APPENDIX A

SCOPING DOCUMENTS AND COMMENTS

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COPY

Public Scoping Meeting Documents
April 12, 2007

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Public Scoping Meeting Minutes
April 12, 2007

Connecticut Environmental Policy Act (CEPA)
Hammonasset Beach Erosion Feasibility Study and Environmental Impact Evaluation (EIE)

Connecticut Department of Environmental Protection

ATTENDEES:

Public:	Gregory Sarno	Rick McGinley
	Kathy Strachan	Patrick McGinley
	Jeff Kiziete	Anthony Zimmitti
	Phil Koesis	Brad Garber
	Carl Paleo	Shannon Schiesser
	Jack Embersites	Russ Miller
	Charles Steffenbaum	Dan Smith
	Peter Carpenter	David Loomis
	Dale Robinson	Ida Lagana
	Sid Gale	Kristal Kallenberg
	Tom Dubno	Ray Burnham

Project Team:
Tammy Talbot, DEP
Fred Riese, DEP
Ted Rybak, DEP
Eric Ott, DEP
George Wisker, DEP
John Cimochowski, DEP
Ernie Lindquist, DEP
Kirk Bosma, Woods Hole Group, Inc.
Erik Mas, Fuss & O'Neill, Inc.
Diane Mas, Fuss & O'Neill, Inc.
Dan Buttrick, Fuss & O'Neill, Inc.

A public scoping meeting was held on April 12, 2007 at the Madison Memorial Town Hall in Madison, Connecticut. The purpose of the scoping meeting was to present an overview of the Hammonasset Beach Erosion Feasibility Study and the CEPA process, as well as to receive public comments. A copy of the scoping meeting agenda is attached. The public scoping meeting minutes are summarized below:

- Fred Riese opened the meeting with introductions and a description of the purpose of the scoping meeting, the goals of the CEPA process and the feasibility study, and the timeline for the process. Erik Mas presented the agenda for the evening,

provided an overview of the CEPA process, background on the beach, the history of erosion at the beach and the nature of the current erosion, and the existing environment and resources in the project area. Kirk Bosma then described the new data collection that is occurring as part of the feasibility evaluation to understand the existing conditions and the effect of the alternatives that will be considered. The data collection includes: wave data, bathymetry, topography, beach sand grain size sampling, and Housatonic River sediment sampling. He described that the elements of the feasibility evaluation includes using modeling tools to determine how waves impact the beach, how the sand moves, and the sand budget for the beach. The alternatives include 1) No Action, in which nature takes its course; 2) Retreat, in which beach infrastructure would be relocated to an area of reduced risk and sand dunes would be constructed for additional protection; 3) Replacement, in which the beach sand lost to erosion is replaced, with possible sources including sand dredged by the Army Corps of Engineers from navigation channels and/or offshore sites, or sand mined from upland sources, and 4) Structural Solutions such as using rock, concrete or other hard material to construct bulkheads, modify jetties, or construct a new jetty, floating breakwater or an offshore reef. Erik Mas concluded the presentation with a reiteration of the project timeline and the mechanisms for comment. Following the presentation, comments were received from the public.

- Greg Sarno of Beach Recovery described a proprietary system for encouraging sand accretion at beaches.

- Jeff Kriete asked several questions: Did prior studies of the beach reach a consensus on the erosion problem and had the studies made correct predictions? How much beach had been lost since the 1920s? What is the actual effect of the erosion on beach usage? What is the need for square feet of beach per person and can that be achieved? Can a strictly management solution be used to shift people on the beach, move parking, accept a retreat of the beach? Kirk Bosma mentioned that the background study will include examination of geologic evidence from 1850 to the present so that the width of beach lost and the rate of change can be quantified. Erik Mas mentioned that the No Action alternative will also be considered as part of the process.

- Greg Sarno spoke again about the Beach Recovery system saying that there have been over 100 installations since the 1960s. The process installs structures up to 300 feet long that capture sand and move it into the beach, mimicking geological processes. In response to questions from the audience, he responded that there have been no installations in the Northeastern U.S. He was unsure of specific cost comparisons, re-exposure is possible after installation but should not be hazardous, and although he had no specific information on hurricanes, installations have been successful in the Great Lakes.

- Ray Burnham commented that there needs to be consideration of impacts to the non-beach population at the park including the birdwatchers, butterfly observers, and campers.

- Jeff Kriete commented that there are different populations that use the beach from 5:30 am to sundown. He could identify three: 1) walkers, 2) campers and 3) beachgoers.

- Carl Paleo mentioned a fouth group of users: artists that paint from spring to fall. He estimates that ± 20 people use the beach 2-3 times per week for painting.

- Fred Riese commented that some information on park usage can be discerned from data collected at the park (camping versus beachgoers, etc).

- Jack Embersites commented on a beach restoration in Florida that was very successful. He said Hammonasset is a state resource and the people of Connecticut should be responsible and restore it to the level of quality that existed in the 1950s.

- Russ Miller, from the Nature Center at Meiges Point, commented on the educational programs at the beach, which include up to 100 students per day in May and June. The three ecosystems at the beach (sandy beach, rocky shore, and salt marsh) make it a unique educational setting. He also commented that at least 50 artists signed up for an art show at the Nature Center.

- Charles Steffenbaum commented on the importance of the boardwalk and that if nothing is done for the beach, the boardwalk might be lost. He stated that the boardwalk is particularly important for older people or those with difficulties walking because it is a safe place to walk.

- Peter Carpenter commented that the park is used year-round and is a statewide resource and a revenue producer. He asked if users during the winter can be used to offset costs for the project. He mentioned dog walkers as another user group and stated that the paths behind the dunes are important too. He commented that the study is important to find the right solution and that we need to look for creative ways to fund the project.

- David Loomis commented that he is a walker and a member of Friends of Hammonasset. He described the group and said that there are surges in erosion so we must act.

- Shannon Schiesser commented that she is the membership director of Friends of Hammonasset and that the beach is a good resource so we should put money into it.

- Dale Robinson commented that he is a history buff and collects postcards of Hammonasset Beach. He said that the focus should be on the park.

- Kristal Kallenberg asked what is the minimum desired goal in terms of extending the beach. Fred Riese responded that specific targets have not yet been set, but adequare area for usage is desired.

- Ida Lagana commented that she is a walker on Hammonasset and asked what is taking so long to address the problems there and at Rocky Neck. She said that the wetlands are also at risk. She asked what the effect of world-wide rising water levels might be.

- Sid Gale identified equestrians as another user group at the beach. He asked what the timeline was for assessment. Fred Riese responded that each alternative will have a different service life. Kirk Bosma stated that they will look on a 50 to 100 year horizon. Sid Gale asked if DEP was going to look at any of the adjacent beaches/shoreline. Kirk Bosma said that the study focuses on the area of Hammonasset between the two structures at either end. Sid Gale also commented on the amount of erosion at both ends of the beach. Fred Riese commented that maintenance will be required no matter what alternative is selected.

- Tom Dubno and Dan Smith from the Gateway Terminal commented that they have Cape Cod sand availability.

- Rick McGinnley commented that he is in favor of Hammonasset being fixed. He is from Grove Point Beach and they are having difficulties getting permits for their beach project(s). He said that it is important to spend resources to maintain what we have because beaches are a treasure.

- Anthony Zimmitti stated that a study is essential bust asked what the cost is for a study because Grove Point Beach would also like to do a study.

- Brad Garber commented that he would like to see specific goals for the project – how wide, how long an area of beach, what's the influence of sea level rise and frequency of hurricanes. He feels this information is important to find a long-term solution.

- Shannon Schiesser asked if the dunes were natural or man-made. Ernie Lindquist said that the dunes were man-made. She commented that she had received an email from Jerry Burnes at Sustainable Solutions stating that pumping offshore sands can be detrimental. Kirk Bosma commented that he knows Jerry Burnes and that they

offshore borrow considered for Hammonasset would be far offshore and would not have the type of negative effects mentioned in the email. She asked if the analyses are being done for high tide or low tide. Kirk Bosma replied that the analysis looks at the shape of the high tide line and looks at large and infrequent storms and the effect they can have.

- Dan Lalley commented that he owns a sand and gravel operation 2 to 3 miles from the beach with available sand and that he worked on Grove Point Beach a few years ago.

- Fred Riese closed the meeting at 9:07 pm and reiterated the timeline and comment mechanisms.

AGENDA

Public Scoping Meeting

Connecticut Environmental Policy Act (CEPA)
Environmental Impact Evaluation (EIE)

State of Connecticut
Department of Environmental Protection
Hammonasset Beach Erosion Feasibility Study and EIE

April 12, 2007

7:00 - 7:30 PM	Sign-In and Initial Review of Information Displays
7:30 - 8:00 PM	Overview Presentation • DEP - Introduction • Fuss & O'Neill Project Team - CEPA Process and Project Description
8:00 to close	Comment Period and Ongoing Review of Information Displays • DEP - Closing remarks

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ATTENDANCE SHEET

Public Scoping Meeting

Connecticut Environmental Policy Act (CEPA)
Environmental Impact Evaluation (EIE)

State of Connecticut
Department of Environmental Protection
Hammonasset Beach Erosion Feasibility Study and EIE

April 12, 2007

NAME	ADDRESS	TELEPHONE/ EMAIL
Gregory J. SARNO	542 Westport Ave, Norwalk, CT	203.919.2005
KATHY STRACHAN	Reef Rd Fairfield CT	203259-0243
JEFF KRIETG	West Brook	860 669 8833
PHIL KOCSIS	542 Westport Ave. Nwlk CT	203-520-7887
RAY BERNIER	23 RIVER RD, Clinton CT	860-669-5117
Carl V. Puleo	69 Old Rt 79 Unit 6 Madison	203-245-4890
Jack Embersits	34 Middle Beach Rd W Madison CT 06443	(203) 245-2142
Russ Miller	Meigs Point Nature Center	(860) 698-9118
Charles Sepetauski	10 Longview Terrace Madison, CT	203-245-9238
Peter Carpenter	72 BISHOP LN MADISON, CT 06443	203 605-7766

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ATTENDANCE SHEET

Public Scoping Meeting

Connecticut Environmental Policy Act (CEPA)
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State of Connecticut
Department of Environmental Protection
Hammonasset Beach Erosion Feasibility Study and EIE

April 12, 2007

NAME	ADDRESS	TELEPHONE/ EMAIL
DAVID LOOMIS	6 MICO DR MADISON 06443	203 421-4106
DALE ROBINSON	525 CLAPBOARD HILL RD Guilford CT 06437	(203) 453-8768
Kristal Kallenberg	DEP 79 Elm Street Hartford CT	(860) 424-3034
Ida F. LAGANA	13 Underway Dr Westbrook	860 399-2306
Sid Gale	250 Flag Marsh Road Guilford	203 453 6100
TOM DUBNO	GATEWAY TERMINAL	(203) 467-1997
DAN SMITH	GATEWAY TERM	- 11 -
Rick McGinley	74 HIGH ST Portland	342-1325
PATRICK MCGINLEY	68 HIGH ST PORTLAND	342-0778
Anthony Zimmitti	(Grove Beach Point) 74 HENUNKETESUCK RD. WESTBROOK CT 06498	860 669-9962

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ATTENDANCE SHEET

Public Scoping Meeting

Connecticut Environmental Policy Act (CEPA)
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Department of Environmental Protection
Hammonasset Beach Erosion Feasibility Study and EIE

April 12, 2007

NAME	ADDRESS	TELEPHONE/ EMAIL
BRAD GARBO	101 HAMMONASSET MOWS ~~ROAD~~ MADISON, CT	
Shannon Schiesser	98 Wildcat Springs Dr. Madison 06443	wdssfs@comcast.net

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COMMENT FORM

Department of Environmental Protection
Hammonasset Beach Erosion Feasibility Study and EIE

Connecticut Environmental Policy Act (CEPA)
Environmental Impact Evaluation (EIE)

Name: John F. 'Jack' Embersits

Address: 34 Middle Beach Rd. W., Madison CT 06443

Other Contact Information (Email, telephone): (203) 245-2142
JFEmber@Aol.com

Comment:

1. State Preservation of Asset such as Hammonasset is a responsibility - Not a question, or even an option.
2. Citizens across the State are of major interest in this resort + their interests need to be recognized.
3. Admission fees can all ways be adjusted - BUT it does limit the access to only those who can afford. We need to consider those who cannot afford + Probably have the greatest real need.
4. Maintenance @ Hammonasset is putrid - Let's get it To a "priority"!
5. Be Aggressively Confident. The Support is there!!

4/12/07

Please leave in Comment Folder or Mail or Fax to:

Tammy Talbot
State Parks Division
Connecticut Department of Environmental Protection
79 Elm Street
Hartford, CT 06106-5127
Telephone: (860) 424-3199
Facsimile: (860) 424-4070
E-mail: tammy.talbot@po.state.ct.us

Written comments will be accepted until April 20, 2007.

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COMMENT FORM

Department of Environmental Protection
Hammonasset Beach Erosion Feasibility Study and EIE

Connecticut Environmental Policy Act (CEPA)
Environmental Impact Evaluation (EIE)

Name: JEFFREY T KRIETE

Address: 342 N Grove Beach Rd Westbrook

Other Contact Information (Email, telephone): 860 669 8837

Comment:

Short of A Simple & Long Term FIX, Jack Up the BATHOUSE & Boardwalk & Pull it Back 50 yds — You All Just WASTED $3 million on A foolish ATTEMPTED FIX And More Millions Are NOT JUSTIFIED For what You ADMIT will Be WASHED Away Again In A few Years —

Please leave in Comment Folder or Mail or Fax to:

Tammy Talbot
State Parks Division
Connecticut Department of Environmental Protection
79 Elm Street
Hartford, CT 06106-5127
Telephone: (860) 424-3199
Facsimile: (860) 424-4070
E-mail: tammy.talbot@po.state.ct.us

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Public Scoping Meeting
Powerpoint Presentation
April 12, 2007

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PUBLIC SCOPING MEETING

Hammonasset Beach Erosion Feasibility Study and EIE

April 12, 2007

Sponsored by:

Connecticut Department of Environmental Protection

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Tonight's Agenda

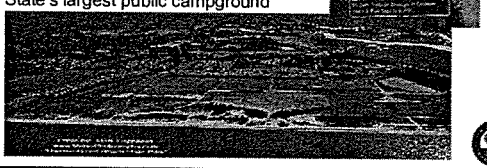
- Welcome and Introductions
- Purpose of the Meeting
- Project Overview
- CEPA Process
- EIE Content and Key Environmental Issues
- New Data Collection
- Feasibility Evaluation
- Alternatives Analysis
- Project Timeline
- Commenting

Purpose of Meeting

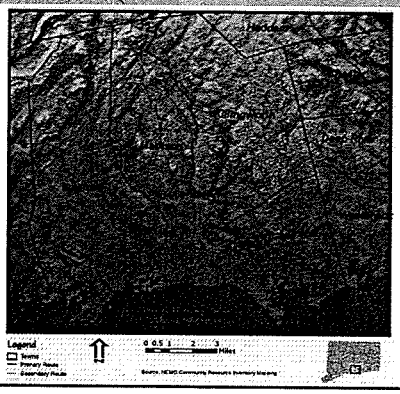
- To provide information to the public regarding the Proposed Action – Study, selection, and implementation of a solution to the erosion problem at Hammonasset Beach
- To describe the Connecticut Environmental Policy Act (CEPA) process
- To solicit oral and written comments regarding the potential impacts that might result from the Proposed Action

Hammonasset Beach State Park

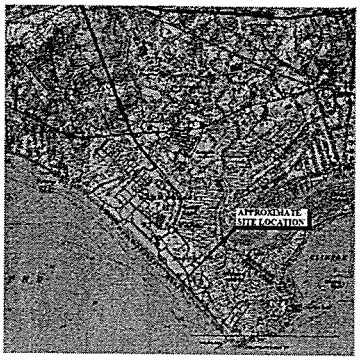
- Hammonasset Beach State Park (919 acres)
- 2.5 miles of beach, ¾ miles of boardwalk
- 1.8 million visitors (2006)
- Connecticut's largest public swimming beach
- State's largest public campground



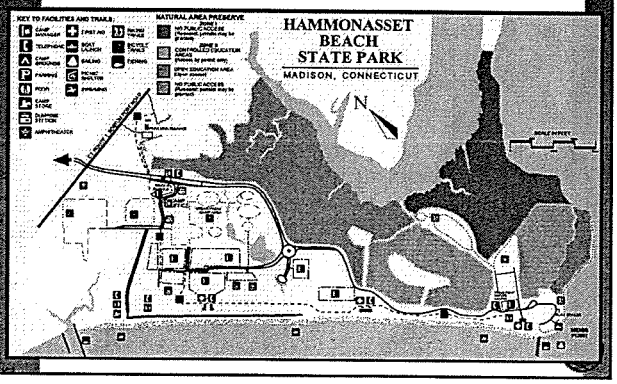
Hammonasset Beach State Park



Hammonasset Beach State Park

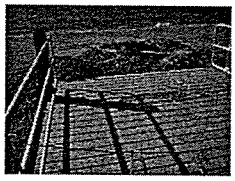


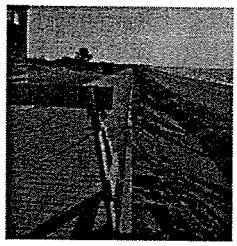
Hammonasset Beach State Park



Beach Erosion

- 2004/2005 – Winter storm erosion along western portion of beach
- ¼ mile section eroded
- New boardwalk undercut
- Sand placement, subsequent erosion





CEPA Process

- Public Scoping Process
  - *Preliminary Information*
  - *Gather agency and public input*
  - *Identify issues of concern*
  - *Shape EIE contents*
- EIE Content
  - *Description*
  - *Purpose and Need*
  - *Alternatives*
  - *Existing Conditions/Analysis of Impact*
    - *Physical, Natural, Socio-economic Environment*
    - *Direct, Indirect, Cumulative Impacts*
  - *Mitigation Measures*

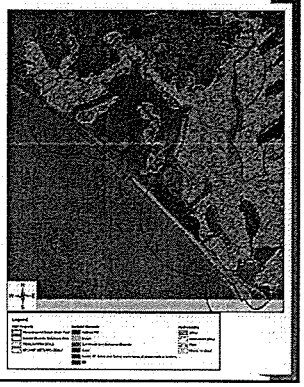
Environmental Impact Evaluation

Physical	Natural	Socio-economic
• Air Quality	• Geology, Topography & Soils	• Land Use & Zoning
• Noise & Light	• Surface Water	• State, Regional & Local Master Planning
• Traffic, Parking & Circulation	• Groundwater	• Public Health & Safety
• Public Utilities	• Floodplains	• Economy, Employment & Income
• Potable Water Supply	• Wetlands	• Environmental Justice
• Stormwater Drainage	• Fisheries	
• Solid & Hazardous Waste	• State Listed Species	
• Aesthetics		
• Cultural Resources		

- **Both beneficial and adverse impacts identified**
- **Impact response - *Avoid*, *Minimize*, *Mitigate***

Environmental Impact Evaluation

- Key Environmental Issues
  - *Coastal and marine resources*
    - *Nearshore habitat*
    - *Offshore impacts to marine organisms*
    - *Benthic habitat*
    - *Bird habitat*
  - *Inland wetlands and water resources*
  - *Traffic and site access*
  - *Infrastructure*
  - *Socio-economic resources*
  - *Cultural resources*
- CEPA process concurrent with feasibility evaluation

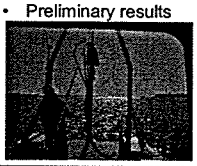


New Data Collection

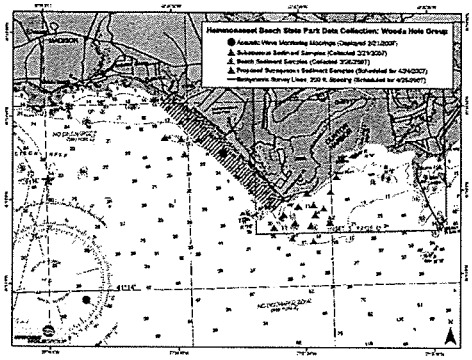
- Coastal Resources
- Surveying
  - *Topography*
  - *Bathymetry*
- Traffic and Parking
- Grain Size
- Wave Data Collection
- Housatonic River Sediment Sampling

Housatonic River Sediment Sampling

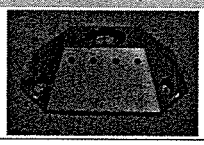
- Potential sand source
- Navigation channel near mouth of Housatonic River
- Core sediment samples at 23 locations
- Chemical and grain size analysis
- Preliminary results

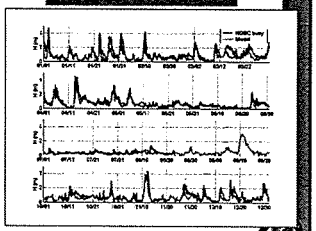


Wave and Other Data Collection



Wave Data Collection



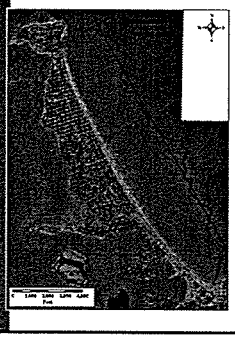


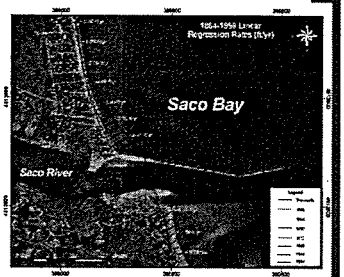
Feasibility Evaluation

- Existing Conditions Assessment
  - *Historic and Geologic Change*
  - *Geomorphology and Coastal Resources*
  - *Existing Structural Assessment*
  - *Wave Climate and Transformation*
  - *Storm Surge Analysis*
  - *Sediment Transport Modeling*
  - *Sediment Budget*
- Alternative Analysis and Conceptual Design
- Sand Source Investigation
  - *Potential Sources*
  - *Comparative Cost Analysis*
  - *Sand Samples*
  - *Potential Borrow Site Requirements*

Feasibility Evaluation

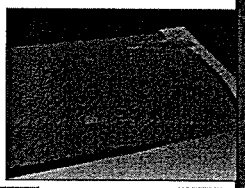
- Historic and Geologic Change

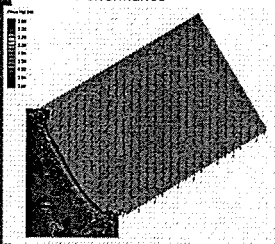




Feasibility Evaluation

- Wave Climate and Transformation
  - *Wave Transformations*
  - *Alternative Assessment*
  - *Sediment Transport*
  - *Performance*

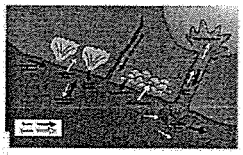




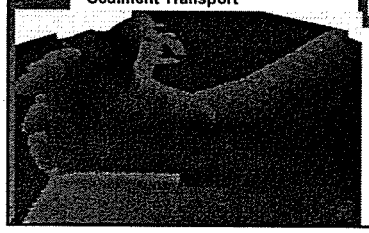
Feasibility Evaluation

Feasibility Evaluation

Sediment Budget

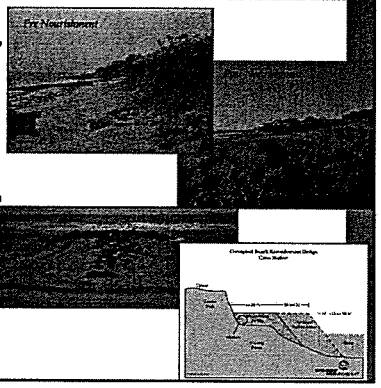


nfluence of Structures on Sediment Transport



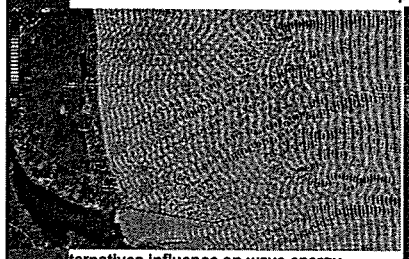
Alternatives Analysis

- No Action
  - *Let nature take its course*
  - *No additional state investment*
- Non-structural
  - *Retreat*
  - *Vegetation*
  - *Beach nourishment*
  - *Dune enhancement*
  - *Sand bypassing*
  - *Nearshore bar deposition*
- Structural
  - *Groins*
  - *Breakwaters*
  - *Revetments / Seawalls*
  - *Geotextile Tubes*
  - *Offshore reefs*
  - *Jetty Modifications*
  - *Perched Beach*



Alternatives Analysis

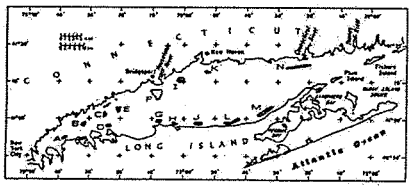
Alternatives influence on poten protection and flooding



ternatives influence on wave energy

Sand Source Investigation

- Potential Sites
  - *Local Nearshore Shoals*
  - *Housatonic River*
  - *Clinton Harbor*
  - *Upland Sand Source*
  - *Existing Identified Borrow Site in Long Island Sound*



Project Timeline

- Scoping Period Ends – April 20, 2007
- Data Collection – Winter/Spring 2007
- Feasibility Study and EIE – Spring/Summer 2007
- EIE available for Public Review – Late 2007
- Final EIE and ROD – January 2008

Commenting

- Oral comments welcome
- Comment sheets available tonight
- Leave comments
- Mail, fax, email comments

Ms. Tammy Talbot
Connecticut Department of Environmental Protection
State Parks Division
79 Elm Street, 6th Floor
Hartford, CT 06106

Phone: (860) 424-3199
Fax: (860) 424-4070
Email: tammy.talbot@po.state.ct.us

Written comments must be sent/postmarked by:
April 20, 2007

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CEQ Environmental Monitor
Scoping Notice
March 20, 2007

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Corres. (MA)

Connecticut Council on Environmental Quality
79 Elm Street
Hartford, CT 06106

Phone:
(860) 424-4000
Fax:
(860) 424-4070

Karl J. Wagener,
Executive Director
E-Mail Address:
karl.wagener@po.state.ct.us

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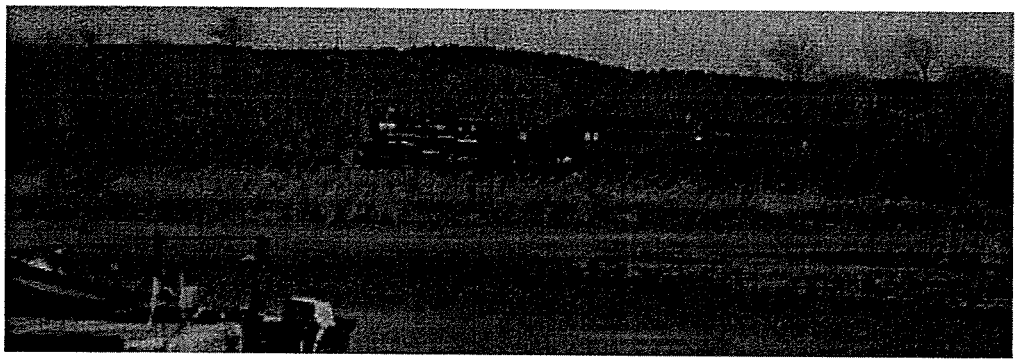

ENVIRONMENTAL MONITOR

The official site for project information under the Connecticut Environmental Policy Act

March 20, 2007

Scoping Notices

1. **NEW!** Implementation of Master Plan Activities, East Haven Rifle Range
2. **NEW!** Hammonasset Beach Erosion Study and Environmental Impact Evaluation (Madison)
3. Metropolitan District Long Term Combined Sewer Overflow Control Project (Hartford, West Hartford, other municipalities in district)

Environmental Impact Evaluations available for review and comment

1. Norwich Transportation Facility

The next issue will be published on April 3, 2007.
Subscribe to e-alerts to receive an e-mail when The Environmental Monitor is published.

Scoping Notices

Scoping Notices have been issued for the following state projects. These projects are in the earliest stages of planning. At the scoping stage, detailed information on a project's design, alternatives, and environmental impacts does not yet exist. Sponsoring agencies are asking for comments from other agencies and from the public as to the scope of alternatives and environmental

impacts that should be considered for further study. Send your comments to the contact person listed for the project by the date indicated.

1. Notice of Scoping for Implementation of Master Plan Activities, East Haven Rifle Range

Municipality where proposed project might be located: East Haven

Address of Possible Project Location: East Haven Rifle Range, New Haven

Project Description: The objective of the proposed action is to update and modernize existing training facilities and infrastructure within East Haven Rifle Range, and to provide new facilities to meet the Connecticut Army National Guard's changing mission. The proposed action is the implementation of activities outlined under the existing Master Plan, including: construction of a new 300 meter Modified Record Fire range, improvements to other existing range areas, construction of new maintenance, workshop and storage buildings, new latrine facilities, entrance improvements, installation of perimeter fencing, improved parking facilities, and other minor appurtenances.

Project Map: Click here to view project Location Map Click here to view a map of the Master Plan

Written comments from the public are welcomed and will be accepted until the close of business on: April 20, 2007

Any person can ask the sponsoring agency to hold a Public Scoping Meeting by sending such a request to the address below. If a meeting is requested by 25 or more individuals, or by an association that represents 25 or more members, the sponsoring agency shall schedule a Public Scoping Meeting.

Written comments and/or requests for a Public Scoping Meeting should be sent to:

Name: Robert Dollak, Environmental Program Manager
Agency: Connecticut Military Department
Address: Connecticut Army National Guard
Construction and Facilities Management Office
Environmental Division
360 Broad Street Room 225
Hartford, CT 06105
Phone: (860)524-4945
Fax: (860)524-4937
Email: robert.dollak@us.army.mil

If you have questions about the scoping for this project, contact:

Name: Glenn Elliott, Environmental Specialist
Agency: Connecticut Military Department
Address: Connecticut Army National Guard
Construction and Facilities Management Office
Environmental Division
360 Broad Street Room 225
Hartford, CT 06105

Phone: (860)493-2736
Fax: (860)524-4937
Email: glenn.elliott@us.army.mil

The agency expects to release an Environmental Impact Evaluation for this project, for public review and comment, in September, 2007.

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2. Notice of Scoping for Hammonasset Beach Erosion Study and Environmental Impact Evaluation

Municipality where proposed project might be located: The proposed project site is Hammonasset Beach State Park in Madison. The primary focus of the project will be the beach, particularly the western end, but certain elements of the project will encompass the entire state park.

Project Description: Hammonasset Beach State Park has suffered significant erosion in recent years. This erosion has reduced the usable area of the beach and is threatening the park's infrastructure. The purpose of the proposed project is to study the shoreline erosion problem, identify and evaluate the feasibility of alternative solutions, and recommend a preferred solution. The following alternatives will be considered: 1) No Action, in which nature takes its course; 2) Retreat, in which beach infrastructure would be relocated to an area of reduced risk and sand dunes would be constructed for additional protection; 3) Replacement, in which the beach sand lost to erosion is replaced, with possible sources including sand dredged by the Army Corps of Engineers from navigation channels and/or offshore sites, or sand mined from upland sources, and 4) Structural Solutions such as using rock, concrete or other hard material to construct bulkheads, modify jetties, or construct a new jetty, floating breakwater or an offshore reef.

Project Map(s): Click here to view an aerial photo depicting major features of the state park. Click here for a topographic map of the beach and surrounding area.

Written comments from the public are welcomed and will be accepted until the close of business on: April 20, 2007

There will be a Public Scoping Meeting for this project at:

DATE: April 12, 2007

TIME: 7:00 PM

PLACE: Madison Memorial Town Hall, 10 School Street, Madison, Connecticut

NOTES: 7:00- Sign-in and Review of Informational Displays, 7:30 PM- Overview Presentation, 8:00 to close: Comment Period and ongoing review of displays

Written comments and/or requests for a Public Scoping Meeting should

be sent to:

Name: Tammy Talbot
Agency: Department of Environmental Protection
State Parks Division
Address: 79 Elm Street, 6th Floor
Hartford, Conn. 06106
Phone: (860) 424-3199
Fax: (860) 424-4070
E-Mail: tammy.talbot@po.state.ct.us

If you have questions about the public meeting, or other questions about the scoping for this project, contact Ms. Talbot as directed above.

The agency expects to release an Environmental Impact Evaluation for this project, for public review and comment, in late 2007.

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3. Notice of Scoping for the Metropolitan District Long Term Combined Sewer Overflow Control Project

Municipality where proposed project might be located: Member towns of the Metropolitan District, but primarily Hartford and West Hartford

Project Description: The Metropolitan District proposes to construct improvements to its wastewater collection and treatment system to eliminate pollution from the overflow of combined sewage to area receiving waters during wet weather for up to a one year return period storm. These improvements include sewer separation in specific areas that experience street or basement back-ups, wet weather treatment improvements at the Hartford Water Pollution Control Plant, consolidation and relief interceptors, deep storage tunnels and related pump stations. The District's combined sewer system is over 100 years old and overflows occur during 50 rainfall events in an average year. This results in the discharge of over 1 billion gallons of untreated combined sewage to area receiving waters annually. The Metropolitan District is required by a Consent Order with the Department of Environmental Protection to implement the proposed improvements. The long-term improvement program to be funded, in part, by the Clean Water Fund is anticipated to be implemented over a 16-year time span.

Project Map: Click here to view a map depicting Phase I improvements. Click here for an overview of the entire project.

Written comments from the public are welcomed and will be accepted until the close of business on: ***April 9, 2007***

Any person can ask the sponsoring agency to hold a Public Scoping Meeting by sending such a request to the address below. If a meeting is requested by 25 or more individuals, or by an association that represents 25 or more members, by *March 16, 2007*, the Department of

Environmental Protection must schedule a Public Scoping Meeting.

Additional information about the project can be viewed in person at:

Department of Environmental Protection
Bureau of Water Protection & Land Reuse
Municipal Facilities Section (2nd Floor)
79 Elm Street, Hartford, CT 06106

Written comments and/or requests for a Public Scoping Meeting should be sent to:

Name: Michael J. O'Brien, Supervising Sanitary Engineer
Agency: Department of Environmental Protection
Bureau of Water Protection & Land Reuse
Address: 79 Elm Street
Hartford, CT 06106
Phone: (860) 424-3756
Fax: (860) 424-4067
E-Mail: michael.obrien@po.state.ct.us

If you have questions about a public scoping meeting or other questions about the scoping for this project, contact Mr. O'Brien, as directed above.

The agency expects to release an Environmental Impact Evaluation for this project, for public review and comment, shortly after the scoping period.

EIE Notices

The following Environmental Impact Evaluations (EIEs) have been completed by state agencies and are available for review and comment.

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1. Notice of EIE for Norwich Transportation Facility

Municipality where project is proposed: Norwich

Address of Project Location: Intersection of Main Street and Falls Avenue - Norwich

Project Description: The proposed intermodal transportation center will include a new multi-level parking structure consisting of 220 spaces; a new bus station; accommodations for shuttle and limousine service to nearby attractions; water access to pedestrians; linkage to water transportation; and services compatible with the activation of passenger rail service. The project will also include related site improvements and utility relocation to support the new development.

Project Map: Click here for project site map

Comments on this EIE will be accepted until the close of business on :April 9, 2007

The public can view a copy of this EIE at: This document is available for public inspection at the Connecticut Department of Transportation, Bureau of Policy and Planning, 2800 Berlin Turnpike, Newington, CT; Norwich Community Development Corporation, 77 Main Street, Norwich, CT; City Clerk's Office, 100 Broadway, Norwich, CT; the Otis Library, 2-6 Cliff Street, Norwich, CT; and the Southeastern Connecticut Council of Governments, 5 Connecticut Avenue, Norwich, CT.

There is a public hearing scheduled for this EIE on:

DATE: Monday March 26, 2007

TIME: 7:00 PM

PLACE: Norwich City Hall - 3rd floor - 100 Broadway Norwich, CT

Send your comments about this EIE to:

Name: Mr. Edgar T. Hurle - Transportation Planning Director
Agency: State of Connecticut Department of Transportation
Address: 2800 Berlin Turnpike Newington, CT 06051
E-Mail: Edgar.Hurle@po.state.ct.us

If you have questions about the public hearing, or where you can review this EIE, or similar matters, please contact :

Name: Mr. Keith T. Hall - Transportation Supervising Planner
Agency: State of Connecticut Department of Transportation
Address: 2800 Berlin Turnpike Newington, CT 06051
E-Mail: Keith.Hall@po.state.ct.us
Phone: 860-594-2926

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Scoping Comments Received

State of Connecticut
Department of Environmental Protection

MEMORANDUM

April 17, 2007

To: Brian Emerick, Supervising Environmental Analyst
Office of Long Island Sound Programs, Hartford

From: Mark Johnson, Senior Fisheries Biologist
Inland Fisheries Division,
Habitat Conservation and Enhancement (HCE), Old Lyme

Subject: Notice of Scoping for the Connecticut Department of Environmental Protection Hammonasset Beach Erosion Study and Environmental Impact Evaluation

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I received the copy of the Notice of Scoping you sent me. The following information was in the Notice:

> **Project Description:** Hammonasset Beach State Park has suffered significant erosion in recent years. This erosion has reduced the usable area of the beach and is threatening the park's infrastructure. The purpose of the proposed project is to study the shoreline erosion problem, identify and evaluate the feasibility of alternative solutions, and recommend a preferred solution. The following alternatives will be considered: 1) No Action, in which nature takes its course; 2) Retreat, in which beach infrastructure would be relocated to an area of reduced risk and sand dunes would be constructed for additional protection; 3) Replacement, in which the beach sand lost to erosion is replaced, with possible sources including sand dredged by the Army Corps of Engineers from navigation channels and/or offshore sites, or sand mined from upland sources, and 4) Structural solutions such as using rock, concrete or other hard material to construct bulkheads, modify jetties, or construct a new jetty, floating breakwater or an offshore reef.

There are two issues that should be evaluated in the Environmental Impact Evaluation. The first issue is the effects, both positive and negative, that any of the alternatives may have on fish habitat. Fish habitat may be affected at the locations where sand would be obtained, or at Hammonasset Beach depending upon the type of modifications that are proposed to solve the beach erosion problem. The second issue is the potential need for seasonal restrictions on various inwater activities, such as dredging or beach nourishment. Since the locations where sand might be obtained have yet to be determined, I cannot comment at this time as to what seasonal restrictions might be appropriate.

Regarding nourishment of Hammonasset Beach, I reviewed the permit application for the previous nourishment project (Coastal Application 2004-00724-SG) and recommended it not take

place during the horseshoe crab spawning and egg development period from May 10 to July 15. As I described in my October 12, 2004 memo to Sue Bailey (I will send you a copy), it is unknown if horseshoe crabs spawn on Hammonasset Beach, particularly in the area where most of the erosion takes place. However, some of the habitat characteristics are suitable, and so I recommended the restriction be included in the permit until it could be determined if horseshoe crabs spawn on the beach, or if they spawn only on certain portions of the beach. I also recommended the beach be surveyed for spawning horseshoe crabs to determine if the restriction would be needed for future projects. Therefore, it would be prudent to evaluate horseshoe crab spawning on Hammonasset Beach as part of the Environmental Impact Evaluation.

Finally, if groins, jetties or other structures are evaluated in the Environmental Impact Evaluation as part of the solution to beach erosion, they should also be evaluated as potential fishing access. Use of the jetty at Meigs Point illustrates the value of these structures to shore-based anglers. It would be particularly helpful if such structures were capped in concrete to facilitate access.

Thank you for the opportunity to review the Notice of Scoping.

cc:
Peter Aarrestad, Supervising Fisheries Biologist, Inland Fisheries, HCEP
Eric Smith, Director, Marine Fisheries Division
Penny Howell, Senior Fisheries Biologist, Marine Fisheries Division

State of Connecticut
Department of Environmental Protection

MEMORANDUM

October 12, 2004

To: Sue Gradante, Senior Environmental Analyst
Office of Long Island Sound Programs, Hartford

From: Mark Johnson, Senior Fisheries Biologist
Inland Fisheries Division,
Habitat Conservation and Enhancement, Old Lyme

Subject: Application 2004-00724-SG. CT DEP, State Parks Division, Hammonasset Beach State Park, Madison.

Scope of project

The State Parks Division proposes to conduct beach maintenance activities on Hammonasset Beach on an as-needed basis. Regular maintenance is needed, but immediate restoration is sometimes needed after storm events that severely erode the beach. The main problem area is a 4,700' section at the west end of the beach where erosion sometimes threatens the boardwalk that parallels the beach. Depending upon the storm, up to 10,000 CY of sand would have to be redistributed, with the sand coming from the beach and from off-site as needed.

Fisheries resources and potential effects

As you know, I typically review beach maintenance activities for effects on horseshoe crab spawning success. Hammonasset Beach has not been sampled by the Marine Fisheries Division's Volunteer Horseshoe Crab Spawning Survey, and I am unaware of any other information indicating whether horseshoe crabs use the beach. In the absence of spawning survey data I rely on habitat characteristics. The grain size of sand comprising the beach appears to be suitable for egg laying; however, as evidenced by the extensive erosion caused by storms, the beach is subjected to considerable wave action, a condition not favored by horseshoe crabs. Still, I cannot rule out the possibility that horseshoe crabs spawn on the beach.

I recommend that beach maintenance below the High Tide Line be prohibited from May 10 to July 15. This period encompasses yearly variability in timing of spawn as well as egg development. Should a storm event occur during this period that causes significant erosion, I can evaluate the need for an exemption in order to rehabilitate the beach.

I also recommend that the State Parks Division consider participating in the Marine Fisheries Division's Volunteer Horseshoe Crab Spawning Survey in order to determine if spawning occurs on Hammonasset Beach. I would use the results of the survey to determine if the seasonal

restriction should be maintained. Senior Fisheries Biologist Penny Howell can be contacted at the Marine Headquarters in Old Lyme (phone number 860-434-6043) for further information.

Recommendations

1) To protect horseshoe crab spawning and egg development, prohibit beach maintenance activities below the high tide line from May 10 to July 15.

cc:
Peter Aarrestad, Supervising Fisheries Biologist, Inland Fisheries, HCEP
Penny Howell, Senior Fisheries Biologist, Marine Fisheries Division

FUSS&O'NEILL

COMMENT FORM

Department of Environmental Protection
Hammonasset Beach Erosion Feasibility Study and EIE

Connecticut Environmental Policy Act (CEPA)
Environmental Impact Evaluation (EIE)

Name: John F. 'Jack' Embersits

Address: 34 Middle Beach Rd. W., Madison CT 06443

Other Contact Information (Email, telephone): (203) 245-2142
JFEmber@Aol.com

Comment:

1. State Preservation of Resort such as Hammonasset is a responsibility - Not a question, or even an option.
2. ~~Citizens across the State are of major interest in~~ this resort + their interests need to be recognized.
3. Admission fees can always be adjusted - BUT it does limit the access to only those who can afford. We need to consider those who cannot afford + Probably have the greatest real need.
4. Maintenance @ Hammonasset is putrid - Let's get it To a "priority"!
5. Be Aggressively Confident. The Support is there!!

Please leave in Comment Folder or Mail or Fax to:

4/12/07

Tammy Talbot
State Parks Division
Connecticut Department of Environmental Protection
79 Elm Street
Hartford, CT 06106-5127
Telephone: (860) 424-3199
Facsimile: (860) 424-4070
E-mail: tammy.talbot@po.state.ct.us

Written comments will be accepted until April 20, 2007.

FUSS & O'NEILL

COMMENT FORM

Department of Environmental Protection
Hammonasset Beach Erosion Feasibility Study and EIE

Connecticut Environmental Policy Act (CEPA)
Environmental Impact Evaluation (EIE)

Name: JEFFREY T KRIETE

Address: 342 N Grove Beach Rd WESTBROOK

Other Contact Information (Email, telephone): 860 669 8837

Comment:

Short of A Simple & Long Term FIX, Jack Up the BATHDUSE & Boardwalk & Pull it Back 50 yds — You All Just WASTED $3 million on A foolish ATTEMPTED FIX And More Millions Are NOT JUSTIFIED For what You ADMIT will Be WASHED Away Again In A few Years —

Please leave in Comment Folder or Mail or Fax to:

Tammy Talbot
State Parks Division
Connecticut Department of Environmental Protection
79 Elm Street
Hartford, CT 06106-5127
Telephone: (860) 424-3199
Facsimile: (860) 424-4070
E-mail: tammy.talbot@po.state.ct.us

Written comments will be accepted until April 20, 2007.

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Corres. (MA)

FUSS&O'NEILL

COMMENT FORM

Department of Environmental Protection
Hammonasset Beach Erosion Feasibility Study and EIE

Connecticut Environmental Policy Act (CEPA)
Environmental Impact Evaluation (EIE)

Name: KATHRYN STRACHAN
Address: 1062 Reef Rd Fairfield CT 06824
Other Contact Information (Email, telephone): KNStrachan@aol.com

Comment: Dredging + dumping Sand- DOES NOT WORK. You HAVE ALREADY PROVEN that. I do Not want my tax dollars going into dumping sand. You Have the tools right Now to "Fix" the problem- GOV Rell signed BILL 5803 in 2006 to allocate 450K to test undercurrent stabilizers in Fairfield + MILFORD - use this money to "TEST" This 'Fix' it IS PROVEN TO WORK + does NOT upset the environment or take Sand From one place to another - it works with nature! helps restore a natural Beach + Flora + Fauna IF you dumped sand one Week ago it would be Gone now w/ the Nor'easter! Bring back a healthy LI Sound + Fish!

Please leave in Comment Folder or Mail or Fax to:

Tammy Talbot
State Parks Division
Connecticut Department of Environmental Protection
79 Elm Street
Hartford, CT 06106-5127
Telephone: (860) 424-3199
Facsimile: (860) 424-4070
E-mail: tammy.talbot@po.state.ct.us

Written comments will be accepted until April 20, 2007.

Sand-Rx™

April 17, 2007

Mrs. Tammy Talbot
Department of Environmental Protection
State of Connecticut

Dear Tammy,

The intention of this letter is introduce your office to **Sand-Rx™**. Sand-Rx is a revolutionary beach erosion treatment that aids in the renourishment of beaches, and the remediation and reversal of beach erosion.

Your meeting on the 12th of this month stated the following: " *DEP is initiating a beach erosion study to identify the causes of the severe erosion problems along the western portion of the state park's beach and to evaluate potential solutions to repair the beach.*

The findings of the beach erosion study will be used to prepare an environmental impact evaluation (EIE) that should be completed in October or November of this year. The EIE will consider the effects of the preferred alternative ***and other possible solutions upon the natural systems*** *of the park and on the park's visitors. That document will be released for public review and comment.*

We respectfully request that you will review the attached information concerning SandRx and it's treatment for beach erosion as a solution for consideration in the western portion of Hammonasset Beach State Park in Madison.

Sand-Rx has been created from a proprietary technology, called Prolamine Technology, resulting in an environmentally safe beach erosion treatment. When applied to sand, it breaks apart Fumed Silica enabling the sand to reestablish its natural cohesion and the beach ecosystem to thrive.

Sand-Rx actually does nothing to alter sand aggregates but it does clean the water that surrounds sand. Over a short period of time Sand-Rx will remove trapped oil, pesticides, anti caking agents, fecal matter, and a very long list of harmful chemicals that percolate through sand using water as an invasive transport system. When the water that surrounds the sand is clean beneficial micro organisms always return and the beach that was driven off shore returns or in the case of an estuary it will once again thrive!

In the early 1990's I worked with a handful of Massachusetts environmentalists to try and solve a minor problem in Gloucester, Ma. Entire stretches of beach were failing in Ipswich Bay. At the time it was hoped that if native grasses were planted on and off shore some reversal to this tragedy would happen. I agreed to investigate the return of eelgrass to the Annisquam River.

After a lot of reading I came to the conclusion that the reason eelgrass was not establishing itself was due to the fact that it could not anchor itself properly to the bottom. At the time I was working with seaweed digests for food preservation so as an experiment I soaked some of the eel grass roots in my digest and planted them 50 feet off shore at low tide. In two weeks the grass remained so I decided to add more digest to the surrounding area hoping the established colony would spread out and flourish.

When I came back the next spring not only had the eelgrass re-established itself but also the small beach behind it had returned back to its old self. Gravel had been replaced with clean sand and the soft shell clam beds had returned!

Over the next few years I studied beaches all along the coast of Massachusetts. After two years of study I discovered the chemicals that were destroying all of the beaches and estuaries and I have discussed that at length many times and with hundreds of people.

It's one thing to discover the reason why the oceans are dying but totally a different challenge to design a practical way to remove the problem. Sand-Rx solutions do exactly that and I accomplish this by simply cleaning the water that surrounds sand particles without altering the sand.

The chemistry and biology of what I do is not very complex at all. All of the materials I use are presently in use by just about every city and town in Massachusetts to protect and purify their drinking water. I have taken these chemicals to the next stage by using them in the very same fashion as clean ocean water prior to 1950 presented them naturally. There is no smoke and mirror action going on with my applications just good old-fashioned applied chemistry, physics, biology, and marine engineering! Oceans can definitely come back and thrive if just a few man made components are removed and treated.

Sand Rx consists of the following materials and when blended with water for release into seawater they will not contribute to an overloading of these chemicals in waters surrounding beach sand nor in the ocean water off shore. In coastal environments Sand-Rx simply strips the hydrogen bonding ability off man made fumed silica particles and other anti caking agents allowed to flow unchecked from municipal waste water plants, rivers, and streams. When these agents are rendered neutral clean water returns not only to the shore and estuaries but the normal functioning of healthy seawater can return. Once these pollutants are detoxified they move quickly off shore into prevailing currents. As we have seen on every beach system we have treated pollutants simply wash away with the influx of clean water and the natural eco system returns and thrives.

The following list reflects the average active chemicals used in Sand-Rx which are held in suspension by a small amount of calcium and sodium hydroxide (0.001%) which sustains a pH of 12 in the concentrate. When Sand-Rx is mixed into fresh sea water for treating a beaches water table (We do not alter sand but only treat the polluted water that surrounds it.) these solvents are diluted and buffered producing a pH of 8.3 which compares uniformly with average ocean pH chemical structures worldwide.

1. Bicarbonate	0.00134%
2. Borate	0.00223%
3. Bromide	0.00345%
4. Calcium	12%
5 Chloride	4%
6. Magnesium	0.5%
7. Potassium	0.143%
8. Amino Acids	11%
9. Sodium	0.224%
10. Sulfate	0.3949%
11. Sea Water	77.73%

All of the mineral ingredients in Sand-Rx are essential components found in sea water. The amino acids used are extracted from fish, shoreline grasses, and seaweeds native to the North Atlantic. Slight modifications of the Sand-Rx formula which I have invented and sold to industries are used in the United States and world wide to remove pesticides and unwanted chemicals from food supplies, as well as, naturally extend the shelf life of food products such as vegetables, fruits, nuts, lettuce, fish, poultry, and prepared meats. These same formulations have proven to be useful in removing toxins such as oil, cyanide, PCB's, Furans, and Dioxins from contaminated soils.

When Sand-Rx is applied below the high water mark of a polluted stretch of beach the concentrate has already been mixed with a considerable amount of salt water before it's is being applied correctly. Mixing water for Sand-Rx should be extracted directly off the face of the beach (in estuarine applications it's mixed to match the salinity of the estuary) and then it's sprayed with large volumes of water directly onto the sand. If applied in this manner the application immediately mixes with salt water along the beaches water table. Clean salt brine water can then be made available by wave action pushing and pulling water under the beach as the tide advances and retreats.

One immediate effect that can be appreciated as the beach is cleaned can be observed in private wells along a treated section.

It is correctly documented that fresh water will accumulate on the surface of salt water after rainstorms in clean environments. Before oceans became polluted this fresh water nourished surface eco systems that allowed the ocean to team with life in abundance. Along coastlines this same fresh water was transported onto a clean beach and then pushed by salt water further onshore to provide fresh water to ocean side aquifers. When pollutants became abundant rainwater no longer could remain separate from salt water and instead of pure concentrations of fresh water on the oceans surface brackish water is now sustained. The immediate result of this is the contamination of beach side wells which have dwindled away since the late 1950's along the coast of Massachusetts! On islands like Nantucket where houses have been constructed great distances from municipal water connections residents have to rely on bottled fresh water.

I hope I have answered some of your questions and concerns with regard to Sand-RX. I do get a bit windy when it comes to saving the oceans. Sand-Rx is a simple and relatively inexpensive way to head the planet back towards equilibrium. If I would sum up the real genius behind the solution I would have to say it's really a replication of the way nature would eventually solve the problem but the unfortunate reality about nature is that it would take hundreds of years for nature to gear up to what mankind's pollution has challenged her with over the last 60 years. For every disaster there is a recovery. I'm hoping it will happen in my lifetime.

Best Regards,

Blaise McArdle

Dr. Blaise McArdle

Sand-RX

When Sand-Rx is used correctly fresh water can be supported on the surface of salt water and the long-term effect of this is that beach side wells no longer are contaminated by salt-water brine!

McArdle SAND-Rx™

Innovative Beach Erosion Treatment

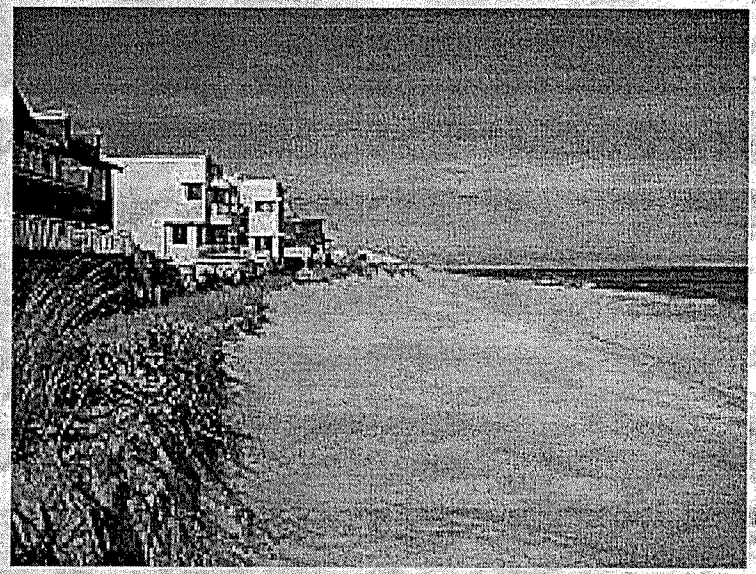
January 2007

SAND-Rx

CET

SAND-Rx ™

- Bioengineered protein-based reagent.
- enhances the natural cohesion between sand and water by flushing hydrophobic compounds.
- aids in the renourishment of beaches.
- allows the benthic community to thrive.
- creates a healthier beach environment.



SAND-Rx

CET

Beach Erosion

- 80 percent of the U.S. shoreline is eroding.
- Conventional wisdom believes the causes are: hurricanes, winter storms, rising ocean levels, and building development.
- In California alone, about 0.3 meters (1 foot) on dozens of beaches erode every year.
- Many of North Carolina's beaches are losing up to 1.2 m (4 ft) a year.

Science World, May 1999

Elms State Park, MD

SAND-RX

CET

Beach Erosion

- Free-flowing agents are chemicals that have been added to hundreds of industrial and household products to make them pour or move freely in the presence of moisture.
- Free-flowing and anti-caking agents are not biodegradable. They end up in rivers, lakes, and ultimately in oceans after passing through septic systems, waste treatment facilities, and ground water. It is estimated that there are 390 grams of fumed silica in each cubic meter of water world wide. See: http://www.marinet.org.uk/coastaldefences/canute.html

SAND-RX

CET

Beach Erosion

- Tides bring these agents to our shores and estuaries and they act in the water just as they did on the original product they treated. These free-flowing agents cause the sand to move much more freely and easily than in its natural state.
- The result is that tides and storms are able to mix the sand into the water and carry it offshore.

Sand in suspension off Humarock Beach, Ma

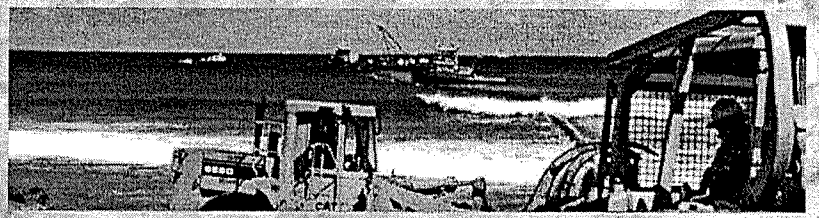
SAND-Rx

CET

Conventional methods for Controlling Beach Erosion

- Seawalls
- Geotubes
- Jetties and groins
- Dredging, piping

All these methods accelerate erosion!



SAND-Rx

CET

Innovative Beach Erosion Treatment with SAND-Rx™

Healthy beach sand is "hydrophilic", which simply means that it can attract and hold water to the surface of the sand particles, which allows it to support plant and animal life.

When sand particles are coated with free-flowing agents, petroleum products or other organic products, they become "hydrophobic", or water resistant.

When sand particles become hydrophobic, they are no longer able to support plant and animal life.

SAND-Rx™ simply returns the sand to a hydrophilic state.

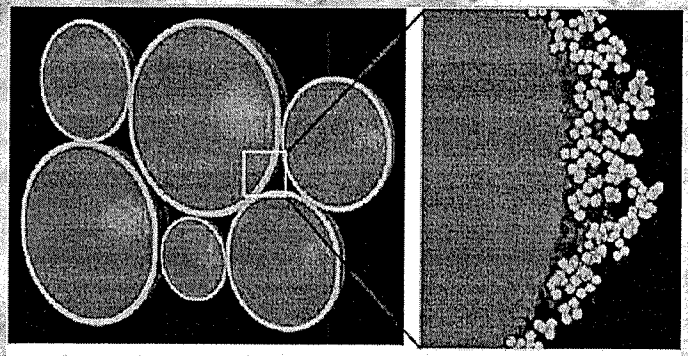


Figure 1: Schematic representation of dry water "particles" (right, close-up view)

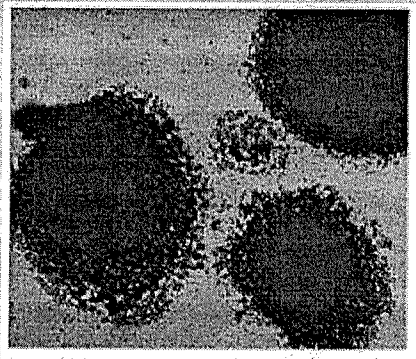


Figure 2. Photograph of dry water "particles". Dye was added to the water phase so that the droplets could be seen.

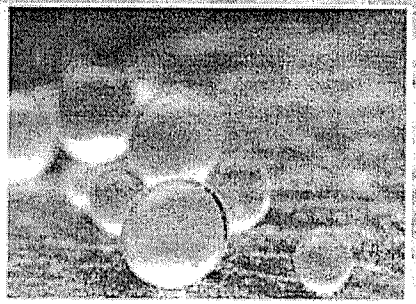


Figure 3: Close-up of "dry water" after rubbing on the skin to break the silica layer and allow the water to coalesce.

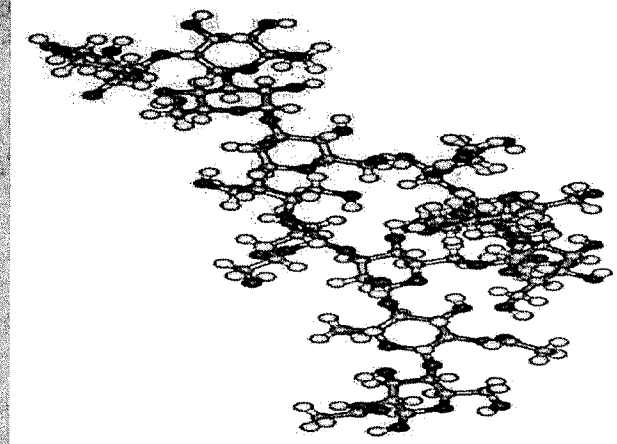
SAND-Rx

CET

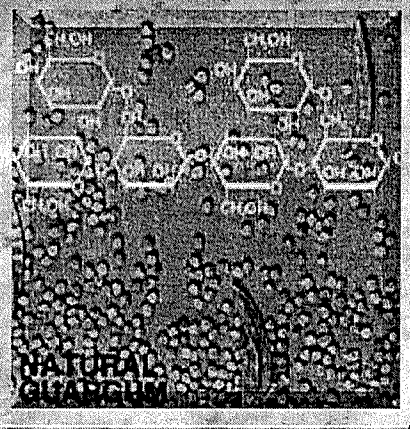
SAND-Rx™ Product Characteristics

- SAND-Rx™ is a non-toxic, non-polluting composition made up of all GRAS (Generally Recognized as Safe by the U.S. FDA) components.
- Thick and slightly yellow concentrated paste.
- Protein, saccharides, additives.

From Protein Structure and Function
by Gregory A Petsko and Dagmar Ringe



© 1999–2004 New Science Press



SAND-Rx

CET

Innovative Beach Erosion Treatment with SAND-Rx™

- The ingredients in SAND-Rx™ will reverse the detrimental effects of the free-flowing agents and organic products.
- SAND-Rx™ will also deposit on the sand particles of beaches a vegetable protein which will allow the benthic community to thrive.
- SAND-Rx™ will create a healthier beach ecosystem that will help in preventing future erosion.

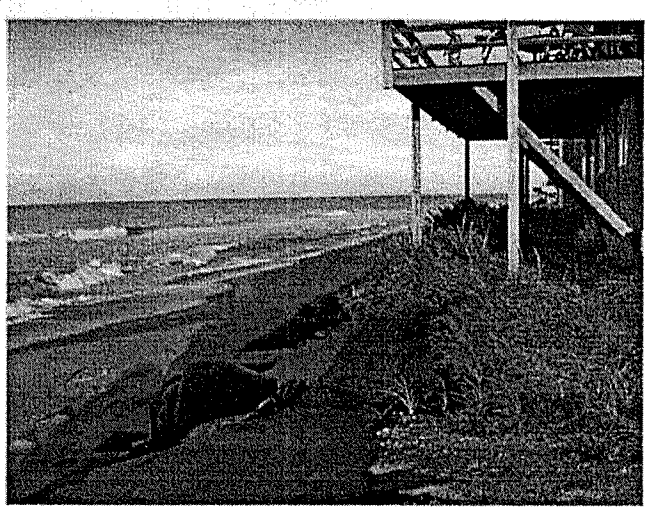
SAND-Rx

CET

SAND-Rx™ Application

- Digging holes along the beach between the mean high and low water mark in accordance to Army Corps of Engineers protocols and installing measured amount of SAND-Rx™ in liquid form into each hole, and then refilling the holes with the sand.
- The natural action of tides and currents mix the SAND-Rx™ with the water and sand rendering the sand hydrophilic both onshore and offshore. This results in the deposition and accumulation of the offshore sand on the beach and the retention of the sand onshore.

Warner Property
September 04
Day of Sand Rx Treatment



Holes dug for Sand Rx installation, Warner Property

Nantucket, Mass

SAND-Rx

CET

SAND-Rx™ Application

- Alternatively, an application trench may be dug along the shoreline and filled with the SAND-Rx™ composition and then covered with the dug out sand.
- Another alternative involves dispersing the SAND-Rx™ composition in briquette form into erosion trenches from a location just offshore.
- SAND-Rx™ is odorless and colorless when applied to sand. The color and texture of the sand will not be altered.
- McArdle recommends an annual maintenance treatment with Sand-Rx™ due to the continuing influx of free flowing and anti-caking agents.

SAND-Rx

CET

SAND-Rx™ Application

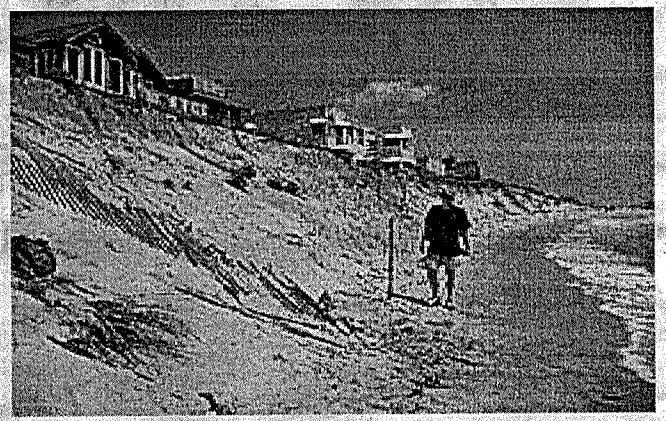
- McArdle personnel will be present at and responsible for the treatment of the beach areas.
- McArdle will provide the personnel, the product and equipment required for the treatment and assessment of the results of the treatment.
- McArdle will assume total responsibility for the timely removal of all equipment used to treat the beach, and the return of the beach to its condition before treatment.

SAND-Rx

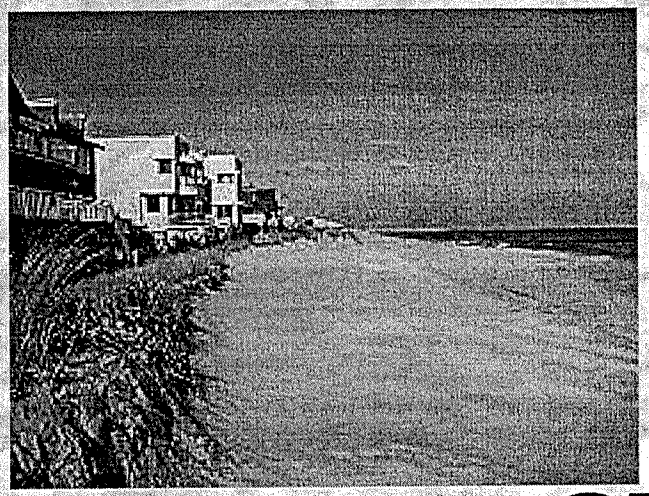
CET

SAND-Rx™ Application Case Study #1

Loveladies, NJ – Photo showing condition of the beach on July, 4, 2004 prior to the application of Sand-Rx™.



Loveladies, NJ – Photo showing condition of the beach on December 8, 2004, approximately 5 months after the Sand-Rx™ application.

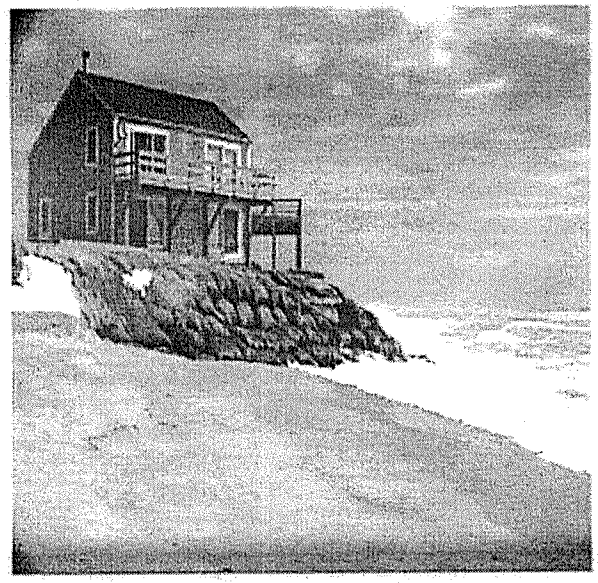


SAND-Rx

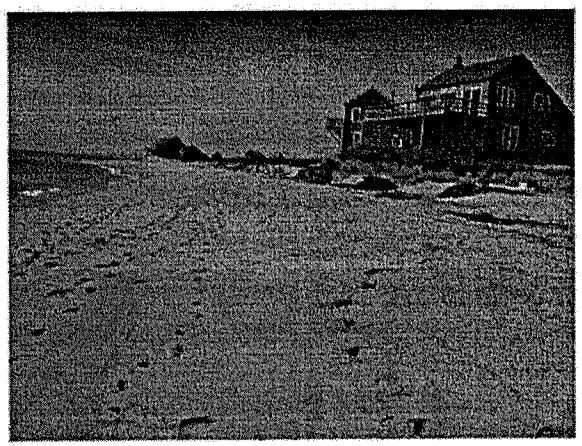
CET

SAND-Rx™ Application Case Study #2
Warner Property, Nantucket, MA

Warner Property
Feb 2004



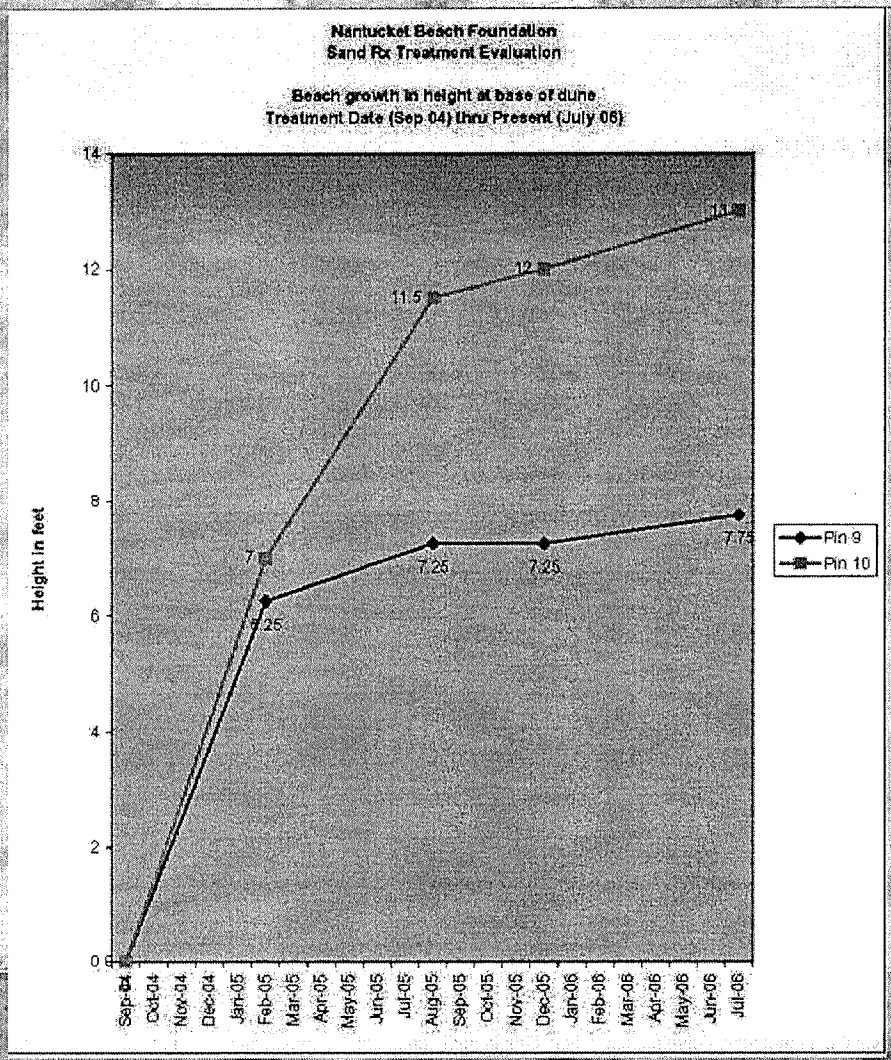
Warner Property
July 06



SAND-Rx

CET

Warner Property, Nantucket. MA



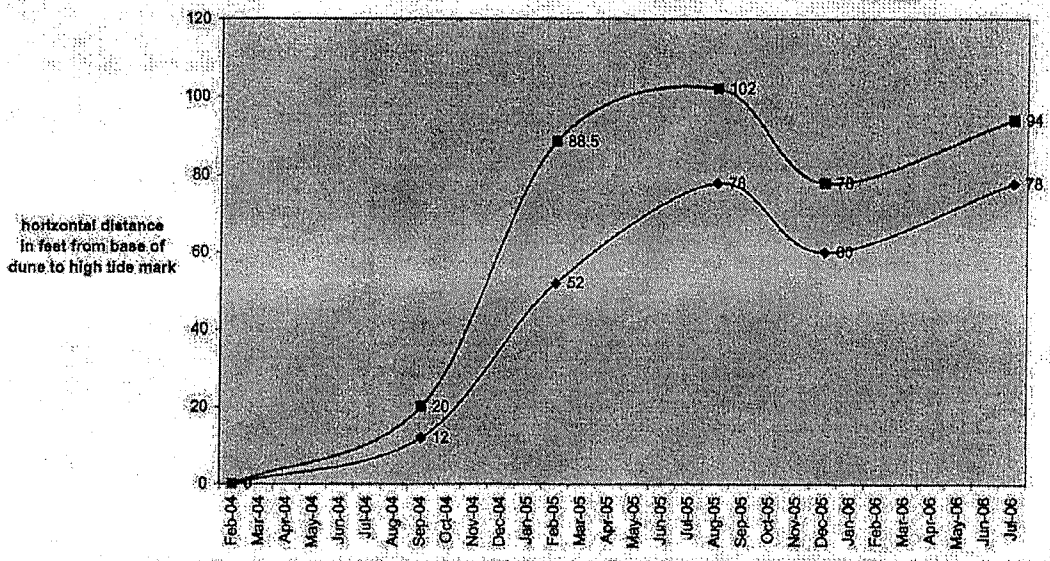
SAND-Rx

CET

Warner Property, Nantucket. MA

Nantucket Beach Foundation
Sand Rx Treatment Evaluation

Beach Width
Prior (Feb 04) to Treatment Date (Sep 04) Thru Present (July 06)



	Feb-04	Sep-04	Feb-05	Aug-05	Dec-05	Jul-06
Pin 9	0	12	52	78	60	78
Pin 10	0	20	88.5	102	78	94

SAND-Rx

CET

SAND-Rx™ Guarantee

- McArdle, application contractor and product developer, guarantees a 2" to 4" minimum increase of beach sand within 60 days subsequent to the first application of Sand-Rx™.
- There are limiting factors to further increases that affect the success of each project, such as wave height, available offshore sand, sand behind erosion trenches, on shore currents.
- Each job will be reviewed and agreed to by CET/McArdle before any bids are submitted or applications begin.
- All contractual guarantees of performance given by CET/McArdle must be based on specific criteria agreed to in advance by McArdle and all other contracting parties. Pre- and post-treatment surveys shall be the preferred method of establishing performance under negotiated contracts.

SAND-Rx

CET

Environmental Bill – Solving Coastal Erosion

A. Connecticut's Coastal Erosion Problem:

There is clear evidence that the Connecticut shoreline and beaches are eroding.

1. 9% of Connecticut's shoreline is critically eroding.
2. 48 miles, or 17%, of Connecticut's 278 miles of shoreline are significantly affected by erosion.
3. Parts of the Connecticut shoreline have eroded, as much as, 50 feet over the past 50 years.
4. Severe winter weather, including a number of coastal storms in November and December of 2004 washed away roughly 150 feet of beach (Hammonasset).

Sources: **(1)** State Coastal Program Effectiveness in Protecting Natural Beaches, Dunes, Bluffs, and Rock Shores (T. Bernd-Cohen and M. Gordon) *Coastal Management* 27:187-217, 1999. **(2)** A comprehensive assessment of the state's shoreline physical character and shoreline erosion was last published in 1979. **(3)** Study by Western Carolina State Univ. **(4)** Governor Rell Provides $2 Million for Restoration of Hammonasset Beach during the development of the Connecticut Coastal Management Program –press release March 2005. (Surfrider Foundation, Erosion.com, NOAA Coastal Services Center web site, http://coastalhazards.wcu.edu).

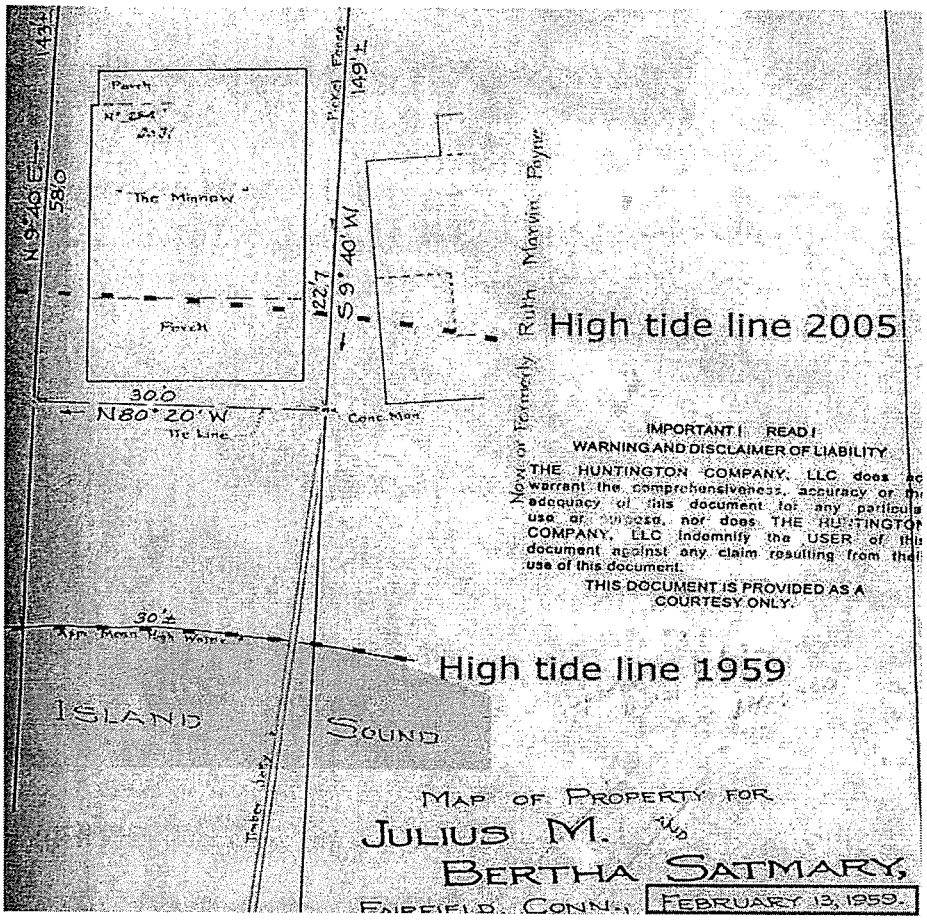
B. Adverse Effects of Coastal Erosion

- Loss of precious natural beauty
- Destruction of Connecticut's most valued resource - shoreline
- Destroys ecological balance
- Unhealthy water quality
- Destroys marine habitat
- Devastates commercial and recreational fishing industries
- Vulnerability to coastal flooding and storm devastation
- Decreased property values
- Diminished tourism revenue
- Loss of sand, bluffs, dunes and vegetation

C. Connecticut's Most Critically Eroded Beaches

There are five towns in Connecticut with "critical" beach erosion: **Milford** (6.5 miles affected); **Fairfield** (4.6 miles affected); **West Haven** (4.6 miles affected); **Madison** (4 miles affected) and **Old Lyme** (3.5 miles affected) have significantly eroding shorelines.
Source; Surfrider Foundation

Evidence Supporting Connecticut's Coastal Erosion Problem.



Survey from 1959 shows high tide line 30+ feet from the home (top). Bottom photo: The house in the survey showing the new high tide line and the extent of the beach erosion. (Fairfield, CT 11/13/2005).

D. Benefits of Healthy Beaches and Shoreline Restoration

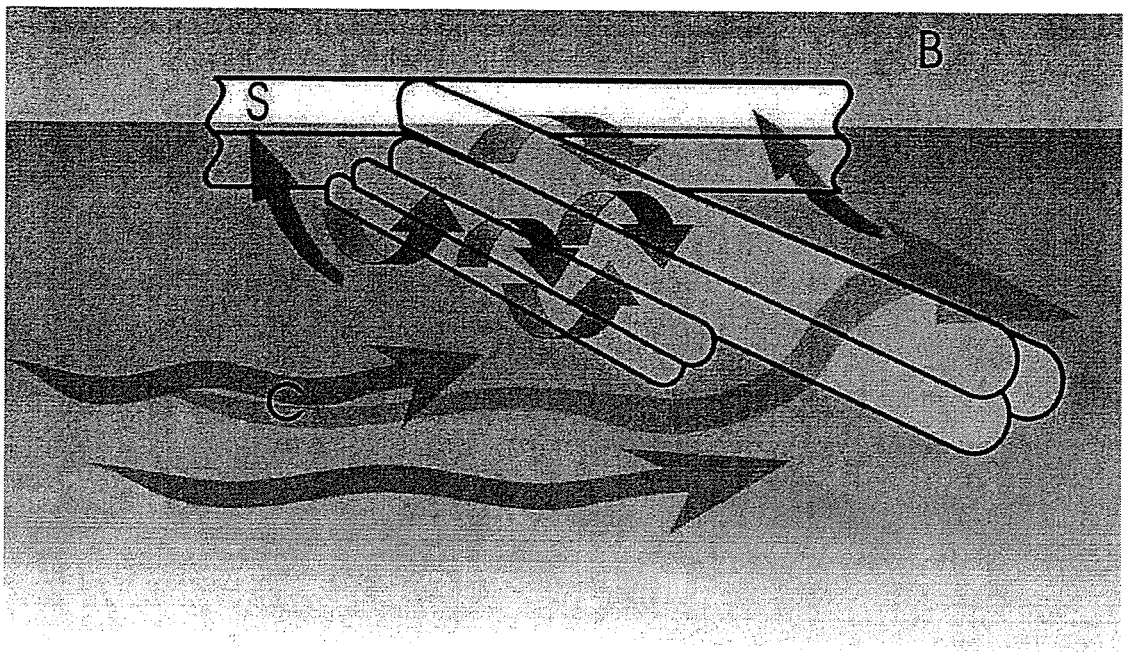
- Increased property values
- Increased business and tax revenue
- Increased State tourism revenue
- Job creation
- Increased property tax revenues
- Fewer beach closures
- Protects inland fresh water table
- Protects marine life by decreasing nitrogen pollution
- Environmental / ecological benefits and enhanced wildlife habitat
- Improved aesthetic value of shoreline
- Revitalized commercial and recreational fishing
- Promotes flora and fauna (regenerates nurseries for fish, clams, crabs, oysters, lobsters, shore birds, etc.)

E. A Permanent Solution: Underwater Stabilization System

Underwater stabilization technology has proven successful in reversing the effects of erosion in hundreds of shorelines worldwide. The beach building process, known as accretion, uses wave energy and sand carrying currents to naturally rebuild beaches.

The purpose of this proposal is to request preconstruction planning and development funding from the State of Connecticut to install the underwater stabilization technology pilot program at two of Connecticut's most critically eroded beaches. The funds will be used as follows: preconstruction permitting, approvals, engineering, site measurements and surveys, design and preconstruction costs.

F. How the Technology Works



The underwater current stabilization system [S] is an engineered solution that reverses coastal erosion naturally and permanently. The system works like a "speed bump" to slow the current [C], sometimes referred to as the longshore current or litttoral drift, and reduces its sand carrying ability. When the current energy is dissipated, the sand falls out of suspension and the natural accretion (beach building) process is restored. When the beach [B] is recovered, the underwater current stabilization system [S] is buried under the new sand, providing stability to this new sand. Once the erosion process is reversed, beaches and dunes will grow back to their natural state, eliminating the need for expensive, periodic beach renourishment measures.

Legend:

[S] Underwater current stabilization system (cut-away sectional)

[C] Natural sand carrying current (littoral drift / longshore current)

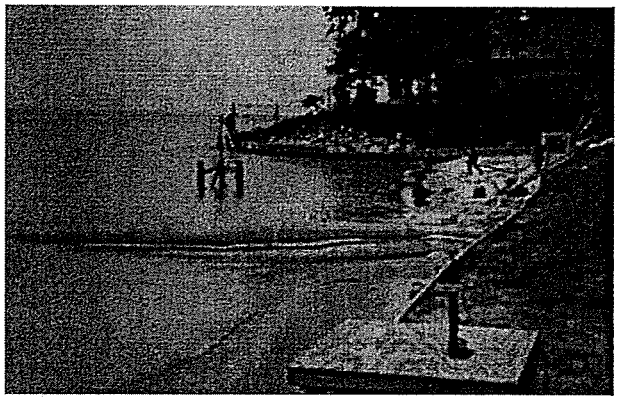
[B] Beach shoreline

G. Underwater Stabilization System Results

*BEFORE – 1999 (Najmah, Saudi Arabia)

AFTER – 2001 (Najmah, Saudi Arabia)

*BEFORE – 1986 (Ludington, MI)



AFTER – 2005 (Ludington, MI)

*BEFORE – 1986 (Grand Haven, MI)

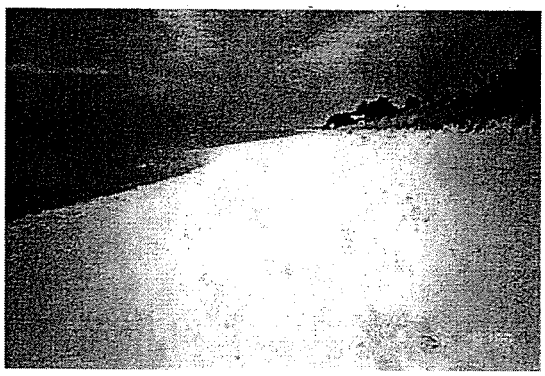
AFTER – 2003 (Grand Haven, MI)

***BEFORE – 1986 (Glenn, MI)**

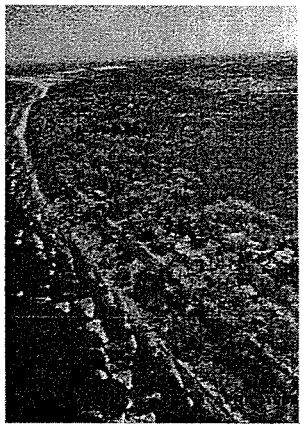
AFTER – 2003 (Glenn, MI)

BEFORE – 1984 (Whitehall, MI)

AFTER – 1999 (Whitehall, MI)

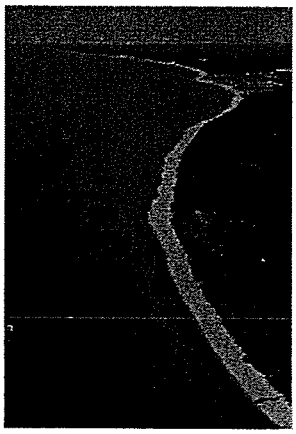


BEFORE – 1988 (Lakeshore Drive Project Douglas, MI)



***Before Photos**: Showing underwater stabilization technology shortly after construction (*gray tubes*).

AFTER – 2000 (Lakeshore Drive Project Douglas, MI)



After photos: Underwater stabilization system is completely buried by the captured sand. The recovered beaches are stabilized and rebuilt permanently.

Proponents: Jim Amann, Speaker of the House, 118th District;
Thomas Drew, State Representative, 132nd District, 860-240-8552

From: BERNEARCH@aol.com [mailto:BERNEARCH@aol.com]
Sent: Monday, April 02, 2007 10:25 AM
To: Talbot, Tammy
Cc: Governor Rell; info@hammonasset.org
Subject: Beach Nourishment: A Starvation Diet

Beach Nourishment: A Starvation Diet
Originally published in Raleigh, NC's Metro Magazine, July 2004

12-06-06

A Further Commentary on Beach "Nourishment"

This October, a news article stated that the $45 million Broward County beach nourishment project, completed last year, was already gone. This was supposed to be the last readily available sand offshore to mine; Broward has strip-mined its offshore to death, literally.

During the Broward County preparations to acquire sand off Deerfield Beach for its supposed "last" renourishment (the affordable sand was gone), I sent Deerfield Beach City Manager Larry Deetjen a considerable amount of information on nourishment. This helped the city slow, but not stopped the project, though it did manage to wrangle a first: Broward County would have to repair any damage to its beaches should the strip-mining of a shoal off the city result in erosion to its beaches. Guess what: this did cause the city's beaches -- which had been relatively stable-- to erode. When the city went to Broward's beach manager (and big ASBPA representative) Steve Higgins, he basically laughed at its request to repair this damage (by nourishment, no less) saying there were no funds to do this (after spending $45 million for the project). Deetjen, by the way, is a former city manager from Michigan who knows and seems to have a positive impression of Holmberg Technologies from his time there.

In late September, the mayor of Folly Beach said 85% of the $12 million of sand pumped onto shore at the end of last year was gone. This occurred during the summer months when beaches supposedly build.
Further, Folly has an extensive groin field which is supposed to hold this fill. Now an emergency $7 million project is planned.

In 2003, former SC Governor Bob McNair, Fripp Island homeowner and the former mayor of Rock Hill John Hardin and NC's environmental icon Hugh Morton met with the Folly Beach Mayor Vernon Knox and Town Manager Toni Connor to advocate for the city to support implementing a Holmberg Technologies' demonstration project to save its armored (with a seawall and groins), formerly renourished and disappearing beaches. I attended the meeting with them, city, state, Corps' officials and Mr. Holmberg. It was after this meeting I overheard the Corps' official defaming Holmberg's work to the mayor and manager when he thought everyone else had left the building. The Corps obviously was attempting to dissuade

any consideration of an alternative to beach renourishment as it had done in numerous other instances.

Other nourishments over this past year have failed, some even as the project progressed. Even so, the Corps continues to advocate for and fund these projects. It has even proposed spending billions for a chain of dredged islands along the Gulf coast to "protect" it from hurricanes. Now, of course, everyone is aware of the Corps' responsibility for the loss of life and property during Katrina. What many do not know is the Corps' projects over many years which have caused the loss of hundreds of square miles of naturally protective delta.

5-11-06

A Commentary on Beach "Nourishment"

Last year Florida spent $180 million to "nourish" its beaches with most of the fill sand mined from the nearshore (as is most of all our beach nourishment fill). Earlier that year, Barry Drucker, the Minerals Management Service scientist responsible for studying the offshore sand mining process used for nourishment, wrote to me stating that, as dredging operations become more efficient, offshore sand mining was moving towards deep waters (which, in many areas of the US, means many miles offshore). More importantly, he continues, "Some of this shift is definitely due to the realization that exploiting too much of deposit in close proximity to the beach can actually have a devastating effect on the shoreline and subsequent increases in erosion."

This means the erosion caused by this is ongoing as those once protective shoals are now obliterated by this earlier mining. What he does not say, and what is becoming painfully evident in areas such as Florida and our Gulf coast, is that much of our easily exploitable nearshore shoals have already been mined so that the move to mine deep water deposits are now required. This means more expense, a spreading destruction of the seabed habitat and further harm to onshore and nearshore ecosystems. It also means that our nearshores are deepening and steepening allowing more destructive storm energy to reach the shoreline.

By allowing our coastlines to be controlled by the dredging industry, its coastal engineering consultants and lobbyists and often uninformed officials, we are losing these and the coastal habitats these sustain. We do have alternative proven to be sustainable and environmentally sound. Given the known hazards and escalating costs of nourishment programs, it would seem environmental organizations, governmental agencies and local citizens impacted by such counterproductive (though often officially sanctioned) programs would wish to research and promote such fiscally and physically sustainable alternatives.

Below is my earlier essay on this process:

"Beach Nourishment: A Starvation Diet"
(as sent in response to Dr. James Leutze's article in Raleigh's Metro Magazine, July 2004 and published in its September, 2004 issued)

While Dr. Luetze is correct on the economic importance of maintaining our shorelines, he seems to be uninformed of the true costs of constant dredging and renourishment projects.

The term beach "nourishment", carefully chosen to sound healthy, is really a starvation diet. The research and empirical data continues to demonstrate its environmental damage to coastal ecosystems as well as it leading to increased erosion. The dredging of inlets and offshore shoals for sand fill increases onshore erosion according to the EU's 2004 "Guide to Coastal Erosion Management". It further states this causes sediment starvation and hydraulic changes inducing even more erosion. Our own reports, including those of the Corps, bear this out. In 2000, a research abstract for the Minerals Management Service stated, "When a shoal is flattened (by dredging), the degree of wave energy concentration is likely to be reduced, resulting in greater wave energies hitting the coastal area. This may result in increased coastal erosion or unwanted, detrimental changes in longshore or nearshore current patterns. Significant coastal impacts could also be expected during storm events in that increased wave energies which might have been somewhat dissipated by the presence of the shoal would now impact the coastal area with greater forces." Research done by the NC Geological Society and the University of Arkansas off Pea Island in 2000 directly related offshore shoal topography to erosion hot spots. Up to three miles offshore (the farthest area studied), the shoal topography still effected onshore erosion. Shoals much nearer to shore are the major sand source for nourishment mining and, consequently, can have a more direct impact.

Manmade erosion is a fact. From dams, to the ever-deeper dredging of channels and inlets, to offshore strip-mining of shoals for sand fill, to sea level rise from global warming, we are the cause of much of this accelerating problem. While onshore overdevelopment is a problem, it does not directly cause more erosion. It is what we do in the water that causes the problems. Only when we apply traditionally engineered shore protection (groins, seawalls, jetties, etc.) to protect these does this development directly impact erosion trends -- and these are upward.

Erosion rates have accelerated over the last 10 years in NC even as NC officially embraces Dr. Pilkey's irrational suppositions that erosion is natural and retreat is a viable environmental option. As in reality, much of this erosion is manmade, we must mitigate this as we would any other manmade environmental problem. Applying methods we know -- especially by the so called experts in the Corps, coastal consultant and dredging industries-- to be counterproductive, only enriches these groups while impoverishing our coastal ecosystems and the taxpayer.

We are talking about habitat, not real estate. We are also losing habitat at an accelerating rates. Even our coastal fresh water supplies are now at risk. This can only lead to catastrophic collapse of our coastal systems as is happening in Louisiana, our coastal canary. More traditional coastal industries linked to sealife --fishing, shrimping, crabbing, etc.-- are likely to suffer as our coastal estuaries as the Pamlico Sound, continue to be overwashed by sea water destroying the fragile saline balance needed for such sealife nurseries. Thanks to

the recent super-deep dredging for the Wilmington harbor and channel, salt water now projects almost twice as far --twenty miles-- inland than it did a few years ago. If we lose the Outer Banks, the Pamlico Sound becomes the high energy Pamilco Bay and we have lost the second largest estuary system in the US. The constant dredging of the Oregon Inlet, other inlets, ferry crossings, the Intracoastal Waterway, and previous nourishments induces further erosion both to the ocean and sound sides of barrier islands. This is not nature taking its course, this is murder by a thousand cuts. Yet, coastal real estate is a vital economic activity for our coastal communities. We have to acknowledge the great importance real estate and tourism are to our coastal economies and that this is based on having wide, safe beaches The dredging lobbyist Howard Marlowe, his coastal consultant associates and such aligned dredging lobbying groups as his American Shore and Beach Preservation Association (and its many linked groups) prey on these desperate communities. These groups to seem control our coastal policies and practices even though dredging actually causes more erosion and other cumulative damage to our coastal environments. These groups' overly close relationship with the Corps has made it the chief agent of erosion on our shorelines.

The successful promotion of beach nourishment in Florida means many of its areas are now literally out of sand. Broward County is now experimenting with ground glass as beach fill having exhausted his available offshore sand sources. It beach manager, by the way, is Steve Higgins, a board member of the American Shore and Beach Preservation Association (ASBPA), the major beach nourishment lobbying group. This should make us all wary of promises by the Corps of 50-year nourishment programs.

There are also health risks in dumping dredged sediments onto beaches. In 2001, the Office of Naval Research warned of dredging tainted sediments because, "In harbors, waterfronts and shorelines around the world, sediments that have been contaminated by even small amounts of oil, chemicals or other pollutants may pose a risk to humans and to natural ecosystems." Even so, these are often promoted as beach fill by the Corps through its desperate attempts to insure the success of its "beneficial use" disposal methods. In 2000, the Corps sought to dump dredgings tainted with asbestos and other industrial wastes from the Waukegan Harbor onto Illinois Beach State Park as "renourishment" to dispose of these while fulfilling its requirement to mitigate erosion its caused by its other channel dredging.

The grinding of the sand itself as it moves through the dredger and piping produces silt, a pollutant in itself. These finds smother reefs and other seabed and nearshore habitats. This also helps deplete the very resource being mined.

Another characteristic often found on recently renourished beaches: rip currents. These potentially deadly (several people drowned near Pensacola, FL this past year) currents form as the steep profile of the unnatural beach is moved into toughs along the nearshore. One lifeguard in Savannah says they know after each nourishment to expect this.

We are losing our shorelines and the coastal resources these protect. Almost all of this lost is directly attributable to man. We can help mitigate this damage with methods proven to be sustainable and environmentally sound. Unfortunately for our coastlines and our taxpayers, beach nourishment is not one of these.

Jerry Berne
Sustainable Shorelines, Inc. (www.sustainableshorelines.org)

Sustainable Shorelines is a nonprofit corporation dedicated to documenting current environmental events on our shorelines, identifying and seeking to change those coastal policies and practices which are harmful and advocating protecting our coastal habitats and the ecosystems these support with methods proven to be environmentally sound and sustainable.

From: BERNEARCH@aol.com [mailto:BERNEARCH@aol.com]
Sent: Monday, April 02, 2007 10:25 AM
To: Talbot, Tammy
Cc: Governor Rell; info@hammonasset.org
Subject: Hammonasset Beach Repairs

In July, 2006, Gov. Rell signed Special Act No. 06-8, "AN ACT CONCERNING A PILOT PROGRAM TO EVALUATE SHORELINE EROSION." This act was fully funded for a study of coastal erosion in Milford and Fairfield with pilot programs to follow with the intent that the DEP establish a grant program for this. Yet, as of this February when I spoke with Brian Thompson, the DEP had yet to begin to pursue this.

Just a year prior to this, in March, 2005, Gov. Rell had authorized $2 million to relocate 15,000 cubic yards of sand from a former salt marsh area that was previously filled to the West Beach. The intent was to add sand to West Beach and to restore the marsh as another of the important birding areas in the park. At the time a number of traditionally engineered shore protection options were under consideration.

Now, apparently, more of these options are being considered along with beach nourishment, possibly from the offshore. The employment of any or all of these methods is going to cause a further loss of shoreline and, consequently, coastal habitat.

Act 06-8, as written, seems to have been intended to introduce Connecticut to the innovative and successful methods of restoring shorelines based on the work of Holmberg Technologies. In my ten years of monitoring news and science articles on coastal environmental issues, specifically erosion, Holmberg remains the only method I have discovered with any long-term, credible evidence of success, sustainability and environmental soundness. Holmberg's passive, permanent systems work with natural forces to induce the accretion of indigenous sediments. The beach widens and elevates, an important attribute as sea levels rise. As the beach face widens, the nearshore shallows and protective offshore shoals and backshore dunes develop. Holmberg's work, in effect, neutralizes much of man's processes which have so greatly contributed to the loss of our coastlines: navigational dredging and structures, traditionally engineered shore "protection" structures and the salubriously named, but shore-deadly, beach "nourishments" (see my following message). These heavily marketed activities have seriously weakened our natural coastal defenses making our coastal habitats, both natural and manmade, more vulnerable to global warming's intensified storms and sea level rise.

We are losing our shorelines and the ecosystems these sustain. Most of this loss is directly caused by man's activities. As such, we must mitigate this problem as we would any other manmade environmental crisis. Many of the coastal experts continually consulted on this are the same individuals who have failed to prevent and even contributed to this loss. In some ways, we are losing our shorelines to greed, not erosion.

The DEP's immediate employment of the resources already provided with additional funds as anticipated could implement a full functioning Holmberg system at Hammonasset. Continued delay only can result in more loss at Hammonasset. Further, Holmberg's usually

rapidly evident success might encourage other areas with such critically eroded shorelines to go forward with such innovations. The millions worst than wasted on counterproductive nourishment projects could then be reallocated to acquire sensitive coastal areas, to critical environmental protection infrastructures to prevent pollution and other projects which truly benefit our natural ecosystems.

Jerry Berne
Sustainable Shorelines, Inc. (www.sustainableshorelines.org)

Sustainable Shorelines is a nonprofit corporation dedicated to documenting current environmental events on our shorelines, identifying and seeking to change those coastal policies and practices which are harmful and advocating protecting our coastal habitats and the ecosystems these support with methods proven to be environmentally sound and sustainable.

From: Dickson, Jenny
Sent: Tuesday, March 20, 2007 10:11 AM
To: Fox, David
Subject: projects for review

Dave,
Here are a few quick thoughts for some of the projects in the newest packet.
Let me know if you need more info.
Jenny

1. **Hammonasset Beach**

Notice of Scoping by DEP of intent to prepare Environmental Impact Evaluation for proposed study of potential solutions to beach erosion occurring at park in Madison, including replacement of beach sand from offshore sites or upland sources and structural solutions such as bulkheads, jetties or breakwaters.
Lots of T & E species at Hammo and very high awareness on the part of the conservation community. Use of sand from off-shore sites or upland sites will need to examine content as the area is used by plovers, terns and shorebirds. Impacts to foraging for many species from jetties etc. should be considered. It's probably better for them to consider the many issues here before they develop a game plan and submit for review and comment.

April 15, 2007

Ms. Tammy Talbot
State of Connecticut

In re: Hammonasset Beach Erosion

As I was unable to attend the public hearing last Thursday I am listing below some of my thoughts on the current erosion problems at Hammonasset.

I am currently the Town Clerk of Thompson, CT and have my BA degree in Environmental Science and Economics from Colby College (1974).

My mother has camped at Hammonasset every year (except when the park was closed during WWII) since 1932. I spent every summer myself at Hammonasset for at least nine weeks from 1952 through 1972. I continue to camp at the park two to three weeks every year. I provide this background because, so often, decisions about the park are made by folks only recently introduced to it. I believe people like myself can add the flavor and experience of history: hurricanes, wind storms, plane and boat accidents, drownings, concessions, nightlife, and grounds work and improvements to name a few.

I agree with the statements that dredging tons of sand off shore to add to west beach is a short lived solution.
If there were gps information available, I am sure the boardwalks of the 1920's at West beach would now be well out in the water and their pilings are occasionally exposed in proof of that. I would be in favor of moving the west beach infrastructure back and rebuilding the dunes as a primary step. That is with the realization that it may be required again in 30 years. I also believe that the Park can change beachgoers behaviors simply with signs or barricaded thoroughfares at times to direct traffic to areas of the park where the beach is very wide and roomy. Without any major paving event, and some improved grading, parking for many cars is available at the bathhouse half way to Meigs Point. The Meigs Point end has capacity as well; perhaps a boardwalk from the Meigs Point bathhouse westward to the site of an old refreshment stand (now used for motorcycle parking) would attract more visitors to make Meigs and the "halfway to Meigs" bathhouses more of a destination for mid summer beach goers.
It may also make sense to build an additional jetty or "groin" on the beach near the site of the 1960's octagonal pavilion recently removed; adjacent to the rotary. Such a structure would likely turn back eastward retreating sand westward to naturally rebuild the west beach over time.

Our park remains a state jewel and I applaud the state for opening the erosion issue to the public for their comment.

On another note, I am also likely to be the owner of the most extensive collection of Hammonasset post cards should they ever be needed for any research. A sample of those post cards are posted on the Friends of Hammonasset web site.

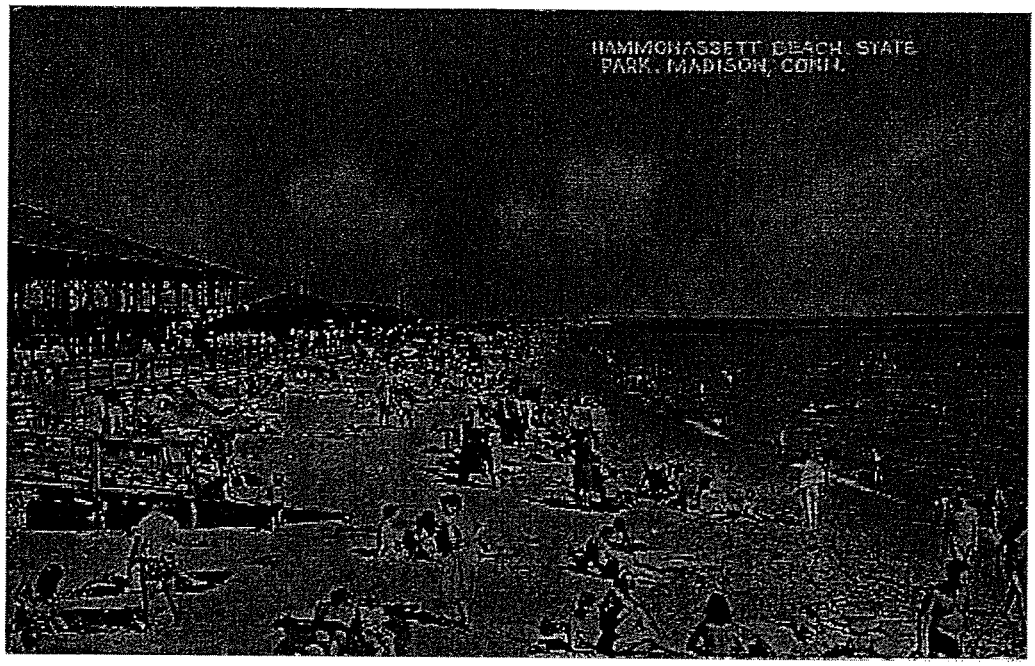
Sincerely,

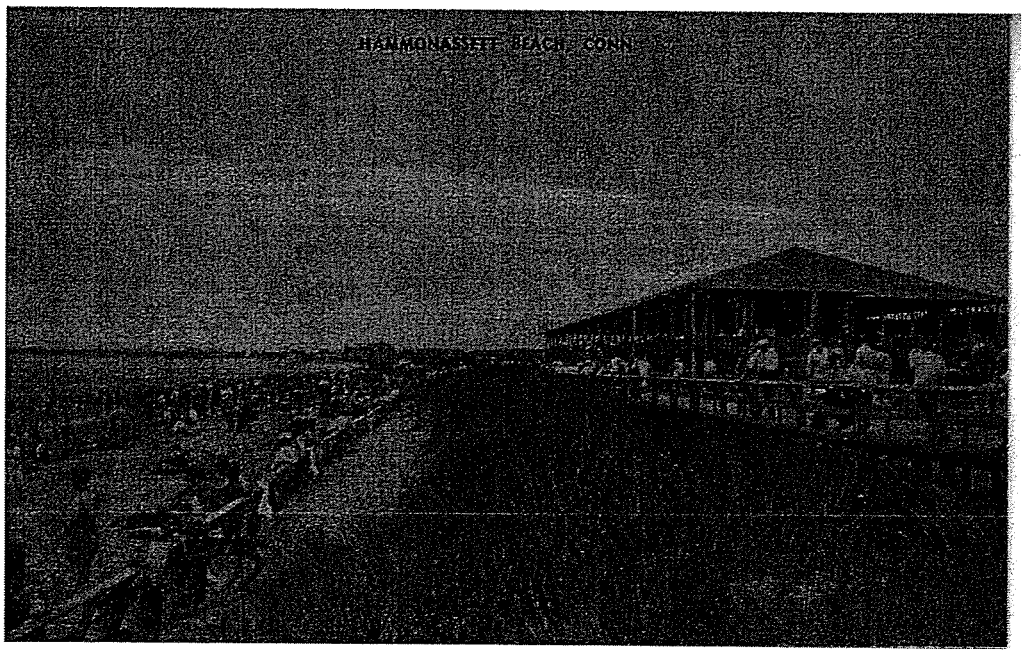
Jeffrey C. Barske
1312 Thompson Rd.
Thompson., Ct. 06277
860-935-5036
860-923-9900 (work phone)

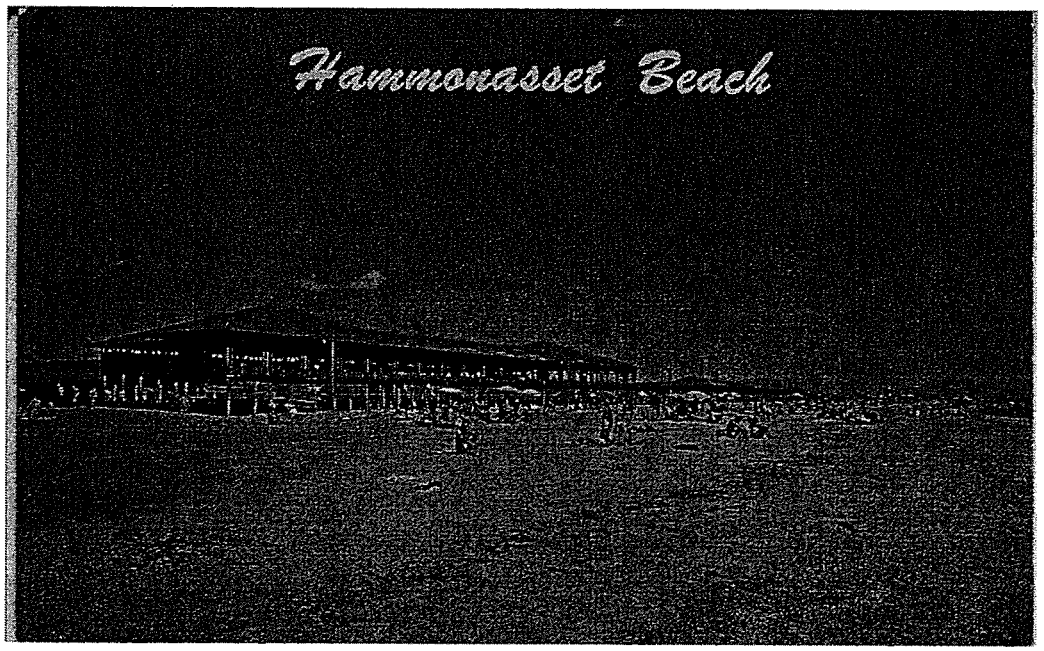
From: Jeff Barske [mailto:jbarske@yahoo.com]
Sent: Sunday, April 15, 2007 1:42 PM
To: Talbot, Tammy
Subject: Some perspective on beach width

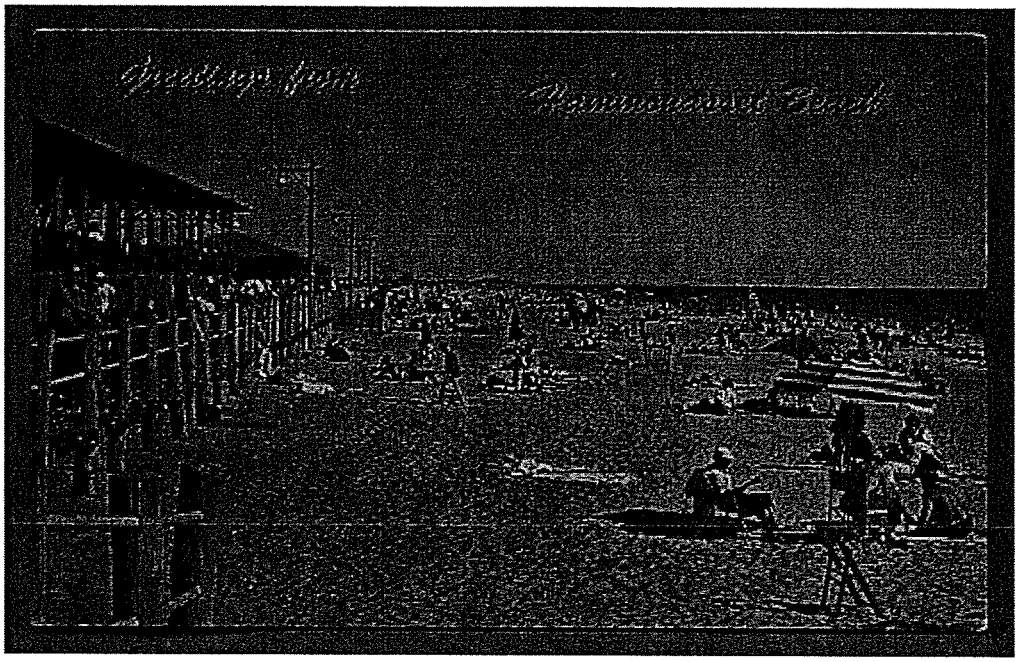
In the first color aerial, this would be late 60's as the original large pavilion on the western side of the old pavilion area was razed in 1967. The third building up from the bottom is the current bathhouses on the boardwalk.

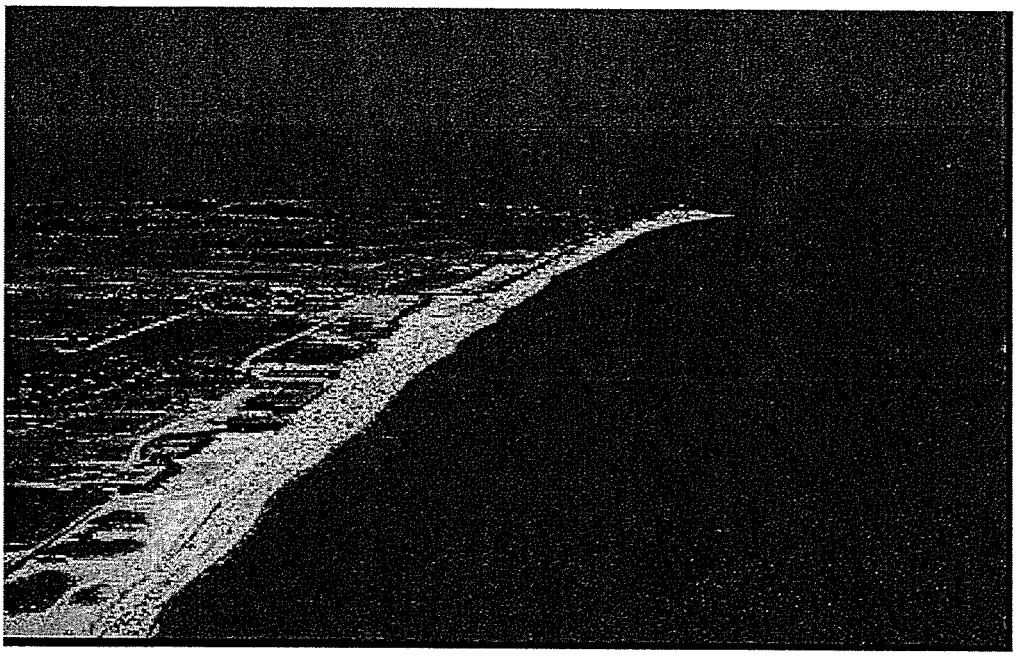
Jeff Barske


HAMMONASSETT BEACH STATE
PARK, MADISON, CONN.


HAMMONASSETT BEACH, CONN.


Hammonasset Beach





STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH

March 30, 2007

Tammy Talbot
Department of Environmental Protection
State Parks Division
79 Elm Street, 6th Floor
Hartford CT 06106

RE: Scoping notice for Hammonasset Beach Erosion Study and Environmental Impact Evaluation

Dear Ms.Talbot:

The Drinking Water Section of the Department of Public Health has reviewed the above-mentioned project for potential impacts to any sources of public drinking water supply. This project does not appear to be in a public water supply source water area, therefore the Drinking Water Section has no comments at this time.

Sincerely,

Lori Mathieu, Supervising Environmental Analyst
Source Water Protection Unit
Drinking Water Section

Phone: (860) 509-7333
Telephone Device for the Deaf: (860) 509-7191
410 Capitol Avenue - MS # 51 WAT
P.O. Box 340308 Hartford, CT 06134
Affirmative Action / An Equal Opportunity Employer

FAX TRANSMISSION

DEPARTMENT OF AGRICULTURE
BUREAU OF AQUACULTURE
P O. Box 97 – 190 Rogers Avenue
Milford, CT 06460
(203) 874-0696
FAX: (203) 783-9976
E-Mail: citakkelly@snet.net

TO: Tammy Talbot
DEP/OLISP

DATE: 3/27/07

FAX #: 860-424-4070

PAGES: 1
(Including the cover sheet)

FROM: James S. Citak, Supervising Environmental Analyst JSC

SUBJECT: Madison, CT Hammonasset Beach Erosion Study and EIE and Its Impact on Shellfish Growing Areas

COMMENTS:

Ms.Talbot:

I am in receipt of the notice for scoping the Hammonasset Beach to control erosion.

The project area is in a shellfish area classified as Restricted-Relay. Shellfish may be harvested under a commercial license issued by the Dept of Agriculture/Bureau of Aquaculture to relay shellfish to approved waters for natural cleansing. The area is closed to shellfish harvesting for direct human consumption.

There are no known private or leased shellfish grounds in the project site. However, private town and state leased shellfish grounds are located off Meig's Point in Tom's Creek and Clinton Harbor. No licensed activity has occurred on any of these grounds in recent years.

Shellfish resources (clams, mussels, oysters) can be found in the following areas:

Hard shell clams are located in Clinton Harbor. Blue mussels grow on the existing jetty at Meig's Point. Oysters were present in Tom's Creek and the Clinton Harbor prior to 1997.

If you have any questions, contact me at 203-874-0696 or FAX to 203-873-9976

(076HSBTT)sc

Audubon CONNECTICUT

185 East Flat Hill Road
Southbury, CT 06488
Tel: 203-264-5098
Fax: 203-264-6332
www.audubon.org

April 20, 2007

Tammy Talbot
Connecticut Department of Environmental Protection
State Parks Division
79 Elm Street, 6th Floor
Hartford, Conn. 06106

RE: Notice of Scoping for Hammonasset Beach Erosion Study and Environmental Impact Evaluation.

Dear Ms. Talbot:

Thank you very much for the opportunity to provide input to the scoping process for the Environmental Impact Evaluation (EIE) of the Hammonasset Beach Erosion Study. Hammonasset Beach State Park is a critical environmental and recreational resource in the state of Connecticut, being a key nesting area in Connecticut for several species of state-listed tidal-marsh dependent birds. Audubon and BirdLife International have recognized Hammonasset Beach State Park as an Important Bird Area of global significance because of the large population of ***Globally 'Vulnerable'*** Saltmarsh Sharp-tailed Sparrows that nest and raise their young here, as well as a variety of other state-listed birds that use the marshes, upland and aquatic habitats of the Park for nesting or foraging purposes.

The IBA Program is a non-regulatory program and entirely voluntary on the part of landowners with no restrictions associated with recognition of a site as an IBA. We certainly understand the need to protect recreational infrastructure in Connecticut's most heavily visited State Park. We do however strongly suggest that you carefully evaluate any actions that are taken to preserve the Park's infrastructure for potential impacts to key bird habitat and wildlife observation opportunities within the Park.

Importance of the Park for Birds:
The Saltmarsh Sharp-tailed Sparrow is a shy bird that breeds only in high tidal marshes stretching from Maine to Virginia, and is considered ***Globally 'Vulnerable'*** throughout its range by the International Union for the Conservation of Nature and Natural Resources (IUCN). The acreage of nesting habitat available range-wide for this species is smaller than the state of Connecticut. The Connecticut shoreline – including Hammonasset and the nearby East and West River Marshes - hosts a significant percentage, perhaps as high as 25%, of the entire population of this species.

Hammonasset is unusual - and especially valuable for education and outdoor recreation – because it offers a wide array of habitat types in close proximity to one another. It provides critical migratory stopover sites for landbirds, shorebirds and raptors during their perilous migratory journeys along the Atlantic flyway that stretches from Canada to Florida and beyond. Countless school groups and virtually every birding organization in the state, if not the region, visit Hammonasset at least once a year.

In addition to the critical tidal marsh habitats present within the park, the upland habitats of the park serve as a regionally significant migratory stopover and wintering area for a wide variety of land birds. The coastal shrub habitat, extensive red cedar stands, remnant patches of coastal forest and even the lawn areas serve as a critical rest stop on the Atlantic flyway, supporting thousands of birds from hundreds of species, and attracting thousands of bird enthusiasts each year.

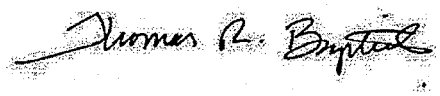
Wooded and shrubland areas of park, including Willard's Island, receive usage by large numbers of migratory landbirds in both the spring and fall migration. There is also significant shorebird stopover habitat available, particularly for grassland species, including Killdeer, Black-bellied and American Golden Plover, Pectoral and Upland Sandpipers and the ***Globally 'Near-Threatened'*** Buff-breasted Sandpiper. The Park has been the site of a raptor banding station for several years, due to the significant raptor usage of the park and represents the 2nd highest banding total in North America for Northern Harriers. Cedars, other evergreens and shrub habitat offer significant roosting habitat for migrating owls such as Saw-whet, Barn and Long-eared Owls. The park is a regionally important wintering/migration habitat for open country songbirds such as American Pipit, Horned Lark, Snow Bunting, Savannah Sparrow and Eastern Meadowlark. The marsh is a regionally important wintering/migration area for American Bitterns, Short-eared Owls and 'Ipswich' Savannah Sparrows. Please see the attached IBA information sheet for Hammonasset Beach State Park for additional details.

Recommended Action:
While there are certainly no easy answers to what must be done to save the Park facilities, we ask that you carefully consider the impacts of any actions that are taken to natural resources in addition to the recreational needs of our most important State Park. Each option would require careful review of any direct and indirect impacts they may have. Engineering solutions should be evaluated for their direct impacts to near-shore and inter-tidal habitats as well as potential impacts to other adjacent and proximal coastal areas related to alterations to sand migration patterns. Additionally, the current models for predicted sea-level change must be taken into account in any solution that is proposed and the feasibility of such actions should be evaluated in light of predicted future conditions and not just current and past conditions. Should beach nourishment be the preferred solution, the DEP Wildlife Division should be consulted on a contingency plan to properly manage any state or federally listed species of beach nesting birds that may colonize the newly replenished beach strand habitat.

In closing, we would like to draw attention to a key underlying factor in the erosion problems facing Hammonasset Beach State Park...climate change. Nearly all-scientific models predict an acceleration of sea level change in the coming decades and centuries. As sea levels continue to rise, the erosion problems at the park will continue and worsen. From that perspective, the "retreat" option may very well be the best option, provided that care is taken to avoid critical upland bird habitat and bird viewing areas when re-locating park infrastructure.

Thank you very much for this opportunity to comment on this important issue.

Sincerely,



Thomas R. Baptist, Vice President and Executive Director

Enclosure.

Audubon Connecticut, the state organization of the National Audubon Society with more than 12,000 members across the state, works to protect birds, other wildlife, and their habitats using education, science and conservation, and legislative advocacy for the benefit of humanity and the earth's biological diversity. Through our network of nature centers, wildlife sanctuaries, and local volunteer Chapters, we seek to connect people with nature and inspire the next generation of conservationists.

Attachment 1: IBA Information Sheet for Hammonasset Beach State Park:

Audubon CONNECTICUT

185 East Flat Hill Road
Southbury, CT 06488
Tel: 203-264-5098
Fax: 203-264-6332
www.audubon.org

Important Bird Area Fact Sheet

Hammonasset Beach State Park ~1000 **Acres** **72° 32' W**
Madison, Clinton, New Haven County + additional aquatic acreage **41° 15' N**

Status: Recognized IBA.

Ownership: State of Connecticut Department of Environmental Protection

Habitats: **Primary** – Brackish tidal marsh, large areas of mowed lawn. **Secondary** – deciduous forest, with fruit trees, scattered Black Pines, and cedars, marine, beach and estuary habitats in and adjacent to park.

Land Use: **Primary** – Heavily used public recreation area and beach. **Secondary** – Nature and wildlife conservation, nature observation, fishing, environmental education.

Threats: **Serious** – Encroachment by development, invasive or non-native plants. **Potential** – Hydrologic changes (rising sea level), predators.

Site Description: Hammonasset Beach State Park was created and the first land purchased in 1919. One of the last and most important additions was the purchase of 339 acres of Meigs' Point. The park borders Long Island Sound for about 10,000 feet and the Hammonasset River for about 5000 feet. The habitat consists of approx. 600 acres of brackish tidal marsh; 300 acres of grass parking and camping areas and about 100 acres of young forest upland. The unique location of several of the upland areas within the marsh and grassland peninsula creates an effective migrant trap. The site is unusual (and especially valuable for education) in having an array of habitat types in close proximity to one another. Birding groups statewide use the park heavily, with virtually every birding organization, as well as many educational facilities, having one or more field trips to the site each year. School groups and many adult education birding classes visit the park, and the SCSU and UCONN Ornithology classes make several trips a year.

IBA Criteria: Connecticut (and Federally) Threatened Species; High Conservation Priority Species; Rare, Unique or Representative Habitat; 100+ Individual Wading Birds staging/feeding; Exceptional Concentrations of Migratory Landbirds; Single Species Concentrations; Long-term Research and/or Monitoring and Education.

Birds: The federally and state threatened Piping Plover nests on the river beach, along with the state threatened Least Tern, and special concern species American Oystercatcher. Several species of wading birds use the marsh as foraging habitat in the nesting and post-nesting dispersal seasons. The marsh provides important stopover/wintering habitat for Northern Harriers (2nd highest banding total in North America). Saltmarsh Sharp-tailed Sparrow nesting population may elevate the park to a globally Important Bird Area. Due to the park's coastal location, it provides important migratory stopover habitat for landbirds, shorebirds and raptors. Wooded areas of park, including Willard's Island, receive usage by migratory landbirds in both the spring and fall migration. There is also significant shorebird stopover habitat available, particularly for grassland species, including Killdeer, Black-bellied and American Golden Plover, and Pectoral, Buff-breasted and Upland Sandpiper. The area has been the site of a raptor

banding station for several years, due to the significant raptor usage of the park. Cedars, other evergreens and shrub habitat offer significant roosting habitat for migrating owls such as Saw-whet, Barn and Long-eared. The park is a regionally important wintering/migration habitat for open country songbirds such as Snow Bunting and Horned Lark. The marsh is a regionally important wintering/migration area for American Bittern.

Non-avian Resources: The area is a popular site for recreation, and offers an opportunity for environmental education at the Nature Center located at Meigs' Point. The marshes contain the native plants *Spartina* and *Typha*, which provide cover for a number of wildlife species.

Existing Conservation Measures: The Connecticut DEP, the USFWS, Connecticut Waterfowl Association, and Ducks Unlimited have undertaken marsh restoration projects.

Nominator: Charlie Rafford.

State-listed Species:

Species	Breeding	Winter	Migration	Dates
Least Tern, T	2+ pair	-	√	91-99
Northern Harrier E	-	2-4	60+/year banded	91-2000
Glossy Ibis SC	√, foraging	-	√	91-2001
Great Egret, T	√, foraging	-	√	91-2001
Snowy Egret, T	√, foraging	-	√	91-2001
Little Blue Heron, SC	√, foraging	-	√	91-2001
Piping Plover, T, Fed. Th	√			91-2001
King Rail, E	Possible	√		1999
American Bittern, E	-	2-4	√	91-2001
Saw-Whet Owl, SC	-	√	√	91-2001
Long Eared Owl, T		√	√	
Short-eared Owl, T		√	√	91-2001
Barn Owl, T			√	
Horned Lark, E	Past records	√	√	
Seaside Sparrow SC	30 individuals banded in 8 1-hectare plots	-	√	2002-3
Salt Marsh Sharp-tailed Sparrow, SC	155 individuals banded (in nesting season) in 8 1-hectare plots of 1000+ acre marsh.	-	√	2002-3
'Ipswich' Savannah Sparrow, SC		√	√	