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A framework for understanding marine protected area laws can help policymakers and the public understand the strength, breadth, and utility of state and local legal authorities to preserve the seas and coastal zones



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Numerous efforts exist around the world to designate and manage marine protected areas. Broad calls have been issued to designate a certain percentage of the world's oceans as MPAs, and many note that less than one percent is protected so far. However, momentum is building and enormous areas have been so-designated around the world, from the renowned Great Barrier Reef off the east coast of Australia to the Phoenix Islands of Kiribati to the Northwest Hawaiian Islands.

The International Union for Conservation of Nature defines an MPA as a "clearly defined geographical space, recognized, dedicated, and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values." Others have likened MPAs to oceanic national parks. According to an executive order issued by President Clinton, an MPA is "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."

These definitions, while accepted by many, can encompass many different types of area-based protections. As the National Oceanic and Atmospheric Administration's National Marine Protected Areas Center documents, MPAs in the United States range from fully protected, no-take reserves to areas that prohibit or limit certain types of uses while allowing others (e.g., fisheries or oil and gas development). California has established a broad MPA network that includes marine reserves, marine parks, marine conservation areas, and marine recreational management areas in accordance with its Marine Life Protection Act.

Thus, one criticism of the term "marine protected areas" is that it can range from robust, all-encompassing protections to areas that have few specific measures at all. Rather than trying to develop a single working definition of an MPA, ELI, in partnership with the Ocean Conservancy and the Waitt Foundation, has developed an Evaluation Matrix for MPA Laws that considers several factors in determining the applicability and strength of laws for coastal and marine protection (see Table 1).

ELI designed the Evaluation Matrix as part of a project to understand state and local authority for marine protection in the United States, which has been underutilized in comparison with the better-known federal laws. This project focused on identifying statutes, regulations, and ordinances that are be-

ing or could be used to protect marine environments. Detailed summaries of authorities in each state and additional information can be found on ELI's Ocean Program website at www.eli-ocean.org/mpa.

Federal authority to designate MPAs includes, for example, development of national marine sanctuaries under the National Marine Sanctuaries Act and establishment of marine monuments by presidential proclamation under the Antiquities Act. Further, some sector-specific laws allow for area-based protection related to a single activity or issue, such as the Magnuson-Stevens Fishery Conservation and Management Act, which regulates federal fisheries, and the Clean Water Act, which regulates discharges of pollutants.

While substantial research and analysis has focused on the federal authorities for MPAs, less attention has been paid to state authority. States have jurisdiction to manage and conserve living and non-living marine resources from the shore to three nautical miles out (with the exception of Florida and Texas, whose boundaries extend nine miles from shore in the Gulf of Mexico). Within these territorial seas, states have broad area-based authority. Some state laws expressly require MPA development and implementation, including designations that fully protect an area. Other laws may allow designation of areas for full or partial protection. Taken together, these state laws may contribute to lasting protection for the marine environment.

Local government authority to designate and manage MPAs has attracted even less attention. In some states, county and municipal governments may play various roles in MPA processes, from banning specific uses in local waters to engaging in the designation and implementation of MPAs. For example, San Juan County in Washington used its authority to ban jet-skis and personal watercraft in some marine waters, and the state Supreme Court upheld the ban. In 1970, the San Diego city council designated approximately 6,000 acres of submerged lands as an underwater park.

State and local governments' willingness to protect and restore marine resources can be demonstrated

both by recent MPA designations (for example, implementation of California's Marine Life Protection Act and Oregon's recently enacted law to create marine reserves) and by other measures to better manage marine resources (for example, Massachusetts's marine spatial planning law and Rhode Island's application to the marine environment of Special Area Management Plan provisions under the federal Coastal Zone Management Act).

As illustrated and explained below, the following factors were included in the Evaluation Matrix: the type of legal regime, range of ocean jurisdiction, durability over time, consistency through time, habitat-specific goals, breadth of sectoral application, strength

of enforcement tools, scope of designation, and process for expansion. Each factor can be rated from a four-star rating to zero-star rating, providing some overall measure of strength of the legal authority granted by the law.

This article provides a brief discussion of each factor in the Evaluation Matrix and provides examples of types of state and local laws that establish marine protection as they relate to each factor.

The *legal regime factor* evaluates whether the law is a regulatory, planning, incentive-based, or voluntary system, ranking a regulatory system as the most robust legal approach and a voluntary system as the least robust. A regulatory system is one that has specific, enforceable laws or rules associated with it and that requires compliance. A planning system is one that may designate areas for protection but does not require specific compliance with the plan, including, for example, land use plans in the absence of enforceable ordinances. Incentive-based systems include laws and regulations that provide monetary or other inducements for protection but do not mandate a particular outcome, and voluntary systems lack any requirements or incentives.

Our review of state and local authorities for marine protection identified a wide range of legal regimes, with many examples of regulatory approaches. For example, fisheries management laws include place-based provisions and regulations that establish regulatory requirements for commercial and recreational



TABLE 1

Evaluation Matrix for Determining Strength of Coastal and Ocean Protection Laws

	★★★★	★★★	★★	★	
Legal Regime	Regulatory	Planning	Incentive-based	Voluntary	
Ocean Jurisdiction	All marine waters	Subset of marine waters (beyond brackish)	Estuarine	Beach, tidal only	
Durability	In-perpetuity	Multi-year & adaptive	Indeterminate	Annual or seasonal	Sunset
Consistency through time	Mandates year-round protection	Authorizes year-round protection	Indeterminate	Seasonal or short-term	
Habitat	Goal = representative or multiple habitats	Goal = habitat protection	Byproduct = protecting habitat	Species-specific	
Sector	Mandates multi-sector	Authorizes multi-sector	Mandates single-sector	Authorizes single-sector	Managed
Enforcement	MPA-specific, Statutory language includes criminal penalties	MPA-specific, Statutory civil penalties specified	Some MPA-specific enforcement language	No MPA-specific enforcement language	Not enforceable (voluntary compliance)
Extent (scope)	Multi-site with expansion possible	Single site, expansion possible	Multi-site, no expansion mechanism	Single MPA, no expansion mechanism	No existing MPA but authority to create
Process for expansion	Petition for development or expansion of protected area	Specific public process for development & expansion of protected area	No MPA-specific public process	Tool for emergency response	

fishers. Many land use planning authorities allow designation of nearshore and offshore waters as natural areas or environmentally sensitive areas, including the California Coastal Act, which allows the state Coastal Commission and localities to designate environmentally sensitive habitat areas. Incentive-based and voluntary systems of protection are less frequently used.

The *ocean jurisdiction factor* determines the reach of the law into the marine environment. The highest-ranking and most comprehensive jurisdiction includes all marine waters of the state. Second is a subset of marine waters beyond the land-sea interface (beyond estuaries and beaches). Third are laws that target estuarine environments only, and fourth are laws that protect only beach environments.

States, rather than local governments, retain most

of the authority to protect marine waters. In general, state mechanisms for area-based protection diminish the further one moves from the shore, both on paper and in practice. In other words, there are a greater number of legal tools available to protect marine habitats such as tidal areas, seagrass beds, wetlands, and estuaries than tools to protect offshore environments. Many states also have broad conservation laws, such as the authority to establish state parks or preserves, which do not explicitly restrict protection to the terrestrial and freshwater environment but have not yet been applied beyond those environments in practice.

The *durability factor* is a measure of the temporal status of the designation. The highest-ranked laws are those that mandate protection “in perpetuity.” Second are laws that call for multi-year protection and al-

low some measure of adaptability. Third are laws that do not explicitly indicate the length of a designation — these typically allow for regulators to designate an area for protection for one or more sectors, but do not mandate a particular time period for the designation. Annual or seasonal laws allow designation of, or actually designate, an area as protected for one year or less and then require some type of regulatory or legislative action to continue. Finally, laws that have fixed sunset provisions are considered the least durable.

Our review demonstrated that most state and local marine protection authorities are of indeterminate duration. In some instances statutes proclaim protection in perpetuity, as is the case with the Kahoʻolawe Island Reserve in Hawaii. Only a few examples of adaptive management approaches were identified, including California's Marine Life Protection Act, and only a few laws were identified that include sunset provisions for MPAs.

Rather than measure how long the protective designation applies, the *consistency through time* factor examines how the designation applies during its lifespan. From highest to lowest, the criteria are: (1) mandates year-round protection; (2) authorizes year-round protection; (3) indeterminate; and (4) seasonal or short-term.

Often laws that apply across multiple sectors mandate year-round protection. In contrast, sector-based statutes such as fisheries-specific laws typically authorize but do not require year-round protection. Often fisheries regulations include seasonal protections to protect spawning or nursery activities during parts of the year.

The *habitat factor* is used to determine whether the law targets protection of representative or multiple habitats (highest ranking), habitat protection without consideration of representative habitats, some other type of primary protection that incidentally results in habitat protection, or species-specific protection (lowest ranking).

Few state and local laws are designed to protect representative or multiple habitat types. The California Marine Life Protection Act is one of these, requiring MPA network siting to be designed to include "a representative variety of marine habitat types and communities, across a range of depths and environmental conditions." More frequently, laws focused on marine protection either target habitat protection generally or have habitat protection that is incidental to the purpose of the provision. In the latter case, fisheries management actions often protect habitat as a mechanism to maintain or restore fishery resources. Finally, species-specific protection includes things like sea turtle nesting site protection that have the primary function of safeguarding a single plant or animal species.

The *sector factor* is used to evaluate whether the law is multi-sector or single-sector in its application. For example, fisheries designations usually only apply to fisheries activities and not to other human uses of the space. In contrast, some types of reserves regulate all human uses and activities. This factor also considers whether the statute imposes mandatory requirements or whether it authorizes one or more agencies to carry out single- or multi-sector regulation.

All coastal states have both multi-sector and single-sector authorities. Many of the planning tools are multi-sector in approach, as are some of the laws designed specifically to protect one or more marine habitats. In contrast, fisheries laws in all states are almost entirely single-sector approaches.

The *enforcement factor* focuses on whether the law contains: (1) explicit criminal penalties associated with violating the area-specific protections; (2) explicit civil penalties for such violations; (3) some area-specific enforcement requirements (but lacking specific penalties); (4) no area-specific enforcement provisions but other applicable, general enforcement provisions (e.g., department-wide or program-wide enforcement provisions that are not specific to protected areas); or (5) the law is not enforceable (e.g., incentive-based, planning, or voluntary programs).

Often state and local authorities lack specific statutory provisions that establish civil or criminal fines that relate to the MPA provisions. More often protection authorities are embedded in a larger statutory framework like a state's fisheries code, and criminal and civil enforcement provisions relate to the entire statute.

We used the *extent factor* to evaluate how many sites are protected or can be protected under a particular authority. These categories, ranging from most to least robust, are: (1) multi-site with expansion possible; (2) single-site with expansion possible; (3) multi-site with no expansion mechanism; (4) single-site with no expansion mechanism; and (5) potential authority to establish marine protection, but that authority has never been utilized.

All variations exist under state and local law. Hawaii's Marine Life Conservation District provisions and California's Marine Life Protection Act are two laws that are multi-site and allow for expansion to include additional MPAs. Alaska provides an example of statutory authority that provides single-site protection with no expansion mechanism. In many instances, authorities exist to establish natural preserves, fish and game reserves, state parks, and other protected areas that have only been used to protect land and freshwater ecosystems but, on their face, do not prohibit protection of the marine environment. These

authorities potentially offer unrealized opportunities for MPA development.

The *process for expansion factor* determines the public's role in the designation process and whether proactive mechanisms exist for expansion of marine protection. The most robust processes are those that allow anyone to petition for designation or expansion of a protected area. Next are processes that lack a petition process, but do have an MPA-specific public process for designation or expansion of protected areas. Third are authorities that have no specific process for designation or expansion (but would have to follow usual public participation requirements, such as notice-and-comment requirements for fisheries regulation development). The final category includes tools that allow emergency protection measures with no required public process.

The ways that MPAs are or can be created vary by state and by law. Some laws provide robust mechanisms for public participation, including petition processes for designating MPAs. For example, the California Marine Life Protection Act allows any person to nominate a potential MPA. In other states, the state agency or related commission has authority to undertake the designation process, which includes public participation mechanisms. Still other states rely on direct legislative acts to establish MPAs, as is the case for multi-sector MPAs in Alaska.

Many states have specific statutes that create protected areas in the ocean, ranging from multi-site adaptive programs to single-site, non-adaptive designations. All coastal states have some area-based fisheries management tools that are used to varying degrees to regulate fishing in state waters. Many coastal states also have laws that protect certain specified types of habitat, especially coastal wetlands, estuaries, and tidal areas, through heightened permitting restrictions. All coastal states except Alaska have coastal zone management programs that are used to varying degrees to protect ocean areas, and many states have other sector-specific laws that may protect some or all state waters from certain types of harm.

Multi-sector marine protection tools. At one end of the spectrum, state laws like the California Marine Life Protection Act establish a multi-site approach that limits multiple ocean uses, includes a mechanism for public petition for expansion (or adaptation) of protected areas, and targets broad protection of representative habitats. At the other end of the spectrum, some states have only single-site protections with no mechanism for adaptation or expansion. Although such laws lack expansion mechanisms, they can pro-

vide substantial and long-lasting protection; for example, the Kaha'olawe Island Reserve creates a two-mile-wide ocean reserve around the entire island.

Area-based fishery management tools. States use area-based fishery tools to limit fishery impacts to habitat and species. These may be seasonal restrictions to protect spawning aggregations, such as the Striped Bass Spawning Area designations in Delaware, or they may be year-round restrictions, such as Connecticut's fishing restrictions in Long Island Sound, which prohibit the use of nets.

Permit-based habitat restrictions. States often identify specific types of habitat they seek to protect and restrict activities in those habitats through permitting programs. For example, New York's Tidal Wetlands Act restricts impacts to inventoried wetlands and requires tidal wetland permits for development activities in those areas.

Coastal zone programs. States may use their coastal zone management authority to protect specific ocean areas through planning-based tools. For example, Rhode Island has established special area management plans for the Narrow River area, the Salt Ponds, and the ocean. Such designations include protection, management, and restoration requirements.

Not surprisingly, states have much stronger and more comprehensive authority to protect ocean and coastal ecosystems than do local governments. The extent of local government authority depends on each state's approach to local government, with "home rule" states providing localities the authority to regulate activities that the state does not. Local government authorities typically derive from land use planning authority, which varies in how far it extends into the marine environment. Some states grant localities the authority to conduct some planning and management of the marine environment in accordance with the state's coastal zone management programs.

In some instances, local authority stops at the shoreline and protection approaches are limited to beaches and estuaries. In other instances, local authority extends into the marine environment. For example, Alaska has provisions that allow municipalities to manage all tide and seabed waters to the three-mile limit of state waters.

As described in this article, the MPA law Evaluation Matrix can help legal and policy experts and others understand the strength and breadth of various legal authorities for marine protection. We applied this matrix to evaluate U.S. state and local authority for marine protection, but it would be equally useful to evaluate the legal frameworks for MPAs around the world. It also should help those developing new laws to keep in mind key legal elements that are essential for meaningful marine protection. •