

MARINE PROTECTED AREAS IN NORTH CAROLINA

by
Carleigh Trappe

Date: _____

Approved:

Dr. Michael Orbach, Advisor

Dr. William H. Schlesinger, Dean

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Abstract

The current array of marine protected areas (MPAs) in the U.S. has been designated haphazardly by a variety of agencies, under the authority of different legislation. MPAs are often established without clearly defined objectives and they lack a scientific foundation. Further, many MPAs are subject to overlapping or conflicting jurisdictions and regulations, with limited management coordination. Executive Order 13158, issued in May 2000, seeks to address these issues by requiring an assessment of MPAs, which will be used to strengthen MPA management and to develop a system of MPAs. The assessment, and ultimately a list of MPAs, will be based on data compiled in the Marine Managed Area (MMA) Inventory.

The MMA Inventory was conducted in North Carolina from October 2003 – February 2004. There are 108 MMAs in North Carolina, ranging from fisheries areas to coastal reserves to national and state parks. This paper focuses on the 97 state and de facto sites that were compiled during the state inventory process. For the 97 MMAs, management authority and responsibility are split among 13 different entities. These MMAs were established for different reasons, they offer varying degrees of resource protection, they lack evaluation measures, and they frequently overlap with other MMAs.

Preliminary analysis reveals a need for improved coordination and integration. California's Marine Life Protection Act and Marine Managed Areas Improvement Act offer a model for North Carolina to draw from and suggest that North Carolina can improve MPA management by developing a master plan and a system of MPAs. For MPA management to be effective and efficient, policies must consider the following factors: minimal duplication and overlap, consistent management, clearly defined authority and responsibility, protection of representative resources & habitats, integration across the land/sea interface, and reliable funding. The inventory will be a useful source of information and a practical planning and management tool as North Carolina attempts to rationalize MPA management.

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Introduction

Marine protected areas (MPAs) are emerging as a significant conservation and management tool. The growing interest in MPAs has been accompanied by increasing concern and controversy. Many of the issues regarding MPAs exist because they have been established haphazardly, without clearly defined objectives, and they lack a scientific foundation. Further, they have been established by different legislation for different reasons and they are regulated by different agencies with often overlapping and conflicting jurisdictions. To overcome these issues, President Clinton issued Executive Order 13158 in May 2000.

To achieve the goals of the E.O., an effort is underway to inventory all of the marine managed areas (MMAs) in the U.S. The inventory will provide information about what protected areas currently exist, who has the authority to establish them, who has the responsibility to manage them, and what restrictions and protections they offer. This endeavor is the first step towards rationalizing MPA management. The ultimate goal is the establishment of a comprehensive policy framework. California is the first state to make such an attempt through the passage of the Marine Life Protection Act and Marine Managed Areas Improvement Act. These acts can serve as a model for North Carolina and other states in their efforts to rationalize MPA management.

I engaged in this project to explore the array of MPAs in North Carolina and to provide recommendations on how to improve their management. The first step was to compile an inventory of MMAs in North Carolina, which I could draw on for information regarding types of protected areas, legislation, regulations, and management. This paper will discuss the types of MMAs present in North Carolina and issues that arose with the MMA criteria when compiling the inventory. It will also present results from preliminary analysis of the inventory and their

management implications. Lastly, using California as a model, I developed a simplified classification system for North Carolina and a set of recommendations to guide MPA policy and management. Thus, this paper can serve as a reference, describing factors that North Carolina needs to consider to as it seeks to address MPA issues and rationalize management.

Marine Protected Areas Background

Under Executive Order 13158, a marine protected area (MPA) is defined as “any area of the marine environment that has been reserved by Federal, State, territorial, tribal, or local laws or regulations to provide lasting protection for part or all of the natural or cultural resources therein” (Executive Order 13158 of May 26, 2000). Although the first official MPA was established in 1925 in Alaska, support for the designation of MPAs was slow to develop (Jones, 2002). The first National Marine Sanctuary was not established until 1975, almost a century after the first terrestrial park (Bohne, 2000-2001). In spite of the slow beginning, over 1,306 MPAs exist throughout the world today, encompassing a wide array of areas, objectives, and protections (Jones, 2002).

While MPAs can provide many benefits, achieving these benefits depends on clearly defining objectives when designing MPAs. Jones (2002) identifies ten key objectives for MPAs:

- Protect rare and vulnerable habitats and species
- Conserve a representative set of habitat types
- Maintain and restore ecological functions
- Promote research and education
- Harvest refugia
- Control tourism and recreation
- Promote integrated coastal management
- Maintain aesthetic values
- Maintain traditional uses
- Cultural symbolic value of set-aside areas

Depending on the purpose of the MPA, it may have only one or many of these objectives. Sometimes MPAs have different names to distinguish between their objectives. For example, the intent of National Estuarine Research Reserves is to provide research and education opportunities while National Parks focus on recreational use. However, when discussing MPAs, one must be careful not to let semantic distinctions confuse the objectives of different MPAs (Agardy, *et. al.*, in press). Although this paper will not elaborate on the semantic issues, it is important to be aware of the interchangeable use of the terms MPAs, reserves, and sanctuaries and the fact that these areas can have very different objectives. Regardless of what the area is called, its objectives must be clearly defined to ensure that it resolves the problems that it was established to address.

The standard promotions for MPAs are their use as management and conservation tools. While these tools can compliment each other, the benefits they seek to achieve can be quite different. The fundamental benefit that stems from MPAs is the increased protection of one or more resources. Beyond such a biological or ecological benefit, MPAs may target a range of social and economic benefits depending on their objectives. Some common benefits of MPAs include enhancing non-consumptive uses, maintaining fisheries, and providing opportunities for research and education (<http://mpa.gov>). MPAs, specifically multiple-use ones, may provide a combination of benefits.

By ensuring a healthy environment (abundant fish, good water quality, etc.), MPAs can increase the attraction of an area to recreational users. Scuba divers, snorkelers, wildlife watchers, boaters, and surfers derive non-consumptive recreational benefits from MPAs (<http://mpa.gov>). Such activities in combination with a healthy environment draw tourists to an area, thus providing economic benefits to the local community. Other non-consumptive benefits

include option (knowing it is there for use in the future), bequest (ensuring it is there for future generations, and existence (simply knowing it exists) values (Rudd, *et. al.*, 2003).

The most promoted and most controversial benefit of MPAs is their ability to maintain fisheries. MPAs are used as a fishery management tool in a variety of ways, including “controlling fishing rates, protecting critical stages in the life history of fishery species, conserving genetic diversity of exploited species, reducing secondary impacts of fishing on essential fish habitat and other species, and ensuring against fisheries collapse” (<http://mpa.gov>). MPA zoning and no-take areas are two possible tools for achieving these objectives. When MPAs limit extractive uses, they can lead to increases in the size and abundance of target species (Halpern, 2003). This increase can benefit fishers if there is a spillover effect. A spillover effect occurs when there is an increase in fish abundance and fishery yield in waters outside MPA boundaries or when there is larval export from the MPA (Halpern and Warner, 2003). Although these benefits have been documented, more studies need to be completed before universally assuming that MPAs provide fisheries benefits.

Research and education benefits do not receive as much attention as other benefits, likely because they are not typically associated with any economic benefits. That is not entirely true, however, because there is potential economic benefit from protecting species that may have biomedical applications (<http://mpa.gov>). MPAs provide research benefits such as baseline measures, comparative areas, and monitoring opportunities (Rudd, *et. al.*, 2003). Improved research opportunities can lead to more informed management and possible economic benefits. In terms of educational benefits, MPAs are outdoor classrooms that offer hands on experience (<http://mpa.gov>). Through MPAs, education efforts and training can target a diversity of people, ranging from the public to specific user groups.

Although MPAs can potentially offer many benefits, they are not without costs. MPA establishment has opportunity costs in the form of lost revenue from bioprospecting, fishing, and other commercial activities (Sanchirico, *et. al.*, 2002). If an MPA prohibits or restricts the exploitation of resources, it can hinder or prevent bioprospecting efforts, resulting in the loss of potential benefits. The fishing industry may also suffer opportunity costs in terms of lost revenue from not being able to fish in an area. In addition, fisheries costs may rise after the establishment of a MPA if fishermen have to travel further to get to an area where they can fish (Sanchirico, *et. al.*, 2002). These potential costs to fisheries are often one of the biggest obstacles to overcome when establishing MPAs.

Other costs arise directly from MPA establishment and management. First, there are legal costs involved with establishing a MPA. Establishment may also include the purchase of land and facilities that are associated with the MPA (Hoagland, *et. al.*, 1995). In regards to management, staff, monitoring, enforcement, and other administrative activities require a significant source of funding. Lastly, there are costs associated with research and education (Hoagland, *et. al.*, 1995).

In the U.S., there is an array of MPAs, with varying degrees of benefits and costs. In some cases, the costs outweigh the benefits; in others, benefits are never attained. To maintain support for MPAs, it is important that they provide tangible benefits. To reap these benefits, it will be necessary to address problems with the current MPA establishment and management framework. MPA establishment is often not based on science, nor does it clearly define the purpose or objectives of the MPA. Further, many MPAs lack monitoring and evaluation measures to determine if they are meeting their objectives. Additional issues arise from overlapping jurisdictions and a lack of coordination. In response to these issues, and in an effort

to ensure that the benefits of MPAs are realized, two efforts were initiated. Executive Order 13158 is the federal response and the Marine Life Protection Act and Marine Managed Areas Improvement Act are California's response.

California's Marine Life Protection Act

California's Marine Life Protection Act (MLPA) is the first such law of its kind ever instituted in a state. When the bill passed in October 1999, it initiated a process to improve the state's marine protected areas (<http://www.dfg.ca.gov/mrd/mlpa>) (see Appendix). As is the case in many states, California's MPAs were established under different legislative mandates and agencies, for different purposes, and often lacking scientific guidelines or clearly defined objectives. In addition, there was no comprehensive plan to govern and coordinate MPA establishment and management. Because many states are in similar situations, California's MLPA can offer insight and guidance to states wishing to improve their MPA management and policy framework.

The two most important elements of the MLPA are the adoption of a Marine Life Protection Program and the development of a master plan. The goals of the Marine Life Protection program are conservation, representation, improved recreational, educational, and research opportunities, improved management, and the creation of a MPA network (CA Fish and Game Code, Sections 2850-2863). Two other specific goals deserve attention – an improved marine life reserve component and a process for establishing, modifying, or abolishing existing or new MPAs (CA Fish and Game Code, Sections 2850-2863). California defines marine life reserves as areas in which all extractive activities are prohibited (<http://www.dfg.ca.gov/mrd/mlpa>). Such no-take areas are controversial and some states may decide that this goal is not in line with the state's interests. The process component, however,

could be useful in many states. It acknowledges that some MPAs may not be necessary or they may need modification to meet their objectives. If a MPA is not contributing to the program's goals, it is not effective. Thus, this provision allows the state to invest time and money where it will be most effective.

Although the master plan development process is currently on hold due to lack of funding, it is useful to discuss the required components of the plan. The plan will cover the full extent of state waters, but it will also address issues by biogeographical region. In addition to day-to-day management recommendations, the plan will include recommendations on the extent and types of habitat that should be represented and the identification of species that are likely to benefit from MPAs and the extent of their habitat (CA Fish and Game Code, Sections 2850-2863). Other components are a recommended alternative network of MPAs and a preferred siting alternative, an analysis of the state's current MPAs, and development of a simplified classification system (CA Fish and Game Code, Sections 2850-2863). Based on these requirements, the plan development team chose a habitat-based approach for designing the MPA network. The network must include representative habitats and at least three replications of each habitat type (<http://www.dfg.ca.gov/mrd/mlpa>). This approach is especially relevant to North Carolina because of its similarity to the development of Coastal Habitat Protection Plans, which will be discussed later in this paper.

As mentioned above, the development of a classification system was one of the plan components. For California, this meant simplifying the existing 18 classifications. The new classification system became a statute in January 2002, with the passage of the Marine Managed Areas Improvement Act (<http://www.dfg.ca.gov/mrd/mlpa>) (see Appendix). All MPAs in California are now grouped according to the three following classifications: state marine reserve,

state marine park, and state marine conservation area. State marine cultural preservation area, state marine recreational management area, and state water quality protection area are additional classifications for MMAs. Unlike the MMA inventory, the CA classification system does not include game refuges, wildlife areas, and other areas that only have general (non site-specific) fishery regulations because they are not considered MPAs under the MLPA process (<http://www.dfg.ca.gov/mrd/mlpa>).

Through the various strategies put forth in the Marine Life Protection Act and Marine Managed Areas Improvement Act, California is seeking to rationalize MPA management. These acts are a response to increasing controversy about the costs and benefits of MPAs that exists as a result of fragmented MPA policy that is inconsistent and often ineffective at achieving the benefits it was established to provide. Many of the issues and concerns that prompted California to institute new state MPA policies are similar to those that led to the initiation of new federal MPA policy. Executive Order 13158 seeks to address MPA issues at the federal level. Although it does not specifically address state issues, it may provide information and strategies that will encourage other states to consider implementing policies that will improve MPA management.

MPA Executive Order 13158

President Clinton issued Executive Order 13158 on Marine Protected Areas on May 26, 2000 (see Appendix). The purpose of the order is to:

- a) strengthen the management, protection, and conservation of existing marine protected areas and establish new or expanded MPAs;
- b) develop a scientifically based, comprehensive national system of MPAs representing diverse U.S. marine ecosystems, and the Nation's natural and cultural resources; and
- c) avoid causing harm to MPAs through federally conducted, approved, or funded activities (Federal Register, Vol. 65, No. 105)

The Department of Commerce (DOC) and the Department of the Interior (DOI) are the lead agencies charged with carrying out the E.O. However, they must consult with other pertinent agencies to develop the national system of MPAs. The E.O. further mandates that agencies coordinate and share information, tools, and strategies (Federal Register, Vol. 65, No. 105). To aid in these efforts, the E.O. called for the creation of a Marine Protected Area (MPA) Center within the National Oceanic and Atmospheric Administration (NOAA). Furthermore, a Federal Advisory Committee, consisting of non-Federal scientists, resource managers, and other interested persons, was established to provide advice and guidance for developing the national system of MPAs (<http://mpa.gov>).

For the purposes of this paper, the most relevant aspect of the E.O. is the publication of a list of MPAs (E.O., section 4(d)). This list will be used when developing the national system to assess threats and gaps in level of protection, to identify user conflicts, to prioritize areas for protection, and to identify linkages among MPAs (Federal Register, Vol. 65, No. 105). The development of the list will take place in two phases. The first phase is the creation of a Marine Managed Area Inventory, which is discussed in detail in the following section. Phase II will consist of the addition of individual areas to the MPA list based on specific definitions and criteria. These efforts will provide the primary source of information for carrying out the tasks and strategies detailed in the E.O.

Marine Managed Area (MMA) Inventory

To initiate Phase I of the development of a MPA list, the DOC and DOI proposed criteria, definitions, and data fields for the Marine Managed Area (MMA) Inventory. MMA sites must meet the follow criteria to be included in the inventory:

- 1) area = must have defined geographical boundaries and be a subset of the U.S. Federal, state, or local marine environment in which it is located; excludes generic-broad based management without specific locations and areas whose boundaries change over time based on species presence
- 2) marine = must be (a) an area of ocean or coastal waters (note: coastal waters may include intertidal areas, bays or estuaries); or (b) an area of the Great Lakes or their connecting waters. The term “intertidal” is understood to mean the shore zone between the mean low water and mean high water marks. The term “estuary” includes waters having an unimpaired connection with the open sea, extending upstream to where ocean-derived salts measure less than 0.5 parts per thousand.
- 3) reserved = must be established by and currently subject to some form of Federal, state, territorial, local or tribal law or regulation; excludes privately created or maintained sites
- 4) duration = must have year-after-year protection for at least 3 months of each year; established with an expectation of, or at least the potential for, permanence; excludes areas protected by annual management specifications
- 5) protection = must have existing laws or regulations that are designed and applied to afford the site with increased protection for part or all of the natural and submerged cultural resources; excludes areas closed to avoid fishing gear conflicts and area-based regulations established solely to limit fisheries (Federal Register, Vol. 68, No. 141)

More detailed information about each of these criteria can be found in the July 23, 2003 Federal Register notice (see Appendix). For an area (site) to be included in the inventory as a MMA, it must meet all of the criteria. In addition to the identification of MMA sites, the inventory process requires the completion of an extensive database questionnaire for each site. The 34 multi-part questions cover topics such as legal authority, regulations, management programs, threats of concern to management, resource protections, and human activities allowed within the site (see Appendix).

The establishment of MMA criteria and data fields and the completion of the inventory are important steps towards fulfilling section 4(d) of the E.O. The criteria are purposefully not restrictive to allow for the creation of a more comprehensive information base (<http://mpa.gov>). Until MPA criteria are developed, the MMA inventory will serve as a source of possible MPAs.

In addition, the inventory database will inform managers about the location and characteristics of existing MMAs. The core purposes of the inventory are:

- 1) providing centralized, easily accessed information and maps on existing Federal, state, commonwealth, territorial, local, and tribal MMAs in the United States;
- 2) providing information and tools for environmental assessments and effectiveness monitoring (supporting independent analyses and studies of a wide variety of marine issues by governmental and non-governmental users);
- 3) providing important site-specific information for developing and maintaining the official nationwide List of MPAs required by section 4 (d) of E.O. 13158; and
- 4) providing information to fulfill other requirements of E.O. 13158 (Federal Register, Vol. 68, No. 141)

Ideally, the inventory will also facilitate cooperation and coordination within and across levels of government in regards to MMA planning, designation, and management.

The MMA Inventory process is being conducted through the MPA Center, with the cooperation of Federal, State, territorial, local and tribal entities. The collection process began in 2001, with a focus on federally designated sites. Subsequently, beginning in 2002, individual states and territories acquired interns to compile the information for MMAs designated at the state, territorial, and local level.

North Carolina MMAs

The North Carolina inventory process lasted from October 2003 through February 2004. Currently, 84 state sites, 13 de facto sites, and 7 federal sites in the MMA Inventory are located within North Carolina; with a proposal to include three more federal sites (see Appendix). For the purpose of this discussion, it is useful to group the sites into types, with five types of federal MMAs and ten types of state and de facto MMAs. If the fishery sites are counted separately, there are actually 16 types of state and de facto MMAs. This section will provide an overview of the types of sites, relevant legislation, and regulations associated with the sites. For maps of the sites, refer to the Appendix.

National Parks

The National Park Service, under the authority of the 1916 National Park Service Organic Act, manages two MMAs in North Carolina. Congress established Cape Hatteras National Seashore in 1937 and Cape Lookout National Seashore in 1966 (<http://www.nps.gov/>). The purpose of the parks is to “conserve natural and historic resources for public enjoyment and education, and for future generations” (Recchia, *et. al.*, 2001). To achieve these objectives, both seashores allow hunting and fishing, but federal regulations prohibit development, habitat alteration, and land-based pollution and restrict commercial activities (<http://www.nps.gov/>).

National Wildlife Refuges

Three National Wildlife Refuges (NWR) are part of the MMA Inventory: Currituck (1984), Cedar Island (1964) and Alligator River (1984). The data collection for North Carolina state sites suggests that three more refuges should be added to the inventory: Pea Island (1984), Mackay Island (1960), and Swanquarter (1932). The Department of Interior, U.S. Fish and Wildlife Service manages these sites under the authority of the 1966 National Wildlife Refuge System Administration Act for the “purpose of conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats” for the benefit of present and future generations (<http://refuges.fws.gov/>). Regulations prohibit non-renewable resource development, coastal development, and habitat and shoreline alteration, but allow fishing and hunting (Recchia, *et. al.*, 2001).

National Marine Sanctuaries

In 1975, the Secretary of Commerce designated the Monitor as the first Marine Sanctuary under the authority of the Marine Protection, Research, and Sanctuaries Act of 1972 (<http://mpa.gov>). The National Oceanic and Atmospheric Administration, within the Department of Commerce, is responsible for managing sanctuaries for the purpose of protecting areas with nationally significant “conservation, recreational, ecological, historical, scientific, educational,

cultural, archaeological, or esthetic qualities” (Recchia, *et. al.*, 2001). Many sanctuaries utilize a multiple use management strategy that allows fishing and other living marine resource extraction, but prohibits non-renewable resource development and limits marine discharging, dumping, and construction (Recchia, *et. al.*, 2001). Regulations to protect the Monitor include prohibitions on anchoring, recovery operations, diving, trawling, or other alteration of the seabed (<http://mpa.gov>).

Federal Fishery Management Areas: Flynet Closure

The National Marine Fisheries Service has the authority to designate a variety of fishery management areas under the 1976 Magnuson-Stevens Fishery Conservation and Management Act and the 1996 Sustainable Fisheries Act (<http://mpa.gov>). These areas range from closed areas to research reserves to habitat areas of particular concern. In addition, the Department of Commerce can designate critical habitat areas under the Endangered Species act and Marine Mammal Protection Act. Other fishery closures may be designated through various mechanisms, such as the Flynet Closure in North Carolina. Under the authority of the Atlantic Coastal Fisheries Cooperative Management Act, the Atlantic States Marine Fisheries Commission and the National Marine Fisheries Service established a Flynet Closure area in 1997 (<http://mpa.gov>). This area is closed to large flynet trawls to allow the weakfish stock to rebuild.

National Estuarine Research Reserves

The 1972 Coastal Zone Management Act mandated the establishment of a system of National Estuarine Research Reserves for the purpose of protecting representative ecosystems and providing educational and research opportunities (<http://mpa.gov>). The designation of reserves is a cooperative effort by the Department of Commerce and the Governor of the state whose waters the reserve is in. The North Carolina National Estuarine Research Reserve, established in 1985, consists of Currituck Banks, Rachel Carson, Masonboro Island, and Zeke’s

Island Reserves. Reserve management plans restrict commercial development and habitat alteration, but do not regulate the taking of fish and wildlife (Recchia, *et. al.*, 2001).

Coastal Reserves

Coastal Reserves are a state extension of the National Estuarine Research Reserve system. The North Carolina Coastal Zone Management Act calls for the creation of a Coastal Reserve System to acquire and manage undeveloped coastal lands and waters for the purpose of research and education (G.S. 113A-129.2). To date, the six reserves are Bald Head Woods, Buxton Woods, Kitty Hawk Woods, Permuda Island, Bird Island, and Emily and Richardson Preyer Buckridge. The North Carolina Department of Environment and Natural Resources (NC DENR) has the authority to establish coastal reserves, which are then managed through the Division of Coastal Management. In addition to research and education activities, the reserves permit recreational uses such as fishing and hunting according to the Marine Fisheries Commission and Wildlife Resources Commission rules. The reserve rules prohibit activities that would affect the natural quality of the reserves, including timber harvesting, disturbance of soil, mining, commercial or industrial uses, ditching and draining, and deposition of waste materials (15A NCAC 07O .0200).

State Parks and State Natural Areas

Like National Parks, the primary purpose of state parks is for the use and benefit of present and future generations (G.S. 113-44.8). Another aim of the state parks system is to protect representative examples of the states resources. The Department of Environment and Natural Resources has the authority to designate parks and the Division of Parks and Recreation is responsible for managing the parks. Six state parks are included in the MMA Inventory: Carolina Beach, Goose Creek, Hammocks Beach, Fort Fisher, Fort Macon, and Masonboro Island. State park regulations prohibit hunting and limit fishing and boating to certain areas,

making them slightly more restrictive than the coastal reserve regulations. Where fishing is allowed, it falls under the authority of the Marine Fisheries or Wildlife Resources Commissions. Like the coastal reserves, the park regulations prohibit development and commercial activities that would affect the natural quality of the parks (15A NCAC 12B .0201).

The Department may also establish State Natural Areas to protect areas for their scientific value, interpretation opportunities, and conservation values. Run Hill, Theodore Roosevelt, and Bald Head Island Natural Areas are included in the MMA Inventory. In addition to the state park regulations, natural area designation prohibits recreational activities, including camping, swimming, and fishing (15A NCAC 12I .0300).

Dedicated Nature Preserves

Dedicated nature preserves are part of the Natural Heritage Program, whose goal is to inventory and protect natural diversity and rare elements that are threatened by land-use and development (<http://ils.unc.edu/parkproject/nhp/index.html>). Dedication, unlike registration, requires that the private, local, or state owner transfer fee simple title or other interest in land to the State (G.S. 113A-164.6). Dedicated nature preserves are part of an already managed area, such as a state park or game land, and restrictions vary depending on the managing agency. However, there is a standard set of management principles that greatly restrict building, changes in topography, pollution, and stream and habitat alteration (15A NCAC 12H .0402). Prohibited activities include timber harvesting, disturbance of soil, mining, commercial or industrial uses, ditching and draining, and deposition of waste materials (15A NCAC 12H .0402). There are 16 dedicated nature preserves included in the MMA Inventory, which are located within state parks and natural areas, game lands, coastal reserves, and National Estuarine Research Reserves.

Game Lands

The Wildlife Resources Commission has the authority to acquire and manage game lands. The twelve game lands in the inventory were established to protect and manage habitat for hunting and other recreational uses (Owen, personal communication). While increased hunting opportunities are the primary purpose of the game lands, they do provide protection to other species and restrict activities that would negatively affect habitat. For example, removal of plants or animals is not allowed without permission (15A NCAC 10D .0102). There are also fishing and boating restrictions on waterfowl impoundments. Although mining and development are not typically allowed, there are no official game land regulations regarding such activities (Owen, personal communication).

Shipwrecks

In spite of North Carolina's extensive array of shipwrecks and submerged cultural resources, there are only two shipwreck preserves. The Secretary of the Department of Cultural Resources designated the Queen Anne's Revenge and the U.S.S. Huron as preserves to provide increased protection beyond general state laws regarding shipwrecks and underwater artifacts. The Department, the Town of Nags Head, and the Navy jointly manage the U.S.S. Huron. The regulations allow diving on the wreck, but prohibit trawling, commercial fishing, and any other activities that would affect the bottom (development, surface layment, mining, etc.) (Lawrence, personal communication). While the Queen Anne's Revenge has similar regulations, they are more restrictive because they do not allow diving in the protected area (Wilde-Ramsing, personal communication). The Department is currently working to determine a management strategy for the wreck.

Outstanding Resource Waters

The Environmental Management Commission may designate waters that have exceptional state or national recreational or ecological significance and exceptional water quality

as outstanding resource waters (ORWs). These waters require special protection to maintain existing uses (15A NCAC 02B .0101). There are thirteen ORWs in marine/coastal waters. Standard regulations restrict non-discharge permits, dredge and fill activities, land-use, and development density (15A NCAC 02B .0225). Each ORW also has varying restrictions on marina size and discharges. The Environmental Management Commission does not have authority to regulate fishing or submerged lands mining in ORWs.

Areas of Environmental Concern

The North Carolina Coastal Management Act classified coastal waters and lands within the 20 coastal counties as Areas of Environmental Concern (AECs) and established development standards for each of these areas. AECs are areas of natural importance, meaning they may be easily destroyed by erosion or flooding or they have environmental, social, economic, or aesthetic values that make them valuable to the state (CAMA Handbook for Development in Coastal North Carolina). Estuarine waters, public trust waters, coastal shorelines, and coastal wetlands are a few of the most relevant AECs. These areas are not included in the inventory because they do not meet the MMA criteria. However, there are other AEC designations that could be used to establish MMAs. These designations include coastal complex natural areas, unique coastal geologic formations, coastal areas that sustain remnant species, significant coastal historic architectural resources, and significant coastal archaeological resources (15A NCAC 07H .0500). Permuda Island, which is a significant coastal archaeological resource, is the only AEC included in the inventory. The restrictions limit any development activities that would jeopardize the cultural resources on the island, some of which may be submerged in the wetland areas (15A NCAC 07H .0509).

Fishery Areas

The Marine Fisheries Commission has the authority to establish fishery areas and regulations and the Division of Marine Fisheries has the responsibility for managing the areas and enforcing the regulations. In the case of joint waters, the Wildlife Resources Commission has shared authority and responsibility. The purpose of most of these regulations is to protect some combination of spawning areas, juvenile fish, and habitats. The exception is the sea turtle sanctuary, which is established to protect endangered sea turtles during their nesting season. Other than primary nursery areas, fishery area designations do not restrict development or submerged lands mining. The Coastal Resources Commission has the authority to regulate these activities. The regulations that apply to each area are: (15A NCAC, Chapter 3)

- 1) Primary nursery areas = use of trawl nets, long haul seines, swipe nets, dredges, and mechanical methods prohibited; no dredging, marinas, or other development allowed
- 2) Secondary nursery areas = use of trawl nets prohibited
 - Special secondary = the area may be opened by proclamation to trawling from August 16 – May 14
- 3) Sea turtle sanctuary = no commercial fishing equipment is allowed in the area from June 1 – August 31
- 4) Crab spawning sanctuaries = unlawful to set or use trawls, pots, and mechanical methods for oysters or clams or take crabs with the use of commercial fishing equipment from March 1 – August 31
- 5) Mechanical methods for oysters prohibited = unlawful to use a dredge or mechanical methods to take oysters
- 6) Trawl nets prohibited = unlawful to use trawl nets
- 7) Herring management area = unlawful to use drift gill nets with a mesh length less than three inches from January 1 – May 15
- 8) Gill net mesh restricted areas (permanent) = unlawful to use unattended gill nets with a mesh length less than five inches in a commercial fishing operation
 - seasonal = only applies from May 1 – October 31

De Facto Sites

De facto sites are areas that are not established for the purpose of conservation, but provide conservation benefits by prohibiting or restricting access or activities (<http://mpa.gov>). Two types of de facto sites are included in the MMA Inventory, shellfish harvesting prohibited areas and military areas.

Shellfish Harvesting Prohibited Areas

The Marine Fisheries Commission designates areas closed to shellfish harvesting based on the recommendations of the Shellfish Sanitation Section of the Division of Environmental Health (Fowler, personal communication). The areas are closed strictly for the purpose of protecting human health. However, by prohibiting harvesting, these areas conserve shellfish and their larvae may help seed other areas. This designation does not restrict any other activities within the areas.

Military Areas

Twelve military areas are found along the coast of North Carolina. While the purpose of these areas is to protect the public's safety or to provide government security, they can offer conservation benefits by limiting access or activities. Five areas prohibit anyone from entering those areas and thus all activities are illegal. The restricted areas may prohibit activities that would affect the bottom if there are unexploded objects present (33 CFR 334.2 b). Danger zones typically allow navigation and other activities when bombing, rocket firing, and target practice activities are not in progress (33 CFR 334.2 a). For some of these areas, regulations regarding fishing and other activities are unclear. The NC Division of Marine Fisheries suggests that people simply avoid these areas (Street, personal communication).

As illustrated in this section, the diversity of MMAs in North Carolina is extensive. They vary in purpose and regulations and range in size and location (see Appendix). In addition, they fall under the jurisdictions of different agencies with different authority and responsibility (see Appendix). The development of a simplified classification system, which will be discussed later in the paper, can help to reduce some of the complexity and confusion resulting from such a large array of MMAs. While it is important to note the existence of federal MMAs and their role in the North Carolina MPA framework, they will not be included in the remainder of this paper.

Data for the federal sites was collected during a separate inventory effort and the information is not yet available. Thus, the remainder of this paper will focus on state and de facto MMAs.

Inventory Criteria Considerations

The inventory criteria provide a standard for determining whether or not a site is a MMA, regardless of who is compiling the information, in order to ensure consistency. Although the MMA criteria are designed to prevent confusion, some factors remain open to interpretation. Depending on how one interprets the criteria, the inventory may contain more or less sites. This section will point out why some sites were or were not included, and it will highlight some remaining issues with the North Carolina inventory.

The first point is that the military and shellfish harvesting prohibited sites are de facto MMAs. As discussed in the previous section, the purpose of these sites is not increased protection, which is required by criterion 5 (see page 10). However, by restricting access and harvesting, these sites can provide conservation benefits to some resources (<http://mpa.gov>). While it is important to note the existence of such areas, they will likely not be included in the final MPA list. Game lands also come under scrutiny by criterion 5 for a similar reason. Depending on one's point of view, one could argue that the purpose of game lands is only to provide increased hunting opportunities. Following this interpretation, game lands would be considered de facto areas. However, the other argument, which was used to compile the inventory, is that the purpose of game lands is to protect and manage habitat for hunting and other recreational benefits. In this case, game lands do meet criterion 5 because they provide increased protection to habitats.

Criterion 5 is also relevant for its provision that regulations must provide increased protection beyond any general protections such as state laws that apply to all waters or resources

regardless of where they are located. This issue affects the inclusion of submerged cultural resources and fishing regulations. There are over 800 submerged cultural resources in North Carolina, which are all protected under the Salvage of Abandoned Shipwrecks and Other Underwater Archaeological Sites state law (G.S. 121-22). However, only two shipwrecks (Queen Anne's Revenge and the U.S.S. Huron) have additional protections beyond this law and therefore they are the only ones included in the inventory. Similarly, there are numerous statewide fishing regulations, such as gill net mesh restrictions, that exist for the purpose of conservation. If these regulations were included, the MMA would be the entire extent of state waters. Criterion 5 seeks to prevent this situation. Criterion 1 also addresses this issue, stating the area must be a subset of the federal or state marine environment in which it is located (see page 10).

A third issue arises from the extensive wetland coverage in North Carolina. Criterion 2 categorizes intertidal areas with salinities as low as 0.5 ppt as marine areas (see page 10). Based on this definition, many of the wetland areas in North Carolina are included in the MMA inventory. Forty-six MMA sites (47%) are wetlands that are imbedded in a larger terrestrial protected area. It is important to note that the terrestrial component is not part of the MMA. The issue that arises is whether or not there should be a minimum wetland size or percent cover for a site to be included in the inventory. For example, 22% of the sites are wetland areas that make up less than 10% of a larger terrestrial protected area. Or, in other terms, 28% of the terrestrial sites have less than 50 acres of wetlands and 40% have less than 100 acres of wetlands. This criterion will need further attention as the inventory process continues.

Lastly, criterion 3 addresses issues such as private lands and proclamations (see page 10). By stating that the area must be reserved by Federal, state, or local law, it excludes privately

owned and managed sites. Not including private areas reduces the number and extent of MMAs, thus skewing the full extent of existing protections and restrictions. However, private areas are subject to a variety of factors that could jeopardize their permanency and what is protected now may not be protected in the future. Although the criterion originally excluded privately managed lands, two privately managed areas (The Nature Conservancy's Nags Head Woods Preserve and Currituck Outer Banks Preserve) are part of the North Carolina inventory. This decision was made because the lands have been dedicated to the state (as dedicated nature preserves) and the state is simply allowing the private interest to continue to manage the land as long as it is in the state's best interest.

Proclamations are fishery regulations that are issued as needed, on a year-to-year basis, by the Fisheries Director. Thus, they are not included in the inventory because they do not have any legal or regulatory standing, nor is there an expectation of permanence. While it is clear that proclamation regulations should not be included in the inventory, it is important to note that the exemption could include some significant area restrictions that would otherwise be MMAs. For example, for the past four years the Fisheries Director has issued a proclamation that restricts gill net mesh sizes in Pamlico Sound from September through December to protect endangered sea turtles (Street, personal communication). In the future, this proclamation could become an official regulation, making it an MMA. Therefore, it could be useful to document similar proclamations in the event that they do become law and meet the MMA criteria.

Although it is important to note the issues with the inventory and its limitations, its value as a source of information should not be discounted. The inventory criteria were designed with the intent of allowing for the collection of a comprehensive information base. At this stage, the critical factor is not whether or not a site meets the criteria. Rather, it is more important that the

inventory provide insight about what types of areas exist and how they could be incorporated into a network of MPAs. One strategy that may contribute to this understanding and help to address some of the issues with the MMA criteria is the development of a simplified classification system.

MPA Classification System

While California's classification system offers guidance to other states, it is not a one size fits all model. A classification system in North Carolina could be a useful tool, but it must be tailored to fit the state's existing framework and needs. For example, there are no marine reserves (no-take areas) in North Carolina. The lack of such areas could mean that there is a gap in the state's MPA framework; or, it could mean that other mechanisms are sufficient to provide protection to the state's resources. There are potential mechanisms for North Carolina to establish marine reserves through the state park or coastal reserve systems in the future. However, because of the controversy surrounding marine reserves, the state may decide it is best to exclude this classification until such areas become established.

California's state marine cultural preservation area classification brings up another interesting point. By the state's definition, this classification includes any designated area that prohibits the taking of cultural marine resources and limits structures that would conflict with the preservation of the resources (<http://www.dfg.ca.gov/mrd/mlpa>). Permuda Island Area of Environmental Concern is the only site with this classification that is included in the MMA Inventory. The 800+ submerged cultural resources in North Carolina have no special area designation, but they do meet the rest of the definition criteria. Therefore, although these resources are not included in the MMA Inventory, they could potentially fall under California's state marine cultural preservation area classification.

In California, state water quality protection areas are designated to protect natural, unique or significant resources from undesirable alterations in water quality. While North Carolina's outstanding resource waters are designated for similar reasons, they offer different protections than those described by California's classification. California's state water quality protection areas only regulate point source waste and thermal discharges

(<http://www.dfg.ca.gov/mrd/mlpa>). In contrast, outstanding resource water designation is associated with restrictions on dredge and fill activities and land development as well as pollution prevention. Therefore, while the state water quality protection areas classification is applicable, the description would need to be modified for use in North Carolina.

According to California's state marine park definition, such areas are designated for spiritual, scientific, educational, and recreational opportunities as well as for increased protection of natural or cultural resources (<http://www.dfg.ca.gov/mrd/mlpa>). Under these regulations, it is unlawful to harm or take any resource for commercial exploitation purposes. Research, monitoring, public recreation (including recreational harvest, unless otherwise restricted), and other activities are allowed as long as they are consistent with resource protection (<http://www.dfg.ca.gov/mrd/mlpa>). In North Carolina, this classification applies to coastal reserves, state parks and natural areas, dedicated nature preserves, the Queen Anne's Revenge, and the U.S.S. Huron. These areas range in the degree of protection they offer: some prohibit hunting, some restrict or prohibit recreational fishing, and the Queen Anne's Revenge even prohibits diving. In spite of this variation, they all fall under the general state park classification.

In North Carolina, the state marine conservation area category consists entirely of fishery management areas. Some of the purposes of marine conservation areas are to provide for sustainable living marine resource harvest, to protect threatened or endangered species, and to

protect imperiled species, habitats, or communities (<http://www.dfg.ca.gov/mrd/mlpa>). This designation allows for a variety of activities and restrictions focus on protecting the species, community, or habitat of interest. Nursery areas, crab spawning sanctuaries, a sea turtle sanctuary, and gear restricted areas exist in North Carolina for various conservation purposes. Although each area has a different focus and degree of protection, they all fall under the marine conservation area classification.

North Carolina's game lands present an interesting dilemma. As mentioned earlier, California did not include game lands in their classification system. However, they are included in the North Carolina MMA Inventory and therefore they deserve consideration. Based on California's classification system, the state marine recreational management area classification is most appropriate for game lands. These areas provide, limit, or restrict recreational opportunities while preserving basic resource values (<http://www.dfg.ca.gov/mrd/mlpa>). Activities that would compromise the recreational value are restricted, but the areas do not regulate other uses. In North Carolina, game lands exist for hunting, fishing, and other recreational opportunities, while also preserving habitats and natural communities.

Before adopting such a classification system, North Carolina needs to clearly define the term "marine." According to the MMA criteria, "marine" encompasses a wide array of areas that many people would not consider marine, such as strictly intertidal wetlands with no subtidal component. Because these areas are part of the MMA inventory, they should be included in the classification system. However, it may be useful to distinguish such areas from areas that have an open-water or subtidal component. One option is to create an "associated terrestrial area" classification to supplement any of the basic classifications. Associated terrestrial areas could be defined as areas that are part of a larger terrestrial protected area. Any MMAs that are less than

10% of a larger protected area could receive this supplemental classification. For example, a game land MMA that covers only 5% of the full game land area would be classified as a marine recreational management area with a supplemental associated terrestrial area classification.

Lastly, although California does not include a de facto category, it can be useful to note such sites. As mentioned earlier, the purpose of de facto sites is not conservation, but they can provide conservation benefits by prohibiting or restricting activities. Whether or not this category should be a formal part of the inventory is one for the state to decide. Depending on the state's objectives, it may be best to exclude de facto sites, to include them as their own category, or to make them a supplemental classification such as associated terrestrial areas. If de facto areas are a separate category, the classification system would distribute MMA sites in North Carolina as follows:

- State Water Quality Protection Areas = 13 sites
- State Marine Parks = 33 sites
 - Associated Terrestrial Area = 11 sites
- State Marine Conservation Areas = 25 sites
- State Marine Recreational Management Area = 12 sites
 - Associated Terrestrial Area = 7 sites
- State Marine Cultural Area = 1 site
 - Associated Terrestrial Area = 1 site
 - * Note = depending on the classification definition, this category could include all of the submerged cultural resources (~800)
- De facto Areas (Military and Shellfish) = 13 sites
 - Associated Terrestrial Area = 2 sites

Such a classification system could provide a simplified framework for discussing and evaluating the variety of MMAs in North Carolina.

Inventory Analysis

Analysis of the MMA inventory suggests that North Carolina should seek to rationalize MPA management to ensure that MPAs provide conservation benefits at the least possible cost.

In this endeavor, North Carolina can draw from the Executive Order and California's acts and establish similar policies in order to facilitate the development of a master plan and a system of MPAs. This section highlights some of the issues that need to be addressed.

Before proceeding, it is important to stress that the NC MMA Inventory is in its draft format and thus subject to change. All of the data and results presented in this paper should be considered approximations rather than hard facts. The following analysis is based only on state MMAs (84 sites), and does not include federal or de facto MMAs. The inventory reveals two general facts about the amount of wetlands and waters contained within MMAs in North Carolina. 38% of North Carolina's brackish and salt water wetlands and ~60% of state waters are within MMAs (see Appendix). It is important to note that these numbers do not address the degree to which state waters and wetlands are protected. Whether these figures are too much or too little is a matter for managers and policy makers to decide.

Management Programs

Although the inventory data is under review, it reveals some preliminary information about MMA management. Of the fifteen management programs, the eight most commonly used are education, research, monitoring, enforcement, restoration, permitting, public use management, and natural resource damage authority. MMA sites utilize habitat management and volunteer programs slightly less often than the previously listed programs. The least common programs are water quality management, emergency operations, on-site staff, advisory committee, and visitor's center.

While this information provides general insight about the programs being used to manage MMAs in North Carolina, it is difficult to make any recommendations in regards to how adequate these programs are. For example, the necessary number and/or type of management programs depend on the purpose of the site. However, this analysis does reveal some points for

consideration. As marine managed areas, water quality should be an important component of management, but it is one the least frequently used programs. Volunteers programs are also not common, but they are important because volunteers can provide services (such as monitoring or clean up) that can free up money and time for other management activities. Thus, more MMAs should consider implementing water quality management and volunteer programs.

Evaluation Measures

Four types of sites have management measures in place to determine if the site is effective at meeting its management objectives. Game lands, state parks, and outstanding resource waters monitor environmental indicators. In addition, state parks carry out user surveys, outstanding resource waters have performance measures for water quality, and game lands have performance measures for habitat quality, increased hunting opportunities, increased public access, and increased user days. The coastal reserves rely on performance measures for increased acreage and increased research, education, and outreach activities. These four types of sites account for 48% of the total number of sites.

Thus, the majority of sites (52%) lack any measures to determine management effectiveness. Effectiveness measures are important because they give site managers the ability to evaluate whether the money and time that is invested in managing an area is achieving the intended results. Sites that lack such measures may not be meeting their purpose or fulfilling their management objectives. Therefore, the 44 sites that lack effectiveness measures should consider establishing evaluation procedures.

Regulations

The inventory data reveals some interesting facts in regards to regulations and resource protections. None of the 84 state MMAs prohibit all human activities. However, there are five de facto military sites that prohibit all human activities. Because these are military sites, their

primary purpose is to protect public safety or government property rather than to provide conservation benefits. Almost half of the sites (48%) restrict fishing in some way, such as restrictions on commercial fishing, gear type, and fishing activities that affect the bottom. Hunting is prohibited in 17% of the sites. Many of the MMAs also regulate development activities. 57% of the sites restrict or prohibit building within the sites and mining, ditching, and draining are illegal in 39% of the sites. As mentioned above, coastal reserves, state parks and natural areas, and dedicated nature preserves (37% of sites) prohibit activities that would affect the natural quality of the reserves, including timber harvesting, disturbance of soil, mining, commercial or industrial uses, ditching and draining, and deposition of waste material. Depending on the purpose of the MMAs and the state's goals, it may be necessary to adjust the regulations to provide more or less protection within the sites.

Overlapping Jurisdictions

Another important fact that can be drawn from the inventory is that 88% of sites overlap with another site. This means that different components within an area may be managed by different agencies under a variety of regulations. The result is a higher probability of conflicting regulations and increased confusion. Overlap is also a concern because different management entities are investing time and money to manage the same area when they could pool their resources.

Currently, state MMA management authority and responsibility are split among 11 different entities. Four entities have designation and rule-making authority, five entities have management and enforcement responsibility, and two entities have both authority and responsibility (see Appendix). With the inclusion of de facto areas, there is an additional entity with management responsibility and an entity with both authority and responsibility. The Rachel Carson Estuarine Reserve Dedicated Nature Preserve further illustrates the issue of overlap. This

MMA overlaps with four other MMAs: Rachel Carson National Estuarine Research Reserve, Back Sound Outstanding Resource Water, Back Sound Mechanical Harvesting of Oysters Prohibited Area, and de facto Shellfish Prohibited Areas. Authority and responsibility are split among nine different entities, four with rule-making authority and five with management responsibility. This example illustrates a common situation in which MPAs are established by different legislation for different reasons and they are subject to overlapping regulations. It also demonstrates the need for coordinated management of MMAs to ensure that one agency's regulations do not jeopardize the objectives of another agency.

As North Carolina attempts to rationalize MPA management, there are a number of factors that need to be considered in addition to the ones discussed above. The first three are drawn from this section and include minimal duplication and overlap of MPAs, consistent management across MPAs, and clearly defined authority and responsibility. It is also important to clearly define the objectives of MPAs and have evaluation measures to ensure that the MPAs are meeting those objectives. California's master plan suggests the need for representation of resources (and habitats) and replication of those resources. Representation and replication allow for meaningful research and evaluation (<http://www.dfg.ca.gov/mrd/mlpa>). As previously discussed, a simplified classification system may also help rationalize MPA management. Another issue that arises in regards to California is the importance of funding in carrying out these activities. Before North Carolina pursues any policy initiatives, it needs to ensure that a permanent, consistent source of funding will be available. The final component of a system of MPAs is integration across the land/sea interface. While California does not specifically address this need, it is especially important in North Carolina because of its extensive estuarine areas and inland farming and forestry activities that can affect coastal and marine waters. Although the

factors discussed in this section are extensive, they must be incorporated into MPA policy to ensure that management is effective and efficient and benefits are achieved.

Inventory Applications and Conclusions

Although there is currently no specific initiative to rationalize MPA management in North Carolina, two related efforts to improve coordination and integration are underway. The development of Coastal Habitat Protection Plans and the One North Carolina Naturally initiative encourage integration among state agencies, among governmental and private sectors, and across the land/sea interface. Some of the issues discussed in the previous section, specifically habitat representation and integration across the land/sea interface, are apparent in these efforts. The MMA inventory will be a useful source of information for these efforts, and they in turn can contribute to improving MPA management.

One North Carolina Naturally, drafted in April 2003, seeks to establish a conservation plan for the state's land and water resources that takes a holistic and coordinated approach to management (<http://www.ehnr.state.nc.us/officeofconservation>). The first step in implementing this initiative is synchronization of existing local conservation efforts, both governmental and private, and development of regional plans (<http://www.ehnr.state.nc.us/officeofconservation>). This process involves creating maps of existing protected areas and future focus areas. Thus, the MMA inventory can serve as a resource for identifying existing coastal and marine protected areas. It can also aid in the efforts to identify future sites or areas of concern.

Coastal Habitat Protection Plans (CHPPs) are unique to North Carolina and they offer many potential benefits to coordination and integration efforts. Under the 1997 Fisheries Reform Act, the Environmental Management Commission, Coastal Resources Commission, and Marine Fisheries Commission must cooperate to develop plans to protect and restore fisheries habitats

<http://www.ncfisheries.net/habitat/index.html>). Like California's MPA master plan, the CHPPs take a habitat-based approach, which calls for the protection of representative habitat types. The MMA Inventory can be used to determine what types of habitat are protected in MMAs, how much of the habitats are protected, and to what degree they are protected. The inventory also illustrates where the commissions may have overlapping rules or where there may be regulatory gaps. Lastly, when developing the plans and management options, it is important to consider MMAs as one tool for protecting and restoring fish habitats.

In addition to these efforts, the MMA Inventory can be a significant management, planning, and policy instrument for coastal resources in North Carolina, including but not limited to MPAs. The MPA Center suggests that the inventory can provide strong analytical assistance to resource managers, stakeholders, and academics, provide a consistent accessible and searchable information base, promote a better understanding of the distribution, condition, and effectiveness of MPAs, and it can aid in natural and cultural resource management decisions (<http://mpa.gov>). In addition, the inventory can be a useful education, communication, and coordination tool. For example, by posting the inventory on the web, it can increase public awareness of MPAs and encourage discussion among stakeholders.

The inventory can also be used as an analysis and evaluation tool. North Carolina may wish to assess threats and gaps in levels of protection afforded by existing MMAs. Another aspect of this assessment is evaluating whether or not MMAs are meeting their objectives. Further, the inventory could be used to prioritize resources and/or areas that need additional protection and to identify emerging threats and user conflicts. Lastly, the inventory could serve as the basis for performing an integrated assessment of ecological linkages among MMAs.

Currently, MMA information is fragmented among managing agencies and often one agency does not know what areas another agency is regulating or how the areas are regulated. By providing a consolidated source of information, the inventory will allow agencies to find out such information with ease. Ideally, agencies will gain a better understanding of the MMA management framework and be able to identify where coordination would be beneficial. Since the inventory encompasses state and federal sites, it can facilitate information exchange among all levels of government. It can also provide a means for coastal planning and MMA designation between states or at a regional level.

With the inventory complete, North Carolina has a foundation to build on as it attempts to rationalize MPA management. The inventory has many applications as a management and planning tool, but its usefulness is a factor of how much people use it. Thus, to get the most benefits from the inventory and from MPAs, North Carolina needs to establish comprehensive MPA policy that will facilitate efforts to improve management, coordination, and integration. One policy option is the development of a system of MPAs, which California's MLPA and the Executive Order suggest as a means of rationalizing MPA management. Another possible component of MPA policy is the creation of a master plan to guide MPA efforts and provide a goal that the state can work towards achieving. Ultimately, North Carolina must seek to improve MPA management effectiveness and efficiency if it expects to reap the benefits of MPAs at the least possible costs.

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Appendix

California's Marine Life Protection Act
CALIFORNIA FISH AND GAME CODE
SECTION 2850-2863

2850. This chapter shall be known and may be cited as the Marine Life Protection Act.

2851. The Legislature finds and declares all of the following: (a) California's marine protected areas (MPAs) were established on a piecemeal basis rather than according to a coherent plan and sound scientific guidelines. Many of these MPAs lack clearly defined purposes, effective management measures and enforcement. As a result, the array of MPAs creates the illusion of protection while falling far short of its potential to protect and conserve living marine life and habitat.

(b) California's extraordinary marine biological diversity is a vital asset to the state and nation. The diversity of species and ecosystems found in the state's ocean waters is important to public health and well-being, ecological health, and ocean-dependent industry.

(c) Coastal development, water pollution, and other human activities threaten the health of marine habitat and the biological diversity found in California's ocean waters. New technologies and demands have encouraged the expansion of fishing and other activities to formerly inaccessible marine areas that once recharged nearby fisheries. As a result, ecosystems throughout the state's ocean waters are being altered, often at a rapid rate.

(d) Fish and other sea life are a sustainable resource, and fishing is an important community asset. MPAs and sound fishery management are complementary components of a comprehensive effort to sustain marine habitats and fisheries.

(e) Understanding of the impacts of human activities and the processes required to sustain the abundance and diversity of marine life is limited. The designation of certain areas as sea life reserves can help expand our knowledge by providing baseline information and improving our understanding of ecosystems where minimal disturbance occurs.

(f) Marine life reserves are an essential element of an MPA system because they protect habitat and ecosystems, conserve biological diversity, provide a sanctuary for fish and other sea life, enhance recreational and educational opportunities, provide a reference point against which scientists can measure changes elsewhere in the marine environment, and may help rebuild depleted fisheries.

(g) Despite the demonstrated value of marine life reserves, only 14 of the 220,000 square miles of combined state and federal ocean water off California, or six-thousandths of 1 percent, are set aside as genuine no take areas.

(h) For all of the above reasons, it is necessary to modify the existing collection of MPAs to ensure that they are designed and managed according to clear, conservation-based goals and guidelines that take full advantage of the multiple benefits that can be derived from the establishment of marine life reserves.

2852. The following definitions govern the construction of this chapter:

(a) "Adaptive management," with regard to marine protected areas, means a management policy that seeks to improve management of biological resources, particularly in areas of scientific uncertainty, by viewing program actions as tools for learning. Actions shall be designed so that, even if they fail, they will provide useful information for future actions, and monitoring and evaluation shall be emphasized so that the interaction of different

elements within marine systems may be better understood.

(b) "Biogeographical regions" refers to the following oceanic or near shore areas, seaward from the mean high tide line or the mouth of coastal rivers, with distinctive biological characteristics, unless the master plan team establishes an alternative set of boundaries:

- (1) The area extending south from Point Conception.
- (2) The area between Point Conception and Point Arena.
- (3) The area extending north from Point Arena.

(c) "Marine protected area" (MPA) means a named, discrete geographic marine or estuarine area seaward of the mean high tide line or the mouth of a coastal river, including any area of intertidal or subtidal terrain, together with its overlying water and associated flora and fauna that has been designated by law, administrative action, or voter initiative to protect or conserve marine life and habitat. An MPA includes marine life reserves and other areas that allow for specified commercial and recreational activities, including fishing for certain species but not others, fishing with certain practices but not others, and kelp harvesting, provided that these activities are consistent with the objectives of the area and the goals and guidelines of this chapter. MPAs are primarily intended to protect or conserve marine life and habitat, and are therefore a subset of marine managed areas (MMAs), which are broader groups of named, discrete geographic areas along the coast that protect, conserve, or otherwise manage a variety of resources and uses, including living marine resources, cultural and historical resources, and recreational opportunities.

(d) "Marine life reserve," for the purposes of this chapter, means a marine protected area in which all extractive activities, including the taking of marine species, and, at the discretion of the commission and within the authority of the commission, other activities that upset the natural ecological functions of the area, are prohibited. While, to the extent feasible, the area shall be open to the public for managed enjoyment and study, the area shall be maintained to the extent practicable in an undisturbed and unpolluted state.

2853. (a) The Legislature finds and declares that there is a need to reexamine and redesign California's MPA system to increase its coherence and its effectiveness at protecting the state's marine life, habitat, and ecosystems.

(b) To improve the design and management of that system, the commission, pursuant to Section 2859, shall adopt a Marine Life Protection Program, which shall have all of the following goals:

- (1) To protect the natural diversity and abundance of marine life, and the structure, function, and integrity of marine ecosystems.
- (2) To help sustain, conserve, and protect marine life populations, including those of economic value, and rebuild those that are depleted.
- (3) To improve recreational, educational, and study opportunities provided by marine ecosystems that are subject to minimal human disturbance, and to manage these uses in a manner consistent with protecting biodiversity.
- (4) To protect marine natural heritage, including protection of representative and unique marine life habitats in California waters for their intrinsic value.
- (5) To ensure that California's MPAs have clearly defined objectives, effective management measures, and adequate enforcement, and are based on sound scientific guidelines.
- (6) To ensure that the state's MPAs are designed and managed, to the extent possible, as a network.

(c) The program may include areas with various levels of protection, and shall include all of the following elements:

(1) An improved marine life reserve component consistent with the guidelines in subdivision (c) of Section 2857.

(2) Specific identified objectives, and management and enforcement measures, for all MPAs in the system.

(3) Provisions for monitoring, research, and evaluation at selected sites to facilitate adaptive management of MPAs and ensure that the system meets the goals stated in this chapter.

(4) Provisions for educating the public about MPAs, and for administering and enforcing MPAs in a manner that encourages public participation.

(5) A process for the establishment, modification, or abolishment of existing MPAs or new MPAs established pursuant to this program, that involves interested parties, consistent with paragraph (7) of subdivision (b) of Section 7050, and that facilitates the designation of MPAs consistent with the master plan adopted pursuant to Section 2855.

2854. Notwithstanding Section 7550.5 of the Government Code, the State Interagency Marine Managed Areas Workgroup established by the Resources Agency shall submit its final report to the Legislature and the commission by January 15, 2000. The workgroup shall, after appropriate consultation with members of the public, determine future actions for implementing the recommendations of its final report.

2855. (a) The commission shall adopt a master plan that guides the adoption and implementation of the Marine Life Protection Program adopted pursuant to Section 2853 and decisions regarding the siting of new MPAs and major modifications of existing MPAs. The plan shall be based on the best readily available science.

(b) (1) The department shall prepare, or by contract shall cause to be prepared, a master plan in accordance with this subdivision. In order to take full advantage of scientific expertise on MPAs, the department shall convene a master plan team to advise and assist in the preparation of the master plan, or hire a contractor with relevant expertise to assist in convening such a team.

(2) The team members convened pursuant to this subdivision shall have expertise in marine life protection and shall be knowledgeable about the use of protected areas as a marine ecosystem management tool. The members shall also be familiar with underwater ecosystems found in California waters, with the biology and habitat requirements of major species groups in the state's marine waters, and with water quality and related issues.

(3) The team shall be composed of the following individuals:

(A) Staff from the department, the Department of Parks and Recreation, and the State Water Resources Control Board, to be designated by each of those departments.

(B) Five to seven members who shall be scientists, one of whom may have expertise in the economics and culture of California coastal communities.

(C) One member, appointed from a list prepared by Sea Grant marine advisers, who shall have direct expertise with ocean habitat and sea life in California marine waters.

(4) The master plan shall be prepared with the advice, assistance, and involvement of participants in the various fisheries and their representatives, marine conservationists, marine scientists, and other interested persons. In preparing the master plan, the department shall confer, to the extent feasible, with the commission, the Pacific Fishery Management Council, the National Marine Fisheries Service, the United States Navy, the United States Geological

Survey's national biological survey, staff from national marine sanctuaries off California, Sea Grant researchers, marine advisers, and national parks personnel.

(5) The department may engage other experts to contribute to the master plan, including scientists, geographic information system (GIS) experts, and commercial and recreational fishermen, divers, and other individuals knowledgeable about the state's underwater ecosystems, the history of fishing effort or MPA management, or other relevant subjects.

(c) The department and team, in carrying out this chapter, shall take into account relevant information from local communities, and shall solicit comments and advice for the master plan from interested parties on issues including, but not necessarily limited to, each of the following:

(1) Practical information on the marine environment and the relevant history of fishing and other resources use, areas where fishing is currently prohibited, and water pollution in the state's coastal waters.

(2) Socioeconomic and environmental impacts of various alternatives.

(3) Design of monitoring and evaluation activities.

(4) Methods to encourage public participation in the stewardship of the state's MPAs.

2856. (a) (1) The department and team shall use the best readily available scientific information in preparing the master plan adopted pursuant to Section 2855, and shall organize the location-specific contents, where feasible, by biogeographical region. In preparing the plan, the department and team shall use and build upon the findings of the Sea Grant survey of protected areas in California waters, which is entitled "California's Marine Protected Areas," the report of the State Interagency Marine Managed Areas Workgroup, the Department of Parks and Recreation's planning information and documents regarding existing and potential underwater parks and reserves, maps and other information from the department's marine nearshore ecosystem mapping project, and other relevant planning and scientific materials.

(2) The master plan shall include all of the following components:

(A) Recommendations for the extent and types of habitat that should be represented in the MPA system and in marine life reserves. Habitat types described on maps shall include, to the extent possible using existing information, rocky reefs, intertidal zones, sandy or soft ocean bottoms, underwater pinnacles, sea mounts, kelp forests, submarine canyons, and seagrass beds.

(B) An identification of select species or groups of species likely to benefit from MPAs, and the extent of their marine habitat, with special attention to marine breeding and spawning grounds, and available information on oceanographic features, such as current patterns, upwelling zones, and other factors that significantly affect the distribution of those fish or shellfish and their larvae.

(C) Recommendations to augment or modify the guidelines in subdivision (c) of Section 2857, if necessary to ensure that the guidelines reflect the most up-to-date science, including, for example, recommendations regarding the minimum size of individual marine life reserves needed to accomplish the various goals set forth in Section 2853.

(D) Recommended alternative networks of MPAs, including marine life reserves in each biogeographical region that are capable of achieving the goals in Section 2853 and designed according to the guidelines in subdivision (c) of Section 2857.

(E) A simplified classification system, which shall be consistent with the goals of Section 2853 and the guidelines in subdivision (c) of Section 2857, and which may include protections for specific habitats or species, if no system that meets these specifications has already been developed.

(F) Recommendations for a preferred siting alternative for a network of MPAs that is consistent with the goals in Section 2853 and the guidelines in subdivision (c) of Section 2857.

(G) An analysis of the state's current MPAs, based on the preferred siting alternative, and recommendations as to whether any specific MPAs should be consolidated, expanded, abolished, reclassified, or managed differently so that, taken as a group, the MPAs best achieve the goals of Section 2853 and conform to the guidelines in subdivision (c) of Section 2857.

(H) Recommendations for monitoring, research, and evaluation in selected areas of the preferred alternative, including existing and long-established MPAs, to assist in adaptive management of the MPA network, taking into account existing and planned research and evaluation efforts.

(I) Recommendations for management and enforcement measures for the preferred alternative that apply systemwide or to specific types of sites and that would achieve the goals of this chapter.

(J) Recommendations for improving the effectiveness of enforcement practices, including, to the extent practicable, the increased use of advanced technology surveillance systems.

(K) Recommendations for funding sources to ensure all MPA management activities are carried out and the Marine Life Protection Program is implemented.

(b) The team shall, as necessary, identify and define additional appropriate components of the master plan as soon as possible after enactment of this section.

2857. (a) On or before July 1, 2001, the department shall convene, in each biogeographical region and to the extent practicable near major working harbors, siting workshops, composed of interested parties, to review the alternatives for MPA networks and to provide advice on a preferred siting alternative. The department and team shall develop a preferred siting alternative that incorporates information and views provided by people who live in the area and other interested parties, including economic information, to the extent possible while maintaining consistency with the goals of Section 2853 and guidelines in subdivision (c) of this section.

(b) The preferred alternative may include MPAs that will achieve either or both of the following objectives:

(1) Protection of habitat by prohibiting potentially damaging fishing practices or other activities that upset the natural ecological functions of the area.

(2) Enhancement of a particular species or group of species, by prohibiting or restricting fishing for that species or group within the MPA boundary.

(c) The preferred siting alternative shall include MPA networks with an improved marine life reserve component, and shall be designed according to each of the following guidelines:

(1) Each MPA shall have identified goals and objectives. Individual MPAs may serve varied primary purposes while collectively achieving the overall goals and guidelines of this chapter.

(2) Marine life reserves in each bioregion shall encompass a representative variety of marine habitat types and communities, across a range of depths and environmental conditions.

(3) Similar types of marine habitats and communities shall be replicated, to the extent possible, in more than one marine life reserve in each biogeographical region.

(4) Marine life reserves shall be designed, to the extent practicable, to ensure that activities that upset the natural ecological functions of the area are avoided.

(5) The MPA network and individual MPAs shall be of adequate size, number, type of protection, and location to ensure that each MPA meets its objectives and that the network as a whole meets the goals and guidelines of this chapter.

(d) The department and team, in developing the preferred siting alternative, shall take into account the existence and location of commercial kelp beds.

(e) The department and team may provide recommendations for phasing in the new MPAs in the preferred siting alternative.

2858. The department shall establish a process for external peer review of the scientific basis for the master plan prepared pursuant to Section 2855. The peer review process may be based, to the extent practicable, on the peer review process described in Section 7062.

2859. (a) On or before January 1, 2005, the department shall submit to the commission a draft of the master plan prepared pursuant to this chapter.

(b) On or before April 1, 2005, after public review, not less than three public meetings, and appropriate modifications of the draft plan, the department shall submit a proposed final master plan to the commission. On or before December 1, 2005, the commission shall adopt a final master plan and a Marine Life Protection Program with regulations based on the plan and shall implement the program, to the extent funds are available. The commission's adoption of the plan and a program based on the plan shall not trigger an additional review under the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code).

(c) The commission shall hold at least two public hearings on the master plan and the Marine Life Protection Program prior to adopting the plan and program. The commission may adopt the plan and the program immediately following the second public hearing or at any duly noticed subsequent meeting.

(d) Upon the commission's adoption of the program, the commission shall submit the master plan and program description, including marine life reserve and other MPA designations, to the Joint Committee on Fisheries and Aquaculture for review and comment. Upon receipt of the plan, the joint committee shall have 60 days to review the plan and to submit written recommendations to the commission regarding the plan and program. The joint committee shall only submit a recommendation to the commission if a majority of the members agree to that recommendation. The commission shall consider all recommendations submitted by the joint committee, and may amend the program to incorporate the recommendations. If the commission does not incorporate any recommendations submitted by the joint committee, the commission shall set forth, in writing, its reasons for not incorporating that recommendation.

2860. (a) The commission may regulate commercial and recreational fishing and any other taking of marine species in MPAs.

(b) Notwithstanding any other provision of this code, the taking of a marine species in a marine life reserve is prohibited for any purpose, including recreational and commercial fishing, except that the commission may authorize the taking of a marine species for scientific purposes, consistent with the purposes of this chapter, under a scientific collecting permit issued by the department.

2861. (a) The commission shall, annually until the master plan is adopted and thereafter at least every three years, receive, consider, and promptly act upon petitions from any interested party, to add, delete, or modify MPAs, favoring those petitions that are compatible with the goals and guidelines of this chapter.

(b) Prior to the adoption of a new MPA or the modification of an existing MPA that would make inoperative a statute, the commission shall provide a copy of the proposed MPA to the Legislature for review by the Joint Committee on Fisheries and Aquaculture or, if there is no such committee, to the appropriate policy committee in each house of the Legislature.

(c) Nothing in this chapter restricts any existing authority of the department or the commission to make changes to improve the management or design of existing MPAs or designate new MPAs prior to the completion of the master plan. The commission may abbreviate the master plan process to account for equivalent activities that have taken place before enactment of this chapter, providing that those activities are consistent with this chapter.

2862. The department, in evaluating proposed projects with potential adverse impacts on marine life and habitat in MPAs, shall highlight those impacts in its analysis and comments related to the project and shall recommend measures to avoid or fully mitigate any impacts that are inconsistent with the goals and guidelines of this chapter or the objectives of the MPA.

2863. The department shall confer as necessary with the United States Navy regarding issues related to its activities.

California's Marine Managed Areas Improvement Act

BILL NUMBER: AB 2800 CHAPTERED
BILL TEXT

CHAPTER 385
FILED WITH SECRETARY OF STATE SEPTEMBER 11, 2000
APPROVED BY GOVERNOR SEPTEMBER 8, 2000
PASSED THE SENATE AUGUST 25, 2000
PASSED THE ASSEMBLY AUGUST 25, 2000
AMENDED IN SENATE AUGUST 7, 2000
AMENDED IN ASSEMBLY APRIL 24, 2000

INTRODUCED BY Assembly Member Shelley

FEBRUARY 28, 2000

An act to amend Sections 1525, 1528, 1580, 2852, 8610.14, 10503, and 10711 of, and to add Article 5 (commencing with Section 1590) to Chapter 5 of Division 2 of, the Fish and Game Code, and to amend Sections 5001.65, 5003.1, 5019.50, 5019.53, 5019.56, 5019.59, 5019.62, 5019.65, 5019.71, and 5019.74 of, to add Sections 538, 5001.4, and 5019.80 to, and to add Chapter 7 (commencing with Section 36600) to Division 27 of, the Public Resources Code, relating to marine resources, and making an appropriation therefor.

LEGISLATIVE COUNSEL'S DIGEST

AB 2800, Shelley. Marine Managed Areas Improvement Act.

(1) Existing law declares it is the state policy to assess the long-term values and benefits of the conservation and development of ocean resources and uses with the objective of restoring or maintaining the health of the ocean ecosystem and ensuring the proper management of renewable and nonrenewable resources. This bill would establish the Marine Managed Areas Improvement Act, which, among other things, would prescribe 6 classifications for designating managed areas in the marine and estuarine environments to ensure the long-term ecological viability and biological productivity of marine ecosystems and to preserve cultural resources in the coastal sea. The bill would make certain conduct within those areas unlawful, thereby imposing a state-mandated local program by creating new crimes. The bill would require the Secretary of the Resources Agency to establish and chair a State Interagency Coordinating Committee, with representatives from state entities with jurisdiction or management interests over marine managed areas. The bill would require the committee to review proposals for new or amended marine managed areas. The bill also would require the secretary to establish a scientific review panel, with statewide representation. The bill would require the panel to evaluate the proposals for technical and scientific validity. The bill would authorize the State Park and Recreation Commission, the Department of Parks and Recreation, the State Water Resources Control Board, the Fish and Game Commission, and the Department of Fish and Game to take certain actions and would impose certain duties on those entities in connection

with the designation and management of certain managed areas. The bill would make related and conforming changes.

(2) Existing law continuously appropriates money in the Fish and Game Preservation Fund to the Fish and Game Commission and the Department of Fish and Game to carry out laws for the protection and preservation of birds, mammals, reptiles, and fish and for the expenses of the commission. By authorizing and requiring the commission and the department to perform new duties, the bill would make an appropriation.

(3) The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement. This bill would provide that no reimbursement is required by this act for a specified reason.

Appropriation: yes.

THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:

SECTION 1. Section 1525 of the Fish and Game Code is amended to read:

1525. For the purposes of propagating, feeding and protecting birds, mammals, and fish, and establishing wildlife management areas or public shooting grounds the department, with the approval of the commission, may do all of the following:

(a) Accept, on behalf of the state, donations of birds, mammals, and fish, and of money given or appropriated. Those donations shall be used for the purposes for which they are accepted, and, as nearly as may be, for any purpose indicated by the donor.

(b) Acquire, by purchase, lease, rental or otherwise, and occupy, develop, maintain, use and administer, land, or land and nonmarine water, or land and nonmarine water rights, suitable for state game farms, wildlife management areas, or public shooting grounds.

SEC. 2. Section 1528 of the Fish and Game Code is amended to read:

1528. Lands, or lands and water, acquired for public shooting grounds, state marine (estuarine) recreational management areas, or wildlife management areas shall be operated on a nonprofit basis by the department. Multiple recreational use of wildlife management areas is desirable and that use shall be encouraged by the commission. Except for hunting and fishing purposes, only minimum facilities to permit other forms of multiple recreational use, such as camping, picnicking, boating, or swimming, shall be provided. Except as provided in Section 1765, and to defray the costs associated with multiple use, the commission may determine and fix the amount of, and the department shall collect, fees for any use privileges. However, tours by organized youth and school groups are exempt from the payment of those fees. Only persons holding valid hunting licenses may apply for or obtain shooting permits for public shooting grounds, state marine (estuarine) recreational management areas, or wildlife management areas.

SEC. 3. Section 1580 of the Fish and Game Code is amended to read:

1580. The Legislature hereby declares that the policy of the state is to protect threatened or endangered native plants, wildlife, or aquatic organisms or specialized habitat types, both terrestrial and nonmarine aquatic, or large heterogeneous natural gene pools for the future use of mankind through the establishment of ecological reserves. For the purpose of establishing those ecological reserves, the department, with the approval of the commission, may obtain, accept on behalf of the state, acquire, or control, by purchase, lease, easement, gift, rental, memorandum of

understanding, or otherwise, and occupy, develop, maintain, use, and administer land, or land and nonmarine water, or land and nonmarine water rights, suitable for the purpose of establishing ecological reserves. Any property obtained, accepted, acquired, or controlled by the department pursuant to this article may be designated by the commission as an ecological reserve. The commission may adopt regulations for the occupation, utilization, operation, protection, enhancement, maintenance, and administration of ecological reserves. The ecological reserves shall not be classified as wildlife management areas pursuant to Section 1504 and shall be exempt from Section 1504.

SEC. 4. Article 5 (commencing with Section 1590) is added to Chapter 5 of Division 2 of the Fish and Game Code, to read:

Article 5. Classification of Marine Managed Areas with Harvest Restrictions

1590. The commission may designate, delete, or modify state marine (estuarine) recreational management areas established by the commission for hunting purposes, state marine (estuarine) reserves, and state marine (estuarine) conservation areas, as delineated in subdivision (a) of Section 36725 of the Public Resources Code. The commission shall consult with, and secure concurrence from, the State Park and Recreation Commission prior to modifying or deleting marine (estuarine) reserves and marine (estuarine) conservation areas designated by the State Park and Recreation Commission. The commission shall not delete or modify state marine (estuarine) recreational management areas designated by the State Park and Recreation Commission.

1591. (a) The Marine Managed Areas Improvement Act (Chapter 7 (commencing with Section 36600) of Division 27 of the Public Resources Code) establishes a uniform classification system for state marine managed areas and is incorporated herein by reference. Any proposals for marine protected areas made after January 1, 2002, shall follow the guidelines set forth in that act. Pursuant to Section 36750 of the Public Resources Code, all marine protected areas in existence and not reclassified in accordance with the Marine Life Protection Act (Chapter 10.5 (commencing with Section 2850) of Division 3) on January 1, 2002, shall be reclassified by the State Interagency Coordinating Committee established pursuant to Section 36800 of the Public Resources Code into one of the following classifications:

- (1) State marine (estuarine) reserve.
- (2) State marine (estuarine) park.
- (3) State marine (estuarine) conservation area.

(b) State marine (estuarine) recreational management areas established by the commission for hunting purposes, state marine (estuarine) reserves, and state marine (estuarine) conservation areas shall be designated, deleted, or modified by the commission pursuant to that act. The restrictions and allowable uses applicable to those areas are as set forth in that act.

SEC. 5. Section 2852 of the Fish and Game Code is amended to read:

2852. The following definitions govern the construction of this chapter:

(a) "Adaptive management," with regard to marine protected areas, means a management policy that seeks to improve management of biological resources, particularly in areas of scientific uncertainty, by viewing program actions as tools for learning. Actions shall be designed so that, even if they fail, they will provide useful information for future actions, and

monitoring and evaluation shall be emphasized so that the interaction of different elements within marine systems may be better understood.

(b) "Biogeographical regions" refers to the following oceanic or near shore areas, seaward from the mean high tide line or the mouth of coastal rivers, with distinctive biological characteristics, unless the master plan team establishes an alternative set of boundaries:

- (1) The area extending south from Point Conception.
- (2) The area between Point Conception and Point Arena.
- (3) The area extending north from Point Arena.

(c) "Marine protected area" (MPA) means a named, discrete geographic marine or estuarine area seaward of the mean high tide line or the mouth of a coastal river, including any area of intertidal or subtidal terrain, together with its overlying water and associated flora and fauna that has been designated by law, administrative action, or voter initiative to protect or conserve marine life and habitat. An MPA includes marine life reserves and other areas that allow for specified commercial and recreational activities, including fishing for certain species but not others, fishing with certain practices but not others, and kelp harvesting, provided that these activities are consistent with the objectives of the area and the goals and guidelines of this chapter. MPAs are primarily intended to protect or conserve marine life and habitat, and are therefore a subset of marine managed areas (MMAs), which are broader groups of named, discrete geographic areas along the coast that protect, conserve, or otherwise manage a variety of resources and uses, including living marine resources, cultural and historical resources, and recreational opportunities.

(d) "Marine life reserve," for the purposes of this chapter, means a marine protected area in which all extractive activities, including the taking of marine species, and, at the discretion of the commission and within the authority of the commission, other activities that upset the natural ecological functions of the area, are prohibited. While, to the extent feasible, the area shall be open to the public for managed enjoyment and study, the area shall be maintained to the extent practicable in an undisturbed and unpolluted state.

SEC. 6. Section 8610.14 of the Fish and Game Code is amended to read:

8610.14. (a) Prior to January 1, 1994, the commission shall establish four new ecological reserves in ocean waters along the mainland coast. Each ecological reserve shall have a surface area of at least two square miles. The commission shall restrict the use of these ecological reserves to scientific research relating to the management and enhancement of marine resources, including, but not limited to, scientific research as it relates to sportfishing and commercial fishing. Recreational uses, including, but not limited to, hiking, walking, viewing, swimming, diving, surfing, and transient boating are not in conflict with this section.

(b) Prior to establishing the four ecological reserves, the commission shall conduct a public hearing at each of the recommended sites or at the nearest practicable location.

(c) On and after January 1, 2002, the four ecological reserves established pursuant to subdivision (a) shall be called state marine reserves, unless otherwise reclassified pursuant to Section 2855, and shall become part of the state system of marine managed areas.

SEC. 7. Section 10503 of the Fish and Game Code is amended to read:

10503. For the purposes of propagating, feeding, and protecting birds, mammals, fish, and amphibia the commission may do all of the following:

- (a) Accept, on behalf of the state, donations of any interest in lands within any refuge.

(b) Accept, on behalf of the state, from any person owning and in possession of patented lands, except lands that are covered and uncovered by the ordinary daily tide of the Pacific Ocean, the right to preserve and protect all birds, mammals, fish, and amphibia on the patented lands.

(c) Accept, on behalf of the state, donations of birds, mammals, fish, and amphibia, and of money given or appropriated. Those donations shall be used for the purposes for which they are accepted, and, as nearly as may be, for any purpose indicated by the donor.

(d) Acquire, by purchase, lease, rental, or otherwise, and occupy, develop, maintain, use, and administer land, or land and nonmarine water, or land and nonmarine water rights, suitable for state game farms or game refuges.

SEC. 8. Section 10711 of the Fish and Game Code is amended to read:

10711. The commission may close for the taking of clams not less than eight land miles of pismo clam bearing beaches within San Luis Obispo County as a clam refuge, but not more than 50 percent of any individual pismo clam bearing beach or beaches may be so closed at any time. The commission may from time to time vary the location of the closed and open portions of those beaches. Before the commission closes, opens, or varies the location of the closed and open portions of pismo clam bearing beaches, one or more members of the commission shall hold in the county to be affected a public hearing, notice of which has been published at least once in a newspaper of general circulation, printed, and published in that county. The commission may determine which newspaper will be most likely to give notice to the inhabitants of the county, and its determination shall be final and conclusive. The commission may authorize any employee of the department in its place to hold the hearings, in which event a copy of a transcript of all proceedings taken or had at the hearing shall be furnished to each commissioner at least five days before any regulation is made by the commission.

SEC. 9. Section 538 is added to the Public Resources Code, to read:

538. The commission may designate, delete, or modify state marine (estuarine) reserves, state marine (estuarine) parks, state marine (estuarine) conservation areas, state marine (estuarine) cultural preservation areas, and state marine (estuarine) recreational management areas, as delineated in subdivision (b) of Section 36725. The commission may not designate, delete, or modify a state marine (estuarine) reserve, state marine (estuarine) park, or state marine (estuarine) conservation area without the concurrence of the Fish and Game Commission on any proposed restrictions upon, or change in, the use of living marine resources.

SEC. 10. Section 5001.4 is added to the Public Resources Code, to read:

5001.4. The department may manage state marine (estuarine) reserves, state marine (estuarine) parks, state marine (estuarine) conservation areas, state marine (estuarine) cultural preservation areas, state marine (estuarine) recreational management areas and, if requested by the State Water Resources Control Board, state water quality protection areas. Department authority over units within the state park system shall extend to units of the state MMAs system that are managed by the department.

SEC. 11. Section 5001.65 of the Public Resources Code is amended to read:

5001.65. Commercial exploitation of resources in units of the state park system is prohibited. However, slant or directional drilling for oil or gas with the intent of extracting deposits underlying the Tule Elk State Reserve in Kern County is permissible in accordance with Section

6854. Commercial fishing is permissible, unless otherwise restricted, in state marine (estuarine) conservation areas, state marine (estuarine) cultural preservation areas, and state marine (estuarine) recreational management areas. Qualified institutions and individuals shall be encouraged to conduct nondestructive forms of scientific investigation within state park system units, upon receiving prior approval of the director. The taking of mineral specimens for recreational purposes from state beaches, state recreation areas, or state vehicular recreation areas is permitted upon receiving prior approval of the director.

SEC. 12. Section 5003.1 of the Public Resources Code is amended to read:

5003.1. The Legislature finds and declares that it is in the public interest to permit hunting, fishing, swimming, trails, camping, campsites, and rental vacation cabins in certain state recreation areas, or portions thereof, when it is found by the State Park and Recreation Commission that such multiple use of state recreation areas would not threaten the safety and welfare of other state recreation area users. Hunting shall not be permitted in any unit now in the state park system and officially opened to the public on or before June 1, 1961, or in any unit hereafter acquired and designated by the commission as a state park, state marine (estuarine) reserve, state marine (estuarine) park, state reserve, state marine (estuarine) conservation area, or state marine (estuarine) cultural preservation area, and may only be permitted in new recreational areas and state marine (estuarine) recreational management areas that are developed for that use.

Whenever hunting or fishing is permitted in a state recreation area or state marine (estuarine) recreational management area, and whenever fishing is permitted in a state park, state marine (estuarine) park, state marine (estuarine) cultural preservation area, or state marine (estuarine) conservation area, the Department of Fish and Game shall enforce hunting and fishing laws and regulations as it does elsewhere in the state.

SEC. 13. Section 5019.50 of the Public Resources Code is amended to read:

5019.50. All units that are or shall become a part of the state park system, except those units or parts of units designated by the Legislature as wilderness areas pursuant to Chapter 1.3 (commencing with Section 5093.30), or where subject to any other provision of law, including Section 5019.80 and Article 1 (commencing with Section 36600) of Chapter 7 of Division 27, shall be classified by the State Park and Recreation Commission into one of the categories specified in this article. Classification of state marine (estuarine) reserves, state marine (estuarine) parks, and state marine (estuarine) conservation areas, requires the concurrence of the Fish and Game Commission for restrictions to be placed upon the use of living marine resources.

SEC. 14. Section 5019.53 of the Public Resources Code is amended to read:

5019.53. State parks consist of relatively spacious areas of outstanding scenic or natural character, oftentimes also containing significant historical, archaeological, ecological, geological, or other similar values. The purpose of state parks shall be to preserve outstanding natural, scenic, and cultural values, indigenous aquatic and terrestrial fauna and flora, and the most significant examples of ecological regions of California, such as the Sierra Nevada, northeast volcanic, great valley, coastal strip, Klamath-Siskiyou Mountains, southwest mountains and valleys, redwoods, foothills and low coastal mountains, and desert and desert mountains. Each state park shall be managed as a composite whole in order to restore, protect, and maintain its native environmental complexes to the extent compatible with the primary purpose for which the park was established. Improvements undertaken within state parks shall

be for the purpose of making the areas available for public enjoyment and education in a manner consistent with the preservation of natural, scenic, cultural, and ecological values for present and future generations. Improvements may be undertaken to provide for recreational activities including, but not limited to, camping, picnicking, sightseeing, nature study, hiking, and horseback riding, so long as those improvements involve no major modification of lands, forests, or waters. Improvements that do not directly enhance the public's enjoyment of the natural, scenic, cultural, or ecological values of the resource, which are attractions in themselves, or which are otherwise available to the public within a reasonable distance outside the park, shall not be undertaken within state parks. State parks may be established in the terrestrial or nonmarine aquatic (lake or stream) environments of the state.

SEC. 15. Section 5019.56 of the Public Resources Code is amended to read:

5019.56. State recreation units consist of areas selected, developed, and operated to provide outdoor recreational opportunities. The units shall be designated by the commission by naming, in accordance with Article 1 (commencing with Section 5001) and this article relating to classification. In the planning of improvements to be undertaken within state recreation units, consideration shall be given to compatibility of design with the surrounding scenic and environmental characteristics. State recreation units may be established in the terrestrial or nonmarine aquatic (lake or stream) environments of the state and shall be further classified as one of the following types:

(a) State recreation areas, consisting of areas selected and developed to provide multiple recreational opportunities to meet other than purely local needs. The areas shall be selected for their having terrain capable of withstanding extensive human impact and for their proximity to large population centers, major routes of travel, or proven recreational resources such as manmade or natural bodies of water. Areas containing ecological, geological, scenic, or cultural resources of significant value shall be preserved within state wildernesses, state reserves, state parks, or natural or cultural preserves, or, for those areas situated seaward of the mean high tide line, shall be designated state marine (estuarine) reserves, state marine (estuarine) parks, state marine (estuarine) conservation areas, or state marine (estuarine) cultural preservation areas. Improvements may be undertaken to provide for recreational activities, including, but not limited to, camping, picnicking, swimming, hiking, bicycling, horseback riding, boating, waterskiing, diving, winter sports, fishing, and hunting. Improvements to provide for urban or indoor formalized recreational activities shall not be undertaken within state recreation areas.

(b) Underwater recreation areas, consisting of areas in the nonmarine aquatic (lake or stream) environment selected and developed to provide surface and subsurface water-oriented recreational opportunities, while preserving basic resource values for present and future generations.

(c) State beaches, consisting of areas with frontage on the ocean, or bays designed to provide swimming, boating, fishing, and other beach-oriented recreational activities. Coastal areas containing ecological, geological, scenic, or cultural resources of significant value shall be preserved within state wildernesses, state reserves, state parks, or natural or cultural preserves, or, for those areas situated seaward of the mean high tide line, shall be designated state marine (estuarine) reserves, state marine (estuarine) parks, state marine (estuarine) conservation areas, or state marine (estuarine) cultural preservation areas.

(d) Wayside campgrounds, consisting of relatively small areas suitable for overnight camping and offering convenient access to major highways.

SEC. 16. Section 5019.59 of the Public Resources Code is amended to read:

5019.59. Historical units, to be named appropriately and individually, consist of nonmarine areas established primarily to preserve objects of historical, archaeological, and scientific interest, and archaeological sites and places commemorating important persons or historic events. The areas should be of sufficient size, where possible, to encompass a significant proportion of the landscape associated with the historical objects. The only facilities that may be provided are those required for the safety, comfort, and enjoyment of the visitors, such as access, parking, water, sanitation, interpretation, and picnicking. Upon approval by the commission, lands outside the primary historic zone may be selected or acquired, developed, or operated to provide camping facilities within appropriate historical units. Upon approval by the State Park and Recreation Commission, an area outside the primary historic zone may be designated as a recreation zone to provide limited recreational opportunities that will supplement the public's enjoyment of the unit. Certain agricultural, mercantile, or other commercial activities may be permitted if those activities are a part of the history of the individual unit and any developments retain or restore historical authenticity. Historical units shall be named to perpetuate the primary historical theme of the individual units.

SEC. 17. Section 5019.62 of the Public Resources Code is amended to read:

5019.62. State seashores consist of relatively spacious coastline areas with frontage on the ocean, or on bays open to the ocean, including water areas landward of the mean high tide line and seasonally connected to the ocean, possessing outstanding scenic or natural character and significant recreational, historical, archaeological, or geological values. The purpose of state seashores shall be to preserve outstanding natural, scenic, cultural, ecological, and recreational values of the California coastline as an ecological region and to make possible the enjoyment of coastline and related recreational activities which are consistent with the preservation of the principal values and which contribute to the public enjoyment, appreciation, and understanding of those values. Improvements undertaken within state seashores shall be for the purpose of making the areas available for public enjoyment, recreation, and education in a manner consistent with the perpetuation of their natural, scenic, cultural, ecological, and recreational value. Improvements which do not directly enhance the public enjoyment of the natural, scenic, cultural, ecological, or recreational values of the seashore, or which are attractions in themselves, shall not be undertaken.

SEC. 18. Section 5019.65 of the Public Resources Code is amended to read:

5019.65. State reserves consist of areas embracing outstanding natural or scenic characteristics of statewide significance. The purpose of a state reserve is to preserve its native ecological associations, unique faunal or floral characteristics, geological features, and scenic qualities in a condition of undisturbed integrity. Resource manipulation shall be restricted to the minimum required to negate the deleterious influence of man. Improvements undertaken shall be for the purpose of making the areas available, on a day use basis, for public enjoyment and education in a manner consistent with the preservation of their natural features. Living and nonliving resources contained within state reserves shall not be disturbed or removed for other than

scientific or management purposes. State reserves may be established in the terrestrial or nonmarine aquatic (lake or stream) environments of the state.

SEC. 19. Section 5019.71 of the Public Resources Code is amended to read:

5019.71. Natural preserves consist of distinct nonmarine areas of outstanding natural or scientific significance established within the boundaries of other state park system units. The purpose of natural preserves shall be to preserve such features as rare or endangered plant and animal species and their supporting ecosystems, representative examples of plant or animal communities existing in California prior to the impact of civilization, geological features illustrative of geological processes, significant fossil occurrences or geological features of cultural or economic interest, or topographic features illustrative of representative or unique biogeographical patterns. Areas set aside as natural preserves shall be of sufficient size to allow, where possible, the natural dynamics of ecological interaction to continue without interference, and to provide, in all cases, a practicable management unit. Habitat manipulation shall be permitted only in those areas found by scientific analysis to require manipulation to preserve the species or associations that constitute the basis for the establishment of the natural preserve.

SEC. 20. Section 5019.74 of the Public Resources Code is amended to read:

5019.74. Cultural preserves consist of distinct nonmarine areas of outstanding cultural interest established within the boundaries of other state park system units for the purpose of protecting such features as sites, buildings, or zones which represent significant places or events in the flow of human experience in California. Areas set aside as cultural preserves shall be large enough to provide for the effective protection of the prime cultural resources from potentially damaging influences, and to permit the effective management and interpretation of the resources. Within cultural preserves, complete integrity of the cultural resources shall be sought, and no structures or improvements that conflict with that integrity shall be permitted.

SEC. 21. Section 5019.80 is added to the Public Resources Code, to read:

5019.80. (a) The Marine Managed Areas Improvement Act (Chapter 7 (commencing with Section 36600) of Division 27) establishes a uniform classification system for state marine managed areas and is incorporated herein by reference. Any proposals for marine managed areas made after January 1, 2002, shall follow the guidelines set forth in that act. Pursuant to Section 36750, existing marine areas within units of the state park system that have not been reclassified in accordance with the Marine Life Protection Act (Chapter 10.5 (commencing with Section 2850) of Division 3 of the Fish and Game Code) on January 1, 2002, shall be reclassified by the State Interagency Coordinating Committee into one of the following classifications:

- (1) State marine (estuarine) reserve.
- (2) State marine (estuarine) park.
- (3) State marine (estuarine) conservation area.
- (4) State marine (estuarine) cultural preservation area.
- (5) State marine (estuarine) recreational management area.

(b) The process for establishing, deleting, or modifying state marine (estuarine) reserves, state marine (estuarine) parks, state marine (estuarine) conservation areas, state marine (estuarine) cultural preservation areas, and state marine (estuarine) recreational management areas shall be established pursuant to that act. The restrictions and allowable uses applicable to those areas are as set forth in that act.

SEC. 22. Chapter 7 (commencing with Section 36600) is added to Division 27 of the Public Resources Code, to read:

CHAPTER 7. MARINE MANAGED AREAS IMPROVEMENT ACT

Article 1. General Provisions

36600. This chapter shall be known, and may be cited, as the Marine Managed Areas Improvement Act.

36601. (a) The Legislature finds and declares all of the following:

(1) California's extraordinary ocean and coastal resources provide a vital asset to the state and nation. These resources are important to public health and well-being, ecological health, and ocean-dependent industries.

(2) The ocean ecosystem is inextricably connected to the land, with coastal development, water pollution, and other human activities threatening the health of marine habitat and the biological diversity found in California's ocean waters. New technologies and demands have encouraged the expansion of fishing and other activities to formerly inaccessible marine areas that once recharged nearby fisheries. As a result, ecosystems throughout the state's ocean waters are being altered, often at a rapid rate.

(3) California's marine managed areas (MMAs), such as refuges, reserves, and state reserves, are one of many tools for resource managers to use for protecting, conserving, and managing the state's valuable marine resources. MMAs can offer many benefits, including protecting habitats, species, cultural resources, and water quality; enhancing recreational opportunities; and contributing to the economy through such things as increased tourism and property values. MMAs may also benefit fisheries management by protecting representative habitats and reducing extractive uses.

(4) The array of state MMAs in California is the result of over 50 years of designations through legislative, administrative, and statewide ballot initiative actions, which has led to 18 classifications and subclassifications of these areas.

(5) A State Interagency Marine Managed Areas Workgroup was convened by the Resources Agency to address this issue, bringing together for the first time all of the state agencies with jurisdiction over these areas. This group's report indicates that California's state MMAs have evolved on a case-by-case basis, without conforming to any plan for establishing MMAs in the most effective way or in a manner which ensures that the most representative or unique areas of the ocean and coastal environment are included.

(6) The report further states that California's MMAs do not comprise an organized system, as the individual sites are not designated, classified, or managed in a systematic manner. Many of these areas lack clearly defined purposes, effective management measures, and enforcement.

(7) To some, this array of MMAs creates the illusion of a comprehensive system of management, while in reality, it falls short of its potential to protect, conserve, and manage natural, cultural, and recreational resources along the California coast. Without a properly designed and coordinated system of MMAs, it is difficult for agencies to meet management objectives, such as maintaining biodiversity, providing education and outreach, and protecting marine resources.

(8) Agency personnel and the public are often confused about the laws, rules, and regulations that apply to MMAs, especially those adjacent to a terrestrial area set aside for management purposes. Lack of clarity about the manner in which the set of laws, rules, and regulations for the array of MMAs interface and complement each other limits public and resource managers' ability to understand and apply the regulatory structure.

(9) Designation of sites and subsequent adoption of regulations often occur without adequate consideration being given to overall classification goals and objectives. This has contributed to fragmented management, poor compliance with regulations, and a lack of effective enforcement.

(10) Education and outreach related to state MMAs is limited and responsibility for these activities is distributed across many state agencies. These factors hamper the distribution of information to the public regarding the benefits of MMAs and the role they can play in protecting ocean and coastal resources.

(11) There are few coordinated efforts to identify opportunities for public/private partnerships or public stewardship of MMAs or to provide access to general information and data about ocean and coastal resources within California's MMAs.

(12) Ocean and coastal scientists and managers generally know far less about the natural systems they work with than their terrestrial counterparts. Understanding natural and human-induced factors that affect ocean ecosystem health, including MMAs, is fundamental to the process of developing sound management policies.

(13) Research in California's MMAs can provide managers with a wealth of knowledge regarding habitat functions and values, species diversity, and complex physical, biological, chemical, and socioeconomic processes that affect the health of marine ecosystems. That information can be useful in determining the effectiveness of particular sites or classifications in achieving stated goals.

(b) With the single exception of state estuaries, it is the intent of the Legislature that the classifications currently available for use in the marine and estuarine environments of the state shall cease to be used and that a new classification system shall be established, with a mission, statement of objectives, clearly defined designation guidelines, specific classification goals, and a more scientifically-based process for designating sites and determining their effectiveness. The existing classifications may continue to be used for the terrestrial and freshwater environments of the state.

(c) Due to the interrelationship between land and sea, benefits can be gained from siting a portion of the state's marine managed areas adjacent to, or in close proximity to, terrestrial protected areas. To maximize the benefits that can be gained from having connected protected areas, whenever an MMA is adjacent to a terrestrial protected area, the managing agencies shall coordinate their activities to the greatest extent possible to achieve the objectives of both areas.

36602. The following definitions govern the construction of this chapter:

(a) "Committee" is the State Interagency Coordinating Committee established pursuant to Section 36800.

(b) "Designating entity" is the Fish and Game Commission, State Park and Recreation Commission, or State Water Resources Control Board, each of which has the authority to designate specified state marine managed areas.

(c) "Managing agency" is the Department of Fish and Game or the Department of Parks and Recreation, each of which has the authority to manage specified state marine managed areas.

(d) "Marine managed area" (MMA) is a named, discrete geographic marine or estuarine area along the California coast designated by law or administrative action, and intended to protect, conserve, or otherwise manage a variety of resources and their uses. The resources and uses may include, but are not limited to, living marine resources and their habitats, scenic views, water quality, recreational values, and cultural or geological resources. General areas that are administratively established for recreational or commercial fishing restrictions, such as seasonal or geographic closures or size limits, are not included in this definition. MMAs include the following classifications:

- (1) State marine (estuarine) reserve, as defined in subdivision (a) of Section 36700.
- (2) State marine (estuarine) park, as defined in subdivision (b) of Section 36700.
- (3) State marine (estuarine) conservation area, as defined in subdivision (c) of Section 36700.
- (4) State marine (estuarine) cultural preservation area, as defined in subdivision (d) of Section 36700.
- (5) State marine (estuarine) recreational management area, as defined in subdivision (e) of Section 36700.
- (6) State water quality protection areas, as defined in subdivision (f) of Section 36700.

(e) "Marine protected area" (MPA), consistent with the Marine Life Protection Act (Chapter 10.5 (commencing with Section 2850) of Division 3 of the Fish and Game Code) is a named, discrete geographic marine or estuarine area seaward of the mean high tide line or the mouth of a coastal river, including any area of intertidal or subtidal terrain, together with its overlying water and associated flora and fauna that has been designated by law or administrative action to protect or conserve marine life and habitat. MPAs are primarily intended to protect or conserve marine life and habitat, and are therefore a subset of marine managed areas (MMAs). MPAs include the following classifications:

- (1) State marine (estuarine) reserve, as defined in subdivision (a) of Section 36700.
- (2) State marine (estuarine) park, as defined in subdivision (b) of Section 36700.
- (3) State marine (estuarine) conservation area, as defined in subdivision (c) of Section 36700.

36620. The mission of the state MMA system is to ensure the long-term ecological viability and biological productivity of marine ecosystems and to preserve cultural resources in the coastal sea, in recognition of their intrinsic value and for the benefit of current and future generations. In support of this mission, the Legislature finds and declares that there is a need to reexamine and redesign California's array of MMAs, to establish and manage a system using science and clear public policy directives to achieve all of the following objectives:

- (a) Conserve representative or outstanding examples of marine habitats, biodiversity, ecosystems, and significant natural and cultural features or sites.
- (b) Support and promote marine research, education, and science-based management.
- (c) Help ensure sustainable uses of marine resources.
- (d) Provide and enhance opportunities for public enjoyment of natural and cultural marine resources.

Article 2. Classifications, Designations, Restrictions, and Allowable Uses

36700. Six classifications for designating managed areas in the marine and estuarine environments are hereby established as described in this section, to become effective January 1, 2002. Where the term "marine (estuarine)" is used, it means that either the word "marine" or

"estuarine" is to be used, as appropriate for the geographic area being designated. A geographic area may be designated under more than one classification.

(a) A "state marine (estuarine) reserve" is a nonterrestrial marine or estuarine area that is designated so the managing agency may achieve one or more of the following:

(1) Protect or restore rare, threatened, or endangered native plants, animals, or habitats in marine areas.

(2) Protect or restore outstanding, representative, or imperiled marine species, communities, habitats, and ecosystems.

(3) Protect or restore diverse marine gene pools.

(4) Contribute to the understanding and management of marine resources and ecosystems by providing the opportunity for scientific research in outstanding, representative, or imperiled marine habitats or ecosystems.

(b) A "state marine (estuarine) park" is a nonterrestrial marine or estuarine area that is designated so the managing agency may provide opportunities for spiritual, scientific, educational, and recreational opportunities, as well as one or more of the following:

(1) Protect or restore outstanding, representative, or imperiled marine species, communities, habitats, and ecosystems.

(2) Contribute to the understanding and management of marine resources and ecosystems by providing the opportunity for scientific research in outstanding representative or imperiled marine habitats or ecosystems.

(3) Preserve cultural objects of historical, archaeological, and scientific interest in marine areas.

(4) Preserve outstanding or unique geological features.

(c) A "state marine (estuarine) conservation area" is a nonterrestrial marine or estuarine area that is designated so the managing agency may achieve one or more of the following:

(1) Protect or restore rare, threatened, or endangered native plants, animals, or habitats in marine areas.

(2) Protect or restore outstanding, representative, or imperiled marine species, communities, habitats, and ecosystems.

(3) Protect or restore diverse marine gene pools.

(4) Contribute to the understanding and management of marine resources and ecosystems by providing the opportunity for scientific research in outstanding, representative, or imperiled marine habitats or ecosystems.

(5) Preserve outstanding or unique geological features.

(6) Provide for sustainable living marine resource harvest.

(d) A "state marine (estuarine) cultural preservation area" is a nonterrestrial marine or estuarine area designated so the managing agency may preserve cultural objects or sites of historical, archaeological, or scientific interest in marine areas.

(e) A "state marine (estuarine) recreational management area" is a nonterrestrial marine or estuarine area designated so the managing agency may provide, limit, or restrict recreational opportunities to meet other than exclusively local needs while preserving basic resource values for present and future generations.

(f) A "state water quality protection area" is a nonterrestrial marine or estuarine area designated to protect marine species or biological communities from an undesirable alteration in natural water quality, including, but not limited to, areas of special biological significance that have been designated by the State Water Resources Control Board through its water quality control planning process.

36710. The following classifications may not be inconsistent with United States military activities deemed mission critical by the United States military:

(a) In a state marine (estuarine) reserve, it is unlawful to injure, damage, take, or possess any living geological, or cultural marine resource, except under a permit or specific authorization from the managing agency for research, restoration, or monitoring purposes. While, to the extent feasible, the area shall be open to the public for managed enjoyment and study, the area shall be maintained to the extent practicable in an undisturbed and unpolluted state. Access and use for activities such as walking, swimming, boating, and diving may be restricted to protect marine resources. Research, restoration, and monitoring may be permitted by the managing agency. Educational activities and other forms of nonconsumptive human use may be permitted by the designating entity or managing agency in a manner consistent with the protection of all marine resources.

(b) In a state marine (estuarine) parks, it is unlawful to injure, damage, take, or possess any living or nonliving marine resource for commercial exploitation purposes. Any human use that would compromise protection of the species of interest, natural community or habitat, or geological, cultural, or recreational features, may be restricted by the designating entity or managing agency. All other uses are allowed, including scientific collection with a permit, research, monitoring, and public recreation, including recreational harvest, unless otherwise restricted. Public use, enjoyment, and education are encouraged, in a manner consistent with protecting resource values.

(c) In a state marine (estuarine) conservation area, it is unlawful to injure, damage, take, or possess any living, geological, or cultural marine resource for commercial or recreational purposes, or a combination of commercial and recreational purposes, that the designating entity or managing agency determines would compromise protection of the species of interest, natural community, habitat, or geological features. The designating entity or managing agency may permit research, education, and recreational activities, and certain commercial and recreational harvest of marine resources.

(d) In a state marine (estuarine) cultural preservation area, it is unlawful to damage, take, or possess any cultural marine resource. Complete integrity of the cultural resources shall be sought, and no structure or improvements that conflict with that integrity shall be permitted. No other use is restricted.

(e) In a state marine (estuarine) recreational management area, it is unlawful to perform any activity that, as determined by the designating entity or managing agency, would compromise the recreational values for which the area may be designated. Recreational opportunities may be protected, enhanced, or restricted, while preserving basic resource values of the area. No other use is restricted.

(f) In a state water quality protection area, point source waste and thermal discharges shall be prohibited or limited by special conditions. Nonpoint source pollution shall be controlled to the extent practicable. No other use is restricted.

36725. (a) The Fish and Game Commission may designate, delete, or modify state marine (estuarine) recreational management areas established by the commission for hunting purposes, state marine (estuarine) reserves, and state marine (estuarine) conservation areas. The Fish and Game Commission shall consult with, and secure concurrence from, the State Park and Recreation Commission prior to modifying or deleting state marine (estuarine) reserves and state marine (estuarine) conservation areas designated by the State Park and Recreation Commission. The Fish and Game Commission shall not delete or modify state marine (estuarine) recreational management areas designated by the State Park and Recreation Commission.

(b) The State Park and Recreation Commission may designate, delete, or modify state marine (estuarine) reserves, state marine (estuarine) parks, state marine (estuarine) conservation areas, state marine (estuarine) cultural preservation areas, and state marine (estuarine) recreational management areas. The State Park and Recreation Commission may not designate, delete, or modify a state marine (estuarine) reserve, state marine (estuarine) park, or state marine (estuarine) conservation area without the concurrence of the Fish and Game Commission on any proposed restrictions upon, or change in, the use of living marine resources.

(c) If an unresolved conflict exists between the Fish and Game Commission and the State Park and Recreation Commission regarding a state marine (estuarine) reserve, state marine (estuarine) park, or state marine (estuarine) conservation area, the Secretary of the Resources Agency may reconcile the conflict.

(d) The State Water Resources Control Board may designate, delete, or modify state water quality protection areas.

(e) The Fish and Game Commission, State Park and Recreation Commission, and State Water Resources Control Board each may restrict or prohibit recreational uses and other human activities in the MMAs for the benefit of the resources therein, except in the case of restrictions on the use of living marine resources. Pursuant to this section, and consistent with Section 2860 of the Fish and Game Code, the Fish and Game Commission may regulate commercial and recreational fishing and any other taking of marine species in MMAs.

(f) (1) The Department of Fish and Game may manage state marine (estuarine) reserves, state marine (estuarine) conservation areas, state marine (estuarine) recreational management areas established for hunting purposes and, if requested by the State Water Resources Control Board, state water quality protection areas.

(2) The Department of Parks and Recreation may manage state marine (estuarine) reserves, state marine (estuarine) parks, state marine (estuarine) conservation areas, state marine (estuarine) cultural preservation areas, and state marine (estuarine) recreational management areas. Department authority over units within the state park system shall extend to units of the state MMAs system that are managed by the department.

(3) The State Water Resources Control Board and the California regional water quality control boards may take appropriate actions to protect state water quality protection areas. The State Water Resources Control Board may request the Department of Fish and Game or the Department of Parks and Recreation to take appropriate management action.

36750. Any MMA in existence on January 1, 2002, that has not been reclassified in accordance with the Marine Life Protection Act (Chapter 10.5 (commencing with Section 2850) of Division 3 of the Fish and Game Code), shall be reclassified under the classification system described in Section 36700 by January 1, 2003, based upon the management purpose and level of resource protection at each site on January 1, 2002. Upon the reclassification of existing sites, but no later

than January 1, 2003, the use of all other classifications shall cease for the marine and estuarine environments of the state, though the classifications may continue to be used for the terrestrial and freshwater environments where applicable. The reclassification process shall be the responsibility of the State Interagency Coordinating Committee established pursuant to Section 36800, and shall occur to the extent feasible in conjunction and consistent with the MMA master planning process created pursuant to the Marine Life Protection Act (Chapter 10.5 (commencing with Section 2850) of Division 3 of the Fish and Game Code).

36800. The Secretary of the Resources Agency shall establish and chair the State Interagency Coordinating Committee, whose members are representatives from those state agencies, departments, boards, commissions, and conservancies with jurisdiction or management interests over marine managed areas, including, but not limited to, the Department of Fish and Game, Department of Parks and Recreation, California Coastal Commission, State Water Resources Control Board, and State Lands Commission. The Secretary of the Resources Agency shall designate additional members of the committee. The committee shall review proposals for new or amended MMAs to ensure that the minimum required information is included in the proposal, to determine those state agencies that should review the proposal, and to ensure consistency with other such designations in the state. The committee shall also serve to ensure the proper and timely routing of site proposals, review any proposed site-specific regulations for consistency with the state system as a whole, and conduct periodic reviews of the statewide system to evaluate whether it is meeting the mission and statement of objectives.

36850. Designation guidelines based on the classification goals adopted for the state system of MMAs shall be developed jointly by the appropriate managing agencies in cooperation with the committee on or before January 1, 2002. These guidelines shall be used to provide a general sense of requirements for designating a site in any particular classification, and may include characteristics such as uniqueness of the area or resource, biological productivity, special habitats, cultural or recreational values, and human impacts to the area. These designation guidelines shall be provided on a standard set of instructions for each classification.

36870. On or before January 1, 2002, the committee shall establish a standard set of instructions for each classification to guide organizations and individuals in submitting proposals for designating specific sites or networks of sites. On or before January 1, 2003, the relevant site proposal guidelines shall be adopted by each designating entity.

(a) At a minimum, each proposal shall include the following elements for consideration for designation as an MMA:

- (1) Name of individual or organization proposing the designation.
- (2) Contact information for the individual or organization, including contact person.
- (3) Proposed classification.
- (4) Proposed site name.
- (5) Site location.
- (6) Need, purpose, and goals for the site.
- (7) Justification for the manner in which the proposed site meets the designation criteria for the proposed classification.
- (8) A general description of the proposed site's pertinent biological, geological, and cultural resources.

(9) A general description of the proposed site's existing recreational uses, including fishing, diving, boating, and waterfowl hunting.

(b) The following elements, if not included in the original proposal, shall be added by the proposed managing agency in cooperation with the individual or organization making the proposal, prior to a final decision regarding designation:

- (1) A legal description of the site boundaries and a boundary map.
- (2) A more detailed description of the proposed site's pertinent biological, geological, cultural, and recreational resources.
- (3) Estimated funding needs and proposed source of funds.
- (4) A plan for meeting enforcement needs, including on-site staffing and equipment.
- (5) A plan for evaluating the effectiveness of the site in achieving stated goals.
- (6) Intended educational and research programs.
- (7) Estimated economic impacts of the site, both positive and negative.
- (8) Proposed mechanisms for coordinating existing regulatory and management authority, if any exists, within the area.
- (9) An evaluation of the opportunities for cooperative state, federal, and local management, where the opportunities may exist.

36900. Individuals or organizations may submit a proposal to designate an MMA directly through the committee or an appropriate designating entity. Proposals submitted to a designating entity shall be forwarded to the committee to initiate the review process. Proposals for designating, deleting, or modifying MMAs may be submitted to the committee or a designating entity at any time. The committee and scientific review panel established pursuant to subdivision (b) shall annually consider and promptly act upon proposals until an MPA master plan is adopted pursuant to subdivision (b) of Section 2859 of the Fish and Game Code, and thereafter, no less than once every three years. Upon adoption of a statewide MPA plan, subsequent site proposals determined by the committee to be consistent with that plan shall be eligible for a simplified and cursory review of not more than 45 days.

(a) The committee shall review proposals to ensure that the minimum required information is included in the proposal, to determine those state agencies that should review the proposal, and to ensure consistency with other designations of that type in the state. After initial review by the coordinating committee and appropriate agencies, the proposal shall be forwarded to a scientific review panel established pursuant to subdivision (b).

(b) The Secretary of the Resources Agency shall establish a scientific review panel, with statewide representation and direction from the committee, to evaluate proposals for technical and scientific validity, including consideration of such things as site design criteria, location, and size. This panel, to the extent practical, shall be the same as the master plan team used in the process set forth in the Marine Life Protection Act (Chapter 10.5 (commencing with Section 2850) of Division 3 of the Fish and Game Code). Members shall maintain familiarity with the types and effectiveness of MMAs used in other parts of the world for potential application to California. Members shall be reimbursed reasonable costs to participate in the activities of the panel. Where feasible, advice shall be sought from the appropriate federal agencies and existing regional or statewide marine research panels and advisory groups. After review by the scientific review panel, the committee shall forward the proposal and any recommendations to the appropriate designating entity for a public review process.

(c) Designating entities shall establish a process that provides for public review and comment in writing and through workshops or hearings, consistent with the legal mandates applicable to designating entities. All input provided by the committee and scientific review panel shall be made available to the public during this process. Outreach shall be made to the broadest ocean and coastal constituency possible, and shall include commercial and sport fishing groups, conservation organizations, waterfowl groups and other recreational interests, academia, the general public, and all levels of government.

(d) This process does not replace the need to obtain the appropriate permits or reviews of other government agencies with jurisdiction or permitting authority.

(e) Nothing in this section shall be construed as altering or impeding the process identified under the Marine Life Protection Act (Chapter 10.5 (commencing with Section 2850) of Division 3 of the Fish and Game Code) or the actions of the master plan team described in that act.

SEC. 23. No reimbursement is required by this act pursuant to Section 6 of Article XIII B of the California Constitution because the only costs that may be incurred by a local agency or school district will be incurred because this act creates a new crime or infraction, eliminates a crime or infraction, or changes the penalty for a crime or infraction, within the meaning of Section 17556 of the Government Code, or changes the definition of a crime within the meaning of Section 6 of Article XIII B of the California Constitution.

Federal Register Notice: Executive Order 13158

Presidential Documents

34909 Federal Register / Vol. 65, No. 105 / Wednesday, May 31, 2000 / Presidential Documents

Executive Order 13158 of May 26, 2000

Marine Protected Areas

By the authority vested in me as President by the Constitution and the laws of the United States of America and in furtherance of the purposes of the National Marine Sanctuaries Act (16 U.S.C. 1431 *et seq.*), National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd-ee), National Park Service Organic Act (16 U.S.C. 1 *et seq.*), National Historic Preservation Act (16 U.S.C. 470 *et seq.*), Wilderness Act (16 U.S.C. 1131 *et seq.*), Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801 *et seq.*), Coastal Zone Management Act (16 U.S.C. 1451 *et seq.*), Endangered Species Act of 1973 (16 U.S.C. 1531 *et seq.*), Marine Mammal Protection Act (16 U.S.C. 1362 *et seq.*), Clean Water Act of 1977 (33 U.S.C. 1251 *et seq.*), National Environmental Policy Act, as amended (42 U.S.C. 4321 *et seq.*), Outer Continental Shelf Lands Act (42 U.S.C. 1331 *et seq.*), and other pertinent statutes, it is ordered as follows:

Section 1. Purpose. This Executive Order will help protect the significant natural and cultural resources within the marine environment for the benefit of present and future generations by strengthening and expanding the Nation's system of marine protected areas (MPAs). An expanded and strengthened comprehensive system of marine protected areas throughout the marine environment would enhance the conservation of our Nation's natural and cultural marine heritage and the ecologically and economically sustainable use of the marine environment for future generations. To this end, the purpose of this order is to, consistent with domestic and international law:

(a) strengthen the management, protection, and conservation of existing marine protected areas and establish new or expanded MPAs; (b) develop a scientifically based, comprehensive national system of MPAs representing diverse U.S. marine ecosystems, and the Nation's natural and cultural resources; and (c) avoid causing harm to MPAs through federally conducted, approved, or funded activities.

Sec. 2. Definitions. For the purposes of this order:

(a) "Marine protected area" means any area of the marine environment that has been reserved by Federal, State, territorial, tribal, or local laws or regulations to provide lasting protection for part or all of the natural and cultural resources therein.

(b) "Marine environment" means those areas of coastal and ocean waters, the Great Lakes and their connecting waters, and submerged lands thereunder, over which the United States exercises jurisdiction, consistent with international law.

(c) The term "United States" includes the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands of the United States, American Samoa, Guam, and the Commonwealth of the Northern Mariana Islands.

Sec. 3. MPA Establishment, Protection, and Management.

Each Federal agency whose authorities provide for the establishment or management of MPAs shall take appropriate actions to enhance or expand protection of existing MPAs and establish or recommend, as appropriate, new MPAs. Agencies implementing this section shall consult with the agencies identified in subsection 4(a) of this order, consistent with existing requirements.

Sec. 4. National System of MPAs

(a) To the extent permitted by law and subject to the availability of appropriations, the Department of Commerce and the Department of the Interior, in consultation with the Department of Defense, the Department of State, the United States Agency for International Development, the Department of Transportation, the Environmental Protection Agency, the National Science Foundation, and other pertinent Federal agencies shall develop a national system of MPAs. They shall coordinate and share information, tools, and strategies, and provide guidance to enable and encourage the use of the following in the exercise of each agency's respective authorities to further enhance and expand protection of existing MPAs and to establish or recommend new MPAs, as appropriate:

- (1) science-based identification and prioritization of natural and cultural resources for additional protection;
- (2) integrated assessments of ecological linkages among MPAs, including ecological reserves in which consumptive uses of resources are prohibited, to provide synergistic benefits;
- (3) a biological assessment of the minimum area where consumptive uses would be prohibited that is necessary to preserve representative habitats in different geographic areas of the marine environment;
- (4) an assessment of threats and gaps in levels of protection currently afforded to natural and cultural resources, as appropriate;
- (5) practical, science-based criteria and protocols for monitoring and evaluating the effectiveness of MPAs;
- (6) identification of emerging threats and user conflicts affecting MPAs and appropriate, practical, and equitable management solutions, including effective enforcement strategies, to eliminate or reduce such threats and conflicts;
- (7) assessment of the economic effects of the preferred management solutions; and
- (8) identification of opportunities to improve linkages with, and technical assistance to, international marine protected area programs.

(b) In carrying out the requirements of section 4 of this order, the Department of Commerce and the Department of the Interior shall consult with those States that contain portions of the marine environment, the Commonwealth of Puerto Rico, the Virgin Islands of the United States, American Samoa, Guam, and the Commonwealth of the Northern Mariana Islands, tribes, Regional Fishery Management Councils, and other entities, as appropriate, to promote coordination of Federal, State, territorial, and tribal actions to establish and manage MPAs.

(c) In carrying out the requirements of this section, the Department of Commerce and the Department of the Interior shall seek the expert advice and recommendations of non-Federal scientists, resource managers, and other interested persons and organizations through a Marine Protected Area Federal Advisory Committee. The Committee shall be established by the Department of Commerce.

(d) The Secretary of Commerce and the Secretary of the Interior shall establish and jointly manage a website for information on MPAs and Federal agency reports required by this order. They shall also publish and maintain a list of MPAs that meet the definition of MPA for the purposes of this order.

(e) The Department of Commerce's National Oceanic and Atmospheric Administration shall establish a Marine Protected Area Center to carry out, in cooperation with the Department of the

Interior, the requirements of subsection 4(a) of this order, coordinate the website established pursuant to subsection 4(d) of this order, and partner with governmental and nongovernmental entities to conduct necessary research, analysis, and exploration.

The goal of the MPA Center shall be, in cooperation with the Department of the Interior, to develop a framework for a national system of MPAs, and to provide Federal, State, territorial, tribal, and local governments with the information, technologies, and strategies to support the system. This national system framework and the work of the MPA Center is intended to support, not interfere with, agencies' independent exercise of their own existing authorities.

(f) To better protect beaches, coasts, and the marine environment from pollution, the Environmental Protection Agency (EPA), relying upon existing Clean Water Act authorities, shall expeditiously propose new science-based regulations, as necessary, to ensure appropriate levels of protection for the marine environment. Such regulations may include the identification of areas that warrant additional pollution protections and the enhancement of marine water quality standards. The EPA shall consult with the Federal agencies identified in subsection 4(a) of this order, States, territories, tribes, and the public in the development of such new regulations.

Sec. 5. Agency Responsibilities.

Each Federal agency whose actions affect the natural or cultural resources that are protected by an MPA shall identify such actions. To the extent permitted by law and to the maximum extent practicable, each Federal agency, in taking such actions, shall avoid harm to the natural and cultural resources that are protected by an MPA. In implementing this section, each Federal agency shall refer to the MPAs identified under subsection 4(d) of this order.

Sec. 6. Accountability.

Each Federal agency that is required to take actions under this order shall prepare and make public annually a concise description of actions taken by it in the previous year to implement the order, including a description of written comments by any person or organization stating that the agency has not complied with this order and a response to such comments by the agency.

Sec. 7. International Law.

Federal agencies taking actions pursuant to this Executive Order must act in accordance with international law and with Presidential Proclamation 5928 of December 27, 1988, on the Territorial Sea of the United States of America, Presidential Proclamation 5030 of March 10, 1983, on the Exclusive Economic Zone of the United States of America, and Presidential Proclamation 7219 of September 2, 1999, on the Contiguous Zone of the United States.

Sec. 8. General.

(a) Nothing in this order shall be construed as altering existing authorities regarding the establishment of Federal MPAs in areas of the marine environment subject to the jurisdiction and control of States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands of the United States, American Samoa, Guam, the Commonwealth of the Northern Mariana Islands, and Indian tribes.

(b) This order does not diminish, affect, or abrogate Indian treaty rights or United States trust responsibilities to Indian tribes.

(c) This order does not create any right or benefit, substantive or procedural, enforceable in law or equity by a party against the United States, its agencies, its officers, or any person.

THE WHITE HOUSE,
May 26, 2000.

Federal Register Notice: Marine Protected Areas and an Inventory of Existing Marine Managed Areas

Federal Register: July 23, 2003 (Volume 68, Number 141), Page 43495-43498

DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
[Docket No. 030530139-3139-01; I.D. 010401B]

Marine Protected Areas and an Inventory of Existing Marine
Managed Areas

AGENCY: National Oceanic and Atmospheric Administration (NOAA),
Department of Commerce (DOC).

ACTION: Solicitation of public comments on proposed criteria for
building an Inventory of Marine Managed Areas.

SUMMARY: NOAA and the Office of the Secretary, Department of the Interior (DOI), jointly propose criteria, definitions, and data fields that will be used in development of an Inventory of U.S. Marine Managed Areas or MMAs. The MMA Inventory will provide information that will lead to the fulfillment of requirements of Executive Order (E.O.) 13158 on Marine Protected Areas (MPAs). This action requests comments on the working criteria for including existing sites in the MMA Inventory, and describes data fields to provide consistent information about each site. This notice also makes clear that the development of the MMA Inventory is Phase I, to be followed by the development of the List of MPAs (Phase II) called for in E.O. 13158. The intent of this document is to solicit public participation in the development of an inventory of existing U.S. MMAs (Federal, state, commonwealth, territorial, and tribal sites) as a resource for managers, scientists, and the general public.

DATES: Comments must be received on or before September 22, 2003.

ADDRESSES: Comments regarding the proposed MMA Inventory criteria, definitions, and data fields should be sent to Joseph Uravitch, National MPA Center, N/ORM, NOAA, 1305 East-West Highway, Silver Spring, Maryland 20910. Comments also will be accepted if submitted via e-mail to mpa.comments@noaa.gov. E-mail comments should state ``MMA Inventory Comments'' on the subject line.

FOR FURTHER INFORMATION CONTACT: Joseph Uravitch, NOAA, 301-713-3155, x195, or Piet deWitt, DOI, 202-208-6224.

SUPPLEMENTARY INFORMATION:

Electronic Access

This Federal Register document also is accessible via the Internet at the Office of the Federal Register's web site at http://www.access.gpo.gov/su_docs/aces/aces140.html

Background

E.O. 13158 directs DOC and DOI, in consultation with the Department of Defense, the Department of State, the United States Agency for International Development, the Department of Transportation, the Environmental Protection Agency, the National Science Foundation, and other pertinent Federal agencies, to work with non-Federal partners to protect significant natural and cultural resources within the marine environment of the United States, including the Great Lakes, by strengthening and expanding a scientifically-based comprehensive national system of MPAs. A key purpose of E.O. 13158 is to "enhance the conservation of our Nation's natural and cultural marine heritage and the ecologically and economically sustainable use of the marine environment for future generations." A first step in developing this scientifically-based national system of MPAs is the development of an inventory of MMAs. This inventory will become the initial pool of sites from which the List of MPAs called for in section 4(d) of E.O. 13158 will be developed.

DOC and DOI were given specific roles by E.O. 13158. DOC has delegated lead responsibility to the Under Secretary of Commerce for Oceans and Atmosphere. DOI has delegated its lead to the Assistant Secretary, Lands and Minerals Management. NOAA and DOI have stewardship responsibilities for marine resources under various Federal laws, including the Magnuson-Stevens Fishery Conservation and Management Act, the Endangered Species Act, the Marine Mammal Protection Act, the Coastal Zone Management Act, the National Marine Sanctuaries Act, the Antiquities Act, the National Wildlife Refuge System Administration Act, the Outer Continental Shelf Lands Act, and the National Park Service Organic Act. These and other authorities direct DOC and DOI agencies to manage marine areas for a wide variety of objectives. Area-based management has been used for years to protect marine habitats and submerged cultural resources, rebuild and sustain fisheries, provide recreational opportunities, promote marine research, recover endangered species, and support local economies that depend on ocean resources. These areas have been managed in different ways ranging from restricting specific activities and allowing sustainable use of natural resources within an area, to the establishment of marine reserves that limit access and close the site to all uses except research.

The MMA Inventory will be used in Phase I to inform Federal, state, commonwealth, territorial, local, and tribal agencies of the locations and characteristics of existing MMAs and to form a pool from which sites may later be considered for placement on the List of MPAs (Phase II). Resource managers and others can use this information to better manage these areas and determine the effectiveness of individual sites, as well as regional and national assemblages. The core purposes of the MMA Inventory are:

Providing centralized, easily accessed information and maps on existing Federal, state, commonwealth, territorial, local, and tribal MMAs in the United States;

[sbull] Providing information and tools for environmental assessments and effectiveness monitoring (supporting independent analyses and studies of a wide variety of marine issues by governmental and non-governmental users);

[sbull] Providing important site-specific information for developing and maintaining the official nationwide List of MPAs required by section 4(d) of E.O. 13158; and

[sbull] Providing information to fulfill other requirements of E.O. 13158.

NOAA and DOI have placed a variety of protective or restrictive measures on different marine areas to achieve different management purposes. The definitions and working criteria proposed in this notice are being used to build the MMA Inventory and may, at some future date, be used in determining which sites should be placed on the List of MPAs (Phase II). However, these definitions and criteria are not final and are subject to change based on public comment and through experience gained by using the MMA Inventory and implementing E.O. 13158. The public will be informed of changes to the criteria through the Federal Register and the MPA web site, <http://www.mpa.gov>.

It is important to distinguish between the MMA Inventory and the List of MPAs. The MMA Inventory is not designed to fulfill the requirement of E.O. 13158 for a List of MPAs but is the first step toward development of that List. The List is to be established at some future date after an administrative process for listing has been established.

After public comment on this notice, NOAA and DOI will decide if the working criteria for building the MMA Inventory should be broadened, narrowed, or otherwise modified. A notice of agency decision will be published in the Federal Register and the MPA web site, <http://www.mpa.gov>, will be modified appropriately.

Proposal

E.O. 13158 defines a ``marine protected area'' as ``any area of the marine environment that has been reserved by Federal, State, territorial, tribal, or local laws or regulations to provide lasting protection for part or all of the natural and cultural resources therein.'' The E.O. defines ``marine environment'' to mean ``those areas of coastal and ocean waters, the Great Lakes and their connecting waters, and submerged lands thereunder, over which the United States exercises jurisdiction, consistent with international law.'' The E.O. does not define other key terms in the MPA definition such as ``lasting,'' ``protection,'' and ``cultural resources.'' Given the breadth of these terms and the wide array of sites they could include, NOAA and DOI are clarifying key terms within the E.O.'s MPA definition that will serve as criteria for determining MMAs.

Therefore, NOAA and DOI jointly propose the following definitions for: ``area,'' ``marine,'' ``reserved,'' ``lasting,'' ``protection,'' and ``cultural.'' These definitions serve as criteria and include a description of the characteristics necessary for inclusion in the MMA Inventory and a description of features that would exclude a site from the MMA Inventory.

Area

To be included in the MMA Inventory, the site:

Must have legally defined geographical boundaries, and may be of any size, except that the site must be a subset of the U.S. Federal, state, commonwealth, territorial, local or tribal marine environment in which it is located. Application of this criterion would exclude, for example: Generic broad-based resource management authorities without specific locations. Areas whose boundaries change over time based on species presence.

Marine

To be included in the MMA Inventory, the site:

Must be: (a) ocean or coastal waters (note: coastal waters may include intertidal areas, bays or estuaries); (b) an area of the Great

Lakes or their connecting waters; (c) an area of lands under ocean or coastal waters or the Great Lakes or their connecting waters; or (d) a combination of the above. The term ``intertidal'' is understood to mean the shore zone between the mean low water and mean high water marks. An MMA may be part of a larger site that includes uplands, however, the terrestrial portion is not considered an MMA. For mapping purposes, an MMA may show an associated terrestrial protected area.

NOAA and DOI propose to use the following definition for the term ``estuary'': ``Part of a river or stream or other body of water having unimpaired connection with the open sea, where the sea water is measurably diluted with fresh water derived from land drainage, and extending upstream to where ocean-derived salts measure less than 0.5 parts per thousand during the period of average annual low flow.'' Application of this criterion would exclude, for example, strictly freshwater sites outside the Great Lakes region that contain marine species at certain seasons or life history stages unless that site is a component of a larger, multi-unit MMA. Estuarine-like sites on tributaries of the Great Lakes will be considered for inclusion if they are located within the eight digit U.S. Geological Survey cataloging unit adjacent to a Great Lake or its connecting waters.

Reserved

To be included in the MMA Inventory, the site:

Must be established by and currently subject to Federal, state, commonwealth, territorial, local or tribal law or regulation.

Application of this criterion would exclude, for example:

Privately created or maintained marine sites.

Lasting

To be included in the MMA Inventory, the site:

Must provide year-after-year protection for at least three months of each year.

Must be established with an expectation of, or at least the potential for, permanence. If the reservation will expire on a date certain, the reservation must provide a minimum of two years of continuous protection and must have a specific mechanism to consider renewal of protection at the expiration of the reservation.

Application of this criterion would exclude, for example:

Areas subject only to temporary protections, such as areas protected only by emergency fishery regulations under the Magnuson-Stevens Act, which expire after 180 days, and areas that are protected by annual management specifications.

Protection

To be included in the MMA Inventory, the site:

Must have existing laws or regulations that are designed and applied to afford the site with increased protection for part or all of the natural and submerged cultural resources therein for the purpose of maintaining or enhancing the long-term conservation of these resources, beyond any general protections that apply outside the site.

Application of this criterion would exclude, for example:

Areas closed to avoid fishing gear conflicts.

Area-based regulations established solely to limit fisheries by quota management or to facilitate enforcement.

In addition, the Executive Order uses the term cultural resources. NOAA and DOI interpret this to mean any submerged historical or submerged cultural feature, including archaeological sites, historic

structures, shipwrecks, artifacts, and subsistence uses in the marine environment.

Taken together, these definitions and criteria provide the basis for selecting sites to be included in the MMA Inventory.

MMA Inventory Data Fields

In addition to the above proposal, comments are solicited on what data and information should be provided about each site in the MMA Inventory. To make the MMA Inventory a useful resource for managers, scientists, users and the public, NOAA and DOI propose to provide specific information in a consistent format for each site. This information could be used by both government and non-government entities to aid analyses of protection of marine resources and improve regional and national coordination among existing sites. Data in the MMA Inventory eventually will be used to assess whether or not specific sites meet the definitions and criteria to be placed on the List of MPAs. In order to use existing mapping data, maps for sites with upland components will depict the entire area (i.e., the marine area constitutes the MMA by these proposed definitions/criteria; however, the maps in the MMA Inventory also will show any upland component of the national park, national estuarine research reserve, etc.).

NOAA and DOI propose to collect, use, and make available to the public the following information (listed below and found on the web site <http://www.mpa.gov>) for each site in the MMA Inventory. The agencies request public comments on these data fields to determine what information will be most useful for managers, scientists, user-groups, and other members of the public.

Proposed data fields:

MMA Name (name of the site protected); Type of Area (national marine sanctuary, national park, etc.); Level of Government Managing Site (Federal, state, local, tribal); Management Organizations (government agency/department responsible for site management); Purpose of Protections (explanation of what the site was established to protect or manage); Site Description (brief description of site including general features and most prominent, noteworthy, and unique features); Information Web Reference (primary informational web home page address); Location (nearest state, territory or commonwealth); Site Boundaries (if available provide: text description, latitude/longitude coordinates, digital coverage of site boundary, and digital or hard-copy map); Size of Area (number of square miles of surface of both water and land areas within site); Additional Location/Size Information (approximate shoreline length, overlap with other protected areas, connectivity with other protected areas); Marine Components (oceans, bays, estuaries, intertidal areas, Great Lakes, submerged lands, and/or other); Natural Features (biological and geological features); Cultural Features (archaeological remains, historic shipwrecks, subsistence uses); Legal Basis for Establishment (name, citation, and summary of legal authority for creating MMA); Date Established (date initial protection afforded to marine natural or submerged cultural resources, other important dates of increasing protection or expansion of site); Primary Restrictions (brief summary of primary restrictions in MMA); Legal Basis for Implementation (citation to regulations or other legal basis for implementing MMA); Expiration Date of Protections (date, if any, of expiration of regulations or other authority); Site Programs and Plans (types of management programs and plans developed for the MMA); Enforcement (government agencies/departments responsible for enforcing restrictions on site); Effectiveness (measures used to

determine management effectiveness); Zone Information (if management of the site is zoned: general zone information, zone purposes, zone boundary delineation, zone resource protections, zone activity and use restrictions); and Information Sources (site staff/contact, publications, web sites, other sources).

Process

An initial and partial MMA Inventory comprised primarily of Federal sites, such as fisheries management zones, national parks, national wildlife refuges, and national marine sanctuaries, has been assembled and published on the MPA web site, <http://www.mpa.gov>. This initial MMA Inventory also includes state-federal national estuarine research reserves and some state sites in the Gulf of Maine and Western Pacific regions. More sites will be added to the MMA Inventory in the future.

The MMA Inventory will not contain all currently protected or managed sites in the marine environment. For example, sites developed by Regional Fishery Management Councils, in conjunction with the National Marine Fisheries Service (NMFS), NOAA, that provide less than three-months' protection or afford only annual restrictions would not appear in the MMA Inventory on the basis of the proposed working criteria.

Some MMA Inventory sites presumably will not meet all of the criteria necessary for placement on the List of MPAs during Phase II of this process. However, these sites will be maintained as part of the MMA Inventory to provide managers, analysts, and other interested parties with a comprehensive database of U.S. MMAs, including sites that may be considered for the List of MPAs, sites on the List of MPAs, and sites determined not to meet the criteria for the List of MPAs. Additional information will be added to the MMA Inventory as it becomes available.

Consultation and Public Comment

E.O. 13158 requires NOAA and DOI to develop the national MPA system in consultation with the Department of Defense, the Department of State, the United States Agency for International Development, the Department of Transportation, the Environmental Protection Agency, the National Science Foundation, and other pertinent Federal agencies. NOAA and DOI are also to consult with states and territories that contain portions of the marine environment, tribes, Regional Fishery Management Councils, and other entities, as appropriate, to promote coordination of Federal, state, territorial, and tribal actions to establish and manage MPAs. NOAA and DOI actively solicit comments from these entities and from the general public on any aspect of this notice of proposed MMA Inventory criteria, definitions, and data fields. Preliminary draft definitions and criteria, as well as inventory data fields, were first released to the public on December 21, 2000, when NOAA and DOI unveiled their MPA web site at <http://www.mpa.gov>. The public was invited informally to comment on any aspect of the web site including the definitions and criteria. For purposes of developing a final notice, comments made in response to the web site invitation will be considered as well as those made in response to this notice. Following review of comments received, NOAA and DOI will publish a final notice of MMA Inventory criteria, definitions, and data fields in the Federal Register and <http://www.mpa.gov>.

Classification

Regulatory Planning and Review

This action is not a regulatory action subject to E.O. 12866 (58 FR 51735, October 4, 1993). This notice would not impose a compliance burden on the economy generally because the proposed definitions and MMA Inventory criteria provided here are only designed to collect data that may later be used to implement E.O. 13158.

Energy Effects

NOAA and DOI have determined that this action will have no effect on energy supply, distribution, or use as required by Executive Order 13211 (66 FR 28355).

Administrative Procedure Act

Pursuant to authority at 5 U.S.C. 553(b)(A), prior notice and an opportunity for public comment are not required to be given, as this is a document concerning agency procedure or practice. Nevertheless, NOAA and DOI want the benefit of the public's comment and are voluntarily giving prior notice and opportunity for public comment.

Dated: June 25, 2003.

Conrad C. Lautenbacher, Jr.,

Vice Admiral, U.S. Navy (Ret.), Under Secretary of Commerce for Oceans and Atmosphere.

[FR Doc. 03-18733 Filed 7-22-03; 8:45 am]

BILLING CODE 3510-08-S

Inventory Database Questions

I. General Information

1. What is the name of the protected site?

2. Provide a primary data contact for this site.

3. What type of site is this?

- Federal
- State
- Federal/State Partnership
- Territorial
- Tribal Authority
- Local (county or municipal)

4. What type/level of government manages this site?

- National Marine Sanctuary
- National Estuarine Research Reserve
- Federal Fisheries Management Zone
- Federal Threatened/Endangered Critical Habitat
- Federal Threatened/Endangered Species Protected Area
- National Park System
- National Wildlife Refuge
- State Beach
- State Park
- Area of Critical Environmental Concern
- Marine Conservation Area
- Gear Restricted Area
- Other..., Specify:

5. Provide a brief summary of the purpose of the site, including why the site was set aside as a protected area and/or what resources are currently the focus of protection.

6. Provide a brief description of the site.

- a. Location and General Features:
- b. Prominent Features:
- c. Unique Features or Attributes:

7. Identify any of the following marine components that occur within the boundary of the site:

- Oceans
- Coastal Waters: Bays and Estuaries
- Coastal Waters: Intertidal
- Great Lakes
- Other, specify:

8. If available, list a Web address (URL) that provides information about this site:

II. Site Descriptions

A. Boundaries

1. Boundary Information.

- a. Provide a brief description of the site boundary.
- b. Provide a legal reference citation that identifies the boundary definition.

c. Is there a GIS data coverage showing the boundaries for the site? If Yes, provide a GIS contact name.

2. Does the site overlap or abut with the boundaries of other protected areas?

- a. List the names of the sites that overlap:
- b. List the names of the sites that abut:

3. Does the site's authority cover (select one):

- entire water column including bottom features
- water column NOT including bottom features

B. Location/Size

1. Indicate the nearest state, territory or protectorate, as appropriate.

State/Territory/Protectorate:

Second, if necessary:

Third, if necessary:

2. Indicate the following surface areas for the site.

- a.1. Marine water surface area (square statute miles):
 - Marine area unknown or not available.
- a.2. The method of determining this surface area was:
 - cadastral survey
 - GIS derived
 - GPS survey
 - grid overlay
 - planimeter
 - unknown
 - Other...
- a.3. The map scale used to determine this surface area was:
- b.1. Land Surface Area (square statute miles):
 - Land area unknown or not available.
- b.2. The method of determining this surface area was:
 - cadastral survey
 - GIS derived
 - GPS survey
 - grid overlay
 - planimeter
 - unknown
 - Other...
- b.3. The map scale used to determine this surface area was:

3. What is the approximate shoreline length (including islands)?

- a. Statute shoreline miles:
- b. The method of determining shoreline length was:
 - cadastral survey
 - GIS derived
 - GPS survey
 - grid overlay
 - planimeter
 - unknown
 - Other...
- c. The map scale used to determine the length was:
 - Shoreline length unknown or not available.
 - There is no shoreline, the site is completely offshore.

III. Legal Information

1. Provide the legal basis that established the site:

- a. Name of legal authority:
- b. Legal authority citation:
- c. Brief summary of legal authority text:
- d. Legal authority text can be downloaded from the internet at:

2. Provide any additional legal bases applied to the area of the marine component that are designed to provide increased protection to natural and/or cultural resources within the boundaries of the site.

- a. Name of legal authority:
- b. Legal authority citation:
- c. Brief summary of protections provided by the legal authority:
- d. Legal authority text can be downloaded from the internet at:

3. Provide any regulations applied to the area of the marine component that are designed to provide increased protection to natural and/or cultural resources within the boundaries of the site.

- a. Name of regulation, if any:
- b. Regulation citation:
- c. Provide brief summary of primary restrictions and protections:
- d. Regulation text can be downloaded from the internet at:

4. Legal Dates of Interest

- a. What year was the site first legally established?
- b. Provide an initial date of protection afforded to marine resources in the site.
- c. Provide any major dates of significance for this site, such as substantial changes in size or in resource protections. Enter as many as appropriate.

5. Expiration of authority or regulations.

- a. Does this site have year round protection?
- b. Does the protection of the marine component of this site expire?
- c. If Yes, when does it expire (*mm/dd/yyyy*)?
- d. Is there a specific mechanism for renewal? If Yes, briefly summarize the renewal mechanism.

IV. Site Management

1. Indicate the primary governmental agency responsible for site management.

Enter a second agency if the site is under joint management:

If applicable, enter a third agency involved in the management of this site:

2. Indicate in order of responsibility the agencies enforcing the laws and regulations of the site.

3. Is this site part of a formal network of managed areas providing protection for one or more marine resources? If Yes, list the names of those sites and the functions or resources involved:

- a. List the names of the other sites in the network:
- b. Briefly describe the nature of the network (how it operates, resources protected, etc.):

4. Does this site play an important role in the ecological functioning of other protected sites (marine or non-marine)?

5a. Indicate programs, activities, and capacities that are currently being used to manage this site.

- this question is not applicable to this site
- education programs
- research programs
- monitoring programs

- volunteer programs
- enforcement programs
- restoration programs
- permitting programs
- habitat management programs
- public use management programs
- water quality management programs
- emergency operations programs
- on-site staff
- advisory committee
- visitors center
- natural resource damage assessment authority
- Other..., Specify:
- Comments:

5b. Are the above incorporated into a comprehensive management plan that is up-to-date or being updated?

6. What measures are used to determine how effective the site is at meeting its management objectives?

- this question is not applicable to this site
- monitoring environmental indicators
- monitoring socio-economic indicators
- performance measures for water quality
- performance measures for fisheries enhancements
- performance measures for biodiversity enhancement
- performance measures for habitat quality
- performance measures for cultural/historical resources preservation
- user surveys
- Other..., Specify:
- Comments:

7. Indicate activities or issues of concern to management of the oceanic, estuarine/bay, intertidal, or Great Lakes component of the site.

- this question is not applicable to this site
- acoustics
- altered water flow
- coral bleaching
- coral damage
- disease
- direct fishing effects
- indirect fishing effects
- invasive species
- land-based nonpoint source pollution
- land-based point source pollution
- mariculture/aquaculture
- military operations
- mining operations
- oil and gas operations
- overfishing/overexploitation of resources
- poaching
- prop scarring
- recreational use impacts
- seabed alteration
- vessel traffic
- vessel-based pollution sources
- Other..., Specify:

8. Select the statement which best describes management zones within the site:

Case 1, no special zones. This site does not have any zones of differing protections and activities.

Regulations apply uniformly. For the purposes of the next section, V-a. Management Zones, you will need to include a zone called "Overall Site Zone" in the Management Zones section and **fill in part b only**.

Case 2, overall site zone with special management zones. In addition to an overall zone in which

regulations apply uniformly, this site contains additional zones of differing protections and activities.

For the purposes of the next section, V-a. Management Zones, add an initial zone called "Overall Site Zone" as the first zone in the list. You will then need to add additional management zones and information as appropriate.

Case 3, no overall zone. This site is divided into distinct management zones with differing protections

and activities. There is no overall site zone in which regulations apply uniformly. You will need to add in all of the management zones and information.

V-a. Zone Information

Not applicable for North Carolina sites.

V-b. Protections and Restrictions

For Questions 1 - 5, indicate the type of protection targeted by the site's authority for each resource or feature. If you are filling in an Overall Site Zone, then select ALL items that apply from each list. If this is a specific zone, then select ONLY those items that are different from the Overall Site Zone. Use the following choices:

Type of Protection:

1. targeted for protection
2. targeted for use
3. non-targeted but incidentally protected
4. seasonally protected
5. no protections beyond those outside zone or site

1. Cultural Resources and Protections. Select all of the resources that exist within the site or zone and indicate the type of protection targeted by the site's authority with a number choice from above:

- | | |
|--|---|
| <input type="radio"/> this question does not apply to this site/zone | <input type="radio"/> documented historic shipwreck but never located |
| <input type="radio"/> known prehistoric archaeological site | <input type="radio"/> standing structures: navigation structures |
| <input type="radio"/> identified submerged relict landforms or paleo shoreline | <input type="radio"/> standing structures: ship loading facilities |
| <input type="radio"/> distribution of prehistoric cultural remains | <input type="radio"/> standing structures: piling-built structures |
| <input type="radio"/> historically documented maritime activities | <input type="radio"/> remains of structures: navigation structures |
| <input type="radio"/> identified historic shipwreck | <input type="radio"/> remains of structures: ship loading facilities |
| <input type="radio"/> unidentified historic shipwreck | <input type="radio"/> remains of structures: piling-built structures |

2. Fish Resources and Protections. Select all of the resources that exist within the site or zone and indicate with a number from the above list the type of protection targeted by the site's authority.

- this question does not apply to this site/zone
- commercially important finfisheries
- important shellfisheries
- recreationally important finfisheries
- recreationally important shellfisheries
- ecologically important fish species
- highly migratory fish species
- important fish spawning areas

3. Marine Mammals, Birds, and Sea Turtle Protections. Select all that exist within the site or zone and indicate with a number from the above list the type of protection targeted by the site's authority.

- | | |
|--|---|
| <input type="radio"/> this question does not apply to this size/zone | <input type="radio"/> important marine mammal resting areas |
| <input type="radio"/> important marine mammal haulout/calving areas | <input type="radio"/> important bird feeding areas |
| <input type="radio"/> important marine mammal feeding areas | <input type="radio"/> important bird loafing areas |

- migratory bird species
- sea turtle nesting areas
- sea turtle feeding areas
- marine mammal migration area
- important bird nesting areas
- Other...

4. Habitat Types and Protections. Select all habitat types that exist within the site or zone and indicate with a number from the above list the , the type of protection targeted by the site's authority.

- this question does not apply to this site/zone
- kelp forests
- submerged aquatic vegetation
- coral reefs
- oyster reefs
- other living reefs
- mud flats
- emergent wetlands
- scrub-shrub/forested wetlands
- mangroves
- Other...

6. Are there threatened/endangered species that have been identified within this site/zone?

If Yes, list the species and format as follows: common name, scientific name

5. Geologic Features. Select all features that exist within the site or zone and indicate with a number from the above list the type of protection targeted by the site's authority.

- this question does not apply to this site/zone
- rock reef
- seamount
- canyon
- vent
- sand beach
- cobble beach
- rocky shore
- Other...

7. Indicate all activities/uses that occur and note how they are regulated within the site or zone by marking the boxes with one of the three following choices:

Restriction Type

1. not allowed

2. allowed with restrictions or permits

3. allowed

- | | |
|--|---|
| <input type="radio"/> all human activities | <input type="radio"/> personal watercraft |
| <input type="radio"/> extractive research | <input type="radio"/> kayaking/canoeing |
| <input type="radio"/> non-extractive research | <input type="radio"/> internal combustion engines |
| <input type="radio"/> commercial bottom trawling | <input type="radio"/> go fast boats |
| <input type="radio"/> commercial use of traps | <input type="radio"/> overflights |
| <input type="radio"/> other commercial fishing | <input type="radio"/> oil and gas exploration |
| <input type="radio"/> consumptive recreational fishing | <input type="radio"/> oil and gas extraction |
| <input type="radio"/> catch and release recreational fishing | <input type="radio"/> other mineral extraction |
| <input type="radio"/> subsistence harvesting | <input type="radio"/> environmental education/interpretation |
| <input type="radio"/> waterfowl hunting | <input type="radio"/> historic artifact removal/collection |
| <input type="radio"/> other hunting | <input type="radio"/> salvage operations (non historic) |
| <input type="radio"/> scuba diving | <input type="radio"/> military exercises/operations |
| <input type="radio"/> snorkeling | <input type="radio"/> seabed installation/surface layment |
| <input type="radio"/> large commercial vessels | <input type="radio"/> habitat restoration |
| <input type="radio"/> small commercial vessels | <input type="radio"/> building/development (structure, docks) |
| <input type="radio"/> anchoring | <input type="radio"/> Other... |

List of Marine Managed Areas in North Carolina

Federally-Designated MMAs in North Carolina

National Parks (2)

Cape Hatteras National Seashore

Cape Lookout National Seashore

National Wildlife Refuges (3)

Currituck

Cedar Island

Alligator River

3 Proposed Areas: Pea Island, Mackay Island, and Swanquarter

Monitor National Marine Sanctuary

Federal Fishery Flynet Closure

Federal/State-Designated MMAs in North Carolina

National Estuarine Research Reserves (4)

Currituck Banks

Masonboro Island

Rachel Carson

Zeke's Island

State-Designated MMAs in North Carolina

Coastal Reserves (6)

Bald Head Woods Coastal Reserve

Bird Island Coastal Reserve

Buxton Woods Coastal Reserve

Emily and Richardson Preyer Buckridge Coastal Reserve

Kitty Hawk Woods Coastal Reserve

Permuda Island Coastal Reserve

State Parks, Recreation, and Natural Areas (9)

Bald Head Island State Natural Area

Carolina Beach State Park

Fort Fisher State Recreation Area

Fort Macon State Park

Goose Creek State Park

Hammocks Beach State Park

Masonboro Island State Park

Run Hill State Natural Area

Theodore Roosevelt State Natural Area

Dedicated Nature Preserves (16)

Buckridge Coastal Reserve Dedicated Nature Preserve

Buxton Woods Coastal Reserve Dedicated Nature Preserve

Currituck Banks Estuarine Reserve Dedicated Nature Preserve

Currituck Outer Banks Preserve Dedicated Nature Preserve

Fort Macon State Park Dedicated Nature Preserve
Kitty Hawk Woods Coastal Reserve Dedicated Nature Preserve
Kitty Hawk Woods Dedicated Nature Preserve
Masonboro Island Estuarine Reserve Dedicated Nature Preserve
Nags Head Woods Preserve Dedicated Nature Preserve
North River Game Land Dedicated Nature Preserve
Northwest River Marsh Game Land Dedicated Nature Preserve
Rachel Carson Estuarine Reserve Dedicated Nature Preserve
Roanoke Island Marshes Dedicated Nature Preserve
Run Hill State Natural Area Dedicated Nature Preserve
Theodore Roosevelt State Natural Area Dedicated Nature Preserve
Zekes Island Estuarine Reserve Dedicated Nature Preserve

Game Lands (12)

Alligator River Game Land
Buckridge Game Land
Croatan Game Land
Currituck Banks Game Land
Dare Game Land
Goose Creek Game Land
Gull Rock Game Land
New Lake Game Land
North River Game Land
Northwest River Marsh Game Land
Pungo River Game Land
White Oak River Impoundment Game Land

Shipwreck Preserves (2)

Queen Anne's Revenge
USS Huron Historic Shipwreck Preserve

Outstanding Resource Waters (13)

Alligator River Area Outstanding Resource Water
Back Sound Outstanding Resource Water
Bear Island Area Outstanding Resource Water
Bogue Sound Outstanding Resource Water
Core Sound, Neuse River Basin Outstanding Resource Water
Core Sound, White Oak River Basin Outstanding Resource Water
Masonboro Sound Area Outstanding Resource Water
Neuse-Southeast Pamlico Sound Area Outstanding Resource Water
Pamlico Sound/Juniper Bay/Northeast Swanquarter Bay Outstanding Resource Water
Southwestern White Oak River Basin Outstanding Resource Water
Stump Sound Area Outstanding Resource Water
Theodore Roosevelt Natural Area Swamp Outstanding Resource Water
Topsail Sound and Middle Sound Area Outstanding Resource Water

Permuda Island Area of Environmental Concern

Fisheries Nursery Areas (3)

Primary Nursery Areas

Secondary Nursery Areas

Special Secondary Nursery Areas

Crab Spawning Sanctuaries (5)

Bardens Inlet Crab Spawning Sanctuary

Drum Inlet Crab Spawning Sanctuary

Hatteras Inlet Crab Spawning Sanctuary

Ocracoke Inlet Crab Spawning Sanctuary

Oregon Inlet Crab Spawning Sanctuary

Mechanical Harvest of Oysters Prohibited Areas (12)

Back Bay Mechanical Harvesting of Oysters Prohibited Area

Back Sound Mechanical Harvesting of Oysters Prohibited Area

Bogue Sound Mechanical Harvesting of Oysters Prohibited Area

Core Sound Mechanical Harvesting of Oysters Prohibited Area

Newport River Mechanical Harvesting of Oysters Prohibited Area

North Bay Mechanical Harvesting of Oysters Prohibited Area

North River Mechanical Harvesting of Oysters Prohibited Area

Onslow County Mechanical Harvesting of Oysters Prohibited Area

Pamlico Sound Mechanical Harvesting of Oysters Prohibited Area

South of Onslow County Mechanical Harvesting of Oysters Prohibited Area

The Straits Mechanical Harvesting of Oysters Prohibited Area

White Oak River Mechanical Harvesting of Oysters Prohibited Area

Trawl Nets Prohibited Areas

Albemarle Sound Herring Management Area

Restricted Gill Net Areas, Permanent

Restricted Gill Net Areas, Seasonal

De Facto MMAs in North Carolina

Shellfish Prohibited Areas

Military Areas (12)

Albemarle Sound Target and Bombing Area

Bear Inlet Target and Bombing Area

Brant Island Bombing and Rocket Firing Area

Currituck Sound Target Area

Long Shoal Naval Aviation Ordnance Test Area

New River Firing Range

Piney Island Bombing, Rocket Firing, and Strafing Area

Piney Island Vicinity Bombing, Rocket Firing, and Strafing Area

Browns Inlet Restricted Area

Cape Fear River Restricted Area

Harvey Point Restricted Area

Neuse River and Tributaries Restricted Area

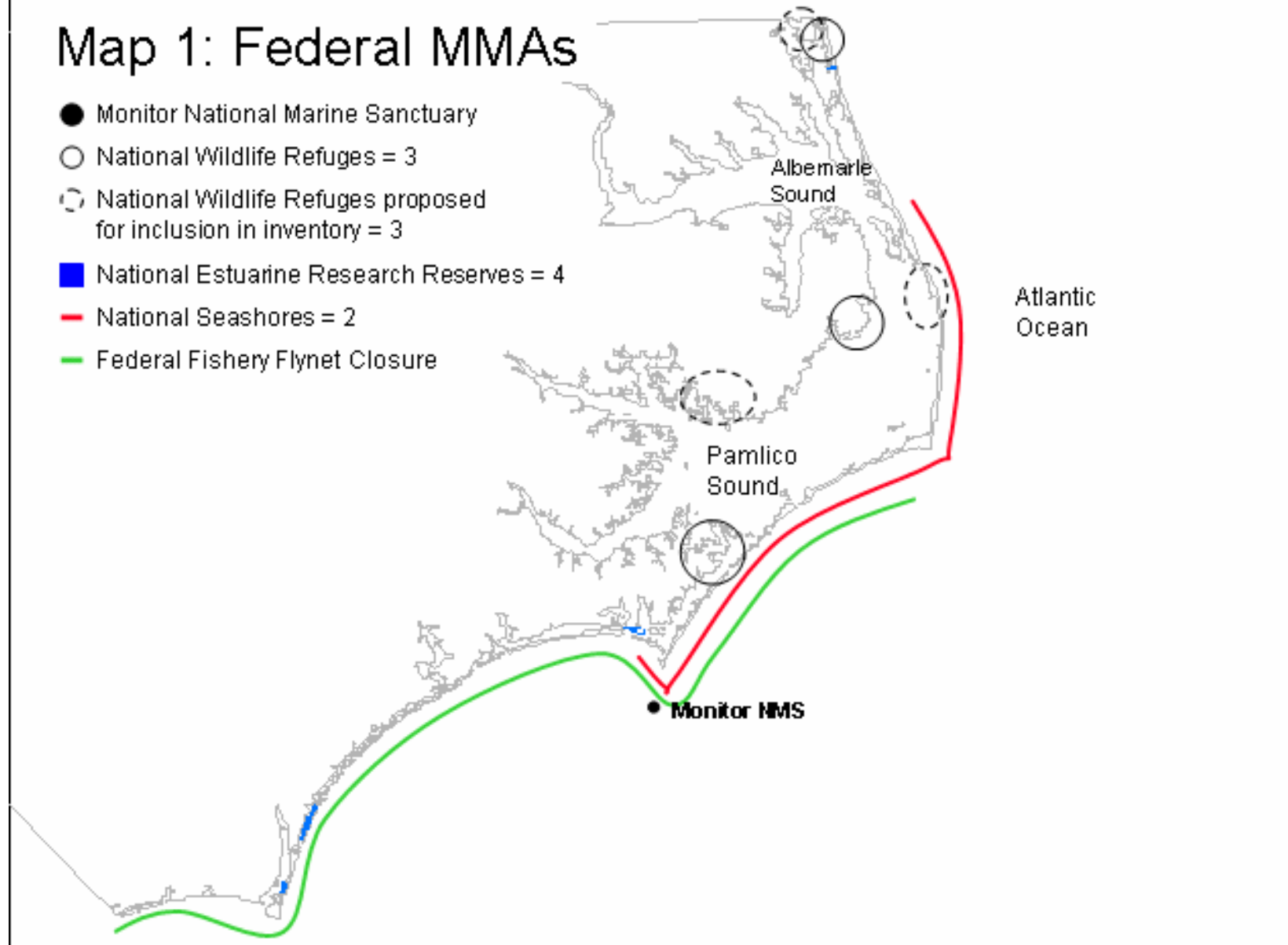
Table 1: Entities with Authority and Responsibility by Type of MMA

<u>Type of MMA</u>	<u>Entity with Management Responsibility</u>	<u>Entity with Rule-making Authority</u>
Coastal Reserves	DENR, Division of Coastal Management	Secretary of DENR
State Parks	DENR, Division of Parks and Recreation	Secretary of DENR
Dedicated Nature Preserves	DENR, Natural Heritage Program	Secretary of DENR
Shipwrecks	Department of Cultural Resources (DCR)	Secretary of DCR
Game Lands	DENR, Wildlife Resources Commission	DENR, Wildlife Resources Commission
Outstanding Resource Waters	DENR, Division of Water Quality	DENR, Environmental Management Commission
Areas of Environmental Concern	DENR, Division of Coastal Management	DENR, Coastal Resources Commission
Fisheries Areas	DENR, Division of Marine Fisheries	DENR, Marine Fisheries Commission
Shellfish Harvesting Prohibited Areas *	DENR Division of Environmental Health, Division of Marine Fisheries	DENR, Marine Fisheries Commission
Military Areas *	U.S. Army, U.S Marine Corps	U.S. Army, U.S Marine Corps

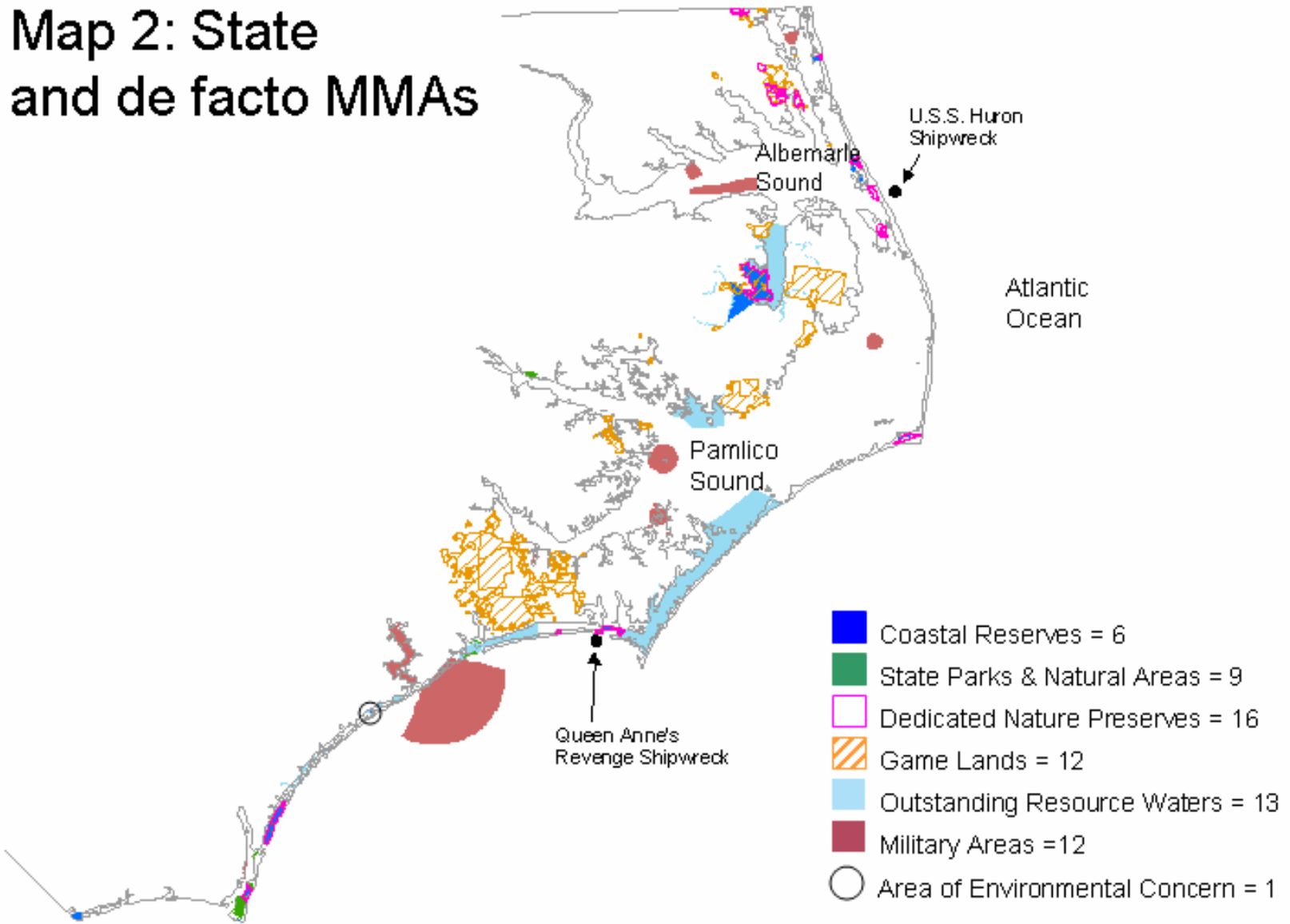
* De facto sites

Map 1: Federal MMAs

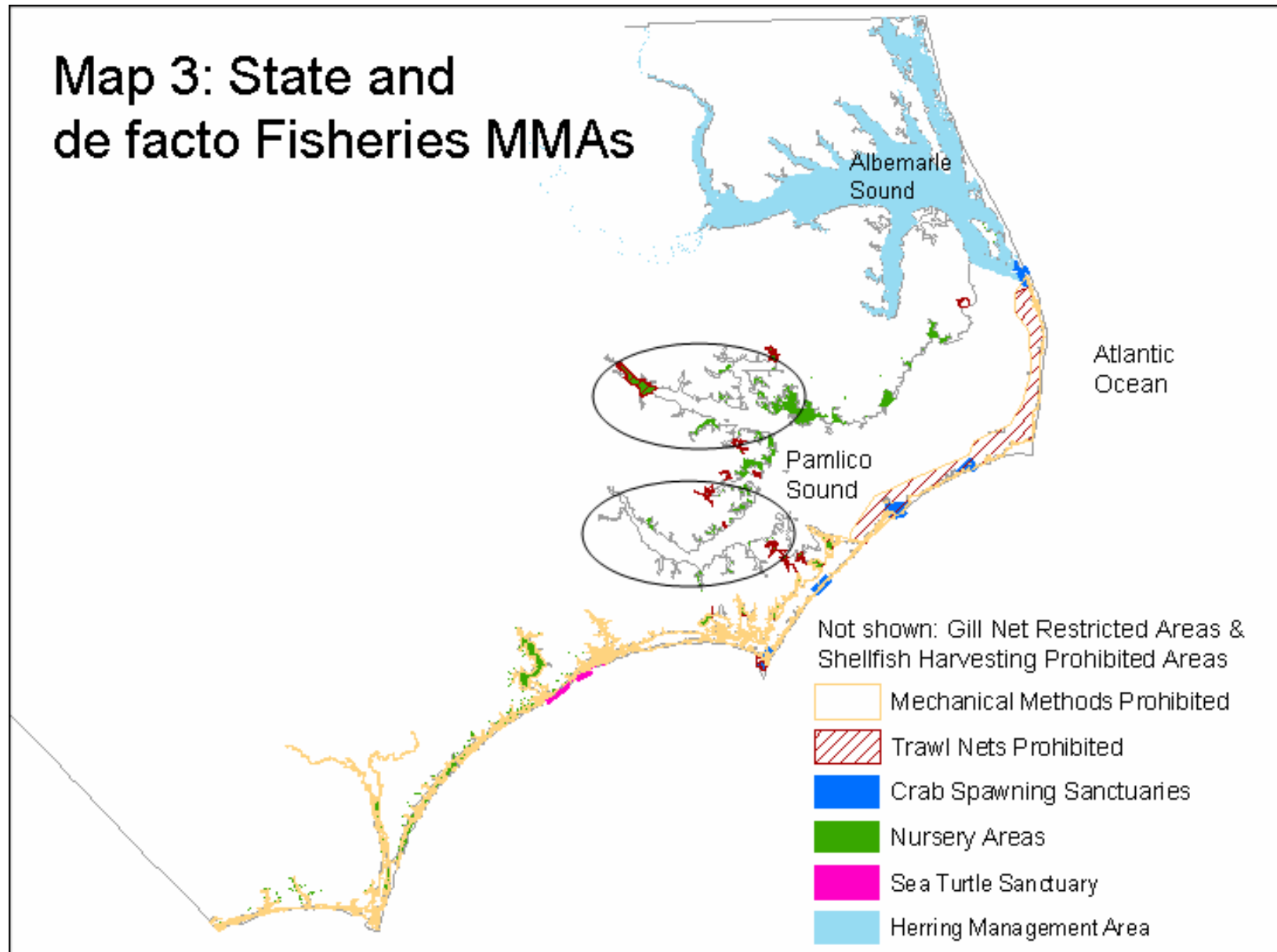
- Monitor National Marine Sanctuary
- National Wildlife Refuges = 3
- National Wildlife Refuges proposed for inclusion in inventory = 3
- National Estuarine Research Reserves = 4
- National Seashores = 2
- Federal Fishery Flynet Closure



Map 2: State and de facto MMAs

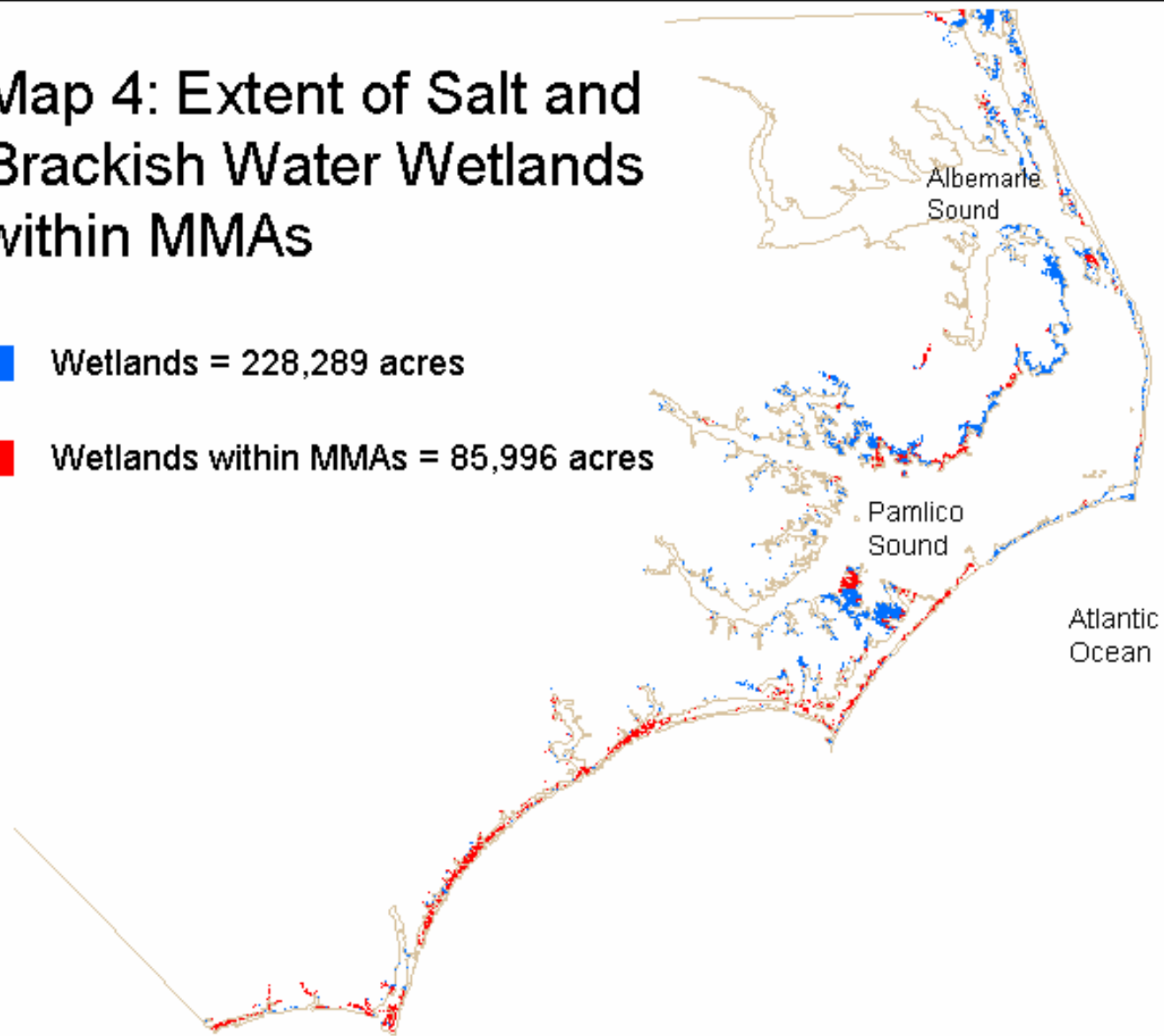


Map 3: State and de facto Fisheries MMAs



Map 4: Extent of Salt and Brackish Water Wetlands within MMAs

- Wetlands = 228,289 acres
- Wetlands within MMAs = 85,996 acres



Map 5: Extent of State Waters within MMAs

- State Waters = 2,840,459 acres
- State Waters within MMAs = > 1,288,150 acres

