

Sandy Hook Bay National Marine Sanctuary

NOMINATION DRAFT

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Section I – Basics

Title: Sandy Hook Bay National Marine Sanctuary

Nominator Name/Affiliation: Navesink Maritime Heritage Association, www.navesinkmaritime.org and a broad based coalition of local, state and regional organizations, corporations and individuals

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Section II – Introduction

Geographic Description:

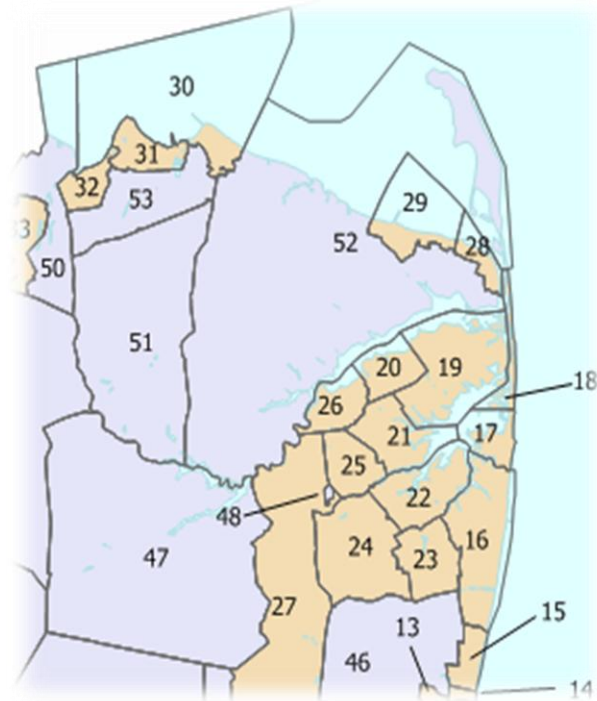
The body of water proposed as the Sandy Hook National Marine Sanctuary is the most southeastern corner of Raritan Bay and its associated headwaters of the Navesink and Shrewsbury Rivers. Sandy Hook National Marine Sanctuary is a subsection of the Raritan Bay and the greater port of New York and New Jersey. While the port of New York and New Jersey is of great historical, archeological, economic and recreational significance, the area that encompasses Sandy Hook National Marine Sanctuary can be described as a Zen experimental garden for the area at large.

Sandy Hook NMS, unique for reasons that will be explained in this nomination, would make an excellent candidate for designation as a NMS and, if successful, will become an example for further NMS development in one of the busiest metropolitan areas in the country.

Sandy Hook NMS is bounded by an imaginary line between the tip of Sandy Hook (which is a National Park facility that is the New Jersey portion of the Gateway National Recreation area) and the tip of the Earle Weapon Center Pier (a US Navy weapons facility that includes a 2.9 mile long pier). The section of the Raritan Bay that is bounded by this line is often designated as Sandy Hook Bay. Upstream (and south) from this line, the sanctuary transitions from a saltwater bay ecosystem to a saltwater estuary to freshwater rivers and creeks. The estuary rivers, as a group, are named the Shrewsbury Rivers, but actually consist of the southern Shrewsbury River estuary and the northern Navesink River estuary and are separated by a tidal reach bounded by a barrier beach called Sea Bright Reach. The two river estuaries are quite distinct in appearance mostly due to the presence of the (Atlantic) Highlands on the North Shore of the Navesink River.

This body of water, about 12,500 acres (20 sq. mi.) in size, is bounded by a number of New Jersey municipalities. Starting at Earle Naval Weapons Station, and roughly moving counterclockwise around the NMS, the NMS shoreline includes Middletown (40.99 sqm, 52), Atlantic Highlands (4.56 sqm, 29), Highlands (0.77 sqm, 28), Tinton Falls (15.49 sqm, 27), Colts Neck (watershed 30.73 sqm, 47), Red Bank (1.74 sqm, 26), Fair Haven (1.60 sqm, 20), Rumson (5.06 sqm, 19), Little Silver (2.71 sqm, 21), Shrewsbury (2.17 sqm, 25), Shrewsbury Township (0.11 sqm, 48), Eatontown (5.83 sqm, 24), Oceanport (3.18 sqm, 22), West Long Branch (2.86 sqm, 23), Long Branch (5.27 sqm, 16), Monmouth Beach (1.08 sqm, 17), and Sea Bright (0.73 sqm, 18)

This encompasses a land area of 124.88 sq. miles, which is also the near complete watershed for the NMS. The total population of these municipalities is about 200,000 people.¹



Each of these municipalities has a unique relationship to the NMS, but all have the colonial era townships of Shrewsbury and Middletown as common ancestors. Combined, these municipalities provide a rich and diverse tapestry of recreational, civic, environmental, educational, cultural, economic and social interest. The entire NMS is located within Monmouth County, NJ. The NMS would physically connect to Federal, State, County, and municipal parks and recreational facilities and actually function as the waterborne connector of these public facilities. Quite possibly, the greatest significance of the NMS would be its ability to function as a keystone connector between the large and diverse number of public recreational and park facilities included in the NMS.

Besides the public access points within the NMS, the NMS can be reached by water in private and public vessels and also with a commercial ferry service (Seastreak) that connects the NMS to New York City and the rest of the area. The NMS is also accessible by rail service through the North Jersey Coast Line (part of the New Jersey transit system). The major highway connection to the NMS would be Exits 105 through 117 on the Garden State Parkway. A very interesting aspect of the NMS is that it has a large number of access points that would allow modulation of access issues by visitors from outside the municipalities within the NMS. It is expected that low impact recreation on the NMS will increase. However,

¹ An NMS only extends to the low water line. As such the NMS will not be part of the municipalities. However, the benefit of the NMS is tightly interwoven with the bounding municipalities

due to the current state of development in the area, it is unlikely that the NMS would be able to provide significant facilities for large numbers of non local visitors.

The communities around the NMS are highly developed with waterfronts that are a mix of private homes, parks, clubs, and businesses, with the occasional farm property. At present, development of the water edge can be considered to be complete, with only possible minor alterations to the waterfront in several towns in order to improve water access for the residents.

Based on the above, the Sandy Hook NMS should be considered to be a capstone NMS that would focus on better, instead of more.

Historic Description

Historically, the NMS and its surrounding land belonged to the Leni-lenape Native Americans, who lived and traveled through the area, navigated the NMS in dugout canoes and hunted, fished and harvested shellfish.

After Verrazano, who, undoubtedly, must have sighted the Highlands and passed the tip of Sandy Hook, the area was explored by Henry Hudson. Upon sailing into Raritan Bay, Henry Hudson's first activity was to anchor off Highlands in the Sandy Hook NMS and refill his water casks at a spring along the shore in 1608.

After the settlement of New Amsterdam, in the early 1600's, the NMS was regularly visited by western traders, but permanent settlement did not occur until 1664 when a small group of settlers purchased land from the native tribes, sailed up the Shrewsbury rivers and founded a small settlement at Black Point, located in present day Rumson, right in the heart of the NMS. Due to its excellent farm land and fisheries, the area settled rapidly and became an important food supplier to New York City

The area was well known for its religious tolerance and is one of the major original settlement points for the state of New Jersey. Tinton Falls at Hockhockson Creek, one of the tributaries to the Navesink, supported an iron forge in the late 1600's². The oldest continuous business in the United States, Laird's Distillery, is located in Colts Neck, New Jersey on another tributary to the Navesink River.

During the Revolutionary War, the British retreat from the Battle of Monmouth passed through Middletown and embarked at Sandy Hook for New York City. Sandy Hook Bay was the scene of various revolutionary raids on British shipping.

After the Revolutionary War, the communities surrounding the NMS developed various manufacturing industries including ship and boat building. Red Bank and Long Branch (and later Atlantic Highlands) functioned as significant commercial ports for delivery of goods to and from New York City. The NMS served as an important seafood supplier, with very mixed fisheries including shellfish, crab, lobster and an extremely wide range of finfish. Two clammers based in Atlantic Highlands were the first people to row across the Atlantic in a boat built along the NMS.

The NMS also provided ample waterfowl. Duck hunting continues to be practiced in the NMS.

The Shrewsbury Rivers were particularly famous for the quality of its Navesink oysters.

Steamboats began plying the rivers soon after they became commercially viable and they continued to service the area into the 1920's. In the late 1800's the communities surrounding the NMS became important summer resorts for New

² Which, unfortunately, was one of the (few) major slaveholder properties in the area

York City residents and railroads began to service the area, often combined with steamboat service. Since that time, the NMS has provided very significant recreational resources. The NMS has hosted rowing and power boat racing competitions of national significance and continues to host some of the country's oldest sailing and iceboating clubs. In the early 1900's the area became significant for the development of the Sea Bright Skiff which became important in helping the rum runners in the area transport their contraband from offshore to the NMS. This culminated in the post World War II development of the sea skiff sport fishermen and the Jersey speed skiff racing boat, many of which were built along the NMS.

World War II impacted the area by the establishment of major fortifications, military logistics facilities and communication research and development facilities (including Fort Monmouth, Earle Naval Weapons Station, Hartshorne Woods and Fort Hancock on Sandy Hook, all of which are along the NMS).

Post World War II, the communities surrounding the NMS became bedroom communities while also developing its own modern economy including communication and technology research and development anchored by Bell Labs. While undoubtedly the NMS contains many archeological sites, due to tidal and saltwater effects and continued economic development, only limited archeological sites have been identified in the NMS. The most significant maritime artifact is the SS Alexander Hamilton wreck, which is positioned along the Earle Weapon Center pier. The Alexander Hamilton was the last and one of the largest Hudson River day paddlewheelers. While archeological study in the NMS has been limited³, the NMS and its surrounding land produced many historical artifacts dating from Native American, colonial, revolutionary and industrial eras, some of which are displayed in the headquarters of the Monmouth County Historical Association in Freehold, NJ.

Environmental Description

In pre-colonial days Sandy Hook NMS was an unusually bountiful natural environment. The NMS contains the Atlantic flyway and also the north-south Atlantic coast transition between the crab and lobster native populations. The Raritan Bay is the only location along the US East Coast where both crab and lobster could be commercially harvested. Similarly, the NMS contains, and is visited by, northern and southern mammal species such as seals, whales and dolphins.

Human development has variously impacted this unusually rich ecosystem, both as it relates to seafood harvesting and with regard to environmental contamination. Starting in colonial days, fish, shellfish and waterfowl stocks became depleted and gradually the ecosystem suffered loss of species and serious drops in individual species volumes from pollution and overharvesting. This trend resulted in a seriously polluted and depleted NMS in the post World War II years. However, the passage of the Clean Water Act in the early seventies started a reversing trend. The general wealth,



high level of education and specific interest in the environment by the population around the NMS has encouraged awareness and investment to increase to a level where the NMS environment has markedly improved and continues to improve. Today, as far as species count is concerned, the area may well be reaching numbers last seen in the colonial era. However, the effects of human impact on the NMS cannot be ignored and, therefore, the relationship between humans and nature will continue to spur debate. Well informed and balanced debate combined with appropriate actions will result in the continued environmental stability and improvements to the natural ecosystem of

³ Recently NMHA, under the leadership of Charles Gross, has been exploring the Swimming River banks for archeological and historical evidence.

the NMS.

Commercial and recreational fishing and hunting have been part of the NMS for over 10,000 years and it would be completely unrealistic and undesirable to prevent fishing, hunting, and other economic use of the NMS. Yet the area is ripe with opportunities to further refine the management of fisheries and wildlife, optimize yield development, and reduce pollutants. The integration of planning efforts for fisheries, wildlife, watersheds, and land use with the National Marine Sanctuary as a common connection would honor the legacies that the NMS offers future generations.

Goals Description:

The following major goals are envisioned for the Sandy Hook National Marine Sanctuary:

1. Serve as a laboratory and thought leader for integrated man/nature interaction in a rich, complex, diverse, and culturally developed environmental setting
2. Provide local sustainable resource management and improvements to maintain fisheries, recreation, habitation and hunting
3. Provide a setting that integrates the water with adjoining land based parks and public access points.
4. Provide the citizens living along the sanctuary with a common resource to benefit all, and to serve as a focal point in their ability to co-exist with nature
5. Provide a setting for exploration and education with regard to man/nature interactions and best combined land based and water based practices.
6. Extend the National Park Philosophy, America's Best Idea, to the water for the benefit of all, in perpetuity.
7. A general effort to avoid the creation of new regulations and, instead, to consolidate and streamline regulations where possible.

SECTION III Criteria Information:

Does Sandy Hook National Marine Sanctuary have natural resources or habitat with special ecological significance?



Sandy Hook NMS is located within the greater Raritan Bay/Port of New York and New Jersey environmental system. The NMS is also part of the New York-New Jersey Harbor Estuary Program.

Within the program, the Sandy Hook NMS is unique for constituting a specific, contained and almost isolated watershed and associated marine environment. Other sections of the New York-New Jersey Harbor Estuary Program are influenced by multiple states and very wide ranging upland factors, while Sandy Hook Bay NMS is entirely within Monmouth County, NJ and has its watershed almost entirely within the bounding municipalities.

The NMS itself is the southern point of the Atlantic flyway within the New York-New Jersey Harbor Estuary Program and, as such, a natural choke point of the flyway which widens to the North.

The waters of the NMS provide a transitional area with upriver spawning marshes and creeks down to a full salt water fishery in the bay section of the NMS. The Sandy Hook Bay fisheries are unusually diverse, including

almost all species in the New York-New Jersey Harbor Estuary Program.⁴

Historically the New York-New Jersey Harbor Estuary has been known for its extreme ecological diversity, but an actual inventory of the diversity does not exist. The NMS would provide a cross section of the New York-New Jersey Harbor Estuary Program area with specific biomes and habitats that represent every biome and habitat in the New York-New Jersey Harbor Estuary Program. The environmental quality of the New York-New Jersey Harbor Estuary Program has been greatly improved over the last decades. At the same time, it can be reasonably argued that the Sandy Hook NMS has seen the greatest level of improvement in water quality and general environmental care. This has resulted in the restoration of the Navesink River to a level where, today, clams can be harvested from certain sections of the river and eaten without treatment, after having been closed since the 1950's. These improvements are now driving areas of inquiry such as whether and how previously abundant species such as oysters could be restored and the impact on fish, reptile and bird stocks with the continued success of osprey and eagle reintroduction and other predators such as harbor seals and dolphins more commonly visiting the NMS. These discussions are the cutting edge of human/nature interaction and will determine how humans will sustainably co-exist with nature in the centuries to come.⁵

The NMS list of habitats includes:

- Freshwater lakes (Swimming River Reservoir and Shadow Lake and smaller fresh water ponds, some within parks and others within urban environments).
- Very substantial estuary marshes in the Shrewsbury, Navesink and Swimming rivers.
- Tidal rips (Sea Bright Reach)
- Tidal basins (Off Sandy Hook)
- Bay salt marshes (Off Sandy Hook)
- Bay beaches (Sandy Hook and Highlands)
- Tidal inlets with varying bottoms (Navesink, and Shrewsbury River with bottoms ranging from sand to silt)
- Tidal flats (Rumson Reach, Sandy Hook Bay and Shrewsbury River)
- Freshwater feeder creeks (Ranging from highland feeders in Highlands and Middletown to near flatland feeders in Long Branch and Eatontown and the highest water fall in the Southern New Jersey Coastal Plain at Tinton Falls)

It is ironic to realize that humans settled this area for its abundance and variety of water based resources, depleted these resources almost to the point of no return, and managed to turn the tide⁶ where, today, the NMS would not just focus on preservation but also on continued restoration and improvement with a possible end goal of achieving a level of success that would see a near full restoration of the water environment that existed prior to western settlement of the land, while allowing full enjoyment of the NMS original natural resources by the public. The establishment of a NMS would allow the water to speak as one voice when dealing with the subtle and complex issues that need to be resolved around the area in the future. It is hoped that without regulatory coercion, the citizens around the NMS would learn to

⁴ Possibly excluding sturgeon and shad.

⁵ This interaction is being very actively engaged in the NMS area by Monmouth Conservation Foundation in their headwaters preservation programs and the Urban Coast Institute in their marine spatial planning efforts.

⁶ It is generally known that Pete Seeger turned the tide in Hudson River conservation with his Clearwater organization. What is less well known is that citizens in Monmouth County, the home of Sandy Hook NMS, established the Monmouth County Friends of Clearwater as one of the first subsidiaries of Clearwater to focus on water improvements in the Sandy Hook NMS.

make decisions and take actions⁷ that would benefit the ability of the entire population to optimally coexist with nature in the NMS.

Does Sandy Hook National Marine Sanctuary have maritime heritage resources with historical, cultural, or archeological significance?

The Sandy Hook National Marine Sanctuary has a very rich historical and cultural background that mirrors the development of our nation. The NMS geography dictated almost continuous contact with the NMS waters for transportation, food gathering and production, recreation and economic growth. Each of the municipalities along the NMS had a direct cultural connection to the NMS waters consisting of docks, piers, harbors, boat yards, fisheries and aquaculture businesses. The NMS has been part of, and used, every generation of marine transportation and recreation, from dugout canoes to sailing vessels, steamboats and even iceboats and kite boards.

For many of these municipalities the emotional connection to the water has decreased, and a number of municipalities have made (only partially successful) attempts at re-establishing this connection. On a practical level, the arrival of commuters using the western rail and highway approaches has resulted in the loss of the historical connection that the water had with the municipalities' land base. Consequently, this resulted in neglected public development of the waterfront. Recent attempts at reestablishment of the waterfront connection have only been partially⁸ successful. The establishment of the NMS would provide a forum for optimally re-establishing this connection.

Does Sandy Hook National Marine Sanctuary have important economic uses like tourism, fishing, diving, and other recreational activities?

The NMS is an integral part of the existing economic infrastructure surrounding the NMS. The NMS itself has extremely wide ranging economic uses such as commercial ferry services, tourist and sightseer cruises, party fishing boats, recreational fishing, crabbing, recreational boating (sail and power), kite boarding, diving, clamming (recreational and commercial), commercial fishing, beach recreation, nature trails and parks that border the NMS and historical fortifications, businesses and landmarks.

Do all of these things depend on conservation and management of resources?

The unusual complexity of the NMS begs for conservation and management of resources, both ashore along the edges of the NMS and on and in the water of the NMS. Today, the water portion has no specific standing with all the various stake holders, and instead, is thought of as an afterthought that remains unaddressed due to ignorance, lack of representation or confusion⁹. The central benefit of the creation of the NMS would be the ability to point at the NMS as

⁷ These actions vary from storm drain awareness, to lawn treatment issues, to pooper scooper use, to public trash control, to recreational vessel pump out, to water edge shelter for waterfowl. These issues are most successfully resolved when there is awareness and rational voluntary compliance rather than regulatory coercion.

⁸ Meaning some attempts have been very successful, while others have not quite managed to succeed.

⁹ This is a complex concept, but it probably is best explained with examples. 1. Red Bank created a small park at the foot of Maple Avenue. This park requires very little maintenance, but because it allows water access for canoes and kayaks, it opened a very large park consisting of the entire NMS to the public. In effect, a small investment created a large park with low maintenance costs. 2. NMHA runs the River Ranger program where young middle schoolers are exposed to the river by paddling their own home built canoes. They are shocked that they can paddle from, say, Rumson ramp to Rumson Victory Park and walk to the ice cream store. It had never occurred to them that there was another "path" that led to the ice cream store. An NMS would be an effective vehicle in explaining that such a "path" exists. 3. Red Bank Riverside Gardens Park was created with a tall bulkhead thereby physically separating the public from the river and foregoing an opportunity to provide waterfront habitats. A voice expressed as an NMS could have explained that Red Bank and all the municipalities along the river would have benefitted from a more integrated connection to the river at that park. 4. Fair Haven schools, in many ways a very highly regarded school, provides middle schoolers with New Jersey

one precious, but complex, resource that can only provide optimal benefit to the humans and nature in the greater NMS when thought of in the context of a national park including the surrounding land.

SECTION IV Consideration Information

Does Sandy Hook National Marine Sanctuary provide opportunities for marine research, education or partnerships?

Fortunately, there are tremendous resources and opportunities for partnership in the NMS area.

Regarding marine research, it is remarkable that so little knowledge about the NMS ecosystem actually exists, despite centuries of human presence and interaction¹⁰ with the NMS. This lack of knowledge is generally related to the fact that this NMS has changed so rapidly over the last four centuries that it has been nearly impossible to determine what an optimized, natural and stable balance between man and nature actually is. The research and knowledge gathering on this subject will probably be the central research and education driver for the NMS, and it is expected that the knowledge gained will not just benefit the NMS but the entire country.

Some of these resources are working in geographically restricted fashion, such as the County Parks System and Gateway National Park. The presence of the NMS would extend their boundaries to a more inclusive and naturally bounded system, where cause and effect can be more effectively studied.

A sampling of research and educational organizations already active in the NMS¹¹ consists of:

1. Monmouth University (Urban Coast Institute)
2. Rutgers University
3. Brookdale Community College
4. NJ Marine Science Consortium
5. Maritime Academy of Science and Technology Sandy Hook
6. Local grade, middle and high schools. (The Red Bank primary school is actually located on the NMS)
7. The Littoral Society
8. Clean Ocean Action
9. Baykeeper
10. New Jersey Friends of Clearwater
11. Audubon Society
12. Sierra Club
13. Navesink Maritime Heritage Association
14. Monmouth Conservation Foundation
15. Municipal environmental committees
16. Local Libraries (the Red Bank Library is actually located on the NMS)
17. BSA

It is expected that the NMS will benefit from specific educational and possibly, research, access points. A number of the above organizations have expressed interest in taking the lead in securing resources and funding for creating such points.¹²

Highlands, Sandy Hook and Pine Barrens nature excursions, but does not provide an excursion to the river on which the town is situated. If the river were a NMS it would be difficult to ignore the river as a major educational setting.

¹⁰ Not only on a scientific level, but, even more significantly, on a public level

¹¹ This excludes research and education partners who are specifically assigned to resources adjacent to the NMS such as National Parks, NOAA and County Parks

At present, a number of commercial entities active in the NMS also provide educational resources. As such, Classic Boat Rides provides regular pro bono educational cruises for local educational organizations. Additionally, Seastreak provides free transportation for teachers and students engaged in marine related education.

Are there potential threats and impacts to Sandy Hook National Marine Sanctuary marine resources?

The potential threats and impacts to the NMS are limited and moderated by the existing environmental protective mechanisms in Monmouth County. However, that does not mean that no threats exist. Often those threats result from limited knowledge by stake holders, who provide unilateral decisions that may have a specific merit but fail on a system-wide level. On a practical level the threats are better described as problems related to man nature interactions that beg for improvement.

In this regard following problems are noted:

1. Lack of general boater courtesy
2. Lack of awareness with regard to river and bay wildlife and river quality issues
3. Lack of awareness with regard to NMS recreational and commercial opportunities
4. Reductions in recreational boating interest
5. Storm runoff water quality issues
6. Lack of native oysters
7. Lack of spartina grasses
8. Lack of edible species awareness
9. Clamming restrictions (check out the neat graphic)
10. Dissolved oxygen deficiencies
11. Ineffective bulkheading
12. Ineffective river scaping (living shore lines)
13. Poor land side trash management
14. Bridge replacements issues
15. Land side impervious surface issues
16. Lack of dredging
17. Limits in NMS access
18. Inadequate ecosystem man/nature sustainable education
19. Lack of protection of culturally significant NMS activities such as boat racing, hunting, fishing and port facilities
20. Overall poor and non-optimized fisheries yield
21. Local fish to table inadequacies
22. Poor feeder creek conditions
23. Fertilizer overloading
24. Poor insecticide practices
25. PCB's and other industrial residue
26. River and bay bottom degradation
27. Silting
28. Lack of existing regulation (law) enforcement

¹² At present there is a discussion about redevelopment of Marine Park in Red Bank, NJ. This park has a public activity function and planning for new structures is underway. Some of these structures could also function as an NMS visitor center.

The existence of an NMS would provide better system-wide decision making. It would teach the public and regulators that any resource adjustment has an effect through the entire system and that slight adjustments, even on unilateral actions, may provide substantially higher common benefits.

Are there existing management/regulation entities that could help with Sandy Hook National Marine Sanctuary conservation efforts?

The waters within the NMS are already managed and regulated by a wide range of entities including:

1. USCG
2. National Park Service
3. County Park Personnel
4. NJ State Marine Police
5. NJ DEP
6. US EPA
7. US Army Corps of Engineers
8. The Two Rivers Council of Mayors
9. Municipal police departments
10. Municipal emergency departments
11. Municipal environmental committees
12. Commercial responders such as BoatUS and SeaTow

It is not expected that this NMS would require additional management and regulatory resources. Instead, it is expected that, over time through mutual communication and discussion, management and regulation will become more universal and seamless through the development of a mutual understanding as to what the NMS actually represents.¹³

Central to this expectation is the design of the local NMS advisory council and its interaction and influence with the NMS management structure. This particular NMS, due to its emphasis on man/nature interaction will need to rely much more heavily on local population input to succeed. The design and make-up of local advisory councils will be the central effort in the creation of this NMS. Preliminary discussions indicate that the advisory council(s) should have representatives from municipalities, plus representatives of specific interest groups such as birders, hunters, boaters, ferry and commercial vessel operators, commercial fishermen, recreational fishermen and marina operators.¹⁴

Does Sandy Hook National Marine Sanctuary have broad community based support?

This nomination provides endorsement opportunities by a very wide range of local community interests. Besides local community interest and support, it is expected that this NMS would set a new standard for human/nature interaction on a regional and national level.

The final version of this document together with endorsement letters from as many stake holders as possible will constitute the complete nomination.

For updates on endorsements and other detailed information go to <http://www.navesinkmaritime.org/National-Marine-Sanctuary>

¹³ This is very different from a more typical formation of a park where the park is created before there is a commercial, regulatory and development status quo.

¹⁴ Guidance for council design can be found at <http://sanctuaries.noaa.gov/management/ac/>