



## **Report - Marine Resources Workshop**

March 11, 2008

Brookhaven Town Hall, Farmingville, NY

### **I. Workshop Overview**

#### **Focus of the Workshop**

This document is a summary report of a workshop conducted by the National Park Service (NPS) as part of the Fire Island National Seashore (FIIS) General Management Plan (GMP). This workshop, which took place on March 11, 2008, dealt with the marine resources of Fire Island National Seashore. In the past, management of Fire Island National Seashore—as with other coastal national parks and seashores—has focused more on terrestrial resources rather than on aquatic ones. Yet Fire Island's boundaries extend 4000' into the Great South Bay, and 1000' into the Atlantic Ocean, encompassing a wealth of submerged and tidal resources—both natural and cultural. Seventy percent of the Fire Island National Seashore is submerged. In recent years park officials have become increasingly concerned about the protection of these marine resources. At the same time, the NPS has been affirming its commitment to marine resource protection service-wide, through development of new plans and initiatives.

#### **Workshop Attendees and Purpose**

Workshop organizers invited a number of people connected with the protection, use, and management of the area's aquatic resources. NPS personnel included coastal ecologists, archeologists, and planners, as well as the acting Seashore Superintendent and other Seashore staff. Other participants included planners and environmental officials at the town, county, and state level, as well as representatives of non-profit environmental organizations such as The Nature Conservancy and Peconic Baykeeper. One of the attendees was a long-time local bayman, who harvests fish and other marine species within Fire Island National Seashore.

Proceedings began with a round of introductions, in which attendees described their connection to the marine resources of Fire Island and the surrounding waters. Planners explained that the purpose of the workshop was to define the primary objectives for managing the park's marine-based resources, and to consider a range of actions and strategies that may be pursued in achieving them. Some of these strategies will likely be explored during the next phase of the GMP—the development of management alternatives.

### **II. NPS Ocean Park Stewardship**

#### **Ocean Park Stewardship Action Plan – Presentation by Charley Roman, NPS Coastal Ecologist and Research Coordinator**

Charley Roman delivered two PowerPoint presentations. The first of these updated attendees on recent initiatives launched by the NPS regarding ocean and marine resources, particularly the *NPS Ocean Park Stewardship Action Plan*, which was announced in 2006, and the subsequent *NER Ocean Park Strategic Action Plan*.

#### Key Points of Charley Roman's Presentation

- The National Park Service has traditionally focused on terrestrial resources, but now there is an emerging emphasis on protection of marine resources within park boundaries
- *NPS Ocean Park Stewardship Action Plan* – announced in 2006. Plan calls for increased understanding of marine ecosystems and human interactions, restoration of impacted resources, and new measures to enhance resource management efforts.
- *NER Ocean Park Strategic Plan* directs the Northeast Region towards implementation of the broad goals of the *NPS Ocean Park Stewardship Action Plan*. It also emphasizes pressing challenges associated with climate change, including anticipated rise in sea level



- Focus areas of *NER Ocean Park Strategic Plan*:
  - Establish a seamless network of ocean parks, sanctuaries, refuges, and reserves
  - Discover, map, and protect ocean parks
  - Engage visitors and the public in ocean park stewardship
  - Increase technical capacity for ocean exploration and stewardship

### **Ocean Park Stewardship Objectives – from *NER Ocean Park Strategic Plan***

The goals set forth in the NER Ocean Park Strategic Plan were displayed on boards for reference. These goals are:

#### **I. Establish a seamless network of ocean parks, sanctuaries, refuges and reserves.**

- **Partnerships**—Facilitate partnership opportunities among federal, state, and local agencies and non-government organizations toward enhanced marine resource conservation and education.

#### **II. Discover, map, and protect ocean parks.**

- **Inventory Resources**—Inventory and map natural and cultural resources within the submerged boundaries of ocean parks.
- **Evaluate Threats**—Understand and quantify threats to natural and cultural submerged resources, including those associated with climate change and land and water-based activities, identify impaired or threatened resources and develop mitigation or restoration strategies.
- **Monitor Vital Signs**—Expand the natural resource vital signs monitoring program to more fully address ocean and estuarine resources.
- **Understand Human/Resource Interface**—Understand and anticipate the role of ocean park stewardship within the urban corridor given changing demography, development patterns, economies, and societal preferences.
- **Define Jurisdictions/Authorities**—Expand understanding of ocean park boundaries, jurisdictions and authorities.
- **Increase NPS Presence**—Increase the National Park Service ocean and marine presence.
- **Communicate Information Proactively**—Proactively inform park management and the public of emerging issues that could impact the status and function of marine resources.
- **Undertake Advance Planning**—Adopt a strategy of advance planning to insure that park-specific ocean stewardship issues and knowledge are available and synthesized for planning teams.

#### **III. Engage visitors and the public in ocean park stewardship.**

- **Inform the Public**—Create a communication strategy for ocean parks to better inform the public on topics of ocean stewardship.
- **Develop Interpretive Materials**—Enhance awareness and understanding of ocean stewardship issues through the development of interpretive materials.
- **Engage and Educate Visitors**—Explore approaches to engage visitors, teachers and students in the practice of ocean stewardship through experiential learning and recreation.
- **Adopt Sustainable Operations**—Demonstrate a commitment to ocean stewardship through adoption of sustainable operations and practices at ocean parks.

#### **IV. Increase technical capacity for ocean exploration and stewardship.**

- **Maximize Existing Capacity**—Maximize the existing capacity of the NER and ocean park units to engage in stewardship activities.
- **Increase Technical Capacity**—Increase the technical capacity for ocean exploration and stewardship.



### III. Current Condition of FIIS Marine Resources

#### **Marine Natural Resources – Presentation by Charley Roman, NPS Coastal Ecologist and Research Coordinator**

Charley Roman's second presentation provided a brief overview of the marine natural resources within Fire Island National Seashore including their condition and projected threats.

##### Key Points of Charley Roman's Presentation

##### **Overview of Fire Island's Marine Resources**

- Nearly 75% of Fire Island's total area is ocean and bay.
  - Ocean resources 3,191 acres
  - Bay resources 11,438 acres
  - Terrestrial resources 5,003 acres
  - Total Seashore Area 19,632 acres
- Ocean and bay habitats include: nearshore ocean, surf zone, salt marsh, bay beaches, subtidal bottom, seagrass beds. Within the Great South Bay (GSB), a majority of submerged aquatic vegetation lies within the boundary of Fire Island National Seashore.

##### **Major Threats to Fire Island's Marine Natural Resources**

- Shellfish Decline
- Alteration of bay shoreline processes (Hardened shoreline/bulkheads)
- Nutrient loading (from mainland and island sources). What are the effects of this on water quality and seagrass habitat?
- Sea-level Rise – Are Fire Island marshes keeping pace with sea-level rise? Initial studies indicate that they are not.

##### **Recommendations**

##### Marine Habitat Mapping and Assessment

- 1) Determine the extent and condition of marine habitats
- 2) Identify degraded habitats and initiate habitat restoration

##### Shellfish Conservation

- 1) Establish hard clam spawner sanctuaries
- 2) Protect and restore seagrass beds (e.g., blue crab nursery habitat)

##### Research and Monitoring

- 1) Characterize finfish, shellfish and benthic resources within park
- 2) Examine the impact of coastal development on marine resources (e.g., developed vs. undeveloped portions of Fire Island).
- 3) Establish a long-term marine research area adjacent to the Wilderness Area to stimulate science and promote a greater understanding of processes and functions

After the presentation, participants discussed Charley's recommendations. Many expressed support for establishing some sort of Marine Protected Area or Marine Reserve for the purposes of conservation and research. Others discussed the need for benthic mapping and for identifying specific objectives for this mapping.

#### **Marine Cultural Resources – Presentation by Steve Czarniecki, Park Curator and Cultural Resources Manager**

Steve Czarniecki provided an overview of marine cultural and historic resources at Fire Island. These include physical resources such as submerged historic resources (e.g. shipwrecks) and also intangible resources such as maritime traditions and folklore.

##### Key Points of Steve Czarniecki's Presentation

- Fire Island has probably been seasonally occupied since about 8,000 years ago (maybe longer). However, when we describe the cultural resources of Fire Island, traditionally we focus on post-contact periods.



- Cultural resources include not just the William Floyd Estate and the Fire Island Lighthouse, but mosquito ditches, shipwrecks (some documented; many not), island communities themselves, old wells and cisterns attesting to human presence at Old Inlet, Wilderness, and elsewhere
- They include not just physical, tangible resources, but intangible and ephemeral subjects too. Things like stories, heritage skills (boatbuilding, net making), traditions (fishing, hunting, clamming), ethnographic resources.
- Cultural resources associated with the Coast Guard include landing docks
- Traditional uses such as clamming – some people still rely heavily on the marine resources of the Seashore for livelihood. We have already lost significant aspects of the local “bayman” culture
- In general, we know much more about the terrestrial resources than the marine cultural resources within the park. However, we still don’t know enough about the terrestrial resources. For instance, we could use more inventory of archeological resources (comment from participant).

After Steve’s presentation discussion touched upon topics such as the Town of Brookhaven’s 2030 plan, the 1977-79 Section 110 Resource Survey (in which every structure on Fire Island was surveyed and only a very small number were found to meet the National Register’s criteria for significance), and the appropriate role of the NPS in supporting preservation efforts within the island communities.

## IV. Goals, Objectives, Actions and Strategies

### Goals and Objectives

Earlier in the GMP process, the planning team had developed a series of draft park goals. Broad, future-oriented goals were developed for the following topics:

- 1) Resource Management;
- 2) Research;
- 3) Land Use and Development;
- 4) Visitor Experience/Interpretation/Education and Outreach;
- 5) Park Operations and Maintenance/Facilities; and
- 6) Partnership/Civic Engagement.

During the workshop, participants reviewed the draft goals relevant to marine resources to determine whether they needed to be revised. Participants provided substantive feedback, but most of the revisions were minor, dealing with word choice (e.g. “*relatively* unspoiled,” or substituting “marine” for “ocean”). Participants also raised the topics of restoration, monitoring, and viewshed protection as possible oversights. Some of these topics were determined to be strategies rather than goals (i.e. “how’s” rather than “what’s”). Below are specific goals that were discussed during the workshop. Several have been revised based upon the input of participants.

### Goals – Resource Management

- 1) Fire Island National Seashore is a partner sharing stewardship with the public, island communities, and other partners to preserve Fire Island’s natural and cultural resources and its distinctive character.
- 2) The National Seashore is managed holistically as part of a greater ecological, social, economic, and cultural system.
- 3) Provide for the preservation of the maritime environment and its natural systems, including relatively unspoiled beaches and dunes, dynamic natural processes, and other natural features, for the use and enjoyment of future generations.
- 4) Cultural resources (including the William Floyd Estate, the Fire Island Light Station, archeological sites, and submerged resources) are identified, evaluated, managed and protected with consideration of their broader context. Management decisions about cultural



resources are based on scholarly and scientific information, fundamental resources and values, and consultation with appropriate agencies and communities.

- 5) Encourage, support, and cooperate with the incorporated villages, towns, and other island communities to identify and preserve their own distinctive character.
- 7) The sights and sounds of modern society are minimized throughout the seashore, offering visitors the opportunity to experience a natural maritime environment.
- 9) Engage in partnership opportunities among federal, state and local agencies and non-government organizations to enhance marine resource research, monitoring, conservation and education with particular emphasis on waters surrounding Fire Island.
- 10) The park implements sustainable strategies for adapting human activities to dynamic coastal processes and sea-level rise.

#### Goals – Research

- 1) The national seashore is a setting for scientific and scholarly research. Research conducted within the park will inform and support park management and contribute to the wider body of academic knowledge.

#### Goals – Visitor Experience/ Interpretation/ Education and Outreach

- 7) Programs that enhance awareness and understanding of marine stewardship are integrated into the park's interpretive and educational framework.

### **Marine Resources Actions and Strategies**

During the next phase of the workshop participants brainstormed a variety of strategies for managing the marine resources of Fire Island. Initial responses were grouped together under seven headings or "action topics." A lengthy discussion followed, in which participants contributed potential strategies for each of these action topics. Below follows a list of these potential strategies.

#### Action Topics

- 1) **Research and Vital Signs** (e.g. understanding; research; analysis & indicators)
- 2) **Resilient, Sustainable Habitats** (e.g. eelgrass beds, water quality, wetlands/marshlands, tidal systems, fish populations, sea level rise, species migration)
- 3) **Cultural Resources including Ethnographic** (e.g. inventory, management, traditional associations and uses – recreational and commercial)
- 4) **Stewardship/Education and Outreach** (e.g. relationship between marine & terrestrial, good stewardship – bayscape; locally—nationally—globally.)
- 5) **Partnerships/Working across Boundaries** (e.g. collaboration/ management/ research, sharing data, coordinating policies, communications)
- 6) **Post-Storm Response** (the vision for the island after a catastrophic storm)
- 7) **Light Touch** Regarding Facilities, Land Uses and Infrastructure (e.g. septic, green marinas, visual quality).

#### **1) Research and Vital Signs**

- Create a Research Natural Area (RNA) – This will create a controlled environment in which effective research can occur. Remove obstacles to research and other uses that would impacts research (boating, other uses)
- Identify key goals for research and for a potential RNA – What are the main research questions? Research could take place in and contribute to knowledge of a broader area, not just the waters within the NPS boundary.
- Develop baseline inventory data – We need to conduct research in order to know what the important resources are (status, condition). This would be a base for larger understanding of marine resources (finfish, fisheries, benthic habitats, archeology, migratory birds). Be efficient about combining these (i.e. approach research questions in systematic way so that inventory and mapping will provide knowledge about many topics)



- Evaluate potential boundaries for RNA. Utilize our partners; other organizations would like to help. The RNA could include ocean as well as bay. It could include commercially fished areas. The boundary will be driven by the appropriate research questions. RNA:
  - Could encompass not just NPS waters, but whole bay community.
  - Could explore social, cultural, and natural issues
  - Could be ocean or bay (or both)
  - We should not feel confined by existing boundaries (consider partners in research—TNC and others)
  - We should make sure that our work is done at a meaningful scale and that you are really, effectively answering the question.
- Consider Submerged Aquatic Vegetation (SAV), waterfowl, migratory birds and other topics as subjects for inventory and research (could be part of research questions).
- Consider idea of a clearinghouse for information. Really work with partners. Who are the right players and what information/expertise do they bring? Who should be responsible for maintaining different types of information.
- Review Existing Base Data – South Shore Estuary Reserve (SSER) has a lot of base data already – review existing data and documents. First we need to conduct a document search of what's really out there.
- Sand Sources and Types – Research types of sand and impacts of moving these sediment supplies. We need to understand how sand moves from off-shore to on-shore and how our actions might be impacting sand deposits off shore.
- Establish Memorandum of Understanding (MOU) with multiple research organizations so the process is easy to work with others
- We already have existing arrangements in place (with Stony Brook and others). However, we can expand our existing partnership agreements and look beyond them to other sources/partners (UMASS, Rutgers, etc.)
- Fire Island Law Enforcement Safety Council could be a model for this team. Share ideas/resources (about marine resources rather than law enforcement) on a very regular basis.
- Personnel – Establish dedicated NPS positions for Research and Vital Signs Monitoring at FIIS
- Document environmental change over time, starting with the past. Identify changes in environment so that it informs future (document historic trends). Establish a “shifting baseline.” Make contact with people with historic, local knowledge. Treat these people as a resource. Conduct interviews.
- Develop series of indicators (in partnership with TNC, etc.) that are representative of issues. We need to have advance indicators that changes in the environment are occurring before these changes reach epic proportions or a point of no return.
- Develop integrated monitoring program that involves multiple agencies and organizations.
- Focus research on the Great South Bay (GSB) and emerging threats and impacts to it. Utilize partnerships.
- Establish systematic long-term monitoring. Compile and analyze information from different periods. Only by considering data/changes over many years can you read a more complete story. We need long term ecological research focused on a few key indicators.
- Identify core set of variables that can be analyzed over the long term:
  - water quality (Suffolk Co. already does this)
  - fish monitoring
  - benthic invertebrates
  - physical parameters, e.g. water level (tide gauges)

## **2) Resilient, Sustainable Habitats**

- Reform sanitary codes at the state and county level
- Restore bulkheaded shorelines. Convert to sustainable natural habitat (options include: allow bulkheads to fail and not replace them; or put sand in front of them; or remove them. We need to have alternatives to offer property owners.)
- Provide demonstration projects for shoreline restoration



- Bulkheads: Thoroughly investigate options. Figure out how to make it work given regulatory constraints (develop alternatives for feasible implementation) – change policies and regulations – get us all on board and moving in the same direction. Elevate public understanding of importance of this issue. Get others on board – every strategy should have this component.
- Bulkheads. Elevate public understanding of this issue and its importance.
- Understand the opportunities posed by natural areas. Recognize that these undeveloped areas offer a measure of flexibility with regard to allowing natural processes to occur (e.g. we can let breach occur, etc.)
- Develop policy strategy for breaches and overwashes. Get something (written) in place that outlines how we respond to these. Get something in place. How do they relate to issues of sustainability? Breach management policy has to be updated and clear.
- Reconsider breach management plan? Do we need to better articulate our philosophy and approach? Reconsider “fill breach” strategy. Consider different approaches for different zones (Watch Hill; Wilderness, etc.).
- Cooperate with other levels of government regarding land uses and practices that affect marine resources (use of pesticides and fertilizer; development in the right places). Get them on board with us.
- Integrate island communities into our management strategy. Get communities on board.
- Inlets – revisit inlet management? Develop common goals we can all agree on regarding keeping them open within the next decades.
- Conduct long-term study of the impacts of fixed inlets. Through FIMP, NPS is saying there is a need to study the impact of the long-term stabilization/ maintenance of inlets.
- Develop resource management goals relating to inlets.
- Inventory, map, and study eelgrass beds and determine the requirements to maintain this habitat (light, nutrients, soils, etc.)
- Understand habitat requirements for eelgrass beds and other habitats
- Once we understand requirements of habitat, implement land use controls critical to achieving sustainable conditions. Work with partners (county, state, town, etc. to be part of this solution)
- Develop sustainability goals and management objectives – Define what sustainability means, especially with regard to certain species (e.g. shellfish). At a minimum we should be managing for sustainability. However, it is not even happening now for many species/ habitats
- Anticipate changes (sea level rise, etc.). Be proactive. Have a system in place in advance that allows us to manage for changes.
- Evaluate effects of changes in demographics/culture on resources (e.g. understand how an increase in Asian population, with custom of netting bait fish, might affect populations)
- Allow for the natural migration of wetlands inland.
- Harness local knowledge. Record observations of non-scientists about the environment and environmental change.
- Incorporate commercial/recreational fishermen in long-term monitoring system (use VTR’s – Visitor trip reports) – Institute a system like at Everglades to get data from recreational fishermen (charter boats). This is a commercial operation that serves recreational users. Implement this system in coordination with NY DEC
- Record information on take and bycatch – Obtain this info from fishermen in coordination with NY DEC

### **3) Cultural Resources (including Ethnographic)**

- Preserve and protect existing traditions – Do our best to promote conditions favorable to the continuation of traditions in the future. We have lost many aspects of local culture already; make it a goal not to lose the next important facet of culture (eel spear, net making, eel cone). Identify what we are losing.
- Greater incorporation with Long Island Traditions for purposes of documentation
- Increase/enhance living history efforts for public



- Initiate oral history program – put interviews on the web. Again, work with Long Island Traditions. Bring this (oral history) within the sphere of the park—work in collaboration; don't view oral history as separate.
- Work to understand new cultural practices that are below the radar. Understand ecological impact of these.
- Inventory archeological resources and follow up with monitoring
- Identify impacts to archeological resources (storms, etc.)
- Support communities in monitoring/inventorying older residential properties as architectural resources. Document these, especially in light of potential destructive storm – but do this in a bottom-up way. Communities must take the lead. They must also document own traditions/folklore.
- Document and collect material culture (gill net, etc.) particularly related to marine resources. The park is weak in terms of material collections (guns, art, boatbuilding, clamming) Is accruing this kind of curatorial collection more appropriate for the Maritime Museum? Maritime Museum has focus on the oyster industry. We could enhance our collections, but it must be a cooperative effort.

#### **4) Stewardship/Education and Outreach**

- Establish a multidisciplinary approach to research – Ranger can fill many hats (be an interpreter and also be collecting information and reports). Researchers should interact with recreational fisherman (Where did you find fish today? What is your catch?) In this way, help to foster pride while increasing our resource knowledge. Visitors could upload a catch report to web.
- Develop list of fishermen to help with above. New federally mandated fishing registry is in the works. Target it to the GSB.
- Enhance and diversify interpretive programs – Teach interpreters and the public traditional skills. Enhance year-round interpretation. This could be done tomorrow if we change the institutional attitudes.
- Institute a partnership-based interpretive program – Develop region-wide interpretive themes that we all agree on. Different parks/refuges/sites could tell different pieces of the story. Establish themes that serve multiple functions, etc. Each partner should focus their specific message, but all will be unified by the larger theme. Focus on large-scale, region-wide interpretation (Great South Bay could be a focus).
- Establish an Institute (like GRCA Institute). Build on Appalachian Mountain Club or FI Light House Preservation Society.
- Through interpretation, foster an understanding among the public of their impacts on water quality, etc.
- Address cost of transportation/access. We need to get people over there (to the island) through grant programs.
- Develop residential interpretive camps – restore infrastructure to be able to implement well organized interpretive program.
- Institute demonstration areas. NPS could demonstrate stewardship to public on topics such as bulkhead removal; green marinas; water-wise landscaping, minimal dredging/shallow draft ferries (for ameliorating effect on seagrass beds). Use these topics as interpretive opportunities.
- Focus on green marinas as demonstration project
- Develop comprehensive strategy for “hooking” kids. Focus on children. The NPS should take the lead. First we must listen to children; conduct focus groups with them so they help us tailor the message.

#### **5) Partnerships/Working across Boundaries**

- Establish (with partners) a central repository for information (Stony Brook?) With partners, develop a full picture of what information is currently available, who has what, determine gaps in information, and where new information should be stored appropriately.





- Historic collections should not be overlooked. Often historic accounts contain records of natural history phenomena: historic maps, aerial photos, news clippings
- Break down boundaries to sharing information between agencies, etc. Develop agreements that minimize amount of permitting procedures required. Develop deeper trust among partners.
- Publicize successful partnership efforts. Regional office, WDC, and public should hear about partnerships and how they've developed, so that everyone knows we're working together.
- Assemble a "cookbook" for data sharing
- Assemble list of contact information – who has what authority – perhaps this could be an appendix to GMP. Where do you go for what?

## 6) Post-Storm Response

- Define a vision for the period following a catastrophic storm. Review past events such as the Hurricane of 1938 or the recent Brookhaven storm – different options. What type of storm are we planning for ? (100-year, 50-year, etc.)
- The vision should **NOT** be West Hampton Dunes – what was once underwater is now heavily developed.
- Advocate for tighter legislation affecting marine resources (CEHA line, etc. Clear legislation about rules for what, where). Legislation needs to be backed up by proper implementation.
- State indemnify town and protect from lawsuits or towns could cede CEHA authority to state (& thus home rule) – not attractive to towns (*how do we word this? Currently this is not recorded correctly*)
- Implement post-storm mapping as part of our effort to identify changes over time
- Decide whether communities will be allowed to continue to exist Fire Island. Maybe the question is actually defining the type of community the NPS would like to see continue into the future. What are the desired characteristics of this community? What characteristics are undesirable? There is a need to better articulate the relationship between people and FI.

## 7) "Light Touch" – related to Facilities, Infrastructure, etc.

- Advocate for changes to regulatory structure regarding septic systems
- Get requirements changed to reflect new circumstances of development on Fire Island. Regulations should reflect new scale (big houses) of development and year round use – How many bedrooms should the zoning allow?
- Enforce higher nitrogen efficiency septic systems (at least for new construction). Implement higher standards, which are justified by the environmental conditions/impacts
- Address "knock downs" and huge new houses which are taking their place (this trend contributes to increased nitrogen loads and water quality impacts).
- Investigate opportunities for mobile facilities.
- NPS should take leadership role in initiating light touch facilities (e.g. sustainable buildings, green marinas, mobile facilities)

## V. The Most Important Ideas – Opportunities and Challenges

After the in-depth brainstorming session, participants were asked to vote on the best ideas: the strategies that they believed were most important to sustaining the health of Fire Island's marine resources. Each participant drew a star on the flip charts next to their favorite idea. The strategies receiving the most votes were then discussed in more detail. Facilitators asked the participants to consider these two questions:

- *What are the opportunities that enable this strategy to be enacted?*
- *What are the challenges that must be overcome in order for these ideas to occur?*



Below are notes from this discussion:

## **Create a Natural Research Area**

### Opportunities

- We have the appropriate submerged resources (water column, habitats, quality SAV etc.)
- Existing models (e.g. Dry Tortugas) can guide us.
- There are different approaches. A Research Natural Area is different from a marine protected area or reserve. Different goals and/or restrictions. Also, the designation does not have to be permanent.
- Partners are willing to help. Do these partners have the appropriate authority?
- Support for ocean stewardship is gaining momentum. If we have a RNA in place, we should be well positioned to receive funds.
- There is high educational value of the science as it comes out of the ground. Visiting scientists/researchers could convey information to staff, partners, and schools. We can incorporate research into web-based public information or build into local educational curriculum. An example is the "Jason Project" ([www.jason.org](http://www.jason.org)) – Bob Ballentine – live feeds into schools throughout nation from research sites
- Research natural area could draw resources to FIIS and GSB that we might not otherwise attract (both financial resources and potential researchers)

### Challenges to Address/Overcome

- This should not be undertaken unilaterally by the NPS. We need to work with the towns, TNC, NY DEC, other partners
- Research platforms. We need a pragmatic method for protecting research platforms – NPS can do this now (*Is this correct? Not sure I understand*)
- First, we need a research plan to determine objectives for research natural area
- We also need buy-in from potential leadership. We need to do our homework.
- May also need to have a public process. This may require a NEPA Environmental Assessment (EA)
- Expense of Operations. We will need to address the costs associated with all logistics (e.g. lab space, housing and transporting researchers, protecting research site)

## **Research/Baseline Inventory**

### Opportunities

- NPS is developing a (benthic?) mapping and inventory plan to launch this effort. NY State is also interested.
- Assateague NS – completed benthic mapping for MD side – It was state funded.
- If we had a Research Natural Area in place, we could use it to accomplish all sorts of research in support of both natural and cultural resources.

### Challenges to Address/Overcome

- We need funding.
- We need staff/ human resources (dedicated positions?)
- What does mapping really tell you? First we need to define the questions that we want to answer so we approach mapping in the correct way.
- Adaptive management can still happen as research is unfolding. We need to use best available information, but we still need to act. Different partners may have different comfort levels regarding action or stakeholder involvement

### Other

- Purpose is to establish a baseline for monitoring environmental change, which will help to understand change and develop management actions
- There is a need for cultural resource inventory and monitoring, too



## **Revamp Sanitary Codes at State and County Level**

### Opportunities

- Hamlet planning – There is some support for this level of planning. Help to establish a uniform community vision. An opportunity to start addressing capacity of environment
- NPS Infrastructure – we need to lead by example and clean up our own resources.

### Challenges to Address/Overcome

- There is a disconnect – sanitary codes as written are designed to protect drinking water – county and state need to acknowledge that sanitary codes as currently written are not providing sufficient protection for surface water. Sanitary codes for Suffolk County are weaker than in other areas of the state
- This process (revamping codes at different levels) is “like pulling teeth”
- We don’t know what is the nature/extent of submarine flow from FI into ocean and bay – they may not be as bad as we think they are. Is additional research warranted? (However, USGS has just completed groundwater flow study; and study of FI discharge may soon be underway)
- Our (NPS) concern is the impact on resources. If there is discharge, then we have to establish that there are impacts on our resources.
- Pathogens/Viruses are emerging issues. Disease impact shellfishing, recreational systems – endocrine destructors (inhibitors?) Sewage treatment plants are not designed to address this.
- There is little new construction on Fire Island: mostly “tear downs” – We need to address existing primitive septic systems

### Other Discussion Points

- 65% of discharge from mainland comes from residential septic discharge
- MA/MD/RI – lead the charge on modifying codes to protect surface water
- Programming – community needs to understand the ramifications of their antiquated systems. They may be inspired to act or support action.

## **Cultural Resources Including Ethnographic**

### Opportunities, Challenges, etc.

- Long Island Traditions – oral histories and documentation. They are a partner.
- Repositories for existing data are varied – They are not all necessarily located in academic or research institutions.
- We need to sort out collecting responsibilities (define scope of collections for individual institutions). Share information among NPS, Suffolk County Historical Society, Long Island Maritime Museum, etc. We need to clearly identify what items the park should be collecting
- Park has a very limited natural history collection. However, NPS has limited facilities for extensive collections and also limited staff
- NPS could start by working more with interpreters to make better use of existing collections
- Exhibiting cultural materials – need opportunities to exhibit and interpret materials
- Translate ethnographic resources into real time implications – contemporary relevance – resources exists so activities can continue.
- There are models for better partnerships One example is Fire Island Law Enforcement Safety Council. Another is South Shore Estuary Council (a model for resource management and communication)
- Opportunity. We should keep in mind that historical perspective is important. Often can help marry natural and cultural resources.

## **Targeting Children for Interpretation and Involvement**

### Opportunities

- Lots of support for idea of “Citizen scientists;” the public helping us with research.
- Facility at Talisman/ Barrett Beach could become a marine science center with lab/ classrooms – university partner
- Floating classroom/ barge. Interesting idea.



- Self-guided interpretive water trail for canoe or kayak – another good idea
- BOCES is doing a lot to help us.
- Tsongas Center (partnership with U Lowell)

#### Challenges

- We already focus interpretation on children, but this type of interp. is sporadic. There is not enough of it.
- We have no dedicated education specialist. This would help us achieve a successful children-oriented program.
- Group programs are terrestrially based and don't include the marine environment – We need to get better information to interpreters and teachers

### **NPS Facilities – “Light Touch”**

#### Opportunities and Challenges

- Outdated facilities. One idea: remove Sailors Haven marina – bring in temporary barge for visitor facility
- Work with DEC – What about habitats below barges? – We'd prefer not to have barges fixed in place for significant periods of time. Would likely be environmental impacts
- Improve NPS fleet. Convert to 4-stroke engines (opportunity and a challenge)
- Septic systems to be upgraded. Appropriate septic systems is critical to humans having a “light touch” on Fire Island.

### **Land Use Controls**

#### Opportunities, Challenges etc.

- This must involve extensive partnership efforts
- Some of key issues are those related to nitrogen loading, sediment, fertilizer runoff (watershed issues / water quality issues). Development density is connected.
- Major component of South Shore Estuary Reserve Comprehensive Plan
- Fertilizer control in FI communities is not happening. Fire Island National Seashore must take the lead in demonstrating best practices: demonstration gardens with native plants
- Nassau and Suffolk County have “No Plant” lists. As of 2009, exotics will not be allowed for sale in the bi county area.
- FIIS is part of LI Invasive Species Management Area
- Working across boundaries / partnerships – get big picture down and figure out who has what where and who should do what.
- Interagency conversation to discuss dredging – orchestrated by local Congressional delegations – discussed why dredging projects were stalling. Considered a helpful forum.

### **Define a Vision for a Post-Storm Response**

#### Opportunities, Challenges etc.

- We need to develop this vision so that we know whether to accept or reject FIMP. NPS should conduct own post-storm vision planning.
- The communities themselves have to define their vision. Encourage them to do it now, in advance of a major storm event.
- Should we consider different scenarios? Is this just assuming total devastation (i.e. reset button?)
- Brookhaven 2030 plan – opportunity to consider post-storm?
- Within the five major public tracts – including county park – the NPS would like to stress non-manipulative management / natural processes. In the communities NPS will accept some degree of human influence. Plan that recognizes differences – doesn't preclude engineered responses under certain circumstances.
- We should be careful about relying too heavily on FIMP. It may not happen (may not continue)
- If there is an overwash in part of communities – identifying standards for redevelopment/ resetting CEHA boundary

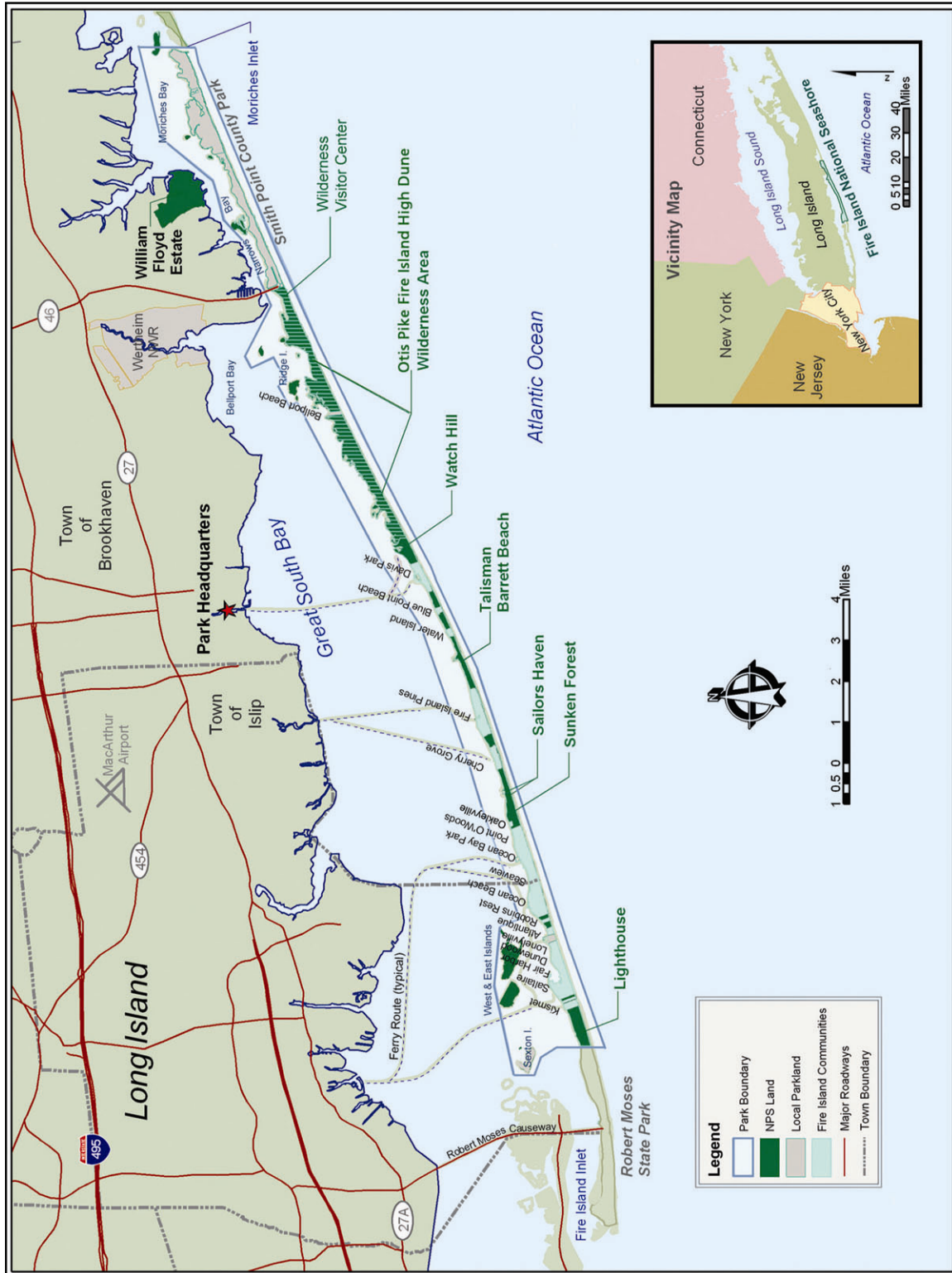


## Appendix I. List of Participants

<b>Diane Abell</b> Park Planner/ Landscape Architect	Fire Island NS
<b>Mike Bilecki</b> Chief of Resource Management	Fire Island NS
<b>Ellen Carlson</b> Project Manager	NPS NER
<b>Tom Carrano</b> Project Manager	Division of Environmental Protection Town of Brookhaven
<b>Frank Castelli</b> Env.I Project Coordinator	Suffolk County, Div. of Water Quality Protection & Restoration
<b>Karen Chytalo</b> Chief, Marine Habitat Protection	NYS DEC
<b>Steve Czarniecki</b> Cultural Resource Management Specialist	Fire Island NS
<b>Jeff Fullmer</b> Executive Director	South Shore Estuary Reserve
<b>Dave Genaway</b> Planning Director	Town of Islip
<b>Tom Gibney</b> Associate	Shapins Belt Collins
<b>Bill Griswold</b> Archeologist	NPS NER
<b>Bill Hamilton</b> Bayman	Brookhaven Baymen's Association
<b>Jeff Kassner</b> Planner	Planning Department Town of Brookhaven
<b>Robin Lepore</b> Coastal Mgmt Specialist	NPS NER
<b>Jay Lippert</b> Chief Ranger	Fire Island NS
<b>Carl LoBue</b> Great South Bay Project Director	The Nature Conservancy
<b>Kevin McAllister</b> Peconic Bay Keeper	Peconic Bay Keeper
<b>Sean McGuiness</b> Acting Superintendent	Fire Island NS
<b>Ann Moss</b> Principal	Shapins Belt Collins
<b>Patricia Rafferty</b> Coastal Ecologist	NPS NER/ Fire Island NS
<b>Charles Roman</b> Research Coordinator	North Atlantic Coast, NER/North Kingstown, RI
<b>Tamara Sadoo</b> Environmental Analyst	Suffolk County, Div. of Water Quality Protection & Restoration
<b>Paula Valentine</b> Public Information Specialist	Fire Island NS



## Appendix II. Park Map



Map originally published in *Fire Island National Seashore Business Plan*, FY 2004, © 2005, NPS