



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
**NATIONAL OCEAN SERVICE**  
**Office of National Marine Sanctuaries**  
**Stellwagen Bank National Marine Sanctuary**  
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**48th SANCTUARY ADVISORY COUNCIL**  
**October 5th, 2016 9:30 am-3:00 pm**  
**Plymouth Yacht Club - Plymouth MA**  
**MINUTES of MEETING**

**Present:**

Bill Adler	Primary: Fixed Gear Commercial Fishing
Jennifer Anderson	Federal: NOAA Fisheries GARFO
Michelle Bachman	Federal: New England Fishery Management Council
Tim Brady	Alternate: Recreational Fishing
Priscilla Brooks	Primary: Conservation
Shelley Brown	Alternate: At Large
Todd Callaghan	State: Coastal Zone Management
Alyssa Catalano	Alternate: Education
Deborah Cramer	Primary: At Large
Rich Delaney	Primary: Education (Vice Chair)
LT Phil Desroches	State: Mass Environmental Police
Tim Donovan	Federal: NOAA Office of Law Enforcement
CPT Brian Fiedler	Federal: First US Coast Guard District
John Galluzzo	Alternate: Maritime Heritage (Secretary)
Heather Gaughan	Primary: Youth
Vito Giacalone	Primary: Mobile Gear Commercial Fishing
Kirstyn Haley	Alternate: Youth
Laura Howes	Primary: Whale Watching
Martin Klein	Alternate: Maritime Heritage
Heather Knowles	Primary: Diving (Chair)
Joseph Levine	Research: Alternate
Bob McCabe	Alternate: Marine Transportation
Steve Milliken	Alternate: Whale Watch
Frank Mirarchi	Alternate: Mobile Gear Commercial Fishing
Kate O'Keefe	State: Mass Division of Marine Fisheries
Michael Pierdinock	Primary: Recreational Fishing
Kevin Powers	Primary: At Large
Howard Rosenbaum	Primary: Conservation
Mason Weinrich	Primary: Research
John Williamson	Primary: At Large

**SBNMS Staff:**

Craig MacDonald	Anne-Marie Runfola	Mike Thompson
Ben Cowie-Haskell	Elizabeth Stokes	Nathalie Ward
Matthew Lawrence	Alice Stratton	Paul Ticco - ONMS NE&GL Region



## **I. Welcome and Seating of New SAC Members, Approval of 47<sup>th</sup> SAC Minutes and Review of 48th SAC Agenda (H. Knowles)**

The 47th SAC Minutes were approved. The 48th SAC agenda was approved.

## **II. SAC Business**

### **i. Welcome New Members and SAC Recruitment (1 August and 1 November 2016)**

August 1<sup>st</sup>, 2016 Recruitment for Business Industry (Alternate) seat: No applications received.

November 1<sup>st</sup> Recruitment – application deadline is November, 30<sup>th</sup>:

- Business Industry Alternate - Vacant
- Conservation Primary
- Education Alternate
- Marine Transportation Primary
- Marine Transportation Alternate
- Mobile Gear Commercial Fishing Primary
- Recreational Fishing Primary

The 49th SAC meeting will be held end February or early March 2017 time frame. SAC will be queried on best date.

Craig MacDonald: Announced he will retire 31 December. He thanked the SAC and shared his appreciation for all the contributions members have made in leading the SAC and supporting constituencies. John Williamson lauded Craig MacDonald's leadership temperament. John added that it's been a challenging time and not an easy ride over the last 10 years. Craig MacDonald came in at a low point in the sanctuary program and demonstrated a steady leadership, with fiduciary responsibility at the forefront, dismissing political decisions in favor of what's right for the sanctuary.

## **III. Council Round Robin**

Heather Knowles explained what the Round Robin is and how it is relevant to SAC participation. It provides the opportunity for SAC members to share and pass along information. SAC members introduced themselves and provided updates on issues within their respective organizations. The Council Round Robin is very informative, originally intended as a short snapshot from each member's organization. (If a SAC member wants their Round Robin write-up included in the SAC Minutes, please email it to [Nathalie.Ward@noaa.gov](mailto:Nathalie.Ward@noaa.gov) and [Elizabeth.Stokes@noaa.gov](mailto:Elizabeth.Stokes@noaa.gov).)

## **IV. Management Plan Update (B. Haskell and A. Stratton)**

At the last SAC (47<sup>th</sup>) meeting, the SAC had an extensive discussion on a number of topics generated from the creation of a subcommittee to focus on climate change. This discussion led to further conversations about the need to understand where the sanctuary is in terms of progress or lack thereof, and in terms of the implementation and execution of the Management Plan. This culminated in an action item asking the staff to report back at this meeting to provide a status assessment in terms of the major strategies and objectives of the 2010 Management Plan and how the sanctuary is doing. This would help in subsequent discussions on where priorities should be and

allow the SAC to provide effective input. This is only a starting point but a lot of good, hard work went into the report.

Ben Haskell stated there is some institutional knowledge that still remains within the SAC. But a lot of members are not familiar with Management Plan and its contents. He explained the procedure for the release of the Condition Report which is a precursor to the Management Plan, and how the Management Plan came about. He explained the chronology of the Management Plan process and where the sanctuary stands with implementing this Plan. The crux of the Plan is the 11 action plans that comprise much of the document. These are issue-driven detailed action plans for addressing a particular problem, such as ship strikes of whales, and common management objectives. An assessment was completed on the implementation of each of these action plans and related strategies – a total of 104 – that compared the 2010 assessment to the assessment conducted in 2016. This assessment was done by sanctuary staff going through each strategy. Ben explained the methodology on how this was done. This is not a formal new Management Plan review. This is an alternative exploratory process with support from ONMS headquarters.

The Final Management Plan is an extremely useful resource and is the blueprint used for management of the sanctuary. It is an incredible piece of work and one of Craig MacDonald's legacies. Ben emphasized that the sanctuary budget has been 'flat' which has constrained the ability for more in-depth implementation of the Plan.

Discussions/Comments/Suggestions follow regarding the presentation, specifically the individual action plans and related strategies and content of the presentation (Jen Anderson, Priscilla Brooks, Rich Delaney, Vito Giacalone, Ben Haskell, Les Kaufman, Heather Knowles, Laura Howes, Craig MacDonald, Steve Milliken, Howard Rosenbaum, John Williamson):

Priscilla Brooks asked Craig MacDonald to list the top major accomplishments generated from the Management Plan. The list is at Appendix.

Do not want to miss the opportunity to work with NOAA Fisheries Science Center in developing the next Condition Report.

SAC should consider forming a working group for small boat interactions with whales. A working group is important because it goes well beyond the sanctuary. Boats are speeding through the sanctuary – need more policing on the water. This ties into "WhaleSense". It's a valid point to look into this beyond the whale watch aspect as it would reach out to any boat out on the water. Laura Howes volunteered to help form a small boat working group. This is where we have an opportunity to explore this issue working within the framework of the existing Management Plan and to come up with some strategies.

Two other broader issues that probably tie in with climate change that is going to be an underlying context: How are things being impacted? What are the constraints to consider when getting into the Management Plan review or the Condition Report process? There is some distinction.

Do you stay the course or do you build upon where you have already have success, such as expanding on the acoustics program. Important to start flushing out some of these issues.

A lot has been accomplished but need to continue to focus and address new challenges and new issues that have arisen since 2010. Need to include specific accomplishments.

Some notable frustrations have occurred trying to implement high priority recommendations from the Management Plan. Understanding what is being managed as a baseline will change. Ties into what the SAC can be doing. There have been new developments in the marine sphere world, i.e., public awareness of sustainable seafood and 'eat local' movements that provide an opportunity to work with the fishing community, which weren't really part of an awareness at the onset of the Management Plan. Climate change is another important issue. Constraints need to be considered when getting into the Management Plan or the Condition Report process.

Maybe establish a subcommittee to take a closer look at which actions that have not been implemented. There are emerging large issues that will significantly affect sanctuary management going forward so maybe focus on those – maybe starting with a blank slate. Recommendation is to dig a little deeper into this assessment and deciding which strategy is worth pursuing or worth the effort to implement. Funding is an issue for another Management Plan review in the next 5 years. There are no funds available for a full-fledged management plan review. Forming a working group doesn't cost anything but it's a time commitment. It would make sense to really focus on important issues on the second go around of the Management Plan and this wouldn't take as long to prepare.

NOAA is already planning for the FY19 budget so that ship has sailed as for the FY17 and FY18 budgets. Plus there will be a new administration. This should be kept in mind.

There will not be a formal Management Plan revision any time soon. There has been progress with the present plan but there is still more opportunity for more progress. Best effort is to invest time and effort into the existing management plan and work with staff to identify priorities. Efforts are best spent on common ground issues that as a SAC everyone can share in, agrees to prioritize and make progress. It is important to hone in on how to move forward.

Is there any interest in a subcommittee and if so how many? Maybe the possibility of forming two subcommittees and a working group. The first one could be its own subcommittee working with the existing Management Plan and the second one a conceptual model workshop. The third one is a distinct activity and relevant topic.

A subcommittee would be the most important. Should be balanced, reflect the diverse of the SAC and needs to have energy and time to commit. Work with Mike Fogarty on the Condition Report. This could be a scientific assessment piece and would only need 2-3 volunteers to join that process. Need to make a decision and take action on creating a subcommittee or not. SAC needs to relevant. It is important that a diverse group like the SAC come together and share ideas.

Discussion highlighted the importance of climate change as being part of the Management Plan context. Heather Knowles, SAC Chair, recommended continuing the discussion on the Management Plan until after the "Climate Change Vulnerabilities and Analysis" presentation later in the day.

#### **V. Volunteer of the Year Award (Anne-Marie Runfola):**

Anne-Marie Runfola, Nathalie Ward, Craig MacDonald, and Heather Knowles presented Judith Allen with the Stellwagen Bank Sanctuary Volunteer of the Year award. In addition to being Registrar at College of the Atlantic in Bar Harbor, Maine, Judith is Associate Director at Allied Whale, the marine mammal research arm of the college, and Curator and Database Operations Manager of Allied Whale's North Atlantic Humpback Whale Catalog (the Catalog, est. 1976). Judy manages the Catalog on a volunteer basis. She contributed 600+ hours of analysis in 2015, and in the process increased the quality of the sanctuary system's marine mammal research and advanced our understanding of humpback migration and the importance of protecting transboundary species.

The Volunteer of the Year award, offered through the National Marine Sanctuary Foundation, allows us to highlight the significant services donated by volunteers to key sanctuary programs, and shows other citizens how they can get involved and make a difference. 2016 is the 10th anniversary of Stellwagen's Sister Sanctuary Program (2006-2016). Judith's work has been instrumental in our understanding of how humpback whales spend their lives inside Stellwagen and the migratory patterns that link the 5-member nations of the North Atlantic Humpback Whale Sister Sanctuary Program (NAHW-SSP). Her work with the NAHW Catalog and SBNMS's SSP is key in helping scientists design programs to expand protection for this shared species beyond U.S. Borders.

**VI. Working Lunch presentation: Peter Stevick - never provided a summary for the minutes. Nathalie will write up something?**

### **VII. Climate Change Vulnerabilities and Analysis (B. Haskell and A. Stratton)**

Ben Haskell –This is a follow-on to the presentation from Sara Hutto, GFNMS where a particular methodology climate vulnerability analysis was used. At the last SAC meeting, Sarah gave an excellent presentation which provided an extensive assessment of vulnerabilities and impacts and management practices to take from there. Should that model be followed or modified, or try a different approach. Two actions plans were provided as examples. Ben introduced Alice Stratton, staff marine ecologist, who described what the approach has been. SBNMS does not have the funding or staff to support this type of extensive assessment. Decided to tie it back directly to the Management Plan and related action plans. Look at each action plan and do a potential climate assessment on each one. The document is a preliminary working draft. Is this the approach that works, is it useful for staff and SAC to assess climate impacts? Reiterated that these are working drafts -- just looking at the concept. The SAC Executive Committee is very supportive of these documents.

Discussions/Comments (Bill Adler, Jen Anderson, Priscilla Brooks, Deborah Cramer, Rich Delaney, Vito Giacalone, Ben Haskell, Les Kaufman, Heather Knowles, Laura Howes, Craig MacDonald, Michael Pierdinock, Kevin Powers. Howard Rosenbaum, Steve Milliken, Alice Stratton):

How does this lead up to a systemic action plan to protect the sanctuary's values, in the face of climate change and what should the SAC be looking for in terms of advice -- not about the process but about the climate changing. What would the document in the end suggest that the sanctuary do? What is the SAC asked to support?

Ben Haskell responds: First there needs to be complete assessment of the action plans. Recommendations be how to proceed and changes to consider for the next iteration of the management plan. Cannot answer this until all 11 action plans are analyzed. An example would be in the area of water quality. There is currently no water quality program in the sanctuary. Used to have an adequate one but funding ran out and it was curtailed. MWRA has pulled back on their monitoring stations in Mass Bay. So there is nothing in the sanctuary. A recommendation would be to fund an actual water monitoring program so climate induced changes could be monitored in real time. Use this data to build out scenarios where things might go based on trends. This would be helpful to management.

Water quality monitoring is useful. Options are limited. The sanctuary can say water is getting warmer, so? Northern shrimp are gone, some species moving north into Gulf of Maine. Yet northern NE quotas are not keeping up with this, it has to do with water temperature. Climate change causes the copepods and species to migrate somewhere else. The whales that frequent the

sanctuary may go somewhere else. This is being discussed now but what can be done. Suppose that you could complain if it was from pollution. Other than making the sanctuary make that statement beyond that, what can be done?

Ben Haskell responds: Everyone is faced with the same question. As a management body, our options are limited because of the global nature of this problem. There are things that the sanctuary can contribute. Giving specific examples and impacts on the sanctuary. Public outreach and education efforts could be tweaked and refocused on addressing what individuals and communities can do. Some of these problems cannot be addressed at the regional or local level. But something needs to be done.

Climate impact assessment is more than just a word. Monitoring the water quality is huge for SBNMS because of the outfall pipe, it should continue to be monitored. There are different levels of impact like fishing. Look at the bigger picture, take a small snapshot then compare it to other places along the coast, fine tuning noise pollution -- how it's affecting certain things -- in some regions with wind turbines some species are driven out and brought in other species. Whether it's climate change or however you label it is an important factor to keep track of it.

It is an important assessment -- how climate change is affecting things. Hard, maybe you could measure the climate changing, but pattern fluctuates quite a bit in the sanctuary. Don't really know the pattern that is being seen.

The term climate change is a broad term. Documenting climate change is hard to do. But the overall trend of something moving in one direction would give an indication of climate change and water quality monitoring would be critical to understanding that. If there is a change in temperature, Ph levels, etc., it's a clue that the environment is changing and if some other cause and effect that is going on you have something to latch on to. Noise pollution is another important avenue. Another thing critical to fish, whales and birds is sand lance. If sand lance suddenly disappeared off the bank and the hydrology factors stayed the same, all of these other animals will leave. Having the water quality information over a very long period of time, this would something that needs to be monitored for decades to see what the trends actually are and how and they are attributable to everything.

Propose that the SAC take a systems view. We know that climate change is happening, and have a pretty good idea how to postulate what the effects will be. Until the pieces are put together, they will remain invisible. Knows that lobsters will still be in the canyons if lucky, sand lance will still be if the sand is taken away. But we will be inundated with mid-Atlantic forages and other species. Recommend that in one of the sections, cast that scenario -- what the sanctuary is going to look like almost inevitably by what has already been observed and imagine what we will have left to manage and how. This is changing very fast and very high speeds. Let's just get on top of this and take the abundance of science that is available to project a scenario with all of the pieces, not just one piece at a time, and see what the sanctuary will look like in as little as 20 years.

These are exactly the questions we need to be asking and the kind of focus that as a group needs to be brought to these issues. Modeling out a picture of what the sanctuary will look like 20 years from now with the impact of climate change and probably other things as part of that mix. Looking at the work that has been done so far has been correct in the sense of the right direction. This puts us on the path to doing this and we can add and develop the approach as we move along.

Referring to Question 1 of Proposal: What are the specific items that are being monitored. What specific ideas that are being monitored. Don't want to attribute something to climate change because sand lance left. What is being measured? Monitoring at this point is more important than

measuring. What is the recommendation to monitor now and how can the SAC help with more ideas.

Ben Haskell responds: Standard suite of water quality parameters needs to be measured at least quarterly. Include chemical components of the water column. Had a 2-year study looking at ocean acidification in the sanctuary in deep water but the funding ran out. An instrumentation package was deployed for a total of a year. It was beginning to reveal disturbing results. Now this isn't being done anywhere in the Gulf of Maine looking at ocean acidification. That should be done and makes sense to use the sanctuary as a sentinel site. The biological aspect -- sand lance are chief among them, whales -- pick the indicators that are very sensitive to climate change -- acidification and temperature.

Still monitoring is the most important and the management part of it is premature. We should be a leader in monitoring and being a resource for reporting what we may be seeing.

Agrees that management comes later - collect the data to differentiate what is climate change and what is not to the extent that is possible.

Some type of analyses could be drawn up that if the water quality goes down or up that the sanctuary will lose some of the things that now attracts marine species to the sanctuary. This would be important to know and good analysis to have.

Referring to second question: Should say does it provide sufficiently well integrated view of what is going to happen? Mantra is that we use adaptive management. That has 3 things that have to go on at the same time, 1. monitor and observation; 2. Analysis and modeling; 3. do experiments through management interventions. Do these have climate implications. Need the whole picture laid out.

For many years has said that ocean acidification needs measured regularly in the sanctuary. We seem to get turned down for the type of monitoring we need. We should not be sitting around waiting for it to come. There is plenty of evidence from other parts of the ocean that we can pull into this analysis that shows what happens when water temperature increases. Need to start making a picture of what the sanctuary is going to look like and need to do it now regardless of we get any funding.

Has been requesting monitoring for the past several to assess water quality including sediment sampling and the impact of the continued sewage discharge from. There are many studies that have been done on impacts of pharmaceuticals on fish. This whole issue is coming. Requests that pharmaceuticals be included and that the SAC be at the forefront and that it is having an impact in the sanctuary. Continued assessment and monitoring is consistent with the climatic change where fish are found in the sanctuary or elsewhere. There is a lot of historical information that there is a shift.

Does the staff feel that having to look at climate change through this framework of the management plan helpful.

Ben Haskell responded: It's a place to start and was an experiment. Felt it was a useful approach and a good place to start. Filter through climate impacts and see what would be impacted and do that assessment.

This is an important initiative and the SAC and staff need to tackle it. The sanctuary of all sanctuaries or of any spot in the world, the Gulf of Maine is warming faster than any other place. All being driven by warming climate and sea temperature change, and we are the hotspot. Need to pay attention.

This is intended to set up a framework and ask the SAC if it's helpful to have this process continued for the rest of the action plans. Climate change is going to have an effect on potentially all of the action plans. Is it helpful to have this process continued for the rest of the action plans? In FY17 and FY18 there is not going to be any monitoring funding. How do we lay the foundation to get that money to support the program in the out years. Monitoring requires resources and the sanctuary doesn't have them internally. Is what has been presented helpful? If it's not fine. If it is, turn the staff loose.

Agrees. We have to start somewhere and know there are constraints but doesn't mean don't take action. Use this exercise to build a case and it could lead to funding to support monitoring. Obvious SAC believes this is an important issue.

As we go forward everyone does agree that we need to jump into this. From personal experience, this is so overwhelming to varying different degrees. As the SAC starts to take these steps, reach out to GARFO and NEFMC for help because there is a ton of resources and information available, to leverage this in any way the SAC can.

Heather Knowles recaps discussion then presents a motion of creating a subcommittee and to populate it with a diverse group. Moves to motion.

***Motion: Action the sanctuary staff to perform an assessment and present a summary status on the action plans which will be provided to the SAC in advance of the October meeting with the intent of furthering a SAC review and discussion. The Executive Committee will review and provide direction as appropriate upon receipt.  
Passed unanimously.***

The following SAC members volunteer to service on the Management Plan Subcommittee:

Shelly Brown  
Vito Giacalone  
Laura Howes  
Les Kaufman  
Joe Levine  
Steve Milliken  
Mason Weinrich

SAC members interested in participating in a 1-day Management Plan workshop:

Michelle Bachman  
Priscilla Brooks  
Deborah Cramer  
John Galluzzo  
Vito Giacalone  
Les Kaufman  
Joe Levine

Update will be provided at the 49th SAC meeting scheduled for Feb-Mar 2017 time frame.

### **VIII. Regional Issues/New Sites (P. Ticco)**

Dr. Paul Ticco, Regional Coordinator, ONMS Northeast and Great Lakes (NEGL) Region, first gave a summary of the NEGL region, noting that one of its current sanctuaries (Thunder Bay National Marine Sanctuary) expanded significantly in 2014 to include the protection and management of several more Lake Huron shipwrecks; and that another (Monitor National Marine Sanctuary -- MNMS) is in the process of expansion off the Outer Banks of North Carolina, focused on shipwrecks associated with the World War II Battle of the Atlantic. For MNMS, following public scoping meetings and the development of draft documents for review, public hearings on the expansion may be held early next year. Paul then gave a short overview of the ONMS Sanctuary Nomination Process, begun in June 2014, noting that there are now two new sanctuary designations in progress (Mallows Bay/Potomac River, MD; and Lake Michigan, WI); two more that have passed initial NOAA review and have been placed in the new sanctuary site inventory (Chumash Heritage, CA; and Lake Erie Quadrangle, PA); and several possible nominations that are in various stages of development prior to submittal to ONMS including Lake Ontario/Thousand Islands, NY; York River/Yorktown, VA; Hudson Canyon; Norfolk Canyon; Baltimore Canyon; areas in Lake Superior; and Newport Harbor, RI. Dr. Ticco then described the inherent differences between a sanctuary and a Marine National Monument, especially relevant with the President's recent designation of the new Northeast Canyons and Seamounts Marine National Monument. He finished his remarks with a short analysis of the past and present interest in east coast offshore canyon protection and management, especially in Hudson, Baltimore and Norfolk Canyons; and the various NOAA management authorities that may govern these areas such as the Magnuson-Stevens Act; the Endangered Species Act (those species regulated by NOAA); the Marine Mammal Protection Act; and possibly the Northeast Ocean Plan.

### **IX. Constituent Report - Summary: "Boston Harbor Cruises New England Aquarium Whale Watch and Research Program" (L. Howes)**

#### Current Status of BHC:

Annual whale watch ridership 140,000, 780+ whale watches scheduled a season. New England Aquarium partnership for whale watch began in 2013. Our program includes college interns collecting data and on-board education. Education program incorporates positive outlooks, encouraging actions, ecology, and conservational messaging

#### Research Programs at BHC:

We have 700 trips yearly for data collection, with an average of 5000 marine sightings per year. We use Center for Coastal Studies protocols. SBNMS S4 observers are also onboard weekly collecting seabird data. We have had poster presentations at the Society of Marine Mammalogy and Ecological Society of America conferences.

We also have an extensive Marine Debris program. Massachusetts Bay is an urban ocean area with 4.4 million people living near to its shores. Unknown risk yet of marine debris and wildlife. Since 2014 we have been recording marine debris observed in the SBNMS:

- Avg. 400 observations of trash per year (23 different categories) sighted
- 200 balloons per year included in those sightings

- Spatial modeling: we estimated an abundance of 31,500 pieces of marine debris in the region with a density of 5.7 objects per km<sup>2</sup>
- Debris was widespread throughout the region including in areas of high humpback whale feeding density.

In summer of 2016, we launched a pilot study on recreational boating. Recreational boats whale watching and fishing around whales has become an increasing problem in the SBNMS. An estimated 13% of whales bear scars consistent with vessel strike in the southern Gulf of Maine (WDC 2013), and vessel strikes are highly unreported. Using laser range finders, we calculated approximate recreational boat distance to whales, aligning distances with Close Approach, Standby Zone, and ½ mile radius of the Northeast Regional Whale Watching Guidelines.

#### Results:

- 38 observations total from mid-July to mid-Sept
- Weekends and nice weather days had the most boat activity
- After 30 minutes, we reached as high as 6 vessels in Standby Zone, and 1 event with 3 boats in Close approach zone. After 30 minutes, 50% of the time the number of vessels in the Standby zone were above the guideline limit. This also is showing that large commercial whale watch vessels act as a magnet for small recreational boats.

#### Other Observations During Study:

- Head-on approach towards whales by recreational boats
- Recreational boats cutting off whales' path
- Speeding towards whales (above guideline limit)
- Drone use
- Attempts of our boat to stay away from high rec-boat activity
- Monofilament harassment on Stellwagen and the Great South Channel – which leads to a discussion: how can we account for the high spatial exchange between SBNMS and GSC of large whales?

Our hope for the future of this study – is it helpful to the SBNMS, and should it be continued? We would also strongly like to advise outreach and education to recreational boaters – targeting specific areas with Sea-a-Spout and whale watch guideline brochures, and utilizing SBNMS volunteers for in-person education at marinas. This study also encourages incidents to be reported by boaters and the whale watch community.

#### **i. MA Coastal Zone Management (T. Callaghan)**

CZM has been working with SeaPlan to create a framework that will be used to evaluate the performance of the Commonwealth's ocean plan in meeting the legislature's directives in the 2008 Oceans Act. This framework may have some useful sections for the SBNMS Management Plan review/update (which I will be happy to share with SBNMS when it is all complete).

With the help of a summer intern, CZM interviewed several aquaculturists and state agency folks associated with aquaculture (mollusks, finfish, algae). The effort was a fact-finding mission to support a future aquaculture working group that will help CZM determine how aquaculture will be integrated into the state's ocean plan. We obtained input on where the future of aquaculture lies,

what the impediments are, and some suggestions on how to manage aquaculture. This effort only includes "deep water" aquaculture: that which would occur from 1500' feet from shore to the state/federal boundary, the area under the jurisdiction of the MA ocean plan.

*Craig MacDonald commented that aquaculture is not encouraged in the sanctuary.*

## **ii. NOAA Office of Law Enforcement (T. Donovan)**

- OLE conducted at sea and air patrols with USCG
- Joint patrol with MEP
- MEP metrics for last quarter (101 Patrol hours and 66 Contacts)
- Open investigation of whale harassment
- Open investigation of Right Whale death
- \$500 summary settlement for the recent short bluefin caught on SBNMS
- OLE purchasing 36' Patrol Vessel, hoping late summer 2017 in the water
- New Enforcement Officer being hired for Great Lakes Region, will have limited support to Thunder Bay NMS

## **iii. New England Fishery Management Council (M. Bachman)**

The New England Fishery Management Council last met on September 20-22. The Council elected a new chairman, Dr. John Quinn, as well as a vice chairman, Terry Stockwell, and three additional Executive Committee members. The Council also welcomed two new members for three year terms – Mark Godfroy of NH and Rick Bellavance of RI. Ongoing fishery management activities of interest to the SAC relate to the herring, small and large mesh groundfish, scallop, and monkfish fisheries, as well as ecosystem-based fisheries management and habitat.

The Council is currently developing fishery specification actions for a number of its plans: scallops, groundfish, and monkfish. Red crab specifications for the next three years were approved in September. The Council is also evaluating some sub-allocations and accountability measures in various fisheries. These sub-allocations, or sub-annual catch limits, specify the amount of fish that may be harvested by fisheries where the species is not a primary target. For example, sub-allocations are provided for haddock in the herring fishery, and yellowtail flounder in the scallop fishery. Various within-season and post-season accountability measures attempt to control catch, or mitigate for overages, if these limits are exceeded.

Under herring, the Council is developing management alternatives for Amendment 8 to the fishery management plan, which will explore the issue of localized depletion of the herring resource. Suggested management approaches include inshore fishery closure areas. Some measures would restrict both purse seine and mid-water trawl herring vessels, while other vessels could affect mid-water trawl vessels only, and measures might be seasonal. Generally, the measures under consideration are south of the Sanctuary, beginning on the outer edge of Cape Cod. Work on a pilot fishery ecosystem plan (Georges Bank example) was presented to the Council in September.

The final version of the Final Environmental Impact Statement for Omnibus Habitat Amendment 2 was resubmitted to NMFS GARFO on September 6, and a proposed rule is expected in the coming months. There will be overlapping comment periods on the amendment and FEIS totaling 60 days. Implementation is anticipated during 2017.

The Council is continuing work on deep-sea coral protection measures for both the Gulf of Maine and the canyons south of Georges Bank. Related to this, the Council is determining how they may wish to adjust these proposals, given overlaps with the recently designated Northeast Canyons and Seamounts Marine National Monument. Exactly how the Council will engage with NOAA and others on monument management is uncertain at this time.

#### **iv. NOAA Greater Atlantic Regional Fisheries (J. Anderson)**

##### **Marine National Monument**

- On September 15<sup>th</sup>, President Obama designated a marine national monument covering the Northeast canyons and seamounts.
- Commercial fishing in the monument, with the exception of the red crab and lobster fisheries, will be prohibited effective November 14<sup>th</sup>. All commercial fishing gear (except lobster and red crab gear) must be removed from the area by then.
- The lobster and red crab fisheries can continue in the monument area for up to seven years.
- NMFS and the Fish and Wildlife Service share management responsibility of the monument.
- NMFS is in the process of consulting with our partners at both Councils and the Commission, along with NOS, to discuss our next steps.
- Please watch for additional information on our website at <https://www.greateratlantic.fisheries.noaa.gov/>

##### **Right Whale Updates**

Recently we had three high profile right whale incidents in our region.

###### *Right Whale #1:*

- The first was sighted on September 22<sup>nd</sup>; recreational boaters reported an entangled right whale in the Stellwagen Bank area off of Race Point, MA. The whale was identified as an eight year old female; #3823.
- CCS responded the same day and managed to cut and remove over 200 feet of line and buoys which should aid the whale to shed the remaining gear.
- A telemetry buoy was attached to the remaining gear to help the whale shed the lines and allow responders to track the animal for potential future efforts.
- On Monday September 26, NOAA Fisheries aerial survey team relocated the buoy near the center of the Gulf of Maine, 115 miles east of Provincetown, MA. The whale was not present but it may have some gear attached to the buoy.
- We are trying to recover the telemetry buoy to see if any entangling gear is attached. It is possible the buoy aided the animal to shed the remaining gear.

###### *Right Whale #2:*

- On Saturday September 24<sup>th</sup>, we received a report of a dead right whale eight miles off of Mount Desert Rock, Maine.
- Photo documentation revealed the animal is badly decomposed and did not appear to have any gear on it.
- NOAA Fisheries will work with its partners to assess the photo documentation to determine if a cause of death can be determined.

###### *Right Whale #3:*

- On Friday, September 23<sup>rd</sup>, a whale watch vessel off Portland, Maine reported a floating dead right whale. It was identified as an adult female (#3694), 43 feet long.
- The Coast Guard towed the whale into Portland, ME.

- A necropsy was conducted on Sunday, September 25<sup>th</sup>.
- The necropsy consisted of a thorough examination of the whale, external and internal, as well as skeletal components. The female whale presented with a thin blubber layer and other findings consistent with prolonged and chronic stress. The cause of death for this whale is determined to be from chronic entanglement.

*Other Right Whale News:*

- NOAA Fisheries is convening a Workshop on North Atlantic Right Whale Population Abundance, Trends and Threats
  - Preliminary analysis suggests that the right whale population is decreasing.
  - The purpose of this workshop is to identify and evaluate the causes of population decline and recommended research strategies for improved population monitoring.
  - The workshop will consist of 25-30 invited participants and will be held November 16-18 in St. Petersburg Florida.
  - The final workshop report is expected in late winter early spring 2017.
- Atlantic Large Whale Take Reduction Team Meetings
  - Webinar scheduled for November 29<sup>th</sup>. Annual check-in with Team on large whale abundance and serious injury and mortality estimates.
  - Face-to-face meeting of the Team is being planned for March or April. Team will discuss gear characterization reporting, review of right whale abundance workshop findings, review exemption request from South Shore Lobstermen's Association to allow access to the MA Restricted Area.

**Climate Science Action Plan**

- NOAA developed a Northeast Science Action Plan to meet the growing demand for information to better prepare for and respond to climate-related impacts. The final plan is nearly ready for public release.

**X. New Business. None**

**XI. Public Comment. None**

**XII. Adjourn: 3:15 pm**

## APPENDIX

### Management Plan 15 Years of SBNMS Accomplishments

#### **Confirmation of the steamship *Portland's* location in SBNMS and listing of the shipwreck on the National Register of Historic Places**

**Accomplishment:** When initially located in 1989, the *Portland's* discoverers lacked the technical ability to conclusively identify their find. A sanctuary expedition in 2002 returned with definitive imagery that indicated the *Portland* lay in the Stellwagen Bank National Marine Sanctuary. Subsequent research cruises characterized the archaeological site and shed light on the events surrounding the loss of the steamship, known as New England's *Titanic*, and its 192 passengers and crew. In 2005, ONMS archaeologists successfully listed the steamship on the National Register of Historic Places, this nation's official list of historic properties worthy of preservation.

**Associated Action:** Connect with your heritage by sitting down with your elders and learning about your family's history, then visit the underwater museums that are our National Marine Sanctuaries as a diver or virtually through interpretive centers or the WWW. If you visit in person, fin carefully as shipwrecks and other archaeological sites are non-renewable gateways to the past.

**Accomplishment point of contact:** Matthew Lawrence, SBNMS Maritime Archaeologist, [Matthew.Lawrence@noaa.gov](mailto:Matthew.Lawrence@noaa.gov)

#### **World's first International Sister Sanctuary Program to protect the same population of a marine mammal migratory species**

**Accomplishment:** In 2006, SBNMS established the *first* international Sister Sanctuary Program (SSP) to protect the same population of a marine mammal migratory species on both ends of its range—the endangered humpback whale—in its northern feeding and nursery grounds in SBNMS and its southern mating and calving grounds in the Dominican Republic. With expansion of the SSP in 2011 to include the French Antilles and Bermuda (Dutch Antilles expected to be included in 2012), foundation for the world's first *Marine Mammal Protected Areas Network* was established in the Caribbean. SBNMS/ONMS pioneered the concept and development of this marine mammal spatial planning model to build upon ecological connections between MPAs and work towards more comprehensive management.

**Associated Action:** Expand SSP to Dutch Antilles. Engage SPAW Parties/Caribbean governments to announce 2014 as the “Year of the Humpback Whale — Our Shared Resource.” With UNEP endorsement, participating countries will participate in a multi-national, outreach initiative — “Jump with Whales Program” that will feature “Adopt a SBNMS Humpback Calf.”

**Accomplishment point of contact:** Dr. Nathalie Ward, SBNMS External Affairs Coordinator (retired) [Current point of contact: Ben Haskell, Acting Superintendent, ben.haskell@noaa.gov](mailto:ben.haskell@noaa.gov)

#### **Shifting the Boston shipping lanes to protect endangered whales**

**Accomplishment:** To protect endangered whales in the sanctuary, researchers studied whale concentrations and shipping traffic. Using vessel track data from the Automatic Identification System and a database of a quarter of a million whale sightings from commercial whale watching

trips provided by two whale research organizations, it was found that the threat of ship strike was highest in the Boston shipping lanes, which cut through the sanctuary. In collaboration with the U.S. Coast Guard, NOAA Fisheries, NOAA General Counsel and the maritime industry, the researchers proposed narrowing and moving the lanes to areas used less frequented by whales. The proposal was accepted by the International Maritime Organization and went into effect on July 1, 2007. The new lanes reduce the risk of whale strike for all great whales as much as 81 percent.

**Associated Action:** NOAA asks that large vessels use the delineated shipping lanes, as they pass through an area with historically lower whale sightings. In addition, ONMS asks that vessel operators use vigilance in transiting all sanctuary waters, as great whales feed throughout the region. This project showcases the value of marine spatial planning and can serve as a model for other such areas around the nation.

**Accomplishment point of contact:** Dr. David Wiley, SBNMS research coordinator,  
[David.Wiley@noaa.gov](mailto:David.Wiley@noaa.gov)

### **New iPad, iPhone app helps mariners avoid endangered right whales**

**Accomplishment:** Stellwagen Bank sanctuary worked with a consortium of a dozen partners, including private sector industries, academic institutions, nonprofit conservation organizations and other government agencies to produce a free iPad/iPhone app that provides one source for information about right whale management measures and the latest data about right whale detections along the east coast. Whale Alert represents an innovative collaboration to protect a critically endangered species. The app overlays the right whale information on NOAA digital charts, while providing detailed information about required and voluntary speed limits and other management programs. The app was announced on April 4, 2012.

**Associated Action:** ONMS asks that large vessels make use of the app as they transit to and from and along the Eastern Seaboard. Whale Alert uses science and technology to let mariners know where their vessel is in relation to right whale conservation initiatives. The program shows how disparate groups can work together towards a good cause.

**Accomplishment point of contact:** Dr. David Wiley, SBNMS research coordinator,  
[David.Wiley@noaa.gov](mailto:David.Wiley@noaa.gov)

### **Dtags record underwater behavior of endangered whales**

**Accomplishment:** Sanctuary scientists assembled a team from Duke University, Woods Hole Oceanographic Institution, the University of New Hampshire, and a number of other institutions to investigate and reveal the underwater behaviors of endangered great whales. Through the use of digital acoustic tags (Dtags) that record the pitch, roll, heading and sounds made and heard by the whales, the researchers can now track the 3D paths of whales here in their feeding grounds. The unprecedented insights into whale behavior include visualizations of bubble net formation and bottom feeding sessions by humpback whales. Tags on right whales reveal their propensity for swimming within a danger zone for ship strike. Techniques for analyzing and visualizing tag data have been innovated and been refined by the sanctuary team. To date, the project has resulted in 10 peer-reviewed science publications.

**Associated Action:** The use of these non-invasive equipment packages provides a means of studying whales in their natural habitat without any harmful effects to the animals being studied. Better understanding of these behaviors may lead to better conservation measures for the reduction of ship strikes and fishing gear entanglements. Data also provide an ecosystem context for the protection of endangered whales.

**Accomplishment point of contact:** Dr. David Wiley, SBNMS research coordinator,  
[David.Wiley@noaa.gov](mailto:David.Wiley@noaa.gov)

### **Using the USCG's Automatic Identification System (AIS) to monitor, investigate and educate the maritime community**

**Accomplishment:** Working with the USCG's Research and Development Center and the Center for Coastal and Ocean Mapping at the UNH, scientists at the SBNMS pioneered the use of AIS for research and conservation. AIS was conceived as a collision avoidance system and SBNMS scientists and collaborators were among the first to develop methods to convert AIS location points into a database suitable for mapping and analyzing ship traffic. The group also pioneered the use of AIS to monitor maritime compliance with marine conservation initiatives, such as NOAA's Right Whale Ship Strike Rule.

**Associated Action:** The sanctuary uses compliance data to send annual report cards to mariners pertaining to their activities within NOAA's Seasonal Management Areas (SMSs) for right whales. The Society for Marine Mammalogy provided this project with its Excellence in Science Communication Award for 2011.

**Accomplishment point of contact:** Michael Thompson, SBNMS GIS Specialist,  
[Michael.A.Thompson@noaa.gov](mailto:Michael.A.Thompson@noaa.gov)

### **A Network of Buoys records whales and ships**

**Accomplishment:** The sanctuary established a network of listening devices on the sanctuary seafloor to record sounds in the sanctuary. With data collected from these Marine Autonomous Underwater Recording Devices researchers are developing a better understanding of where animals can be found, how they behave and how anthropogenic noises may affect these animals. Of particular significance are findings that increasing ocean noise masks approximately 70% of the communication space of highly endangered right whales, which may lead to a decreased ability to communicate, thus potentially limiting mating, feeding, predator avoidance and migration.

**Associated Action:** ONMS asks that large vessels slow down, since slower speeds translate into quieter travel (and slower speeds also reduce ship strike threats). These listening posts have provided data to support numerous scientific papers, and are now being used to study other species, including groundfish.

**Accomplishment point of contact:** Dr. Leila Hatch, SBNMS marine ecologist,  
[Leila.Hatch@noaa.gov](mailto:Leila.Hatch@noaa.gov)

### **Using Volunteers to Expand Sanctuary's Reach**

**Accomplishment:** The sanctuary's volunteer program was established in 2012 and currently has over 150 volunteers spanning a wide-range of ages who provide over 1000 hours each year to expanding the sanctuary's reach. Two sanctuary volunteers have been named Volunteer of the Year by ONMS and the National Marine Sanctuary Foundation- an honor unique to SBNMS.

**Associated Action:** One of the hallmarks of the volunteer program is a long-term seabird monitoring program (S4) using citizen scientists. The sanctuary Seabird Stewards Program working with Mass Audubon as a partner bringing in expert birders from that organization and doing standardized surveys on the R/V Auk five times a year tying in with their winter bird count. The sanctuary has been able to develop the largest most comprehensive database on seabirds at a small regional scale and at a high degree of resolution that is now being incorporated into the national avian database maintained by US Fish and Wildlife Service and US Geological Survey.

**Accomplishment point of contact:** Anne-Marie Runfola, volunteer coordinator, [anne-marie.runfola@noaa.gov](mailto:anne-marie.runfola@noaa.gov)

### **Inspiring student art through sanctuary species; annual art contest grows**

**Accomplishment:** Stellwagen Bank National Marine Sanctuary working with the Massachusetts Marine Educators has built an annual student marine art contest that has grown global in scope. Each year hundreds of entries provide artistic interpretations of sanctuary species. In 2011, the contest attracted close to 750 entries. In 2011 and 2012, participants represented many communities in the sanctuary region, as well as China, France, Kazakhstan and Serbia. The winning entries have become the basis of a popular annual traveling art show that visits federal office buildings and visitor centers in the region.

**Associated Action:** ONMS asks that the public appreciate the biodiversity in their local sanctuaries and encourages students and teachers to learn about these marine species. The interdisciplinary nature of this program brings various learning styles together in a format that continues to educate the public after the student component has been completed.

**Accomplishment point of contact:** Anne Smrcina, SBNMS education coordinator, [Anne.Smrcina@noaa.gov](mailto:Anne.Smrcina@noaa.gov)

### **Building Mission-Ready Capacity**

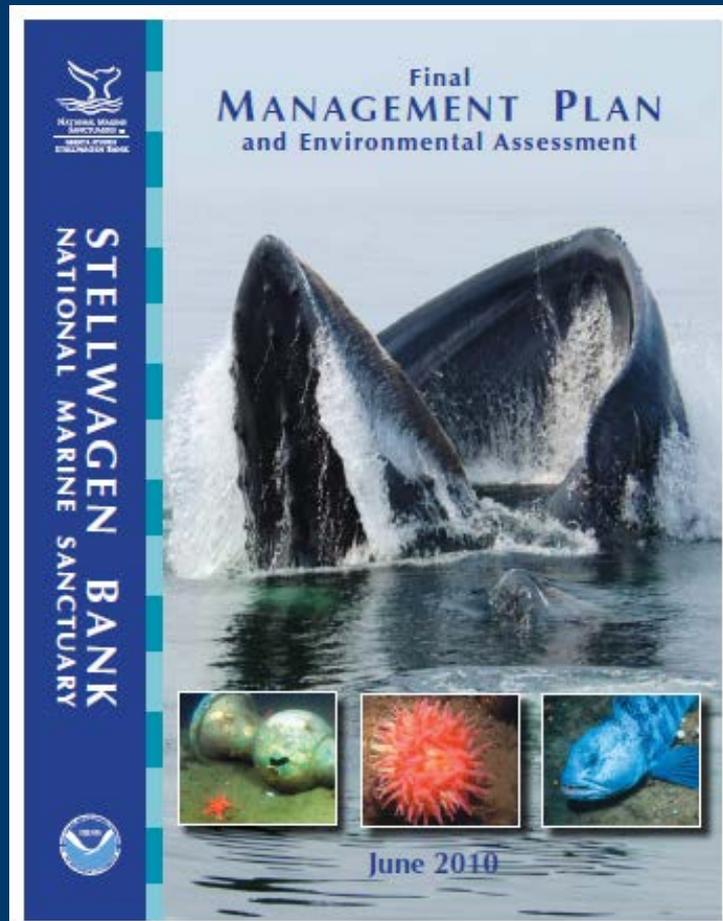
**Accomplishments:** Improvements to staff capacity and infrastructure have been made over the past 15 years that enabled the accomplishments listed previously and will continue to support our mission. Some highlights are:

- Partnering with Office of Law Enforcement to enhance enforcement capacity.
- Adding full-time staff to support research and monitoring including noise impact assessment, site operations, resource protection, maritime archaeology, community engagement and administration.
- Renovation of Administrative building and Meeting Annex in 2004.
- Construction of Research Vessel *Auk* in 2006.
- Construction of waterfront parking lot in 2015.

**Associated Action:** The final phase of facility renovation entails converting the boathouse into a fully-functioning Marine Operations Center to support our mission and world-class science. Plans have been drawn up for the interior renovation which include a wet lab, dry lab, dive locker, boat repair shop, and large multi-purpose space for mission mobilization.

**Accomplishment point of contact:** Ben Haskell, SBNMS Acting Superintendent,  
[ben.haskell@noaa.gov](mailto:ben.haskell@noaa.gov)

# Management Plan Status Assessment 2010-2016





## CAPACITY BUILDING



1. ADMINISTRATIVE CAPACITY AND INFRASTRUCTURE
2. INTERAGENCY COOPERATION
3. PUBLIC OUTREACH AND EDUCATION
4. COMPATIBILITY DETERMINATION

## ECOSYSTEM PROTECTION



1. ECOSYSTEM-BASED SANCTUARY MANAGEMENT
2. ECOSYSTEM ALTERATION
3. WATER QUALITY

## MARINE MAMMAL PROTECTION

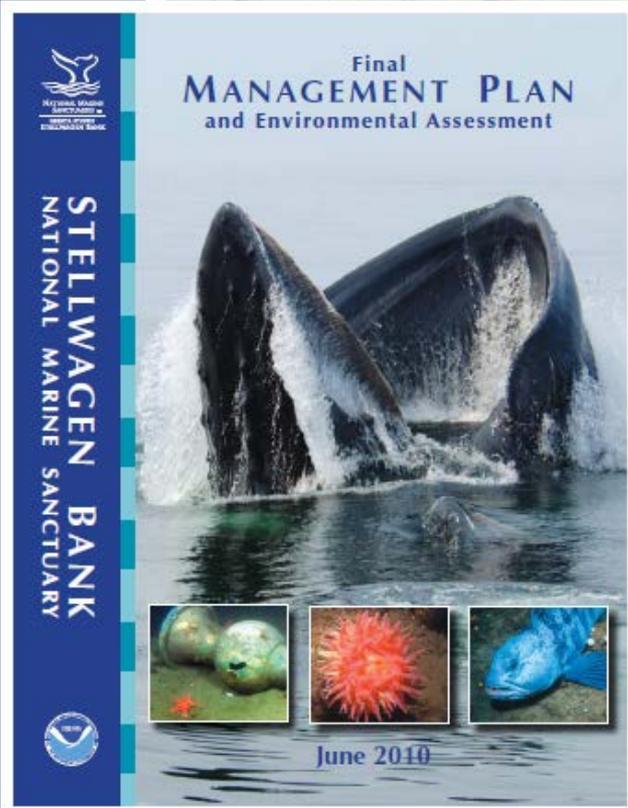


1. MARINE MAMMAL BEHAVIORAL DISTURBANCE
2. MARINE MAMMAL VESSEL STRIKE
3. MARINE MAMMAL ENTANGLEMENT

## MARITIME HERITAGE MANAGEMENT



1. MARITIME HERITAGE



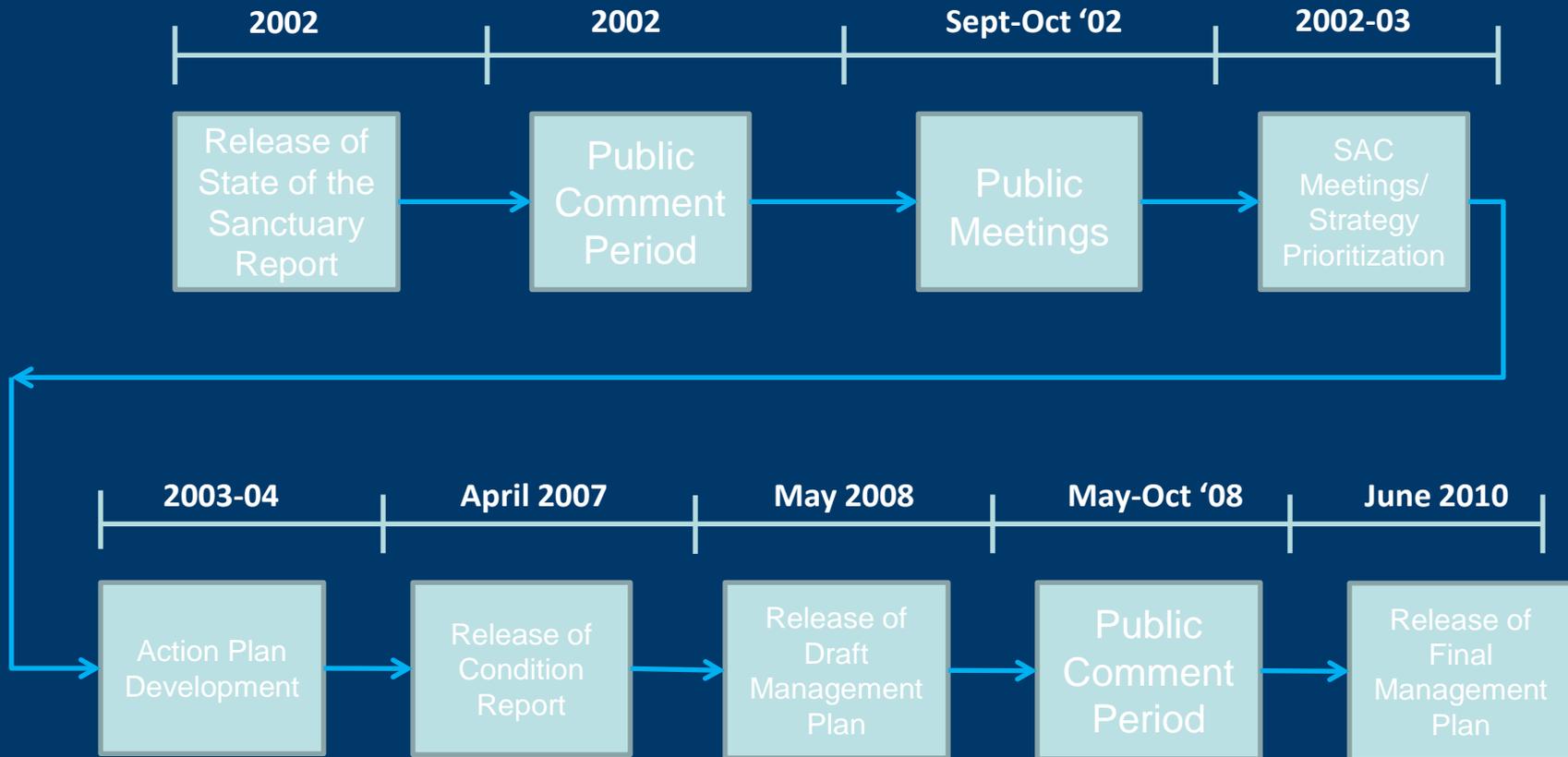
Final  
**MANAGEMENT PLAN**  
and Environmental Assessment

STELLWAGEN BANK  
NATIONAL MARINE SANCTUARY

June 2010

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# 2010 Management Plan Review Flowchart



**ACTION PLAN EXAMPLE:** Marine Mammal Vessel Strike

**Issue:** Marine mammals are at risk of getting struck by vessels

**Goal:** assess the occurrence and potential of collision to marine mammals, determine means to mitigate collision, and foster cooperation with other agency partners

- Objectives:**
1. Reduce risk of strike between large commercial ships and whales
  2. Reduce risk of vessel strike through speed restrictions
  3. Develop research programs to reduce the risk of strike

**Strategies:** 9 total

**Example:** 3.4 Conduct year-round monitoring to identify type, size, route, and speed of vessels in sanctuary

**High priority, Cost:** ~\$25K/year

**Performance Measures**

## Context for Management Plan Status Assessment

1. Many of the 2010 MP action plan objectives called for use of authorities or capacity that SBNMS did not have. In a few cases the MP called for the site to directly augment its capacity. In many more cases however; SBNMS was to further facilitate activities of partners both within and external to NOAA to achieve goals.
2. NOAA did not include new regulatory authorities beyond those dictated at the sanctuary's designation when it issued the 2010 plan. Therefore, it was NOAA's intention that actions that necessitated further regulations would be achieved by governmental partners or separate authorities.
3. This assessment is a consensus agreement based on expert opinion (by staff).
4. SBNMS budget has been flat since implementation of the plan in 2010.

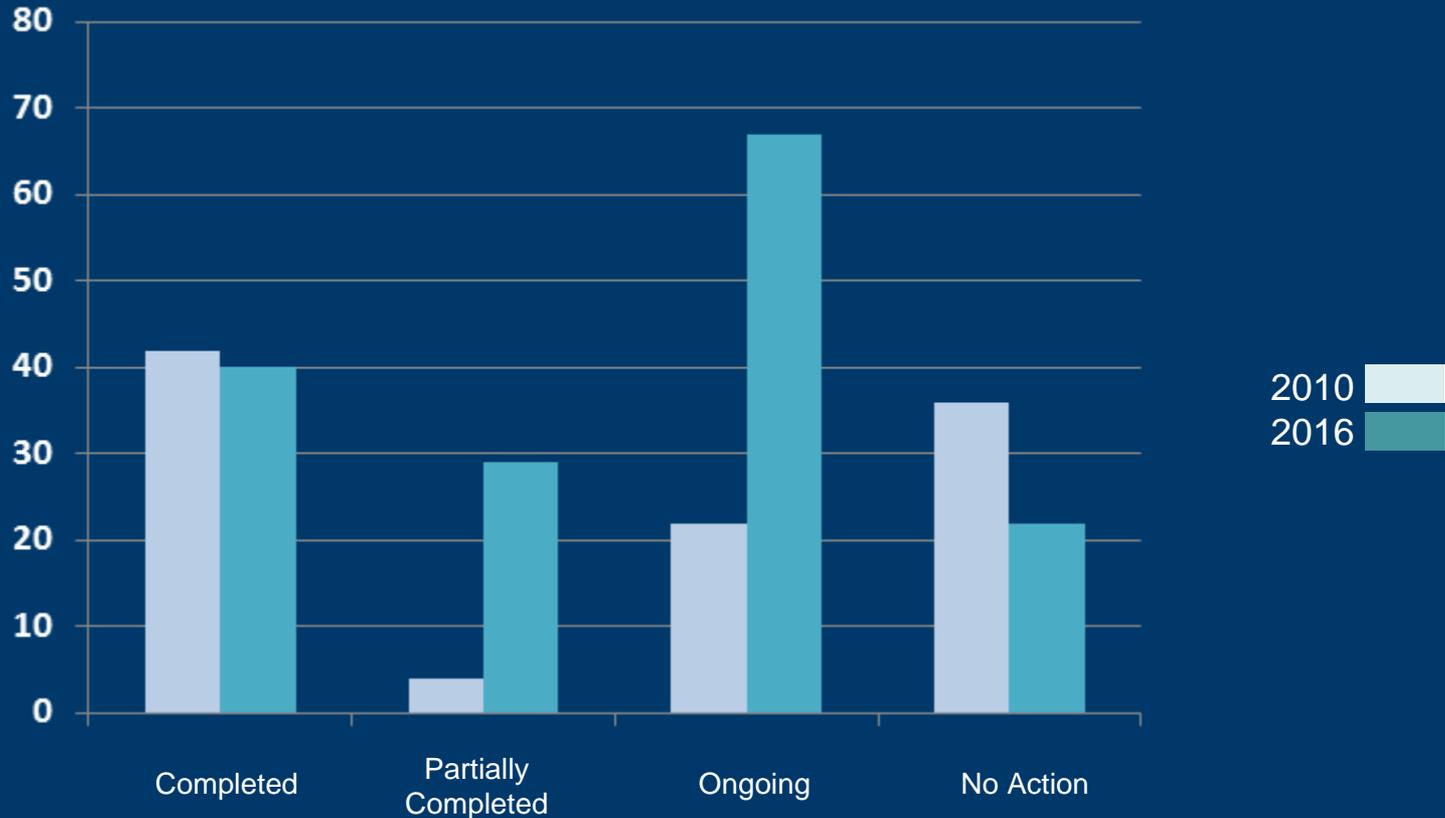


## Comparison of Management Costs with Actual Budget

(Values in thousands)	FY 10	FY 11	FY 12	FY 13	FY 14
2010 FMP estimated annual costs (excluding federal salaries)	\$ 3,037	\$ 3,210	\$ 5,586	\$ 4,372	\$ 3,591
Actual base budget (includes federal salaries)	\$ 1,553	\$ 1,505	\$ 1,705	\$ 1,740	\$ 1,833
Construction supplement	\$ 396	\$ 157	\$ 135	\$ -	\$ 56



## Overall Summary (All Action Plans)



	2010 Implementation Status				2016			
	Completed	Partially Completed	Ongoing	No Action	Completed	Partially Completed	Ongoing	No Action
<b>Total</b>	<b>42</b>	<b>4</b>	<b>22</b>	<b>36</b>	<b>40</b>	<b>29</b>	<b>67</b>	<b>22</b>

## Some Conclusions

- 69 out of 104 strategies have been completed or partially completed.
- Of the 104 Strategies, the ones with No Action have been reduced from 36 to 22.
- Given budget constraints, implementation of the management plan has been successful and led to significant conservation benefits.
- These conservation benefits were largely a result of successful and strategic partnering and the staff's successful efforts to secure extramural funding.
- This assessment lays the groundwork for next Management Plan Review.

## Definitions

### Implementation Status

Completed – Substantial Action Taken

Partially Completed – Meaningful Action Taken

Ongoing – Action Continuing

No Action – Action has not been taken

### Priority of Strategy

Low   
Medium   
High 

## Example of Strategy Implementation Status Tracking Table Used for Assessment

Objective	Strategy	Implementation Status 2010				Implementation Status 2016			
		A	B	C	D	A	B	C	D
		LEGEND:	Low	Medium	High	LEGEND:	Low	Medium	High
		A=Completed	B=Partially completed	C= Ongoing	D= No Action	A=Completed	B=Partially completed	C= Ongoing	D= No Action
<b>CAPACITY BUILDING</b>									
	<b>ADMINISTRATIVE CAPACITY AND INFRASTRUCTURE</b>								
ADMIN.1 Strengthen Site Staffing and Program Support Capabilities	(1.1) Integrate staff capabilities with program needs.	1				1			
	(1.2) Hire additional staff and streamline organizational structure.		1				1		
	(1.3) Enhance operation of the SAC.			1				1	
ADMIN.2 Maintain and Further Develop Site Infrastructure	(2.1) Maintain and acquire vessels as necessary.	1				1		1	
	(2.2) Work with NMSF to develop and implement a long-range facility plan.	1				1			
	(2.3) Maintain a database for sanctuary permitting.	1				1		1	
	(2.4) Maintain and enhance a SBNMS diving program.	1				1		1	
	(2.5) Develop an effective enforcement program.			1				1	
ADMIN. 3 Develop a SBNMS Volunteer Program that Leverages Sanctuary Programs and Increases Site Visibility	(3.1) Develop SBNMS volunteer program.	1				1			
	(3.2) Maintain and Expand the SBNMS Volunteer Diver Corps activities.			1				1	
	(3.3) Develop and support international exchange of volunteers between SBNMS and other MEAs.	1				1		1	
	<b>Sub-total</b>	<b>7</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>7</b>	<b>1</b>	<b>7</b>	<b>0</b>
<b>INTERAGENCY COORDINATION</b>									
IC.1 Facilitate Cooperation and Coordination Between Agencies	(1.1) Re-establish discussions regarding a Memorandum of Understanding (MOU) between SBNMS, NOAA Fisheries and the USCG.				1				1
	(1.2) Coordinate proposed activities with the NOAA Fisheries and the USCG.	1						1	
	(1.3) Facilitate cooperative research and outreach between SBNMS and the NOAA Fisheries Service (NEFSC).			1			1	1	
	(1.4) Evaluate the Memorandum of Agreement (MOA) between the U.S. Army Corps of Engineers (USACE) and NOAA.	1				1		1	
IC.2 Establish Mechanisms for Improving Information Sharing	(2.1) Provide information via the web on the responsibilities and activities of multiple agencies with roles pertinent to the		1				1	1	
	(2.2) Provide regular updates to the USCG Area Contingency Plans.	1				1		1	
	(2.3) Establish a mechanism for informal consultation with the USCG, NMFS, and the USACE.			1				1	
	(2.4) Update and continue to implement the sanctuary Cooperative Enforcement Plan.	1					1	1	
	(2.5) Support continued meetings of the advisory council's				1				1
	(2.6) Participate in the GoM Council and other regional	1					1	1	
	(2.7) Participate on relevant advisory panels of the NEFMC.	1					1	1	
(2.8) Depict Sanctuary boundaries in fishery management plans and related documents.				1				1	
	<b>Sub-total</b>	<b>6</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>4</b>	<b>9</b>	<b>3</b>



# Example: Capacity Building

Interagency  
Cooperation (*page 204*)

Implementation Status  
of Strategies

## Priority

Low ■  
Medium ■  
High ■

OBJECTIVES	2010				2016			
	Completed	Partially Completed	Ongoing	No Action	Completed	Partially Completed	Ongoing	No Action
				1				1
	1						1	
IC.1 Facilitate Cooperation and Coordination Between Agencies			1			1	1	
		1				1	1	
	1				1		1	
			1		1		1	
IC.2 Establish Mechanisms for Improving Information Sharing	1					1	1	
				1				1
	1					1	1	
	1				1		1	
				1				1
<b>Total</b>	<b>6</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>4</b>	<b>9</b>	<b>3</b>



# Capacity Building

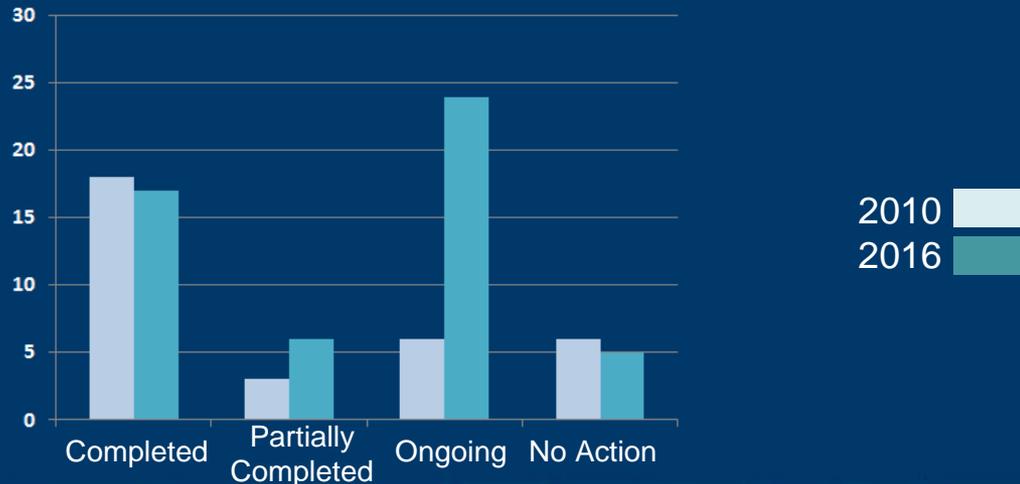
## Implementation Status of Strategies

2010

2016

	Completed	Partially Completed	Ongoing	No Action	Completed	Partially Completed	Ongoing	No Action
Admin Capacity & Infrastructure	7	1	3	0	7	1	7	0
Interagency Cooperation	6	1	2	3	4	4	9	3
Public Outreach & Education	5	1	1	1	6	1	8	0
Compatibility Determination	0	0	0	2	0	0	0	2
<b>Total</b>	<b>18</b>	<b>3</b>	<b>6</b>	<b>6</b>	<b>17</b>	<b>6</b>	<b>24</b>	<b>5</b>

Total



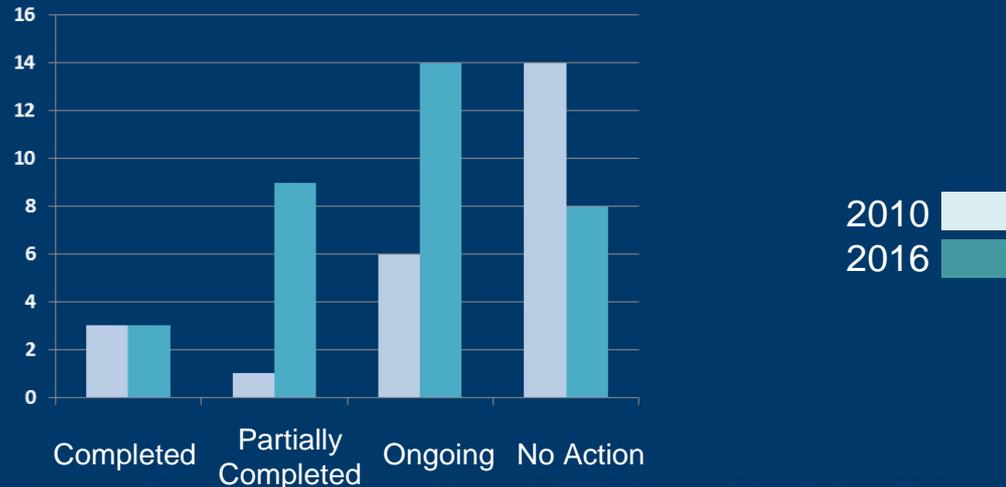
# Summary: Ecosystem Protection

## Implementation Status of Strategies

2010

2016

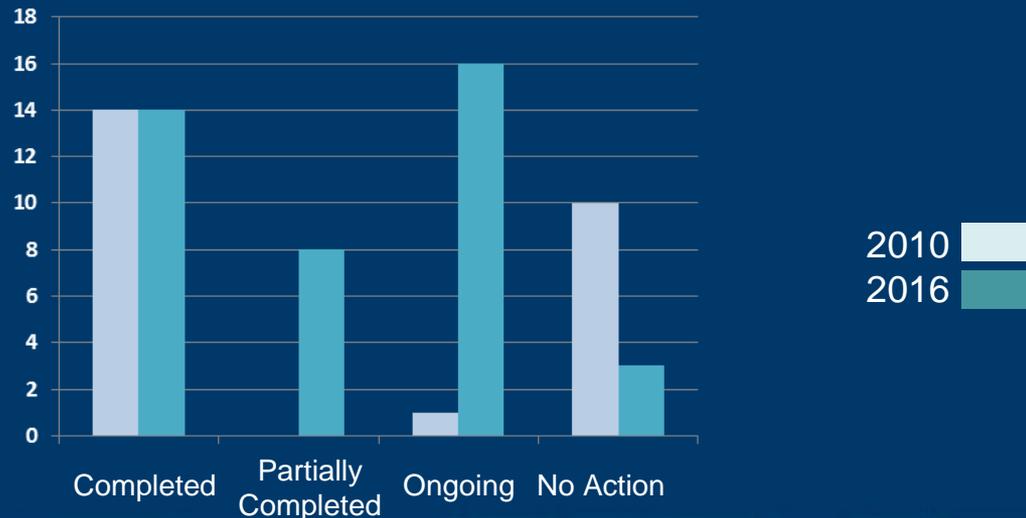
	2010				2016			
	Completed	Partially Completed	Ongoing	No Action	Completed	Partially Completed	Ongoing	No Action
Ecosystem-Based Mgmt.	2	1	4	4	2	4	6	4
Ecosystem Alteration	0	0	2	4	1	4	5	0
Water Quality	1	0	0	6	0	1	3	4
<b>Total</b>	<b>3</b>	<b>1</b>	<b>6</b>	<b>14</b>	<b>3</b>	<b>9</b>	<b>14</b>	<b>8</b>



# Summary: Marine Mammal Protection

## Implementation Status of Strategies

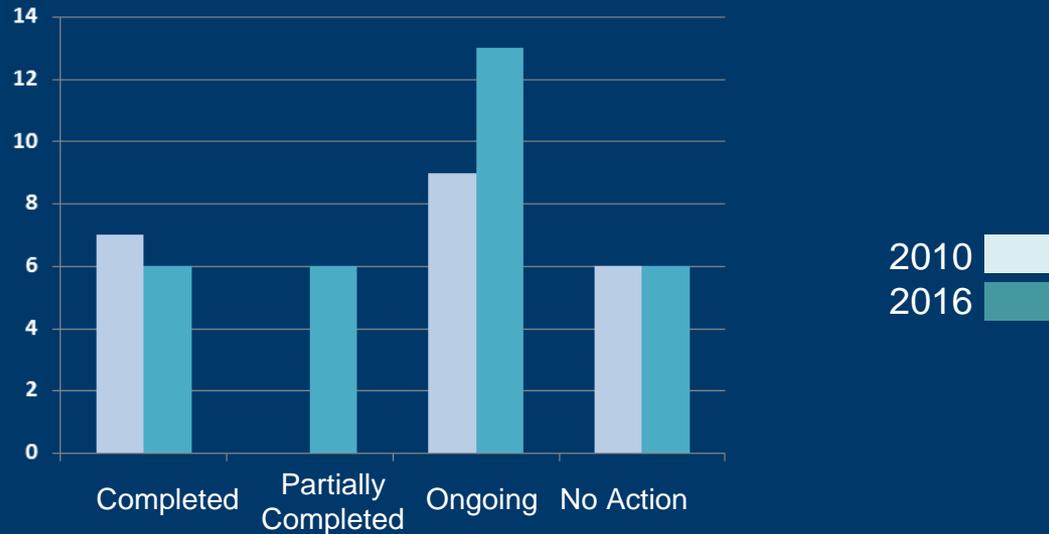
	2010				2016			
	Completed	Partially Completed	Ongoing	No Action	Completed	Partially Completed	Ongoing	No Action
Behavioral Disturbance	6	0	0	3	4	2	5	3
Vessel Strike	5	0	0	4	7	2	6	0
Entanglement	3	0	1	3	3	4	5	0
<b>Total</b>	<b>14</b>	<b>0</b>	<b>1</b>	<b>10</b>	<b>14</b>	<b>8</b>	<b>16</b>	<b>3</b>





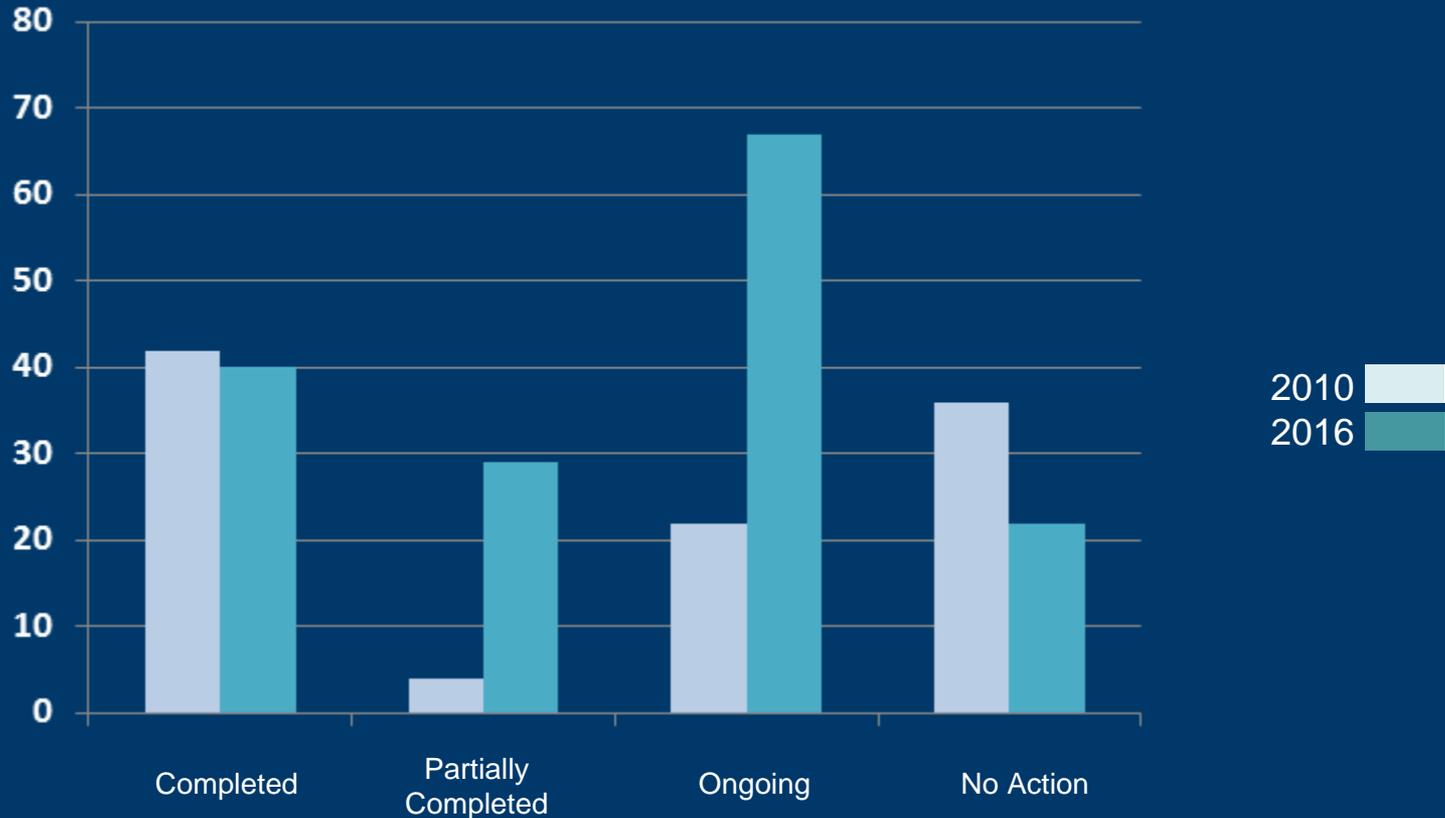
# Summary: Maritime Heritage Management

	2010				2016			
	Completed	Partially Completed	Ongoing	No Action	Completed	Partially Completed	Ongoing	No Action
<b>Total</b>	<b>7</b>	<b>0</b>	<b>9</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>13</b>	<b>6</b>





## Overall Summary (All Action Plans)



	2010				2016			
	Completed	Partially Completed	Ongoing	No Action	Completed	Partially Completed	Ongoing	No Action
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- This assessment lays the groundwork for next Management Plan Review.



## Possible Next Steps for Consideration

- **Convene subcommittee to provide input on next Management Plan Review**
- **Participate in conceptual model workshop to kick off Condition Report process**
- **Form working group to address small boat interactions with whales**