



DEPARTMENT OF THE ARMY
NEW YORK DISTRICT, CORPS OF ENGINEERS
JACOB K. JAVITS FEDERAL BUILDING NEW
YORK, N.Y. 10278-0090

REPLY TO
ATTENTION OF
Environmental Analysis Branch

Notice of Availability of Environmental Assessment

The U.S. Army Corps of Engineers, New York District announces the availability of the *Draft Environmental Assessment for the Fire Island Inlet to Moriches Inlet – Fire Island Stabilization Project* (DEA).

With the passage of the Hurricane Sandy Disaster Relief Appropriations Act of 2013 (Public Law 113-2), the U.S. Army Corps of Engineers has been given the authority and funding to complete ongoing coastal storm damage risk reduction projects and studies in the Northeast.

This DEA is being prepared to evaluate the significance of potential environmental impacts of the proposed action and determine if the proposed project warrants the preparation of an environmental impact statement.

The DEA will be posted on the on the New York District's website:

<http://www.nan.usace.army.mil/Missions/CivilWorks/ProjectsInNewYork/FireIslandtoMontaukPointReformulationStudy.aspx>

For further project information contact:

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To request a copy of the Draft Environmental Assessment and to submit written comments, please contact:

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Comments received by April 2, 2014 regarding the DEA will assist in the agency's evaluation of the project changes and will be reflected in the project record.

**Interagency Review
PMP and Scope Appendix Comment Response Matrix**

Commenter/ Submitter Name	Document	Comment - one or two concise sentences	Explanation (Provide a clear explanation for the concur or non-concur response)	Revision to Documentation
Eric Hofmeister	HSLRR	<p>1. The stabilization plan has an ambitious time table. The portion that would involve the Town of Islip jurisdiction is scheduled to begin in October of 2014. It is important to begin discussion regarding the preparation of the real estate documents such as easements, acquisitions and relocations. The affected property owners will be in residence during this summer season and can be contacted before the fall. It is also vague about the role of the NYSDEC as the local sponsor. Will NYSDEC take the lead to accomplish the real estate tasks?</p> <p>2. The Town of Islip would like to have a work plan. How will the hopper dredges off-load the sediment? Where will the sediment be deposited? Will the project start at the east end of the project? Will the material be pushed up the beach with a bulldozer? How will the dunes be shaped and planted without impacting the adjacent properties?</p> <p>3. Will all dune crossings be maintained? Does the project include the construction of dune crossings to maintain access to the beach? The Town of Islip would like to discuss the location and construction standards for the staircases and ramps that would be needed. There is also a need to consider ADA compliant access to the beach and have a handicapped accessible crossing at one or two locations.</p> <p>4. Will the dune plantings be installed at the optimal planting season? These plants may need watering and re-planting in order to ensure effective dune stabilization.</p> <p>5. If the environmental monitoring determines that there is a need for mitigative measures, are there funds within the project to add plantings, bird houses, planting of wetlands, provide fish habitat, etc?</p> <p>6. The benefit/cost analysis highlighted the extreme costs of storm damage to the mainland due to potential flooding. Does this project include funds to reduce future impacts to the mainland such as road and drainage improvements, the raising of bulkheads, wetland restoration, habitat improvement, shoreline plantings and berms, back-bay shoreline improvements, SAV plantings, aquaculture projects, dock improvements for emergency evacuations, etc.?</p>	Concur (Support); strongly support the FIMI project as described in the Draft Hurricane Sandy Limited Re-evaluation Report (LRR), as well as the conclusions outlined in the Draft Environmental Assessment (EA) that supports the FIMI Stabilization Beach Fill Alternative. No significant changes to report documents.	No significant changes to report documentation requested, but required technicalities should be addressed
Erica Fried	EA	<p>1. On the dune and nearby areas, the easements should allow for local homeowners and the community to install dune fencing, plant dune grass, and maintain irrigation systems on the dunes and their immediate vicinity. The Appendix G template allows such access for the Project Sponsor and its representatives, but does not include the local homeowner or Beach Erosion Control Districts. It is unclear that Army Core of Engineers (ACE) is assuming these responsibilities, and if so, for how long. Furthermore, in the event of future storms, the easements should allow local community action to replenish the beach if federal action is not forthcoming, consistent with actions done in the past.</p> <p>2. The Appendix G template provides for public access and use of the easement area, whereas preservation of the dune system is dependent on limiting, foot traffic for other than the purpose of maintaining and enhancing the dune system. When the beach is wide and adequate area is available for recreation, it has previously been our practice to discourage foot and vehicular traffic in the near vicinity of the dune (often with symbolic fencing) and encourage this traffic to be as far south as possible to maximize habitat for plants and wildlife. The easement should support efforts to minimize unnecessary traffic in the environmentally sensitive dune area.</p> <p>3. In view of the temporary nature of federal involvement as currently specified with FIMI, it would be reasonable to include provisions to terminate the easements following federal inaction for some predefined period after the anticipated life of the project, and/or loss of the replenished sand that returns affected areas to pre FIMI project conditions. concerns regarding the proposed easements.</p>	Concur (Support); Overall, we thank all of the team involved for this excellent EA and encourage the team to proceed with the TSP as soon as possible.	
H. Ronald Bush		Your plan will protect the communities on Fire Island from further storm damage as well as the communities located on the Great South Bay on Long Island. Thank You for all that you are attempting to accomplish	Concur (Support); strongly support the FIMI project as described in the Draft Hurricane Sandy Limited Re-evaluation Report (LRR), as well as the conclusions outlined in the Draft Environmental Assessment (EA) that supports the FIMI Stabilization Beach Fill Alternative. No significant changes to report documents.	No significant changes to report documentation requested
Robert L Cox III	HSLRR/EA	Village supports the Stabilization Project as described in the report, and further urges the Army Corps and all involved agencies to expedite the necessary reviews and approvals to allow commencement of all sections of the Project as soon as possible. The need for emergency stabilization of Fire Island is well documented in sections 2 and 5 of the Report, and any further delay in the implementation unnecessarily exposes the private development and public infrastructure of both Fire Island and Long Island to the risk of storm damage.	Concur; Elected official; Village of Saltaire is in full support of the FIMI project since it unequivocally provides tremendous cultural, economic and environmental benefits to Long Island as well as Fire Island, and is the only realistic alternative presented as an effective response to the damage caused by Superstorm Sandy.	No significant changes to report documentation requested
Edith Charlton		agree with the conclusions of the Draft Environmental Assessment (EA) that support the FIMI Stabilization Beach Fill Alternative.	Concur (Support); strongly support FIMI's beach stabilization project.	No significant changes to report documentation requested
Jesse Ostrow	HSLRR/EA	Corps and DOI collaborate closely with the Fire Island Association (FIA) when implementing the project.	Concur (Support); strongly support the FIMI project as described in the Draft Hurricane Sandy Limited Reevaluation Report (LRR), as well as the conclusions outlined in the Draft Environmental Assessment (EA) that supports the FIMI Stabilization Beach Fill Alternative.	No significant changes to report documentation requested
Allegra Biggs Lubrano		project includes the creation of a significant dune, berm and beach system is testament to its comprehensive and thoughtful nature. urge to promptly proceed with the FIMI plan as Fire Island	Concur (Support); strong and unequivocal support for the Tentatively Selected Plan known as the Fire Island Inlet to Moriches Inlet Stabilization Project (FIMI) plan.	No significant changes to report documentation requested
Patricia Doyle		important that the corps and DOI collaborate closely with not only the two incorporated Villages and towns, but also the representative of the Communities that will be impacted.	Concur (Support); support of the project as described in the Draft Hurricane Sandy Limited Re-evaluation Assessment (EA) that supports The FIMI Stabilization Beach Fill Alternative.	No significant changes to report documentation requested
Lansing Hays		The "Tentatively Selected Plan" appears to rebuild these defenses so that even with rising ocean levels we might see some protection for the next decade at least and allow natural dune building to succeed.	Concur (Support); support of FIMI Stabilization.	No significant changes to report documentation requested
John Di Laurenzio	HSLRR	We need an immediate stabilization of the barrier island that has protected our homes for many years. Please do not delay and start protecting our homes and way of life with this project.	Concur (Support); 100% of my support for the project described in the Draft Hurricane Sandy Limited Re-evaluation report (LRR for Short)	No significant changes to report documentation requested
Fair Harbor Community Association	HSLRR/EA	Fair Harbor is a community of 350 homes.	Concur (Support); strongly support the FIMI project as described in the Draft Hurricane Sandy Limited Re-evaluation Report (LRR), as well as the conclusions outlined in the Draft Environmental Assessment (EA) that supports the FIMI Stabilization Beach Fill Alternative	No significant changes to report documentation requested

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Leo Guimond		Corps and DOI collaborate closely with the Fire Island Association (FIA) when implementing the project.	Concur (Support); strongly support the project as described in the Draft Hurricane Sandy Limited Re-evaluation Report and agree with the conclusions of the Draft Environmental Assessment that support the FIMI Stabilization Beach Fill Alternative.	No significant changes to report documentation requested
Diane Keehner		resident of Fire Island at Point o' Woods, this project is extremely important to me and I urge the Army Corps and New York State to work in consultation with Suffolk County, Brookhaven and Islip and the communities on Fire Island.	Concur (Support); I strongly support the Tentatively Selected Plan and urge the Army Corps and State of NY to proceed immediately to protect the region which was so devastated by hurricane Sandy.	No significant changes to report documentation requested
Allison Williams	HSLRR/EA	Urge that all involved agencies review the monitoring reports of past community beach stabilization projects which have clearly revealed that not only have those similar stabilization projects years done no harm, but that they have actually provided measurable benefits to the natural environment.	Concur (Support); Fully support the stabilization project as described in the report. Strongly support the phasing of the ~stabilization FIMI advance of the larger FIMP	No significant changes to report documentation requested
Shelley Donow	HSLRR/EA	Fair Harbor's community of 350 homes lost all of our dunes, walkways, our communications infrastructure, and suffered from flooding moderate in some areas and severe in others	Concur (Support); support for the FIMI project as described in the Draft Hurricane Sandy Limited Re-evaluation Report (LRR), as well as the conclusions outlined in the Draft Environmental Assessment (EA) that supports the FIMI Stabilization Beach Fill Alternative	No significant changes to report documentation requested
Greg & Gloria Schaefer	HSLRR/EA	Without the protection that the barrier island provides for coastal long Island communities, long Island could experience catastrophe damage and loss.	Concur (Support); support for the FIMI project as described in the Draft Hurricane Sandy Limited Re-evaluation Report (LRR), as well as the conclusions outlined in the Draft Environmental Assessment (EA) that supports the FIMI Stabilization Beach Fill Alternative	No significant changes to report documentation requested
Edmund R. Rosenkrantz	HSLRR/EA	Fire Island is an essential barrier to protect the south shore of Long Island. There are more than 800,000 visitors each summer, a salient factor in the Long Island economy.	Concur (Support); support for the FIMI project as described in the Draft Hurricane Sandy Limited Re-evaluation Report (LRR), as well as the conclusions outlined in the Draft Environmental Assessment (EA) that supports the FIMI Stabilization Beach Fill Alternative	No significant changes to report documentation requested
Judith Gerardi		Rebuilding the dunes on the south of the island which is along the Atlantic Ocean cannot wait. Fire Island's dunes were largely leveled by Sandy, exposing us to more frequent and increasingly serious erosion.	Concur (Support); support of the DEA's recommendations and project plan for urgently needed beach stabilization on Fire Island, where I live 6 months a year.	No significant changes to report documentation requested
Lori M. Laubich	HSLRR/EA	I would like to see the PPAs signed as soon as possible so that the project can get underway.	Concur (Support); support immediate stabilization for the entire length of Fire Island because it will protect Fire Island's residents, homes, businesses and treasured national park land and will also benefit the many communities on Long Island that lie directly across the Great South Bay.	No significant changes to report documentation requested
Daniel Schuchat	HSLRR/EA	previous beach stabilization projects helped spare us from worse damage and provided critical, measurable benefits to the natural environment.	Concur (Support); immediate stabilization for the entire length of Fire Island because it will protect Fire Island's residents, homes, businesses and treasured national park land and will also benefit the many communities on Long Island that lie directly across the Great South Bay.	No significant changes to report documentation requested
Anne Herrick		Urge the Army Corps and all involved agencies to expedite the necessary reviews and approvals to allow commencement of all sections of the Project as soon as possible. The need for emergency stabilization of Fire Island is well documented in sections 2 and 5 of the Report, and any further delay in the implementation unnecessarily exposes the private development and public infrastructure of both Fire Island and Long Island to the risk of storm damage.	Concur (Support); support the Stabilization Project as described in the report.	No significant changes to report documentation requested
Wendy Blank		under the impression that this would begin prior to the next hurricane season and thought this was being funded by the federal government and approved to begin.	Concur (Support); support the FIMI project as described in the Draft Hurricane Sandy Limited Reevaluation Report.	No significant changes to report documentation requested
Drew Lowenstein	HSLRR/EA	In implementing the project I strongly urge the Corps and DOI to collaborate closely with the Fire Island Association (FIA).	Concur (Support); support for the FIMI project as described in the Draft Hurricane Sandy Limited Re-evaluation Report (LRR), as well as the conclusions outlined in the Draft Environmental Assessment (EA) that supports the FIMI Stabilization Beach Fill Alternative.	No significant changes to report documentation requested
John Bauer		tax base would suffer a reduction in value	Concur (Support); support of the proposed project to stabilize Fire Island.	No significant changes to report documentation requested
Joan Bryant		tax base would suffer a reduction in value	Concur (Support); support of the proposed project to stabilize Fire Island.	No significant changes to report documentation requested
Jack Gellatly, Andrew Shapiro, Michael Shapiro, Nancy, Shapiro	HSLRR/EA	would like to see the PPAs signed as soon as possible so that the project can get underway.	Concur (Support); support for the FIMI project as described in the Draft Hurricane Sandy Limited Re-evaluation Report (LRR), as well as the conclusions outlined in the Draft Environmental Assessment (EA) that supports the FIMI Stabilization Beach Fill Alternative.	No significant changes to report documentation requested

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Dorothee And Douglas King		Davis Park experienced several over-washes that resulted in several houses along the Great South Bay on the north side of Fire Island being undermined by flooding ocean water. The conditions that allowed these over washes remain and the possibility those new breaches might be created as the result of future storms is highly likely. Our only concerns, which we hope can be addressed in future nourishment/dune reconstruction projects, are as follows. 1. The current project design for Davis Park has a 300 foot taper at each end that extends into the Fire Island National Seashore (FINS). It would have been more desirable if the taper length on FINS property	Concur (Support); support the recommendations contained in the HSLRR report	No significant changes to report documentation requested
Edward P. Romaine	EA	recommendation includes the acceptance of the document as written with a request for the immediate implementation of the beach restoration projects as proposed within the required dredging windows, due to the vulnerability of the mainland areas from future storms.	Concur (Support); Town of Brookhaven supports the DEA and has no objection to this document being accepted as the completed Environmental Assessment.	No significant changes to report documentation requested
Sharon C. Lewis	HSLRR/EA	strongly urge the Corps and DOI to collaborate closely with the Fire Island Association (FIA). The FIA is an important liaison between Fire Island communities and local, state and federal governments.	Concur (Support); support for the FIMI project as described in the Draft Hurricane Sandy Limited Reevaluation Report (LRR), as well as the conclusions outlined in the Draft Environmental Assessment (EA) that supports the FIMI Stabilization Beach Fill Alternative.	No significant changes to report documentation requested
Eric Schiller		Urge the Army Corps and all involved agencies to expedite the necessary reviews and approvals to allow commencement of all sections of the Project as soon as possible.	Concur (Support); Fully support the Stabilization Project as described in the report.	No significant changes to report documentation requested
Shepard Barbash	DEA	have been impressed with that organization's efficiency and integrity	Concur (Support); fully support the proposed Fire Island to Moriches Inlet (FIMI) Project and the findings of the Draft Environmental Assessment that support same.	No significant changes to report documentation requested
Brendan And Kimberly Reynolffs	HSLRR/EA	need for immediate stabilization for the entire length of Fire Island will not only protect us, but with the advent of rising sea levels, will benefit the communities on Long Island that lie directly across the Great South Bay	Concur (Support); support for the FIMI project as described in the Draft Hurricane Sandy Limited Re-evaluation Report (LRR), as well as the conclusions outlined in the Draft Environmental Assessment (EA) that supports the FIMI Stabilization Beach Fill Alternative.	No significant changes to report documentation requested
Linda Ostrow	HSLRR/EA	to see the PPAs signed ASAP so that the project can get underway.	Concur (Support); strongly support the FIMI project as described in the Draft Hurricane Sandy Limited Reevaluation Report (LRR), as well as the conclusions outlined in the Draft Environmental Assessment (EA) that supports the FIMI Stabilization Beach Fill Alternative.	No significant changes to report documentation requested
Donald Walley	HSLRR/EA	urge the Corps and DOI to collaborate closely with the Fire Island Association (FIA).	Concur (Support); support for the FIMI project as described in the Draft Hurricane Sandy Limited Re-evaluation Report (LRR), as well as the conclusions outlined in the Draft Environmental Assessment (EA) that supports the FIMI Stabilization Beach Fill Alternative.	No significant changes to report documentation requested
Alex Chefetz	HSLRR/EA	<ul style="list-style-type: none"> Supports the use of sands from source location 2C as identified in the report for the purpose of implementing the community-portion of the FIMI. Urge that implementation of the proposed dune re-alignment focus all efforts first on relocation of the existing structures whenever possible and desired by the property owners. 	Concur (Support); Fully support the Stabilization Project as described in the report	No significant changes to report documentation requested
Donald Walley		The need for immediate stabilization for the entire length of Fire Island will not only protect us, but will benefit the communities on Long Island that lie directly across the Great South Bay.	Concur (Support); support for the FIMI project as described in the Draft Hurricane Sandy Limited Re-evaluation Report (LRR), as well as the conclusions outlined in the Draft Environmental Assessment (EA) that supports the FIMI Stabilization Beach Fill Alternative.	No significant changes to report documentation requested
David Kaufman			Concur (Support); fully support the proposed Stabilization Project for Fire Island by the Army Corps of Engineers.	No significant changes to report documentation requested
Mitchell H. Pally		It is essential that the federal government, State of New York, Suffolk County and all of the towns and villages along the geographic dimensions of the project work together to make sure that this project can move forward. Cooperation and coordination must be the key to make this program successful for all involved.	Concur (Support); strong support for the implementation of the Fire Island to Moriches Inlet Project as soon as possible	No significant changes to report documentation requested
Linda Cahill	HSLRR/EA	Urge to have PPAs signed as soon as possible so that the project can get underway. Concerned that the voices of "Piping Plover" supporters and advocates from the Fish and Wildlife. Homeowner strongly supporting the stabilization. Suggest few additional noteworthy items to be made in documentation language. Desire to preserve the unique natural resources and accessibility. Urge to work with fellow DOI agencies and local communities.	Concur (Support); fully support the project as described in the report and can not over-emphasize its vital importance.	No significant changes to report documentation requested
Elizabeth A. Wolnick/Johannes H. Banck	HSLRR/EA	Urge to have PPAs signed as soon as possible so that the project can get underway. Concerned that the voices of "Piping Plover" supporters and advocates from the Fish and Wildlife. Homeowner strongly supporting the stabilization. Suggest few additional noteworthy items to be made in documentation language. Desire to preserve the unique natural resources and accessibility. Urge to work with fellow DOI agencies and local communities.	Concur (Support); strongly support the FIMI project as described in the Draft Hurricane Sandy Limited Re-evaluation Report (LRR), as well as the conclusions outlined in the Draft Environmental Assessment (EA) that supports the FIMI Stabilization Beach Fill Alternative. No significant changes to report documents.	No significant changes to report documentation requested
Susan Barbash		Urge to have PPAs signed as soon as possible so that the project can get underway. Concerned that the voices of "Piping Plover" supporters and advocates from the Fish and Wildlife. Homeowner strongly supporting the stabilization. Suggest few additional noteworthy items to be made in documentation language. Desire to preserve the unique natural resources and accessibility. Urge to work with fellow DOI agencies and local communities.	Concur (Support); strongly support the FIMI project as described in the Draft Hurricane Sandy Limited Re-evaluation Report (LRR), as well as the conclusions outlined in the Draft Environmental Assessment (EA) that supports the FIMI Stabilization Beach Fill Alternative. No significant changes to report documents.	No significant changes to report documentation requested

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Chris Gurl	DRAFT FIMP/FIMI EA	I am directly impacted by the concepts contained within the Draft Environmental Assessment prepared by the Army Core of Engineers that was published March 17th 2014.	non-concur; (1) In general the Draft EA does not provide for flexibility in planning and process or allow for practical administration of the regulations/policies contained therein.	The DRAFT EA does not provide the economic analysis that scientifically and economically exposes the justification behind the concept of alignment to prove that the cost of acquisition is more feasible/responsible than the cost of construction when considered as part of either the FIMI or within the context of a larger and theoretically subsequent FIMP.
Christopher Gomes	DRAFT FIMP/FIMI EA	I am directly impacted by the concepts contained within the Draft Environmental Assessment prepared by the Army Core of Engineers that was published March 17th 2014.	non-concur; (1) In general the Draft EA does not provide for flexibility in planning and process or allow for practical administration of the regulations/policies contained therein.	Knowing that the Draft EA cannot contemplate all circumstances, I request that the Draft EA include specific language that acknowledges the possibility that Traffic Avenue, and alternative private resources, may be acquired in order to prioritize relocation over acquisition, and therefore limit the impact to real estate for us and other members of our community.
Emil Chynn	DRAFT FIMP/FIMI LR	I own a house at 8 traffic ave in ocean bay park that got moved by sandy. I have already spent 1 year and \$125,000 just to repost the house on higher pillings to meet the new FEMA code now you launch a plan where you might pay me \$1.4 million to demolish my house, when i paid \$2.1 million for it	non-concur; (1) Non-fair compensation. Real Estate	Real Estate values
John Lund	DRAFT FIMP/FIMI LR	Super Storm Sandy pointinted out we cannot plan forever and that it was time for more action and fewer words if we are to preserve the quality of life people have come to expect and enjoy along the South Shore and Fire Island.	Non-concur: (1) it seems time to reinvest in protective measures to ensure that taxpayers reap the benefits of their previous investment in Fire Island and may look forward to many more pleasurable trips to Fire Island as it is rebuilt; (2) I am troubled with the plan to acquire or relocate homes in a few communities and not building out dunes in those areas as dunes and structures were rebuilt in many other areas, some on Fire Island.	THE DRAFT LRR is the baby step, we need for larger plans to preserve our entire South Shore and lifestyle people have come to enjoy.
Leroy Deboard	DRAFT FIMP/FIMI LR	I'm not interested in anything the Corps recommends. I signed up several times for the Corps assistance in removing debris from my property which was the most severely hit of all the non dune properties. Guess what. They never came to my property! I am a 72 year old lady and I did it myself for 2 months.	N/A	N/A
Bob Mcgravity	DRAFT FIMP LRR	What I should have made clear in this letter is that while we support the concept of the restoration of the dunes on Fire Island, we do not support the condemnation or removal of properties that encroach on the proposed dune line.	Non-concur: (1) We firmly believe that any such project should take into consideration the property and enjoyment values that would be destroyed by inflexible standards applied to existing structures.	Failure to apply flexible standards to the establishment of the dune line would result in our removal of our approval from this project
Stephen Palermo	DRAFT FIMP/FIMI EA	proposed MIDU Baseline.	Non-concur: (1) Unfortunately I see the line is moving North West towards the center of FI. This will be a major inconvenience to some property owner residents as well a local municipalities. Not to mention the additional cost to the taxpayers, like you and I.	My suggestion is to move the MIDU baseline towards the ocean at the locations of local communities as well as distressed areas along FI.
Thomas LaGuardia	DRAFT FIMP LRR	This study has gone on form more than 40 years, with no real action until our barrier beaches and adjacent mainland suffered significant damage. If the dollars the CORP spent on the forty years of study had been used to put sand on the beach we would not have had as much damage from SANDY.	Non-Concur :(1) The corp project should place sand on all reaches of Fire Island to restore the natural flow of sand; (2) Sand should be placed on the Wet and Dry beach; (3) Requirements for easements should be dropped; (4) Dune's should be placed so no acquisitions or relocations are required.; (5) Sand should be placed on the beach immediately as any delay puts all our homes in jeopardy.	Failure to apply flexible standards to the establishment of the dune line would result in our removal of our approval from this project
Dawn M. Cloutier	DRAFT FIMP/FIMI LR	This project, however, comes at a serious cost. My property is listed as "Buffer 25" which I assume means it is in the Standard Perpetual Beach Coastal Storm Risk Management Easement. If so, this will materially impact my investment and the future value of my property.	Non-Concur: (1) My investment in this new home is significant, beyond the proceeds of my flood insurance;(2) I cannot understand why I would be asked to provide a permanent easement in this case and I am opposed to this as a matter of course. This ask seems onerous to homeowners who are located in near proximity of the dune, and seemingly random in terms of tenure given the limited scope of the project.	I would very much appreciate a better understanding of the specific rationale for why I would be asked to provide a permanent easement without an explanation for the purpose and I would like that my opposition to this be made part of the public record.
Sondra and Jerome Bloomberg	DRAFT FIMP/FIMI EA	I am directly impacted by the concepts contained within the Draft Environmental Assessment prepared by the Army Core of Engineers that was published March 17th 2014.	Non-concur: (1)The DRAFT EA does not provide the economic analysis that scientifically and economically exposes the justification behind the concept of alignment to prove that the cost of acquisition is more feasible/responsible than the cost of construction when considered as part of either the FIMI or within the context of a larger and theoretically subsequent FIMP.;(2) In general the Draft EA does not provide for flexibility in planning and process or allow for practical administration of the regulations/policies contained therein;(3)The total possible compensation per homeowner is currently hard to understand in the Draft EA.	Refer to column D
Karen Swinsky Carouso		project itself must consider modifications to local zoning, entitlement administration and process to ensure that when the plan is completed that the permitting process is flexible, explicit and swift.	DRAFT EA does not provide the economic analysis that scientifically and economically exposes the justification behind the concept of alignment to prove that the cost of acquisition is more feasible/responsible than the cost of construction when considered as part of either the FIMI or within the context of a larger and theoretically subsequent FIMP.	Draft EA does not provide for flexibility in planning and process or allow for practical administration of the regulations/policies contained therein.
Bruce R. & Susan E. Keyes		recommendation for a minor modification that may well prove cost effective for the Corps and much fairer to the affected oceanfront homeowners on the east end of Davis Park.	CERTIFICATE OF SUSPENSION OF AUTHORITYFOR ACQUISITION BY CONDEMNATION	maintain the dunes' original easterly course for an additional 336 feet and commence tapering at the Whale Bone beach access walk.
Thomas Brown & Meg Switzgable Fire Island Pines	EIS	90-page March 2014 draft Fire Island to Moriches Inlet (FIMI) report proceeding without the understanding gained from a full Environmental Impact Study will be a colossal waste of taxpayer money and further add to the problem rather than help solve it.	Prior to it's 2009 beach replenishment project, our community promised the Department of the Interior, a full Environmental Impact Statement (EIS) would be done before we asked for any more sand.	complete environmental review to better determine the true nature of how these natural processes actually work.

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The Nature Conservancy - Long island	EA	<p>The Nature Conservancy supports the separation of FIMI as a "one-time, initial construction project</p> <p>serious reservations regarding the underlying assumptions used to justify the FIMI project from a cost-benefit and flood reduction basis.</p> <p>strongly recommend that USACE actively coordinate with NY Rising and the CRZ planning committees and incorporate their community based ideas into the USACE planning process</p>	<p>do not believe modern science supports USACE assertions that it will also mitigate bayside flooding. We are supportive of the USACE assertion that moving forward with FIMI "does not limit the options available in the Reformulation Study or Pre-suppose the outcome of the Reformulation Study." little data is provided to substantiate various assertion.</p>	<p>concerns we have with the report is the USACE's assertions that the FIMI project will have significant benefits to reducing bayside flooding and the carry-through of this assertion to the cost benefit analysis.</p>
COUNTY OF SUFFOLK	HSLRR/EA	<p>most concern to the County, the plan calls for a modified fill template in three locations, designated New Made Island, Pattersquach, and Smith Point Breach. At these locations the slopes have been modified decreasing the dunes side slopes, which in turn makes these specific dunes wider. At these locations no plantings are to occur on the slopes. Additionally, the documents call for a plan to monitor and de-vegetate any plant growth on these slopes when any natural occurring growth reaches a density of thirty (30%) percent or more. This modified dune section covers approximately 6200 feet of the</p>	<p>The proposed dune template in these three reaches is designed to periodically fail. It is presumed that the purpose for this is to perpetuate the existence of ocean-to-bay habitat. By constructing such a substandard dune, the project seeks to prioritize plover habitat preferences above those of mainland storm protection and recreational beach access.</p>	<p>Without evidence showing that areas of overwash and breaching significantly contribute to back-bay flooding, other alternatives to reduce coastal and community flooding and damage during storm events need to be considered. In fact, this project evaluates only two alternatives—no action and the preferred action—and to be in full compliance with NEPA, all</p>
Audubon New York	HSLRR/EA	<p>FIMI alone will result in communities and tax payers finding themselves right back in the same situation following future storms—with the same damages and expensive solutions, rather than moving forward with the more comprehensive solutions outlined in the FIMP.</p>	<p>Stabilization projects should allow for coastal processes to continue rather than only creating static features and should include specific restoration targets for both storm protection and maintaining ecological features and processes, thresholds for intervention, and criteria to evaluate long-term project success.</p>	<p>clarification as to how the FIMI project will work within the framework of the FIMP and move us closer to achieving the full spectrum of recommendations and long-term outcomes of the FIMP.</p>

April 17, 2014

Robert J. Smith, Project Biologist
New York District Corps of Engineers
Att: CENAN-PL-E
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Mr. Smith,

Thank you for the opportunity to provide comments on the *Draft Fire Island Inlet to Moriches Inlet, Fire Island Stabilization Project, Hurricane Sandy Limited Reevaluation Report* (FIMI). The Nature Conservancy is a long standing member of the South Shore Estuary Reserve Council. In the last decade we have invested over \$6 million in Great South Bay. We own and manage numerous properties within the study area, including properties on Fire Island as well as over 13,400 acres of submerged lands in central Great South Bay, that may be directly impacted by the implementation of the final FIMI as well as the overall FIMP Reformulation Plan.

Local communities rely upon the world-renowned natural resources of Fire Island and the southern shore of Long Island as vital components of their social, cultural, and economic fabric. It is the belief of The Nature Conservancy that the long term health of these resources can best be achieved by allowing key ecosystem processes to function as naturally as possible. To that end, sufficient sediment flow, clean water that supports both human and ecological health, and space for natural systems to exist-- both now and in the face of a climate changed world-- can and should be the targeted ingredients for long term viability in this highly dynamic system. The ongoing human intervention that is required to reduce the inevitable impacts of sea level rise and extreme weather events, the more effective the overall recovery will be.

The Nature Conservancy supports the separation of FIMI as a "one-time, initial construction project." The designation of the FIMI effort put forward in the project description is a departure from project descriptions presented at the US Army Corps of Engineers (USACE) FIMP restoration dialogs in early 2013. At that time, draft project plans were described as requiring a 50 year, \$550M operation and maintenance budget with 35% cost share to local partners. In reality there was never a federal or local-cost-share-partner dedicated funding that would support \$550M in operation and maintenance over the next 50 years. Therefore, the one-time nature of this current 100% federally funded project description, along with greatly reduced operation and maintenance expectations over a shorter time period, seems more consistent with the realities on the ground.



While we agree that the project has its "own independent utility" in terms of protecting the ocean side of the Fire Island communities, we do not believe modern science supports USACE assertions that it will also mitigate bayside flooding. We are supportive of the USACE assertion that moving forward with FIMI "does not limit the options available in the Reformulation Study or Pre-suppose the outcome of the Reformulation Study." We believe that it is wise to disassociate the FIMI Stabilization Project as separate and independent of any action that may or may not be taken regarding the disposition of the new inlet in the Fire Island National Seashore's Otis Pike Federal Wilderness Area.

The non-structural components of the FIMI project, in particular the acquisition of 41 vulnerable ocean facing structures and the relocation of another 6 structures, not only represents a permanent buying down of risk, but also reduces the costs and increases the stability of the structural component of the project. The real estate acquisitions allow for a more landward dune alignment that requires less sand and also is expected to last longer. We acknowledge the complexity involved in negotiations of these acquisitions and easements and we congratulate the USACE, FIA, FINS and others that may have assisted with this critical aspect of the project. We also encourage the USACE to evaluate the pros and cons of the acquisition process to help inform similar efforts that will undoubtedly be needed for bayside projects, enforcing CEHA regulations, and long-term planning for the ocean facing communities throughout the FIMP project area.

Our general support for the FIMI plan as outlined does need to be qualified with several questions and concerns. We have serious reservations regarding the underlying assumptions used to justify the FIMI project from a cost-benefit and flood reduction basis. Additionally, the discussion of the identified borrow sites for the necessary sand mining to implement the FIMI project raises concerns. In both cases, there is a fundamental lack of science provided to justify the conclusions drawn and, more importantly, the conclusions presented in the FIMI project description actually stand in contrast to the current prevailing state of the science. Finally, and acknowledging that FIMI is only one component of the larger FIMP plans, we strongly encourage the USACE to increase coordination with, and adoption of, the suite of long-term planning and recovery efforts that have been ongoing in the FIMP boundary as a function of Governor Cuomo's New York Rising program.

One of the largest concerns we have with the report is the USACE's assertions that the FIMI project will have significant benefits to reducing bayside flooding and the carry-through of this assertion to the cost benefit analysis. The project description asserts that the FIMI beach nourishment alternative affords "increased protection to the communities along the bayshore." However, this seems to be based on four underlying assumptions that lack sufficient data to back them up. These assumptions are: (1) the occurrence of overwashes and breaches is indicative of a damaged barrier island, (2) when formed, breaches continue to grow, (3) breaches and overwashes are a major source of the water that causes flooding in bayside communities, (4) the size of dunes and width of ocean beaches is directly related to water levels within the bay and therefore bayside flooding can be reduced by building up beaches and sand berms. The report fails to provide the scientific justification, models, or calculations on which the USACE is basing these assumptions. Moreover, these assumptions conflict with both the broader current scientific understanding of how barrier islands naturally persist in the face of rising sea levels, as

well as the extensive scientific assessments of the new inlet in the Otis Pike High Dunes Wilderness Area and its impacts on water levels in Great South Bay.

While the natural processes of breaching and overwash may cause damage to manmade infrastructure on a barrier island, they do not in and of themselves represent damage to the underlying long-term integrity of the barrier island itself. Quite to the contrary, in natural systems as dynamic as a barrier island, storm-caused breaches and inlets provide a critical aspect of long-term barrier island maintenance by adding sand shoals, flood tide delta platforms and islands, and creating the potential for new wetlands. These are the very processes that have enabled barrier islands to persist and maintain themselves naturally for thousands of years.

The assertion that, once initiated, breaches will continue to grow appears to be based upon observations of the Pikes and Little Pikes breaches in Westhampton in 1992-93. However, there is no place on Fire Island that has similar enabling conditions to the situation that existed at that place and time. In their assessment of the Westhampton example, the United States Geological Service states that "Well-intended interests to preserve and protect expensive beach front property and homes ultimately resulted in a major disaster for barrier island residents down shore." In this situation, a groin field impeded the natural flow of sediment and starved down current areas to the west of sand. This directly contributed to initiation, persistence, and growth of breaches in Westhampton.

Using this example as the basis of predictions for how a breach along the undeveloped stretches of Fire Island would progress, and the impacts that such a progression would have on bayside water levels, produces findings that are unsubstantiated and contradictory to actual observations. Empirical data collected by Stony Brook University, Fire Island National Seashore, and USGS unequivocally contradicts the USACE's assertion of breach growth rates and size predictions. If the USACE has data and models that they believe are more relevant than the actual time series of observations that have been made for how the new inlet in Fire Island Wilderness Area is behaving, then we respectfully request that the details of those data and analyses be made available for public review.

Modern science clearly shows that the propensity for bayside flooding in Great South Bay is based on several factors, none of which are related to the changes in geography of Fire Island created by Superstorm Sandy (Sandy). These factors include the (1) elevation and proximity to the bay of flood prone areas, (2) a local wind response which pushes water around the bay, (3) the response of the Mid-Atlantic Bight to a long-lasting storm (wind field, wind direction, wind duration, storm track, and the inverted barometer effect of low atmospheric pressure). None of these factors have changed as a result of Sandy's impact on the configuration of Fire Island nor will any of them be changed as a result of implementing the FIMI project.

Ongoing scientific studies of water levels in Great South Bay, including during seven large coastal storms following Sandy, confirm that the risk of flooding to low elevation bayside communities is no higher now than it was prior to Sandy. Ocean water exchange into Great South Bay is largely occurring through the maintained navigation inlets, with no detectible increase in water levels as a result of the new inlet in the Fire Island Wilderness Area. Given the propensity for bayside flooding has not been exacerbated by

Sandy's impacts on the barrier island, it follows that reconstructing beaches and berms to pre-Sandy levels will result in little to no reduction of flood risk to bayside communities.

While the focus of our review has not been directly related to impacts on individual species, the federally threatened and New York State endangered piping plover utilizes early successional habitat for nesting, defined as sparsely vegetated, wide sandy beach. Natural processes, including beach overwash and breaching, are essential for the creation and maintenance of this habitat type. Additionally, overwash creates and maintains points of access utilized by nesting species like the piping plover to access preferred foraging habitats, such as bayside flats. Sandy created some of the most optimal piping plover habitat on Long Island in Smith Point County Park and we encourage the USACE to further explore how to protect and maintain that habitat from potential impacts of the FIMI project.

Given the documented factors that impact flooding in bayside communities along the Great South Bay and the reality that many of the proposed actions within FIMI will have no appreciable effect on bayside flooding, we strongly encourage the USACE to revisit the calculations that produced an amount of \$72M in the *Annual Equivalent Damage Avoided* assessment.

In addition to the potentially inflated value of FIMI, the assertion that the FIMI project will reduce damage from bayside flooding is confounding public understanding between erosion, wave energy damage, and flood damage. All occur during large storms, but structural strategies along the ocean shoreline (such as beach and berm construction) which are aimed at addressing erosion and wave energy, will not reduce bayside flood damage and that reality should be clearly communicated to the residents living in those highly vulnerable areas.

The report suggests that sand mining areas were selected, in part, because they will minimize adverse impacts to onshore sediment transport processes. However, very little data is provided to substantiate this assertion. One of the source locations for sand mining for this project is borrow area 2C off of Point O' Woods. Ongoing studies by USGS that were presented on March 29, 2014 Fire Island National Seashore Science Symposium suggest that the relative stability of this central stretch of Fire Island over the last 70 years is directly related to the presence of these offshore sand ridges. If these offshore sand ridges are either moderating wave activity, and/or contributing to the exchange of sand between the borrow area and the near shore beach and sand bars, then it would seem that mining this sand may actually decrease the stability of central Fire island and accelerate erosion. Borrow Area 4C off of the Westhampton Beach groin field was also identified as a sand source. This borrow area is adjacent to a relatively unstable stretch of beach that has been repeatedly fortified, including with a partial groin field which in the past has starved the area around Pikes Beach of sand. Both of these borrow areas are close to shore, thus it seems warranted for more information be included and carefully vetted to assure that mining sand from these areas does not unintentionally accelerate erosion at or down current of the very areas that this project is intending to fortify.

We also have questions about the ongoing sand mining at Fire Island Inlet, the navigation channel, and other inlets as well. Public concerns about bayside flooding were not as front and center when inlet dredging was originally authorized decades ago as they are today. The FIMI report points out that inlets

and navigation channels impact the tidal prism in the bay. However, to date, the USACE has not released any details of any studies or models specifically showing how the ongoing and proposed additional post-Sandy dredging of inlets and navigation channels may alter the tidal prism within the bays. We strongly urge USACE to share their data and models, specific dredging plans, and pre and post dredging bathometric profiles so that this can be utilized by researchers who are actively studying the hydrodynamics of the south shore bays, and also so that it can better inform other planning efforts, including the overall FIMP plan.

The efficacy of alternative long-term management approaches for Fire Island Inlet was the basis of Kraus' 2003 study titled "Hypothetical relocation of Fire Island Inlet." Presumably because it is outside of the study area, there is little focus in the FIMI report on the impacts that the current Fire Island Inlet configuration and inlet maintenance is having on Jones Island (including Oak Beach and Ocean Parkway). While it is outside the scope of FIMI, we encourage the USACE to examine alternatives such as the one presented in Kraus et al 2003 as it considers long term approaches on Jones Island beaches, Ocean Parkway, and Oak Beach.

We recognize that FIMI is not intended to capture the entirety of the USACE strategy for the FIMP geography. As detailed in a September 2013 Newsday report, the bayside components of FIMP will include measures that will meaningfully reduce community vulnerability, from elevating thousands of homes and tens of miles of flood prone roads to fortifying and/or adapting critical facilities. We encourage the USACE to go even further in these efforts to build more resilient communities and to include projects focused on improving storm water drainage systems, expanding and maintaining culverts, converting septic systems to watertight sanitary waste water plumbing, buying-out and re-purposing of the most vulnerable properties. Additionally, we strongly recommend that USACE actively coordinate with NY Rising and the CRZ planning committees and incorporate their community based ideas into the USACE planning process. Doing so will allow the USACE to start out with a set of plans that have already been embraced by the communities. We also encourage the USACE to incorporate voluntary buy-outs into the bayside component of FIMP, doing so can facilitate other important project components and increase resiliency by permanently buying down risk.

Regardless of the condition of the beaches and dunes on the barrier islands, future bayside flooding, whether from storm surges, local wind forcing, or sea level rise, is unavoidable. In the face of certain future flooding impacts, decisions by state and local agencies to continue programs that promote vulnerable re-development of flood prone areas should be discouraged to the greatest extent possible. This is why we believe the USACE should more clearly articulate the extremely limited extent of bayside risk reduction afforded by the proposed FIMI portion of the project, and also why the USACE should engage in further coordination with the community redevelopment planning processes.

Similarly, it is incumbent upon New York State, and local governments to administer the Coastal Erosion Hazard Area (CEHA) law as intended. It is our understanding that a major impediment to enforcing CEHA has been lack of financial resources to back up acquisition of damaged properties. The USACE has budgeted a 40% contingency for the acquisition of properties. We urge the USACE to consider

dedicating unspent contingency to an account that could be used in the future to assist the towns and state with effectively enforcing the CEHA rules in a way that is consistent with the intent of this law.

We once again thank you for the opportunity to comment on this effort and look forward to working with you on the restoration and non-structural components of the overall FIMP project. The south shore of Long Island and the communities that inhabit it, from the barrier island to the bayside, comprise a unique, vital, and threatened landscape. Finding a way forward that ensures the health of the social, cultural, economic, and ecological fabric of this region will be a challenging task, but one The Nature Conservancy looks forward to tackling alongside the USACE.

Sincerely,

A handwritten signature in black ink that reads "Nancy Kelley". The signature is written in a cursive, flowing style.

Nancy Kelley

Executive Director

The Nature Conservancy on Long Island
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cc.

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Jamie Rubin

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COUNTY OF SUFFOLK



STEVEN BELLONE
SUFFOLK COUNTY EXECUTIVE

DEPARTMENT OF PUBLIC WORKS

GILBERT ANDERSON, P.E.
COMMISSIONER

PHILIP A. BERDOLT
DEPUTY COMMISSIONER

April 16, 2014

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New York State Department of Environmental Conservation
Division of Water
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Re.: **Suffolk County Comments in Response to Fire Island Inlet to Moriches Inlet, Fire Island Stabilization Project, Hurricane Sandy Draft Limited Reevaluation Report and Draft Environmental Assessment**

Sirs:

Pursuant to our review of the Local Re-evaluation Report and Environmental Assessment for the Fire Island to Moriches Inlet Project, the following comments are provided.

1. The fill taper at the west end has been shortened from the previous version, presumably to bring it closer to the property line and off Wilderness Property. I understand why they would do this, but it is now a substandard taper. As such, the County requests some additional advance fill in front of the traffic circle to compensate for this.
2. The proposed FIMI includes the Berm Only template in the reach in front of the pavilion, Flight 800 Memorial, and the campgrounds. Either of the two dune templates is acceptable

SUFFOLK COUNTY IS AN EQUAL OPPORTUNITY / AFFIRMATIVE ACTION EMPLOYER

to the County in these locations, to provide a higher level of protection to infrastructure and to bury exposed sections of the seawall(s). Certainly there are no habitat considerations in this location that might preclude a dune template.

3. The dune section has been pushed north approximately 20 feet in an area just west of the Forge River spoil site. It is unclear how Burma Road might be affected in this and other locations, as it is not accounted for on the plans. Burma Road is the lifeline and backbone of not only our County Park, but also the Moriches Inlet whose Jetties Suffolk County maintains.
4. The taper at the east end is also reduced in size. It is unclear as to the intent here.
5. We are unclear on the reference to a feeder beach at Smith Point reiterated on Page 58 of the Re-evaluation Report, but not evident on the plans.
6. Of most concern to the County, the plan calls for a modified fill template in three locations, designated New Made Island, Pattersquach, and Smith Point Breach. At these locations the slopes have been modified decreasing the dunes side slopes, which in turn makes these specific dunes wider. At these locations no plantings are to occur on the slopes. Additionally, the documents call for a plan to monitor and de-vegetate any plant growth on these slopes when any natural occurring growth reaches a density of thirty (30%) percent or more. This modified dune section covers approximately 6200 feet of the park's frontage, seriously imperiling the County's ability to maintain Burma Road through these areas.

The proposed dune template in these three reaches is designed to periodically fail. It is presumed that the purpose for this is to perpetuate the existence of ocean-to-bay habitat. By constructing such a substandard dune, the project seeks to prioritize plover habitat preferences above those of mainland storm protection and recreational beach access. Migration of birds from ocean to bay, while perhaps optimal for this species, precludes the continued familiar operation of Smith Point, an operation that dates back over 50 years. The plan as currently proposed will likely result in significant loss of recreational access as the westernmost of those areas has the potential to cut off recreational access to 4.5 miles of beach to the east from May through August in any given year.

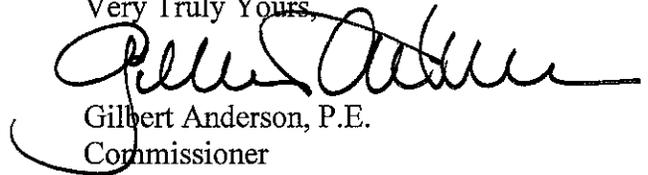
Smith Point County Park is a regionally significant recreational facility. The outer beach driving access here is unique in its scale, open to all, making it unlike any other similar experience in New York State. Suffolk County has and, given the opportunity, will continue to successfully demonstrate that the biological needs of plovers and the recreational desires of the beach-going public are not mutually exclusive. The unfortunate impacts of this historic storm need not redefine this park as "wilderness."

Having said all of this, please note our formal objection to the proposed de-vegetation program proposed for these three (3) areas, as well as the substandard dune sections within them.

7. In good faith, we proposed a significant habitat enhancement project in the area east of Great Gun. The idea of that proposal was to mitigate for potential habitat impacts resulting from construction of the standard, not substandard, dune template. This project proposes both a substandard dune template in the subject reaches and the "Great Gun habitat project." If the proposed substandard dune sections remain within the current plan, the County cannot and will not agree to committing any additional area for habitat.
8. Lastly, it is unclear to what extent fencing would be restricted especially in the areas previously noted. Any restriction of fencing significantly inhibits our ability to strengthen the dune network along our park and would be objectionable.

In conclusion, Suffolk County has many issues that must be resolved within the federal documents for this project. If you would like to discuss these matters further, please contact the undersigned at (631) 852-4010.

Very Truly Yours



Gilbert Anderson, P.E.
Commissioner

GA/bl

cc. Steven Bellone, Suffolk County Executive
Sammy Chu, Deputy County Executive
Greg Dawson, Commissioner, Suffolk County Parks
Anthony Ciorra, P.E., USACOE
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Attn: Robert Smith, Project Biologist

April 15, 2014

Dear Colonel Owen and Mr. Smith,

On behalf of Audubon New York, the 50,000-member state program of the National Audubon Society, thank you for the opportunity to provide the following comments on the Draft Environmental Assessment (DEA) for the Fire Island Inlet to Moriches Inlet Stabilization Project (FIMI project). Since the devastation caused by Hurricane Sandy in 2012, Audubon New York has been focused on promoting a balanced approach to storm recovery and **coastal risk reduction** that provides benefits for both the region's communities and coastal ecosystems. As this is likely the largest beach fill project proposed in New York's history, we are very interested in ensuring that the chosen alternative identified through this process is the optimal choice in achieving a balance in reducing coastal flooding and protecting critical habitat for species like the federally threatened Piping Plover. The U.S. Army Corps of Engineers (USACE) preferred alternative does not achieve this and additional alternatives need to be identified and evaluated.

The FIMI project area is one of the most significant stretches of Piping Plover habitat on Long Island supporting 30-40 nesting pairs of Piping Plovers each summer (roughly 10% of Long Island's nesting population). Piping Plover populations in the NY-NJ recovery unit have declined by 37% from 2007-2013 (457 pairs to 289). Based on annual surveys coordinated by the New York State Department of Environmental Conservation, nest productivity (i.e. the number of young produced per nest) in New York in 2013 was the lowest since 1986.

Piping Plovers nest on wide, flat, sandy beaches with some shell substrate, that have no or minimal vegetation, far from the high tide line (Wilcox 1959, Renaud 1979, Faanes 1983, Burger 1987). Piping Plovers rarely nest on dunes and, when they do, average dune height has been documented at 1 meter and a slope of 13.4% (Maslow et al. 2010). This corresponds with our experience stewarding nesting Piping Plovers, where the majority of Piping Plovers nest on open beaches with minimal to no slope. Some will nest in sparsely vegetated areas, but not thick vegetation.

Storms create the early successional beach habitat that plovers prefer by removing vegetation and flattening beaches and creating overwash areas that offer ideal foraging habitat. Plovers have responded positively to habitat created by storms and populations have increased in the years following storms (Cohen et al. 2009). Literature suggests that dune blowouts and overwash areas are the preferred habitats for nest establishment (USFWS 1996, Maslow et al. 2010). In addition, there are a number of other benefits of breaches and overwash areas that are acknowledged in the FIMI HSLRR (p.31) such as suitable substrate for SAV growth, development of emergent tidal marshes, increased foraging, loafing, and nesting areas for shorebirds, optimal habitat for rare plants like the sea beach amaranth and sea beach knotweed, and natural sources of accumulated sand for the barrier island to maintain itself. Hurricane Sandy created these habitats and, with proper stewardship, the new habitat presents an opportunity to enhance populations of beach nesting birds and make significant progress towards meeting Piping Plover recovery goals. Currently or recently occupied plover habitat directly impacted by the project is found at Robert Moses State Park, Smith Point County Park, Davis Park, Water Island, Cherry Grove, Fire Island Pines, Ocean Bay Park, Seaview Point O'Woods, Robins Rest, and Fire Island Lighthouse Beach.

As stated in the DEA, the purpose of the FIMI project is to reduce coastal flooding and protect mainland communities primarily through berm and dune building on the south shore of Fire Island. The Fire Island Inlet to Moriches Inlet Stabilization Project Hurricane Sandy Limited Reevaluation Report (FIMI HSLRR; p.2) states that this project is focusing on these stabilization efforts because this reach of Long Island's barrier beach system is the most susceptible to barrier island overwash and breach, thereby exposing the back-bay communities to considerable damages. Since replenishing beaches through berm and dune creation is a short-term strategy (as stated in the FIMI HSLRR, p.53, constructed projects last only 5-10 years) that destroys or degrades beach-nesting bird habitat by replacing minimally sloped or flat beaches and foraging areas with vegetated dunes, strong evidence is needed that the project will reduce flooding and damage to communities on Fire Island and the back-bay communities and therefore the costs, both financial and environmental, are worth the benefits.

Unfortunately, neither the FIMI HSLRR nor the DEA provide the science to support the claim that breaching and overwash significantly contribute to flooding in the back-bays. In fact, what evidence currently exists from the breach that occurred during Hurricane Sandy at Old Inlet (which is located on Fire Island) shows that the breach has not increased water levels in Great South Bay or contributed to coastline flooding, even though there have been notable coastal storms since it was created, and water quality in the immediate area of the breach has improved (Flagg et al. 2013). Without the science to support the USACE claim that overwash and breaches significantly contribute to back-bay flooding, and thereby necessitates the construction of berms and dunes, there is no confidence that the proposed actions will in fact achieve the project goals (see more on this below). Also, it is not apparent in the DEA or the FIMI HSLRR what information was used in modeling costs/benefits, what the confidence intervals are, and if or how the data from the recent breach were considered. This must be addressed in the final EA.

On page 43 of the FIMI HSLRR there is a summary of the results shown in Table 4 that states: “This illustrates that of the \$97 Million in annual damages calculated \$72 Million (74%) of the damages is because of flooding of the back-bay areas that is likely to occur due to overwashing or breaching (regardless of the barrier island condition).” It is not clear what is meant by “Regardless of barrier island condition,” which seems to imply that 74% of flood waters come into the bay from the ocean regardless of the height and extent of dunes on the barrier island or the presence of inlets, breaches, or overwash areas. Also, the more detailed information in Table 4 lists “Inundation from inlet (emphasis added) and back-bay wave, breaching, and overwash” as contributing to the 74% estimate. This needs to be clarified and supporting evidence provided in the final EA.

Without evidence showing that areas of overwash and breaching significantly contribute to back-bay flooding, other alternatives to reduce coastal and community flooding and damage during storm events need to be considered. In fact, this project evaluates only two alternatives—no action and the preferred action—and to be in full compliance with NEPA, all possible alternatives need to be considered. Based on information in the FIMI HSLRR and DEA that suggests that inlets, especially managed inlets, are the major source of water into bays (p 18: “overwash has a more significant impact on subaerial and intertidal barrier island resources {e.g., back-bay marshes} than on back-bay areas located away from the barrier” and p.19: “Moriches and Fire Island inlets {also} increase the tidal prism and amplitude within the bays because the navigation channels are larger and more efficient than the unstructured tidal exchange.), the EA should evaluate alternatives that control water coming in through the managed inlets.

Highly stabilized beaches do not permit the dynamic habitat features that create preferred plover habitat, except in rare cases of severe storms (Maslow et al. 2010). As proposed, the project will degrade Piping Plover habitat and prevent natural process from creating optimal plover nesting and foraging habitat (as stated above). Therefore, mitigation is necessary to offset those impacts. We commend the USACE for making modifications to several parts of the proposed project to minimize potential impacts to threatened species, including 1) modification to the dune slope in some areas to facilitate endangered species usage, 2) inclusion of a revegetation plan in some areas to increase available shorebird habitat, and 3) restricting construction to the nonbreeding season. However, the actual amount of habitat that will be impacted by this project is not quantified, and it is unclear if these measures will offset the impacts and result in a no net loss or net benefit to plovers and plover habitat as required by law. The proposed management actions listed in the DEA under “Conservation Measures/Project Design Adjustments” (p.97-102) will help offset the loss of habitat to some degree. However, the FIMI HSLRR and DEA lack the details on what that work would entail as well as the necessary commitment from landowners and other managers and funding to ensure that those actions will be implemented; those details need to be confirmed in the final EA. At this time, based on our current interpretation of the DEA and project plan, we believe that there is not adequate mitigation for the amount of plover habitat that will be degraded by the project.

Also, the specific stabilization strategies proposed in FIMI HSLRR vary across Fire Island from doing nothing, to constructing a berm, to constructing a berm as well as a 13 or 15 foot high dune. The decision rules that USACE uses to determine the level of stabilization (e.g., a dune verses nothing) are not completely clear and seem to be applied inconsistently. It is clear that the National Park status guides some of the decision making and the presence of development also informs what stabilization strategy is proposed. However, there are locations without development where nothing is being proposed and other places without development where a berm and dune are proposed. For example, stretches in the center of Fire Island without development have no stabilization measures proposed while portions of Smith Point County Park where there is no development have a berm and dune proposed. There needs to be additional explanation as to why building a berm and dune where there is no immediate risk to human communities or infrastructure is necessary, especially if the amount of water coming into bays during a storm event remains constant “regardless of the barrier island condition” (p. 44 FIMI HSLRR).

Further, the FIMI HSLRR states that the medium template stabilization strategy is to be applied to areas with the greatest potential for damages to oceanfront structure (p. 56), and Audubon supports that strategy in those locations with adequate mitigation for any loss of habitat for federally listed species. However, this strategy is proposed for Smith Point County Park, but there are no oceanfront structures in the park. The justification given for a medium template at this site is that it has the lowest existing elevation and that the potential for breaching and back-bay flooding is great. However, once again, there is no scientific justification provided to support the notion that overwash and a breach in this location would significantly contribute to back-bay flooding. Also, the contribution of Moriches Inlet to coastal flooding, which is located on the eastern tip of the County Park, is not assessed. The DEA states that “Within Smith Point County Park it is not feasible to eliminate the proposed dune system or vary its height without compromising coastal storm risk management or severely curtailing county park management, operations and use” (p.98). With no infrastructure and the lack of data to indicate that overwash in this area causes back-bay flooding, it seems that the primary reason to replenish the beach in the eastern portion of Smith Point County Park is to enhance recreation opportunities and/or to address management issues, but those are not consistent with the goal of this project or the purpose of the federal funding to protect communities from future storms and flooding. Smith Point County Park has one of the highest numbers of nesting Piping Plovers within the FIMI project area (second only to Robert Moses State Park) and the need for a dune system along the majority of this Park needs to be re-evaluated.

The FIMI HSLRR states that plovers will be monitored before project construction begins, though it does not provide specific details on the monitoring that is and will be taking place (p. 88). We ask that the following information on the monitoring be included in the final EA: timeframe of surveys (season, number of days each site is surveyed), detailed field protocol to be used for the surveys, how those surveys will be coordinated with existing plover monitoring organized by NYSDEC, and how the information will be used to guide project construction, mitigation, and future stabilization projects.

In addition to the above items, we have comments on the following items:

- The DEA lists a number of potential impacts if a breach were to occur on Fire Island (p.58-60). “Fire Island protects the south shore communities of the Long Island bayshore. Under the No Action Alternative, if a breach were to occur, low-lying bayshore areas would experience increased inundation and tidal impacts that could wholly or partially obstruct or damage portions of the road network in those areas. Buses, taxis, and other vehicles using low-elevation roadways that could be inundated would be adversely impacted.” It goes on to list impacts to boating, fishing, and recreation. Once again though, there is no supporting information that a breach on Fire Island would cause increased flooding of bayshore communities or the other negative impacts listed. In fact, the data gathered since the breach at Old Inlet has shown a natural breach does not necessarily cause those impacts.
- The DEA states the “impacts would be moderate if a breach were closed with emergency measures, or could be major if it were allowed to remain open” (p.62). So far the breach at Old Inlet has not shown the impacts to be major when a breach is left open and the breach has not grown like assumed in some of the USACE modeling. Sand moving along the coast usually fills in most breaches naturally, often during or soon after the storm (Tanski 2007).
- In multiple places in the FIMI HSLRR and the DEA, Forster’s Tern is misspelled as “Foster’s.”
- The DEA states that “Should the breach occur in the spring or summer due to a storm, the destruction of shorebird nests by wind and flooding would be a more negative impact than any presumed short-term overwash habitat gain.” And, “shorebirds that utilize washover areas for nesting may also be subject to increased predation, and to nest failure due to subsequent washovers at the same location.” And, “A breach occurring during the nesting season could result in the direct loss of eggs, and mortality of chicks and/or adults.” While this information is accurate, it’s important to note that the severe storms with the potential to cause washover and breaches are typically associated with the fall and winter when the northeast experiences hurricanes and nor’easters and not during the breeding season thereby reducing the risks outlined above.
- The DEA downplays the significance of the plover habitat on Fire Island by stating “Coupled with the scarcity of open or sparsely vegetated sites, approximately 80 percent of the Fire Island National Seashore is not suitable for breeding habitat” (p.69). However, based on the most recent surveys, Fire Island supports 30-40 pairs of Piping Plover, which is about 10% of NY’s plover population.
- The DEA also states “Given the miles of shoreline and tidal flats on Fire Island outside of the project work areas, the availability of habitat is not a limiting factor and this temporary effect would not be significant, outside of the nesting area” (p.89). Contrary to this assertion, most plover experts believe that habitat, especially foraging habitat in close proximity to nesting habitat, is a limiting factor for Piping Plovers on Long Island (Cohen et al. 2009; Fraser pers. comm. 2014). Also, plovers that are flushed from a nesting site may not be successful even if they do find another location to nest. Current

research shows that birds are most successful if they remain in the initial territory they established at the beginning of the breeding season rather than having to re-nest somewhere else. Also, although construction would be taking place outside of the nesting season thereby reducing direct impacts on individual plovers, the construction would degrade plover habitat and that impact would be long lasting.

- The DEA states that “Nourishment of the beach towards more stabilized conditions can preclude natural habitat formation, including overwash and back-bay foraging sites. The habitat resulting from the activities will be temporarily changed, as well as available prey base (potential removal of wrack/beach invertebrates). These conditions may be positive or negative, as more beach will be available as breeding habitat, but natural habitat formation of overwash areas could be precluded. These manipulated conditions are expected to be temporary and localized and quickly recover and recolonize with prey. Effects of this project are recognized to not last through the dynamic winters the shoreline will returned to its natural configuration within five years” (p.90). The habitat that is “being created” is less optimal for Piping Plovers than what currently exists and in some cases not suitable at all. The impacts of degrading optimal plover habitat for 5 years can have a significant impact on the population.

For decades the USACE has been working with other agencies and organizations to develop the Fire Island to Montauk Point Reformulation Plan (FIMP). The FIMP project is striving for a comprehensive long-term solution to manage the risk of coastal storm damages along the south shore of Long Island in a manner that balances the risks to human life and property while maintaining, enhancing, and restoring ecosystem integrity and coastal biodiversity. Stabilization projects should allow for coastal processes to continue rather than only creating static features, and should include specific restoration targets for both storm protection and maintaining ecological feature and processes, thresholds for intervention, and criteria to evaluate long-term project success. There needs to be clarification as to how the FIMI project will work within the framework of the FIMP and move us closer to achieving the full spectrum of recommendations and long-term outcomes of the FIMP. Otherwise, the FIMI alone will result in communities and tax payers finding themselves right back in the same situation following future storms—with the same damages and expensive solutions, rather than moving forward with the more comprehensive solutions outlined in the FIMP.

If constructed this would be the largest federal project undertaken by the USACE on Long Island, and will likely exceed any past post-storm efforts to stabilize Fire Island through beach nourishment. We understand the urgency for implementing this project and protecting communities, but given the scope, cost, and environmental impacts, the DEA is inadequate and needs to evaluate additional alternatives that reduce future storm damages and more closely consider the impacts to federally threatened species and habitat with adequate mitigation to offset the considerable impacts. As it stands now, this project is counter to New York coastal policies that strive to protect natural protective features and avoid actions that impair natural sediment processes, at odds with the NPS mission (preserving natural processes and protecting ecological resources such as open coast, intertidal and back-bay habitats and maritime forest), and in opposition to the Endangered Species Act.

Thank you for your consideration of these comments, and should you have any questions regarding the issues we have raised, please contact Jillian Liner, Audubon New York's Director of Bird Conservation, at 607-254-2441 or jl liner@audubon.org.

Sincerely,

A handwritten signature in black ink, appearing to read "Erin Crotty". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Erin Crotty
Executive Director and Vice President, Audubon New York

CC:

Charles Schumer, US Senator

Kirsten Gillibrand, US Senator

Tim Bishop, US Representative

Wendi Weber, Director, US Fish and Wildlife Service Region 5

Judith Enck, Regional Administrator, Environmental Protection Agency

Roselle Henn, Chief, Environmental Assessment Section, US Army Corps of Engineers

Basil Seggos, Deputy Secretary for the Environment, New York State

Joseph Martens, Commissioner, New York Department of Environmental Conservation

Cesar Perales, New York Secretary of State

References

- Burger, J. 1987. Physical and social determinants of nest-site selection in Piping Plover in New Jersey. *Condor* 89: 811-818.
- Cohen, J. B., Houghton, L. M. and Fraser, J. D. 2009. Nesting Density and Reproductive Success of Piping Plovers in Response to Storm- and Human-Created Habitat Changes. *Wildlife Monographs* 173: 1–24. doi: 10.2193/2007-553.
- Elias, S.P., J.D. Fraser, and P.A. Buckley. 2000. Piping Plover brood foraging ecology on New York barrier islands. *Journal of Wildlife Management* 64:346–354.
- Faanes, C.A., 1983. Aspects of the nesting ecology of least terns and piping plovers in central Nebraska. *Prairie Naturalist* v. 15: 145–154.
- Flagg, C.N., R. Flood, and R. Wilson. 2013. A series of reports on the breach development at Old Inlet. <http://po.msrb.sunysb.edu/GSB/>
- Fraser, J. April 15, 2014. Personal communication.
- Loefering, J. P., and J. D. Fraser. 1995. Factors affecting Piping Plover chick survival in different brood-rearing habitats. *Journal of Wildlife Management* 59:646–655
- Maslow, B., S.N. Handel and T. Pover. 2010. Restoring Beaches for Atlantic Coast Piping Plovers (*Charadrius melodus*): A Classification and Regression Tree Analysis of Nest-Site Selection. *Restoration Ecology*.
- Patterson, M. E. 1988. Piping plover breeding biology and reproductive success on Assateague Island. M.S. thesis. Virginia Polytechnic Institute and State University, Blacksburg.
- Renaud, W. E. 1979. The Piping Plover in Saskatchewan: a status report. *Blue Jay* 37: 390-103.
- Schupp, C.A., N.T. Winn, T.L. Pearl, J.P. Kumer, T.J.B. Caruthers, C.S. Zimmerman. 2013. Restoration of overwash processes creates piping plover (*Charadrius melodus*) habitat on a barrier island (Assateague Island, MD). *Estuar. Coast. Shelf. Sci.* 116:11–20.
- Tanski, J. 2007. Long Island’s Dynamic South Shore — A Primer on the Forces and Trends Shaping Our Coast. New York Sea Grant. 27 pages.
- Wilcox, L. 1959. A twenty year banding study of the piping plover. *Auk* 76: 129–152.
- USFWS (U.S. Fish and Wildlife Service). 1996. Piping plover (*Charadrius melodus*) Atlantic Coast population revised recovery plan. Hadley, Massachusetts.
- USFWS (U.S. Fish and Wildlife Service). 2009. Piping plover (*Charadrius melodus*) 5 year review: summary and evaluation. Hadley, Massachusetts.

At present the development of the island continues unabated. The number of structures reached about 3,500 in the 1970's, but now stands at approximately 4,150. All of the communities on Fire Island have greatly increased populations during the summer months from an influx of almost 2.5 million day visitors, short-term renters, and seasonal homeowners

We believe that the recent past history shows that the 100 year flood plain may no longer reflect accurate data and may be inadequate. A full environmental review, such as was promised by the NPS and FIIS after the last beach replenishment project was completed, is necessary and although crammed full of historical data the DEA is insufficient to assert a realistic assessment of the current conditions and the impact of the plan on the environment; both natural and human. Updating to reflect the recent increase in storms year-round and the measured corresponding impacts on the entire study area is necessary.

The report further states:

The boundaries of the seashore extend 1,000 feet into the Atlantic Ocean and 4,000 feet into the Great South and Moriches Bays. The islands and marshlands adjacent to Fire Island are also included in FIIS. A General Management Plan (GMP) and the Final EIS on the General Management Plan were accepted in 1978, and have served as the basis for park management. The GMP is currently under revision, but not yet finalized.

The basis for the study and the contemplated actions are well understood and in the broad view supported by the communities of Brookhaven, but as we all know the "devil is in the details". However, the FIMI stabilization report that maintains the barrier island is necessary to protect the mainland communities, has focused on the communities within the 32 mile reach of the barrier island itself and has classified those as the most vulnerable to overwash and breach, and has devoted significant efforts to the interests of the *second home communities* on the island. Virtually no data is provided for the cost and damage to the communities of the mainland that can be properly attributed to the overwash and breach of the barrier island. Clearly, the breach at Moriches/Cupsogue was instrumental in the damages sustained on the Mastic peninsular, but cannot logically be deemed responsible for the flooding sustained in the communities of western Suffolk County. Similarly, the breach at Old Inlet has not contributed over the last 18 months to any higher tides or flooding in the communities along the bay adjacent and opposite to that breach. Quite to the contrary, the Old Inlet Breach has indeed been the silver lining of Sandy for our area. Assumptions that overwashes and two breaches post Sandy have exposed areas and communities within the back-bay area to considerable damages are none are documented or sustained within the report. Please provide scientific basis for the BCP plan in light of the data collected by SOMAS during the past year and one-half that the OLB has remained open.

The evidence observed over the time since Sandy shows a marked improvement in water quality, aquatic life forms and has provided a tremendous recreational opportunity for the residents of both the barrier island and especially the year round resident of Brookhaven town.

Among the communities on the South Shores of the Brookhaven mainland there is no controversy that the FIMI project to rebuild the lost dunes on the barrier island is justified and now necessary. This action will provide the maximum protection for the mainland against catastrophic breach and extended overwash. However, we do not find any justification for the FIMI plan to allow homes now within the CEHA zone and seaward of the Dune lines to remain. Further, we see no logical explanation or justification for moving the CEHA line seaward to permit the homes with the community of Fire Island Pines to remain located along the shore. This anomaly is especially apparent when viewed within the same line that the FIMI plan requires other homes within that line to be taken or relocated to a more northerly site. Please provide the justification for this extraordinary action. The pilings used to lift these homes provide new windows of opportunity for erosion of the dunes and contribute significantly to their collapse, as indicated by the analysis of the report. The absence of homes within this zone is the best way to contribute significantly to the longest life cycle of the FIMI project. Please provide scientific basis for altering the CEHA line within the Fire Island Pines Community and permitting homes fully within the dunes and CEHA zone to remain as presently located. Additionally, please provide the basis for taxpayer paid costs to relocate any structures. Has funds been allocated to relocate structures elsewhere in the FIMI study area, especially in the backbay communities of the reach?

Rebuilding of the dunes will provide the maximum degree of protection to vulnerable areas on the island from the disastrous impacts of multiple overwashes and breaches in protecting the structures north of the Dune line and backbay communities of the island and mainland. Although, more than 18 months has now passed since Sandy's destruction there does appear to be so urgent a need to advance this stabilization project now, without completing the long overdue full environmental study of the present vulnerability of the reach or the potential for major damage or risk to life and property located away from the shore on the barrier island. Please provide answers and data why the additional significant data collected by SOMAS and other scientific sources subsequent to Sandy has not been utilized or considered. We believe that this new data must be reviewed to form an accurate and current justification for some of the acknowledged BCP action recommendations. The BCP is not supported and alternatives to closure action have not been sufficiently considered in light of the several serious storms during 2013 and 2014 for which no additional flooding or damage to the island, backbay communities or risk to life and limb has occurred.

This Stabilization effort is being undertaken in response to the highly vulnerable condition following Hurricane Sandy's erosive forces, where expedited actions are needed to stabilize specific area of public use, ABCO has no objections. The FIMI stabilization effort at (Reach 1) has been developed as a one-time, initial construction project to repair damages caused by Hurricane Sandy and to stabilize the island. ABCO agrees with the efforts at Smith Point County Park, Robert Moses State Park, and the FIIS Lighthouse tract, but has concerns regarding other aspects of the alternatives selected. The report correctly assesses that the Smith Point County Park in the FIMI project area is the most vulnerable area of the entire FIMI Project. The Smith Point County Park now has the lowest existing elevation, leaving it highly vulnerable to more overwash and breaching even from minor weather events. The potential for breaching and back-bay flooding is greatest in this location. Therefore, the construction of the beachfill and the dune and berm system identified should be implemented as expeditiously as possible.

ABCO is also concerned that the FIIS 1978 GMP, (developed more than 30 years ago, and now currently under revision needs to be completed before any additional massive interim beach stabilization replenishment projects are approved. This is especially true when considered in the light of the

questionable success of the multiple beach replenishment projects executed over the last half century, and identified in detail in Chapter two of the main report. These multiple projects have over time deposited more than a billion cubic yards of sand and constructed more than 16 groins costing billions of dollars; and yet over time have not served to stabilize the barrier island and may actually have seriously impacted the natural processes of dune development so important for the continued dynamic functioning of the barrier island. That issue must be addressed and alternate scenarios explored in a full environmental impact study, before more beach replenishment actions can be rationally justified in light of past experience.

1962 nor'easter, USACE contracted the placement of 9,529 linear feet of dune and 37,000 linear feet of berm along Fire Island as part of the Disaster Recovery Operation (USACE, 1963). Beachfill projects were also undertaken by local communities at Point of Woods, Cherry Grove and Ocean Beach following the storm of 1962. It is estimated that a total of 6.9 million cubic yards of beachfill was placed along Fire Island from 1933-1989 (Gravens et al, 1999). Since 1990, beachfill has been performed by the USACE adjacent to the inlets as a byproduct of inlet maintenance dredging, and by the local communities in response to storm events. In response to the storms in the 1990's local communities placed approximately 1 million cubic yards of beachfill (CPE, 2013). In 1997 an additional 650,000 cubic yards of beachfill was placed by the communities in Fire Island Pines. Two major beachfill projects were undertaken by local communities along Fire Island between 2000 and 2009. In 2003-2004 several communities in Fire Island placed approximately 1.28 million cubic yards of beachfill in Western Fire Island and Fire Island Pines, and in 2009 1.82 million cubic yards of sand was placed in eleven communities along Fire Island (CPE, 2013). In addition to these two major beachfill projects, 172,000 CY and 21,000 CY of sand were placed at Smith County Park and Davis Park respectively in 2007.

*In the years following construction of the eleven groins in Reach 2, **erosion was evident in the area west of the eleven groins.** In February 1969, Supplement No.1 to GDM No. 1 (Moriches to Shinnecock Reach) was prepared. That document recommended the construction of four more groins and placement of beach fill backed by a dune at an elevation of 16 ft above mean sea level (M.S.L.) in the 6,000 ft section of beach west of the 11 groin field. The four new groins were filled with 1.95 million cubic yards of sand to construct a beach and dune. This groin construction was completed in July 1970, bringing the total number of groins in Reach 2 to fifteen. Dune and beach fill was placed between October 1969 and October 1970.*

Nonetheless none of those millions of cubic yards of sand or the addition of multiple groins has withstood the ravages of prior storms or Super Storm Sandy within the reach covered by the FIMI report.

Notwithstanding this obvious fact, the USACOE is now considering placing still more sand on these same beaches. Our concerns are not that the beachfill action is necessary to reform the barrier island, but that the focus of the FIMI plan and beach replenishment is inordinately focused on actions gauged to once again preserve those private structures on the barrier island constructed within these high risk zones and at full taxpayer expense.

We note that many of the assumptions that appear throughout the report are based on incomplete or antiquated plans, and yet are used as a basis for much of the FIMI project. Many may no longer be valid

or even justified in light of sea-level rise and increased storm activity along the Atlantic coast. We are concerned that the closure of all breaches, and actions to artificially prevent overwash are not conducive to a one size fits all approach as detailed in the 1996 BCP or the current FIMI report. Evidence now shows that there has been a significant positive impact on the health of the Eastern bays as a result of the breach at Old Inlet. Any BCP requires a reexamination of this concept, in light of the impaired status of all south shore water bodies and the absence of sufficient ocean exchanges creating a fertile environment over time for opportunistic algae blooms that are a contributing factor in the steady decline of the health of our south shore bay's water quality.

A full environmental study will provide new data that may demonstrate that the 'one-size fits all' closure policy for all breaches is no longer relevant. Additionally, such closures without proper evaluation may have adverse impacts on the health of the bays and likely contributes negatively to the environmental condition, aquatic life, fish and shell populations necessary for maximum backbay opportunities. We do not believe there is scientific data contained in the FIMI report to justify the one-size fits all closure policies advocated presently by the FIIS and ACOE. Please provide updated recent science for continuation of this policy. Without valid science to support these assumptions, they can no longer be sustained or used as a foundation for the closure of the Breach at Old Inlet or absent immediate emergency action required to close an obvious threat, any other breach. During the last 18 months SOMAS has monitored the OIB and has recorded no increase in tidal range or flooding.

The 1996, USACE Headquarters (HQUSACE) approval of a 'one-size fits all' Breach Contingency Plan (BCP) providing for an accelerated rapid response to close breaches along the barrier islands within the authorized project area is perceived by the backbay mainland communities as an outdated cookie cutter solution to a complex and multi-faceted issue.

However, this response action to restore the barrier island provides a very limited level of protection and the decision to use the scheme as the basis for future efforts (a 5-year level of protection) appears not to withstand close scientific study and scrutiny. The assumptions that all areas of the barrier island where the BCP is contemplated for implementation are characterized by low-lying areas likely to be overwashed and subsequently breached again during relatively minor events has not been shown by recent events to be accurate. Additionally, periodic overwash is vital to sustenance of various bird, fish, and plant species within this dynamic system and consistent with the mission of the NPS and FINS should not be subject to actions that adversely impact these necessary natural processes. A full EIS will accurately reflect the hypothesis that wholesale breach closure creates a better ecological balance than targeted actions.

The management strategy for the FIIS recognizes that significant areas of shorelines and back lands on Fire Island have been affected by human manipulation and population growth within the 17 communities on Fire Island. Unfortunately, the premise that " processes had been totally unimpeded.", virtually ignores the non-sustainable overdevelopment that now characterizes much of the developed area of the island' and evidenced throughout these communities is a soaring population that must use obsolete and antiquated sewage effluent disposal systems. The Fire Island system is a mere hole in the ground, known fondly on the mainland as 'remote access out houses'. Sewage enters the groundwater

and in less than one year enters the waters of the Great South, Narrow and Moriches Bays; contributing significant nitrogen loads to these waters. The excess nitrogen is directly responsible for the low dissolved oxygen levels present in summer and the increased growth of multiple and dangerous algae blooms.

These NPS policies that allowed manipulation of the existing environment all too often have failed to meet the threshold requirements set either as directed by the Congress; in some emergencies when human life and property are at stake; to restore native ecosystem functioning that has been disrupted by past or ongoing human activities, or when a park plan has identified the intervention as necessary to protect other park resources, human health and safety, or facilities. The NPS instead prefers to focus on the wilderness area, while the developed areas are allowed to ignore entirely the natural functions of the barrier island, the law, and Congressional directives.

A significant increase in relative sea level could result in even more extensive shoreline erosion and inundation. Higher relative sea level elevates flood levels, and as a result, smaller, more frequent storms could result in flooding equivalent to larger less frequent storms. The more frequent flood events on top of higher sea level may affect more property, resulting in greater damages as sea level increases,

As noted this report contains an Environmental Assessment, per the requirements of the National Environmental Policy Act (NEPA) and USACE implementing regulation as contained in ER-200-1 to provide environmental analyses and determination of whether this will result in a *Finding of No Significant Impact (FONSI)* or finding that an Environmental Impact Statement (EIS) will be required for the project area covered by this stabilization effort. We believe that the deficiencies of the FIMI report require a finding that a full EIS must be done for the project.

Incorrect statements

The report asserts that Sunrise Highway is accessible by every town on the South Shore of Long Island. Contrary to the assumptions of this report every town on the South Shore of LI is NOT accessible through Sunrise Highway. Sunrise Highway terminates in Southampton, and County Road 39 begins at Southampton town. Montauk Highway is accessible by every town on the south shore, this is a flaw in the study boundaries definition area requiring correction.

The Breach @ Old Inlet

The Breach Open Condition model calculates the increase in storm damage while a breach is open. The model assumes a breach has occurred and simulates breach condition/size in the following months. Peak water levels are estimated based on the breach size, predicted increase in tide range, and the increased storm surge associated with random storm events. For each peak water level the damage is identified using the stage vs. damage curves. The key inputs to the model are the breach open water levels related to breach size, breach growth and closure rates, and the stage vs. damage relationship. A total of 27 conditions were modeled for each of the 43 reaches for each breach closure alternative. These reflect combinations of 5 different breach location scenarios (No Breach & 4 Breach Open Conditions), breaches occurring in Tropical or Ex-tropical seasons, and sea level conditions of baseline, 0.5 foot rise and 1.0 foot

rise. The model results were tabulated to provide a summary of increased inundation damage for various breach conditions, closure rates and sea level rise conditions

. The Interim Breach Contingency Plan (BCP), which is presently in place, will not be considered. It is a wrong assumption under present conditions that even in the absence of a BCP that breaches in the barrier islands will be closed either through natural closure or human intervention. This condition is based on old assumptions as well as NYS historic patterns of closing repeated breach openings. As evidenced after the storms of 1938, 1954, 1962, 1980, & 1992, although it has been the policy of the state and federal authorities to close breaches and conduct breach maintenance activities, such action may no longer be warranted, desired or necessary. In the presence of a streamlined approval process the report estimates that breach closure should occur within approximately 12 months in all areas outside of the Otis G. Pike Wilderness Area. ABCO strongly believes that breaches within the Wilderness Area of the Fire Island National Seashore, should not be subject to such closure based on such historic patterns or other policy decision based on the assertion that public safety requires such breaches must be closed to facilitate the rapid response of local public safety personnel in the event of illness or fire. The communities of the Island must join the rest of Long Island and form year-round departments that can quickly address emergencies on the barrier island. The documented benefit to the health of our bays and mainland communities outweigh any purported damage or injury that might be sustained by a delay by neighboring first responder personnel in reaching the island during the off-season. Closure of these breaches, and possibly others, must be reached as a result of a separate, publicly held decision-making process

During storm events mainland flooding along Great South and Moriches Bays is intensified when Fire Island is breached or overwashed, and the barrier between the mainland and the Great South and Moriches Bays and the Atlantic Ocean is compromised. Although the evidence suggests that the affects of mainland flooding are limited to the duration of the storm and immediately afterward; data now suggests that the breach at Old Inlet in specificity has not resulted in increased flooding of the near shore communities along the GSB and Moriches Bays during the 18 months since the October 29th event

The physical impacts of asserted as a result of a breach or severe overwash at Great South and Moriches Bays incorrectly conclude that there will include:

- *Increase in bay tide levels;*
- *Increase in bay storm tide levels*
- *Changes in bay circulation patterns, residence times, and salinity;*
- *Increase in sediment shoaling in navigation channels and shellfish areas;*
- *Increased transport and deposition of sediment to bay including creations of overwash corridors.*

The record seems to clearly contradict these assumptions for periods after the storm event has ended. Overwash deposits are beneficial to natural accumulation of sand on the barrier, but also clearly suggests regional processes favor northward migration of the barrier from its present location over time.

The overall reformulation for the unfinished FIMP project includes measures to reduce vulnerability in these Bay Shore communities. However, once the breach at Old Inlet was studied and monitored the original significant concern about the possibility for potential increased damages has been fully

contradicted. These assumptions of the FIMI report appear flawed and inaccurate, requiring the implementation and inclusion of the post-Sandy data.

Conditions contributing to structure failure, dune collapse and beach erosion are most apparent in areas where human activity and over-development has seriously compromised the dunes.

Wave Failure:

The report estimates that over half of the structures located along the south shore shoreline are constructed on piles. However, based on the results of the wave failure analysis, the anticipated primary source of storm damage to structures on piles was failure from erosion; these structures are assumed to be able to withstand wave attack as long as the wave height is below the main floor. Therefore, no wave damages are calculated for wave heights below the main floor. At wave heights at or above the main floor, damage from waves was assumed to be 100% of the value based on the analysis of the pier supported structure analysis.

Future Conditions. Over the project life storm damages will vary in response to several factors. The report utilizes a model incorporating adjustments for future variation in shoreline positions, profile shape, sea level rise and limitations on structure rebuilding. While long term erosion trends and rising sea level will contribute to an increase in future storm damages, the majority of the shoreline structures fall within the Coastal Erosion Hazard Area (CEHA) and the National Flood Insurance Program (NFIP) Special Flood Hazard Area (V-Zone), which regulate rebuilding of damaged structures.

These regulations should have an important impact in limiting future increases in damage when properly enforced, however since Super Storm Sandy more than 70 shoreline structures were rebuilt in the Brookhaven communities as a result of non-compliant code changes and virtually no CEHA standard reviews or enforcement. The reasons for such malfeasance is unknown, but it is widely believed that powerful interests within these communities compelled the failure of oversight as required. Presently, the shoreline is even more built up and armored within the CEHA zone than the law actually would have permitted or sustained through a variance process. Sadly, that process was either completely ignored or fully eliminated within the town after Sandy..

The Coastal Erosion Hazard Area: In 1981, the CEHA Act, Article 34 of Environmental Conservation Law was enacted to provide for the identification and regulation of critical erosion hazard areas along New York's coastlines, in order to minimize damage from erosion. Article 34 established statutory authority for identifying these erosion hazard areas, restricting development in these areas, and establishing criteria for the development of a statewide Coastal Erosion Management (CEM) regulatory program. 6 NYCRR Part 505, Coastal Erosion Management Regulations, provides the framework and criteria which allow the State and local governments to administer a local CEM program that is consistent with Article 34 for affected shoreline communities.

ABCO has worked to see that Article 34 and Part 505, CEHA and the two separate Jurisdictions are fully implemented and enforced with the town. The Natural Protective Feature Area (NPFA), which is defined by the natural protective features (dune, beach, bluff and near shore areas) and are found along a particular shoreline, as well as a Structural Hazard Area (SHA) jurisdiction, which is delineated landward of the NPFA along shorelines with a long term annual rate of shoreline recession greater than one foot per year are not presently defined or enforced within the town.

Currently no SHA has been identified within the study area, and the ACOE and the NPS via the DOI must insist that these jurisdictions be established and statutorily enforced.

A full EIS may recommend that a SHA must be determined before the viability of beach replenishment can be fully evaluated. Requiring a full environmental impact study that includes the development of a Structural Hazard Area will curtail further construction or rebuilding within that zone. Once that is determined, the costs for both FEMA and National Flood Insurance can be reduced significantly as development within the area will likely be eliminated over time. Although, NYSDEC has certified the ToB to enforce the CEHA code locally; many structures within the CEHA zone were rebuilt; including more than 76 structures that were not subject o any CEHA review. It is also important to note that not once did the NPS or FIIS submit any objections to this massive rebuilding, despite its legal obligation to assure Enforcement of the federal Coastal Resource ACT.

The DEA fails to address some serious Environmental issues.

- Plans cannot unreasonably impact environmental resources, especially those providing suitable environment for wildlife habitat, as well as shell and fin fish propagation.
- Once a potential adverse impact is established, plans must consider replacement measures and should adopt such measures and provide mitigation and justification for same.
- Where opportunities exist to enhance significant environmental resources, the plan should incorporate all justified measures especially those that provide clear positive impacts on natural systems.

Regional and Social Constraints Not Met or Established

- There appear to be no additional reasonable opportunities for further development within the study scope appear warranted. Public interests of the communities not only located on the barrier island, but also the Mainland should have been solicited prior to the publication of the plan and establishing a short public comment period.
- Meetings should have been held within the area of the FIMI study to facilitate such outreach rather than exclusively within the headquarters located in the city some 60 miles distant, making it exceedingly difficult for local residents to attend.
- The needs of other regions were required to be considered and one area should not have been favored to the unacceptable detriment of any other.

Finally, because each plan must consider all measures and alternatives, and must identify environmental impacts and appropriate mitigation , ABCO believes that in its current form the FIMI plan has failed to identify accurately, assess impacts appropriately or recommend mitigation of the environmental impacts. That although many aspects of this plan are laudable, especially the recommendations to remove structures from the hazard areas of the shoreline, it still fails to accurately address many concerns. ABCOL has determined that the plan is presently unacceptable.

The assertion that mitigation measures for the FIMI project are not required fails to carry out the mission as defined by NEPA.

As a final matter it is clear that the most cost effective alignment is one that provides for the absence of oceanfront real estate. A plan that rebuilds the shore and ties into the existing dune line and extends seaward from the existing shoreline only the distance necessary to achieve an adequate level of protection for the barrier island as well as the mainland is necessary. The beachfill alignment with such a massive project should reflect costs the caused by “spreading out” or redirecting the alignment or creating a diffusion of beachfill will obviously be greater the farther seaward an alignment is located.

The analysis conducted that determined the cost of acquisition exceeded the cost of beach replenishment is also faulty. The failure to even consider the cumulative cost since the mid sixties that has already been expended by multiple agencies and all parties to facilitate protection of a small number of shorefront properties is abhorrent. Once the cumulative overall cost is analyzed it will far exceed the cost of finally acquiring shorefront properties within the hazard areas and will actually succeed in returning the barrier island to the best and most protective environment; one conducive to the development and maintenance of both the natural and artificial dunes and beaches. It is well understood that prior to the massive overdevelopment of the communities on FI little beach replenishment was done or even necessary. Isn't it time to recognize that the best solution is to recognize the mistake of allowing over development along the shorefront and to use this opportunity to correct the errors of the past and begin the inevitable retreat from the most dangerous and destructive areas of the shore. Surly, this is the most cost effective model to protect the communities of the barrier island and the communities of the mainland areas of the back bays that depend on a stable island for protection. The need to protect the many must outweigh the needs of the few to spend summers directly on the ocean's shore.

The impact of Sandy on Long Island' mainland mandate that the regulations pursuant to New York State's Coastal Erosion Hazard Act (CEHA), to address development within the primary dune be strictly enforced. The time has come to recognize that the Federal government's commitment to ensure no inducement of development in the floodplain, pursuant to Executive Order 11988, is widely understood and enforced. All local sponsors must develop and implement meaningful Floodplain Management Plans that require sponsors to certify that such measures are in place to ensure the project does not induce development within the floodplain. Whenever an existing lot size will not allow rebuilding landward of the CEHA, it must be made mandatory that structures will not be rebuilt. Although, in rare circumstances variances may be granted to reconstruct some substantially damaged buildings within the CEHA, but such outcomes cannot be accomplished apart from a healthy dune structure.

These recommendations if approved should include such further modifications as delineated above/ The total project first cost of **\$161,514,000** (at October 2013 price levels) warrant all efforts be taken to provide the best environment for long term success.

Non-Structural. The non-structural plans must complement land use and development management opportunities that discourage future development in high risk areas. A larger project benefit could obtained by acquiring rather than retrofitting structures including areas, where habitat connectivity could be and consideration of sea level rise in low lying ground elevations that would be in the intertidal zone should also be included in the plan. Although there is likely to remain a local desire for structure retrofit, acquisition is the preferred alternative, as implementation of such alternatives, even considering the additional costs, are warranted to

provide restoration of habitat to the underlying areas and maximum protections for the larger populations. Thank you for the opportunity to provide input on the FIMI project.

Sincerely,
Maryann Johnston, President

MaryAnn Johnston

Affiliated Brookhaven Civic Organizations, Inc



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

APR 17 2014

Colonel Paul E. Owen
District Engineer
U.S. Army Corps of Engineers
26 Federal Plaza
New York, New York 10278

Dear Colonel Owen:

This letter is in response to the Fire Island Inlet to Moriches Inlet (FIMI), Fire Island Stabilization Project, Draft Environmental Assessment (DEA), dated March 2014. The project consists of the placement of sand on the ocean side of Fire Island. The plan includes the development of a berm and dune of varying magnitudes in areas that are deemed as having the greatest potential for damages to oceanfront structures. The selected alignment requires a total of approximately 41 real estate acquisitions and 7 real estate relocations (6 structures and relocation/reconstruction of the Ocean Beach well complex).

Alternatives Analysis

There are two alternatives evaluated in the DEA, the No Action Alternative and the Selected Alternative. However, there are a variety of different fill placement options which span from less invasive to more invasive and in doing so, paint a more holistic view of the ways in which the project can be approached. For example, beach fill could be placed in areas with built infrastructure such as homes, businesses and recreational facilities, but areas such as the undeveloped sections of Smith County Park, do not warrant federal intervention.

Another possible alternative could evaluate the cost and impact of raising the structures that are in need of protection. Roads, homes, and buildings could be elevated, moved inland, or acquired and demolished. This would eliminate or greatly reduce the need for stop gap measures such as beach fill and allow the natural processes of the island to occur with a lower level of risk. Though this option may not be feasible in its entirety due to cost, it would demonstrate another approach for comparison purposes and may also provide a road map for future protective measures that can be considered once the area is temporarily stabilized by the addition of beach fill.

EPA believes that by presenting only two alternatives, the document fails to present a comprehensive assessment of the possible approaches to stabilizing the island, and the possible range of impacts. Additionally, the No Action Alternative fails to fully evaluate the positive effects of the No Action Alternative on fish and wildlife resources, instead focusing disproportionately on the negative impacts. Though the project is aimed at stabilizing the island and its residential structures, maintaining and protecting the fish and wildlife population is also essential to recreational value of the area. People are drawn to the island to pursue a variety of outdoor recreational activities (hiking, fishing, bird watching, etc.), and the fish and wildlife of the area are an asset to that experience and warrant protection as well. The final EA should present a more accurate depiction of the positive impacts that the ecosystem has experienced as a result of the breaches. Special emphasis should be given in this discussion to the notable post-Sandy piping plovers habitat in the area, especially in light of the diminishing availability of suitable habitat.

The last line of the first paragraph under section 4.1 No Action Alternative states, "Since the No Action alternative does not meet the needs of the communities, it is not the socially preferred alternative." This sentence implies that the selected alternative was chosen based on social demand. We believe it is the responsibility of the federal government to find a solution that balances the needs of the community with the needs of the environment, and to come up with a balanced solution. Excessive focus on meeting social demands could also unintentionally encourage additional development in areas that will be increasingly difficult to secure in the future. The two alternatives presented in the DEA do not demonstrate a sufficient balance between the social and environmental concerns necessary to ensure the long-term sustainability and resiliency of the barrier island.

EPA believes a revised selected alternative is necessary, which limits fill activities to the most sensitive areas, and increases the portion of the island which is allowed to migrate and follow the natural littoral process of a barrier island in locations such as the undeveloped section of Smith County Park.

Selected Alternative

The DEA indicates that the placement of beach fill will significantly reduce flood risks from major storms. The Final EA needs to clarify that flood risks to homes on the south shore of Long Island that were affected by flooding from the inlets will not be protected by beach fill. To clarify this point, the Final EA needs to specify what portion or percentage of flooding and damage during Sandy was attributable to flooding from the inlets and what was attributable to the breaching and overwashing of dunes. Conversely, the Final EA should indicate the level of protection that can be expected as a result of this project in the face of another super storm of the same magnitude. EPA believes this is a critical distinction that needs to be clarified in the Final EA so that the public has clear expectations of what protection the project will provide.

The value in using beach fill is to protect the infrastructure of the island. However, as stated on Page 14 of the DEA, this project is designed as a one-time stand-alone effort. Page 22 states, "USACE expects that effects of the proposed action will provide storm damage protection for five years and then erode over the next five years to a point where the newly created dune would not provide protection." Given the short time frame of protection offered by the project, and the fact the natural littoral process of the island will likely only intensify as a result of sea level rise and climate change, the Final EA needs to include a detailed discussion of other federal projects including the raising of roads and houses on the mainland. There should also be an enhanced discussion of the proposed projects mentioned on page 13, which include "elevation, relocation, flood proofing, buyout, etc" as these projects would strengthen the resiliency of the developed parts of the island more than just beach fill alone.

EIS

Additional clarification is necessary in regards to how this project relates to the larger Fire Island to Montauk Point – Tentatively Federally Supported Plan (FIMP-TFSP). The scope of the FIMI appears to overlap significantly with the FIMP. The Final EA should clearly bridge the two efforts to demonstrate a cohesive and unified effort to enhance the long term resiliency of the island.

Due to the scope of the project, complexity of addressing barrier island and coastal geomorphology, the significant amount of essential habitat for fish and wildlife that will be affected, the impact on threatened and endangered species, and the need to consider the future sustainability and resiliency of the island, EPA believes that an Environmental Impact Statement is more appropriate to adequately evaluate the impacts of the Fire Island Inlet to Moriches Inlet Fire Island Stabilization Project. We do not believe that the DEA sufficiently communicates the potential environmental impacts of the proposed project and what level of protection can be expected from the project.

Thank you for the opportunity to comment. Should you have any questions concerning this letter please feel free to contact Stephanie Lamster of my staff at 212-637-3465.

Sincerely,



Grace Musumeci, Chief
Environmental Review Section



United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
15 State Street – Suite 400
Boston, Massachusetts 02109-3572



April 17, 2014

9043.1
ER 14/0024

Colonel Paul E. Owen
District Engineer
U.S. Army Corps of Engineers
26 Federal Plaza
New York, New York 10278

Dear Colonel Owen:

In response to the U.S. Army Corps of Engineers' (Corps) March 17, 2014, public announcement, I am forwarding the Department of the Interior's (Interior, DOI) comments and recommendations on the Draft Environmental Assessment (DEA) and Draft Hurricane Sandy Limited Reevaluation Report (HSLRR) for the Fire Island Inlet to Moriches Inlet, Fire Island Stabilization Project, New York (FIMI or Stabilization Project). Our input reflects the collective effort of the National Park Service (NPS), U.S. Fish and Wildlife Service (FWS), U.S. Geological Survey (USGS) and the Office of the Secretary.

At the outset, it is important to recognize the high degree of collaboration between our agencies in this important effort, similarly evident in the cooperation that led to agreement on the 2011 Tentative Federal Supported Plan for the Fire Island Inlet to Montauk Point Reformulation Study (FIMP), and even in the circa 2003 Vision Statement, which served as a guidepost for the FIMP.

We also acknowledge that the March 2014 DEA represents a considerable effort by your team in response to our recommendations on the preliminary version we had the opportunity to review. Of particular importance, is our mutual understanding of the need to ensure that the DEA captures the benefits and risks of the complex natural coastal processes that form and sustain Fire Island.

The comments that follow are intended to continue the process of clarifying where needed and strengthening the draft documents. Given that the Stabilization Project is located within the boundary of Fire Island National Seashore, the Environmental Assessment will also be a key document in the NPS' permitting and environmental compliance processes.

Thank you for the opportunity to provide our input on the DEA. We anticipate, and look forward to continuing our work together in this endeavor. Please let me know of any assistance I can provide.

Sincerely,

A handwritten signature in blue ink, appearing to read "Andrew L. Raddant", is displayed on a light blue rectangular background.

Andrew L. Raddant
Regional Environmental Officer

Attachments

NATIONAL PARK SERVICE

Fire Island Inlet to Moriches Inlet Stabilization Project Draft Environmental Assessment

General Comments

We greatly appreciate that we have been able to come to an agreement on the importance of natural coastal processes including island breaching in the formation and sustainability of Fire Island. This is especially important as the NPS moves forward with the development of a breach management plan for the wilderness breach that acknowledges both the potential risks as well as benefits. A balanced presentation of the both the benefits and risks of coastal processes will strengthen the overall document. Barrier islands provide significant storm damage reduction benefits for mainland development and breaks in the barrier may leave mainland communities at greater risk for future storm damage. Breaching is also a natural process that is integral to the long-term sustainability of the barrier system. Breaching builds up the width of the barrier system, facilitates landward migration of the barrier under rising sea level, and contributes to the development of diverse habitats such as salt marsh and inter-tidal flats. As a part of the Breach Management Plan and EIS the NPS must conduct a careful evaluation of the potential benefits and the potential consequences of allowing the breach to remain open or allowing the breach to be closed.

We are also pleased that the Corps and the Department of the Interior's Bureaus have developed and about to sign a Memorandum of Understanding that outlines key areas of collaboration that are critical for the NPS but where there is little time to develop over the short term. We think that agreeing to work jointly on land management issues with the state and local governments is essential to reducing risks to the Fire Island communities over time. Similarly, developing an understanding of the implications of removing sediment from offshore borrow areas for the overall sediment budget, that we will accomplish with an intensive monitoring and adaptive management plan, is essential to reducing risks to Fire Island. And finally, agreeing to collaborate on the development of projects to restore natural coastal processes will greatly expand opportunities for the protection of the islands' resources and habitats.

The strong spirit of collaboration we have been able to maintain between our two agencies bodes well for us as we move forward with the FIMP General Reevaluation Report (GRR) and EIS.

Specific Comments

Page 26, Section 3.1.3, Fire Island National Seashore. The interpretation of NPS policy in this section needs to be corrected. Please delete the following sections of paragraph 2 and insert as follows (new text underlined):

~~One of the planning premises is "Fire Island is a culturally manipulated barrier island system, and it cannot be managed as if natural processes had been totally unimpeded." NPS policies generally allow for manipulation of the existing environment:~~

NPS policy directs that “Natural shoreline processes (such as erosion, deposition, dune formation, overwash, inlet formation, and shoreline migration) will be allowed to continue without interference.

Where human activities or structures have altered the nature or rate of natural shoreline processes, the Service will, in consultation with appropriate state and federal agencies, investigate alternatives for mitigating the effects of such activities or structures and for restoring natural conditions.” (4.8.1.1 Shorelines and Barrier Islands)

~~1) when directed by the Congress; (2) in some emergencies when human life and property are at stake; (3) to restore native ecosystem functioning that has been disrupted by past or ongoing human activities, or (4) when a park plan has identified the intervention as necessary to protect other park resources, human health and safety, or facilities.~~

“Intervention in natural geologic processes will be permitted only when

- directed by Congress;
- necessary in emergencies that threaten human life and property;
- there is no other feasible way to protect natural resources, park facilities, or historic properties;
- intervention is necessary to restore impacted conditions and processes, such as restoring habitat for threatened or endangered species.” (4.8.1 Protection of Geologic Processes).

Page 12, Section 1.3. Please delete the text in paragraph 2 as shown below:

~~The breach at the “Old Inlet” area within the Fire Island Wilderness Area is being evaluated by the National Park Service to create a baseline from which to measure changes in the breach. At this time, no closure activities have been initiated. In Fiscal Year 2014, National Park Service received funds to evaluate ecological responses and prepare a NEPA analysis to inform future breach management decisions at Fire Island. Expected date of the draft document for public review is mid 2015.~~

Page 15. We recommend that the first paragraph on page 15 is modified as shown below in the EA (new text underlined):

~~In several areas, the dune alignment and associated tapers have been adjusted after consultations with U.S. Fish and Wildlife Service and National Park Service in order to address park objectives.~~ The alignment of the FIMI TSP has been optimized to the existing barrier island profile, including beach berm and dunes, and minimizes shifting the whole beach fill alignment seaward to protect solitary or few structures that are set apart from other structures. This alignment results in the necessity to relocate or remove some structures. The selected alignment requires a total of approximately 41 real estate acquisitions and 7 real estate relocations (6 structures and relocation/reconstruction of the Ocean Beach well complex). The majority of the acquisitions are in either Ocean Bay Park (19) or Davis Park (19). The other three acquisitions are located in Dunewood (2)

and Robbins Rest (1). The proposed relocations are located in Davis Park (3), Fire Island Pines (2), Saltaire (1) and Ocean Beach (1). The Ocean Beach real estate relocation includes the water supply. Beach fill tapers are also proposed in several locations within Federal Tracts to avoid and lessen the end losses of the proposed project's dune and berm features.

Page 19, Section 2.3.1, Conservation Measures/Project Design Adjustments. Please modify the paragraph in this section as shown below (new text underlined):

~~In several areas, the dune alignment and associated tapers have been adjusted per consultations with U.S. Fish and Wildlife Service and National Park Service in order to address park objectives and minimize potential adverse impacts to threatened and endangered species. The alignment of the FIMI TSP has been optimized to the existing barrier island profile, including beach berm and dunes, and minimizes shifting the whole beach fill alignment seaward to protect solitary or few structures that are set apart from other structures.~~ The selected alignment requires a total of approximately 41 real estate acquisitions and 7 real estate relocations (6 structures and relocation/reconstruction of the Ocean Beach well complex). The majority of the acquisitions are in either Ocean Bay Park (19) or Davis Park (19). The other three acquisitions are located in Dunewood (2) and Robbins Rest (1). The proposed relocations are located in Davis Park (3), Fire Island Pines (2), Saltaire (1) and Ocean Beach (1). The Ocean Beach real estate relocation includes the water supply. Beach fill tapers are also proposed in several locations within Federal Tracts to avoid and lessen the end losses of the proposed project's dune and berm features. In several areas, the dune alignment and associated tapers have been adjusted per consultations with U.S. Fish and Wildlife Service and National Park Service in order to address park objectives and minimize potential adverse impacts to threatened and endangered species. Specifically discussed here are the adjustments to the FIMI Plan.

Fire Island Inlet to Moriches Inlet Stabilization Project HSLRR

Specific Comments

Page 1-2, Section 1. This section needs to describe the role of the navigation channels at Fire Island and Moriches Inlet. Page 19 would be an appropriate location in the document to describe the role of these navigation channels in contributing to mainland flooding.

Page 5. The interpretation of NPS policy in paragraph 2 needs to be corrected as shown below (new text underlined):

~~One of the planning premises is "Fire Island is a culturally manipulated barrier island system, and it cannot be managed as if natural processes had been totally unimpeded." NPS policies generally allow for manipulation of the existing environment:~~

NPS policy directs that "Natural shoreline processes (such as erosion, deposition, dune formation, overwash, inlet formation, and shoreline migration) will be allowed to continue without interference.

Where human activities or structures have altered the nature or rate of natural shoreline processes, the Service will, in consultation with appropriate state and federal agencies, investigate alternatives for mitigating the effects of such activities or structures and for restoring natural conditions.” (4.8.1.1 Shorelines and Barrier Islands)

~~1) when directed by the Congress; (2) in some emergencies when human life and property are at stake; (3) to restore native ecosystem functioning that has been disrupted by past or ongoing human activities, or (4) when a park plan has identified the intervention as necessary to protect other park resources, human health and safety, or facilities.~~

“Intervention in natural geologic processes will be permitted only when

- directed by Congress;
- necessary in emergencies that threaten human life and property;
- there is no other feasible way to protect natural resources, park facilities, or historic properties;
- intervention is necessary to restore impacted conditions and processes, such as restoring habitat for threatened or endangered species. (4.8.1 Protection of Geologic Processes).”

Page 13, Figure 2. This figure should be modified to clearly indicate the FIMI study area. In this report it is stated that the FIMI study area is the barrier island and south shore of Long Island north to Highway 27. This figure clearly defines the north-south boundaries of the FIMI project area. The FIMI project area also needs to be clearly delineated in the EA.

Page 28-29, Section 4.0, WITHOUT PROJECT FUTURE CONDITION. This section clearly and succinctly states assumptions of “without project future condition” scenario. The EA needs to state these assumptions as well.

Page 30, Section 5.1 General. This section should clearly identify that this project will not provide protection from the low and moderate intensity storm events that do not cause overwashing or breaching (even of the post-Sandy barrier system), occur frequently, elevate water levels in the bay, and cause frequent flooding along the bay shoreline of Long Island and Fire Island. Since Sandy, numerous such storm events have occurred. With or without the project, these types of storm impacts will continue to occur.

Page 34, Section 5.2.1 Shorefront Damages. It is unclear if the term “the south shore shorefront,” refers to the ocean shoreline of Fire Island, south shore of Long Island, or both. Please clarify in the final HSLRR.

Page 33. The last paragraph indicates that models have recently been run using post-Sandy beach morphology. NPS would like to have access to that model output.

Page 38, paragraph 3. This paragraph should indicate if the model was, or was not run with post-Sandy breach open conditions (morphology of the breach and Great South Bay water

levels). Post-Sandy research and monitoring has provided extensive data regarding size and growth of a Great South Bay. That data should be included in model simulations and other analysis conducted for this report.

Page 42, Section 5.2.3. Data and discussion on this page should incorporate data from post-Sandy open breach condition.

Page 53, Section 8.0 Effective Project Life. This discussion should be included in the EA. In addition, here and in the EA, this discussion should be expanded to identify how project life span might be altered or diminished by a storm. Nowhere within this report or the EA is it clearly stated what maximum interval storm (i.e. 100 year) is expected to exceed the storm damage reduction benefits of the design template. Modeling results should provide this information.

Page 54, Sections 8.1.1 Alignment and Real Estate, and 8.1.2 Beach fill Extent. It is suggested that this text is included in the EA to better identify the need for property acquisitions and relocations as well as the reasoning for beach fill and dune alignments within project reaches.

Page 54, Section 8.1.1. We recommend that this text is also included in the EA to better identify the need for property acquisitions and relocations as well as the reasoning for beach fill and dune alignments within project reaches.

Page 69, Section 8.3.1. The last paragraph states that “Historical breach observations in Great South and Moriches Bay were used to determine appropriate breach growth rates.” This analysis should include post-Sandy breach observations and data.

U.S. FISH AND WILDLIFE SERVICE

On January 24, 2014, the Department of the Interior submitted comments on the “preliminary DEA” (pre or preliminary DEA) which had been provided to the DOI agencies on December 16, 2013, in which we submitted our recommendations and concerns to the Corps for incorporation into the DEA. Other correspondence identifying concerns regarding the proposed project was transmitted by the U.S. Fish and Wildlife Service (FWS) on December 13, 2013, and January 9, 2014 (attached). In addition to these communications, the Service has had numerous meetings, tele-conferences, and electronic communications, in which we have discussed the proposed project and provided recommendations to avoid and minimize adverse impacts to sensitive species and other trust resources.

Throughout these communications, the FWS and the Corps have worked to develop options that would avoid and minimize adverse effects to sensitive trust resources that may occur as a result of implementation of this project. As a result of these efforts, the Corps has adopted some, though not all, of the FWS’s recommended measures to reduce adverse impacts to these resources.

In the Department of the Interior's January 24, 2014, correspondence (attached), the FWS provided a number of comments and recommendations. The comments that follow will revisit these unaddressed concerns or needs, and include other input as appropriate for purposes of informing the EA. Please note, in our January 24, 2014, comments, we included a substantial amount of scientific and biological information, including peer-reviewed studies to assist the Corps in meeting its obligations under NEPA. This information is hereby incorporated by reference.

General Comments

- In our January comments on the pre-DEA we recommended that the No Action Alternative discussion be expanded to include a discussion of both the benefits and adverse impacts of the Old Inlet breach on fish and wildlife resources, the barrier island, Great South Bay, Moriches Bay, and mainland areas (DOI comments, page 3). Additionally, we included information regarding the biological responses of sensitive species, such as piping plovers (*Charadrius melodus*; threatened), including peer reviewed studies which demonstrated those responses, to assist the Corps in conducting their analysis.

However, in the DEA, the discussion is virtually unchanged from the pre-DEA and focuses only on the potential for negative impacts on fish and wildlife resources. As noted in our January 2014 comments, this analysis is incomplete and does not adequately explain both the benefits and potential adverse impacts on fish and wildlife resources and their habitats of closing breaches and barrier island stabilization efforts. It is important that the public understand both the benefits and detriments of an action. Based on recent interagency discussions, we understand that the Corps will be presenting this balanced presentation in the EA.

We continue to recommend that the Corps coordinate with USGS and others on the physical and biological studies which they have undertaken in order to fully understand—and inform the public—of the full range of effects that could result from the proposed FIMI.

- We have recommended that the Corps include a discussion of the response of piping plovers, as well as other species to storm (natural)-versus human-created habitats. We also included a number of studies that have documented these responses, including our 2008 biological opinion (DOI comments pages 3-5). The DEA does cite some of the studies we referenced, and clearly documents the limitation of suitable habitat on Fire Island and the necessity of “storm-maintained, early successional stage habitats, such as created by overwash fans, provide optimal breeding conditions for piping plovers” (DEA, page 69). The following paragraph (page 70, top of page) continues to state that piping plovers will respond positively to changes in habitat values resulting from breaches and overwash. However, the DEA then states that these habitat-creating events would be negative for plovers and other species due to “increased predation, and to nest failure due to subsequent wash-overs at the same location,” with little discussion and no sources

cited to substantiate these statements. We recommend that this need for additional information and substantiation be resolved in the EA.

Similarly, we recommended that the EA include an explanation of the Corps' assertion that the creation of overwash habitat would be only a "short term gain," (DOI comments, page 6) despite the data cited above that demonstrates that such habitat values can endure for years because it is a dynamic process that generally results in habitat being created anew, on approximately the same frequency that habitat is lost due to growth of vegetation or Aeolian processes. This is currently being observed at Old Inlet. Under normal circumstances that there would be new early successional habitat created due to storm activity as other habitat undergoes succession, thus maintaining a dynamic equilibrium of habitat to which many species have evolved. However, since the island has been stabilized by beach nourishment, dune building, groins, and jetties new habitat has not been allowed to form, thus the habitat has become more limited and existing habitat is less optimal. However, the DEA is unchanged in this regard, and we recommend that this explanation, with citations, be included in the EA.

The FWS agrees that in the relatively rare event that a storm would cause an overwash fan during the breeding season (since most such storms occur during winter nor'easters, as documented by the DEA on page 65), short-term adverse effects to individual piping plovers and individuals of other species may occur. However, one of the key limiting factors for the recovery of piping plovers as a species, as well as other sensitive species on Fire Island is the availability of suitable habitat, which is created by these storm events (U.S. Fish and Wildlife Service 1996; Cohen et al 2009; Elias-Gerken et al 2000; Loegering and Fraser 1995). Piping plovers and other species have been shown to respond quickly and positively to the newly created habitat (Cohen et al 2009; Loegering and Fraser 1995), which would quickly mitigate these negative effects and result in an overall net benefit to these species.

- In order to comply with NEPA and fully inform the public, we recommend that the EA should include a full analysis of these issues, including citations to support the statements that overwash habitat is a "short term gain" to sensitive species, and that these areas may be subject to "increased predation and nest failure due to subsequent washovers at the same location," despite data (cited above) that show rapid *positive* response of these species to the high quality habitat created by these events. First year results of research by Virginia Polytechnic Institute and State University on piping plovers at Old Inlet and Smith Point County Park showed that piping plovers quickly utilized newly formed overwash habitats in these areas (Virginia Tech 2013).
- In our January 2014 comments, we recommended that the DEA discuss information collected in Old Inlet and Bellport Bay post Hurricane Sandy by researchers and the resultant analyses addressing back bay flood frequencies, tidal surges, and biological resources (see reports by the State University of New York at Stony Brook and the U.S. Geological Survey Water Resources Center, Coram, New York) in order to understand and explain the positive and negative impacts that have resulted from the Old Inlet breach. These studies have not documented any increases in back bay flooding in the 18

months that Old Inlet has been open. We again recommend that the EA include this information.

- We previously requested that apparently conflicting statements of the pre-DEA regarding the duration of the effects of the project be clarified (DOI comments, page 5). However, the DEA appears to be unchanged: page 22 of the DEA states that the proposed action would provide protection for 5 years, and then erode for the next 5 years, presumably resulting in 10 year duration of effects. Subsequently, page 83 refers to a “50-year lifespan anticipated for the FIMI Stabilization Project.” Further, page 90 states that “the shoreline will returned [sic] to its natural configuration within five years.” Please clarify in the EA the length of this project and the duration of its effects.
- We recommended that the Corps identify in the DEA appropriate mitigation to address the loss of species habitats due to project impacts or the prevention of natural processes that result in habitat formation (DOI comments, page 7). The DEA does not mention mitigation.
- The EA should clarify where natural processes will be allowed.
- We recommended that the Corps address potential impacts to *rufa* red knots (*Calidris canutus rufa*; proposed; DOI comments, page 5). However, the DEA does not do so. Similarly, the list of Federally listed species (page 53) should be revised to address the *rufa* red knot. This species is currently proposed for listing as threatened and a listing decision is expected by the end of September 2014. Please note that if it is listed, the Corps will be required to reinitiate consultation pursuant to section 7 of the ESA, unless potential impacts to this species are addressed and relevant conservation measures approved by the FWS are incorporated into the project design now.
- In our January 24, 2014, comments, we recommended that the Corps explain how the proposed action is consistent with the Fire Island to Montauk Point – Tentative Federal Supported Plan (FIMP - TFSP), which called for leaving some areas open to natural processes, and which was agreed to by the Corps, FWS, National Park Service, and U.S. Geological Survey (DOI comments, page 6). In section 1.3, the DEA references the history of the development of the FIMP, but does not address the FIMP – TFSP. We recommend that the EA include a discussion on the TFSP and what it entails, and the relationship of the FIMI to, and consistency with, the TFSP.

We also note some potentially confusing naming conventions within the DEA that need to be corrected in the EA. “TFSP” stands for Tentative Federal Supported Plan. Please correct the reference in Section 2.0 to the “Tentative Federal *Selected* Plan” (emphasis added), and in Section 2.1 to the “Tentatively Selected Plan (TSP). The acronym TSP should apply only to the Stabilization Project.

- We requested more information regarding the purpose and need for the proposed dunes in front of undeveloped areas in Smith Point County Park (DOI comments, page 6), since the pre-EA stated that dunes would not be placed in undeveloped areas. As this

information need was not resolved in the DEA, we request that it be addressed in the forthcoming EA.

- We also requested that the DEA analyze the proposed action in the context of the entire Federal action, which includes the raising of roads and houses on the mainland (DOI comments, page 6). However, the DEA is silent on these issues. This information is important in establishing the purpose and need of the proposed project, especially in light of the proposed non-structural components of the Federal Hurricane Sandy response which include “elevation, relocation, flood proofing, buyout, etc.” (DEA, page 13), which would be expected to reduce the likelihood of flooding and other damage from a severe storm; thus, potentially reducing the need for the full scope or scale of the proposed project.
- The FWS pointed out that the pre-EA only addressed two alternatives: the No Action alternative and the Beach Fill alternative. We also pointed out that the FWS had proposed several reasonable additional alternatives in our previous correspondence dated December 13, 2013, and January 9, 2014 (enclosed). We requested that the Corps analyze these alternatives in compliance with the NEPA directive that decision-makers and the public be informed of the costs and benefits of a range of appropriate alternatives (DOI comments, pages 7-8).
- We recommended that the DEA explain that the No Action alternative would not preclude Federal actions to address storm damage reduction and beach erosion, including the issuance of permits for such actions by the Corps’ Regulatory Branch (DOI comments, page 8) or projects permitted by the Corps and funded by the Federal Emergency Management Agency as occurred in 2008 on Fire Island. Further, other agencies such as the Department of Housing and Urban Development are engaged in projects around Long Island and are currently evaluating beach stabilization at Robert Moses State Park on Fire Island (see http://www.nyshcr.org/Programs/NYS-CDBG-DR/SuffolkCounty-RobertMosesStateParkDredgingandStabilization_EA.pdf). The DEA acknowledges that non-Federal activities may occur if the No Action alternative is adopted; however, makes no mention of the potential for Federal activities. We request that the Corps ensure that the public is informed of this fact by including this discussion in the EA.

Specific Comments

Page 8, Section 1.1.2 and Page 10, 1.2. These sections reference Fire Island Inlet and Moriches Inlet and describe them as Federal navigation channels which are maintained by the Corps. The EA should include the volume of water and potential for damage that is likely to result from water entering through these maintained channels during storm events versus the volume and potential damage likely to result from overwash and breaching due to storm events. Given the amount of water entering the bay through channels that will be maintained open, please clarify the level of protection that will realistically be achieved through the proposed project.

Page 12, Section 1.3 Background/Relationship to Other Projects and Studies. The first paragraph on page 12 should include qualifying remarks regarding the three interim projects

referenced: (1) the Westhampton Interim Storm Damage Protection Project referenced in the DEA (page 12) was completed due to a court order; (2) the BCP was developed as a result of the breach at Westhampton; and (3) the West of Shinnecock Inlet Interim Storm Damage Protection Project was to be a six year project. At the time these projects were implemented, it was expected that completion of the FIMP was imminent.

Page 12 et al., Section 2.0 Alternatives. Discussion of the FIMP should include reference to the Vision Statement, an agreement between the various involved agencies, establishing standards and measures to facilitate the development and implementation of a long term coastal risk reduction strategy for the South Shore of Long Island.

Page 13, Summary of Alternative Plan Comparison. This section does not include a comparison of alternatives. We recommend that in the EA, the section be renamed “Summary of Alternative Plan ~~Comparison~~ *Development*”. Given the complexity of the FIMP process, additional detail, either in this section or in an appendix would make the discussion more understandable to readers not directly involved in the process.

Page 14, Section 2.2. The DEA states that local governments and non-governmental groups may undertake dune building and other construction projects and acknowledges the likelihood of these projects, though fails to provide any analysis or context for this project. This need should be addressed in the EA.

However, these activities are also referenced on page 57, (Section 4.1), which states that “at this time, no activities are anticipated.” We note that some actions are undertaken annually (e.g., sand fencing or placement of material to facilitate accretion of sand), or routinely (e.g., dredging of maintained navigational inlets, etc.). These actions should be considered and their direct and indirect effects analyzed as part of the cumulative effects of the proposed action. For instance, the Village of Westhampton Dunes regularly installs sand fences within the Corps’ Westhampton Interim Storm Damage Protection Project Area as a means to stabilize and increase the growth rate of the Corps’ dune. This is an area in which the Corps assists the FWS in monitoring for the piping plover. Further, the Corps is aware that in 2012, the Suffolk County Department of Parks, Recreation, and Conservation installed many hundreds of feet of sand fences in the Corps’ Breach Contingency Project areas at Smith Point County Park and Cupsogue County Park, and throughout these parks in general.

Page 19, Conservation Measures/Project Design Alignments. The DEA documents consultation with the FWS and NPS, then documents requirements for acquisition and relocation of certain properties. The wording of this section appears to suggest that the FWS and NPS are requiring these actions. However, these acquisitions and relocations are a part of the overall Hurricane Sandy response plan and are not correlated with FWS and NPS efforts to avoid and minimize effects to natural resources. Please revise this section to make the meaning more clear. Please revise this section in the EA.

Page 24, Section 3.1.1 History. This page cites impacts from storms during the 1940s and 1950s. However, we suggest that the EA note that Old Inlet was opened from the mid-1700s to

the early 1800s for a period of about 65 years. We also request that the EA include the source of the “anecdotal information” cited in the third paragraph.

Page 41. The description of natural resources beginning on section 3.3.5 would benefit from additional information, and lists only a few resources for each category. These are complex systems and need to be more fully described and explained to the public and decision makers.

Page 46, Inlets. This section of the EA should indicate the potential for flooding as a result of the referenced inlets, especially in the context of the level of water flow into the bay through the maintained navigational channels (see above).

Page 52, Section 3.3.11, Threatened and Endangered Species. This section should be revised in the EA to include a discussion on the distribution and breeding history of piping plovers in the project area. This is important in order to provide the context for the effects analysis.

Page 57, Section 4.1.1, Human Environment. This section fails to provide a robust analysis, simply stating that under the No Action Alternative, erosion would continue and increase potential for damage and loss of homes and businesses. However, we recommend that the EA recognize the actions that were taken by the communities on Fire Island, the state of New York, and Suffolk County to stabilize dunes and beaches following Hurricane Sandy, including the installation of large sand bags in front of the communities, installation of sand fencing, and the dredging of Fire Island Inlet to renourish the beach and build new dunes at Robert Moses State Park and on Gilgo Beach. The EA should then demonstrate the degree and level of protection that will be provided by the proposed project in the context of other stabilization projects.

The remainder of this section makes several unsupported statements such as, “a single low-frequency storm event is likely to result in severe adverse impacts to land use and communities...;” “...would have a significant adverse impact on the commercial enterprises...;” “...likely to result in severe adverse social and economic impacts.” However, there is no analysis of what these adverse impacts would entail, how they would occur and to whom and what would be needed to rectify these impacts; nor is there any analysis of the duration of such impacts other than saying that “these impacts would be expected to be long term.” The DEA should be revised so that these important analyses are included.

Page 59, Section 4.1.3 Transportation, Recreation/Parks. This section contains a statement regarding the “probable” adverse impacts of a breach to recreational and commercial boating in the Great South Bay, but provides no data to support these statements. We recommend that the Corps indicate in the EA whether the breach at Old Inlet resulted in any adverse impacts to recreational and commercial boating in the Great South Bay. As of this date we are not aware of any demonstrated impacts.

Page 64, Section 4.1.8, No Action Alternative Impacts to Rare and Endangered Species of the Marine Ecosystem. This section should be revised for the EA to discuss the benefits of habitat creation for species that need early successional habitat. We also note that the implementation of the Corps’ Breach Contingency Plan (BCP) in 2012 resulted in adverse impacts to piping plover and seabeach amaranth habitats both as a result of closing the breaches

and the post-breach fill management, which did not adhere to the endangered species protection measures outlined in the BCP (U.S. Fish and Wildlife Service, March and June 2013, in litt.). We note that new habitat was created as a result of the breaches that occurred during Hurricane Sandy, increasing habitat diversity in these areas.

Page 65, Section 4.1.9.1, Natural Resources -- Barrier Island Ecosystem. This section includes several speculative statements without citing any supporting data. Similar statements are also made in Section 4.2.7.3 (DEA, page 88). For example, the DEA states correctly that “most overwash events occur during northeaster (fall and winter) storms when the piping plovers have migrated elsewhere,” appearing to suggest that overwash events at these times would be of little benefit to this species. However, such events in the fall and winter create prime breeding and foraging habitat for the plovers to return to, clearly increasing the carrying capacity of these areas for a species that has been documented as being limited by habitat availability.

This section also states that “the loss of beachfront habitat...may negate the beneficial impacts of habitat creation.” The FWS does not concur with the Corps’ conclusion, which is not explained or substantiated. We recommend that this need be resolved in the EA. We also request that the EA include an explanation and substantiation of the statement that overwash habitat formation would be a “short term gain.” There appear to be many examples in the barrier island system where overwash habitat values persist over time because it is a dynamic process that generally results in habitat being created anew, similar to the beach conditions surrounding Old Inlet.

For the following reasons, we also do not concur with the unsubstantiated statement that “should the breach occur in the spring or summer due to a storm, the destruction of shorebird nests by wind and flooding would be a more negative impact than any presumed short-term overwash habitat gain.” We recommend that this statement not be included in the EA. As noted above, (1) the DEA documents the fact that most overwash events occur outside of the breeding season, so that the likelihood of direct adverse impacts to shorebirds due to breeding season storms is relatively low; (2) piping plovers and other species are directly limited by the lack of availability of suitable habitat; (3) there is substantial documentation of the rapid positive response of piping plovers and other shorebirds to the newly created habitat upon their return from their wintering grounds; and (4) as we have noted above, while there may be short-term negative impacts to individual plovers and individuals of other species due to a rare breeding season storm event, the overwash habitats created by these events are likely to persist for some years and are preferred habitats of the plover, least tern, and other species. This increased habitat availability would certainly benefit these species over the much longer term, potentially allowing their numbers to increase beyond current population levels.

Pages 69, 88, 89. On pages 69 and 88, the DEA cites a study that identified the response of piping plovers to habitat suitability (Elias-Gerken, 1994) and acknowledges that “suitable habitat is limiting piping plover numbers on the Fire Island barrier.” However, on page 89, the DEA draws an unsubstantiated conclusion that “given the miles of shoreline and tidal flats on Fire Island outside of the project work areas, the availability of habitat is not a limiting factor and this temporary effect would not be significant, outside of the nesting area.” The FWS does not concur with this statement. We recommend that this discrepancy is resolved in the EA.

Page 76, Section 4.2.6 Natural Environment. This section of the DEA states that the only impacts to living natural resources would be “direct impacts related to sand removal from the borrow areas and corresponding sand placement along the ocean shoreline of Fire Island for dune construction and beach nourishment.” However, the Corps should include a discussion of the indirect effects due to habitat loss and the prevention of new habitat creation that will result from implementation of the FIMI TSP.

Page 77. This page of the DEA describes impacts to infaunal and epifaunal benthic organisms from initial sand placement “and subsequent beach nourishment.” However, the proposed project is described as a one-time placement of sand. Please clarify in the EA what subsequent beach nourishment is expected.

Page 78. We note on page 78 that the recruitment of benthos to recolonize an area affected by the proposed project will depend upon the time of year and is likely to be more than “a few months” to have biomass return to pre-project levels. We also note that the bottom paragraph on this page contains a sentence fragment that makes the meaning obscure. We request that this be clarified in the EA.

Page 84. The second paragraph on this page states that the proposed project will not directly impact “barrier island vegetation.” However, page 93 specifically documents direct impacts to seabeach amaranth, a listed plant. We recommend that these conflicting statements be resolved in the EA. We also recommend that the Corps acknowledge and analyze both the direct and indirect impacts of the loss of the natural dynamic processes under which seabeach amaranth and other barrier island species thrive.

Page 89. The DEA states that the availability of habitat is not a limiting factor, though research conducted by Cohen et al. (2009) at the Corps’ Westhampton Interim Storm Damage Protection Project and Wilcox (1959) on Westhampton Island directly contradicts this statement. We recommend that the EA include an explanation of this unsubstantiated claim and provide peer reviewed sources in support of it. Absent justification, we recommend that the statement be deleted.

Pages 89-90. Pages 89-90 of the DEA acknowledge that construction of the beach and dune will preclude natural overwash processes and the formation of early successional habitat required by piping plovers and other sensitive species “in the short term”; however, page 77 mentions “subsequent beach nourishment,” suggesting that these efforts will be on-going, though the DEA does not include any analysis of the likelihood, frequency or source of any such future actions. We request that the Corps provide an explanation of how it arrived at its conclusion that these impacts to sensitive species and their habitats are “short term.”

Page 90. This page of the DEA mentions coordination with the Department of the Interior (NPS and the FWS) and the development of measures to reduce the potential impacts to listed species. The FWS concurs that some aspects of the proposed project have been modified to reduce some aspects of potential impacts, as compared to those that would have been likely under the original project design. However, we note that we have not yet completed formal consultation pursuant to section 7 of the Endangered Species Act and additional conservation measures may be needed

to protect listed species. Finally, the EA should include a description of these measures and a map showing the public where these measures will occur.

Page 93, Potential Direct Effects of Proposed Action on Seabeach Amaranth. The first sentence of this section documents that the “proposed activities would cause short-term impacts to seabeach amaranth by directly covering the seeds or plants.” In the same paragraph, last sentence, the DEA states that there will be “no effect” to this species due to “measures...taken to minimize access...” First, the FWS does not concur that the burial of the seed bank and individual plants by large amounts of dredged material is likely to be a short term effect. Second, while we commend the Corps for minimizing these effects, it does not result in “no effect.” We recommend that the Corps reevaluate this determination.

Page 94. We recommend that the EA include justification for the statement that construction of the project is “likely to increase overall habitat suitability for seabeach amaranth.”

Page 96, Section 4.3.2 Cumulative Impacts. The DEA states that “studies indicate that borrow area and sand placement areas re-colonize shortly after construction activities are completed”. We recommend that the EA include the citations for these studies and include a discussion, with citations, on which species are likely to re-colonize these areas (native flora and fauna vs. non-native exotic species).

Page 97, Measures to Minimize Cumulative Impacts. The FWS does not concur with the Corps’ conclusion that the proposed project will provide long-term protection of “potential” habitat for listed species.

Page 97 Cumulative Impacts of the No Action Alternative. This section is limited to one paragraph which is confusing and appears to be contradictory. The first sentence states that “the use of the nearshore and offshore borrow areas...could have a cumulative impact on these resources,” though it does not describe which resources to which it is referring. The rest of the paragraph states that there will be no cumulative impacts. The EA should contain a robust analysis of each resource that may suffer cumulative impacts from this and similar projects, citing peer reviewed scientific literature to support and illustrate the Corps’ conclusions.

Page 98 - 99. Regarding bullet 5 on page 98, we recommend that the EA explain what “adaptively manage” (the habitats) will entail. We recommend that the EA include an adaptive management plan to be developed in coordination with the FWS. We also note that the DEA does not address potential impacts to piping plovers and seabeach amaranth from recreation during the breeding season.

The official start date of the consultation between the Corps and the FWS pursuant to section 7 of the Endangered Species Act was March 5, 2014, not February 28, 2014. Please revise to correct (p. 99, line 1).

Literature Cited

Cohen, J. B., Houghton, L.M., and J. D. Fraser. 2009. Piping plover nesting density and reproductive success in response to storm and human-created habitat changes. *Wildlife Monographs* 173.

Susan P. Elias, S.P., Fraser, J.D., and P. A. Buckley. 2000. Piping Plover Brood Foraging Ecology on New York Barrier Islands. *Journal of Wildlife Management*, Vol. 64, No. 2 , pp. 346-354

U.S. Fish and Wildlife Service. 1996. Piping Plover (*Charadrius melodus*), Atlantic Coast Population, Revised Recovery Plan, Hadley, Massachusetts. 258 pp.

Wilcox, L. 1959. A twenty year banding study of the piping plover. *Auk* 76: 129-152.

Loefering, J.P., and J.D. Fraser. 1995. Factors affecting chick survival in different brood-rearing habitats. *Journal of Wildlife Management* 59(4): 646-655.

Virginia Polytechnic and State University. 2013. Annual Report 2013: Response of Piping Plover and their Invertebrate Prey to Habitats Created by Hurricane Sandy. Draft report submitted to U.S. Fish and Wildlife Service and U.S. Army Corp of Engineers. Virginia Tech Department of Fish and Wildlife Conservation, Blacksburg, VA. 41 pp.

Stilwell, D.A., Field Supervisor, New York Field Office, U.S. Fish and Wildlife Service. Letter to Colonel Paul E. Owen, District Engineer, U.S. Army Corps of Engineers, New York District. March 21, 2013.

Stilwell, D.A., Field Supervisor, U.S. Fish and Wildlife Service, New York Field Office. Letter to Colonel Paul E. Owen, District Engineer, U.S. Army Corps of Engineers, New York District. June 19, 2013.

U.S. GEOLOGICAL SURVEY

This is a technical review of the FIMI DEA and the HSLRR by Drs. Cheryl Hapke and William Schwab. The DEA and HSLRR were released for public comment on 17 March 2014. The DEA is a revised version of the preliminary version previously reviewed by the USGS. In addition to the review transmitted to the Corps by Interior, the USGS technical review team had several detailed conversations with the Corps about specific scientific and technical issues.

In keeping with the topical format of the previous review on the preliminary DEA, our comments are divided into major subtopics. We are more than willing to continue to discuss or further explain our comments with the Corps if additional input is requested.

Fire Island Inlet to Moriches Inlet Stabilization Project Draft Environmental Assessment

Overview

The revised DEA is substantially improved over the preliminary draft in terms of the technical writing, the incorporation of some of the more recent science, and response to a number of comments made on the previous version. We recognize that these revisions were completed in a short time frame and commend the Corps for addressing some of the major issues we identified in the previous draft.

However, additional information and revision is needed to ensure that the most current fundamental science of barrier island evolution and dynamics is correctly presented; i.e., processes that are fundamental to the justification of the proposed project. To some degree the revised DEA has a decreased level of detail compared to the previous version; instead of making recommended changes, sections in question were removed. If this information is to be found in the Appendices or the LRR it should be referenced appropriately within the body of the EA so readers can locate supportive information.

A primary concern remaining with the DEA is that nowhere in the text are there solid definitions of what the level of the hazard is and how much the proposed project will mitigate these hazards. In addition, the DEA does not adequately address the fact that breaching and overwash, presented as the hazardous conditions that the project is designed to mitigate, are also fundamental coastal processes critical to long-term barrier island resilience and are thus essential to the integrity of the physical system and unique ecotype.

Evolution of the Fire Island Coastal System

The description of the evolution of Fire Island and the coastal sediment budget is vastly improved from the preliminary DEA. This includes the recognition that an important component of the coastal sediment budget is derived from erosion of the inner continental shelf. However, there remain a number of incorrect statements and inconsistencies that should be reconciled in the EA.

Fire Island was not directly “*formed due to retreat of Pleistocene continental glaciers*” as currently stated in the DEA. It was formed as a result of marine transgression of the Pleistocene post-Glacial landscape. Although it is true that there have been several theories proposed regarding the migration of the barrier island (Sanders and Kumar, 1975; and Rampino and Sanders, 1981) more recent marine geologic mapping (Foster et al, 1999 and Schwab et al., 2000) did not detect evidence of a drowned barrier that would exist if the earlier theories were correct. It is not known when the present barrier island actually formed, nor if the eastern segment has been migrating landward for 2000 years. Current science indicates that the eastern segment has been migrating landward for the past several hundred years, and the geomorphology of the system supports this (marsh platforms formed on historical overwash deposits). Although the barrier island has changed shape and form as evidenced from historical maps, the maps are not of sufficient resolution to determine if the area or volume of the subaerial component of the barrier island has or has not changed.

The DEA still contains information that is relevant to FIMP, not to FIMI. For example, the DEA states that that Shinnecock Inlet is in the study area. The inlets in the study area are Moriches, Fire Island and the Wilderness breach.

Stabilization

A recurring (and important) issue in both this version and the preliminary DEA is that the plan does not specifically identify what hazards the proposed project is attempting to mitigate and what level of protection will be offered by the project upon completion. This was pointed out in the previous review:

“It is critical that the FIMI plan specifically identify what hazards the proposed project is attempting to mitigate and what level of protection will be offered by the project upon completion. The draft plan suggests that the primary function of the project is to proactively stop island breaching and overwash and mitigate potential erosion.”

The revised draft does discuss that the project is designed to protect oceanfront structures, although it is downplayed over the purpose to reduce the flooding hazard on the mainland by inhibiting overwash and breaching. Overwash and breaching are key, critical processes that result in long-term resiliency of the barrier island and maintenance of the ecotype unique to a barrier island, and therefore slowing or stopping these processes does not lead to stabilization of the island; unless the plan intends to include a long-term maintenance program not specified in the current DEA.

Shoreline Processes

The DEA outlines that the proposed project will place advance fill with the volume of fill based on representative erosion rates. Throughout the DEA it is either not clear what historical coastal change data is being used, or why more comprehensive, recent published coastal change analyses are not incorporated. This was pointed out in our previous review along with providing references to these studies, but our comments were not addressed in the current DEA. In the HSLRR, the Gravens et al. (1999) report appears to be the source of the historical coastal change

analysis used in the DEA. If so, the rates of shoreline change referenced in the DEA are not the most current, published rates, which provide dramatically different results than that reported by Gravens et al. (1999). It is not clear in the DEA what the representative shoreline-change rates are for the different segments of the island or how the proposed project fill volume was calculated. Additionally, the DEA states that under the No Action Plan continued erosion could result in changes to the shoreline and geomorphic characteristics of Fire Island; *“the shoreline would be expected to recede at its average pre-nourishment rate of 1.5 ft/yr overall with higher erosion rates in the hot spot regions”*. As pointed out in our previous review, recent publications indicate that the average island erosion rate is substantially less, -0.3 ft/yr, and the only area undergoing sustained shoreline erosion (island migration landward) is the eastern reach of the island.

There is no evidence in the long-term record of progressive dune and shoreline retreat in either the western or central segments of Fire Island (Schwab et al, 2013; Lentz et al, 2013). The latest historical shoreline analysis, which includes data for 33 shorelines from 1933 to present, shows that erosion (landward migration of the island) only occurs in eastern segment of the island. There is no data presented in the DEA to support the claim of an increased possibility of breach and overwash in the western segment of the island, including the community areas, and the most recent long-term shoreline change analyses do not support the western-migrating, erosion hot spots that are described in the DEA. The plan states that under No Action, erosion would continue which would result in reduced beach frontage. This generalization should not, however, be applied to the relatively stable central and western segments of the island. There is also a suggestion related to shoreline processes that is reinforced throughout the DEA that under No Action, low-lying areas on the mainland *“would experience increased flooding and tidal surges from storm events”*. Current science does not support this, and it would require the opening of a substantially large inlet. The EA should include the assumptions underlying this statement, with references.

In regards to the cumulative impact assessment of nourishment projects, the plan lists a number of projects along southern Long Island – these areas are engineered/managed shorelines and not comparable to Fire Island which includes a National Park and Federal Wilderness Area.

Breaching and Overwash

Changes have been made to the DEA that explicitly state that the purpose of the project is to decrease the potential for overwash and breaching. However the DEA does not address what level of protection will be offered by the project upon completion, nor does it separate the processes of overwash from breaching. Overwash on Fire Island does not typically extend across the width of the island, with the exception of limited very narrow sections. During Sandy, the only areas where overwash extended to the bay were confined to the eastern 8 miles of the island. The process of overwash results in decreasing the elevation of the foredune while at the same time increasing the elevation of the island interior. Breaching, on the other hand is a surge or flood channel cut through a barrier island whereby water is exchanged between bay and ocean throughout the full tidal cycle. A large enough breach has the potential to increase the tidal range in the bay; overwash does not.

Vulnerability to overwash is different from vulnerability to breaching and should be clarified in the EA. The EA should also include a discussion on the post-Sandy recovery of the berm, evidence that the beach is rebuilding. This natural recovery of the berm will provide protection from overwash during lesser (nor'easter) storms. As evidence, there was no recorded overwash or additional breaching in the winter following Sandy even though the system was impacted by numerous large nor'easters.

The potential for development of a large inlet that will result in an increased level of mainland flooding and wave impact hazards remain overstated in the DEA. The plan continues to emphasize that mainland flooding is caused by breaching of the barrier system. Suggestions are made that breaching associated with the hurricane of 1938, other historical storms (e.g., Ash Wednesday), and Hurricane Sandy, resulted in flooding of the mainland coast. The EA should provide data that supports this premise. The mainland will continue to flood during major storms (storm surge) via the existing engineered inlets (navigation channels) whether or not dunes and beaches are built on Fire Island, and additional breaches will not increase the flooding hazard of mainland areas due to storm surge.

A major breach could, however, result in increased wave energy and tidal surge on the mainland coast, although there is limited historical precedence to support this scenario. A brief discussion of the hydrodynamics and hydrology of Fire Island is presented in the HSLRR describing the damping effects that Fire Island provides to tidal range. Considering that variation of the flooding hazard in the bay is directly related to tidal water exchange through the existing inlets and potential future large breaches, we strongly suggest that this discussion be clearly presented in the EA. Please note that there is something amiss with the values used in this discussion in the DEA, in that the open ocean tidal range off Fire Island Inlet is ~20 cm greater than off Moriches Inlet. These values reflect open ocean conditions and thus should be identical. Considering that flooding hazard in the bay is directly related to water exchange through the existing inlets and potential future breaching we suggest that this discussion be corrected presented in the EA. The specific storm scenarios and flooding hazards that the project will provide protection for should be detailed in the EA, rather than making generalized statements that storms will increase the flooding hazard.

As in the previous draft, island breaching and overwash are primarily described in the DEA as negative processes that cause damage and/or are hazardous. The DEA continues to overemphasize the linkage of breaching to mainland flooding hazard, the "impact" of breaching on littoral processes, on marsh development, etc. These statements are inconsistent with the current state of knowledge, and argue that breaching and overwash are damaging to an ecosystem or species that depends on these same processes for the formation/maintenance of critical habitat. In recent discussions, we are pleased to note agreement with the Corps on the need to present a balanced discussion in the EA that weighs the pros and cons of mitigating the dynamic nature of Fire Island in the justification of the proposed FIMI project.

References to the Breach Contingency Plan (BCP) in the EA should recognize that the BCP is presently in draft form and that the NPS has received funds to prepare a NEPA analysis to inform future breach management decisions at Fire Island.

Storms

The DEA uses very generalized terms when referring to storms and should be more specific when describing what level of storm(s) this project is designed to mitigate. As described above, large historic storms that induced breaching are incorrectly used to link breaching to an increased flooding hazard of the mainland. The plan states that under the No Action plan, a large storm will likely result in major damage to structures and human safety. We recommend that the EA include clarification of what, specifically, constitutes a “large” storm and to what level the proposed FIMI will mitigate these damages. For example, the numerous large nor’easters since Hurricane Sandy have not resulted in major “damage”, nor have they increased the flooding hazard on the mainland. It remains unclear throughout the DEA whether the “major damage” is associated with the island, the mainland, or both, and from what size storm the FIMI will provide protection.

FIMI Project Plan

Offshore Sand Sources

The DEA acknowledges that erosion of the inner shelf is a fundamental component of the coastal sediment budget. The DEA also indirectly recognizes the potential of impacting future beach behavior via modification of the inner shelf/shoreface morphology. We commend that the Corps is recognizing our comments that the shelf topography likely influences beach behavior. However, it remains unclear how mining the eastern half of the ridges will minimize possible changes in shoreline behavior. The Appendix does not appear to include a detailed plan to monitor the borrow sites and wave forcing after the dredging. This should be presented in the EA, or minimally there should be a reference to the appropriate sections of the Appendix where this information can be found.

The DEA states that given the large volumes of sand available on the inner shelf, the mining of the sand ridge will not impact the morphodynamics of the shoreline. However, there is no justification for this assessment, which should be addressed in the EA. Although the volume of sand required for the project may be small compared with the available volumes on the inner shelf, the issue is the alteration of the morphology of the seafloor and how this will impact the wave energy reaching the shoreline.

Coastal Morphology

The following text was included in our previous review of the DEA but it is unclear if or how the comments have been addressed:

“Recent research on the morphology of the beaches and dunes on Fire Island clearly shows that the long-term beach profile morphology varies along the island (Lentz et al. 2013). The eastern segment is consistently steeper and data indicate conservation of the profile volume with landward translation. The central and western segments of the island display a more dissipative profile (less steep and more variable over time in

position and elevation). Constructed beaches and dunes are likely to be more resilient or sustainable if they mimic the natural morphology.”

We suggest that the EA include a discussion on why this was not considered or chosen. It would also be useful to provide details on how the dune alignment will be constructed in order to mimic the natural system.

The suggestions for consideration of altered beach-fill designs should be addressed in the final EA and could be part of an adaptive management strategy.

Existing Conditions

The revised DEA does acknowledge that the system has undergone some natural recovery since Sandy. However, this has not changed the proposed construction volumes, placements or design templates.

Post-Project Monitoring

There has been some information on monitoring added to the DEA and a brief discussion is provided in the HSLRR but both lack detail. Perhaps detailed information on a monitoring plan is not appropriate for the EA, but should be included in the HSLRR or Appendices and referenced in the final FIMI plan. This program should include monitoring of borrow sites and potential impact on beach behavior to develop thresholds to implement adaptive management strategies, monitoring of bay water levels for evaluation of flooding hazards and further development of the BCP, and biologic monitoring.

Impacts on Ecosystems

The FIMI plan includes a number of statements that the proposed project will be beneficial to the ecosystem in the project area and will provide protection or benefit in ways that are not accurate. Overwash and breaching are fundamental processes that maintain the long-term resiliency of the barrier island. They produce and increase habitat for endangered species and provide the foundation for the establishment of future habitat. In addition, open breach conditions improve water quality in the bay through enhanced circulation and periodic flushing of the system. The unique barrier-island ecosystem exists because of these processes.

Summary

The USGS review team again believes the draft FIMI plan has a number of areas where it can be improved by correcting inaccurate statements, adding specific details, citing and incorporating results from recent published works, and verifying statements with background information. We feel that addressing our concerns and suggestions will make the plan more sound. We are willing to continue to work with the Corps FIMI team to clarify any questions about our review.

Fire Island Inlet to Moriches Inlet Stabilization Project HSLRR

The following comments and suggestions do not represent a comprehensive technical review of the HSLRR due to time constraints. The items presented below provide some comment and specific areas that were identified in a brief overview assessment of the document.

The HSLRR continues to state that Fire Island is “*particularly vulnerable to overwash and breaching*” due to Sandy impact. As pointed out in previous reviews, although parts of the island are more vulnerable to overwash due to the lowered height of dunes, this does not necessarily mean that the island is more vulnerable to breaching. No data is presented to support the claim of an increased possibility of breaching and overwash in the community areas. The document does not address that only the eastern segment of Fire Island is erosional and historically more susceptible to breaching. The report continues to use outdated historical shoreline change analyses.

Specific Comments

Page 17. The statement that Fire Island protects mainland and leeward side of the island from “*elevated storm waters*” is not accurate. The island damps the tidal range. This is not the same as storm surge.

Page 18. Page 18 includes the following statement:

“Breaches that remain open and become new inlets have the greatest influence on sediment transport dynamics by redirecting/trapping longshore sediment transport into ebb and floods during the period the breach remains open.”

This statement is true in the short-term, but not in the long-term. The process of opening-migration-closing of inlets is fundamental to the long-term resiliency of barrier islands; this is not mentioned.

Page 19, Shoreline Changes. This section references Gravens et al. (1999) report which does not take into account more recent, robust, state-of-the-knowledge historical shoreline change studies. The Gravens et al. (1999) report does not provide a current understanding of the system. We believe that Gravens used end-point rates methodology to calculate erosion rates. A linear regression for similar time periods to those used by the Gravens report gives dramatically different results. This was pointed out in our review of the FIMP in 2009.

Page 22, Hydrodynamics and Hydrology. The discussion of hydrodynamics and hydrology is fundamentally flawed. Although the section attempts to correctly describe the damping effects of Fire Island on tidal range (where the tidal range is lower in Great South Bay and Moriches Bay in comparison to ocean conditions), the tidal range given for the ocean end of Fire Island Inlet is ~4.3 feet while the tidal range at the ocean end of Moriches Inlet is ~3.6 ft. This ~20 cm difference is not possible, in that the ocean tidal range should be the same off both inlets. This in turn raises questions regarding the input parameters for the modeling of breach-induced flooding hazards to the mainland areas.

Page 28. A stated goal of the WOPFC is to “*choose the most likely future scenario (not the only future scenario), based upon reasoned, documentable forecasting*”. If the report follows this goal, small breaches along the eastern segment of Fire Island that close naturally should be the primary scenario based on historical behavior. On the contrary the report assumes that once formed, a breach grows and/or migrates westward while increasing the flooding hazard on the mainland and bayside of the island.

Page 30. Paragraph 1, first sentence, should be should be revised/qualified to make clear that storms do not “produce tides” but may affect tidal ranges. This paragraph also states that “*mainland flooding along Great South and Moriches Bays is intensified when Fire Island is breached or overwashed*”. If a breach is large enough, then the tidal range could indeed increase in the bay. If a significant portion of the island is submerged and/or a large breach(es) occurs during a storm, the *rate* of storm-induced mainland flooding could increase, but not the *magnitude* as long as Fire Island and Moriches Inlets remain open as conduits of ocean bay water exchange.

Page 30, Section 5.1.3. The report lists the physical impacts of a breach or severe overwash (not defined what “severe” refers to) as:

- *Increase in bay tide levels.* This is true if the breach becomes large enough to expose the bayshore to open ocean conditions.
- *Increase in bay storm tide levels.* We are not familiar with the phrase “bay storm tide.” This may refer to the scenario that storm-surge will increase due to a breach. However, bayshore flooding from storm surge occurs via the existing managed inlets regardless of the existence of a new breach or not. We recommend that this be revised in the final HSLRR.
- *Changes in bay circulation patterns, residence times, and salinity.* This is true for breaches, but not overwash. Overwash on Fire Island does not typically extend across the width of the island (even during Sandy), with the exception of limited narrow sections of eastern Fire Island
- *Increase in sediment shoaling in navigation channels and shellfish areas.* This situation could happen, but it would have to be a major breach.
- *Increased transport and deposition of sediment to bay.* This is true.

Page 31, Section 5.1.4. The report states that “*The presence of the barrier island reduces widespread inundation of low lying areas on the mainland.*” This statement should be qualified in the final HSLRR to acknowledge that the island only dampens the tidal range, not the storm surge as long as the managed inlets remain open. This section also includes the incorrect statement that “*This attenuation of ocean surges becomes less pronounced for larger events which overwash and breach the barrier island.*”

Page 33. “*In general when a breach occurs, flood elevations and damages in the back-bay and mainland increase*”. Hurricane Sandy recorded the highest storm surge in history (Battery Park tide gauge) and formed 2 new inlets on Fire Island; one remains open into Great South Bay. Baywater level data observed during subsequent nor’easters is the same following Sandy as it was prior to the storm and formation of the new breach; the breach had no effect on subsequent

storm surge and is not large enough to increase the tidal range of the bay. We recommend revising this statement for the final LRR.

Page 35. The storm response was modeled using SBEACH to calculate beach profile changes for a range of storm events. It is not possible to evaluate the results when observations of physical processes/properties are not presented to verify the model results. There is an overall lack of observations of physical processes offshore of Fire Island and in the back bay areas. SBEACH is highly empirical and requires strong calibration to determine appropriate profile change rates. Additionally, it is based on an equilibrium profile assumption that does not account for controls due to geologic framework restrictions on shoreface progradation. As such, limitations (error analysis) and assumptions for use of the model should be included in the final HSLRR.

Page 38. The report presents an overview of the results of modeling, but again, there are limited specifics to what models were used, what the input parameters were, how the model results were validated, etc. In addition, the final LRR should include a discussion of the damage assessment using the probability that a breach will likely close naturally. The USGS is beginning a comprehensive hydrodynamic and morphodynamic evolution model of the breach. The results will provide a fully calibrated hydrodynamic model of the Fire Island and Great South Bay region that will examine the conditions that lead to the formation of the breach. Using the hydrodynamic results as boundary conditions, a longer-term morphodynamic model will be developed to hindcast the morphologic evolution of the breach. The objective of the modeling is to reproduce the documented evolution of the existing breach (using available field data) and determine the most feasible representation of waves that result in closure of the breach. One of the goals of this effort is to develop tools for application to breach processes that can help inform management decisions concerning future breaches at Fire Island and elsewhere. This could be added to discussion of breach processes described in the HSLRR to emphasize collaboration between DOI and the Corps.

Page 39. The future vulnerable condition (FVC) was developed based on historic erosion rates (Gravens et al, 1999), which we have shown are outdated.

Page 39. The final LRR should be clear as to what data was used in simulated storms, and include a discussion of how the hurricane Sandy impact verified these model results. If verification of the model results did not or has not taken place, this need or limitation should be acknowledged in the final LRR and referenced in the EA.

Page 44. The report projects changes to the project in the case of an increasing rate of sea level rise. A rate of 1.3 feet (40 cm) in 50 yrs is used, which we believe is an intermediate value. In the discussion it is acknowledged that increases of sea level up to 2.7 feet (80 cm) over 50 years are possible but are not evaluated because *“This increase is so large that it is unlikely that the analysis framework we have established would predict accurate results”*. This increase in sea level is closer to what should be expected in 75-80 yrs. This may have implications for the report; limitations and assumptions should be included in the final LRR and referenced in the EA. In addition, FIMI is designed to inhibit the ability of the island to migrate landward in

response to sea level. Thus, how FIMI would impact this process should be discussed in the final LRR.

Page 53. This page includes additional statements that the island is more vulnerable to breaching and the potential for devastating storm-damage to shore and back-bay communities. However, there is a need for the discussion to include the limitation of FIMI; e.g., the level of flooding in meters that will be prevented.

Page 54. The quotes of volume loss due to Sandy should be qualified by mention of the substantial post-storm recovery of beach.

Page 63. The fill volume is 5.34M cubic meters. This is ~4x larger than previous beach nourishment projects; 2009 (1.39 M cubic meters); 1994 (1.03M cubic meters); 1993 (0.56M cubic meters). To give another example of the magnitude of this effort, between 1933 and 1989, Gravens et al (1999) estimates that 5.27M cubic meters of beachfill was placed along Fire Island. The FIMI project proposes to do this in 2 years. Thus, any indication that this is a relatively small placement should be avoided or explained in context with historical nourishment activities.

Page 69. The report uses historical breach observations in Great South and Moriches Bay to speculate appropriate breach growth rates for model input. The final LRR should include details on these historic observations.

Page 72, Table 10. The Benefits analysis (Breach) appears to assume that once formed a breach will grow. We do not concur with this broad assumption, and recommend that it be qualified in the final LRR. We also note that this Table, which presents the “residual” with-project damages, appears to reflect over 90% of the without project damages for mainland inundation. In the final LRR, the discussion on Table 10 should break out how much of the residual damages are due to the maintained inlets.

Appendix E - Borrow Area Plan. The Appendix reports that shoreline change modeling was used on the existing bathymetry and a post-dredge hypothetical bathymetry and found that mining the sand will not impact the downdrift shoreline. It is not possible to evaluate these modeling results, in that specifics of the modeling are not provided. RCPWAVE is used as the wave model input into GENESIS to evaluate shoreline change. Although there are more modern modeling approaches available today, specific input parameters and verification of these older modeling results should be outlined in the final LRR and referenced in the EA.

The Corps is aware that collection of observational data on current and wave forcing are underway offshore of western Fire Island by the USGS. These data will be used in the verification of a coupled, deterministic modeling effort designed to evaluate the effect of the inner shelf morphology on wave energy impacting the shoreface of western Fire Island and processes controlling sediment transport (including the net sediment exchange between the inner shelf and shoreface). In addition, the USGS is continuing to monitor and evaluate the recovery of the shoreline and beach system, including both subaerial and submarine portions of the beach. The data will be incorporated into probabilistic framework models to help forecast future morphologic response and recovery. The data and results of the observational and modeling

efforts will be available to the Corps and should help in the cooperative development of a robust monitoring program designed to assess potential impacts of sand mining on the inner shelf and shoreline condition. This could be added to the discussion of “adaptive borrow area management” discussed in the HSLRR to emphasize collaboration between Interior and the Corps.

References

Foster, D.S., Swift, B.A., and Schwab, W.C., 1999. Stratigraphic Framework Maps of the Nearshore Area of Southern Long Island from Fire Island to Montauk Point, New York. U.S. Geological Survey Open-File Report 99-559. <http://pubs.usgs.gov/of/1999/of99-559/>.

Gravens, M. B., Rosati, J. D., and Wise, R. A., 1999. “Fire Island Inlet to Montauk Point reformulation study (FIMP): Historical and existing condition coastal processes assessment,” prepared for the U.S. Army Engineer District, New York.

Lentz, E.E., Hapke, C.J., Stockdon, H.F., Hehre, R.E., 2013. Improving understanding of near-term barrier island evolution through multi-decadal assessment of morphologic change. *Marine Geology* 337, 125-139.

Rampino, M. and Sanders, J., 1981: “Evolution of the Barrier Islands of Southern Long Island, New York,” *Sedimentary*, Vol. 28, pp. 37-47.

Sanders, J. and Kumar, N., 1975: “Evidence of Shoreface Retreat and In-Place ‘Drowning’ During Holocene Submergence of Barriers, Shelf Off Fire Island, New York,” *Geological Society of America Bulletin*, Vol. 86, pp. 65-76.

Schwab, W.C., Baldwin, W.E., Hapke, C.J., Lentz, E.E., Gayes, P.T., Denny, J.F., List, J.H., and Warner, J.C., 2013. Geologic evidence for onshore sediment transport from the inner-continental shelf: Fire Island, New York. *Journal of Coastal Research* 29(3), 536-544.

Schwab, W., Thieler, R., Allen, J., Foster, D., Swift, A., and Denny, F., 2000: “Influence of Inner-Continental Shelf Geologic Framework on the Evolution and Behavior of the Barrier-Island System Between Fire Island Inlet and Shinnecock Inlet, Long Island, New York,” *Journal of Coastal Research*, Vol. 16, No. 2, pp. 408-422.



United States Department of the Interior

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January 24, 2014

9043.1
ER 14/0024

Colonel Paul E. Owen
District Engineer
U.S. Army Corps of Engineers
26 Federal Plaza
New York, New York 10278

Dear Colonel Owen:

On behalf of the Department of the Interior's (Interior) team, including the National Park Service (NPS), U.S. Fish and Wildlife Service (FWS), U.S. Geological Survey (USGS) and the Office of Environmental Policy and Compliance (OEPC), I am conveying Interior's collective comments and suggestions on the preliminary internal draft Environmental Assessment for the Fire Island to Moriches Inlet, Fire Island Stabilization Project, New York (draft EA, or Project). The draft EA was provided to Interior on December 16, following interagency team meetings on September 11 and December 6.

Considerable information and suggestions have been exchanged between individuals of our respective agencies on the proposed Project, including initiation of the consultation process under Section 7 of the Endangered Species Act. It appears that some of the recommendations made in these exchanges, including from the December 18, 2013, ESA meeting, could not be incorporated in the preliminary draft EA prior to its distribution and this review. Consequently, we are providing our comments on this draft EA as it is currently presented.

Input from the Interior's Bureaus is set forth below, and includes both general and page specific input. You will note that there are issues or information needs common to NPS, USGS, and FWS as well as those specific to those agencies respective expertise and responsibilities. Certain points or information needs from that input, several of which were identified in our September 2013 meeting, are itemized immediately below followed by more specific comments by Interior Bureaus.

- A Finding of No Significant Impact based on the sole action alternative identified in the EA (Beach Alternative), its geographic extent, potential environmental impacts, cost, real

estate acquisitions and easements, volumes of sand, and borrow area impacts may need additional justification.

- The Alternatives section should be expanded beyond the Beach Alternative, and include additional justification and supporting analyses. This would include alternatives that could meet the Finding of No Significant Impact threshold. Several suggestions are included herein, and have been conveyed to U.S. Army Corps of Engineers (Corps) New York District staff.
- It would be useful to explain how the proposed Project will not conflict with or presuppose the outcome of the Fire Island to Montauk Point Reformulation Study (FIMP). The real estate acquisitions and easements for the Project, for example, are not interim in nature. Alternatives of lesser scope and magnitude should also be considered.
- The purpose and need statement should be more fully explained and clearly present the connection between the current risk of breaching, overwashing and mainland flooding and the level of protection recommended.
- Discussion of the No Action Alternative and Affected Environment similarly will benefit from up to date science and data, including but not limited to the effects of the breach at Old Inlet on fish and wildlife resources, the barrier island, Great South Bay, Moriches Bay, and mainland areas.
- It is the responsibility of the NPS to ensure that any storm damage reduction project that takes place within the Fire Island National Seashore provide adequate protection for all natural and cultural resources. The proposed Project is located within the boundary of Fire Island National Seashore, and the NPS will need to issue a special use permit and comply with associated environmental compliance requirements to implement the Project. The need for that special use permit should be noted in the draft EA.

The following comments are intended to assist your team in designing and implementing a project that will be successful in its intended purpose, while providing protection to important natural and cultural resources.

Thank you again for the opportunity to provide input on the draft EA. We look forward to further cooperation with your team, and please let me know if I can be of assistance. I can be reached at (617) 223-8565.

Sincerely,

A handwritten signature in blue ink, appearing to read "Andrew L. Raddant", is written over a light blue rectangular background.

Andrew L. Raddant
Regional Environmental Officer

U.S. Fish and Wildlife Service

The FWS' primary focus for the Project is its effect on species protected under the Endangered Species Act (ESA). FWS has been diligently working with the Corps in an attempt to avoid and minimize adverse effects to listed species. At this point, the Corps has informed the FWS of its intention to initiate formal ESA consultation due to the likelihood that the Project, as currently proposed, will result in a "take" of the piping plover. Please note that the red knot (*Calidris canutus rufa*) has been proposed for listing and should also be addressed in this consultation, as well as the federally listed seabeach amaranth (*Amaranthus pumilus*; threatened).

We look forward to working with the Corps through the section 7 of the ESA consultation and await the Corps' submission of its Biological Assessment and other information as part of its section 7 initiation package. We note that Appendix D, Biological Assessment, is not included in the document provided to the FWS for review.

In the following paragraphs, we identify four broad categories that should be addressed more fully in the revised draft EA: I. Background Information and Current Science; II. Project Description and Analysis; III. NEPA; and IV. Procedural Requirements.

I. Background Information and Current Science

Coastal barriers and their associated wetlands provide essential habitat for fish and wildlife, including migratory birds and many threatened and endangered species. These areas support commercial and recreational fisheries and are enjoyed by millions of Americans every year. They create relatively low energy systems that protect our coasts and mainland communities from the full impact of hurricane force winds and storm surge. These natural storm buffers will be even more important as our nation prepares for the increased frequency and severity of coastal storms, flooding, erosion, land loss and other anticipated effects of climate change and sea-level rise (www.fws.gov/cbra).

Fire Island has characteristics of both an undeveloped and developed barrier island, as illustrated by the 17 residential communities within the Fire Island National Seashore, as well as areas of natural habitat where natural geomorphological processes occur with little to no intervention by man including lands within the Fire Island Wilderness Area, Smith Point County Park, and Robert Moses State Park. These attributes, along with the island's role as a natural protective feature for mainland communities and an area which supports regionally significant fish, wildlife, and plant species, including federally- and state listed endangered species, require that any artificial stabilization project be carefully evaluated.

We believe the No Action Alternative scenario would benefit from a discussion of the beneficial or adverse impacts of the Old Inlet breach on fish and wildlife resources, the barrier island, Great South Bay, Moriches Bay, and mainland areas. As currently written, this section stresses the potential for negative impacts of a breach on Fire Island. For a more complete analysis, we suggest the Corps coordinate with the NPS and USGS on the physical and biological studies examining the response of Great South Bay due to the breach at Old Inlet.

We recommend that the Corps supplement the draft EA with a discussion of the response of piping plovers (*Charadrius melodus*; threatened) to storm- and human- created habitats. The document would be improved by incorporating some of the more recent science related to the response of piping plovers to storm- and human- created habitats on Long Island. These studies include Elias et al. (2000), Cohen et al. (2009), Houghton (2005), and Cohen (2005). In our 2008 biological opinion on the effects of the Fire Island Community Short-term Protection Project we wrote,

“In NY, Wilcox (1959) described the effects on piping plovers from storms in 1931 and 1938 that breached the Long Island barrier islands, and formed Moriches and Shinnecock Inlets. These storms also leveled dunes across the south shore. Prior to both storms, only three to four pairs of piping plovers nested on 17 miles (mi.) of barrier beach along Moriches and Shinnecock Bays (Wilcox 1959). But, following the natural opening of Moriches Inlet in 1931, plover abundance increased to 20 pairs on 2 mi. of beach habitat over the next seven years. Then, in 1938, a hurricane opened Shinnecock Inlet and also eroded dunes along both Shinnecock and Moriches Bays. By 1941, plover abundance along the same 17 mi. of beach peaked at 64 pairs. Abundance then gradually decreased. Wilcox (1959) attributed to loss of habitat due to beach nourishment to rebuild dunes, the planting of beach grass, and the construction of roads and summer homes.

Later observations by Elias et al. (2000) found that piping plover use of ephemeral pools and bay tidal flats was greater than expected based on habitat availability. Arthropod abundances (a prey base for piping plovers), plover foraging rates, and brood survival were highest in these habitats in their study. Ephemeral pools and tidal flats produced 51 of 81 surviving broods (63 percent), although they accounted for only 12 percent of the habitat surveyed. The authors observed that these “superior habitats” were rare in their study area and that this may be due, in part, to beach development and management practices, including attempts to stabilize beaches by means of jetty construction, breach filling, and beach renourishment. They concluded that the retention of adequate high quality habitats is important to raising piping plover productivity rates to levels that will allow the species’ recovery.”

Following storm-and human-related increases in nesting and foraging habitat, the population at West Hampton Dunes, New York, grew from five pairs in 1993 to 39 pairs in 2000, and then declined to 18 pairs by 2004 concurrent with habitat losses to human development and vegetation growth (Cohen et al. 2009). Distribution of nests was heavily concentrated on the bayside of the barrier island in the early years following inlet formation and closure, but bayside nests decreased precipitously starting in 2001 and disappeared by 2004 as the study area was redeveloped and the bayside revegetated. The chick foraging rate was highest in bayside intertidal flats and in ocean and bayside fresh wrack. Chicks used the bayside more than expected based on percentage of available habitat, and survived better on the bayside before village construction and the initiation of predator trapping, but not after. In most years, density of nesting pairs adjacent to bayside overwash was 1.5 - 2 times that of an adjacent reference site, where beach nourishment increased nesting habitat but not foraging habitat. Cohen et al. (2009) concluded that local population growth can be very rapid where storms create both nesting and foraging habitat in close juxtaposition. Cohen et al. (2009) also note similarity between their

results and observations by Wilcox (1959) of rapid colonization of habitats created on Westhampton barrier beaches by storms in the 1930s and their subsequent decline following revegetation and redevelopment.

Piping plovers used new flood shoal habitats at Old Inlet for nesting and foraging in 2013. The FWS and Virginia Tech researchers also noted other migratory and breeding shorebirds utilizing this habitat upon its formation. This is consistent with other sightings and trends in newly created inlet areas. For instance, the 1993 breach at Westhampton created extensive bay side flats which were important to the piping plover and other shorebirds. Today, this site is a major shorebird stopover site, attracting birders from around Long Island and the tri-state area. It is also a horseshoe crab survey area established by the NYSDEC. Red knots use this area as a stopover during their migration to and from their wintering and summer breeding grounds. This species is proposed for listing under the ESA and we recommend that it be included in this discussion and other sections on impacts to shorebird species in the project area under the various alternative impact analyses.

Also, attention should be given to proper common and scientific names for many fish, wildlife and plant species in the document.

II. Project Description and Analysis

FWS offers the following comments on the Project description and analysis of the effects of the two alternatives as presented in the draft EA:

General Comments

We recommend that the Corps clarify the Project description to explain a number of conflicting statements in the draft EA. For example, in several places, the document references differing timelines, including a 15-year timeline, a 50-year timeline, and a five-year timeline. However, in our discussions with the Corps to date, it is our understanding that this Project is intended to be a one-time placement of sand to be maintained for a five-year period. As part of this clarification, we recommend that the Corps also provide a discussion of the duration of anticipated effects to fish and wildlife resources and their habitats that are likely to result from the proposed Project. For example, during the section 7 consultation for the 2008 Fire Island National Seashore's Short-term Community Protection Project, the project's consultant indicated that "while the design life for beach nourishment is projected to be five to six years, the anticipated duration of the effects for beach nourishment is ten years" (Coastal Planning and Engineering, 2008).

Information from the Limited Reevaluation Report on the economic justification for the proposed Beach Alternative would be useful in this regard.

Additionally, we recommend that the revised EA clarify the extent of the study area, as Section 3 includes references to Montauk Point, Shinnecock Bay and South Fork Atlantic Beaches which are outside the proposed Project area as discussed in the report. The document also refers to

multiple “interim” projects. Please describe these interim projects and explain their relationships to each other and this Project.

It would be helpful for the draft EA to explain better how the proposed Project is consistent with the larger Fire Island to Montauk Point Reformulation (FIMP) Project - Tentatively Federally Supported Plan (TFSP). For example, Section 2 of the draft EA describes as the purpose “to minimize breaching and overwash.” However, the TFSP acknowledged the importance of allowing overwash habitat to occur in appropriate places, such as those that did not front developed areas or infrastructure on the barrier island. In particular, Smith Point County Park was identified as a potential area for restoration in recent public meetings and is one of the few areas in the 83-mi. FIMP area where overwash processes could be restored.

Section 2 of the draft EA states that: “in areas where there is either an insignificant risk of breaching, no oceanfront structures, or relatively few structures (areas of low damage; e.g., Sunken Forest, Wilderness Area - West), beach fill is not proposed for this project.” However, we understand that the proposed project includes placing dunes at Smith Point County Park, an area with no oceanfront structures. It would be useful to have more information about the purpose and need for the proposed dunes in this area. Additionally, the draft EA does not address the other aspects of the overall Hurricane Sandy response. For example, additional components such as raising of houses and roads are not discussed. It would be useful to understand how all the various components are related.

We recommend that Section 3 be expanded to include a discussion about plover distribution and breeding attempts throughout the entire project area. Currently, the discussion appears limited to the lands administered by the NPS and excludes Robert Moses State Park and Smith Point County Park.

With respect to the No Action alternative, FWS does not consider overwash areas as environmentally degraded areas. These natural processes shape barrier islands and are critical for species dependent on early successional habitats. Consequently, we recommend that the Corps incorporate a discussion of the beneficial impacts to fish and wildlife resources under the No Action alternative.

Effects to Wildlife Resources

FWS agrees that animals may be displaced during an overwash event, when water and sand are actively moving across the barrier island during a storm event, but they are likely to return, sometimes quickly, to these newly formed habitats. For instance, piping plovers immediately colonized Pikes Inlet shoreline habitats on Westhampton Island in 1993 upon their arrival to their Long Island breeding grounds. The FWS recommends that the Corps explain why overwash habitat formation would be only a short-term gain. There appear to be many examples in the barrier island system where overwash habitats can persist for years. This section should also discuss that overwash habitats are preferred habitats of the piping plover, least tern, and other species. The FWS also recommends that the Corps provide a citation for the statement regarding increased rates of predation of shorebirds in overwash areas.

We disagree that breaches and overwashes may temporarily disrupt feeding patterns for shorebirds. The FWS's observations at the recently formed Old Inlet suggest that there was no such disruption in feeding patterns, but rather there was immediate formation of foraging areas. For instance, we identified shorebirds using the breach at Cupsogue County Park shortly after the breach was formed.

Effects to Species Habitat:

We recommend that the Corps discuss any physical information including water depth, current velocities, salinity, bay tidal levels, and other parameters collected in Old Inlet and Bellport Bay and the resultant changes to the back bay flood frequencies, increased potential for tidal surges, and biological resources. Preliminary reports prepared by the State University of New York at Stony Brook and USGS Water Resources Center, Coram, NY, are a source of information for the Corps to evaluate for this section. Overall, we also recommend that the Corps identify and quantify the effects of the breach at Old Inlet to the south shore of Long Island.

We recommend that the Corps discuss barrier island transgression and how that can contribute to salt marsh development under favorable back-bay hydrodynamic conditions. While the document refers to the removal of overwash deposits from wetlands areas, the FWS does not recommend removing overwash sediments from marsh areas for a number of reasons. First, overwash sediments are part of the natural process of barrier island migration and provide a source of sediment for future salt marsh development, which may be especially important in view of sea level rise. Second, these sediments may be part of a bay to ocean overwash complex that provides shorebirds and their chicks access to both the bay and ocean foraging habitats. Last, the sediments may be contributing to the natural widening of the island that could have positive effects on the storm protection capability of the island.

Additionally, the proposed Project, particularly in the undeveloped areas, may disrupt natural habitat processes, particularly cross-island transport processes. Constructing an artificial dune at Smith Point, for instance, is likely to prevent the island from migrating northward as has occurred throughout its history. The construction of an artificial dune may prevent habitats from forming, which could support, based on scientific studies and surveys, regionally important migrating and breeding shorebirds. Preventing these habitats from forming is a disruption to the barrier island ecosystem, likely resulting in lower habitat and species' diversity. With the recent plover decline throughout Long Island and at Smith Point (from 18 pairs in 2008 to 5 pairs in 2013), the FWS is concerned about the status of existing habitat and the probable prevention of future habitat formation. Where habitat is impacted or prevented from formation, we recommend that the Corps identify appropriate mitigation to address this loss.

III. NEPA Concerns

Alternatives

The draft EA only considers two alternatives, the No Action alternative and the Beach Fill alternative. The FWS has proposed several reasonable additional alternatives in our December

13, 2013, and January 9, 2014, letters. In order to fully comply with the requirements of NEPA we recommend that these alternatives be considered for inclusion in the NEPA analysis.

We recommend the Corps explain in the draft EA that even if this project did not occur, Federal actions would still continue within the proposed project area to address storm damage reduction and beach erosion, including the issuance of permits by the Corps' Regulatory Branch or the State. For example, the Corps' Regulatory Branch issued permits to the New York State Office of Parks, Recreation and Historic Preservation to rebuild the beaches at Robert Moses State Park and along Gilgo Beach and Ocean Parkway, Babylon, NY.

IV. Procedural Requirements

Prior to beginning a major Federal action, Federal agencies are required to comply with all analyses required by law, including NEPA, Endangered Species Act (ESA) of 1973, as amended; the Fish and Wildlife Coordination Act (FWCA), and others, as applicable.

FWCA

The Corps also has an obligation to obtain a Fish and Wildlife Coordination Act 2(b) Report from the FWS. We look forward to finalization of the Scope of Work which has been provided by the FWS for the funding of this report as soon as possible in order to expedite its completion.

Conclusion

The FWS looks forward to providing further technical and other assistance to the Corps and providing further comments on the revised draft EA. Upon receipt of the final and detailed Project description and Biological Assessment we will be able to fulfill our ESA and FWCA commitments.

Literature Cited:

- Coastal Planning and Engineering, Inc. 2007. Electronic Correspondence to FWS dated September 4, 2008.
- Cohen, J.B. "Factors Limiting Piping Plover Nesting Pair Density and Reproductive Output on Long Island, New York." Dissertation submitted to the faculty of the Virginia Polytechnic Institute and State University in partial fulfillment of the requirements for the degree of Doctor of Philosophy In Fisheries and Wildlife Sciences. 2005. 251 pp.
- Cohen et al. 2009. Nesting density and reproductive success of piping plovers in response to storm- and human-created habitat changes, *Wildlife Monographs* No. 173.
- Elias et al. 2000. Piping plover brood foraging ecology on the NY barrier islands, *JWM* 64: 346-354.
- Wilcox, L. 1959. A twenty year banding study of the piping plover. *Auk* 76: 129-152.

U.S. Geological Survey

Geoscientists (W.C. Schwab and C.J. Hapke) from the U.S. Geological Survey (USGS) reviewed the draft Stabilization Project EA. The focus of the review is to evaluate the baseline geologic science presented in the draft EA. We recognize that this is a draft report and our intent is that this review be used as a guide to modify and strengthen the plan prior to final release. We are more than willing to clarify any of our comments and help with future drafts.

Overview

In the draft EA there are certain assumptions that would benefit from additional clarity. The descriptions of baseline data used to justify the stabilization plan lack sufficient detail and background information on assumptions concerning coastal evolution and processes, and analytical methods are not presented or referenced. Current and existing published research related to the evolution/dynamics of the Project area is not considered, and findings presented are not fully cited. Thus, the draft EA does not provide sufficient information to conduct a rigorous scientific review, which would require the Corps to show their research or reference previous research findings. Although we have many specific comments line-by-line in the draft EA, in order to provide a timely review, here we include an overview of the major findings, deficiencies, observations, and recommendations. Considering that the final EA will be reviewed by various regulatory agencies and the general public, we urge that the following major topics of concern be addressed in the final plan.

Evolution of the Fire Island Coastal System

It is critical to clearly describe the evolution of Fire Island in order to provide the background and justification for the proposed Project. In the draft EA, the descriptions of the geologic processes that formed and continue to modify Fire Island could be more fully explained. The south shore of Long Island consists of reworked glacial outwash deposits and includes shallow back-barrier bays, marshes, and low-relief, sandy, barrier islands. Fire Island was derived from erosion of Pleistocene glacial deposits by oceanographic processes during the Holocene marine transgression. Recent research shows that the Holocene evolution of Fire Island, including its modern decadal to event-driven behavior, is linked directly to the geologic framework of the coastal system, including the inner continental shelf and shoreface (e.g., Schwab et al. 2000; 2013; Lentz and Hapke, 2011). When describing the evolution of Fire Island, the barrier island can be divided into three segments. A central segment extending approximately from Point 'O Woods to Watch Hill has been relatively stable over the past ~750 - 1000 years and is the narrowest portion of the island. The western segment, extending west of Point 'O Woods to Democrat Point, formed over the past 300-500 years as a westward prograding spit. The eastern segment, from Watch Hill to Moriches Inlet, has been migrating landward over the past several hundred years via overwash, breaching and flood tidal delta formation, and subsequent marsh accretion on the back-barrier side.

It is stated in the draft EA that the alongshore movement of sand maintains the prevailing shoreline conditions. This does not fully explain the processes controlling the coastal sediment budget of Fire Island. It is well documented that a primary component of sediment transport in

this system is directed alongshore from east to west, but discrepancies in volumetric sediment budget calculations require an additional quantity of sand (~200,000 cubic meters per year) to explain the growth of the western segment of the island (e.g., Hapke et al., 2010). Sedimentary deposits on the inner-continental shelf are likely a source of sand required to balance the coastal sediment budget (Schwab et al., 2013). These deposits are also identified as the sand resource to be mined for construction of the beaches and dunes for the proposed Project.

The description of the Holocene (modern) sediment distribution offshore of Fire Island in the draft EA is incomplete and, in places, inaccurate. For example, it is stated in the draft EA that the area is characterized by ridge and swale topography. This is only true on the inner shelf west of Watch Hill. East of Watch Hill, the modern sediment deposit is relatively thin or absent. It is also stated that there is a “seaward sloping wedge of Holocene back-barrier sediments underlying marine sands” offshore of Fire Island; in fact, Pleistocene glacial sediments are exposed on the seabed over much of the inner shelf (Foster et al. 1999; Schwab et al., 2013). The draft EA states that sand will be mined to a subsurface depth of up to ~6 m (20 ft.). Thus, it is likely that some Pleistocene glaciofluvial sediment will be used for construction of the engineered beach, as the sand ridges are on average less than 6 m in thickness. Unlike the modern sediment, this Pleistocene sediment may not be texturally equivalent to the existing beach sand.

Stabilization

It is critical that the draft EA specifically identify what hazards the proposed Project is attempting to mitigate and what level of protection will be offered by the Project upon completion. The draft EA suggests that the primary function of the Project is to proactively stop island breaching and overwash and mitigate potential erosion. It also states that the Project will “restore degraded coastal processes” although it is unclear what this actually means. The revised EA should better explain how the *processes* are degraded. In addition, the proposed Project also is designed to protect oceanfront houses and island infrastructure, yet this is deemphasized throughout the report.

Shoreline Processes

Throughout the draft EA it is not always clear what historical coastal change data is being used. We suggest that more comprehensive, recent published coastal change analyses be incorporated in to the draft EA. For example, the draft EA states that under the No Action Plan continued erosion could result in changes to the shoreline and geomorphic characteristics of Fire Island; “the shoreline would be expected to recede at its average pre-nourishment rate of 1.5 ft/yr overall with higher erosion rates in the hot spot regions such as Davis Park, Ocean Bay Park, and Western Fire Island” and “could lead to increased risk of overwash and breach in one or more of the community areas”. However, current shoreline change analyses (e.g., Hapke et al., 2013; Schwab et al., 2013) using 50 shorelines spanning 80 years (1933 to 2013) indicate that only the eastern segment of the island can be described as erosional, with an average shoreline change rate of approximately -0.7 m/yr (-2.3 ft/yr). Recent research (Lentz et al., 2013) also shows that the beaches and dunes along this segment of Fire Island are maintaining their profile while migrating landward (northward). The central segment of the island has accreted slightly over the

80-year time period of the shoreline change analysis, and the western segment is more variable with a net shoreline change rate of essentially zero.

There is no evidence in the long-term record of progressive dune and shoreline retreat in either the western or central segments of Fire Island. There is no data presented in the current draft EA to support the claim of increased possibility of breach and overwash in the community areas, and the most recent long-term shoreline change analyses do not support the erosion hot spots that are described in the draft EA. It is critical that the assumptions made in the revised EA be supported by appropriate data and analyses, as reflected in published scientific literature. In addition, there should be an explanation presented for why the Project proposes to engineer coastal areas that the most current research demonstrates are stable.

Breaching and Overwash

Throughout the draft EA, island breaching and overwash are described as negative processes that cause damage and/or are hazardous. The draft EA emphasizes the linkage of breaching to mainland flooding hazard, the impact of breaching on littoral processes, on marsh development, etc., but does not acknowledge the beneficial aspects of overwash and breaching. Overwash and the opening and closing of inlets only impact littoral processes in the short term and are critical to the long-term resiliency of barrier islands; these are the fundamental natural processes that allow a barrier island to migrate landward in response to sea level rise and increased storminess. The report states that Fire Island is increasingly vulnerable to breaching and overwash. However, Table 9 shows that the majority of the communities have a low or moderate risk of breaching. Historically, breaches have only occurred in the eastern segment of Fire Island (Schwab et al., 2000 and references therein). The inlets that have formed have closed naturally, and overall were relatively short lived, with the exception of Moriches and Shinnecock Federal Navigation Inlets which were engineered to remain open as navigation channels. In fact, considering that Fire Island, Moriches, and Shinnecock Inlets are engineered to remain open, it is unlikely that the limited tidal prism of the system could maintain an additional large inlet over an extended period of time. Ongoing USGS monitoring of bay water levels since the 2012 breach at Old Inlet has shown no evidence of increased water levels on the bay shore with the open-inlet condition, and thus, no increased flooding hazard. Statements are made in the draft EA report that breaches that formed during the 1938 hurricane caused increased water levels and flooding on the mainland, however, there is no way to determine that these breaches were responsible for this mainland flooding.

In the view of the USGS, the potential for development of a large inlet that will result in an increased level of mainland flooding and wave impact are overstated in the present draft EA. Flooding of the mainland during severe storms will continue to occur via the existing stabilized inlets regardless of whether the proposed Project is completed or not. This needs to be clarified in the final EA.

Storms

Throughout the draft EA, the term “catastrophic event” continues to be mentioned, but is not defined. It is critical that the revised EA include a discussion on the limits of protection this

proposed project can offer. For example, how will the proposed Project reduce the impact of a storm similar to Hurricane Sandy? Also, when discussing impacts of past storm events on Fire Island, the draft EA plan incorrectly refers to Hurricane Irene as a destructive event. Field and remotely sensed data have demonstrated that Irene was largely a constructional event at Fire Island. Erosion of the foreshore did occur, but there was widespread deposition of sand on the upper portion of the beach.

Stabilization Project Plan

Offshore Sand Sources

The draft EA outlines the need for large volumes of beach-compatible sand that will be mined from the inner-continental shelf yet the report provides little detail concerning the offshore borrow areas, including how the areas will be mined, how the mined pits are likely to evolve over time, and what potential effect the mining will have on longer-term coastal processes, etc. The report states that there is 18 billion cubic yards of sand in the offshore ridge and swale system. It is not clear how this estimated volume was derived and it appears to be high unless Pleistocene-age glacial deposits are included as a potential aggregate resource. Recent mapping indicates that there is ~1 billion cubic meters of modern sand within 10 km of the shoreline between Fire Island Inlet and Montauk Point (Foster et al., 1999). The estimated amount of sediment required for the Project is listed as ~4.7 million cubic yards (3.6 million cubic meters) in the draft EA and ~7 million cubic yards (5.3 million cubic meters) in the Attachments. Regardless of which is the correct estimate, this would make the proposed Project by far the largest beach nourishment project ever conducted on Fire Island (see review of past nourishment activities in Lentz et al., 2013). The draft EA suggests that the offshore dredge pits could be up to ~6 m (20 ft) deep. Remnants of past, smaller mining activities (2009, 2004, 1997, and 1994) can still be seen in high-resolution bathymetry of the inner continental shelf. Considering the large size of this proposed project, statements such as “removal of such small quantities in the borrow areas on sand ridges on the shoreface would not impact the morphodynamic system that occurs along Fire Island” requires additional discussion on modeling results (the physics of sand ridge formation and maintenance) and/or published reports that support this statement. This level of mining (and future mining) will change the topography of the shelf significantly and is expected to have an impact on long-term coastal behavior.

Coastal Morphology

Recent research on the morphology of the beaches and dunes on Fire Island clearly shows that the long-term beach profile morphology varies along the island (Lentz et al. 2013). The eastern segment is consistently steeper and data indicate conservation of the profile volume with landward translation. The central and western segments of the island display a more dissipative profile (less steep and more variable over time in position and elevation). Constructed beaches and dunes are likely to be more resilient or sustainable if they mimic the natural morphology. However, the draft EA does not appear to consider this in the construction design. We suggest that the revised EA include a discussion on why this was not considered or chosen. It would also be useful to provide details on how the dune alignment will be constructed in order to mimic the natural system.

Existing Conditions

Throughout the draft EA there is reference to the extremely eroded, and thus vulnerable, state of the beaches and dunes. Immediately after Sandy, and for the winter months following Sandy, the beach was at extremely low elevations and the dune leveled along ~50% of the barrier island (Hapke et al., 2013). However, continued monitoring by the USGS has shown substantial recovery of the beach and berm. This post-storm recovery does not appear to be considered in the design plans or in the justification for the project. It is of critical importance for the revised EA to identify what data set is considered the “existing condition”.

Post-Project Monitoring

Considering the unprecedented size of this proposed project, which will significantly alter the natural beach morphology, we could find no mention in the draft EA of follow-up monitoring of the subaerial and submerged components of the coastal system and/or maintenance programs of the engineered beach. Observational data on coastal change behavior post-Project would be critical for adaptive management of this coastal area if a longer project is ever implemented (e.g., the FIMP) and should be addressed in the revised EA.

Summary

The USGS review team suggests that the draft EA be revised by adding more specific details, citing recent published works, and verifying statements with background information. Following resolution of the major comments provided here, we would be more than willing to provide a subsequent review.

We recommend that the plan and report incorporate the most current science on the physical system at Fire Island. References are provided below, and much of this information, as well as updated analyses based on field monitoring are accessible at: <http://coastal.er.usgs.gov/fire-island/>

- Foster, D.S., Swift, B.A., and Schwab, W.C., 1999, Stratigraphic framework maps of the nearshore area of southern Long Island from Fire Island to Montauk Point, New York. U.S. Geological Survey Open-File Report 99-559. <http://pubs.usgs.gov/of/1999/of99-559/>
- Hapke, C.J., Brenner, Owen, Hehre, Rachel, and Reynolds, B.J., 2013, [Coastal change from Hurricane Sandy and the 2012–13 winter storm season—Fire Island, New York](#): U.S. Geological Survey Open-File Report 2013–1231, 37 p.
- Hapke, C.J., Lentz, E.E., Gayes, P.T., McCoy, C.A., Hehre, R.E., Schwab, W.C., Williams, S.J., 2010, [A review of sediment budget imbalances along Fire Island, New York: can nearshore geologic framework and patterns of shoreline change explain the deficit?](#): Journal of Coastal Research 26, 510–522.

- Hapke, C.J., Schwab, W.C., Gayes, P.T., McCoy, C., Viso, R., Lentz, E.E., and List, J., 2011, Inner shelf morphologic controls on the morphodynamics of the beach and bar system, Fire Island, New York: Proceedings of Coastal Sediments 2011, 1034 - 1047.
- Hapke, C.J., Stockdon, H.F., Schwab, W.C., and Foley, M.K., 2013, [Changing the Paradigm of Response to Coastal Storms](#): Eos Trans. AGU, 94(21), 189.
- Kratzmann, M.G., Hapke, C., 2012, [Quantifying anthropogenically driven morphologic changes on a barrier island: Fire Island National Seashore, New York](#): Journal of Coastal Research 28, 76–88.
- Lentz, E.E. and Hapke, C.J., 2011, The development of a probabilistic approach to forecast coastal change: Coastal Sediments 2011.
- Lentz, E.E., Hapke, C., 2011. [Geologic framework influences on the geomorphology of an anthropogenically modified barrier island: assessment of dune/beach changes at Fire Island, New York](#): Geomorphology 126, 82–96.
- Lentz, E.E., Hapke, C.J., Stockdon, H.F. and Hehre, R.E., 2013, [Improving understanding of near-term barrier island evolution through multi-decadal assessment of morphologic change](#): Marine Geology 337, 125–139
- Schwab, W.C., Thieler, E.R., Allen, J.R., Foster, D.S., Swift, B.A., 2000, Influence of inner-continental shelf geologic framework on the evolution and behavior of the barrier-island system between Fire Island Inlet and Shinnecock Inlet, Long Island, New York. Journal of Coastal Research 16(2), 408-422.
- Schwab, W.C., Baldwin, W.E., Hapke, C.J., Lentz, E.E., Gayes, P.T., Denny, J.F., List, J.H., and Warner, J.C., 2013, [Geologic evidence for onshore sediment transport from the inner-continental shelf—Fire Island, New York](#): Journal of Coastal Research, v. 29, no. 3, p. 526–544.

National Park Service

General Comments

Fire Island National Seashore was established by P.L. 88-587, on September 11, 1964 “...for the purpose of conserving and preserving for the use of future generations certain relatively unspoiled and undeveloped beaches, dunes, and other natural features within Suffolk County, New York, which possess high values to the Nation as examples of unspoiled areas of great natural beauty in close proximity to large concentrations of urban population...” It is our responsibility to ensure that any storm damage reduction project that takes place with the park provides adequate protection for all of our resources.

1. This is a very large interim project and accomplishes many of the goals of the FIMP. It includes the acquisition of 41 and moving 7 shorefront homes destroyed by Hurricane Sandy. It also proposes to acquire numerous permanent easements along the shorefront and provides 7 million cubic yards of beach fill on Fire Island. The NPS has numerous concerns about how this

Project will impact the natural and cultural resources of the park and requests that the revised EA fully describe the scope of the Project and its specific impacts on park resources.

The Limited Reevaluation Report (LRR) also needs to include the provisions outlined in the Tentatively Federally Supported Plan for the FIMP:

1. Implementation of sediment bypassing at Moriches Inlet
2. Providing Beach Fill in front of the Fire Island communities and minor NPS tracts to 15' with a berm.
3. Allows for a minimum real estate impact alignment
4. Does not allow tapers into Federal tracts, with overfill in communities
5. Implementation of the Breach Contingency Plan
6. Restoration of natural coastal processes
7. Integration of adaptive management
8. Integration of local land use regulations to include enforcement of federal and state zoning requirements, land acquisition or other measures which are necessary for long term risk reduction, to reduce the cost of nourishment and to ensure that the project does not induce development.

The TFSP is the plan agreed to by the DOI and the Corps as a mutually acceptable plan for storm damage reduction within the Seashore. The plan was communicated to the State of NY DEC in a letter dated March 7, 2011, and signed by Colonel John Boule, Fire Island National Seashore Superintendent Christopher Soller, and FWS NY Field Supervisor, David Stilwell. The TFSP provides maximum protection of the natural and cultural resources of the national seashore while providing storm damage reduction to the south shore towns and communities of Long Island.

2. As a general matter, much of the proposed Project seems to draw from a plan produced in the 1990s without updates to include current science and management, and current information on the affected environment regarding Fire Island community information. The draft EA needs to be revised to correct a number of citations, place names, socio-economic characteristics, and information regarding permitted activities within the Fire Island National Seashore. The draft EA alternately references the Stabilization Project and the FIMP. We understand from recent scientific studies that sediment offshore is likely an important component of sediment moving on shore. The NPS is very concerned about the impact that removal of this sand will have on the park natural and cultural resources. These impacts are not identified or discussed.

3. There are numerous statements about the coastal environments, coastal processes and impacts to the natural environment that do not reference the available technical literature, reports, models, or other relevant data. It is difficult to assess the validity of these statements without knowledge of the source of this information. Decisions to be made should be based on the full-body of technical knowledge that is available.

4. An alternative that might be considered in the draft EA is limiting the Project to Smith Point County Park, an area of high interest and concern, while simultaneously proceeding with the GRR for the FIMP. This would eliminate the need to assess the impacts of sediment removal from borrow areas south of the park as borrow areas to the east of Fire Island would be the

source, as well as the long-term real estate actions. If the Project is not downscaled as suggested, substantial revisions to this draft EA will be required before the NPS would be able to support the issuance of a Special Use Permit for this project.

5. Revisions to the draft EA should acknowledge Hurricane Sandy and the response of the barrier island and bay ecosystem to this storm event. Multiple agencies are supporting post-Sandy monitoring and research. It is recognized that much of this technical information is not yet available in the peer-reviewed literature, but the draft EA should provide more acknowledgment of Sandy and at a minimum provide statements of the observed changes to the barrier island and bay.

6. Breaches and overwash events are natural processes that contribute to and are fundamental to sustaining the barrier island in response to sea level rise. The draft EA often incorrectly depicts these events as causing detrimental or destructive impacts to natural communities. We recommend that the next iteration of the EA be revised accordingly. Barrier island natural communities are well-adapted to these dynamic processes and are not destroyed, but rather often change to a different community type following these events.

7. The Fire Island Light Station National Historic District is a significant cultural resource on Fire Island. Reference to its listing on the National Register of Historic Places is incorrect. Its listing was updated in 1998. Under separate cover the NPS has written to the Corps regarding the need for a cultural assessment of the proposed Project that may require a formal National Historic Preservation Act Section 106 consultation. References throughout the draft EA (sections on Affected Environment, Alternatives, Impacts) concerning the Fire Island Light Station Historic District need to recognize the significance of the historic district and the potential impacts of alternatives being proposed and the need for Section 106 consultation (Section 3.2.8, pg. 29 Architectural Resources; Section 4.1.5 Cultural Resources, pg. 53; Section 4.2.2, Cultural Resources, pg.67).

Specific Comments

1.2 Purpose and Need

Figure 2 Page 4. This figure should be modified to clearly indicate the Project study area. Clarification is needed as to whether the Project study area is only the ocean shoreline of Fire Island or is it the barrier island and back bay shoreline (i.e. south shore of Long Island). In this figure and throughout the document the scope of the project area is unclear because of the strong focus on Fire Island and comparatively peripheral attention to storm damage risk reduction on the south shore of Long Island. While the proposed Project is not the FIMP, the goal of FIMP has always been put forward as a focus on the south shore of Long Island. This figure illustrates that the Project area is a subset of the FIMP project area; however, it does not clearly define the north-south boundaries of the Project area. We request that this information be added to the figure in the revised EA.

Page 5 line 1 –Page 37 of NPS policies also identifies a 4th possibility for intervention in natural processes.

1.2.3 Background 2nd paragraph

Barrier island breaching is a natural function of coastal barrier islands which allows for across island sediment transport providing platforms for salt marsh development. We strongly recommend that the reference to island breaching as a negative result of storm activity is deleted in the revised EA. Similarly, we recommend that this same sentence be revised to acknowledge that the bayshore routinely floods during storms from ocean waters moving through the stabilized inlets at Fire Island and Moriches Inlets.

1.4 Planning Objectives

The text presents opposing objectives:

- Mitigate the effect of and prevent or offset current long-term erosion trends;
- Minimize impact of improvement projects on environmental resources and adjacent shore areas;

Mitigation of erosion should not be a Project objective. Erosion is a natural process and provides for accretion elsewhere in the system. Any manipulation of sediment budgets should be done only to the extent necessary to achieve the objective “Reduce the threat of potential future damages due to the effects of storm-induced flooding, wave attack, and shore recession”.

Moreover, this list of objectives greatly exceeds the aim of this one time interim sand placement. The objectives of this interim Project are to expedite the construction of a project that will provide some level of storm damage risk reduction by reducing the risk of breaching and overwash on Fire Island and to construct this Project in a manner that will have minimal impacts on environmental resources and adjacent shore areas. It may also be appropriate to include an additional objective to indicate that the Project will restore safe public access to recreational opportunities impacted by Sandy within the boundaries of Smith Point County Park and Robert Moses State Park. The level of risk reduction and anticipated lifespan of the Project should be specified and supported within this document.

2.0 Alternatives

“The No Action Alternative does not maintain the shoreline and associated habitats and because of this it is not the environmentally preferred alternative. The beach fill alternative is the environmentally preferred plan because it provides bay shoreline protection while maintaining the natural protective features of the barrier island until a longer lasting project can be implemented.”

The No Action Alternative is being rejected because it does not maintain the shoreline and associated habitats. However, it is also suggested that the beach fill alternative also will not maintain them as this alternative is temporary in nature with no maintenance of the nourished and reconstructed beaches, berm and dunes.

Also, the No Action alternative is being rejected because it does not provide the desired level of storm damage protection. However, the document does not specify a specific level of storm damage protection; thus, it is difficult to make that determination. Natural processes create and modify the shoreline and coastal habitats. No Federal project is needed to maintain the shoreline and coastal habitats.

Page 7 Paragraph 3. No beach profile would result from a one-time sand placement that will withstand all future storms. The level of risk reduction that this project will provide must be clearly stated in the revised EA. A discussion of the risk reduction associated with this project should also include a discussion of the limitations of this project as well (i.e. this single sand placement will reduce the risk at some specified level for breaching and overwash along areas of Fire Island where sand is placed). This project will not reduce risk of flooding to homes on the south shore of Long Island that are associated with movement of water into the bay through existing inlets and tidal set-up within the bays. That needs to be clearly articulated within this document.

2.2. *“Beach fill tapers are also proposed in several locations within Federal tracts to create a gradual, more natural appearing shoreline following fill placement.”* As per the TFSP there will be no tapers on federal tracts.

2.2.1 Advance fill

The required advance berm width was computed based on representative erosion rates and expected renourishment interval, 4 years.

The Project is a one-time beach fill project and should not have a renourishment interval.

Design Section

Statements such as “reduce the risk of breaching but does not prevent a significant portion of the damages to oceanfront structures” should be revised to clearly define the risk reduction benefits and limitations of this project in the next iteration of the EA.

Page 9. Robert Moses State Park (GSB-1A) is identified as both berm only and small templates. Smith Point County Park (MB-1A) is identified as both berm only and medium templates. Project sub-reaches should be set at increments that facilitate clear definition of the design template that will be applied within each sub-reach.

Page 9 fourth paragraph. It is stated that the medium template provides a 44 year level of protection. It is unclear if this number represents storm interval (i.e. storm intensity with a 2.3% chance of occurring in any given year) or something else.

Page 9. Recent science indicates that shoreline change along Fire Island is not uniform. The eastern end of the island is erosional, the central core is stable, and the western end is prograding. No justification is provided to support uniform application of the medium design template along the barrier island. Please include this information in the revised EA.

Page 9. For clarification, a figure should be included in this document to identify each of the project sub-reaches. The plan sheets provide this information across numerous pages, but a more concise figure would enhance clarity in this section.

Page 9 Volumes. Terms “overfill” and “contingency” have not been defined within this document. In addition, because this is a one-time sand placement project, use of the terms “initial project fill volume” and “initial fill volume” should be avoided. Under this project, there is a single sand placement. The term “initial” implies subsequent sand placement.

3.1 Overview

Paragraph 2. Narrow and Moriches Bays also separate Fire Island from Long Island.

3.1.1 Formation History

Paragraph 1. Information in this paragraph is disjointed. It may be useful to develop separate paragraphs discussing the Pleistocene origins of the island, the natural process of breaching and inlet formation and maintenance of inlets, and how the barrier island provides a natural protective feature for the south shore of Long Island. Available literature should be utilized and cited to accurately convey this information.

Page 14-15. The discussion of historic storms and storm impacts comes across as anecdotal. Citations to support this information should be included in the revised EA.

Page 15. The statement that “Hurricane Irene caused widespread overwashing, dune erosion, and minor coastal flooding along Fire Island” is inaccurate. Along Fire Island, tropical storm Irene was primarily an accretional event (Lentz, E., Hapke, C., Hehre, R., and Stockdon, H.F, 2012, Fire Island Dune-Beach Evolution since 1969: Understanding Controls and Measuring Changes to the System [abs.]: Fire Island National Seashore 8th Biennial Planning, Science and Research Conference, Patchogue, NY, April 27-28, 2012).

3.2.1 Land Use and Management

Page 17-21. This section provides a very brief discussion of the bayshore communities and extensive discussion of development and communities on Fire Island. Is the primary purpose of this interim project storm damage protection for development on the barrier island or storm damage protection for development on the south shore of Long Island? Page 13 (7) indicates that “The beach fill alternative is the environmentally preferred plan because it provides bay shoreline protection while maintaining the natural protective features of the barrier island until a longer lasting project can be implemented”. This justification for acceptance of the beach fill alternative is based upon protection of the bay shore communities thus it would seem to be appropriate to have that emphasis on the bayshore communities reflected in Section 3.2.1.

3.3.3 Geomorphology Perhaps since several areas show indications of both ocean and bayside erosion, beach fill should occur on the bayside not the ocean shore.

4.1.1.1 Land Use/Communities

First paragraph. Earlier in the draft EA it is stated that the No Action Alternative includes the BCP. This paragraph needs to be amended to reflect this.

4.1.2 Socioeconomic

As above, bayshore communities have been subjected to flooding during storms and high tides especially in the vicinity of the navigation channels. The total and relative contributions to bayshore communities from the inlets should be presented in the revised EA.

4.1.4 Recreation/Parks

See above comment on the BCP. Also monitoring of water levels in the GSB in the vicinity of the new wilderness breach (Old Inlet) has not exceeded water levels usually experienced during storms.

4.1.6 Physical Environment Water Quality

It has been postulated that the occurrence of a breach or new inlet would improve circulation within the bay, thus increasing the flushing rate and thereby improving the water. Breaches occur very infrequently; if a breach were to occur under the No-Build Alternative, it would be repaired within three months pursuant to the approved BCP (the New York District 1996).

This is an inaccurate statement. The current BCP calls for immediate closure of breaches with the exception of the Federal wilderness where breaches would be monitored to determine if closure will occur under natural conditions.

4.1.7 Physical Environment Geology/Geomorphology/Beaches and Dunes

The Fire Island barrier is particularly vulnerable to breaching (The New York District, 1996).

Subsequent Corps documents indicate that there are specific locations along Fire Island that are vulnerable to breaching not the entire island.

The New York District has identified fourteen locations within the study area where breaches are likely to occur, and rated these (low, moderate, high) as to their relative potential to form permanent inlets.

This is an overstatement. Previous Corps documents have only indicated that areas listed as highly vulnerable to breaching are likely to breach. None are expected to form permanent inlets.

Table 9. Likely Locations of Breaches The source of this table needs to be included in the revised EA.

A breach or overwash would have moderate to major impacts on littoral processes and beach and dune sediments. This statement would benefit from clarification. A breach or overwash – natural coastal processes—will have major impacts on littoral processes and beach and dune sediments – other natural processes.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

3817 Luker Road
Cortland, NY 13045



January 9, 2014

Colonel Paul E. Owen
District Engineer
U.S. Army Corps of Engineers
26 Federal Plaza
New York, New York 10278

Dear Colonel Owen:

This is the U.S. Fish and Wildlife Service's (Service) response to the U.S. Army Corps of Engineers (Corps) electronic mail attachment dated December 19, 2013, which provides the Corps' most recent project modifications for the proposed Fire Island to Moriches Inlet - Fire Island Stabilization Project (FIMI). The Corps' revised plans are based on feedback the Corps received during an interagency meeting held on December 18, 2013, between the Corps, National Park Service (NPS), New York State Department of Environmental Conservation (NYSDEC), County of Suffolk (County), and the Service.

The overall purpose of the December 18, 2013, meeting was to continue discussing the project design features that the Corps should implement to meet requirements of section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*), and to consider habitat restoration proposals that would further the restoration of degraded habitats and natural coastal processes in the project area. Prior to this meeting, the Service provided a number of recommendations in a letter to the Corps dated December 13, 2013 (enclosed), to avoid and minimize adverse effects to federally listed and proposed species, including the piping plover (*Charadrius melodus*; threatened), seabeach amaranth (*Amaranthus pumilus*; threatened), roseate tern (*Sterna dougallii dougallii*; endangered), and red knot (*Calidris canutus rufa*; proposed threatened). As noted in that letter, we developed our recommendations based on best available science, including the result of a long-term study funded by the Corps, on the effect of beach nourishment and dune construction on plovers, as well as other peer-reviewed and grey literature, and agency expertise.

The Service recognizes that this project presents a number of challenges to the Corps due to its complexity, scope (18 miles), timing, multiple jurisdictional coverage, land use and land ownership patterns, and the sensitive natural resources that are present, including off-shore, back-bay, and barrier island fish and wildlife resources, and species protected under the ESA and Migratory Bird Treaty Act (MBTA) of 1918, as amended. Consequently, we appreciate all your efforts to lead this planning effort, including fostering an open and collective dialogue among the

interagency team as we move forward. We also appreciate the Corps' affirmation of its obligations to avoid and minimize adverse impacts to threatened and endangered species under section 7(a)(2) of the ESA and to consider the Service's recommendations to avoid and mitigate impacts to other fish and wildlife resources pursuant to the Fish and Wildlife Coordination Act of 1958 (48 Stat. 401, as amended; 661 *et seq.*) and the MBTA.

In your December 19, 2013, letter, you inquire whether we concur that the modifications arrived at the meeting "...will, collectively provide for more suitable habitat over time than the currently proposed plan you were sent earlier this week." Further, you inquire whether our agency "...is in agreement with our assessment that the modifications described above would prove beneficial and serve to improve the status of the listed species within the stabilization project area." To these two points, we concur that the recommendations adopted by the Corps are an improvement over the earlier proposed plan and impact less habitat than the earlier proposal. As expressed earlier in this letter, we appreciate the Corps' efforts to make such modifications.

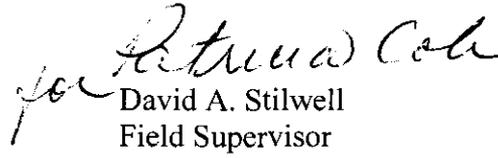
In addition to the improvements you have suggested, we reiterate that there are other possible alternatives available that could further diminish the impacts to habitat and provide storm protection. Our primary recommended alternative was to have no solid dune at Smith Point County Park, but to construct an enhanced berm. At the meeting, other alternatives were also provided and considered. The Corps presented a "staggered dune" approach at Smith Point County Park that would consist of two lines of dunes with overlapping staggered openings. This approach could: (1) Provide some overwash and ocean-to-bay habitat, which may prove beneficial to the piping plover; (2) provide sediment transport at low storm levels, and (3) prevent excess water movement at high storm levels. Although this approach would be experimental, it could provide the opportunity to study this for potential future use in other areas. The Service also suggests another alternative to having the dune extend the entire length of the park bisecting all of the newly created habitat. The Service suggests that at least one of the three overwash lobes should not have a dune constructed through it to preserve one of these premier habitat units. These ocean-to-bay overwash units have the highest potential to increase piping plover productivity among all habitat types on the barrier island system. In addition to preserving a portion of this premier habitat, we will also have another opportunity to study plover response to the habitat creation. Although we appreciate monitoring and adaptive management of vegetation in specific Smith Point Park areas, preserving these ocean-to-bay overwash lobes is most likely to provide the most recovery benefits. Another alternative would be to have breaks in the dunes, such as being done at the Corps' project on Assateague Island. This would not be incompatible with the current system as numerous breaks are currently being maintained in the dunes for off road vehicle access to the beaches.

As the agencies reached satisfactory compromise in all the other project segments, we request you give reconsideration to the other alternatives for Smith Point County Park. The Service remains committed to working with the Corps to facilitate completion of this project. We are available for further discussion.

The Corps, as the action agency, will decide the final project design and provide a Biological Assessment to the Service. The Service will then complete our Biological Opinion based on the selected project design and Biological Assessment as expeditiously as possible.

Thank you for the opportunity to provide these comments. If you have any questions, please contact me at 607-753-9334.

Sincerely,


David A. Stilwell
Field Supervisor

Enclosure

cc:

NYCOE, NY, NY (J. Seebode; P. Weppler; N. Brighton)
NPS, FINS, Patchogue, NY (C. Soller)
NPS, Boston, MA (M. Foley)
USGS, Woods Hole, MA (W. Schwab)
USGS, St. Petersburg, FL (C. Hapke)
DOI, OEPC, Boston, MA (A. Raddant)



United States Department of the Interior



FISH AND WILDLIFE SERVICE

3817 Luker Road
Cortland, NY 13045

December 13, 2013

Colonel Paul E. Owen
District Engineer
U.S. Army Corps of Engineers
26 Federal Plaza
New York, NY 10278

Dear Colonel Owen:

This is in regard to the U.S. Army Corps of Engineers' (Corps) Fire Island Stabilization Project and the recent coordination between our offices pursuant to the Endangered Species Act of 1973, as amended (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) (ESA) and Fish and Wildlife Coordination Act of 1958, as amended (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*) (FWCA). The U.S. Fish and Wildlife Service (Service) has reviewed the preliminary project plans provided to our office via electronic correspondence dated December 9, 2013. The purpose of this letter is to provide early recommendations for discussion at the meeting scheduled for December 18, 2013, between our staff to advance the habitat restoration and to identify endangered species conservation measures.

We appreciate the opportunity to work closely with your office on this and other projects coordinated by the Corps' Planning Division, Regulatory Branch, and Operations Division, such as the Fire Island to Montauk Point Storm Damage Protection Reformulation Study (FIMP), Fire Island Inlet and Shores Westerly Navigation Project, and the various other projects around Long Island which were undertaken in response to Hurricane Sandy. As we have expressed in several meetings with you and your staff, the newly designated Fire Island Stabilization Project, as presented, includes features which would be counter to the long term survival and recovery of the piping plover (*Charadrius melodus*; threatened), present additional challenges for the recovery of the seabeach amaranth (*Amaranthus pumilus*; threatened), and likely limit the amount of suitable bay shoreline and ocean habitats to the red knot (*Calidris canutus rufa*), a proposed species for listing under the ESA. In addition, this project will have impacts to other migrating shorebirds such as the state-listed least tern (*Sterna antillarum*) and common tern (*Sterna hirundo*), as well as the American oystercatcher (*Haematopus palliatus*).

In terms of the plover, we have stated in a number of biological opinions on Corps' projects since the 1990s, that large-scale, long-term shoreline stabilizations will affect the ability of the species to recover and survive in the wild. Throughout the informal consultation process for the FIMP and the several times we met over the Fire Island Stabilization Project, we have recommended measures and restoration proposals that the Corps should incorporate into the project description to avoid jeopardy of the piping plover. Our recommendations were developed using the best available science and information on this species and were put forth in the spirit of assisting the Corps in avoiding jeopardy and advancing the Corps' Vision Statement "Restoration Framework," by focusing on the restoration of natural barrier island and back-bay processes, including but not limited to, cross-island and long shore sediment transport processes.

Based on our discussions on December 6, 2013, and the current project proposal we are offering recommendations for your consideration.

At this juncture, we have tailored our recommendations to help advance the Corps' objectives in the project in a manner which provides a level of storm damage protection to some of the most critically affected shoreline areas but which also avoids jeopardy to this listed species. As currently configured, the Corps plans a shoreline construction plan in some of the most optimal piping plover habitat created by Hurricane Sandy, especially in Smith Point County Park. Our preliminary recommendations on the entire plan, which stretches from Robert Moses State Park to Smith Point County Park, include consultation requirements, modifications to the dune alignment and berm construction layouts, and means to avoid and minimize indirect effects of the project are presented below.

Service Comments

- 1) As we have discussed, the Fire Island Stabilization Project will require formal consultation, and, therefore, the preparation of a biological assessment by the Corps. 50 CFR Part 402 stipulates that once formal consultation is initiated, the consultation period is 135 days; however, we will do our best to expedite this action. Formal consultation would be required as the project prevents to a large degree the formation of natural geomorphic features on the barrier island by significantly reducing or preventing overwashes and breaches, which create habitats necessary for the recovery and survival of the piping plover and seabeach amaranth in the wild. The project will also have impacts to the red knot in New York by limiting the development of naturally created sand flats and bay shorelines. Formal consultation will also be required to address other indirect effects of the project including human disturbance, predation, etc.
- 2) We recommend that between Fields 2 and 3 in Robert Moses State Park that the dune alignment be shifted north to just north or south of the unimproved utility road. In this way, existing overwash and dune blow out habitats will not be significantly impacted by the proposed dune system. Berm placement can occur in the specified location at 9 ft National Geodetic Vertical Datum (NGVD) maximum elevation.
- 3) We recommend that in the federal Lighthouse Tract the dune alignment be shifted north to lie adjacent to the Fire Island National Seashore's western access road. This alignment will provide protection to the road and existing infrastructure but allow the naturally created overwash habitats to undergo natural succession unimpeded by the Corps' proposed location of the dune system. Berm placement can occur in the specified location at 9 ft NGVD maximum elevation.
- 4) We recommend that in the area between Atlantique and Robins Rest that the dune alignment be shifted north as much as feasible. Berm placement can occur in the specified location at 9 ft NGVD maximum elevation.
- 5) We recommend that the Corps' eliminate the proposed artificial dune system in Smith Point County Park stretching from just west of Pattersquash Island to the eastern extent of the proposed dune placement area. Berm placement can occur in this area in the specified locations at 9 ft NGVD maximum elevation and sand by passing should continue in this area to restore long shore sediment transport. As currently proposed, the construction of an artificial dune in this area would effectively eliminate the possibility of any bay to ocean overwash habitats (cross island transport) in areas where barrier island infrastructure is not a concern.
- 6) The Fire Island Stabilization Project will require measures to protect federally listed species and other state and federally protected -shorebird species such as common and least terns, American oystercatchers, and migrating shorebirds which might utilize the project area. Protection measures will need to be developed through the consultation processes of the ESA

and FWCA to address impacts related to recreational use of the beach, predators, and vegetation encroachment into listed species habitat. We had worked with the Corps on the development of a template for threatened and endangered species management for the larger FIMP and recommend that the Corps revitalize that effort, with the goal of developing a comprehensive management plan covering recreation, predator control, and vegetation across the Fire Island Stabilization Project Area.

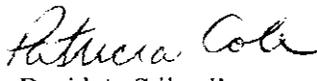
We have also been in discussion and negotiation with the Planning Division on a multi-year Transfer of Funding Agreement that would enable us to work nearly exclusively on Corps' Hurricane Sandy Projects. We believe it is in the best interests of both our agencies to have your office finalize the latest version of the scope of work as soon as possible so we can begin to move forward and prepare the necessary reports your agency requires.

7) We support restoration projects in the back-bay areas except for areas near the naturally created overwash habitats in Smith Point. These areas should be allowed to function naturally. As you are aware, many of the proposed locations for restoration were in areas we recommended in 2008 as part of informal section 7 consultation. We would still like to discuss with you the feasibility of implementing those recommendations. Some of the other sites were the result of the Corps Habitat Evaluation Procedures analysis, and, generally, do not approach restoration on a landscape level.

As we move forward with addressing the current project proposal including the proposed actions in Smith Point County Park we note that during our section 7 analysis we will need to take into consideration that the conditions of the Breach Contingency Plan were not met in the breach filled areas. We strongly advise that this issue be resolved with the local cost share sponsor prior to the start of the 2014 piping plover breeding season (April 1). It would be beneficial for this issue to be resolved prior to any ESA section 7 analysis for this project being undertaken.

Thank you for the opportunity to review your latest plan prior to our meeting next week to discuss habitat restoration/mitigation and ESA conservation measures. If you have any questions, please have your staff contact Trisha Cole of the New York Field Office at 607-753-9334.

Sincerely,


for David A. Stilwell
Field Supervisor

cc: NYCOE, NY, NY (L. Houston)



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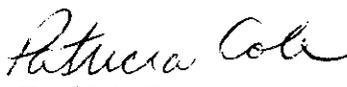
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At this juncture, we have tailored our recommendations to help advance the Corps' objectives in the project in a manner which provides a level of storm damage protection to some of the most critically affected shoreline areas but which also avoids jeopardy to this listed species. As currently configured, the Corps plans a shoreline construction plan in some of the most optimal piping plover habitat created by Hurricane Sandy, especially in Smith Point County Park. Our preliminary recommendations on the entire plan, which stretches from Robert Moses State Park to Smith Point County Park, include consultation requirements, modifications to the dune alignment and berm construction layouts, and means to avoid and minimize indirect effects of the project are presented below.

Service Comments

- 1) As we have discussed, the Fire Island Stabilization Project will require formal consultation, and, therefore, the preparation of a biological assessment by the Corps. 50 CFR Part 402 stipulates that once formal consultation is initiated, the consultation period is 135 days; however, we will do our best to expedite this action. Formal consultation would be required as the project prevents to a large degree the formation of natural geomorphic features on the barrier island by significantly reducing or preventing overwashes and breaches, which create habitats necessary for the recovery and survival of the piping plover and seabeach amaranth in the wild. The project will also have impacts to the red knot in New York by limiting the development of naturally created sand flats and bay shorelines. Formal consultation will also be required to address other indirect effects of the project including human disturbance, predation, etc.
- 2) We recommend that between Fields 2 and 3 in Robert Moses State Park that the dune alignment be shifted north to just north or south of the unimproved utility road. In this way, existing overwash and dune blow out habitats will not be significantly impacted by the proposed dune system. Berm placement can occur in the specified location at 9 ft National Geodetic Vertical Datum (NGVD) maximum elevation.
- 3) We recommend that in the federal Lighthouse Tract the dune alignment be shifted north to lie adjacent to the Fire Island National Seashore's western access road. This alignment will provide protection to the road and existing infrastructure but allow the naturally created overwash habitats to undergo natural succession unimpeded by the Corps' proposed location of the dune system. Berm placement can occur in the specified location at 9 ft NGVD maximum elevation.
- 4) We recommend that in the area between Atlantique and Robins Rest that the dune alignment be shifted north as much as feasible. Berm placement can occur in the specified location at 9 ft NGVD maximum elevation.
- 5) We recommend that the Corps' eliminate the proposed artificial dune system in Smith Point County Park stretching from just west of Pattersquash Island to the eastern extent of the proposed dune placement area. Berm placement can occur in this area in the specified locations at 9 ft NGVD maximum elevation and sand by passing should continue in this area to restore long shore sediment transport. As currently proposed, the construction of an artificial dune in this area would effectively eliminate the possibility of any bay to ocean overwash habitats (cross island transport) in areas where barrier island infrastructure is not a concern.
- 6) The Fire Island Stabilization Project will require measures to protect federally listed species and other state and federally protected -shorebird species such as common and least terns, American oystercatchers, and migrating shorebirds which might utilize the project area. Protection measures will need to be developed through the consultation processes of the ESA

and FWCA to address impacts related to recreational use of the beach, predators, and vegetation encroachment into listed species habitat. We had worked with the Corps on the development of a template for threatened and endangered species management for the larger FIMP and recommend that the Corps revitalize that effort, with the goal of developing a comprehensive management plan covering recreation, predator control, and vegetation across the Fire Island Stabilization Project Area.

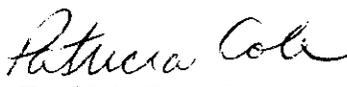
We have also been in discussion and negotiation with the Planning Division on a multi-year Transfer of Funding Agreement that would enable us to work nearly exclusively on Corps' Hurricane Sandy Projects. We believe it is in the best interests of both our agencies to have your office finalize the latest version of the scope of work as soon as possible so we can begin to move forward and prepare the necessary reports your agency requires.

7) We support restoration projects in the back-bay areas except for areas near the naturally created overwash habitats in Smith Point. These areas should be allowed to function naturally. As you are aware, many of the proposed locations for restoration were in areas we recommended in 2008 as part of informal section 7 consultation. We would still like to discuss with you the feasibility of implementing those recommendations. Some of the other sites were the result of the Corps Habitat Evaluation Procedures analysis, and, generally, do not approach restoration on a landscape level.

As we move forward with addressing the current project proposal including the proposed actions in Smith Point County Park we note that during our section 7 analysis we will need to take into consideration that the conditions of the Breach Contingency Plan were not met in the breach filled areas. We strongly advise that this issue be resolved with the local cost share sponsor prior to the start of the 2014 piping plover breeding season (April 1). It would be beneficial for this issue to be resolved prior to any ESA section 7 analysis for this project being undertaken.

Thank you for the opportunity to review your latest plan prior to our meeting next week to discuss habitat restoration/mitigation and ESA conservation measures. If you have any questions, please have your staff contact Trisha Cole of the New York Field Office at 607-753-9334.

Sincerely,


for David A. Stilwell
Field Supervisor

cc: NYCOE, NY, NY (L. Houston)

COUNTY OF SUFFOLK



STEVEN BELLONE
SUFFOLK COUNTY EXECUTIVE

DEPARTMENT OF PUBLIC WORKS

GILBERT ANDERSON, P.E.
COMMISSIONER

PHILIP A. BERDOLT
DEPUTY COMMISSIONER

April 16, 2014

Mr. Frank Santomauro P.E.
Chief, Planning Division
United States Army Corps of Engineers, New York District
Jacob K. Javits Federal Building
New York, NY, 12078-0090

Alan A. Fuchs, Director
Bureau of Flood Protection and Dam Safety
New York State Department of Environmental Conservation
Division of Water
Bureau of Flood Protection and Dam Safety, 4th Floor
625 Broadway, Albany, New York 12233-3504

Re.: **Suffolk County Comments in Response to Fire Island Inlet to Moriches Inlet, Fire Island Stabilization Project, Hurricane Sandy Draft Limited Reevaluation Report and Draft Environmental Assessment**

Sirs:

Pursuant to our review of the Local Re-evaluation Report and Environmental Assessment for the Fire Island to Moriches Inlet Project, the following comments are provided.

1. The fill taper at the west end has been shortened from the previous version, presumably to bring it closer to the property line and off Wilderness Property. I understand why they would do this, but it is now a substandard taper. As such, the County requests some additional advance fill in front of the traffic circle to compensate for this.
2. The proposed FIMI includes the Berm Only template in the reach in front of the pavilion, Flight 800 Memorial, and the campgrounds. Either of the two dune templates is acceptable

SUFFOLK COUNTY IS AN EQUAL OPPORTUNITY / AFFIRMATIVE ACTION EMPLOYER

to the County in these locations, to provide a higher level of protection to infrastructure and to bury exposed sections of the seawall(s). Certainly there are no habitat considerations in this location that might preclude a dune template.

3. The dune section has been pushed north approximately 20 feet in an area just west of the Forge River spoil site. It is unclear how Burma Road might be affected in this and other locations, as it is not accounted for on the plans. Burma Road is the lifeline and backbone of not only our County Park, but also the Moriches Inlet whose Jetties Suffolk County maintains.
4. The taper at the east end is also reduced in size. It is unclear as to the intent here.
5. We are unclear on the reference to a feeder beach at Smith Point reiterated on Page 58 of the Re-evaluation Report, but not evident on the plans.
6. Of most concern to the County, the plan calls for a modified fill template in three locations, designated New Made Island, Pattersquach, and Smith Point Breach. At these locations the slopes have been modified decreasing the dunes side slopes, which in turn makes these specific dunes wider. At these locations no plantings are to occur on the slopes. Additionally, the documents call for a plan to monitor and de-vegetate any plant growth on these slopes when any natural occurring growth reaches a density of thirty (30%) percent or more. This modified dune section covers approximately 6200 feet of the park's frontage, seriously imperiling the County's ability to maintain Burma Road through these areas.

The proposed dune template in these three reaches is designed to periodically fail. It is presumed that the purpose for this is to perpetuate the existence of ocean-to-bay habitat. By constructing such a substandard dune, the project seeks to prioritize plover habitat preferences above those of mainland storm protection and recreational beach access. Migration of birds from ocean to bay, while perhaps optimal for this species, precludes the continued familiar operation of Smith Point, an operation that dates back over 50 years. The plan as currently proposed will likely result in significant loss of recreational access as the westernmost of those areas has the potential to cut off recreational access to 4.5 miles of beach to the east from May through August in any given year.

Smith Point County Park is a regionally significant recreational facility. The outer beach driving access here is unique in its scale, open to all, making it unlike any other similar experience in New York State. Suffolk County has and, given the opportunity, will continue to successfully demonstrate that the biological needs of plovers and the recreational desires of the beach-going public are not mutually exclusive. The unfortunate impacts of this historic storm need not redefine this park as "wilderness."

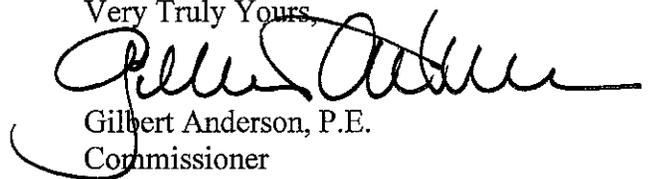
Having said all of this, please note our formal objection to the proposed de-vegetation program proposed for these three (3) areas, as well as the substandard dune sections within them.

April 16, 2014

7. In good faith, we proposed a significant habitat enhancement project in the area east of Great Gun. The idea of that proposal was to mitigate for potential habitat impacts resulting from construction of the standard, not substandard, dune template. This project proposes both a substandard dune template in the subject reaches and the "Great Gun habitat project." If the proposed substandard dune sections remain within the current plan, the County cannot and will not agree to committing any additional area for habitat.
8. Lastly, it is unclear to what extent fencing would be restricted especially in the areas previously noted. Any restriction of fencing significantly inhibits our ability to strengthen the dune network along our park and would be objectionable.

In conclusion, Suffolk County has many issues that must be resolved within the federal documents for this project. If you would like to discuss these matters further, please contact the undersigned at (631) 852-4010.

Very Truly Yours



Gilbert Anderson, P.E.
Commissioner

GA/bl

cc. Steven Bellone, Suffolk County Executive
Sammy Chu, Deputy County Executive
Greg Dawson, Commissioner, Suffolk County Parks
Anthony Ciorra, P.E., USACOE
Frank Verga, P.E., USACOE
Steve Couch, P.E., USACOE
Peter Scully, Regional Director, NYSDEC
Sue McCormick, P.E., Chief, Coastal Erosion Management Section, NYSDEC
Eric Star, Regional Floodplain Coordinator, NYSDEC
Bill Hillman, P.E., Chief Engineer, SCDPW



New York State Department of
Environmental Conservation



County of Suffolk
Office of the County Executive

May 6, 2014

Colonel Paul E. Owen
United States Army Corps of Engineers
New York District
26 Federal Plaza
New York, NY 10278

Re: Fire Island to Moriches Inlet Stabilization Project

Dear Colonel Owen:

Over the past months the New York State Department of Environmental Conservation (DEC), the Army Corps, Suffolk County, the National Parks Service and U.S. Fish and Wildlife Service (FWS) of the U.S. Department of Interior worked to finalize an agreement on attributes of the Fire Island Inlet to Moriches Inlet (FIMI) project. We have done everything in our power to expedite actions to meet the Army Corps' announced schedule to start construction in September 2014. There remain a number of outstanding issues related to a continuing series of requests made by staff of the FWS, most recently concerning Suffolk County's Smith Point County Park and piping plover habitat. The purpose of this letter is to provide you with the joint position of DEC and Suffolk County in an effort to finalize deliberations and move this critical project to actual implementation.

There are four specific categories of project or program modifications sought by FWS. These concerns include piping plover predator control, off-road vehicle use at the County Park, sand fencing to retain sand, and dune construction/maintenance specifications (slope and vegetation) that might impact or benefit potential piping plover habitat. Some of these concerns had been discussed previously among the involved entities. DEC and Suffolk County had previously agreed to modify dune slopes from "1 on 5" to the more gradual "1 on 10" slope in all three over-wash areas of Smith Point County Park. We had also reached conceptual agreement on a predator control program for all of Fire Island and on some elements of a dune vegetation control program as it related to the creation of new habitat at Great Gun and certain locations on the bay side of Smith Point County Park. FWS made additional requests regarding sand fencing, off road vehicle use, and dune de-vegetation at our April 11th meeting.

On April 16, 2014, Suffolk County submitted comments to the Army Corps on the Draft Hurricane Sandy Limited Reevaluation Report (HSLRR) and Draft Environmental Assessment (EA). In these comments Suffolk County did not accept Army Corps' and FWS's proposed dune section and de-vegetation program for all three areas where over-washes had occurred in Smith Point County Park, an area across the narrow bay from densely populated communities. Suffolk County found that the non-standard un-vegetated dune sections, as well as the level of requested de-vegetation, would result in substandard dune structures. Suffolk County, however, had previously identified an alternative habitat-improvement site in the Great Gun area which could be de-vegetated for added piping plover habitat while not affecting critical dune areas and public use of the county park. Suffolk County's comments indicated that restrictions on the intermittent use of sand fencing, which would further inhibit the ability to strengthen the dune network, would be objectionable as well. The FIMI project as currently proposed does not contain any restrictions on sand fencing.

In response to Suffolk County's letter, on April 22, 2014, there was a follow up call. After that call, the Army Corps sent a letter on that same day summarizing the outcome of the call. DEC and Suffolk County were under the strong impression that all had agreed to the predator control program already in place and that Suffolk County would maintain their current off-road vehicle program to protect piping plover. DEC and Suffolk County supported the Army Corps publically released HSLRR and ES which did not prohibit the use of sand fencing after construction. Suffolk County continued to offer the 39 acres at the Great Gun area to be de-vegetated for added plover habitat. Suffolk County further offered to allow the de-vegetation of areas on the bay side of the two western most wash-over areas (Pattersquash Island and the Smith Point breach closure) to create additional habitat for piping plover. It was proposed that these two areas would have dunes with a 1 on 10 slope, would be planted at only a 24 inch interval to assure space for plover to walk (instead of the normal 12 inch interval), with sand fencing placed at Suffolk County's discretion.

We now understand that all this is still not be enough to satisfy FWS. While we support all these multiple actions to protect endangered species, additional factors must be taken into account when the structural integrity of the protective barrier dune is placed at risk. FWS is essentially demanding that a lower, flatter and less stable dune be created than existed prior to Superstorm Sandy. Moreover, Smith Point County Park has been a recreational facility for decades, yet FWS requests would unduly disrupt public use of this park.

The FWS's extensive further requests to modify the dunes at the park beyond what has already been accepted by Suffolk County and DEC is aimed at maximizing the ability of piping plover to walk between the ocean and the bay. We do not believe that there is any scientific basis to conclude that these measures will improve plover habitat in this area. Further, we cannot agree to all of these requests as they weaken the coastal dune at critical locations, require a dune and vegetation configuration that departs from what was in place before Superstorm Sandy, and could well result in the loss of use of the access road to the entire eastern end of the barrier island, thereby essentially closing a significant portion of the county park. DEC and Suffolk County are in agreement on these matters and seek the Army Corps' assistance in bringing this matter to a close.

For the purpose of clarity, the following is provided as the position of both DEC and Suffolk County on these matters:

- In order to provide some reasonable stability to the dunes at the locations of the wash-over areas at Pattersquash, Smith Points Breach and New Made Island they shall be constructed at a slope of 1 on 10, with plantings set at 1 on 24" intervals (which is substandard to the Army Corps normal design of vegetation plantings for the purpose of stabilizing dunes).
- There will be no restrictions anywhere in Smith County Park on the intermittent use of sand fencing configured in a manner that does not impair the movement of piping plover.
- Suffolk County will continue to offer the additional habitat to be constructed at certain locations on the bay side north of Burma Road and in the Great Gun area of Smith Point County Park at the easterly most portion of the park, south of Burma Road.
- There will be no de-vegetation program, with the exception of that agreed to in the Great Gun Mitigation area and newly created habitat on the bay side of Smith Point County Park at the two western most wash-over areas (Pattersquash Island and Smith Point breach closure).
- We conceptually support the fully implemented federal predator control program as proposed by FWS.

Suffolk County will continue implementing the federal off road vehicle control policies in order to protect piping plover.

It is the expectation of DEC and Suffolk County that, due to the significant compromises made to date in favor of expanding piping plover habitat, that this matter will be resolved as presented above. We would be glad to discuss this further at your earliest convenience.

Sincerely,



Joseph J. Martens
Commissioner



Steven Bellone
Suffolk County Executive

- c: **Gil Anderson, Suffolk County**
Joe Vietri, Army Corps
Anthony Ciorra, Army Corps
David Stilwell, USF&W
Chris Soller, NPS

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REPLY TO
ATTENTION OF

CENAN-PL-F

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT, CORPS OF ENGINEERS
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, N.Y. 10278-0090

3 February 2014

Mr. Alan Fuchs
New York State Department of Environmental Conservation
Flood Protection and Dam Safety Bureau
625 Broadway, 4th Floor
Albany, NY 12233-3504

Dear Mr. Fuchs,

The United States Army Corps of Engineers, New York District (USACE) is in receipt of the New York State Department of Environmental Conservation's (NYSDEC) letter dated 8 January 2014 regarding USACE's 19 December 2013 letter referencing the outcome of the 18 December 2013 meeting at New York District (District). The NYSDEC 8 January 2014 letter also provides comments to the District's Fire Island to Moriches Inlet (FIMI) Hurricane Sandy Limited Reevaluation Report (HSLRR) provided to the NYSDEC and Suffolk County on 20 December 2013. Additional responses are provided at the end of this document to address NYSDEC comments received via email on 21 January 2014 regarding the Real Estate appendix of the HSLRR. Land Management Appendix comments received from NYSDEC to the District on 30 January 2014 will be incorporated into the revised FIMI HSLRR. Project Partnership Agreement (PPA) comments are being coordinated by District Counsel directly with the State.

A. SMITH POINT COUNTY PARK

1. Robins Rest Area: Agree with one note. The need to monitor the site for 5 years and take appropriate actions to maintain early succession stages of plover needs to be fully defined in the project report Operations and Maintenance section.

Concur. The Operations and Maintenance section of the HSLRR will include a fully defined discussion on the need to monitor the site for 5 years and take appropriate action to maintain early succession stages of plover needs for the Robins Rest Area.

2. Lighthouse Track: Agree with the same note as under #1 above.

Concur. The Operations and Maintenance section of the HSLRR will include a fully defined discussion on the need to monitor the site for 5 years and take appropriate action to maintain early succession stages of plover needs for the Lighthouse Track Area.

3. Three Locations (New Made Island, former Smith Point Breach, and Pattersquash) within Smith Point County Park: Agree with the same note as under #1 above.

Concur. The Operations and Maintenance section of the HSLRR will include a fully defined discussion on the need to monitor the site for 5 years and take appropriate action to maintain early succession stages of plover needs for the New Made Island, former Smith Point Breach and Pattersquash within Smith Point County Park.

4. Vicinity of Great Gun: Agree with the same note as under #1 above.

Concur. The Operations and Maintenance section of the HSLRR will include a fully defined discussion on the need to monitor the site for 5 years and take appropriate action to maintain early succession stages of plover needs in the vicinity of the Great Gun area.

B. MAIN REPORT:

1. Page 3, under Study Area: Please add: "The landward limit of the Study Area is New York State Route 29."

Concur. Page 3, under Study Area will be revised to add: "The landward limit of the Study Area is New York State Route 29."

2. Page 4, first sentence of the second paragraph: Should be revised to "Fire Island includes the Fire Island National Seashore (FIS), Robert Moses State Park and Smith Point County Park, which is included in the Fire Island National Seashore boundary."

Concur. Page 4, first sentence of the second paragraph: Will be revised to "Fire Island includes the Fire Island National Seashore (FIS), Robert Moses State Park and Smith Point County Park, which is included in the Fire Island National Seashore boundary."

3. What sea level rise was taken under consideration in designing the FIMI Stabilization Project? The mean sea level rise is used? 0.127ft/year or the higher rate of 0.26 ft/year?

The ATR version of the HSLRR was prepared using the Curve 1 Sea Level Rise values. The analysis has since been revised to reflect the lower historic rate.

4. Page 13. Need correct references for who is monitoring the breach. It is not just NPS. Ex.: SOMAS, USGS.

Concur. Page 13 will be revised to indicate all involved entities monitoring the breach. The report will also be revised to state that the Fire Island Breach and Great South Bay Post-Sandy Studies Meeting was held on 24 JAN 2014 with the following groups: NPS, NY Sea Grant, Stony Brook University, USGS, University of Rhode Island, Virginia Tech, SOMAS, and USACE.

5. Page 28, Environmental Resources: Endangered species noted exclude sturgeon. It is a federally listed species (NOAA). That needs to be included. It is also missing in BA appendix attached.

Concur. Page 28 and the Biological Assessment Appendix will be revised to include sturgeon, a federally listed species (NOAA).

6. Page 31, section 4.0, numbered paragraph 5: This section refers to a state policy to close breaches. Please reference such policy.

Concur. Text will be revised to 'the State's policy to close breaches' to ' the State's history of closing breaches'

7. P. 31, Without Project Future Condition (WOPFC), Paragraph No.3: Why isn't WOSI included in this paragraph?

Concur. There are no plans to renourish the WOSI project (6 year life) so it is assumed for the WOPFC that, in the future it will continue to erode. Regardless, Page 31, Without Project Future Conditions (WOPFC), Paragraph No.3 should include a discussion of WOSI as noted above. The report will be revised, accordingly.

8. P. 33, There is a statement under Tidal Flooding Impact: This needs supportive information. Tab. 4 on p. 43 and the last paragraph on p. 45 shows that the main damages to the mainland is due to flooding of the back-bay area that is likely to occur regardless of the barrier island condition, through the existing inlets.

Paragraph on page 33 clarifies the hydrologic conditions that create flooding on the mainland due to overwash and breach of the barrier island. The paragraph does not contradict that nuisance flooding from tidal conditions occur frequently over the period of analysis. The report will be amended to distinguish between high frequency tidal flooding and infrequent but severe flooding caused by barrier island breaches.

Please note that the FIMP GRR seeks to address the high frequency flooding with a non-structural program. The use of non-structural measures to address the frequent flooding through the inlets, and stabilizing the barrier to reduce impacts from less frequent events is essential to the Reformulation Studies comprehensive strategy.

9. P.45- Dollar values in the last paragraph regarding total annual damage and damages due to flooding of the back-bay that is likely to occur regardless of the barrier island condition do not match Table 4 on p. 43.

Concur. The revised HSLRR will reconcile the total annual damages and damages due to flooding of the back-bay that is likely to occur regardless of the barrier island condition on Page 45 and Table 4 on Page 43.

10. Page 49, Section 6.2, first sentence on page: This refers to a Vision Statement that is in place for the FIMP project. The Department was not aware of a final Vision Statement being accepted by the FIMP management team. However, if the purpose of this reference is to formalize approval by involved agencies of the draft Vision Statement in this document, the Department does not object.

Concur. The District included reference to the Vision Statement for the FIMP project for the purpose to formalize approval by involved agencies of the Draft Vision Statement. However, for clarification, the HSLRR will more clearly indicate that the Vision Statement is still draft and its role in the FIMP and the FIMI projects.

11. What is the design life of the Stabilization Project? 5, 20, or 50? It varies during the report.

Concur: The Main Report will be revised to clarify that the period of analysis is 50 years, the total project life is 20 years, and the life of the project that accrues the immediate benefits immediately after project implementation is 5 years. The project life referenced in the EA is based on the period of time that the project will be monitored which is for 5 years. The remaining project life as referenced in the main report includes the residual benefits of the project.

12. Page 50: This plan identifies goals and speaks to necessity for mitigation for lost processes (reducing breaching and overwash). Plan then needs to indicate that these mitigation measures will be addressed in detail in the larger FIMP project.

Concur. The overall FIMP project (GRR) will indicate that mitigation measures will be addressed in detail. The HSLRR will be revised to state the necessity for mitigation for lost processes will be included in the FIMP project. FIMI as a one-time action should not require any Mitigation needs.

13. Page 56, section 7.2.1, 3rd paragraph: This paragraph addresses real estate needs and listed the acquisitions and relocations needed. The paragraph should also list the number of easements needed.

Concur. Section 7.2.1 will be revised to list the number of easements needed.

14. Pages 58 and 59, section 7.2.3: This section address the 4 areas listed above with regard to the alignment of the dune and Piping Plover Habitat. The need to monitor the site for 5 years and take appropriate actions to maintain early succession stages of plover needs to be fully defined in the Operation and Maintenance Section of the project report.

Concur. Section 7.2.3 will be revised to indicate the need to monitor the site for 5 years and take appropriate actions to maintain early succession stages of plover needs and will be fully defined in the Operation and Maintenance Section of the project report

15. Page 61, section 7.4.1: Has the cost to demolish and remove existing homes been included in the cost estimate?

Yes. Costs to demolish and remove existing homes are included in the cost estimate.

16. Page 62, Under Breach Response it reads "Breach closure is expected to occur in the WOPFC and in the with project condition" L: This needs to be consistent in the Page 31 which indicates that BCP is not being considered as a part of WOFPC.

Concur. BCP is not being considered as part of the FIMI project. However, the District will review all references in the HSLRR to the Breach Contingency Plan (BCP) for consistency. BCP was approved in 1996 and implemented under Advanced Measures (PL 84-99). If FIMI is constructed under an approved HSLRR, the BCP would also be implemented under PL 84-99. The revised HSLRR will be modified to provide clarification and the references reviewed.

17. Page 63, Tab.5: The FIMI Project Economic Cost does not include a separate line for cost of Real Estate Acquisitions/Relocations/Easements. There is approx. \$ 57,970,480 estimated for Real Estate. Is this cost included in the \$183,206,000 cost for beach fill? It so, it would be better stated in provided on a separate line.

Concur. The \$57,970,480 estimated for Real Estate is included in the \$183,206,000 cost for beach fill. However, the District concurs that the FIMI Project Economic Cost Table 5 should be revised to indicate a separate line to indicate costs associated with Real Estate Acquisitions/Relocations/Easements, accordingly.

18. Page 66: It reads "Tab. 8" and should be Tab. 7; It reads "Fig. 2" and should be Fig.12.

Concur. All tables and figures in the report will be reviewed to ensure consistency with the Main Report text of the HSLRR.

19. Page 71, Section 7.5.2: This paragraph indicates the Corps is working to identify alternatives to acquisition. Please elaborate on what the Corps is considering in respect to alternatives.

Alternatives to acquisition may include relocation of houses set-back on the existing lot, or relocation of the house to vacant land, both of which could increase the number of willing homeowners, accelerate the timeframe for acquisition, and would likely be less expensive than acquisition. As part of this plan refinement, the houses, docks and pools that are on the back-slope of the dune will be assessed to ensure that project can be implemented within the alignment. Further identification of alternatives to acquisition will be refined as the plan continues to develop during Plans and Specifications.

20. Page 72: It reads "Fig.3" and should be Fig. 15.

Concur. All tables and figures in the report will be reviewed to ensure consistency with the Main Report text of the HSLRR.

21. Page 77: No mitigation discussion is included for lost processes due to lack of sediment entering the bay and effects on marsh integrity and barrier integrity.

Human activities or structures have altered the nature or rate of natural shoreline processes within the study area (Maintained inlets, the beaches at Western Fire Island and Fire Island Pines are already engineered beaches as defined by FEMA). Extensive analysis has been done on beach nourishment alternatives within the study area for the FIMP project; nourishment is the only feasible way to protect/stabilize. Nourishment would restore impacted conditions and processes and therefore no mitigation is required.

22. Page 84, Section 10.1, 1st set of bullets, bullet 3: This should be changed to show "contracts 3 thru approx. 6" in order to allow construction to start as soon as possible in areas where real estate has been obtained.

Concur. It is the District's intent to proceed with contracts and implement reaches in areas where real estate has been obtained to allow construction to start as soon as possible. Section 10.1 will be revised, accordingly.

23. Page 84, Section 10.1, 2nd set of bullets, 1st bullet: This shows a schedule for construction at Smith Point County Park starting in May 2014 and being completed by December 2014. The Department supports moving these projects forward as expeditiously as possible, but also believes the public needs to understand the process in projecting the schedule. The Department requests that a more detailed schedule be included in this section which depicts the major milestones necessary to have construction start. This should include the following

dates: 1) When final PPA and Project Report will be provided to State, 2) when will final PPA be initiated by both the Army and State), 3) when will the 401 Water Quality Certification application will be provided to Department, 4) when is the WQC expected to be approved, 5) when will the Corps go out to Bid, 6) when will the Corps award the bid, 7) when will the public see construction starting on site, 8) what environmental windows exist that need to be factored into the schedule, 9) what is anticipated construction rate of sand placement, and what is estimated construction completion. In addition, if work is anticipated between Memorial Day and Labor Day, has the Corps worked out details with Suffolk County with relation to the operation of the open park?

Concur. Once approvals for this project become more evident, a detailed construction schedule will be provided and included in the HSLRR which will include 1) final PPA and Project Report provided to State, 2) the final PPA initiated by both USACE and State), 3) the 401 Water Quality Certification application provided to NYSDEC, 4) the WQC is expected to be approved, 5) when USACE will go out to Bid, 6) when USACE will award the bid, 7) construction start date, 8) environmental windows 9) the anticipated construction rate of sand placement, and estimated construction completion. The schedule will also incorporate any collaboration with Suffolk County if work is anticipated between Memorial Day and Labor Day.

24. Page 84, Section 10.1, 2nd set of bullets, 2nd and 3rd: Same as 23 above.

Concur. See response to Comment 23 above.

25. Page 84 thru 87, section 10.2: The language in this section is similar to the PPA and will be worked out through the PPA. Please see PPA comments.

Concur. Section 10.2 revisions will reflect the language in the PPA that addresses the State comments noted in Section B of this Response letter.

26. Page 87, Section 10.3: This section should define the length of time O&M will be required, which has been stated 5 years after the project is turned over to the state. If this is not stated in this section, confusion could arise since other sections of the report are using a 20 year period.

Concur. Section 10.3 will be revised to clarify that the monitoring and O&M duration will be 5 years after the project is turned over to the state. It should be noted that the 20 year period is the project life for which benefits accrue.

27. Page 87, Section 10.3, bulleted items: This section referred to the state's role in managing the land areas and use of these lands. A large portion of this area is managed by the National Park Service and this section needs to be specific as to their role vs. the traditional roles a

non-federal sponsor would have for a Corps project. As I read these bullets it looks like the Corps is giving control of a National Seashore to the State. This section needs to be expanded to describe specifically what O&M measures are expected and where. In addition, how will work be authorized within the National Park and Seashore?

The authority having jurisdiction over each respective section of the beach is expected to monitor and maintain the beach and constructed elements of the project. This includes reshaping of the berm after scarping events, but no volume will be added as part of these maintenance activities.

28. Page 88, section 10.3, second set of bullets, 1st bullet: This requires the non-federal sponsor to "reshape the design berm and dune to original elevation to repair loss of elevation caused by human activities, or loss of elevation caused by wind or wave action." Page 65 indicates that this project is a one-time action and does not include renourishment. Therefore, this language needs to be modified or eliminated.

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30. The proposed project includes the Berm only template in the reach in front of the Smith Point County Park Pavilion, Flight 800 Memorial, and the camp grounds. One of the two dune templates is preferable to the County in this location, to provide a higher level of protection to infrastructure and to bury exposed sections of the seawall(s). There have been no plover habitat considerations in this location that might preclude a dune template. Therefore, please consider including this alternative template.

The New York District received an email dated January 17, 2013 stating that the State of New York and Suffolk County is in agreement with the revised templates.

31. With regards to the habitat restoration area that was discussed in the vicinity of Great Gun, the County will forward copies of the plan that they originally discussed with the US Fish and Wildlife service a few years back. They are currently being revised slightly and will be forwarded directly by Suffolk County.

Noted. Habitat restoration areas will be evaluated during the FIMP reformulation and incorporated, accordingly in the GRR.

32. Please include the changes discussed in your letter on the plans so that they can be further reviewed and commented on. It has been assumed that they will be incorporated into the final report and plan, which would become part of the PPA.

Concur. A revised FIMI HSLRR, EA and Appendices, including revised plans will be provided to the State and would become part of the PPA.

33. The project proposes to use designated ACOE borrow area 4C, which is 3 to 4 miles east of Moriches Inlet. Project cost could be reduced considerably if they use the borrow area that Suffolk County identified in the FEMA restoration project under development. A location plan is attached. In addition to being much closer to Smith Point, reducing hopper transportation costs, using the Smith Point borrow area might open up the possibility that the Smith Point portion of the project could be accomplished using a cutterhead dredge, which would greatly expand the number of dredges that could build the project and possibly help to expedite the bidding process as well as the construction schedule. Suffolk County estimates that this site would yield +2 million cubic yards of material. However, please note that no permits have been obtained for use of this area.

The report can only provide cost estimates for permitted borrow areas. Because construction is on an expedited timeline, schedule does not allow for permitting of new borrow areas.

C. ENVIRONMENTAL ASSESSMENT:

1. Page 33: This is a very general written assessment of borrow area resources and impacts. There are possible impacts to borrow area resources (inverts, fish), water quality sediment quality and accumulation rates post dredge event. Also need to determine impact of dredge borrow areas on sturgeon, does it congregate sturgeon near dredge area where they can be impacted. Necessary pre and post project monitoring should be discussed in any plan for the project. The Department is currently working with USACE environmental branch to establish this monitoring plan as consistent as is possible across various USACE dredge projects. Need this information/monitoring to determine if borrow areas need to be managed differently. How was 20' max depth determined as adequate related to resource

impacts, water quality and sedimentation? Previous borrow area evaluations/report summaries for these sites are not in here but should be submitted.

The District is currently working with NYSDEC-Region 1 to establish a monitoring plan for the various PL 113-2 funded projects. Anticipated first field effort is in spring 2014. At this time, the District is unaware of sturgeon congregating near the potential borrow areas.

2. The Department will need recent sediment analysis to determine sediment appropriateness for placement. Seems evaluations used to determine appropriateness of sand were conducted 1984-98. Document states areas are affected by storm waves and other perturbations so conditions could have changed.

Although sediment analysis was conducted no later than 1998, adjacent sand to borrow area 4C and 2C has been used for construction as recently as 2008 and 2009, respectively. The grab samples taken during the construction process confirm that the borrow areas are still suitable for use on Fire Island.

3. Reiterate need for sturgeon assessment. They are federally listed and occur in numbers along the entire long island coast.

Concur. The revised EA will address the need for sturgeon assessment, accordingly.

4. Page 81: Discuss stopping of coastal processes and mitigation for that impact.

Coastal processes are being restored. In order to establish specific objectives a Restoration Framework was developed. This framework called for the restoration of five coastal processes which are critical to the development and sustainability of the various coastal features (such as beaches, dunes, barrier islands and bluffs) that, together, form the natural system. The five Coastal Processes identified by the Restoration Framework as vital to maintain the natural coastal features are: Longshore Sediment Transport; Cross Island Sediment Transport; Dune Development and Evolution; Estuarine Circulation; and Bayside Shoreline Processes.

5. Page 90: Discuss cumulative physical changes in borrow areas. We haven't seen the moving of sand filling in these areas. Need to look at what they fill in with as sediment determines invert resources. Fine grained infill could alter habitat quality to the negative.

GEOLOGIC FRAMEWORK AVOIDANCE CONCLUSIONS: As a simplistic first start to minimize the adverse impacts to any potential onshore transport processes is to utilize the identified borrow areas that are the farthest offshore and deepest for initial

nourishment, and provide pre and post dredging monitoring data collection, and to allow for adaptive management measures.

D. BORROW AREA PLAN

1. The Corps needs up to date grain size analysis for compatibility. The report also indicates possible sediment transport issues for 2C and the need for a plan to assess if that is so. The Corps should include that plan in this document. Current monitoring plan described above regarding sedimentation does not evaluate this issue.

The USGS analysis identified a large outcrop of Cretaceous rock approximately 6km offshore of Watch Hill. To the west, a field of shoreface-connected sand ridges (thinning to the west) was identified. It was hypothesized that these features may reflect onshore sediment transport west of Watch Hill from erosion of the Cretaceous strata traveling via sand waves (see sub-appendix for details). Quantification and confirmation have yet to be studied. It was further hypothesized that removal of material from these ridges may interrupt the onshore migration of material from the ridges to the shoreface. USACE acknowledges that the potential for this onshore movement is a plausible process. In the region with the largest sediment thicknesses contained in the ridges, some borrow areas have been proposed (i.e., 2B, 2C, and 2D). USACE shall monitor impacts to the borrow area infilling and the shoreline condition and susceptibility to waves. This pre and post borrow area monitoring might include bathymetric surveys of the borrow areas, wave data collection, bottom current measurements, profile surveys and aerial photography of the shorelines. If the material does, in fact, move onshore, during average conditions, or storm events, then borrow areas in that region would show evidence of infilling by the very same process. And if, in fact, the borrow areas do experience infilling, then the potential impact to the shoreline would be minimized. USACE is currently endeavoring to estimate borrow area infilling estimates using previously dredged borrow areas located along the same ridges (used for Saltaire, Fair Harbor, Dunewood, and Fire Island Pines areas). USACE is in full support of using adaptive borrow area management practices, should any other than negligible impacts be quantified or confirmed. These practices can include dredging in shallow lifts, changing the order the ridge borrow areas are accessed during the project life, allowing further time in between operations at these areas to allow maximization of infilling, minimizing surface area impacted in a borrow area, etc. USACE welcomes further collaboration on future research from the community of coastal sedimentation scientists.

Borrow Areas 1A, 2A, 2B, 2D, 2F, 2G, 3A, and 3B use will be deferred until future renourishment operations, at which time, a better understanding of the sediment transport processes will have been gained through pre and post dredging monitoring of Borrow Area 2C.

2. Why does dredge report state use of 5A 5B? Other areas of report only talk about 2C and 4C?

The resulting modified borrow plan is as follows: to use Borrow Area 2C for GSB-D1, GSB-D2, GSB-D3, and GSB-D4 fill placement areas and Borrow Areas 4C, 5A, 5B, and 5B Expanded for MB-D1 fill placement areas for initial nourishment.

A revised Borrow Area Plan, EA and main text will be provided.

E. NYSDEC Comments, January 14, 2014

1. P.4, it reads "This barrier island project area falls within Robert Moses State Park, Fire Island National Seashore and Smith Point County Park." - It should be revised to: "This barrier island project area falls within Robert Moses State Park, Fire Island National Seashore and Smith Point County Park that is part of the Fire Island National Seashore." This way it is clear that SPCP is part of the FINS.

Concur. The Real Estate Plan will be revised to state "This barrier island project area falls within Robert Moses State Park, Fire Island National Seashore and Smith Point County Park that is part of the Fire Island National Seashore" for clarification that SPCP is part of FINS.

2. P.4, it reads "The project will provide hurricane and storm damage reduction for homes and businesses within the floodplain extending along 83-miles of ocean and bay shoreline from Fire Island to Moriches Inlet,..." – It should be revised to "The project will provide hurricane and storm damage reduction for homes and businesses within the floodplain extending along 31 miles of ocean and bay shoreline from Fire Island Inlet to Moriches Inlet,..."

Concur. The Real Estate Plan will be revised to state "The project will provide hurricane and storm damage reduction for homes and businesses within the floodplain extending along 31 miles of ocean and bay shoreline from Fire Island Inlet to Moriches Inlet..."

3. P.4, it reads "The project will provide hurricane and storm damage reduction...by means of widening the beaches along the developed areas to a minimum width of 100 ft to an elev. of 14 ft and raising dunes to an elev. of 20 ft." – according to the HSLRR this should be revised to "the maximum beach berm width will have 90 ft at elev. 9.5 ft and dune height will be 13 or 15 ft, or no dune at all, depending on location".

Concur. The Real Estate Plan will be revised to state that "the maximum beach berm width will have 90 ft at elev. 9.5 ft and dune height will be 13 or 15 ft, or no dune at all, depending on location".

4. P.5, it reads “A total of 724 of properties requiring easement acquisition are necessary for the Fire Island Inlet to Montauk Point portion of the Project...” – It should be revised to: “A total of 724 of properties requiring easement acquisition are necessary for the Fire Island Inlet to Moriches Inlet portion of the Project...”

Concur. The Real Estate Plan will be revised to state “A total of 724 of properties requiring easement acquisition are necessary for the Fire Island Inlet to Moriches Inlet portion of the Project...”

5. P.5, Fig.2. Real Estate Requirements: Lands, Easements, and Right-of-Entries. It has a column “25’ Buffer Area”. What does this column exactly include? It includes structures for fee acquisition and relocations and something else? The total number is 66 and there are 42 acquisitions and 6 relocations required?

The 25’ Buffer Area has been removed from the Spreadsheet. There are 41 Fee Acquisitions and 6 on-site Relocations; The project may have potentially 47 owners eligible for Relocation Benefits.

6. P.8, it reads “Another Interim Plan currently being evaluated is protection of the commercial fishing facilities at the West of Shinnecock.” - What does that mean? What interim plan is being evaluated for WOSI? The Main HSLRR reads that the only Fed. Interim project considered in place is Westhampton Interim, nothing for WOSI are. Please clarify.

Concur. The Real Estate Plan will be revised to indicate that there are no plans to renourish the WOSI project (6 year life) so it is assumed that in the WOPFC it will continue to erode and that no interim plan is being evaluated.

7. P.8, it provides the existing federally-owned lands and lands owned by the non-federal sponsor. It would be good to add what lands are owned by State Parks and Suffolk County.

Concur. The Real Estate Plan will be revised to indicate which lands are owned by State Parks and Suffolk County in addition to existing federally-owned lands and lands owned by the non-federal sponsor.

8. P.9, it reads “No induced flooding is anticipated due to the proposed project features” – what does that mean exactly?

The project provides protection against barrier island breach, back-bay flooding and shoreline damages from storm events. Flooding only occurs with the overtopping of the island. That said the implementation of FIMI will not exacerbate or create flooding in areas historically have not been flooded.

9. P.9, Should not what is listed under “Total Baseline Cost for Real Estate for the project” match what is in Fig.2 on page 5. Real Estate Requirements?

Concur. The “Total Baseline Cost for Real Estate for the Project” should match “Real Estate Requirements” as depicted on Figure 2 of the Real Estate Plan. The revised Real Estate Plan will include this revision, accordingly.

10. P.10, it reads “Non-seasonal owners of the properties required for relocations, may need to be temporarily relocated during the time that the houses are being moved. If so, they may be eligible to receive reimbursement for certain expenses incurred during the period of temporary relocation, for moving and related expenses, such as temporary storage for their household goods.” – What is the estimated cost for this? Should not this be included in the real estate cost and total cost of the project?

An estimated cost has been added to the Real Estate Plan/Cost Appendix at approximately 10% of the total relocation costs and is included in the total cost of the project. Actual costs will be negotiated.

11. P.10, it reads “The Non-Federal Sponsor has been supplied a copy of the Sponsor Manual, outlining its responsibility for this project. Exhibit D.” – there is not Exhibit D and the Non-Federal Sponsor has not been supplied with the Manual. Is it the OMRR&R Manual?

Concur. No OMRR&R Manual has been provided to the Non-Federal Sponsor to date. The Real Estate Plan will be revised, accordingly including deleting reference to Exhibit D.

12. P. 11, Fig. 4 – Proposed Acquisition Schedule. It reads PPA execution start date Feb.1, 2014 – is this realistic? When will the State receive a final version of the PPA?

Concur. Once approvals for this project become more evident, a detailed construction schedule will be provided and included in the HSLRR. This will also include a date that the State will receive a final version of the PPA (see responses to PPA comments in Section B of this response letter).

13. P.14, Table including acquisition type has 21 houses under “Buffer 25” category in Kismet to Lonelyville. Fig. 2 – Real Estate Requirements on p.5 has 20 houses for this area; 10 homes in Fire Island Pines but 0 homes in Fig.2 for this area; 0 homes in Talisman Barret but 10 homes in Fig.2 for this area. - It should be consistent.

Concur. The Real Estate Plan will be revised to ensure consistency within the RE Plan itself and the main report.

14. P.31, Exhibit B1. It presents breach response, inlet management, inlet bypassing, road raising and non structural. – Why is this map included here? These are not alternatives included in FIMI project.

Concur. Exhibit B1 of the Real Estate Plan will be revised to include a map depicting the FIMI project.

A revised FIMI HSLRR is scheduled to be submitted to the State by (date) that will include the responses and requested information provided in your letter. In the meantime, if you should have any questions or require any additional information, please contact the Project Manager, Frank Verga at (917) 790-8212.

New York State Department of Environmental Conservation

Division of Water

Bureau of Flood Protection and Dam Safety, 4th Floor

625 Broadway, Albany, New York 12233-3504

Phone: (518) 402-8185 • FAX: (518) 402-9029

Website: www.dec.ny.gov



Joe Martens
Commissioner

January 8, 2014

Mr. Frank Santomauro P.E.
Chief, Planning Division
United States Army Corps of Engineers, New York District
Jacob K. Javits Federal Building
New York, NY, 12078-0090

RE: Fire Island to Montauk Point: Fire Island Stabilization Project

Dear Mr. Santomauro:

This is in response to your letter of December 19, 2013 regarding the outcome of the December 18, 2013 meeting. The Corps had also addressed the same letter to Gil Anderson of Suffolk County. This letter will be the response from the non-federal sponsor, which will include Suffolk County's concerns. The New York State Department of Environmental Conservation (Department) appreciated the United States Army Corps of Engineers (Corps) invitation to attend this meeting. In addition, the Department will provide an update on the Status of the Project Partnership Agreement (PPA) and also the review of the "Fire Island Stabilization Project Hurricane Sandy Limited Reevaluation Report" (project) which we received via e-mail dated December 20, 2013.

Your letter requested the Department's concurrence on the consensus the group reached on four areas of the project. The Department cannot speak for the group regarding consensus, as it did not appear that there was consensus among the federal agencies. We will, however, respond to the positions included in your letter regarding the views of the Department and Suffolk County.

1. Robins Rest Area: Agree with one note. The need to monitor the site for 5 years and take appropriate actions to maintain early succession stages of plover needs to be fully defined in the project report Operations and Maintenance section.
2. Lighthouse Track: Agree with the same note as under #1 above.
3. Three Locations (New Made Island, former Smith Point Breach, and Pattersquash) within Smith Point County Park: Agree with the same note as under #1 above.
4. Vicinity of Great Gun: Agree with the same note as under #1 above.

The Department received a copy of the draft PPA on December 9, 2013 via e-mail. The Department has reviewed this agreement and provided comments to Ellen Simon on December 17, 2013. The Department awaits the Corps' response to these comments.

The Department is in the process of reviewing the "Fire Island Stabilization Project Hurricane Sandy Limited Reevaluation Report", a 700+ page report. In order to assist the Corps in moving this project forward as quickly as possible, the review of the main body of the report has been completed, along with a number of the appendixs. Listed below are questions and concerns we have regarding the report. Please note, that the below comments are aimed at assisting the Corps in finalizing their report as expedissly as possible. If the Corps believes that in order to address any of the below comments the projects proposed schedule will be delayed, please contact me immediately to discuss. The intent of these comments are to provide guidance in finalizing the report, not to delay that finalization.

MAIN REPORT:

1. Page 3, under Study Area: Please add: "The landward limit of the Study Area is New York State Route 29."
2. Page 4, first sentence of the second paragraph: Should be revised to "Fire Island includes the Fire Island National Seashore (FIIS), Robert Moses State Park and Smith Point County Park, which is included in the Fire Island National Seashore boundary."
3. What sea lever rise was taken under consideration in designing the FIMI Stabilization Project? The mean sea level rise is used? 0.127ft/year or the higher rate of 0.26 ft/year?
4. Page 13. Need correct references for who is monitoring the breach. It is not just NPS. Ex.: SOMAS, USGS.
5. Page 28, Environmental Resources: Endangered species noted exclude sturgeon. It is a Federally listed species (NOAA). That needs to be included. It is also missing in BA appendix attached.
6. Page 31, section 4.0, numbered paragraph 5: This section refers to a state policy to close breaches. Please reference such policy.
7. P. 31, Without Project Future Condition (WOPFC), Paragraph No. 3: Way isn't WOSI included in this paragraph?
8. P. 33, There is a statement under Tidal Flooding Impact : This needs supportive information. Tab. 4 on p. 43 and the last paragraph on p. 45 shows that the main damages to the mainland is due to flooding of the back-bay area that is likely to occur regardless of the barrier island condition, through the existing inlets.
9. P.45 – Dollar values in the last paragraph regarding total annual damage and damages due to flooding of the back bay that is likely to occur regardless of the barrier island condition do not match Table 4 on p. 43.
10. Page 49, Section 6.2, first sentence on page: This refers to a Vision Statement that is in place for the FIMP project. The Department was not aware of a final Vision Statement

being accepted by the FIMP management team. However, if the purpose of this reference is to formalize approval by involved agencies of the draft Vision Statement in this document, the Department does not object.

11. What is the design life of the Stabilization Project? 5, 20, or 50? It varies during the report.

12. Page 50: This plan identifies goals and speaks to necessity for mitigation for lost processes (reducing breaching and overwash). Plan then needs to indicate that these mitigation measures will be addressed in detail in the larger FIMP project

13. Page 56, section 7.2.1, 3rd paragraph: This paragraph addresses real estate needs and listed the acquisitions and relocations needed. The paragraph should also list the number of easements needed.

14. Pages 58 and 59, section 7.2.3: This section address the 4 areas listed above with regard to the alignment of the dune and Piping Plover Habitat. The need to monitor the site for 5 years and take appropriate actions to maintain early succession stages of plover needs to be fully defined in the Operation and Maintenance Section of the project report.

15. Page 61, section 7.4.1: Has the cost to demolish and remove existing homes been included in the cost estimate?

16. Page 62, Under Breach Response it reads "Breach closure is expected to occur in the WOPFC and in the with project condition" L: This needs to be consistent in the Page 31 which indicates that BCP is not being considered as a part of WOFPC.

17. Page 63, Tab.5: The FIMI Project Economic Cost does not include a separate line for cost of Real Estate Acquisitions/Relocations/Easements. There is approx. \$ 57,970,480 estimated for Real Estate. Is this cost included in the \$183,206,000 cost for beach fill? If so, it would be better stated in provided on a separate line.

18. Page 66: It reads "Tab. 8" and should be Tab. 7; It reads "Fig. 2" and should be Fig.12.

19. Page 71, Section 7.5.2: This paragraph indicates the Corps is working to identify alternatives to acquisition. Please elaborate on what the Corps is considering in respect to alternatives.

20. Page 72 : It reads "Fig.3" and should be Fig. 15.

21. Page 77: No mitigation discussion is included for lost processes due to lack of sediment entering the bay and effects on marsh integrity and barrier integrity.

22. Page 84, Section 10.1, 1st set of bullets, bullet 3: This should be changed to show "contracts 3 thru approx. 6" in order to allow construction to start as soon as possible in areas where real estate has been obtained.

23. Page 84, Section 10.1, 2nd set of bullets, 1st bullet: This shows a schedule for construction at Smith Point County Park starting in May 2014 and being completed by

December 2014. The Department supports moving these projects forward as expeditiously as possible, but also believes the public needs to understand the process in projecting the schedule. The Department requests that a more detailed schedule be included in this section which depicts the major milestones necessary to have construction start. This should include the following dates: 1) When final PPA and Project Report will be provided to State, 2) when will final PPA be initiated by both the Army and State), 3) when will the 401 Water Quality Certification application will be provided to Department, 4) when is the WQC expected to be approved, 5) when will the Corps go out to Bid, 6) when will the Corps award the bid, 7) when will the public see construction starting on site, 8) what environmental windows exist that need to be factored into the schedule, 9) what is anticipated construction rate of sand placement, and what is estimated construction completion. In addition, if work is anticipated between Memorial Day and Labor Day, has the Corps worked out details with Suffolk County with relation to the operation of the open park?

24. Page 84, Section 10.1, 2nd set of bullets, 2nd and 3rd: Same as 23 above.

25. Page 84 thru 87, section 10.2: The language in this section is similar to the PPA and will be worked out through the PPA. Please see PPA comments.

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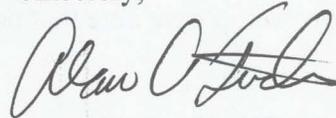
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2. Why does dredge report state use of 5A 5B? other areas of report only talk about 2C and 4C?

Please review the above and let me know if the Corps requires any addition information or discussion. The Department continues its review the remaining Appendices and will forward those comments to you as soon as possible. Please contact me at the above number if you need any additional information.

Sincerely,



Alan A. Fuchs

Director

Bureau of Flood Protection and Dam Safety

CC: G. Anderson
A. Ciorra
F. Verga
J. Herter
P. Scully
S. McCormick

State Comments to FIMP, Fire Island Emergency Stabilization Project

Preliminary un-reviewed Draft under Revision, September 1, 2013

December 2013

General

1. Report should support local planning efforts. This includes recognizing natural processes and events that have happened and will continue in the future. Facts about the environment are a foundation of good planning.

Response: The discussion of other efforts in this document is intentionally brief to maintain focus on the stabilization efforts. The FIMP HSGRR will provide a more comprehensive discussion of processes and events.

2. We previously understood FIMP would scale back beach engineering over the course of time in favor of adaptation and better land use. This was not addressed in this draft and it is important to communicate to all levels of government so we are working on integrated management. It is a highly important aspect of the project and should be repeated in all reports. At one time there was a FIMP public outreach effort to make sure this and related information was communicated. We would like to see this incorporated in the report and our edits/comments reflect that. Having made this statement, it is understood that depending on what is included in the PPA for this project regarding nourishment, will dictate whether this topic is taken up in this report or in the full FIMP HSGRR

Response: The discussion of other efforts in this document is intentionally brief to maintain focus on the stabilization efforts. The HSGRR will provide a more comprehensive discussion of processes and events. Beach engineering design refinements favor adaptation and better land use.

Study Area

3. “Sunrise Highway and Montauk Highway” shall be included in the description. Project description should show landward limit of the project.

Response: Concur. Plan layouts in the report show the landward limits of the FIMP project. Text has been added to the “Study Area” section of the Report as follows: “New York State Route 27 runs east to west extending approximately 120 miles from Interstate 278 in Brooklyn to Montauk Point State Park on Long Island. Its two most prominent components are Sunrise Highway and Montauk Highway. Every town on the South Shore of Long Island is accessible through Sunrise Highway.

4. Add “overall FIMP” to: This report describes the TSFP for the Fire Island Inlet to Moriches Inlet barrier island segment of the overall study area. A series of barrier islands characterize this reach within the “overall FIMP” project area.

Response: Concur. The phrase “overall FIMP” has been added to the text.

5. Revise by adding “the barrier island is inherently transitional”: In addition to storm- induced infrastructure damage, the stability of the barrier island is also vulnerable as erosion of the beach and dune system may lead to breaches of the barrier island .” to: In addition to storm-induced infrastructure damage, the stability of the barrier island is also vulnerable and “the barrier island is inherently transitional” as erosion of the beach and dune system may lead to breaches of the barrier island.

Response: Concur. The text has been revised to state “In addition to storm-induced infrastructure damage, the stability of the barrier island is also vulnerable and ‘the barrier island is inherently transitional’ as erosion of the beach and dune system may lead to breaches of the barrier island.

6. Add that: “The full FIMP project includes measures to reduce vulnerability in these Bay Shore communities. However, until those measures are implemented there is significant concern about the potential for increased damages should additional barrier breaches occur.”

Response: Concur. The text has been revised to state “The full FIMP project includes measures to reduce vulnerability in these Bay Shore communities. However, until those measures are implemented there is significant concern about the potential for increased damages should additional barrier breaches occur.”

7. Revise “Of greatest impact however, is the hydrodynamic impact on the back-bay” to “The breach may have a hydrodynamic impact on the Back Bay”.

Response: Concur. The text has been revised as suggested as follows: “The breach may have a hydrodynamic impact on the back-bay”.

8. Revise that when the breach occurs, flood elevation “may increase” and damages “may increase”, instead of “increase”. (DOS is not aware of any modeling or documentation demonstrating that flooding in the back-bay communities has increased as a result of the Old Breach Inlet. We have heard limited evidence that flooding has not increased.

Response: Extensive numerical modeling was performed by the USACE to quantify the impact barrier island breaches have on stage frequency curves. The report “BOCvsBLcomparison_Draft13Oct05.pdf” presents a comparison of the baseline and breach open modeling results. Modeling results indicate that open breaches result in measurable changes in storm water levels and cause relative increase in the stage frequency curves of

0.5 to 1.5 ft. No recent numerical modeling has been performed specifically for the Hurricane Sandy breach at Old Inlet. However, the previous numerical modeling indicates that “In general when a breach occurs, flood elevations and damages in the back bay and mainland increase”.

Text: Section 1.2. Storm-induced damages to developed areas occur due to wave attack, erosion of the beach and dune, and tidal flooding when the beach and dune elevations are exceeded. There is a long history of buildings and infrastructure being damaged or destroyed during storms, which is described further in this chapter. In addition to storm-induced infrastructure damage, the stability of the barrier island is also vulnerable as the barrier island is inherently transitional and erosion of the beach and dune system may lead to breaches of the barrier island. When a breach occurs, it impacts the Barrier Island and Back Bay systems during and after the storm. If the breach continues to grow, it may migrate (move along the island), leading to further damage of buildings and infrastructure on the barrier island. Breaches also impact the hydraulic stability of the existing inlets, which may result in increased sediment deposition in the inlet channels and compromised navigability of the inlet.

In general when a breach occurs, flood elevations and damages in the back-bay and mainland increase. The full FIMP project includes measures to reduce vulnerability in these Bay Shore communities. However, until those measures are implemented there is significant concern about the potential for increased damages should additional barrier breaches occur.

Fire Island National Seashore

9. It reads: “The General Management Plan for Fire Island National Seashore recommends that the large Federal Tract east of Watch Hill would not be included in the project area. The Environmental Impact Statement, in support of the General Management Plan for Fire Island National Seashore states that "if beach nourishment appears economically and environmentally feasible, work will be limited to beach areas west of Watch Hill. Major Federal tracts will not be included in the sand nourishment program.” – How far west of Watch Hill? - is sand placing at Fire Island Lighthouse consistent with “The General Management Plan for Fire Island National Seashore”? - is the BCP consistent with that Plan?

Response: Section 1.3 has been revised to discuss the GMP and BCP as it relates to the FIMI Stabilization project based on the Department of Interior input stating that a “General Management Plan (GMP) and the Final EIS on the General Management Plan were accepted in 1978, and have served as the basis for park management. The GMP is currently

under revision, but not yet finalized.” The BCP is incorporated into the overall FIMP reformulation study.

Project Area

10. Revise by replacing “relative severity or calmness of the ocean” to “wave climate, sand supply and condition of the near shore bar”: “The natural beach of the barrier island consist of these general features, from sea to land, a submerged beach, a shoreface, a berm and a coastal dune. This natural beachfront encompasses a range of geometries depending on the ocean “wave climate, sand supply and condition of the near shore bar”

Response: The revised document no longer includes this Project Area language. This expanded description of general features will be included in the HSGRR for overall FIMP.

11. How many structures have been added on Fire Island since the National Seashore was formed? What are the constraints on additional development?

Response: The FIMP HSGRR and DEIS will provide an expanded discussion of these issues. Further, a Land Management Plan Appendix has been added to the Fire Island Stabilization HSLRR.

12. Is the breach east of Moriches Inlet in 1980 in the same location as the breach that occurred after Sandy?

Response: Yes, the breach that opened east of Moriches Inlet during Sandy is in approximately the same location as the 1980 breach. The text in the HSLRR has been modified to state as such.

13. Could a chart describing date, location, sand amount, sponsor (local, county, state, federal) cost and cost partnership be created for beachfill since the 1931 hurricane?

Response: The available information regarding beachfill activities is included in “FIMP Engineering Activities” and comes from two reports (CHL FIMP Existing Conditions Coastal Processes Assessment, 1999 & USACE Inlet Modifications, 2007). Such a table may be better suited for the HSGRR Engineering Appendix. As you can see from the document, prior to 1979 the information on beachfill activities is limited to volume and location, and even from 1979-2005 there is not readily available data on the sponsor or cost.

Existing Conditions

14. Revise to: “Higher relative sea level elevates flood levels, and as a result smaller, more frequent storms “cause flooding” to “could result in flooding” equivalent to larger, less frequent storms. The more frequent flood events may “increase”

impacts “on flood- vulnerable properties and severe storms on top of higher sea level may affect” more property, “resulting” in greater damages as sea level increases.

Response: Concur. Text has been revised to state “Higher relative sea level elevates flood levels, and as a result smaller, more frequent storms “cause flooding” to “could result in flooding” equivalent to larger, less frequent storms. The more frequent flood events may “increase” impacts “on flood-vulnerable properties and severe storms on top of higher sea level may affect” more property, “resulting” in greater damages as sea level increases.

15. Add “Moriches and Fire Island inlets also increase the tidal prism and amplitude within the bays because the navigation channels are larger and more efficient than the unstructured tidal exchange.”

Response: Concur. Text has been revised to state “Moriches and Fire Island inlets also increase the tidal prism and amplitude within the bays because the navigation channels are larger and more efficient than the unstructured tidal exchange.”

16. Sediment Budget: “Corps should say something here about channel dredging and bypassing, which restores substantial amounts to down drift beaches”.

Response: Concur, the section has been revised to add “Available surveys and assumptions regarding the effects of sea level rise on inlet morphology suggest that Moriches and Fire Island Inlet trap 33,000 and 141,000 cy/yr, respectively ‘accounting for the volume of sand that is currently dredged and bypassed at each inlet for navigation’.” The overall FIMP HSGRR will discuss channel dredging and bypassing in more detail.

17. Revise by adding “amplitudes” to “Bay tide amplitudes are generally less than lag the ocean tides.”

Response: Concur. Text has been revised by adding “amplitudes” to “Bay tide amplitudes are generally less than lag the ocean tides.”

18. Any data on how the breach at old inlet has affected the local tidal amplitude and period (at GSB and FII)?

Response: Limited water level measurements collected at Bellport in Great South Bay near the breach indicate that the Old Inlet Breach has not had a substantial impact on tidal amplitudes at this location. However, the expected changes in tidal amplitudes for a breach of this size are relatively small and would be difficult to identify from a tidal harmonic analysis (performed by SUNY Stony Brook) over such a short period of time (1 to 2 months). Interestingly, salinity measurements at Bellport show a

significant increase in salinities following the breach, indicating that there has indeed been an increase in ocean/bay exchange caused by the inlet.

Of greater importance is what impact the breach may have on storm water elevations, which is nearly impossible to ascertain from data measurements alone since it is really necessary to compare the same event with and without the breach. Therefore, a calibrated numerical model is the best approach to determine the impact of a breach. Numerical modeling simulations performed in 2005 performed such a simulation for a breach at Old Inlet. A breach width of 2,500 ft, which is larger than the existing breach size, was assumed for the breach at Old Inlet. Therefore the modeling probably overstates the effect of the breach compared to the current condition; although it is possible that the breach will continue to grow and reach the simulated size. The relative change in storm stages for 6 storms was evaluated. The impact of the water levels for Great South Bay was generally between 6 and 18 inches depending on the severity of the storm. Modeling results show that while this breach had a significant impact on storm stages, the effect on tidal amplitudes was relatively small with Eastern Great South Bay, approximately 1 inch. This finding seems to be consistent with recent observations.

19. Revise that Smith Point County Park is located on “easternmost “side of this stabilization project area, not “westernmost.”

Response: Concur. The text has been revised to state that Smith Point County Park is located on the “easternmost” side of this stabilization project area, not “westernmost.”

20. Add “State coastal policies support protecting natural protective features, siting buildings and development in places that minimize risk, and avoiding actions that impair natural sediment processes.”

Response: Concur. Text has been revised to state “State coastal policies support protecting natural protective features, siting buildings and development in places that minimize risk, and avoiding actions that impair natural sediment processes.”

21. It reads that “Mainland flooding along Great South and Moriches Bays maybe intensified when Fire Island is breached or overwashed” - need to provide some documentation for this conclusion.

Response: Extensive numerical modeling was performed by the USACE to quantify the impact barrier island breaches have on stage frequency curves. The report “BOCvsBLcomparison_Draft13Oct05.pdf” presents a comparison of the baseline and breach open modeling results. Modeling results indicate that open breaches result in measurable changes in storm

water levels and cause relative increase in the stage frequency curves of 6 to 18 inches.

Text: Section 3.1 at end of Storm Surge. The impact of open breaches on storm stages was quantified with the hydrodynamic model described above. Modeling results indicate that open breaches result in measurable changes in storm water levels and cause relative increase in the stage frequency curves of 6 to 18 inches.

22. There is an existing sediment budget (volume changes and alongshore sediment transport) from 2001 in the report - should not more recent sediment budget be presented (after Sandy)? It reads that the budget incorporates long-term trends and recent changes, including new inlet and shoreline management practices at Shinnecock and Westhampton Interim – how about old breach inlet? How much sand was trapped by the new “old breach inlet”?

Response: An updated sediment budget has not been conducted since 2001. The sediment budget was estimated based on historical sediment budget trends for the HSLRR. However, the sediment budget can be updated and accounted for in the PED phase of this stabilization project.

23. Under Without Project Future Condition (WOPFC) it reads that Westhampton Interim will be in place until 2027 and WOSI Interim will be considered in place – should not overall FIMP replace all the interim projects? How long will the WOSI Interim be in place?

Response: The period of renourishment for WOSI has expired. WOSI will be superseded by the overall FIMP HSGRR reformulation project. However, after 2027, Westhampton will be subject to agreements outside the USACE jurisdiction. The reformulation study takes these projects into account.

24. The existing BCP is not being considered as a WOPFC; it reads that the new BCP is being evaluated as a part of the overall FIMP - should not existing BCP be considered as a WOPFC since it exists and is active without FIMP?

Response: Since the BCP is being reevaluated in the overall FIMP reformulation study, the FIMI Stabilization project cannot pre-suppose the outcome. The HSGRR will provide this detail.

25. It reads that “with the need to obtain approval, permits and funding, it is estimated that closure would take between 9 and 12 months to close a breach” – is this for breaches in the Wilderness Area as well?

Response: No, the 9 to 12 month estimate for closing breaches applies to areas outside the Wilderness Area. The Wilderness Area is subject to agreement with the NPS.

Text: Section 3.4. It is recognized that even in the absence of a BCP that breaches in the barrier islands will be closed either through natural closure or human intervention. This condition is based on the historic pattern of repeated breach closures, including after the storms of 1938, 1954, 1962, 1980, & 1992, and the State's policy to close breaches. Due to the need to obtain permits and funding approval it is estimated that breach closure would occur within approximately 12 months. The only policy identified which specifically considers leaving breaches open is limited to the Wilderness Area of the Fire Island National Seashore.

26. It reads that “If the existing lot size will not allow rebuilding landward of the CEHA, it is assumed that buildings will not be rebuilt. It is acknowledged that recent trends have shown that due to difficulties in the implementation of CEHA that variances may likely be granted to reconstruct some substantially damaged buildings within the CEHA, but such conditions cannot be predicted at this time.” – Replace by “If the existing lot size will not allow rebuilding landward of the CEHA, it is assumed that buildings will not be rebuilt. It is acknowledged that variances may likely be granted to reconstruct some substantially damaged buildings within the CEHA, but such outcomes are site specific and depend upon a healthy dune structure.”

Response: Concur. The text has been revised to state “If the existing lot size will not allow rebuilding landward of the CEHA, it is assumed that buildings will not be rebuilt. It is acknowledged that variances may be granted to reconstruct some substantially damaged buildings within the CEHA, but such outcomes are site specific and depend upon a healthy dune structure.” Please note that the word “likely” has been removed from the suggested revision to be in accordance with discussions with the State and to be aligned with the Land Management Appendix included in the Fire Island HSLRR.

27. It reads that “While there may be short-term changes in the inlet regime associated with Barrier Island breaching, the predominant conditions affecting the bay hydrodynamics would be represented by the current inlet conditions.” – is there supportive info for this statement?

Response: The expectation is that human intervention (e.g. breach closure, emergency beachfill, etc.) will prevent breaches from remaining open and new inlets from forming. Therefore, it is assumed that current inlet configuration, which controls the exchange of water between the ocean and bay, adequately captures the hydrodynamic conditions in the future.

Text: Section 3.4.3. In the WOPFC it is expected that future changes will occur within the estuaries and along the bay shores. It is expected that changes in the estuary will continue as a result of increases in sea level, and also due to future barrier island breaches. As is the

case for the barrier island condition, it is expected that the spatial and temporal magnitude of the hydrodynamic changes in the estuary due to breaching and overwash would be reduced by human intervention to reduce the potential for breaching, and through breach closure. While there may be short-term changes in the inlet regime associated with Barrier Island breaching, it is expected that the future bay hydrodynamic processes would be represented by the current inlet conditions.

4.0 Problem Identification

28. Beach and Dune Change. Add that: “overwash deposits are beneficial to natural accumulation of sand on the barrier, but suggests regional processes favor northward migration of the barrier from its present location.”

Response: Concur. The text has been revised to add that: “overwash deposits are beneficial to natural accumulation of sand on the barrier, but suggests regional processes favor northward migration of the barrier from its present location.”

29. It reads: “The breach-only lifecycle model was revised to reflect current beach profile widths and sea level rise as per the lifecycle inundation model but also to incorporate recently acquired data related to the maximum size of potential breaches in Great South Bay. Revisions to the breach-only model also included updated breach closure costs for all potential breach locations and current mobilization and unit costs applicable in BCP maintenance actions. All lifecycle simulation models were adjusted to incorporate a revised project base year of 2015 and the current FY interest rate of 3.75%”. – How was this rate determined?

Response: The interest rate for discounting that is, converting benefits and costs to a common time basis, is set each fiscal year in accordance with Section 80 of Public Law 93-251. HQUSACE obtains the rate from U.S. Department of the Treasury, which computes it as the average market yield on interest-bearing marketable securities of the United States that have 15 or more years remaining. The discount rate for Fiscal Year 2013 was set at 3.75%. The discount rate for Fiscal Year 2014 has been revised to 3.5%. For more information see Economic Guidance Memorandum, 14-01, Federal Interest Rates for Corps of Engineers Projects for Fiscal Year 2014.

30. It reads “Damage Results. The model simulations calculate damage for each year of the lifecycle starting at year 2000. The damage in each year is multiplied by the present worth factor to adjust to base year values. The present worth of damage is summed and multiplied by the capital recovery factor to calculate the equivalent annual damage for each simulated lifecycle. Table 3 provides a summary of the equivalent annual damages for the expected project life, a period from 2011 to 2060.” - Could you explain or provide a link to the capital recovery factor? We do

not understand why future damages discounted to present worth are then multiplied by this factor.

Response: A Capital Recovery Factor (CRF) converts a present value into a stream of equal annual payments over a specified time, at a specified discount rate (interest):

<http://www.soi.wide.ad.jp/class/20070041/slides/08/18.html>

Converting the total present value into equal annual payments allows for direct comparison between costs and benefits.

31. It reads: “Lifecycle Simulation Model in order to develop true understanding of the impact of flooding, the flood stage vs. damage curves are typically combined with flood frequency data to express damage in average annual terms. This is completed using the HEC-FDA program, which can evaluate annual damages for both baseline and a future condition”. It reads “Three separate damage simulation models were developed to link the hydrodynamic modeling of flood depths to the stage vs. damage data. The first simulation model was developed to evaluate Breach Open Conditions and the impact a barrier island breach will have on storm damages” - Development and infrastructure damages only, correct? Not benefits/dis-benefits for natural resources, water quality, etc.?

Response: Correct. Modeling is based on development and infrastructure damages only not benefits/dis-benefits for natural resources, water quality, etc.

32. It reads “The model quantifies the “increase” in damages if a breach is open and provides input to the second model, the Breach Lifecycle Analysis.” – Replace increase with “changes” - Please confirm there is an estimate of damages to Bay Shore development if there is no breach. Our previous understanding was that the cumulative damages from flooding through the inlets exceed damages from comparatively infrequent breaches.

Response: The damages without an open breach were evaluated and will be reported separately in the FIMP HSGRR. Further, the text has been revised to state “The model quantifies the “changes” in damages if a breach is open and provides input to the second model, the Breach Lifecycle Analysis

33. It reads “This model simulates breach occurrence and calculates average annual closure costs and breach induced damage over project life” - And beach maintenance costs to avoid breaches?

Response: The text above is correct. Average annual closure costs include maintenance costs to avoid breaches. Clarification text has been added to state as such.

34. It reads “The third model is the Lifecycle Damage Analysis, which simulates storms and bay water levels including the impacts of erosion/storms in creating Future Vulnerable Condition” – This term is not defined. We are not certain the adjective “vulnerable” is appropriate.

Response: The following excerpt from the Reformulation Report provides an overview of the Future Vulnerable Condition. “Considering the influence of the coastal processes and the human response to these processes, it is expected that the shoreline will continue to be influenced by the regional sediment framework, storm response, localized erosion hot spots, and sea level rise. It is expected that the beach conditions will fluctuate over the next 50 years based upon the timing and intensity of storms. This cycle of beach and dune condition is captured in the life cycle evaluations used for project design and evaluation, which recognize that the beach and dune conditions are variable over time. The modeling that has been undertaken for the project utilized a September 2000 Conditions as a baseline, which in fact represents conditions representative of a wider beach and healthy dune. In order to represent the range of conditions that could be expected, A Future Vulnerable condition (FVC) has been developed based on historic erosion rates, the Existing Condition Sediment Budget, Baseline Conditions numerical modeling storm surge and morphological results, historic storm impacts, and the assumed without project future condition regarding locally sponsored beach restoration and maintenance projects. The approach to develop the FVC focused on changes that would be expected to cause increased flow through the barrier islands (as a result of increased inundation and breaching), and concomitant increase in Back Bay water levels.”

35. Inundation Damages. ”These occur when vulnerable structures are flooded by high tides and storm surges in the back -bay, where the water levels are sensitive to the conditions of the barrier islands. In order to illustrate the relative contribution of barrier island breaching and overwash to the total damages, these inundation damages have been separated out to show those damages which occur due to flooding through the inlets, and wave setup in the bay; and those damages that arise due to the increased flooding during the storm event that results in breaching and overwash. This breakout has been developed by evaluating the damages that occur if the barrier island is in a condition to preclude breaching and overwash.” - Does this mean a model condition with no breaches, or that the Army Corps is confident they can create a condition that “precludes” breaching? There are levee failures somewhere in most years so it is inappropriate to report to the state or localities that there is certainty no breach will occur if a project is built?

Response: The discussion referenced was a quantitative assessment in determining damages in breach-open and breach-closed conditions. The analysis was not intended to confirm whether or not a breach will actually occur.

36. Table 5 helps illustrate the storm damages that can occur, as a basis for presenting the alternatives that are available to address these problems, and the relative magnitude of each problem. This illustrates that of the \$114 Million in annual damages calculated, that \$81 Million (71%) of the damages is due to flooding of the Back Bay areas that is likely to occur regardless of the barrier island condition - Does this figure reflect average damages over the FIMP project life? Is it supported by recent (20th & 21st century) data?

Response: The damages presented in Table 5 are equivalent annual damages over the 50-year FIMP project life. i.e. they represent the expected annual damage taking into account changes in physical conditions that would be expected to increase the expected annual damage between the project base year and the end of the project life.

37. Section 4.1.2. Breach and Overwash Impacts, it reads that “During Hurricane Sandy three breaches occurred along Fire Island...” – it should be revised “two breaches occurred along Fire Island and one along the reach between Moriches Inlet and Shinnecock Inlet.”

Response: Concur. Section 4.1.2. Breach and Overwash Impacts, has been revised to state “two breaches occurred along Fire Island and one along the reach between Moriches Inlet and Shinnecock Inlet.”

38. It would be great to include some supportive info, if possible, on the physical impacts of a breach (with size of the breach, for how long open and its potential location) or severe overwash: increase in bay tidal levels, increase in bay storm tide levels, changes in bay circulation patterns, residence time and salinity, and increase in sediment shoaling in navigation channels and shellfish area, etc.

Response: The physical impacts of the entire plan will be covered in more detail in the FIMP HSGRR. Section 8.2 “Physical Impacts” touches on these subject areas, and provides a general overview of what impacts may occur if the likelihood of barrier island breaching and overwash is decreased as a result of the project. The overall plan will include restoration features that will mimic the effects of large overwash events. In the context of the Emergency Project, the conditions are more influenced by the long-shore transport processes, and storm activity. Geomorphic impacts associated with the initial construction are likely to be insignificant, since geomorphic impacts are important when considering longer time scales on the order of 100 years, not a one-time project.

39. Table 5 Summary of Without Project Equivalent Annual Damages shows total annual damages to the mainland and barrier island from inlet and back-bay wave, breaching and overwash. – Could the table present total annual damages to the mainland and barrier only from inlet and back-bay wave and a separate column for total annual damages to the mainland and barrier from breaching and

overwash? - Is this table only for the Fire Island portion of the overall FIMP or for the overall FIMP?

Response: Updated Tables have not been developed showing separately the Back Bay damages attributable to barrier/breaching/overwash separately from and to flow through the inlets because it would require an additional significant modeling exercise for conditions with no breach or overwash, such as discussed in comment 35 which has not been performed at this stage in the study. Please also note that Back Bay damage models did not incorporate the facility to calculate direct wave damage as a separate component. Because of the hydraulic interaction between Great South Bay and Moriches Bay, damages have been calculated and presented for the full length of Fire Island and the Back Bay mainland areas of both bays.

40. Under breach – inundation definition reads that “breach inundation damages occur when structures are flooded by increases in back -bay water elevations caused by breaches in the barrier island remaining open for a period of time” - what is the period of time, how long and what size of breach would cause inundation?

Response: The without project assumption is that the breach closure will begin 9 months after the breach occurs and that the breach will be closed 12 months after the breach occurs. The maximum breach size and growth rate were based on prior observations. Hydrodynamic models evaluated the impact of various open breach dimensions at locations throughout the bays. The simulations of breach open conditions allowed the breach to grow at an asymptotic rate up to the estimated maximum stable breach area. Simulations were based on the following breach characteristics.

Breach Growth Rate Parameter			
Bay	Min	Most Likely	Max
Great South Bay	0.15	0.20	0.30
Moriches Bay	0.15	0.30	0.40

Max Stable Breach Area (Sq Ft)		
Bay	Min	Max
Great South Bay	6,000	33,500
Moriches Bay	16,000	16,000

41. Are the damages to the land itself being taken under consideration or only structures? How about the damages to public (safety of the public during storms) and other damages (roads, utilities, coastal protection structures, locally-based fishing fleets)? -could this affect project benefits?

Response: Damages are currently limited to structures. The benefits also include future costs avoided for repair of existing dunes and beaches. These categories represent the large majority of potential benefits.

42. From the total \$114 Million in annual damages, there is \$81 Million due to flooding of the back-bay areas that is likely to occur regardless of the barrier island condition. There is \$10 Million in damages due to damage that occurs when a breach remains open - this needs supportive info, what size of breach and for what duration does it remain open?

Response: Please refer again to the response to comment 40.

43. SLR – damages are based only on the historic SLR rate 0.0126 ft/y (1.3 ft/century). In order to evaluate the impact of potentially higher rates, additional lifecycle simulations were performed using a SLR rate of 0.026 ft/y (1.3 ft/50 y). The impact on SLR on the annual damages varied between the reaches (30 to 70%) - what is it for Fire Island stabilization reach only?

Response: Evaluation of alternative sea level rise scenarios will be included in the FIMP HSGRR.

5.0 Study Goals and Objectives

44. Revise: The goal of the FIMP Study is to “provide protection to the mainland and barrier island by reducing the potential for breaching and overwash of the barrier island” to “reduce storm damages throughout the project area by addressing the potential for flooding and erosion impacts.”

Response: The Corps presents studies as management for risk in accordance with USACE guidance. The Corps no longer presents projects in terms of damage reduction.

45. Revise: Future breaching and overwash is considered imminent given the eroded state of the barrier as a result of the impacts of Hurricane Sandy. Therefore, a short-term goal is to provide immediate, “sufficient” protection to the barrier island “consistent with completion of the Reformulation Study recommendations.” To “temporary” protection to the barrier island “sufficient to reduce storm risk in the project area until the full FIMP project under development can be initiated.” Of course this depends on what is put in the PPA.

Response: The Fire Island Stabilization project is not intended nor is it designed as temporary protection. As the revised economics section of the HSLRR states, economic benefits and therefore a reduction in risk to

future damages even though the project is being presented as a “one time only” action. Benefits are expected to provide 20 years in managing risk for Fire Island to Moriches Inlet. However, the District concurs that the full FIMP project will provide renourishment components for the Fire Island Stabilization project thereby providing for more “permanent” protection that the above comment intimates. The District concurs that the above does depend on the language in the PPA.

46. It reads “In addition to NED and NER objectives, the following specific objectives have been identified “Mitigate the effect of and prevent and offset current long -term erosion trends” - We do not agree a project objective is to prevent shoreline erosion, which may not be possible. Erosion is certain. The object should be to reduce damages caused by erosion.

Response: Concur. The Fire Island to Moriches Inlet project does not necessarily “prevent erosion”. However, beachfill placement will mitigate the effect of erosion and offset those results. As noted in the response to comment to 45, the Fire Island Stabilization project is projected to provide approximately 20 years of benefits in response to the current vulnerable conditions.

47. Add an objective that would benefit state and local planning efforts to coordinate with the Corps project: “To the most practical extent, integrate project measures with local planning and management measures aimed at reducing negative impacts from coastal storms”

Response: Concur. The suggested text has been added to state “To the most practical extent, integrate project measures with local planning and management measures aimed at reducing negative impacts from coastal storms.” The text has also been incorporated into the Land Management Appendix.

6.0 Formulation of Alternative Plans

48. Study Vision. Revise: 3. Non-structural measures. By definition, non-structural measures are those activities which “can be undertaken to move what is being damaged out of harm’s way rather than attempting to alter the movement of water.” to “minimize potential damages through elevation, relocation, flood proofing or buyout”.

Response: Concur. The text will be revised to indicate that non-structural measures seek to move what is damaged away from harm’s way rather than structural measures that seek to reduce the risk of damages by moving the water away from the current vulnerable area. Text has been added as suggested above.

49. Add: 4. Soft structural measures. Soft structural measures, generally are those constructed of sand and are designed to “augment and/or” mimic the existing natural protective features.

Response: Concur. Text will be added stating that soft structural measures, generally are those constructed of sand and are designed to “augment and/or” mimic the existing natural protective features.

7.0 Formulation of Alternative Plans

50. It reads: “Plan 1 addresses damages that occur due to a breach remaining open and address 10% of the damages” – what damages will Plan 2 and 3 address and what percentage of damages?

Response: Plan 2 and Plan 3 were not quantified under breach-open conditions. Further analysis is being conducted in the overall reformulation study.

51. Costs (7.4.1). What exactly is included in the Fire Island Stabilization Project? The Fire Island Stabilization Project Annual Cost in Table 6 includes: beach fill, nonstructural, road raising, renourishment and breach closure? – is that correct? This will be dictated by the PPA, we are assuming it will be initial beach fill and breach contingency plan only.

Response: The FIMI Stabilization Project only includes beachfill and ocean front relocations and acquisitions. The other components of the FIMP HSGRR were originally included in the economic cost benefit analysis per the original game plan. The FIMI Stabilization Project does not include renourishment and is economically justified as a “stand-alone” project. Breach closure and renourishment, with associated costs and economics, are included in the HSGRR.

Project Impacts

52. It reads “Not expected to have any significant adverse impact on the environment outlined in the accompanying EA – can we receive a copy of that EA?”

Response: The EA is being provided with the draft HSLRR for review on 20 December 2013.

9.0 Project Implementation

53. The document lists all of the responsibilities of the non-federal sponsor that normally are listed in the PPA. At what point does the State need to sign off on this document, before PPA execution or after?

Response: USACE will seek a waiver to execute a PPA prior to HSLRR approval from the MSC and HQUSACE. However, a Letter of Support

from the State for the HSLRR will be required no later than 21 January 2014 to comply with the currently mandated schedule before USACE will execute the PPA.

54. Construction schedule: Contract 1 – Jan. 2014 – April 2014, Contract 2 – Jan. 2014 – April 2014, Contract 3 – June 2014 – April 2015 – is the schedule realistic? There may be an environmental window for Contract 3.

Response: The District is currently finalizing the schedule based on HQUSACE mandated deadlines. Recognizing the effort necessary for obtaining the necessary real estate requirements for the project, the initial construction is expected to be split into three contracts, based upon the scope of the Real Estate needs and the timeframe for securing the real estate:

- Contract 1: Smith Point County Park (MB-1A, MB-1B, MB-2A);
- Contract 2: Lonelyville to Robert Moses State Park (GSB-1A, GSB-1B, GSB-2A);
- Contract 3: Davis Park to Town Beach (GSB-2B, GSB-2C, GSB-2D, GSB-3A, GSB-3C, GSB-3E, GSB-3G).

The proposed construction schedule is as follows:

- Contract 1: May 2014 to Dec 2014
- Contract 2: October 2014 to April 2015
- Contract 3: November 2014 to April 2015



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District Engineer, New York District
United States Army Corps of Engineers
26 Federal Plaza, Rm. 2113
New York, NY 10278-0090

Attn: Robert Smith, Project Biologist

RE: Draft Finding of No Significant Impact document related to the Fire Island Inlet to Moriches Inlet Stabilization Project.

June 18, 2014

Dear Colonel Owen:

On behalf of Audubon New York, the 50,000-member state program of the National Audubon Society, thank you for accepting the following comments on the draft Finding of No Significant Impact (FONSI) document for the U.S. Army Corps of Engineers (Corps) Fire Island Inlet to Moriches Inlet (FIMI) Stabilization Project. This project will spend \$158 million on land buyouts, easements, and place approximately 7,000,000 cubic yards of material obtained from three offshore borrow sites on Fire Island beaches. Audubon New York provided comments on the draft Environmental Assessment (EA) on April 15, 2014.

After review of the draft FONSI and associated documents, we urge that a full Environmental Impact Statement (EIS) be conducted. There are a number of reasons why this project warrants an EIS; perhaps most important is that the FONSI is based on a flawed United States Fish and Wildlife Service (USFWS) Biological Opinion (BO) that erroneously and unjustifiably concludes that the project poses no jeopardy to the recovery of the Piping Plover and proposes insufficient and unenforceable conservation measures and inadequate Reasonable and Prudent Measures (RPMs) to minimize incidental take impacts. In addition, the Corps will violate the National Environmental Policy Act (NEPA) if it proceeds without preparing an EIS because the EA did not consider a range of reasonable alternatives, improperly segments the FIMI project from related projects, and fails to analyze cumulative impacts.

Inadequate USFWS Biological Opinion

The Corps entered into a formal consultation with the USFWS regarding project impacts to federally listed species because there are federally listed species found in the project area. The USFWS's BO of the FIMI stabilization project concludes that, while project activities will affect Piping Plovers, the project will not jeopardize the continued existence of this species. However, Audubon New York's position is that this finding of "no jeopardy" is erroneous for several reasons, including that 1) the majority of the BO confirms the significance of the habitat that will be destroyed by the project and also that beach stabilization projects like the one in question essentially are incompatible with maintenance of high-quality plover habitat to ensure the recovery of the species, 2) the calculations of take are unjustifiably low and, even if its calculations were correct, the BO does not adequately justify why that level of take will not adversely impact the recovery of the species, and 3) the conservation measures and RPMs on which this conclusion is based are both insufficient and unenforceable. Below, we explain these issues in more detail.

1. Disregarded Significance of Habitat

The BO provides a strong case on the negative impacts this project will have on optimal plover habitat, which is necessary to meet the recovery goals for this species and is a limiting factor on Long Island (FIMI BO, pp. 12, 50, 73, 86, 110, 122-39). The BO clearly states that each recovery unit is absolutely critical to the recovery of the species, that New York plays the most significant role in the NJ/NY recovery unit, and that the south shore of Long Island is the biggest contributor to the New York population (FIMI BO, p. 63). The BO stresses the importance of high-quality habitats that include nesting areas in close proximity to good foraging areas, such as those provided by newly created ocean-to-bay beaches and overwashes, and how those habitats most significantly contribute to population expansion (FIMI BO, p. 56). In addition to the good foraging habitat that overwash areas provide, those habitats tend to have lower predation rates, which further allow birds to successfully reproduce and contribute to population increases. The BO states that it is critical that beach nourishment projects are not implemented in high-quality habitats because it results in plover habitat destruction and degradation and lower reproductive success (FIMI BO, pp. 51, 52, 67, 71, 73, 83). This type of habitat is rare on Long Island and was created within the project area by Hurricane Sandy. As planned, the project will destroy this high-quality habitat and none of the RPMs or other project actions will replace that habitat.

2. Issues with Take Calculations and Decisions about Determining Jeopardy

The BO concluded that the project would result in the take of 11 pairs of Piping Plover (close to 4% of the estimated New York 2013 population). Audubon New York's position is that this number of pairs was calculated incorrectly (see details below) and that the finding that this level of take is acceptable and does not jeopardize the recovery of this species in New York and in the NJ/NY recovery unit was reached based on faulty logic and inadequate biological information.

After considering the current habitat conditions within the project area and the research used to estimate the value of different types of habitat (Cohen et al. 2009), it is Audubon New York's opinion

that this project will result in the taking of more than 11 pairs of Piping Plovers. The 11 pairs of plovers estimated to be taken by this project were determined by calculating pairs of plovers “with” and “without” the project based on research showing that, on the south shore beaches, the density of plover pairs typically reaches 1 pair per hectare of beach when there is bay-to-ocean connection and/or wide, sparsely vegetated beaches with wide moist open sandy habitats for foraging; on beaches that lack these characteristics, the density of plover pairs is generally 0.5 pairs per hectare or lower. The calculations used in the BO unjustifiably undervalue existing habitat at Smith Point County Park that will be destroyed by the project and overvalue habitat at Great Gun that will be created as an RPM.

The USFWS originally estimated that the project would support 60 pairs of plovers if the project was not completed. That number was then reduced to 51.25 pairs following objections by the Corps, Suffolk County, and the State, who argued that the quality of habitat found in a portion of the project area (Smith Point County Park) does not warrant being valued at 1.0 pair/ha “without” the project, because the ocean-to-bay connection at the County Park has been “truncated” due to sand fencing and vehicle use (FIMI BO, p. 147). It is important to point out that the sand fencing in that area should not be there and the USFWS has twice notified the Corps that it must be removed to be in compliance with the Breach Contingency Plan and associated BO. See Letters from D. A. Stillwell (USFWS) to P. E. Owen (USACE) dated March 21 and June 19, 2013. The Corps has yet to remove this fencing, the presence of which is the basis for their argument that the habitat at this site is not currently optimal.

The noncompliant fencing aside, the basis for the objections of the Corps and others is incorrect. Presently, there is no road at the Pattersquash overwash area in Smith Point County Park and, even if a road existed, roads do not truncate the ocean-to-bay connection and it is possible to manage vehicle traffic to reduce the risk to plovers as has been done effectively at other sites (J. Cohen, personal communication, June 5, 2014). Therefore, the habitat at this site should be considered optimal and be valued at 1.0 pair/ha. Valuing the site at this level would restore the original “without project” estimate that the project area would support 60 pairs of plovers.

Similarly flawed is the BO’s valuation of the habitat restoration proposed for the Great Gun area (estimated to support 0.75 pairs/ha, resulting in a total of 25.275 plover pairs). The stated goal of this restoration project is to improve nesting habitat suitability by creating foraging areas via ponds in lieu of an ocean-to-bay connection. The BO’s estimate ignores the fact that past attempts on Long Island to create these types of foraging areas have not been successful (e.g., the Corps’ West of Shinnecock Inlet project where three depressions of differing dimensions were built into the beach design, but did not function as ephemeral pools as was intended and were considered a failure). Moreover, almost the entire area where the Great Gun restoration effort is planned is somewhere between 11 and 20 feet above the water table, which means that the 7-foot-deep depressions that are proposed as foraging area are highly unlikely to hold water. Given that there is a history of failure of the specific habitat improvement technique proposed and that it is unlikely to succeed at Great Gun, Audubon New York’s opinion is that a 0.75 pairs/ha valuation of the habitat at Great Gun is unreasonable and a more appropriate estimate of plovers expected at this site would be 0.50

pairs/ha. Changing the valuation in this way, the Great Gun restoration would support only 16.85 pairs, not 25.275 pairs.

We have similar concerns about the value of the habitat that will be created south of New Made Island using dredge spoils, but just these changes to the calculations for Smith County Park and Great Gun (both of which are more justifiable and reasonable than those used by the USFWS in the BO) lead to the conclusion that the pairs of Piping Plovers that would be taken by this project will be 28.925, which is fully 10% of the entire New York population estimated in 2013 (FIMI BO, p. 211), rather than 11 as estimated in the BO. Even this may be an underestimate of the number of pairs taken by this project as it only considers carrying capacity of the project area and not reproductive output of the plovers occupying the optimal habitat, which could contribute to an increase in populations elsewhere on Long Island, as well as other forms of take as defined by the Endangered Species Act, such as loss of habitat and harassing and harming individual birds.

Whether the number of plover pairs taken by this project would be 11 or 29, the USFWS' conclusion of "no jeopardy" cannot be squared with the text of the BO, (i.e., "if implementation of the proposed action is likely to cause an appreciable reduction in the likelihood of both the survival and recovery of these species in the wild;" "actions that further diminish the carrying capacity of habitat pose the greatest potential for additional reductions in the probability of persistence of the recovery unit population and will be the most difficult to reverse;" "under the proposed project, the formation of plover habitat complexes associated with breaches and overwashes would be impaired" (FIMI BO, pp. 144-46)). The activities included in the proposed project, the habitats impacted, and the calculations of take all point to this project directly reducing the carrying capacity of habitat in this area and therefore reducing the probability of persistence of this population, as well as causing destruction or adverse modification of critical habitat and harassing and harming individual birds. If this is not adversely impacting the recovery of the species, Audubon New York does not know what is. The USFWS' conclusion that the project will not jeopardize the recovery of this species on the basis of a BO that makes clear that this project will negatively impact the persistence of plovers in New York and their habitat is arbitrary and capricious.

3. Reasonable and Prudent Measures are Inadequate and Not Enforceable

The RPMs contained in the BO and the draft FONSI are problematic for a few reasons. Many of the RPMs (e.g., monitoring and predator exclosures) are things that already are being done in the project area. Not only have these measures proven inadequate in the past for achieving the recovery goals of this unit (and there is no reason to believe that they will be more effective in the future), but it is improper to take credit for activities already taking place in establishing RPMs to mitigate impacts of a proposed project. While some of the proposed RPMs do go above and beyond what is currently being implemented (e.g., enhanced coordination and predator control plan), they require the commitment and cooperation from landowners and others before they are implemented, and there is no certainty that commitment and cooperation will be achieved. For these reasons, the RPMs are overvalued and are not likely to result in a greater conservation effort

for plovers than currently exists. The following are more specific comments on some of the proposed RPMs:

a) Coordinated Monitoring Program

This does not appear to be anything significantly different than the current Piping Plover monitoring and stewardship that is conducted each year with assistance from USFWS and New York State Department of Environmental Conservation. What additional value is added through this proposal needs to be better described, and even with that, this particular RPM will not directly result in more plover habitat and/or plover numbers to compensate for the habitat and plovers the project is taking.

b) Predator Management

This RPM describes creating a predator management strategy, but focuses on the use of predator exclosures, which already are being used throughout the project area and are only somewhat successful in increasing plover hatching, not fledging, the latter of which is needed to increase productivity and meet recovery goals. In fact there are some situations when it is better not to use exclosures to reduce impacts of predators because the exclosures attract predators. For these reasons, exclosures should not be the focus of a predator management strategy. Without reducing predator numbers, it is not likely that an increase in plover productivity will be achieved. While the RPMs indicate that reducing predator numbers will be pursued, it acknowledges that land manager and landowner agreement and commitment will be required before this measure can be implemented, and currently there is no commitment from some of the major land managers and landowners (e.g., State Parks) to implement predator reduction measures.

c) De-vegetation Maintenance and Habitat Restoration and Creation

We commend the Corps for proposing restoration and habitat enhancement conservation measures. These measures are extremely important when trying to offset the negative impacts of the project. However, the proposed benefits of these restoration projects are overstated, overestimated, and need to be recalculated (as stated in "2." above under inadequate BO).

The restoration work proposed for Great Gun and New Made Island would be new activities, but they do not come close to adequately replacing the optimal habitat that will be destroyed by the project. Additionally, further detail is needed to better understand what the restoration projects will look like and the commitment to implementing them and ensuring success. For example, it is proposed that vegetation in certain areas will be kept to 30-40%, but what will this look like? Will it be measured by quadrat, random samples, something else? Will woody vegetation be treated the same as beach grass? These details are critical to an understanding of whether or not these measures will provide suitable plover habitat because the type of cover and how it is dispersed on the beach determines if an area is suitable to a plover.

Additional Reasons Why a Full Environmental Impact Statement Is Needed

- The project falls within and/or overlaps with unique features, including a National Seashore and critical habitats for the federally listed Piping Plover, seabeach amaranth, and the proposed federally listed Red Knot.
- There is controversy over the project and its effects on the quality of the human environment. 1,650 comments from Audubon New York members were submitted on the FIMI DEA expressing concerns about this project, other conservation groups and federal agencies commented as well as, and communities have expressed concern in local media.
- This project will establish a precedent for future actions and will influence future decisions on similar projects. This project is one of many proposed storm recovery projects and is the largest beach replenishment project in the history of Long Island.
- Impacts of the FIMI project appear to be understated by terming this project “temporary,” but it is the largest dredging project in Long Island’s history, will cost \$185 million, and involves land buyouts and perpetual easements, which are not temporary. Also, there is a history of Corps projects, once built, becoming "corps constructed projects," making them eligible for rebuilding after storms with minimal environmental review.

The Project Is Not in Full Compliance with NEPA

1. Failure to Consider a Range of Reasonable Alternatives

Only two alternatives are evaluated in the EA—the preferred alternative and the required “no action” alternative. There are concerns within the environmental community as well as local communities about whether the resources spent on this project will achieve the ultimate goal of flood protection along Fire Island as well as the communities on the south shore of Long Island. Unfortunately, the DEA does not provide the science to support the claim that breaching and overwash (which this FIMI project aims to address) significantly contribute to flooding in the back-bays. In fact, evidence currently exists from the breach at Old Inlet (which is located on Fire Island) that occurred during Hurricane Sandy, that the breach has not increased water levels in Great South Bay or contributed to coastline flooding, even though there have been notable coastal storms since it was created (Flagg et al., 2013). In fact, water quality in the immediate area of the breach has improved (Flagg et al., 2013), which is a benefit that would be precluded through this project.

Without the science to support the Corps’ claim that overwash and breaches significantly contribute to back-bay flooding, and thereby necessitate the construction of berms and dunes, there is no confidence that the proposed actions will in fact achieve the project goals. But equally importantly, this suggests that other reasonable alternatives should have been considered to increase storm protection, such as managing water that comes into the bays via the dredged inlets, increasing saltmarsh habitat as buffers, and allowing areas that are not immediately adjacent to communities to function more naturally, which might cost less money and offer more environmental protection. Communities and tax payers do not want to find themselves right back in the same situation following future storms—with the same damages and expensive solutions, rather than moving

forward more comprehensive solutions. As pointed out in our comments on the EA, to be in full compliance with NEPA, additional alternatives should have been considered. To have not done so is a violation of NEPA's requirement that a range of reasonable alternatives to a proposed project (not just the "no action" alternative) be evaluated for comparison to the proposal. See 40 CFR § 1502.14; 33 CFR Part 25, App. B, § 9(b)(5).

2. *Improper Segmentation and/or Failure to Analyze Cumulative Impacts*

There is a long history of Corps-led "interim" projects as well as additional storm protection projects that are planned for Long Island's south shore and barrier island communities. This project is related to those other storm recovery projects and appears to be a subset of the larger Fire Island to Montauk Point (FIMP) project. Some of the Corps' projects include Westhampton Interim Storm Damage Protection Project, Interim Breach Contingency Plan (Cupsogue), West of Shinnecock Inlet Interim Storm Damage Protection Project, Interim Breach Contingency Plan (Smith Point), and now the FIMI project, all of which potentially impact Piping Plovers. The Corps acknowledges that both the West of Shinnecock Inlet and Westhampton projects are interim, spin-off projects from the larger Fire Island to Montauk Point Reformulation Study (see Corps website). NEPA requires that the Corps not treat the FIMI project in isolation when conducting its NEPA assessment. Failure to do so constitutes improper "segmentation" and also violates the requirement that cumulative impacts be assessed. See *Delaware Riverkeeper Network v. FERC*, ___ F.3d ___ (No. 13-1015 D.C. Cir. June 6, 2014), Slip Op. at 15-18, 27-28. The Corps is required to assess the cumulative impacts of these projects and that was not done in the DEA.

For all the reasons stated above, a full Environmental Impact Statement should be prepared. As it stands now, the proposed project will adversely modify or destroy important habitat and negatively impact the Piping Plover population and the BO and the draft FONSI do not adequately address or propose conservation measures and RPMs that will compensate for the loss of habitat and species. Thank you for consideration of these comments, and should you have any questions or need additional information on the points we have raised, please contact us at 518-869-9731.

Sincerely,



Erin M. Crotty
Executive Director and Vice President, Audubon New York

cc:
Charles Schumer, US Senator
Kirsten Gillibrand, US Senator
Tim Bishop, US Representative
Wendi Weber, Director, US Fish and Wildlife Service Region 5

Judith Enck, Regional Administrator, Environmental Protection Agency
Roselle Henn, Chief, Environmental Assessment Section, US Army Corps of Engineers
Basil Seggos, Deputy Secretary for the Environment, New York State
Joseph Martens, Commissioner, New York Department of Environmental Conservation
Rose Harvey, Commissioner, New York State Office of Parks, Recreation and Historic Preservation
Cesar Perales, New York Secretary of State

Citations:

Cohen, J. B., Houghton, L. M. and Fraser, J. D. 2009. Nesting Density and Reproductive Success of Piping Plovers in Response to Storm- and Human-Created Habitat Changes. *Wildlife Monographs* 173: 1–24.
doi: 10.2193/2007-553.

Flagg, C.N., R. Flood, and R. Wilson. 2013. A series of reports on the breach development at Old Inlet.
<http://po.msrc.sunysb.edu/GSB/>



**DEPARTMENT OF THE ARMY
NEW YORK DISTRICT, CORPS OF ENGINEERS
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, N.Y. 10278-0090**

REPLY TO
ATTENTION OF
Environmental Analysis Branch

June 30, 2014

Ms. Erin M. Crotty
Executive Director and Vice President
Audubon - New York
200 Trillium Lane
Albany, New York 12203

Susan B. Elbin, PhD
Acting Executive Director
and Director of Conservation and Science
New York City Audubon
71 West 23rd Street
New York NY 10010

Subject: Atlantic Coast of Long Island, Fire Island Inlet to Moriches Inlet Fire Island Stabilization Project (FIMI)

Dear Ms. Crotty and Dr. Elbin:

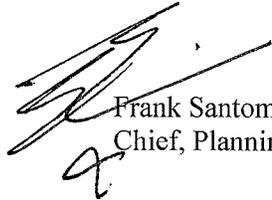
This letter is in response to your letters dated June 18 and 23, 2014, which commented on the Draft Finding of No Significant Impact (FONSI) on the above referenced project (FIMI). Your letters focused on issues with the National Environmental Policy Act (NEPA) and the Biological Opinion and its Reasonable and Prudent Measures (RPMs) prepared by the U.S. Fish and Wildlife Service (USFWS). Please find the U.S. Army Corps of Engineers, New York District's (District) responses below:

NEPA: As you are aware with the passage of the Hurricane Sandy Disaster Relief Appropriations Act of 2013 (Public Law 113-2), the District was given the authority and funding to complete ongoing coastal storm damage risk reduction projects and studies in the Northeast, to reduce risk of future flooding. Tasked with Public Law 113-2 and given the unique nature of a onetime placement and the urgency of this project, the District prepared a Hurricane Sandy Limited Reevaluation Report and Environmental Assessment (HSLRR/EA) that evaluated a plan that is a one-time beachfill action that would not negate consideration of any of the alternatives under consideration for the Fire Island to Montauk Point (FIMP) project. The No-Action FIMP alternative would be achieved after stabilization of Fire Island as there is no renourishment as part of the recommended alternative. The overall FIMP General Reevaluation Report and Environmental Impact Statement (GRR/EIS) will be assessing the entire FIMP Project Area and all elements of its implementation. In accordance with NEPA, the EA that was prepared for FIMI has concluded with a FONSI that determines that the selected alternative will not be a major federal action significantly affecting the quality of the human environment.

Biological Opinion: The District looks to comply with the terms and conditions of the USFWS Biological Opinion. The District acknowledges your organizations' concerns and we observe that your comment letters were copied to USFWS for that agency's response.

Thank you for your consideration and comments. If you should have any questions, please contact Mr. Robert J. Smith of my staff at 917 790-8729.

Sincerely,

A handwritten signature in black ink, appearing to read 'Frank Santomauro', with a large, sweeping flourish extending upwards and to the right.

Frank Santomauro, P.E.
Chief, Planning Division



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Colonel Paul Owen
District Engineer, New York District
United States Army Corps of Engineers
26 Federal Plaza, Rm. 2113
New York, NY 10278-0090

Attn: Robert Smith, Project Biologist

RE: Draft Finding of No Significant Impact document related to the Fire Island Inlet to Moriches Inlet Stabilization Project.

23 June 2014

Dear Colonel Owen:

New York City Audubon thanks you for this opportunity to present our comments on the above-named Finding of No Significant Impact (FONSI) document for the U.S. Army Corps of Engineers' Fire Island Inlet to Moriches Inlet Stabilization Project, to spend \$158 million on land buyouts, easements, and place approximately 7,000,000 cubic yards of material obtained from three offshore borrow sites on Fire Island beaches.

New York City Audubon is a diverse grassroots community of 10,000 members, volunteers, and donors that work for the protection of wild birds and habitat in the five boroughs. New York City Audubon is concerned about this project because it has the potential to seriously impact the NY population and optimal habitat of a federally listed endangered species (Piping Plover). In addition, many of our members, and 'our' birds, spend a significant amount of time on Fire Island.

After review of the report and discussion with colleagues, we believe that the FONSI is problematic and flawed. We urge that a full Environmental Impact Statement (EIS) be conducted. We agree with the conclusions listed and discussed in the accompanying letter from Erin Crotty, Audubon New York.

- The FONSI is based on a flawed United States Fish and Wildlife Service (USFWS) Biological Opinion that erroneously and unjustifiably concludes that the project poses no jeopardy to the recovery of the Piping Plover and proposes insufficient and unenforceable conservation measures and inadequate Reasonable and Prudent Measures (RPMs) to minimize incidental take impacts.

- The Corps will violate the National Environmental Policy Act (NEPA) if it proceeds without preparing an EIS because the EA did not consider a range of reasonable alternatives, improperly segments the FIMI project from related projects, and fails to analyze cumulative impacts.
- The Reasonable and Prudent Measures proposed in the FONSI are already being implemented or are unenforceable.

In summary, for the reasons detailed in the accompanying Audubon New York letter, we believe a full Environmental Impact Statement should be prepared. The proposed project will adversely modify or destroy important habitat and negatively impact the Piping Plover population. And the proposed conservation measures and RPMs will not compensate for the loss of habitat and species.

Thank you for consideration of these comments.

Sincerely,

A handwritten signature in blue ink, appearing to read 'SBE', is written over a light blue circular stamp.

Susan B. Elbin, PhD

Acting Executive Director and Director of Conservation and Science

Copy:

Charles Schumer, US Senator

Kirsten Gillibrand, US Senator

Tim Bishop, US Representative

Wendi Weber, Director, US Fish and Wildlife Service Region 5



UNITED STATES DEPARTMENT OF COMMERCE
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Peter Wepler, Acting Chief
Coastal Ecosystem Section
Planning Division
New York District
U.S. Army Corps of Engineers
26 Federal Plaza
New York, NY 10278-0900

MAY 14 2014

ATTN: Robert Smith, Project Biologist

RE: Draft Environmental Assessment for the Fire Island Inlet to Moriches Inlet; Fire Island Stabilization Project – Hurricane Sandy Reevaluation Report

Dear Mr. Wepler:

We have reviewed the draft environmental assessment (DEA) and the essential fish habitat assessment (EFH) for the Fire Island Inlet to Moriches Inlet - Fire Island Stabilization Project. The proposed project area extends approximately 31 miles along the south shore of Long Island, NY from Fire Island Inlet to Moriches Inlet and includes the Towns of Babylon, Islip and Brookhaven, as well as the entire Fire Island National Seashore. The proposed stabilization plan includes dredging sand from two offshore borrow areas with placement along the shoreline for beach nourishment and the creation of dunes. The initial volume of sand to be removed from the borrow area 2C and the Western Westhampton Borrow Area is 6,992,145 cubic yards. This project is part of the larger Fire Island to Montauk Point Reformulation Study. Because of the extensive storm damage and increased vulnerability to future events following Hurricane Sandy, this project is proceeding separately from the larger study.

As you are aware, the Fish and Wildlife Coordination Act and the Magnuson-Stevens Fishery Conservation and Management Act (MSA) require Federal agencies to consult with one another on projects such as this. Because this project affects EFH, this process is guided by the requirements of our EFH regulation at 50 CFR 600.905, which mandates the preparation of EFH assessments, lists the required contents of EFH assessments, and generally outlines each agency's obligations in this consultation procedure. We offer the following comments for your consideration.

Essential Fish Habitat

The EFH assessment included in the DEA evaluates some of the potential impacts to EFH that may result from construction of the proposed project. The dredging of sand for beach nourishment has the potential to impact both the EFH of a particular species as well as the organisms themselves in a variety of ways. Dredging can damage fishery resources and their habitats through direct impingement of eggs and larvae, through the creation of undesirable suspended sediment levels in the water column, and through deposition of sediments on immobile eggs and early life stages. Such suspended sediment levels can also reduce dissolved oxygen, can mask pheromones used by migratory fishes, and can smother immobile benthic



organisms and newly-settled juvenile demersal fish (Auld and Schubel 1978; Breitburg 1988; Newcombe and MacDonald 1991; Burton 1993; Nelson and Wheeler 1997). Sustained water column turbulence can reduce the feeding success of sight-feeding fish such as winter flounder, tautog, and summer flounder. According to Olla *et al.* (1974 and 1975 in Collette and Klein-MacPhee 2002), tautog are opportunistic sight feeders. Winter flounder are also sight feeders and are diurnally active in both inshore and offshore waters (Pearcy 1962 in Collette and Klein-MacPhee 2002).

Noise from the dredging activities may also result in adverse effects. Our concerns about noise effects comes from an increased awareness that high-intensity sounds have the potential to harm both terrestrial and aquatic vertebrates (Fletcher and Busnel 1978; Kryter 1984; Richardson et al. 1995; Popper 2003; Popper et al. 2004). Effects may include (a) non-life threatening damage to body tissues, (b) physiological effects including changes in stress hormones or hearing capabilities, or (c) changes in behavior (Popper et al. 2004).

Dredging can also remove the substrate used by federally managed species as spawning, refuge and forage habitat. Benthic organisms that are food sources for federally managed species may also be removed during the dredging. These impacts may be temporary in nature if the substrate conditions return to preconstruction condition and benthic community recovers with the same or similar organisms. The impacts may be permanent if the substrate is altered in a way that reduces its suitability as habitat, if the benthic community is altered in a way that reduces its suitability as forage habitat or if the dredging occurs so often that the area does not have time to recover.

Some of the adverse effects of the dredging will be temporary and others can be minimized using best management practices assessment such as not dredging deep holes and leaving similar substrate in place to allow for recruitment. According to the information in the EFH assessment, the sediment taken from the borrow area would be extracted to a depth no greater than 20 feet below the existing bottom to minimize impacts on existing coastal processes and to avoid anoxic conditions. In addition, the project will include monitoring and adaptive management of the project over 10 years, which is consistent with the period over which the physical changes in the beach configuration are expected to persist. The monitoring includes physical monitoring of the borrow area processes and biological monitoring of the borrow area.

Essential Fish Habitat Conservation Recommendations

Pursuant to Section 305 (b) (4) (A) of the MSA, we recommend the following EFH conservation recommendations be incorporated into the project:

1. The intakes on the dredge plant should not be turned on until the dredge head is in the sediment and turned off before lifted to minimize larvae entrained in the dredge.
2. Dredging within the borrow areas should be designed and undertaken in a manner that maintains geomorphic characteristics of the borrow area and best management practices such as not dredging too deeply and leaving similar substrate in place to allow for the benthic community recovery should be employed.

3. Areas of high surf clam densities within the borrow area should be avoided.
4. Copies of the proposed monitoring and adaptive management plans should be provided to us for review and comment prior to implementation so that we can ensure that the proposed plans assess adequately the potential effects of the dredging on biological resources of the borrow area. The results of the monitoring, as well as post-dredging bathymetry should be provided to us following project construction.

Please note that Section 305 (b)(4)(B) of the MSA requires you to provide us with a detailed written response to these EFH conservation recommendations, including the measures adopted by you for avoiding, mitigating, or offsetting the impact of the project on EFH. In the case of a response that is inconsistent with our recommendations, Section 305 (b) (4) (B) of the MSA also indicates that you must explain its reasons for not following the recommendations. Included in such reasoning would be the scientific justification for any disagreements with us over the anticipated effects of the proposed action and the measures needed to avoid, minimize, mitigate or offset such effect pursuant to 50 CFR 600.920 (k).

Please also note that a distinct and further EFH consultation must be reinitiated pursuant to 50 CFR 600.920 (j) if new information becomes available, or if the project is revised in such a manner that affects the basis for the above EFH conservation recommendations.

Endangered Species Act

A number of federally listed threatened or endangered species under our jurisdiction are known to occur in the vicinity of the project area. Listed sea turtles are also found seasonally in the waters off of New York, typically between from May through November, with the highest concentration of sea turtles present from June to October. The species that are likely to be present include the threatened Northwest Atlantic Ocean distinct population segment (DPS) of loggerhead (*Caretta caretta*) sea turtles, as well as endangered Kemp's ridley (*Lepidochelys kempi*), leatherback (*Dermochelys coriacea*) and green (*Chelonia mydas*) sea turtles. In addition, 5 DPSs of Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) are known to occur within the nearshore, coastal waters of the Atlantic Ocean, primarily using these bodies of water throughout the year as a migratory pathway to and from spawning, overwintering, and/or foraging grounds throughout their range.¹

The federally endangered North Atlantic right, humpback, and fin whales, are seasonally present in the waters off New York; however, these ESA listed species of whales are not expected to occur in the shallow, near shore waters of eastern Long Island, and thus, are not expected to occur in the project area.

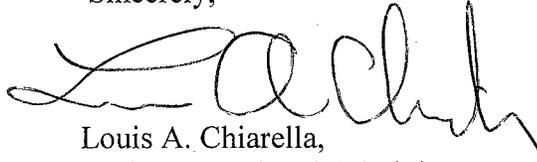
Section 7 of the Endangered Species Act of 1973 (ESA), as amended requires federal agencies to consult with us to ensure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or adversely modify or destroy designated critical habitat. You requested emergency ESA section 7 consultation (50 CFR § 402.05) with us on March 22, 2013, for shoreline

¹ The 5 DPSs of Atlantic sturgeon are as follows: threatened, Gulf of Maine DPS; and the endangered New York Bight DPS; Chesapeake Bay, Carolina and South Atlantic DPSs.

restoration/rehabilitation activities in need along several shorelines of New York and New Jersey, including the Atlantic coast of Long Island. Via a letter dated April 2, 2013, we formalized the emergency ESA section 7 consultation process with you for these actions and began the emergency consultation process.² Pursuant to CFR § 402.05, emergency section 7 consultation shall be initiated by you as soon as practicable after either: (1) the emergency response is completed (preferably within 30 days) or (2), the emergency is under control. Neither of these triggers for the initiation of consultation have been met, and the emergency consultation remains open for this action. We look forward to continued coordination with your office on this and other emergency projects covered under the April 2, 2013, letter. Should you have any questions about the emergency ESA section 7 process, or ESA section consultation in general, please contact Danielle Palmer at (978) 282-8468 or by e-mail (Danielle.Palmer@noaa.gov).

We look forward to continued coordination with your office on this project as it moves forward. If you have any questions or need additional information, please do not hesitate to contact Karen Greene at karen.greene@noaa.gov or (732) 872-3023.

Sincerely,



Louis A. Chiarella,
Assistant Regional Administrator
for Habitat Conservation

² On March 6, 2014, the New York Corps requested that we append several additional emergency actions to be covered under our April 2, 2013, letter to the Corps (pers. communication, Jenine Gallo, New York District Corps of engineers, email dated March 6, 2014). All of these projects fall within the already-exempted ecological boundaries along both the New York and New Jersey Sandy-impacted shorelines identified by project name in the April 2013 letter, however they were not specifically identified by the Corps by name or specific congressional authorization at the time the 2013 letter was written either due to a lack of transparency about the application of the new law (P.L. 113-2 was only recently interpreted by USACE-HQ) and/or due to the identification and/or acceleration of certain reaches or segments of some projects ((pers. communication, Jenine Gallo, New York District Corps of engineers, email dated 3/6/2014). The Atlantic Coast of Long Island, Jones Inlet to East Rockaway Inlet, Long Beach Island, New York, project was included in this list provide to us on March 6, 2014.

Literature Cited

- Auld, A.H. and J.R. Schubel. 1978. Effects of suspended sediments on fish eggs and larvae: a laboratory assessment. *Estuar. Coast. Mar. Sci.* 6:153-164.
- Breitburg, D.L. 1988. Effects of turbidity on prey consumption by striped bass larvae. *Trans. Amer. Fish. Soc.* 117: 72-77.
- Burton, W.H. 1993. Effects of bucket dredging on water quality in the Delaware River and the potential for effects on fisheries resources. Prepared for: Delaware Basin Fish and Wildlife Management Cooperative, by Versar Inc, Columbia MD.
- Collette, B.B. and G. Klein-MacPhee. eds. 2002. *Bigelow and Schroeder's fishes of the Gulf of Maine*. Smithsonian Institution. Washington, D.C.
- Fletcher, J. L. and R. G. Busnel. 1978. *Effects of Noise on Wildlife*. Academic Press, New York.
- Kryter, K D. 1985. *The Handbook of Hearing and the Effects of Noise* (2nd ed.). Academic Press, Orlando, Florida.
- Nelson, D.A. and J.L. Wheeler. 1997. The influence of dredging-induced turbidity and associated contaminants upon hatching success and larval survival of winter flounder, *Pleuronectes americanus*, a laboratory study. Final report, Grant CWF #321-R, to Connecticut Department Environmental Protection, by National Marine Fisheries Service, Milford CT.
- Newcombe, C.P. and D.D. MacDonald. 1991. Effects of suspended sediments on aquatic ecosystems. *N. Amer. J. Fish. Manag.* 11:72-82.
- Olla, B.L., A.J. Bejda, and A.D. Martin. 1974. Daily activity, movements, feeding and seasonal occurrence in tautog, *Tautoga onitis*. *Fish. Bull. U.S.* 72:27-35.
- Olla, B.L., A.J. Bejda, and A.D. Martin. 1975. Activity, movements and feeding behavior of the cunner, *Tautoglabrus adspersus*, and comparison of food habitats with young tautog, *Tautoga onitis*, off Long Island, New York. *Fish. Bull. U.S.* 73:895-900.
- Popper, A.N. 2003. Effects of anthropogenic sound on fishes. *Fisheries* 28:24-31.
- Popper, A N., J. Fewtrell, M E. Smith, and R.D. McCauley. 2004. Anthropogenic sound: Effects on the behavior and physiology of fishes. *MTS J.* 37: 35-40.
- Pearcy, W.C. 1962. Ecology of an estuarine population of winter flounder, *Pseudopleuronectes americanus* (Walbaum). *Bull. Bingham Oceanogr. Coll.* 18(1):1-78.
- Richardson, W.J., C R. Greene Jr., C.I. Malme and D H. Thomson. 1995. *Marine Mammals and Noise*. Academic Press, New York.



DEPARTMENT OF THE ARMY
NEW YORK DISTRICT, CORPS OF ENGINEERS
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, N.Y. 10278-0090

REPLY TO
ATTENTION OF
CENAN-PL-E

June 20, 2014

Mr. Lou Chiarella
Assistant Regional Administrator
NOAA Fisheries Habitat Conservation Division
National Marine Fisheries Service
55 Great Republic Drive
Gloucester, MA 01930

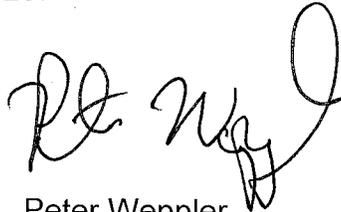
Dear Mr. Chiarella:

The United States Army Corps of Engineers, New York District (District) is in receipt of your agency's letter dated May 14, 2014 regarding comments to the District's Fire Island to Moriches Inlet (FIMI) Hurricane Sandy Limited Reevaluation Report (HSLRR). This correspondence is to respond specifically to Essential Fish Habitat (EFH) Conservation Recommendations provided pursuant to Section 305(b)(4)(B) of the Magnuson Stevens Fishery Conservation and Management Act (MSA).

- 1. The intakes on the dredge plan should not be turned on until the dredge head is in the sediment and turned off before lifted to minimize larvae entrained in the dredge. Concur. The District will incorporate this operating procedure into the Plans and Specifications being prepared for the FIMI Project.*
- 2. Dredging within the borrow areas should be designed and undertaken in a manner that maintains geomorphic characteristics of the borrow area and best management practices such as not dredging too deeply and leaving substrate in place to allow for the benthic community recovery to be employed. Concur. The District employs this Best Management Practice as part of its beach nourishment dredging operations*
- 3. Areas of high Surf Clam densities within the borrow area shall be avoided. Concur. The District will coordinate with the New York Department of Environmental Conservation to avoid where there are known populations of the commercially important surf clam.*

4. *Copies of the proposed monitoring and adaptive management plans should be provided to NMFS for review and comment prior to implementation so that NMFS can ensure that the proposed plans assess adequately the potential effects of the dredging on biological resources of the borrow area. The results of the monitoring, as well as post-dredging bathymetry shall be provided to NMFS following project construction.* Concur. The District is developing a Borrow Area Monitoring Plan for the south shore barrier island system of New York. The borrow area monitoring plan will build upon previously collected biological data for the offshore borrow areas and include assessing benthic community, fisheries, water quality, physical parameters such as bathymetry, grain size, borrow area infill rates and stratification.

Thank you for your assistance and providing comments for this project. If you should have any questions or require any additional information, please contact the Project Biologist, Robert Smith at (917) 790-8729.

A handwritten signature in black ink, appearing to read 'P. Wepler', written in a cursive style.

Peter Wepler
Chief, Environmental Analysis Branch

cc: Greene, NMFS



**DEPARTMENT OF THE ARMY
NEW YORK DISTRICT, CORPS OF ENGINEERS
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, N.Y. 10278-0090**

REPLY TO
ATTENTION OF
Environmental Analysis Branch

June 30, 2014

Ms. Erin M. Crotty
Executive Director and Vice President
Audubon - New York
200 Trillium Lane
Albany, New York 12203

Susan B. Elbin, PhD
Acting Executive Director
and Director of Conservation and Science
New York City Audubon
71 West 23rd Street
New York NY 10010

Subject: Atlantic Coast of Long Island, Fire Island Inlet to Moriches Inlet Fire Island Stabilization Project (FIMI)

Dear Ms. Crotty and Dr. Elbin:

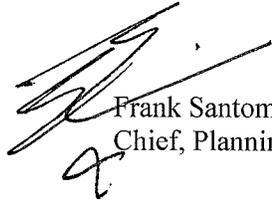
This letter is in response to your letters dated June 18 and 23, 2014, which commented on the Draft Finding of No Significant Impact (FONSI) on the above referenced project (FIMI). Your letters focused on issues with the National Environmental Policy Act (NEPA) and the Biological Opinion and its Reasonable and Prudent Measures (RPMs) prepared by the U.S. Fish and Wildlife Service (USFWS). Please find the U.S. Army Corps of Engineers, New York District's (District) responses below:

NEPA: As you are aware with the passage of the Hurricane Sandy Disaster Relief Appropriations Act of 2013 (Public Law 113-2), the District was given the authority and funding to complete ongoing coastal storm damage risk reduction projects and studies in the Northeast, to reduce risk of future flooding. Tasked with Public Law 113-2 and given the unique nature of a onetime placement and the urgency of this project, the District prepared a Hurricane Sandy Limited Reevaluation Report and Environmental Assessment (HSLRR/EA) that evaluated a plan that is a one-time beachfill action that would not negate consideration of any of the alternatives under consideration for the Fire Island to Montauk Point (FIMP) project. The No-Action FIMP alternative would be achieved after stabilization of Fire Island as there is no renourishment as part of the recommended alternative. The overall FIMP General Reevaluation Report and Environmental Impact Statement (GRR/EIS) will be assessing the entire FIMP Project Area and all elements of its implementation. In accordance with NEPA, the EA that was prepared for FIMI has concluded with a FONSI that determines that the selected alternative will not be a major federal action significantly affecting the quality of the human environment.

Biological Opinion: The District looks to comply with the terms and conditions of the USFWS Biological Opinion. The District acknowledges your organizations' concerns and we observe that your comment letters were copied to USFWS for that agency's response.

Thank you for your consideration and comments. If you should have any questions, please contact Mr. Robert J. Smith of my staff at 917 790-8729.

Sincerely,

A handwritten signature in black ink, appearing to read 'Frank Santomauro', with a large, sweeping flourish extending upwards and to the right.

Frank Santomauro, P.E.
Chief, Planning Division



**DEPARTMENT OF THE ARMY
NEW YORK DISTRICT, CORPS OF ENGINEERS
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, N.Y. 10278-0090**

REPLY TO
ATTENTION OF
Environmental Analysis Branch

July 3, 2014

Ms. Grace Musumeci
Chief Environmental Review Section
USEPA Region 2
290 Broadway
New York NY 10007-1866

Subject: Atlantic Coast of Long Island, Fire Island Inlet to Moriches Inlet Fire Island Stabilization Project (FIMI)

Dear Ms. Musumeci:

This letter is in response to your letter dated April 17, 2014 which commented on the Draft Environmental Assessment (EA) and Hurricane Sandy Limited Re-evaluation Report (HSLRR) on the above referenced project (FIMI). As you are aware with the passage of the Hurricane Sandy Disaster Relief Appropriations Act of 2013 (Public Law 113-2), the U.S. Army Corps of Engineers, New York District (District) has been given the authority and funding to complete ongoing coastal storm damage risk reduction projects and studies in the Northeast to reduce risk of future flooding.

Tasked with this authority and given the unique nature of a onetime placement and the urgency of this project the District prepared a Draft EA for this project. The District believes that a large number of your comments have been addressed in the final EA and HSLRR which will be provided to you as soon as it is available. Please note, the Finding of No Significant Impact includes recommendations that have been coordinated between the District, USFWS and NMFS to minimize take on listed species and have been incorporated into the project's construction contract.

We appreciate your recommendations and comments and are willing to further discuss and address them in more detail during the preparation of the General Re-evaluation Report (GRR) for the overall Fire Island Inlet to Montauk Point Reformulation Study. If you should have any questions, please contact Mr. Robert J. Smith of my staff at 917 790-8729.

Sincerely,


Frank Santomauro, P.E.
Chief, Planning Division