short-term use of OTHR to support the MSP is unlikely as equipment is highly classified and very expensive. Its use would be most valuable in the event of sanctuary designation beyond the range of conventional land-based radar.

Microwave Radiometry: Microwave radiometers are passive sensors which detect microwave energy naturally emitted or reflected by surfaces. The OTA report feels that such sensors have little promise when used alone but could be used in conjunction with on-board transponders. Current radiometer technology limits aircraft to altitudes of 6000 feet for detection of fishing vessels. (10)

Optical and Electro Optical Techniques: This category covers a wide range of techniques varying from standard visual sighting to the use of highly sophisticated scanning satellites. Traditional

visual monitoring has been limited by weather conditions, light levels and distance. New methods of electro-topics including low light level television and infrared or thermal mapping have overcome some of these limitations.

These systems can be operated from satellites, aircraft or vessels. The OTA study forsees short-term desirability of using aircraft if this option is developed. (11)

Electromagnetic Intercept Techniques: All ocean-going vessels are equipped with radios and most have navigational radar. Radio and radar emissions can be used by direction finding equipment to determine vessel position. Information from such transmissions can be used to identify and classify the vessel. Technology for both direction finding and communications interception in highly developed and numerous systems have been developed for both military and civilian use. (12)

For MSP purposes this technique would be most useful for detecting "innocent" intruders. It is unlikely that purposeful violators would reveal themselves by making radio transmissions.

Acoustic Techniques: The capability to detect and classify vessels by acoustic techniques is well-developed. Most existing systems are highly classified and are very complex and costly to operate. (13) Considering the availability of other suitable techniques, acoustic detection would appear to be precluded.

2. Oceanographic Monitors for Natural Marine Parameters

The general nature of the marine enviornment must be understood before a meaningful discussion of mechanisms for oceanographic monitoring of marine sanctuaries can be undertaken. The profound differences between terrestrial and marine ecosystems will require the use of management and monitoring techniques of a type which cannot always be extracted directly from manuals reflecting traditional resource management concepts. Such concepts contain an inherent bias and understandably so, because of the historic focus of conservation efforts on land resources.

In a recent paper by Dr. G. Carleton Ray on critical marine habitats (14), 10 general concepts are established which facilitate comprehension of the nature of the environment in which marine sanctuaries will be established. These factors must be considered in developing meaningful methods of sanctuary protection, and play an important role in the selection of appropriate monitoring mechanisms.

i. Size and Mobility. The scale of marine systems confounds thinking based on terrestrial models. The largest ecosystems, by far, are marine and we cannot aspire to include them, in toto, in parks and reserves. Certain exceptions to this statement exist, of course, but this is a general pattern with which we must cope. Whereas large-scale mobility or migration of major ecosystem biomass is more the exception terrestrially, it is the rule at sea. Whole fractions of ecosystems move great distances,

limited only by behavioral and physiological tolerances, or by the sessille or sedentary habit of some species.

ii. Predominance of Water Current among Enviornmental Factors. Of all the factors of the aquatic enviornment, water current is probably most important in the lives of marine organisms, and an understanding of water currents is basic to aquatic system management. Currents provide transport for many marine organisms and their development stages. They transport chemical nutrients and particulate food. They bring in oxygen and remove wastes. Their force determines, in large measure, which specidies may exist in an area. Currents also determine the quantity of freshwater and slatwater which enters an estuary and the overall circulation patters may determine the temperature of a protected body of water. They also trigger events. Management of a coastal or marine area rests on maintaining the normal current patterns as well as their seasonal volumes and irregularities. Management must also be based on an understanding of currents in order to control upstream events which might reduce the quality of the water in the area.

iii. Ecotones and Transition Zone. The shore and coastal zone do not separate land and sea, but rather unite them. Neither geologically nor biologically can the coastal zone be defined as a complete ecosystem; it is the interface between two

systems and, as is characteristic of such ecotones or transition zones, immense productivity results. For this reason, marine reserves should not end on the shoreline, but should incorporate adjacent land areas, either within their boundaries or on their management plan.

iv. Boundaries. The sea is not a continuum, though the boundaries can be subtle. The sea's texture varies with eddies, circulation cells, currents, upwelling, salinity, and temperature, and any of these may form boundaries in addition to the physiographic boundaries by which terrestrial environments are largely separated.

v. Dimensionality and the Living Hydrosphere. Life exists on land as a thin surface skin surrounded by an atmosphere which is uninhabited on a permanent basis; thus, terrestrial systems are largely two-dimensional. The sea is a 'bouillabaisse' of organisms, nutrients, degradation products, inorganic chemicals, and pollutants. This 'living' quality of the hydrosphere, in contrast, with the 'abiotic', atmosphere, adds a third dimension of large scale to marine systems.

vi. Physiological Continuity. Most aquatic animals are not 'sealed off' by virture of a relatively impervious skin, as land animals largely are. Most aquatic organisms are in physiologic continuity with water and are generally very susceptible to foreign substances, pollutants, or nutrients,

which enter their bodies with facility, then are quickly incorporated into the trophic structure. Exceptions, of course, are the airbreathing 're-entrants', i.e., the aquatic reptiles, birds, and mammals.

vii. Inverted Pyramid of Biomass. Terrestrially, the greatest biomass is found in primary producers; much is locked into the 'bottleneck' of ecosystems -- cellulose which is slowly degraded and recycled. Aquatic systems, with the notable exception of algae beds, sea grass beds, and some reefs which are dominated by algae, do not have the greatest biomass at the lowest trophic level. Rather, phytoplankton productivity compensates for the lack of biomass so that production on an annual basis is very great, but the amount of plant material present at any one time is usually far less in weight per unit volume of habitat that that of the consumer levels.

viii. The 'Sink' 'Downstream Effect' and 'Short-circuits'. Ultimately, rainfall and land drainage carry terrestrial and atmospheric nutrients, pollutants, and silt to the sea. Thus, the sea has been called a 'sink.' Forests, estuaries, and marshes are natural 'filters' which retard the process of passage of products, either harmful or beneficial, to the sea. The 'downstream effect,' as the name implies, refers to the mobility of silt, pollutants, nutrients, and organisms

over great distances and to the effects in their wake. Organisms and their food chains move through oceanic features both laterally and vertically, often against currents, and provide 'short-circuits' (Walsh, 1972) to nutrient and pollutant transfer, the magnitude of which we have only begun to suspect. These are among the features which make the protection of marine environments so very difficult.

ix. Eutrophy. Oxygen supply is taken for granted in terrestrial environments, but it can be critical in the sea. Eutrophy refers to the overenrichment of a body of water so that it becomes so productive that the biological oxygen demand may reach levels beyond the oxygen supply, thus depleting this vital substance and causing anoxic conditions. Large-scale die-offs of oxygen-dependent organisms may result. Particularly vulnerable are estuaries, lagoons, and the relatively stagnant bottom waters of fjords, enclosed seas, and oceanic trenches. The danger to trenches may be a surprise to some, but the suspicion grows among marine scientists that the life of trenches is presently endangered by the degree of dumping that occurs in some of them. Should organic wastes be dumped there in sufficient quantity, those poorly circulated waters could become anoxic and much of their characteristic biota would perish.

x. Dynamism. Spatial and seasonal alterations of onshore features reflect some of the most dynamic of all natural

processes, exceeded only by earthquakes, floods, violent storms and vulcanism. Shorelines, dunes, banks, and shoals move change the faces, even the boundaries, of whole marine systems. Dredging, bulkheading, channelization, damming of rivers, and other attempts to contain or alter natural geomorphological processes are usually doomed to failure and are creating great problems (Inman and Brush, 1973). It is difficult to establish reserve boundaries which encompass such natural alterations as the movement of inlets, banks, and beaches.

The foregoing factors highlight the potential need for continuous or frequent monitoring of important physical, chemical and biological parameters Such activities have ultimate utility only if the resulting data can be used to facilitate rational management decisions. Assessment of the existing environment can be important to the MSP as early as the nomination stage (see The Marine Sanctuary Program regulations, 15 C.F.R. s. 922.21). Ongoing assessment of environmental conditions may be indispensible to the achievement of sanctuary goals.

-- Local Involvement:

Solicitation of local volunteer efforts, while potentially beneficial in terms of generating local support, has somewhat less overall utility for oceanographic monitoring than was the case for surveillance monitoring. Measurement programs on a small scale using basic instrumentation may be useful and should be investigated.

Again, volunteer efforts may augment a larger professional program.

-- Professional Monitoring:

In this context "professional" is taken to mean any governmental agency or private group which possesses the scientific expertise and equipment necessary to undertake a wide-range of data measurements.

Traditional ship-board data gathering has the advantages of accuracy and resolution. Unfortunately, this form of monitoring tends to be expensive and does not provide continuous or sanctuary-wide coverage. Nevertheless, vessels in sanctuaries for patrol purposes can collect data at little additional cost. Sea Grant colleges could be urged to conduct periodic studies in marine sanctuary areas to establish and up date data bases.

Traditional methods of data gathering will be largely sufficient for "protected" sanctuaries and for measuring those variables which are relatively stable. These methods may not suffice for sanctuaries vulnerable to man-made degradation (for instance, oil spills and sewage dumping) or for dynamic and system-wide parameters which are essential for understanding the sanctuary environment. In these cases, a different approach requiring advanced technology, as discussed below, may be required.

-- Technology:

Remote sensing offers perhaps the most complete opportunity to acquire needed data. It would be impossible to address all of the remote sensing options available through various satellites, however,

there are some general guidelines and sources which may be helpful in guiding the reader to in-depth data sources.

Satellite sensing suggests the possibility of data acquisition on a geographic scale not previously available. Developing sensor technology provides an increasingly sophisticated capability to detect and measure important ecosystem variables. Unfortunately, sophistication tends to breed a degree of inflexibility. Satellite monitoring capability is largely predetermined by designated orbit and onboard equipment. Thus, if the MSP is not to depend upon after-the-fact, fortuitous fall-out of information, input to program managers at the development stage of satellite systems is essential. At least initially, the MSP is likely to receive rather low priority relative to programs such as the fishery conservation zone. Nevertheless, it would seem that MSP inputs would be accomodated insofar as they are compatible and do not usurp resources allocated to higher priority programs.

Recently, the Jet Propulsion Laboratory (JPL), under contract to the National Aeronautical Space Administration (NASA), has developed a sensor capability handbook and data sheets (May 1977). In essence, the data sheets are a compilation of all of the classified sensor instruments and their sensing capability. The reference chart below (Figure D 2.2) is a listing of the various open ocean physical parameters and the type of sensor which is best suited to measure these properties. This chart can be found in section 624-2 of the handbook mentioned above. This handbook gives in-depth information

Figure ∅ 2.2

Surface Measuresments[a]

Measurement	Instrument Category
Temperature	PM, IR
Waves	
Height	AM, Laser
Length	AM, Laser
Direction	AM
Shape (profile)	
Gloid (mean)	AM, Laser
Tides (variations)	AM
Currents	
Boundaries	AM, VIS
Director	AM, VIS
Speed	AM[b]
Color	
C/N	VIS, IR
Salinity	Laser
Shoreline (boundaries)	AM, VIS, PM, IR
Subsurface	
Temperature (sounding)	
Floor	
Depthy (Shallow)	AM, Laser
Shape (countour, shallow)	AM, Laser
Constituents (material)	Laser

Measurement	Instrument Category
Ice surface and subsurface	
Temperature	PM, IR
Shape (countour)	AM, VIS, L
Roughness	AM, VIS, L
Thickness	AM
Leads	AM, VIS, I Laser
Flows (bergs)	AM, VIS, I
Age	AM, VIS, L
Atmosphere	
Temperature	IR, PM, AM, Laser
Surface (area, horizontal)	IR, PM
Profile (vertical)	IR
Pressure	
Surface	
Profile	
Movement, motion	
Direction	AM, Laser, VIS[c]
Speed	Laser, AM,
Profile	Laser
Clouds	
Area	VIS[d]
Profile	

(Continued)

(Figure D 2.2 Continued)

Surface Measurements[a]

Measurement	Instrument Category	Measurement	Instrument Category
		Precipitation	IR, PM, theremospher iononsphere
		Constituents	UV, MS
		Particulate	UV, MS
		Spectral (character-istics)	UV, MS
		Other	
		Magnetic filed	MAG

[a]Basically ocean measurement with notations for those applicable to land surface.
[b]Implied.
[c]By implication of the surface effects.
[d]by stereo viewing.

Definitions:

PM -- Passive Microwave Radar
IR -- Infrared
AM -- Active Microwave Radar
VIS -- Visible Inrared
UV -- Ultra Violet
MAG -- Magnetic Field

on the purpose, capabilities, and resolution for each type of sensor.

There are several existing or soon-to-be-launched satellites which are of special interest to those who may be involved in monitoring or managing marine sanctuaries. These satellites are LANDSAT, SEASAT-A, NIMBUS-G and TIROS-G.

Landsat Satellite Series (15): The Landsat satellites are capable of identifying aquatic vegetation such as wetlands, seaweeds, algae and bottoms topograph in depths up to 100 feet. The depth of penetration is dependent upon clear water. It is possible to use turbidity as an indicator but it sacrifices depth penetration. The satellite is able to measure erosion patterns (in units of 10 meters) associated with normal erosion or those caused by major catastrophies. There has been some work done on the use of Landsat data to locate surface dwelling fish such as the menhaden. To date it has been possible to identify presence, location, and size of schools and to identify quantity and types of algae. The resolution of Landsat is 80 meters (instantaneous). Though there are currently two Landsat satellites in orbit, Landsat I has lost the frequency band sensor which is primarily responsible for water penetration. The coverage interval will be reduced when Landsat C is launched later this year.

Seasat-A Global Ocean Monitoring Systems (16): Seasat-A is designed primarily for open ocean monitoring although recent Congressional hearings may result in a slight shift of its emphasis to coastal

zone uses. The satellite is a collection of five sensors, three active radars and two passive radiometers. The active radars include a radar altimeter used to monitor average wave heights to within .5 to 1 meter. A radar scatterometer measures the surface reflectivity of the ocean surface. This can be used to monitor wind speed and direction. A five frequency microwave radiometer measures four parameters: (1) temperature, (2) surface brightness for conversion to wind speed, (3) ice coverage and (4) atmosphere moisture content.

The visual and infrared radiometer provide clear weather information: temperature, cloud formation and direction, and coastal features (shoals, land form, etc.) The Seasat satellite is scheduled for launch in Fall 1978. The program manager is currently pursuing input into its user profiles for research objectives. (17) MSP input at such a stage in a satellite program's development might provide substantial benefits.

Ninbus-G (18): The Nimbus-G is scheduled for launch in Fall 1978. Of major interest to marine sanctuary managers is the Ocean Color Scanner whcih is the prototype of the Coastal Zone Color Scanner (CZCS). Both of these sensors are designed to evaluate the wave qualities of chlorophyll, a key indicator of plant life.

NASA is currently funding Scripps Oceangraphic Institute (SOI) to conduct studies to correlate optical (sensor) and biological (real life) statistics in natural waters. The objective of the studies is to relate up to 10 optical categories to actual variations

in various physical parameters of the ocean waters. Once signals for these categories can be established, then variation in those signals can serve to alert marine sanctuary managers to abnormalities in the sanctuary such as algae blooms.

The coverage of the Nimbus-G will vary according to the proximity of the area to the equator. A marine sanctuary near the equator would be monitored every five days while one in Maine would be scanned four out of six days.

The resolutions of the CZCS is 800 meters. Although CZCS's resolution is not as fine as Landsat's (80 meters), it is more sensitive in the frequency band common to chlorophyll.

Tiros Satellite Series (19): Although it does contain remote sensing devices, this system is of primary interest for the Marine Sanctuary Program because of its capability to communicate from unmanned instrument buoys in open ocean to the NOAA data center. The instrument buoy is designed to monitor physical parameters and transmit them to the data center for monitoring and management purposes. These could be combined with other satellite sensors to provide an acquisition over an extended period of time without using a manned vessel.

-- Summary

In his paper on Marine Parks and Reserves, Dr. Ray concluded that monitoring must be organized at the systems level. Thus, piecemeal monitoring of a single factor is not sufficient for systems with

the dynamic characteristics of the marine environment:

> The most important tool is the predicted ecological model in which data acquired for monitoring leads to its continual validation and improvement. Previous indices of diversity involving analysis of single groups such as algae or diatoms to determine health of systems are no longer ecologically acceptable as there are no proven relationships between such indicators and diversity. For example, natural successional changes and the relative youth of some ecosystems strongly influence diversity and stability. Monitoring involves long, determined endeavors such as base-line surveys, to continue collection of chemical, physical and biological data. Great care must be taken to select critical or indicator factors (i.e. those most sensitive species and/or processes which relate directly to the predicted ecological model.) (20)

Thus, insofar as applicable sanctuary goals and purposes justify, monitoring mechanisms should be developed with a goal of total system understanding. Ideally, a feedback system would be created. The ecological model predicts the data which will be required. Acquired data allows refinement of the model which, in turn, further up-dates data needs.

While the ultimate goal is an accurate model and development of the ability to predict the effect of man-induced perturbations, careful attention must be devoted to the end-of-cycle aspects of data collection. Refinement of data needs serves two purposes. First, it ensures that the data accurately reflects sanctuary conditions. Secondly, it allows deletion of requirements which are no longer valid. In an era of large-scale but undifferentiated data collection, knowing when to turn the source off can be as important as knowing how to turn it on. Periodic review of data needs will eliminate expenditures for the collection and analysis of unnecessary information.

b. Advantages and Disadvantages of Mechanisms

In order to fully evaluate the advantages and disadvantages of various types of monitoring mechanisms it would be necessary to refer to specific sanctuary characteristics and requirements. For instance, if recreational boating is the major threat to a sanctuary, then a monitoring mechanism must provide high resolution and frequent

coverage as well as direct tie-in with enforcement entities. On the other hand, if spring run-off from a nearby river adds excessive nutrients which may cause an algae bloom, then a mechanism which can detect changes in chlorophyll content during appropriate time-periods is required. Therefore, at this stage in the development of policy statements for marine sanctuaries, it is not practical to list specific advantages and disadvantages beyond general observations.

All of the surveillance monitoring mechanisms mentioned earlier have qualities which make them useful in meeting specific sanctuary needs. Advantages and disadvantages of local volunteer and traditional professional monitoring have been discussed in the relevant sections. In all likelihood, either or both of these techniques will be combined with some form(s) of remote sensing to provide the necessary monitoring and enforcement capability.

Remote sensors are also likely to play a role in any large scale Marine Sanctuary Program, particularly in the long-term. Despite the cost of such technology and its historic dedication to military purposes, this mechanism is the only one which offers continuous, wide-area, all-weather surveillance of a marine sanctuary. As previously discussed, judicious, cooperative use of remote sensing systems may result in actual cost savings.

Specific features of various sensors have been previously discussed. The OTA study concluded that:

> Of the 7 devices studied, microwave radar

appears to have the best potential for use in fisheries enforcement. High frequency over-the-horizon radar was also judged to have good potential, but it is not as highly developed for commerical application as microwave radar. Other remote sensing systems in this group appeared to have only limited fishery application at this time. (21)

Oceanographic monitoring by local volunteer groups offers reduced costs and should be utilized where sanctuary location and characteristics permit. However, lack of expertise and sophisticated equipment may hamper this usefulness where data requirements are substantial.

Professional oceanographic monitoring along traditional lines offers expertise and access to more sophisticated vessels and equipment although at higher cost. Where personnel are already engaged in enforcement and patrol functions this option may be more economically desirable.

Depending on the type of technology employed, traditional oceanographic monitoring efforts are subject to time, distance and weather constraints -- although when able to operate, they can provide greater accuracy of data. Remote sensing offers the only opportunity for system-wide data acquisition. As applied to oceanographic monitoring, remote sensing is subject to frequency of

coverage problems (a function of satellite orbit) and limitations on sensor ability to measure geophysical parameters, as well as the inherent cost factor associated with advanced technology.

As with surveillance monitoring, eventual selection of mechanisms will likely involve a mix of traditional monitoring techniques and remote sensors based on specific sanctuary requirements.

FOOTNOTES

1. Office of Technology Assessment "Establishing a 200-Mile Fisheries Zone" June 1977, p. 43.
2. Id., p. 46.
   Id., p. 51.
4. Id.
5. Id.
6. Id., p. 60.
7. Id., p. 49.
8. Id., p. 52.
9. Id.
10. Id., p. 55.
11. Id., p. 56.
12. Id., p. 57.
13. Id., p. 57.
14. G. Carleton Ray, "Critical Marine Habitats" IULN Session 2: Working Paper No. 1, p. 27.
15. Personal Conversations with Dr. Fredon, Chief Scientist for LANDSAT, NASA.
16. NASA Publication, SEASAT-A Global Ocean Monitoring Systems 1977)
17. Personal Conversation with Mr. S. WalterMcCandless, NASA SEASAT Program Manager.

18. Personal Conversation with Dr. Warren D. Hogus, Jr., Chief Scientist for NIMBUS-G.

19. Personal Conversation with Jerry Burdett, Project Manager.

20. Ray, SUPRA., p. 48.

21. OTA Study, SURPA., p. 46.

A wide variety of formal and informal mechanisms can be used to accomplish the evaluation function. These mechanisms and their usefulness in evaluating nominations are discussed in Section (a) below. The advantages and disadvantages of the evaluation mechanisms are discussed in Section (b).

a. Evaluation of Mechanisms

1. In-House Guidelines

This section explores the development, by the MSP staff, of guidelines to be used in the evaluation of sanctuary nominations. Present MSP guidelines identify certain factual information to be gathered by MSP officials. However, they do not establish a basis upon which designation related decisions are to be made.

The concept of guidelines as an evaluative device is not new. Many federal programs which, like the MSP, are based on administrative rather than legislative designation have adopted guidelines to organize and direct the decision-making process. Among others, these programs include the Estuarine Sanctuary Program, the National Wild and Scenic Rivers System Program, The National Trails System Program and The National Natural Landmarks Program.

Evaluative guidelines establish the substantive criteria against which MSP staff will measure sanctuary nominations. These criteria will be based upon the prescribed mandates of the MPRSA (i.e. the preservation or restoration, of the area's conservational, recreational, ecological, or esthetic values) (2), specific program objectives, and also, any supplementary qualifications deemed necessary by MSP admini-

strators. The degree of specificity contained in the guidelines depends, to a large extent, on how definitive the MSP staff wishes to be. Stringent guidelines, leaving little room for reasonable discretion, could lead to a more procedural checklist system where facts are fed in and a yes or no decision results. However, the guidelines need not be this specific and can be developed to leave any degree of discretion deemed appropriate.

In addition to serving as an in-house evaluation tool, the evaluation guidelines could be made available to the general public, either in a complete or abbreviated form, as guidance in the preparation of nomination documentation. (See C 3)

2. In-House Evaluation Panel

An in-house evaluation panel could be composed of staff from the administrative agency including members from the Marine Sanctuaries Program staff, the technical assistance staff, and the legal staff, as well as CZM regional coordinator(s) from region(s) in which the proposed sanctuary is located. Other NOAA Staff (such as representatives from NMFS) with specific expertise could be utilized as necessary.

The panel's primary purpose would be to evaluate proposed sanctuaries for designation. The panel could be delegated the authority either to make the final decision on a nomination or to advise the Associate Administrator of NOAA for Coastal Zone Management, who would then make the final decision whether to recommend designation.

3. Evaluation Advisory Committee (EAC)

An evaluation advisory committee provides a means of incorporat-

operation of any laws of the United States in order to detect and prevent violations of any federal laws on the high seas or waters of the United States. (1)

-- Widespread Public Dissemination of Permitted and Prohibited Activities Within the Sanctuary: Potential violations could also be minimized by ensuring widespread public notice of permitted and prohibited activities. This would not only place potential users of the sanctuary on notice of existing restrictions but could also encourage members of the public to report violations or potential violations. This could be particularly useful if such information were distributed to enterprises providing marine services, such as marinas and scuba dealers; those conducting activities in the vicinity of the sanctuary, such as commerical fishermen, oil companies, and defense agencies; as well as local entities, such as diving, boating and environmental organizations.

-- Federal Procurement Sanctions: One means of deterring potential violations of marine sanctuary restrictions would be to prohibit federal agencies from entering into contracts with violators. Similar authority presently exists concerning willful or negligent violations of the Federal Water Pollution Control Act. (2)

-- Consistency Certification: In addition to serving to help coordinate the Marine Sanctuary Program with other governmental programs (see Section B 4 and C 5, above) and ensuring that the objectives of individual sanctuaries fulfill the goals of the national program (see

Section D 4, below), the certification of consistency required in Section 302(f) of the MPRSA may be viewed as a preventative enforcement technique. This authority, in effect, forbids the issuance of any federal, state, or local authorization to conduct any activity unless the Secretary of Commerce certifies that the activity is consistent with the purposes of the particular marine sanctuary and can be carried out within applicable regulations. This provides the Department of Commerce with a valuable mechanism to prospectively ensure that all authorizations for activities taking place within designated sanctuaries will not conflict with the purposes for which the sanctuaries were established. Moreover, as was pointed out in Section C 5 and further developed below in Section D 4, the statutory language could potentially be interpreted as requiring certification of authorizations for activities outside the boundaries of the sanctuary, but which could potentially affect it. Thus, the wise use of the consistency certification could serve to diminish potential violations which compromise the integrity of designated sanctuaries.

-- OCZM Review of Authorizations Which Could Affect Marine Sanctuaries: Even if the consistency certification is not interpreted to require consistency of authorizations under existing law for activities outside of the boundaries of a sanctuary, but which could potentially affect it, OCZM could take an active role in reviewing all applications for authorizations in the vicinity of designated sanctuaries. This would afford OCZM the opportunity to express its

views regarding the compatibility of these activities with the objective of the sanctuaries and to recommend the inclusion of terms and conditions which would minimize the potential for adverse impacts. Moreover, there would be nothing to restrict OCZM's review of authorizations which could affect potential sanctuaries -- areas nominated, but not yet designated, could be considered in order to help ensure that designation would not be precluded by particular activites. Mechanisms could also be established whereby OCZM would continously provide information on designated and nominated sanctuaries and their ascribed values to agencies which regulate activities that could affect sanctuary integrity -- such as EPA and the Corps of Engineers with regard to ocean dumping; the Bureau of Land Management in the case of OCS mineral leasing; and the Nuclear Regulatory Commission concerning onshore and offshore nuclear power stations. In this manner, these agencies could be encouraged to condition their authorizations so as to protect nearby designated or potential sanctuaries.

2. Techniques to Enforce Legal Sanctions

Legal sanctions may be enforced administratively or judicially. Of course, any administratively imposed sanctions would be subject to judicial review to ensure that the violators received the due process guaranteed by the U. S. Constitution.

a. Administrative Sanctions:

-- Civil Penalties: It is possible that civil penalties in the form of damages can be imposed administratively. Indeed, the marine sanc-

tuaries legislation, Section 303(a), now provides for such penalties -- up to $50,000 per day per violation. Thus, violators can be fined for conducting prohibited activities within the sanctuary, although the maximum penalties which can be levied administratively might not be sufficient to cover restoration costs if particularly severe damage was inflicted on a sanctuary.

-- Revocation of Permits: Where permit holders have violated applicable regulations or permit conditions, or where permit activites are damging the integrity of the sanctuary, permits could be revoked through administrative action. Such action is currently authorized in the regulations governing the two existing marine sanctuaries. (4) Those regulations also authorize the suspension or amendment of permits on either a temporary or indefinite basis.

-- Compliance Orders: Where a permit has incorporated standards of performance, and these standards are being violated, one method of compelling compliance is through the issuance of a compliance order. The effect of such an order is to effectively shift the burden of proof to the permit holder to demonstrate compliance. Thus, if the matter were to be reviewed by a court, the burden would not be upon the federal government to prove that the permit conditions were violated, but rather upon the permittee to prove that its actions met terms of the order. Such compliance orders are available to EPA in enforcing the provisions of the Federal Water Pollution Control Act. (5)

b. Judicial Sanctions:

-- Civil Penalties: Under the marine sanctuaries legislation, judicially imposed civil sanctions may take at least three forms. First, the courts may compel payment of administratively assessed penalties for violation of applicable sanctuary regulations (up to $50,000 per day per fine). (6) Second, courts may conduct in rem proceedings against vessels involved in such violations. (7) And third, courts may issue injunctions to restrain violations of applicable regulations. (8) However, in addition, the judiciary is authorized to grant other "appropriate" relief. (9) Thus, it would seem to be possible to obtain restitution for violations -- that is, the courts could compel violators to pay for the costs of restoring the sanctuary to its condition before the violation occurred, in addition to other penalties.

-- Criminal Penalties: Criminal penalties, which are not available under the marine sanctuaries legislation, constitute another form of judicially imposed sanctions. Such penalties could result in the arrest and imprisonment of violators. They could serve a valuable function in the context of marine sanctuaries enforcement not only because of the deterrent effects they might have on potential violators, but also because arrest authority could be employed to enjoin ongoing violations. Under the authority conferred by the Outer Continental Shelf Lands Act (10), criminal sanctions are employed by the Bureau of Land Management regarding violations of BLM's regu-

lations for the protection of viable coral communities. (11) Similarly, the Coast Guard has the authority to make arrests, although where violators are subject only to civil penalties the Coast Guard appears to be limited to seizing the vessels used in connection with the prohibited activity. (12)

-- Citizen Suits: One mechanism to enforce judicially imposed sanctions is through the authorization of citizen suits. While the marine sanctuaries legislation does not now authorize such actions, citizen suits could provide an important means of prosecuting violations of regulations and ensuring that legislative and administrative standards are enforced.

3. Enforcement Entities

Perhaps as significant as the techniques employed to enforce sanctions are the entities which will enforce them. Since the marine sanctuaries legislation does not now specify how enforcement activities are to be carried out, there appear to be numerous options available. Indeed, the options could differ depending on the characteristics and location of each sanctuary.

a. Federal Entities:

Since the Marine Sanctuaries Program extends beyond the boundaries of state jurisdiction, federal entities must necessarily play a substantial role in enforcement.

-- Coast Guard: As previously mentioned, the Coast Guard has a major statutory role in the detection and prevention of violations of

laws on the high seas and the waters of the U. S. In effect, the Coast Guard serves as a marine enforcement agent for all federal agencies and is subject to the rules and regulations of the agencies responsible for administering particular laws. (13) The Coast Guard appears to have adequate authority and capability to both conduct surveillance activities and enforce marine sanctuary regulations since it has authority to board vessels, conduct inspections, undertake seizures, and make arrests, although the latter function seems to be limited to instances where violators are subject to criminal sanctions (see above). Its enforcement actions, however, are limited to U. S. citizens, except in the case of violations of the provisions of the Fishery Conservation and Management Act (see below). There presently exist agreements between OCZM and the Coast Guard concerning the enforcement of the regulations of the two existing marine sanctuaries.

-- National Marine Fisheries Service/Regional Fishery Management Councils: Pursuant to the Fishery Conservation and Management Act of 1976, the Secretary of Commerce, through NMFS and Regional Fishery Management Councils, has the authority (along with the Coast Guard) to enforce civil, (14) and, in some cases, criminal (15) sanctions against violators of the permit program for foreign fishing (16) and applicable fishery management plans (17) established pursuant to that Act. Although this authority extends at least to the 200 mile limit, (18) it is basically directed to regulating the "taking, catching, and harvesting of fish," and specifically excludes control over

scientific research. (19) Therefore, with respect to fishing activities if sanctuary concerns are incorporated into the developing regional fishery management plans, the enforcement authority available under this legislation could be employed to help achieve sanctuary purposes related to fish harvesting activities. Furthermore, it is possible that regulations developed to implement these plans could serve to foster other sanctuary concerns, since the regulations may include any other requirements appropriate for the "conservation and management" of fisheries (20), and since "conservation and management," as defined, embrace both fishery resources and "the marine environment." (21) Consequently, the enforcement mechanisms available under the Fisheries Conservation and Management Act may serve to compliment those available to the Marine Sanctuary Program if fishery management plans are developed to reflect marine sanctuary concerns.

-- Bureau of Land Management: BLM's existing regulations for the protection of viable coral communities include criminal sanctions against violators. (22) The regulations also allow BLM to order an immediate suspension of operations where permit terms are not being adhered to (23) or where permit terms have been altered to protect the coral communities and the permittee has failed to make the required changes in operations. (24) While the Fisheries Conservation and Management Act vests authority over "continental shelf fishery resources" with the Secretary of Commerce, at present this authority extends to only six species of coral. (25) Moreover, as

pointed out above, the Secretary's authority is basically directed to regulating the harvesting of coral -- it is not clear whether it would pertain to other activities which might adversely affect coral communities. Thus, BLM's enforcement authority, particularly its criminal sanctions, may serve as a valuable mechanism to supplement marine sanctuaries enforcement authority. It should be noted that a draft memo of understanding between BLM and OCZM was negotiated, but not signed, concerning the agencies' respective management and enforcement functions in the Key Largo Coral Reef Marine Sanctuary.

-- Defense Department Agencies: Defense agencies could assist in the enforcement of marine sanctuary provisions by providing surveillance and reporting functions in connection with crafts operating on or over marine areas. However, as pointed out by a recent General Accounting Office report (26), the Posse Comitatus Act (27) precludes military personnel from actively participating in the enforcement of civil laws, such as making investigations, pursuits, arrests, and searches. Nevertheless, the GAO report notes that the Justice Department has interpreted the Act so as not to forbid an indirect role by military personnel, such as the loan and maintenance of equipment and providing serial photographic flights, training, and advice in marine environmental surveillance. Unfortunately, the precise form of permissible assistance has not been clarified -- GAO has recommended that Congress enact legislation clarifying the assistance which DOD cna supply to civil agencies, such as those responsible for marine

sanctuaries' enforcement.

-- Other Federal Agencies: Other federal agencies, particularly those which manage terrestrial reserves, such as national parks, wildlife refuges, and forests, may be able to supply surveillance and enforcement assistance if sanctuaries are located in the area offshore from these reserves. The National Park Service, the Fish and Wildlife Service, and the Forest Service all possess authority to levy civil and criminal sanctions. (2) Agreement with these entities could enable them to assist in enforcement functions in sanctuaries.

b. State and local Entities:

-- CZM agencies: State and local coastal zone entities can assist in marine sanctuary enforcement activities in areas within the three-mile limit since under the terms of the Coastal Zone Management act state CXM plans must have authority to exert control over water uses within their coastal zones, which extend seaward to the three-mile limit. (29) Moreover, in areas beyond the three-mile limit, federal activities, authorizations, and grants which would affect the state's coastal zone are to be consistent with approved state CZM plans. (30) Thus, state and local CZM entities have substantial opportunities to assist in enforcing marine sanctuary regulations. Furthermore, while not provided for in the marine sanctuaries legislation, one means of involving the states in marine sanctuaries enforcement would be to delegate enforcement responsibilities within the state's coastal zones (i.e. within the three-mile limit) to the states. This

would require an amendment to the existing legislation.

-- Other State and Local Agencies: It is also conceivable that other state and local entities could receive enforcement authority through delegation. If, however, delegation were permitted, it would be necessary to ensure that their enforcement activities be subject to review by OCZM, such as is provided by EPA in the context of the enforcement provisions of the Federal Water Pollution Congrtol Act. (31)

c. Private Entities

Private entities could facilitate enforcement activities through conducting surveillance and reporting actions. Environmental management organizations, such as The Nature Conservancy, may fulfill this function in areas offshore of lands which they manage. Other local citizen groups may also assist in this regard. Moreover, those conducting commercial activities in the vicinity of sanctuaries, such as fishermen and oil companies, could supply valuable enforcement-related information.

d. International Agreements

The marine sanctuaries legislation contemplates agreements with other governments where sanctuaries are located beyond the three-mile territorial jurisdiction of the United States "to protect sanctuaries and promote the purposes for which they were established." (32)

Heretofore, United States efforts in the areas of conservation and management of natural resources have dealt primarily with domestic areas. As a result, management and enforcement agencies have been able

to limit their attention to United States laws and the rights of American citizens. Taking place as it does in an area historically available for the use of all, the Marine Sanctuary Program must also incorporate consideration of numerous principles of international law, particularly as sanctuary nomination and designation occurs at increasing distances from the nation's shores.

International law as it affects the Marine Sanctuary Program can be delineated with only rough accuracy as the relevant principles are in a state of considerable flux. This uncertainty both complicates and highlights the need for international cooperation and close coordination with the Department of State. (See B 3 and C 4). The following discussion is not intended to supplant State Department expertise but rather provides background material to facilitate understanding of the quasi-legal environment in which the MSP must operate.

Due to the nature of established and evolving principles of international law, United States jurisdiction in ocean waters is a matter of both geographic extent and the purpose(s) for which sovereignty is exercised. As elaborated upon below, states have historically been allowed complete sovereignty-subject to rights of innocent passage -- within their territorial seas. Limited sovereignty for specific purposes has been exercised in areas outside the territorial sea. Difficulties have arisen due to the failure of international conventions to agree on the geographic limits of these concepts. Jurisdictional questions also involve interplay between the expressed desired United

States position and currently accepted international principles.

As its name suggests, the 1958 Geneva Convention on the Territorial Sea and the Contigous Zone is directly applicable to the MSP. At the turn of the present century the three-mile limit for the territorial sea was generally accepted as a customary rule of international law. (33) Of the 73 coastal states at the Convention, at least 40, representing approximately 87% of the world's merchant tonnage, claimed no more than 1 league/3 miles. (34)

Nevertheless, a minority of states claimed that the prevailing limit had been superceded. No agreement was reached as to controlling principles or definitive limits. Thus, Article 3 of the Convention deals with the concept of territorial sea only in general terms. In its draft of Article 3, the International Law Commission recognized the lack of uniformity among coastal states, concluded that, in any case, international law did not permit an extension of the territorial sea beyond 12 miles, and recommended that limits be established by an international conference. (35)

Definite limits have not been established. However, 12 miles is the boundary which seems to enjoy present favor in interntional alw. This favor has been reinforced by a marked trend away from the 3 mile limit. As of December 1975, 30 states still specified a 3 mile limit while 56 specified 12 mile~~s~~ as the limit. (36)

Article 24 of the Convention provides that in a zone contiguous to its territorial sea, a coastal state "may exercise the control

necessary to prevent infringement of its customs, fiscal, immigration or sanitary regulations within its territory or territorial sea." The article further provides that the zone is not to extend beyond 12 miles from the baseline from which the breadth of the territorial sea is measured. The international commission considered inclusion of conservation of living resources among the purposes for which a state could act in the contiguous zone. (37) The majority of the commission rejected this purpose arguing, in part, that such measures would be of little practical value in the relatively small area of the contiguous zone. (38)

In Public Notice 358, June 1, 1972, the State Department declared that for purposes of implementation of laws and treaties, the United States defined a 3-mile territorial sea and a contiguous zone 9 miles beyond the territorial sea. This notice implemented rights in the contiguous zone granted by Article 24.

The contiguous zone, or perhaps more aptly "special contiguous zones," has substantial historic and international law support as an area in which a state may exercise limited powers to protect specific interests. Article 24 provides a general, but by no means complete, picture of traditional or potential uses of such zones. Thoughtful commentators have critized the narrowness of both the purposes and limits set forth in the article. (39)

The United States has used contiguous zones for a variety of purposes. The 1935 Anti-Smuggling Act (40) allowed establishment of customs enforcement areas up to 62 miles from the coast. President

Truman's 1945 Proclamation was the first use of a contiguous zone for conservation purposes - i.e. the protection of fisheries resources in waters adjacent to the coast. Marine pollution control authority over foreign citizens such as that established by the Ocean Dumping and Federal Water Pollution Control Acts extends to the outer 12 mile limit of the contiguous zone.

The Fisheries Conservation and Mangement Act which established a 200 mile fishery conservation zone represents the most far-reaching expansion of the use of the contiguous zone. Although intended to be limited to extending jurisdiction solely for the purpose of controlling fishing activities, the Act has wide implications for international law in coastal waters.

Section 302(g) of the MPRSA provides that sanctuary regulations will be applied in accordance with recognized principles of international law and that beyond the limits of the territorial sea such regulations will not be enforced against foreign citizens unless the application is also in accordance with such principles.

The potential impact of activity of foreign vessels should not be underestimated. Negotiation of agreements to insure protection of sanctuaries is obviously to be preferred. Designation of a substantial number of sanctuaries may occur beyond the limits of the territorial sea. If it is determined that, in the absence of, or despite such agreements, activities of foreign vessels are violating sanctuary regulations, additional measures may be required.

Form the foregoing discussion it would appear that extension of the United States jurisdiction over foreign nationals as far as the 12 mile limit of the contiguous zone for the specific purpose of sanctuary protection would be in keeping with recognized principles of international law. The Fishery Conservation and Management Act insofar as it represents an evolutionary trend in international law presents additional possibilities for protection of certain types of sanctuaries out to the 200 mile limit.

b. Advantages and Disadvantages of Various Enforcement Mechanisms

In assessing the advantages and disadvantages of the various enforcement mechanisms identified above, their potential effectiveness and comprehensiveness will be balanced against the cost of their utilization.

Preventative enforcement techniques, while essential if marine sanctuaries are to be protected in a prospective manner, also are most susceptible to increasing the costs of sanctuary management. Increased costs will likely be borne by OCZM, even if the responsibility for implementing the techniques are delegated to other entities, since OCZM will probably have to reimburse these costs to the delegated entity.

Three of the identified preventative enforcement techniques involve some sort of presence in or near the marine sanctuary: on site policing by enforcement entities; on site surveillance by other

entities; and inspectors. The first would perhaps be most effective in terms of deterring violations and would also best serve the objective of halting ongoing violations. On the other hand, costs of having enforcement officers policing the site could be quite high, especially since there are a limited number of entities with enforcement capabilities.

On site surveillance by non-enforcement agencies would also serve to deter potential violations, but would not be as effective in apprehending ongoing violations. If close communication and cooperation could be achieved with nearby enforcement entities, however, this problem could be minimized. This option could also be less costly than the first because it might not require full-time commitment of personnel. Moreover, greater flexibility exists since there would be a greater number of entities qualified to perform surveillance functions.

Inspections would necessarily accompany the first option. However, they could also serve to complement the second function, if, for example, vessels entering or passing through a marine sanctuary were subject to onshore inspections by enforcement personnel. This would not necessarily guarantee against potential violations, but it would serve to put those subject to inspections on notice of the existence of the sanctuary and of applicable regulations at less cost than on site surveillance.

Such notice could also be accomplished through widespread public dissemination of permitted and prohibited acts within the sanctuary. If members of the public involved in marine activities or providing marine-related services were encouraged to inform other members of the public of the existence of sanctuaries and applicable regulations, potential violations could be deterred. In addition, these entities could also serve to perform surveillance functions at little or no cost. While this technique could not be relied upon to supply continuous surveillance, the potential local public support it could generate should not be underestimated. Moreover, when combined with one or more of the mechanisms mentioned above, it could provide a valuable deterrent function.

Federal procurement sanctions against violators might also discourage potential violations. However, this would not serve to halt ongoing violations, And although there would be minimal cost in employing this technique, it would require legislative amendment and would probably have to be circumscribed to apply only to the most serious violators. Moreover, it would only be effective against those entities which derive income from government contracts.

The consistency certification required by Section 302(f) of the MPRSA can prospectively ensure that government authorizations issued to conduct activities within, and perhaps in the vicinity of, designated sanctuaries are consistent with the values that the sanctuary was designed to protect. If OCZM requires that conditions be attached to

authorization before it grants certification, the enforcement authority of other entities can be utilized in a manner that will protect the integrity of the sanctuary. This would involve little cost to OCZM and could substantially augment available enforcement authority.

OCZM review of authorizations which could affect marine sanctuaries could potentially achieve the same effect as the consistency certification, at least in terms of the inclusion of pertinent terms and conditions. While OCZM could not compel the inclusion of terms and conditions, as in the case of the consistency certification, nonetheless, particularly with respect to authorizations from agencies with environmental missions such as EPA and the Corps of Engineers, this technique could serve to augment enforcement authority. Memos of understanding might be developed to clarify the relationship of OCZM with agencies granting such authorizations. This mechanism might be especially valuable in providing for enforcement authority concerning authorizations outside designated sanctuaries, but which might potentially affect them, if the consistency certification is not interpreted to apply beyond the geographic parameters of the sanctuary. Furthermore, since consistency only attaches to designated sanctuaries, authorization review appears to be an expeditious means of ensuring that the values of potential (e.g. nominated) sanctuaries are protected in a manner that will not foreclose the possibility of future designation. While there may be some costs involved in terms of administrative effort, these costs appear to be small in relation to the potential

benefits this technique may offer.

Administratively enforceable sanctions have the advantage of avoiding litigation which can be costly. Civil penalties levied by the Secretary of Commerce are limited, however, to $50,000 per day per violation. In the case of particularly serious violations this may not be sufficient to cover restoration costs.

Revocation of permits may be an important mechanism where permit activities are damaging the sanctuary. Knowledge of this damage would have to be obtained through surveillance or inspection mechanisms. Although it is important to have the power of revoking or modifying permits, this will not help to ameliorate damage already inflicted. Reliance on this technique can be minimized, however, by thoroughly considering the potential impacts of permit applications.

Compliance orders are useful where permits incorporate standards of performance since they could shift the burden of proof to the permit holder. However, where there are no such standards in a permit, this mechanism is of limited utility. Moreover, it has the disadvantage of allowing activities which might inflict damage on the sanctuary to continue. If there is a question concerning the impacts of a permit activity, perhaps a more efficacious means of preventing adverse impacts would be to revoke the permit until these impacts can be determined.

Judicially imposed sanctions involve more delays and costs than administrative sanctions. However, they serve the purpose of ensuring that due process requirements are met and offer sanctions which

cannot be imposed administratively. In the civil area this is particularly true of in rem proceedings, the issuance of injunctions, and the imposition of penalties in excess of the administrative limit of $50,000 per day where necessary to cover the costs of restoration.

Criminal penalties can only be imposed judicially. Yet the authorization of such action has important administrative consequences since it would afford enforcement officials with power to make arrests and issue cease and desist orders. This would help to alleviate the necessity of going to court to obtain an injunction to halt an ongoing activity. A legislative amendment would be necessary to vest the Marine Sanctuary Program with criminal sanctions, although it is conceivable that other entities' criminal sanctions, such as BLM's with respect to the protection of coral communities, could assist in the arrest and presecution of violators through the establishment of cooperative agreements.

Citizen suits could also help to ensure the protection of marine sanctuaries. However, this technique is a relatively slow means of enforcing sanctions and would require legislative authorization. Nevertheless, it could provide another means of involving the public in sanctuaries' enforcement.

Among the most crucial aspects of enforcement are the entities responsible for carrying out enforcement duties. Among the federal entities, the Coast Guard has the statutory authority to serve as OCZM's enforcement agent. In this role, the Coast Guard would probably

be aided by the addition of criminal sanctions since it does not appear to have the authority to make arrests of sanctuary violators at present. One important question, if the Coast Guard is to serve as an OCZM enforcement arm, concerns how the costs of such enforcement are to be paid. Funds can come either from the Coast Guard or from the Department of Commerce. While the former has the advantage of keeping the Marine Sanctuary Program budget low, it may provide less assurance of continued enforcement. For example, if the Coast Guard's budget were tight in a given year, marine sanctuaries enforcement might not receive a high priority. On the other hand, if funding is provided by OCZM for Coast Guard enforcement personnel, OCZM would be in a better position to determine enforcement priorities. This line of reasoning applies not only to the Coast Guard, but to any other federal entity which might assume an enforcement role with regard to marine sanctuaries.

Certain realities regarding enforcement activities and the Coast Guard must be recognized and considered at the earliest stages of the designation process. The Coast Guard will probably be called upon to perform the majority of enforcement functions because of its existing manpower, equipment, and statutory authority. Constraints on the level and types of support which the Coast Guard can provide will have a substantial impact on achieving the goals of the Marine Sanctuary Program.

The level of surveillance/enforcement desired will necessarily be influenced by the purposes for which a sanctuary is designated. The level available will depend on costs, funding availability, and manpower and equipment constriants as reflected, for example, by the proximity of a sanctuary to Coast Guard Facilities. Thus, it would probably not be reasonable to expect constant, on-site enforcement in a sanctuary far from Coast Guard shore facilites.

In addition, it must be recognized that a higher level of protection may require not only a higher level, but also a different type of enforcement activity, thus complicating the task of enforcement. For example, apprehension of violators may require periodic aircraft surveillance with reasonable vessel response times, whereas immediate apprehension would require not only constant aircraft monitoring, but also on-site vessel capability.

Furthermore, permitted uses of sanctuaries will affect enforcement requirements. In this vein, the announced intention to allow multiple uses of sanctuaries to the extent that they are compatible with the primary purposes (42) will complicate enforcement efforts. This is not intended to denigrate multiple usage, but rather to place enforcement efforts in perspective. The Coast Guard indicated that its efforts in the U.S.S. Monitor Sanctuary would be simplified if loitering were prohibited. (43) Regulations promulgated to control activities in the Sanctuary incorporated such a prohibition. (44)

As previously discussed, implementation of the Fisheries Conservations and Management Act of 1976 (FCMA) has potential for significant impact on sanctuary enforcement efforts. In terms of lowered costs, the Marine Sanctuary Program may benefit insofar as designated sanctuaries are located in reasonable proximity to fishing areas. This benefit is potentially conditioned however, by, fiscal constraints which have dictated that at least the initial Coast Guard enforcement activities focus on active fishing areas. (45) Thus, available surveillance may be seasonal in nature. Isolated sanctuaries may be adversely affected inasmuch as Coast Guard capability will be taxed in patrolling the fishing zone. Additional capability to support such Marine Sanctuairies will simply not be available or will be provided only if OCZM is able to provide necessary funding.

Additional consideration must be given to the fact that the Coast Guard's suooort of the sanctuary program is subject to pre-emption by their duty to conduct search and rescue activities when necessary. Thus, in fiscal year 1975 the Coast Guard projected 16,657 flight hours for the Marine Environmental Protection Program. However, equipment shortages, fuel consumption, cutbacks, and diversion to search and rescue missions resulted in only 6,966 hours actually being flown.

The National Marine Fisheries Service and the Regional Fisheries Councils established pursuant to the FCMA may also assist in sanctuaries enforcement. The Fisheries Act presently provides the only enforcement authority over foreign citizens beyond the three-mile

limit of U. S. sovereign jurisdiction, except for pollution control regulations which apply to the 12-mile limit of the contiguous zone. Moreover, since the authority contained in the Act applies to the harvesting of certain species of coral, and since the fishery management plans it mandates have very broad authority, marine sanctuaries enforcement may be facilitated by ensuring that these plans recognize existing and potential sanctuaries.

While the Bureau of Land Management's authority over coral communities has been somewhat supplanted by virtue of the enactment of the Fisheries Act, it must be noted that that Act presently only applies to six coral species and is basically directed to harvesting activities. Therefore, BLM's existing regulations protecting coral communities, particularly its authority to invoke criminal sanctions, would seem to hold significant opportunities to assist in marine sanctuaries enforcement.

Although defense agencies cannot directly participate in enforcement activities because of the limitations imposed by the Posse Comitatus Act, they still may be available for surveillance and reporting functions. Other entities, however, particularly those vested with the authority to manage public lands, such as the National Park Service, the Fish and Wildlife Service, and the Forest Service, may be able to perform enforcement functions in marine sanctuaries offshore from the lands they manage. In addition, EPA's pollution control regulations, established pursuant to the Ocean Dumping and

Federal Water Pollution Control Acts, may assist in sanctuaries' enforcement. Cooperative agreements between OCZM and those agencies would be necessary in this instance. (See B 4 and C 6).

Enforcement functions might also be carried out on the state and local level. State CZM agencies might be particularly capable of performing such functions because of their responsibilities in meeting the requirements of the Coastal Zone Management Act. It is, however, unclear whether OCZM could delegate enforcement functions under the existing marine sanctuaries legislation. An opinion from the General Counsel of NOAA would serve to clarify this uncertainty. If enforcement authority were delegated to the states, OCZM would, of course, be responsible for providing additional funding to the states. In order for localities to serve an enforcement role, it may be necessary for the state to furnish enabling legislation since the regulation of marine activities out to the three-mile limit is the responsibility of the states (in conjunction with the federal government's navigational responsibilities).

Marine sanctuaries' enforcement on the state and local level within the three-mile limit could be an important element of the Marine Sanctuary Program, particularly where there exist state coastal parks and other reserves and also, in areas which would resist additional federal presence. Since sanctuary designation will require widespread local support, in such areas it may be easier to generate this support if federal enforcement activities are kept to a minimum. Nevertheless

it will be necessary to ensure that some sort of federal review of state and/or local enforcement activities is maintained in order to ensure that enforcement actions are protecting the values for which the sanctuaries were established. And, of course, beyond the three-mile limit, federal enforcement will be a necessity.

Private entities, while not participating directly in enforcement actions, could still serve to facilitate enforcement by assisting in surveillance and reporting functions. This might also prove to be an effective means of generating local support for the protection of sanctuaries and would not increase operational costs.

International agreements may be necessary to enforce sanctions against foreign citizens beyond the three-mile limit. At present, the only sanctions applicable to foreign citizens in this area are those concerning the harvesting of fish and the control of pollution out to the twelve mile limit. Other foreign activities, particularly those involving scientific research, which may affect the integrity of marine sanctuaries are presently beyond the regulatory authority of United States entities. If developments at the United Nations Conference on the Law of the Sea do not serve to clarify regulatory authority over actions of foreign citizens beyond the three-mile limit or if the United States does not unilaterally extend its jurisdiction to regulate all marine activities, international agreements will be the only source of control over foreign activities which could affect the integrity of marine sanctuaries. Unfortunately, these agreements will

have to be made with individual nations and can involve time delays. Such agreements may prove to be a necessity, however, if violations of sanctuary regulations are to be enforced comprehensively.

FOOTNOTES

1. 14 U.S.C. s. 89(a).
2. Federal Water Pollution Control Act Amendments of 1972 (FWPCA), s. 508(a), 33 U.S.C. s. 1368(a).
3. Marine Protection, Research and Sanctuaries Act (MPRSA), s. 303(a), 16 U.S.C. s. 1433(a).
4. 15 C.F.R. s. 924(6)(g) [Monitor Marine Sanctuary], s. 929.7(g) [Key Largo Coral Reef Marine Sanctuary].
5. FWPCA, s. 309(a)(1), 33 U.S.C. s. 1319(a)(1).
6. MPRSA, s. 303(b), 16 U.S.C. s. 1433(b).
7. Id., s. 303(c), 16 U.S.C. s. 1433(c).
8. Id., s. 303(d), 16 U.S.C. s. 1433(d).
9. Id.
10. Outer Continental Shelf Lands Act, s. 5(a), 43 U.S.C. s. 1334(a).
11. 43 C.F.R. s. 6224.5.
12. 14 U.S.C. s. 89(a).
13. Id. s. 89(b).
14. Fishery Conservation and Management Act (FCMA), s. 308, 16 U.S.C. s. 1858.
15. Id., s. 309, 16 U.S.C. s. 1859.
16. Id., s. 204, 16 U.S.C. s. 1824.
17. Id., s. 303, 16 U.S.C. s. 1853.
18. Id., s. 101, 16 U.S.C. s. 1811. Jurisdiction over anadromous fish

and continental fishery resources, including six species of coral can extend beyond the 200-mile fishery conservation zone (see Id., s. 102, 16 U.S.C. s. 1812).

19. Id., s. 3(10), 16 U.S.C. s. 1802(10).

20. Id., s. 303(b)(7), 16 U.S.C. s. 1853(b)(7).

21. Id., s. 3(2), 16 U.S.C. s. 1802(2).

22. 43 C.F.R. s. 6224.5.

23. Id., s. 6224.1-5.

24. Id., s. 6224.1-4.

25. The Secretary of Commerce, however, in consultation with the Secretary of State, may add additional coral and other sedentary species to the list contained in the Act.

26. Comptroller General of the United States, "If Defense and Civil Agencies Work More Closely Together, More Efficient Search/Rescue and Coastal Law Enforcement Could Follow," GAO Report #LCD-76-456 (May 26, 1977) pp. 41-52.

27. 18 U.S.C. s. 1385.

28. See 16 U.S.C. s. 668d (e) [National Wildlife Refuges]; 16 U.S.C. s. 471 [National Forest] 16 U.S.C. ss. 3, 10 [National Parks].

29. Coastal Zone Management Act (CZMA), s. 305(b)(4), 16 U.S.C. s. 1454(b)(4); s. 304(1), 16 U.S.C. s. 1453(1).

30. Id., s. 307(c) and (d), 16 U.S.C. 1456(c) and (d).

31. FWPCA, s. 309(a)(2), 33 U.S.C. s. 1319(a)(2).

32. MPRSA, s. 302(c), 16 U.S.C. S. 1432(c).

3 MECHANISMS FOR ENFORCEMENT

An integral element of any program designed to regulate marine activities is an adequate and effective enforcement system. Moreover, enforcement provides the central point from which overall program objectives and the acknowledged purposes for which the sanctuary was designated are converted into an active, viable protection initiative. In assessing the effectiveness of available enforcement mechanisms, pivotal considerations not only include their comprehensiveness, effectiveness, and the costs involved in punishing violators, but also include their capability to provide restitution for damages inflicted on the integrity of the sanctuary. Perhaps even more significant is the capability of enforcement mechanisms to discourage violations, for certainly, from both an ecological and administrative perspective, the most effective enforcement mechanisms are those which result in the fewest violations.

The types of available enforcement mechanisms considered in this analysis include, therefore, those which can discourage violations -- "preventative enforcement" -- as well as those which are more punitive -- legal sanctions, both administratively and judicially imposed. Also considered are those entities which can assume responsibility for this enforcement. After describing the available mechanisms in subsection (a), this analysis will focus on the advantages and disadvantages of each in subsection (b).

a. Types of Enforcement Mechanisms

1. Preventative Enforcement Techniques

-- On Site Policing By Enforcement Entities: The purposes for which a marine sanctuary was established could be fostered by vesting enforcement and monitoring functions in the same entity. The mere presence of those with enforcement authority in the area of a marine sanctuary would serve to discourage violations. Moreover, expeditious halting of violations would be enhanced, thus tending to ensure the preservation of the sanctuary's integrity.

-- On Site Surveillance By Other Entities: The detection of violations could also be accomplished through surveillance activities conducted by entities without legal enforcement authority. These entities would serve to discourage potential violations. With an efficient system of cooperation and communication between surveillance entities and those with enforcement authority, it would appear to be possible to halt violations before the sanctuary incurred substantial damage.

-- Inspections: If those entities with enforcement or surveillance authority also have the authority to conduct inspections, within and near the sanctuary, potential violations should be discouraged. The Coast Guard presently has statutory authority to conduct inspections, searches, and seizures of vessels subject to the jurisdiction or

dequately reflected in the design of the national program, public officials and the general public can more easily identify needed changes in direction or emphasis and in the management of individual marine sanctuaries. Consequently, one of the often asserted shortcomings of existing national resource management programs -- a divergence between actual progress and paper progress -- can, if the national program is properly designed, be avoided, and the personnel and funds available to the program can be put to their best use.

The mechanisms described in this section can also serve to meet the need for a reliable flow of information from the personnel responsible for management of individual marine sanctuaries to those persons responsible for managing the national program. Equally important is the need for a reliable flow of information from MSP staff to the individual sanctuary manager. With a truly national program now beginning to take shape, with our knowledge of the marine environment rapidly expanding, and with sound management techniques evolving, information flow will be a critical factor in fostering cost-effective management practices. Subsection (a) sets forth the mechanisms by which the management practices of the MSP staff and of the individual marine sanctuary management staff can be established and coordinated. Subsection (b) assesses the advantages and disadvantages of each mechanism.

a. Types of Mechanisms

1. Rules and Regulations

The Administrative Procedures Act (1) defines "rule" to mean:

> the whole or part of an agency statement of general or particular applicability and future effect designed to implement, interpret, or prescribe law or policy or describing the organization, procedure, or practice requirements of an agency ... (2)

In order to lawfully take certain actions, a federal agency may have to utilize a formal process for formulating, amending or repealing a rule. (3) If applicable, this can involve public notice, an opportunity for public participation, and judicial review. The formal rule-making requirements, however, have numerous exceptions that have the effect of providing federal agencies with substantial discretion to select the items for which formal rule-making is an appropriate process to reach or implement decisions.

The Administrative Procedures Act is not the sole source of law respecting the adoption of rules. Each agency's statutory authority can contain additional requirements, remain silent as to the appropriateness of rules to implement a legislative mandate, or exempt certain actions (expressly or impliedly) from compliance with the Administrative Procedures Act. (4) Title III of the Marine Protection, Research and Sanctuaries Act of 1972 does not

plicitly grant general rule-making authority to the Department of Commerce although the Act does address certain aspects of the program in which rule-making is required, including the mandate to establish rules to control "any activities permitted within the designated marine sanctuary ... ." (5) Presumably, these rules could be as specific or as general as the Department of Commerce (or its delegatee, the Administrator of NOAA), deems appropriate, so long as the rules were "necessary and reasonable." (6) It should be noted that the MPRSA contemplates the promulgation of rules "after a marine sanctuary has been designated." NOAA's current administrative interpretation, however, suggests that specific sanctuary regulations and a management program will be tablished as part of the designation process itself. (8) The implications of establishing a management program and rules for a specific sanctuary at or after the time of designation are weighed in the advantages and disadvantages section, and will be exlicitly addressed during the development of suggested program regulations in Phase III of CNA's ongoing study.

2. Guidelines

Guidelines can take many forms, but the primary function they serve is to provide the intended user with information helpful for decision-making or problem-solving. Guidelines, as opposed to rules and regulations, do not have the force of law, but serve to guide the exercise of discretion. They are most appropriate in situations

where limiting discretion through binding rules is not acceptable, but some assistance is desirable. The difference between a rule and a guideline is their legal impact on the flexibility or discretion of a decision-maker.

Guidelines can be developed on a generic or program-wide basis, such as the current Council on Environmental Quality NEPA guidelines or an EIS guidance manual used by an individual federal agency. (Guidelines are also discussed in section C 6).

3. Management Plans

A management plan is the formalized strategy through which an objective is designed and reached. A management plan serves to coordinate and integrate specific objectives with a general objective. It can foster coordinated decision-making and ensure a proper resource allocation. The ideal management plan has the flexibility to adjust to changing needs and priorities both short-term and long-term.

The essential components of a well-designed management plan include:

- a clear statement of the program's specific objectives
- mechanisms to accomplish the objectives
- a conceptual framework
- an adjustment mechanism that allows changes in program direction without the need for changes

in the conceptual framework

- a process through which management is informed of the potential need for alterations in resource commitments

Management plans may exist at varying levels of sophistication and specificity. The choice of level of detail is properly a function of the task to be performed and the needs of the manager involved. A management plan designed for a specific marine sanctuary will meet different management needs than a management plan designed to serve the national program staff. Each plan, however, must be designed to provide the other with information essential to the performance of the management function. For national resource management programs, the form of planning will encompass both coordination and management of individual sanctuaries, and management of the MSP itself, in light of the needs of higher level public officials.

Master planning, as distinguished from programmatic management planning, focuses on the specific objectives of the program. It is, in effect, an element of the overall management plan, although, it often takes a distinct form, for example, maps reflecting existing and potential uses.

4. Advisory Committees —

The potential uses and compositions of advisory committees in the pre-nomination and designation process is described in

sections B 4 and C 5. Here, we are concerned with the use of advisory committees in the post-designation phase. Such committees can reflect a variety of special interests and can be established to serve a variety of management-related needs.

On the national level, these committees may provide the MSP staff with:

(1) technical assistance;

(2) information on existing or potential problem areas;

(3) advice on current trends and needed policy changes;

(4) a forum for eliciting program-wide support from both the public and private sectors; and

(5) a sounding board for internally developed, suggested changes in the focus or direction of the program.

Advisory committees assisting the managers of individual marine sanctuaries must be designed to meet different management needs. They can:

(1) serve as a focal point for the expression of citizen viewpoints;

(2) provide a forum for discussing improved management practices reflecting the concerns and needs of the sanctuary's users and of the sanctuary itself;

(3) foster improved public relations;

(4) foster complementary planning and development

6. Symposium

Written communications among all staff within the Marine Sanctuaries Program is, of course, essential. However, in both the vertical system (administrator, manager, and staff) and the horizontal (program managers of all sanctuaries), oral communication often serves to transfer experiences and increase esprit de corps far better than written expression. Consequently, a certain percentage of resources and staff can be dedicated to ensuring that the individuals participating in program management have the opportunity to meet with their peers or those filling both supervisory and support functions.

A management symposium, for example, provides an excellent opportunity for those charged with sanctuary management responsibilities to establish professional relations with their peers as well as those responsible for national MSP management. A manager's symposium can also provide an opportunity for other persons from the public and private sectors to share information and experiences leading to improved coordination.

7. Newsletters

A newsletter can be designed to inform, among others, the national program staff, the field managers, other public officials and private citizens of local sanctuary activities, as well as the status of the overall national program. In choosing the format and content of newsletters, the intended users must be kept in

decisions which affect or may be affected by the marine sanctuary; and

(5) foster complementary monitoring and enforcement practices.

5. Budget Review

The federal budgetary process is constantly in operation. It affects and is affected by the overall management system of a program and how effectively that program operates to demonstrate resource needs and priorities. In a larger sense, the budgetary process forces federal officials to justify their proposed resource commitments and demonstrate that funds and personnel are being put to their best use. Indirectly, the budgetary process serves to control management actions in light of Presidental and Congressional perceptions of need at a particular point in time.

Coordination between the national program managers and the managers of individual sanctuaries should not only foster sound management planning, but should serve to ensure that national programmatic priorities are established based on actual needs of the individual marine sanctuaries. With the advent of "zero-based budgeting," the need to clearly establish program priorities, including the management priorities for individual sanctuaries, is clear. If properly designed, the budgetary process can assure that the management priorities are reflected in the final budget.

mind. Thus, if the newsletter is intended to serve only those directly participating in the program, the level of detail will be substantially greater than a newsletter intended to reach the general public or other public officials.

8. Staff Rotation

Staff rotation can involve either the physical rotation of staff to different sanctuaries, reassignment to new subject areas of responsibility, or both. The underlying assumption is that the effectiveness of the overall program effort is fostered by a staff well versed in the many functions performed in a program. Moreover, by shifting job responsibility, new ideas can be continually infused into the program structure. Also, all those involved in the rotation will be provided a broader base of on-hand experience in problem identification and problem solving. Staff rotations can also serve more specific functions, such as a regional/national perspective in the performance of one's responsibilities.

9. Congressional Oversight

Congressional oversight can occur in three different forums: (1) legislative hearings, (2) appropriations hearings, and (3) oversight hearings. Legislative hearings, which can only be held by a committee with legislative jurisdiction over the subject matter, precede the formation of a statutory mandate for a program and also precede any modifications to an existing statute. Authorization for funding must also be granted through legislation. All that

the authorization does is allow the later appropriation of funds. During appropriation hearings, which precede the actual allocation of funds, evidence of fiscal needs is received and evaluated by an appropriations committee. In oversight hearings, the progress of legislative programs are reviewed; also, these hearings may result in recommendations to program directors or to legislative or appropriation committees. The oversight hearings may be conducted by the same committee which conducted the legislative hearings, or it may be performed by a separate committee. Oversight hearings may be scheduled as a periodic review or they may be conducted in response to a particular problem or controversy that has arisen in the program.

10. Environmental Impact Statements

Pursuant to the National Environmental Policy Act, federal agencies must prepare environmental impact statements (EIS) for any action that significantly affects the quality of the human environment. (9) Existing NOAA guidelines require an EIS prior to designation of a marine sanctuary and for significant proposed revisions of a designated marine sanctuary. (10) The NOAA guidelines do not address, however, what uses an EIS can serve in the post-designation management phase. Moreover, the need or desirability of performing a programmatic EIS or an EIS to accompany a budget request for the program is not addressed. In addition to other coordination mandates required by NEPA, the EIS process can foster the

coordination of efforts aimed at achieving the specific objectives of the national program and of individual marine sanctuaries. When coupled with the budgetary process, the EIS process can help provide decision-makers at all levels with information on the physical world and programmatic impacts of budgetary and policy alternatives.

b. Advantages and Disadvantages of Mechanisms

Regulations for the overall program would, of course, have a binding effect upon specific sanctuary sites and their managers. Whenever a situation arose within the scope of the regulations, decision-makers at all levels would be required to handle the situation in a predetermined manner, or risk judicial action compelling adherence to the rules. Regulations can also bring certainty to the coordination process between MSP staff and those participating in management of individual sanctuaries. The degree of certainty achieved, however, is a function of how detailed the regulations are drafted in light of the scope of coverage desired. Regulations have the disadvantage of limiting the decision-makers' discretion. For example, broad, general regulations can force uniform outcomes on differing situations which would benefit from individual treatment. Depending on the applicable legal requirements governing public reaction and public participation, regulations sometimes have the disadvantage of changing slower than the conditions they are designed to control, and thus become outmoded and unduly

estrictive.

Regulations at the site-specific level will differ somewhat from the overall program regulations in their coordination of national and site-specific objectives, but they have the same general advantages and disadvantages. Unlike overall regulations for the program, the MPRSA explicitly requires that regulations be established for each sanctuary. (11) Regulations at the site-specific level should assure certainty among those who deal with a specific sanctuary. However, in the formation and modification of the regulations for a particular sanctuary, a special effort can be made to coordinate the objectives of that sanctuary with the objectives of other sanctuaries and with the objectives of the overall MSP. Such site specific regulations have the same general disadvantages as overall program regulations in that they reduce the decision-maker's flexibility and discretion, and they are subject to becoming outmoded.

Guidelines lack the binding effect of regulations, and, as a result, provide less certainty and more flexibility. Both site-specific and overall guidelines have the potential to provide greater coordination than regulations because they can be more detailed and broader in scope without seriously restricting flexibility. Ideally, the guidelines would be closely followed until unusual circumstances warrant deviation. Guidelines, however, lack certainty because decision-makers will follow them with vary-

ng degrees of exactness; some decision-makers will deviate from the guidelines more readily than others, and there will be unique outcomes whenever individual discretion is called for. Thus, the likelihood of a divergence between overall objectives and site-specific objectives is increased.

Regulations and guidelines can require or encourage coordination of overall and site-specific objectives in the sense that they could mandate active interchange of information and interaction between all groups. Moreover, regulations and guidelines could serve to assure that the specific sanctuaries were being managed consistent with other sanctuaries and with the overall MSP.

Management plans could be similar to guidelines in the flexibility they would allow and the degree of certainty they would secure. Unlike guidelines and regulations, management plans may emphasize interchange of information, up and down the organizational hierarchy, and active coordination of overall and site-specific objectives and activities -- particularly if specific and national management plans are designed together with an emphasis on coordination. These plans would allow for a clear, complete presentation of policies which would provide decision-makers with the kind of information necessary for flexible, yet consistent, decisions. Management plans could also present goals along with plans and could serve as a standard of reference for measuring actual progress. Many advantages and disadvantages are dependent on the nature of

the plan itself. Plans may be rigid and inflexible and become unworkable under changing conditions, or they may be flexible and adopt new management techniques to changing conditions and new technologies. Likewise, the management plan may be designed to include or exclude public participation.

Advisory committees could serve at least three general functions to assist in the coordination of overall and site-specific objectives: (1) they may bring more information into the decision-making process, (2) they may make specific policy and management suggestions, and (3) they would foster an overall objective to encourage public participation in the Program. Citizen committees for specific sites would be beneficial in assisting information flow up the organizational hierarchy -- either to managers of specific sanctuaries or of the overall program. An advisory committee familiar with the overall program and its objectives could help the flow of information down to specific sites. Specialist advisory committees which dealt with the same problems at various sites would benefit information flow and coordination horizontally across the hierarchy. Advisory committees would likely be sensitive to changes in program or site problems and needs, and could be one of the more flexible and rapidly adapting mechanisms. A major disadvantage to advisory committees is the difficulty in coordinating the efforts of these committees to achieve a unified rather than fragmented effect. Local site-specific citizen advisory committees might further the

citizen involvement objective, but they would likely give dissimilar advice which may result in a disjointed program. Moreover, the mere creation of advisory committees will increase the number of entities which must be coordinated to achieve a unified program, and will make that coordination effort more difficult.

Budgetary review (probably annually) would be an excellent opportunity for the managers of the overall program to review site-specific objectives and activities. This would force site managers to evaluate their programs, set their objectives, and plan their activities for the forthcoming year. Overall managers could review these requests in order to not only allocate funds, but also, to determine the status and direction of individual marine sanctuaries. This process could tend to make less open the flow of information up the organizational hierarchy. However, budgetary reviewers could also pass down objectives and priorities by forewarning which budgetary requests would be given priority. Budgetary review might thus be a mechanism whereby the overall program managers would oversee and direct the specific sanctuary objectives and activities by funding or withholding funding in an effort to coordinate the program. A disadvantage to such a process is that it fosters a competitive approach rather than a candid interaction and positive coordination. Moreover, without special mechanisms to verify on-site activities and budget requests, decision-makers, for both funding and policy, could be led over time to rely more

on written than actual progress.

Symposia involving MSP personnel from all levels would foster the exchange of information. Formal presentations, questions and answers, round table discussions, informal gatherings, and one-on-one dialogue are all part of symposia and create every opportunity for information exchange. The atmosphere and conditions surrounding symposia which result from gathering all key decision-makers into one forum foster the interchange necessary for active coordination of objectives and activities. They are well suited to transfer experience, insight, and expertise, as well as present new technology and new management techniques. Symposia, or specific presentations within a single symposium, can be centered on specific problem areas which affect many decision-makers, and which need resolution through the joint effort of all managers. Symposia, however, are limited in their effect because they only provide the opportunity for information exchange. Symposia provide no mechanism for coordination once the meeting is over. Moreover, only a limited amount of information can be assimilated in such meetings, and individual managers will use such information in different ways to meet different problems, and sometimes to foster different objectives. Symposia would seem to be best suited to present new technology, new management techniques, and emphasize consistency between site-specific and overall objectives.

Newsletters, like symposia, would function primarily as an

ormation exchange system. Newsletters have an advantage over symposia since they would be published frequently, and, therefore, present more information on a more regular and up-to-date basis. Unlike symposia, however, newsletters do not present an opportunity for the personal interaction among managers and decision-makers which is often critical to coordination. As a result, the information exchange in newsletters would probably be less meaningful and have less impact than symposia. Depending upon who organized and contributed to the newsletter, it may be subject to a one-way flow rather than an exchange of information. For example, if the newsletter was organized by personnel responsible for the overall program, it may only represent information flow from the top of the ganizational hierarchy down to site-specific personnel. However, if contributions were encouraged or accepted from all levels, the newsletter could better contribute to coordination by fostering bidirectional flow.

A significant advantage of staff rotation is that it fosters the transfer of experiences, insight, and expertise. Staff rotation is a perfectly logical process whenever there are personnel with particular abilities and qualifications, and situations in which these people could be beneficially used. For example, a manager who has been particularly effective might be transferred to a sanctuary which is plagued with difficulties. Another advantage of staff rotation is that it may help the managers of the overall

MSP detect discrepancies between paper progress and actual progress. Personnel moving into a new area are more likely to accurately report the condition of the program rather than report with a bias in an effort to cover problems or approaches that are inconsistent with national objectives. Disadvantages of staff rotation include added cost and some inefficiency which would result from the lag time necessary for transferred personnel to gain experience in their new positions.

Congressional oversight would foster cooperation among the various levels of organization in the MSP during the efforts to prepare for Congressional hearings. The scrutiny imposed by these hearings, particularly appropriation and oversight hearings, would force all levels of the MSP to produce evidence of their activities and progress. The gathering of this evidence would provide an excellent opportunity for the MSP to assess its objectives and progress from within also. Problem areas and divergent objectives may become more apparent, and thus foster problem solving and coordination. Appropriation hearings would force the establishment of priorities at both the site-specific and national level, and this would provide an excellent opportunity for managers of the overall program and policy-makers to assess the priorities of site-specific managers. Congressional oversight hearings would also have a direct benefit by giving an outside assessment of the Program and possibly providing suggestions for improvement.

Environmental impact statements would require input from MSP personnel at all levels, and the cooperation and information flow generated by this effort would promote more complete understanding among the organizational levels and would foster coordination. Depending upon the frequency of EIS submissions, however, such cooperation may not be initiated as often as would be desirable for improved coordination. Like Congressional oversight hearings, the EIS would force MSP introspection, assessment, and the establishment of priorities. The progress of the overall program would then be more obvious, and areas which need coordination may become evident. The preparation of EIS's for revisions of designated sanctuaries would force careful review of the reasons for and effect of a change, and would certainly require careful coordination between the overall managers and the site management personnel. The EIS's prepared before designation would also serve as a standard of reference for measuring actual progress against the specific objectives as envisioned at the time of the EIS preparation. This standard of reference could also serve as a guideline for site-specific managers.

FOOTNOTES

1. 5 U.S.C. sections 500-576.
2. Id.
3. Id., s. 553.
4. Other federal laws (not to mention state or local laws) or federal agencies may have requirements that would result in a need for the Marine Sanctuary Program to adopt rules; the National Environmental Policy Act is a good example.
5. 16 U.S.C. s. 1432 (f).
6. Id.
7. Id.
8. 15 C.F.R. s. 922.24.
9. NEPA s. 102 (2) (c), 42 U.S.C. s. 4332 (2) (c).
10. 15 C.F.R. s. 922.21 and 922.24
11. 16 U.S.C. s. 1432 (f).

APPENDIX II

EXISTING LAWS AND PROGRAMS RELEVANT TO MARINE SANCTUARIES PROGRAM

APPENDIX II

Existing Laws and Programs Relevant to

Marine Sanctuaries Program: Summary Chart

Act	Agency	Responsibility/Purposes
Rivers and Harbors Appropriation Act of 1889, as amended.	U. S. Army Corps of Engineers (Corps)	Issue permits before construction of bridges, dams, etc. in or over navigable waters. Issue permits before construction of wharves, dikes, etc. over navigable waters.
Submerged Lands Act and Outer Continental Shelf Lands Act (43 U.S.C. 1301-1343)	Corps	Required to issue permit before construction of structures on OCS.
	Department of Interior/Bureau of Land Management (BLM)	Responsibility for administration of OCS lands beyond territorial waters. Major function is to lease areas for oil, gas, and other

		mineral extraction. Areas can be withdrawn from leasing.
	Department of Interior/United States Geological Survey (USGS)	Administers environmental regulations and may suspend operations.
	States	Lands within three mile jurisdiction belong to States.
Marine Protection, Resources, and Sanctuaries Act of 1972 (33 U.S.C. 1401-1444, 16 U.S.C. 1432-1434)	Corps	Permit required for the transportation of dredged material to be dumped into ocean waters.
	EPA	Permit required to transport material for the purpose of ocean dumping. Does not include dredged material, regulated by Corps.

	Department of State	Under Title III, Secretary shall enter agreements and negotiations as appropriate with other Governments, to ensure protection of marine sanctuaries.
	Department of Commerce (DOC)/ NOAA/Office of Coastal Zone Management(OCZM)	Title III, establishes the Marine Sanctuaries Program. Title II authorizes Secretary of Commerce, in coordina- with administrator of EPA, to undertake a comprehensive monitoring and research program regarding effects of ocean dumping.
Federal Water Pollution Act of 1972, as amended (33 U.S.C. 1251 et seq.)	Corps	Corps regulates dredge and fill activities using EPA criteria and standards.
	EPA	Sets standards and

		criteria, and permits for point sources of pollution.
Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.)	Department of Commerce (DOC) and Department of Interior (DOI)	Provide protection for rare and endangered species (plant and animal).
Marine Mammal Protection Act of 1972 (16 U.S.C. 1531 et seq.)	Department of Commerce and Department of Interior	Provide protection for marine mammals and their ecosystems.
Fisheries Continguous Zone Act of 1966 (16 U.S.C. 1091-1994) (Superceded by FCMA of 1976)	Department of Commerce and Coast Guard	Provides exclusive U.S. jurisdiction over fishing within nine miles beyond territorial waters.
Oil Pollution Act of 1961, as amended (33 U.S.C. 1001-1016)	Department of Commerce and Coast Guard	Department of Commerce sets standards. Enforced by Coast Guard.
Fish and Game Sanctuaries Act (16 U.S.C. 694)	Department of Commerce and	Fish and Game Sanctuaries are established

	Department of Interior	in National Parks and National Forests.
Fish and Game Coordination Act, as amended (16 U.S.C. 661-666c.)	Department of Commerce (National Marine Fisheries Service (NMFS)) Department of Interior (Fish and Wildlife Service (F&WS)).	Federal agencies must consult with NMFS or F&WS, as appropriate, when proposed projects affects fish and game resources.
National Wildlife Refuge System Administration Act of 1966, as amended, (16 U.S.C. 663dd-ee.)	Administered by Secretary of Interior through the Fish and Wildlife Service	Established National Wildlife Refuge System.
Fish and Wildlife Act of 1956, as amended (16 U.S.C. 742a-754.)	DOI/F&WS and National Park Service (NPS)	Land acquisition for refuges; research and studies.
Anadromous Conservation Act of 1965, as amended.	DOI/F&WS	Conserve, Develop, and enhance anadromous fish resources.

Land and Water Conservation Fund Act of 1965 (16 U.S.C. 460e-4 to e-11)	DOI/F&WS, NPS, Bureau of Outdoor Recreation and USDA Forest Service	Funds for planning, acquisition, and development of outdoor recreation facilities.
National Park Organic Act of 1916, as amended (16 U.S.C. 1, et seq.)	DOI/National Park Service (NPS)	Created National Park System.
National Historic Preservation Act of 1966 (16 U-S.C. 461-470)	DOI/NPS	Federal matching grants to develop a plan. Sets up the National Register of Historic Places.
National Wilderness Act of 1964, as amended (16 U.S.C. 1131-1136.)	DOI/F&WS, NPS, USDA/Forest Service	Establishes Wilderness Preservation System. Areas are dedicated by Congress.
Federal Aid in Wildlife Restoration Act of 1970, as amended (16 U.S.C. 669)	DOI/States	DOI checks off on states' comprehensive fish and wildlife management plans.

Fish Restoration and Management Act of 1950, as amended (16 U.S.C. 777-777k)	DOI	Matching Federal funds to state fish and game agencies for acquisition and restoration of fish habitat.
National Estuary Protection Act of 1968 (16 U.S.C. 1221-1226)	DOI	Inventory of Estuaries, Restoration, Management.
Migratory Bird Conservation Act of 1929, as amended (16 U.S.C. 715 et seq.)	DOI	DOI recommends additions to National Wildlife Refuge System.
Lacey Act of 1948, as amended (18 U.S.C. 42-44)	DOI and Department of Transportation	Regulatory and enforcement responsibilities for violation of laws protecting wildlife.
Wild and Scenic Rivers Act of 1968 (16 U.S.C. 1271-1287)	DOI/USDA	DOI/USDA must perform feasibility studies. States may request designation.

Deep Water Ports Act of 1974 (33 U.S.C. 1501-1524)	Department of Transportation (DOI)/Coast Guard.	License required for ownership, construction, and operation of a deepwater port.
Department of Transportation Act of 1966 (40 U.S.C. 1651 et seq.)	DOT	Regulate and provide assistance for transportation activities. Protection for park, recreation, wildlife, and historic areas.
National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 et seq.)	Council on Environmental Quality (CEQ)	Requires preparation of an environmental Impact Statement (EIS) for all major Federal actions significantly affecting the quality of the human environment.
Coastal Zone Management Act of 1972, as amended (16 U.S.C. 1451-1464)	Department of Commerce/NOAA/OCZM	Administered by OCZM, authorizes Secretary of Commerce to provide grants-in-aid to coastal states to encourage establishment

		of management programs for use of land and water in coastal areas. Also established estuarine sanctuary program.
Federal Power Act (16 U.S.C. 792-823)	Federal Power Commission (FPC)	Licensing of non-Federal hydroelectric projects.
Natural Gas Act (15 U.S.C. 717(f))	FPC	Certificate of Public Convenience and Necessity to construct natural gas transmission facilities.
Water Resources Planning Act of 1965, as amended (42 U.S.C. 1962 et seq.)	Water Resources Council (WRC)	Created WRC. Composed of Secretaries of Commerce, Interior, Agriculture, Army, Health, Education and Welfare, and Chairman of FPC. Coordinates plans for development of water resources at all levels of government. Has authority

		to plan in estuarine areas.
Energy Reorganization Act (42 U.S.C. 5801-5891)	Nuclear Regulatory Commission (NRC)	Created NRC. Authority of licensing and other regulatory authority pursuant to chapters 6,7,8,9 and 10 of Atomic Energy Act of 1954, as amended.
Atomic Energy Act of 1954, as amended (42 U.S.C. 2011-2277)	NRC (formerly Atomic Energy Commission)	Permit for construction and operation of nuclear facilities. License is required to manufacture, produce use, import or export of nuclear power.
Fisheries Conservation and Management Act of 1976 (16 U.S.C. 1801)	Department of Commerce/NOAA and Regional Fishery Councils	Establishes a Fisheries Conservation Zone contiguous to the territorial sea of the U. S. and extending 200 nautical miles

from the baseline from which the sea is measured. Provides for development, implementation, administration, and enforcement of fishery management plans. Establishes 8 Fishery Management Councils. Secretary of Commerce is directed to approve or disapprove each plan.

APPENDIX III

STATES RESPONDING

TO CNA REQUEST

INTRODUCTION

As part of our Marine Sanctuaries Program study, the Center for Natural Areas has solicited the input of all of the state coastal zone management agencies regarding sanctuary-type areas within their state and their views on the Marine Sanctuary Program's further development.

Three letters were sent out to the state CZM agencies. The first letter included an abstract of the study and asked for information on sanctuary-type areas within the state. The names of other contacts with knowledge of ongoing sanctuary-type programs were also requested.

A follow-up letter of thanks (see attachment 1) was sent to the agencies responding to the first letter. This letter also described the study's progress to date. Contacts identified by these agencies were also sent a letter (see attachment 2) informing them of the study and providing them with an opportunity to comment on the Program.

Agencies not replying to our first request were reminded of their opportunity to participate in the study and also provided with an update on the study's progress. (see attachment 3)

A summary of those states responding to our request is included in the following table. The information received has been very useful and many of the ideas and responses have been incorporated into our Phase II study.

STATES RESPONDING TO CNA REQUEST

State	CZM Agency	Other Agency	Other Contact	Info. on CZM Program	Info. on Sanctuary Type-Programs	Info. on Other Contacts Within State
Alaska		Division of Mineral, and Energy Development - Department of Natural Resources		No	No	No
Florida	Bureau of Coastal Zone Planning, Division of Resource Management, Department of Natural Resources			Yes	Yes	No
Guam	Coastal Management Section, Bureau of Planing			Yes	No	No
Indiana	State Planning Services Agency			Yes	Yes	Yes
Maine	Natural Resource Planning Division, State Planing Office			No	Yes	No

State	CZM Agency	Other Agency	Other Contact	Info. on CZM Program	Sanct Type-Programs	Other tacts in Sta
Maryland	Energy and Coastal Zone Administration, Department of Natural Resources			Yes	Yes	No
New Hampshire	Office of Comprehensive Planning	Fish and Game Department		No	Yes	Yes
New Jersey	Office of Coastal Zone Management, Department of Environmental Protection			Yes	Yes	No
New York	Division of State Planning, Department of State			No	No	No
North Carolina	Department of Natural & Economic Resources	Coastal Resources Commission ---------- Museum of Natural History, Wildlife Resources Commission		Yes	Yes	Yes
Ohio	Division of Water, Department of Natural Resources			Yes	No	No

State	CZM Agency	Other Agency	Other Contact	Infor.on CZM Program	Info. on Sanctuary Type-Programs	Info. on Other Contacts Within State
Pennsylvania	Department of Environmental Resources			Yes	No	Yes
Rhode Island	Statewide Planning Program, Department of Administration			Yes	No	Yes
Virginia	Office of Commerce and Resources		Office of the General Counsel, Department of the Navy	Yes	No	No
Washington	Department of Ecology			Yes	Yes	No
Wisconsin	Office of State Planning and Energy			Yes	Yes	No

Center for Natural Areas
1525 NEW HAMPSHIRE AVENUE, N.W. WASHINGTON, D. C. 20036 (202) 265-0066

The Center for Natural Areas has completed the first phase of a four phase study of the framework of the Marine Sanctuaries Program. Phase II is now in progress.

Our previous letter to you included an abstract of the study, as well as a request for information on sanctuary-type programs within your state and potential contacts with knowledge of these and similar programs.

We would like to acknowledge receipt of information from your office and thank you for your assistance. This information will be used in the upcoming phases of the study. We do want to emphasize that if you know of additional information that could be useful to us, please send it. One indication of the potential importance of the Marine Sanctuaries Program is the persistent rumor that the President's Environmental Message will include marine sanctuaries, particularly with respect to OCS leasing.

Enclosed is a copy of the Executive Summary of the final Phase I report. Copies of the full report are expected to be availiable from the Office of Coastal Zone Management in June, 1977. Your comments on the Executive Summary, as well as any future comments on the full report, are welcomed.

Thank you again for your assistance. We will keep you up-to-date on the study's progress.

Sincerely,

John Noble
Vice-President
and
Director of Law

Encl.

THE CENTER IS A NON-PROFIT ECOLOGICAL RESEARCH CORPORATION AFFILIATED WITH THE SMITHSONIAN INSTITUTION

Center for Natural Areas
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The Center for Natural Areas has recently completed Phase I of a four phase study of the framework of the Marine Sanctuaries Program. In our initial contact with the various state coastal zone management offices, your name was mentioned as a potential source of information on sanctuary-type programs.

To get you acquainted in a general way with the study, we are enclosing an abstract describing what we are doing. Your ideas on the program's continued development and implementation, as well as first hand experience with similar programs, would be greatly appreciated.

Copies of the full report should be availiable from the Federal Office of Coastal Zone Management in June, 1977, if you would like to obtain one.

Thank you very much for your assistance and look forward to hearing from you.

Sincerely,

John Noble
Vice-President
and
Director of Law

Encl.

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The Center for Natural Areas has completed Phase I of a four phase study of the framework of the Marine Sanctuaries Program. Phase II is now in progress.

Our previous letter to you included an abstract of the study, as well as a request for information on sanctuary-type programs within your state and potential contacts with knowledge of these and similar programs.

Although we have not received any information from your office to date, we did want to keep you informed of the study's progress.

We realize that requests for information and comments place additional burdens on your office, but we feel that by soliciting information and comments, the program can be designed to be more responsive to both users and the managers. An indication of the program's potential importance is the persistent rumor that the concept of marine sanctuaries will be discussed in the President's Environmental Message, particularly with respect to OCS leasing.

Copies of the Phase I report should be availiable from the Office of Coastal Zone Management in June, 1977. Comments and responses on this report are also welcomed.

Thank you for your assistance. We will keep you up-to-date on the study's progress.

Sincerely,

John Noble
Vice-President
and
Director of Law

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33. Heinzen, The 3-Mile Limit: Preserving the Freedom of the Seas, 11 Stan. L. Rev 597, (1959).

34. Id., p. 642

35. Knight, The Law of the Sea: Cases, Documents and Readings, p. 109, 1956.

36. Id., p. 329.

37. Id., p. 109.

38. Id.

39. McDougal - Burke, The Public Order of the Oceans, p. 606-607, Yale University Press (1962).

40. 49 Stat. 517, 19 U.S.C. ss. 1701-1711.

41. 10 Fed. Reg. 12304, amended P.L. 89-658, 80 Stat. 908.

42. 15 C.F.R. 922.10.

43. Feb 6, 1975 Coast Guard Letter to Dr. Robert Kifer, Marine Sanctuary Program Co-ordinator

44. 40 Fed. Reg. 21706.

45. Office of Technology Assessment, "Establishing A 200-Mile Fisheries Zone", p. 31, (June, 1977).

46. Comptroller General Report, Note 16, supra, p. 49.

D 4 MECHANISMS FOR ENSURING THAT DESIGNATED MARINE SANCTUARIES ARE MANAGED CONSISTENT WITH THE SPECIFIC OBJECTIVES OF THE NATIONAL MARINE SANCTUARIES PROGRAM

The primary purpose of this section is to identify the mechanisms with which the public officials responsible for managing the national program and the managers of individual sanctuaries can be reasonably assured that the specific objectives of the Marine Sanctuaries Program, from both a national perspective and a site-specific perspective, are being vigorously pursued. Moreover, this section is designed to ensure that the management of the national program is carried out in a manner consistent with actual management needs and practices. Consequently, this section addresses a problem common to most national resource management programs -- how to ensure that management's needs, priorities, and practices, at both the national and site-specific level, are in harmony.

The specific objectives of the national program are not achieved by the mere designation of individual marine sanctuaries. Rather, restoration, preservation, and related objectives will be achieved only if the designated sanctuaries, in toto, are vigorously managed consistent with the specific objectives of the national program as well as the specific objectives established for an individual sanctuary. If this concern for a sound management system is

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