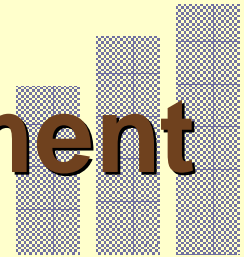


Regional Sediment Management



...for balanced, sustainable solutions

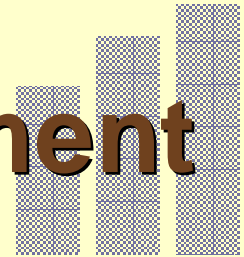
Regional Sediment Management



**What is
Regional Sediment Management?**



Regional Sediment Management

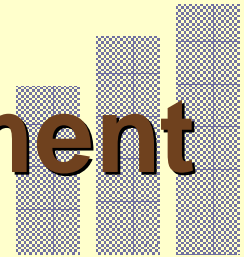


Regional Sediment Management is ...

...a “systems-based approach” that seeks to solve sediment-related problems by designing solutions that fit within the context of a regional strategy.



Regional Sediment Management



Regional Sediment Management is a holistic approach that...

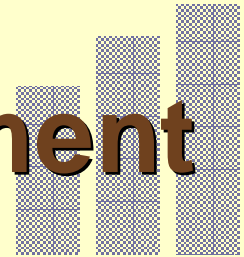
...recognizes sediment as a resource integral to economic and environmental vitality.

...integrates the management of littoral, estuarine, and river sediments to achieve balanced and sustainable solutions to sediment-related problems.

...makes local project decisions in the context of the sediment system and considers the regional implications.



Regional Sediment Management



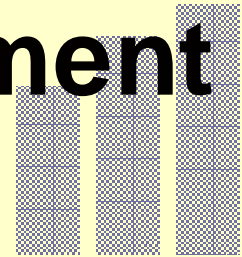
Regional Sediment Management is a holistic approach that...

- ...recognizes sediment management actions have potential economic and ecological implications beyond a given site, beyond originally intended effects, and over long time scales (decades or more).*
- ...establishes partnerships with stakeholders to balance objectives and leverage resources.*



Regional Sediment Management

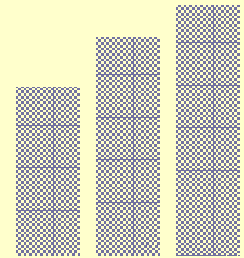
A “New” Initiative



- **Identified as a need in Review of Corps Shore Protection Program in 1992**
- **Recommended by the Coastal Engineering Research Board (CERB) in 1994**
 - cost-benefit analysis and engineering emphasis treat navigation concerns separately from down drift beaches
 - more expensive and less acceptable repair of the down-drift beaches than it would have been to maintain the original natural flow of sand.
 - Recommended a systems approach to reduce adverse impacts, reduce costs, and realize other benefits.
- **Authorized by WRDA 1996, Section 516**



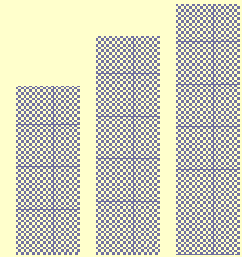
RSM Benefits



- **Shared regional-scale data management systems – shared and accessible information, avoid duplication in data collection.**
- **Improved interagency and stakeholder relationships – generate opportunities for collaboratively leveraging financial and other resources; streamline regulatory process.**



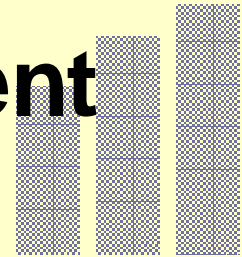
RSM Benefits



- **Cost savings – reduced rehandling of material; extended dredging cycles; equipment sharing between projects; sharing disposal and borrow sites.**
- **Increased knowledge of regional sediment system – benefits all projects in a region.**
- **Reintroduction of sediment into littoral systems – reduced erosion; habitat restoration; marsh creation.**



Regional Sediment Management Program Components

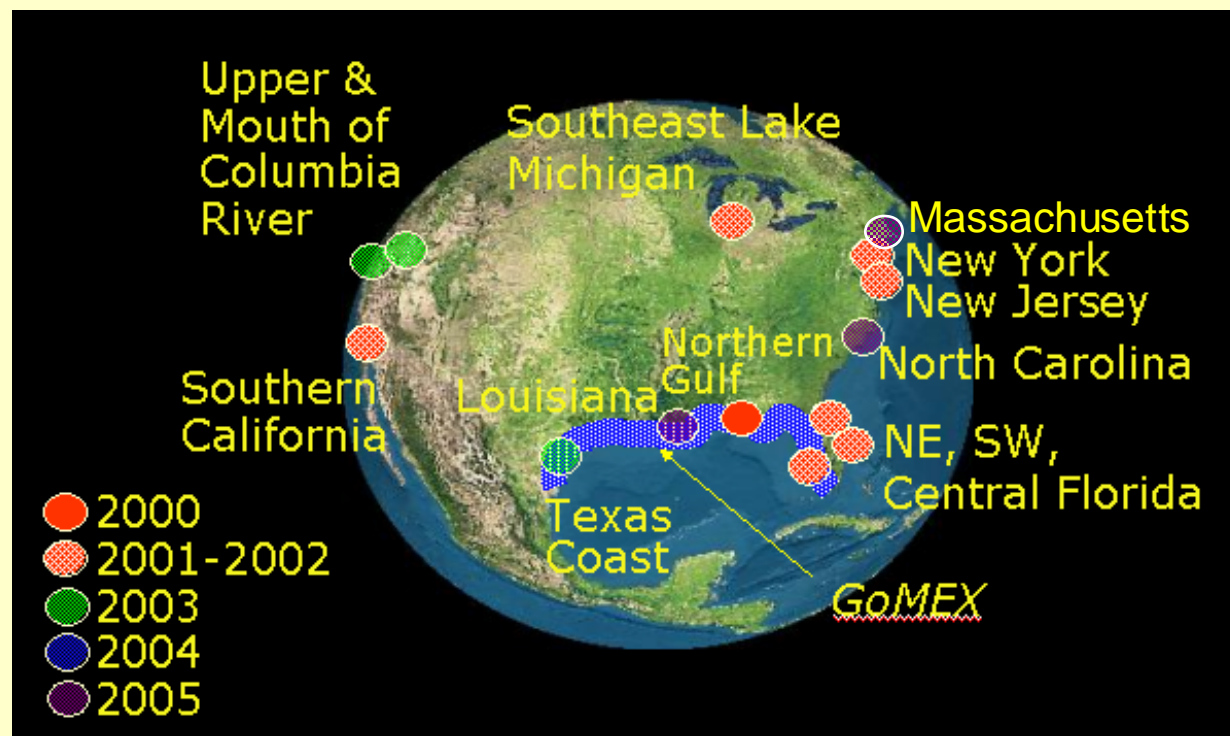


- **Demonstration Projects**
 - Nation-wide RSM Initiatives
- **Research Initiatives**
 - Improving RSM Project Capabilities
- **Changing Business Processes**
 - Using available authorities
(Institutionalizing RSM)
 - Identifying new authorities necessary

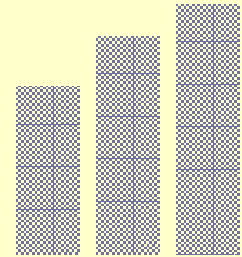


Regional Sediment Management Demonstration Program

Program Objective: To improve sediment management practices within the Corps by demonstrating how to implement a system-based approach and how such an approach provides opportunities to achieve greater effectiveness and efficiency.



RSM Challenges & Issues



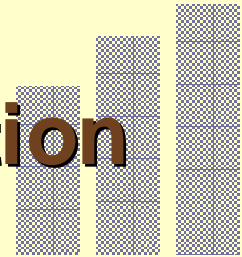
Understanding System & Effects of Actions Agreement on Proposed Activities / Implementing

- **Challenges**

- Need for data and information to understand system
- Need to integrate and utilize data for decision-making
- Need for Stakeholder Input / Consensus building
- Need to implement recommendations / overcome hurdles
 - Internal Constraints
 - External Constraints



Data Collection, Analysis, Integration

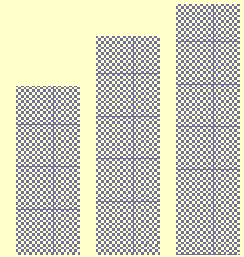


Objective: Develop and apply RSM tools to understand the sediment system and solve sediment related problems.

- Regional sediment budgets – understand how sediment moves through the system.
- eGIS and eCoastal implementation – provide efficient data management and analysis capabilities and facilitate data sharing.
- Sediment needs assessment – connect supply and demand for sediment within a region.



Stakeholder Partnering

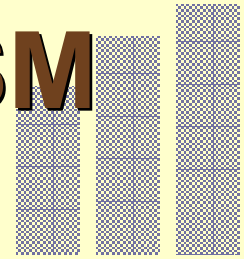


Objective: Engage multiple agencies and develop stakeholder support.

- Collaborative workshops and workgroups – assemble a diverse group of stakeholders to share ideas, concerns and information on implementation of RSM; seek opportunities for leveraging funds and resources.



“Institutionalization” of RSM (Overcoming Hurdles)

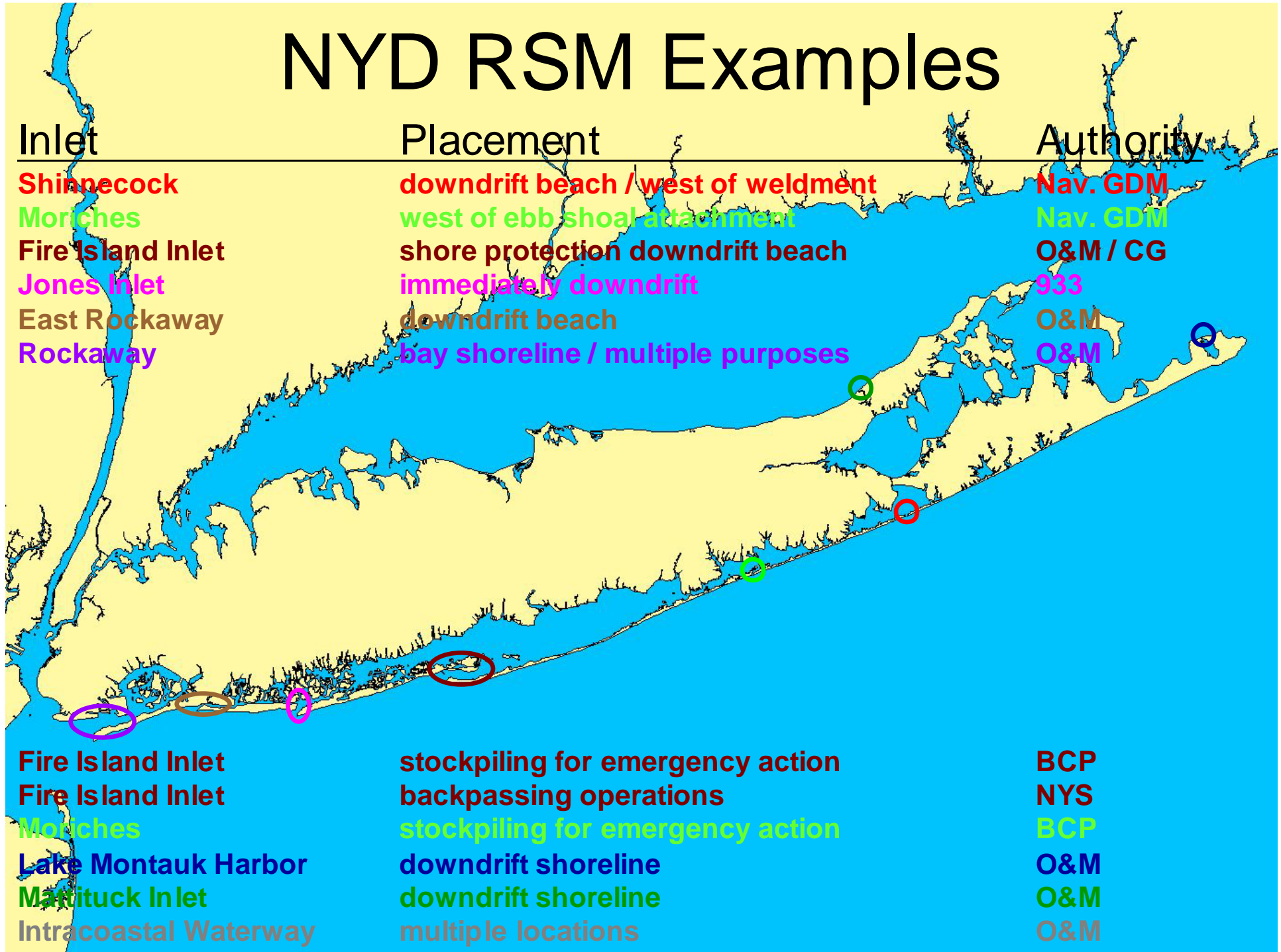


Objective: Incorporate regional sediment management concepts in the standard District/Division business process.

- Product Delivery Teams – serve as RSM “champions” and educate others in the District/Division.
- Program Management Plans – provide a “roadmap” for how RSM concepts are incorporated in projects related to sediment handling and funding through project resources.
- Demonstrating RSM benefits – showing the effectiveness of RSM



NYD RSM Examples



NEW YORK – RSM ENVIRONMENTAL CHALLENGES



Suffolk County Bays – concerns over Natural processes, shorebird habitat

Nassau County Bays – Marsh Loss

Jamaica Bay – Accelerated Marsh Loss – 50 Acres / year

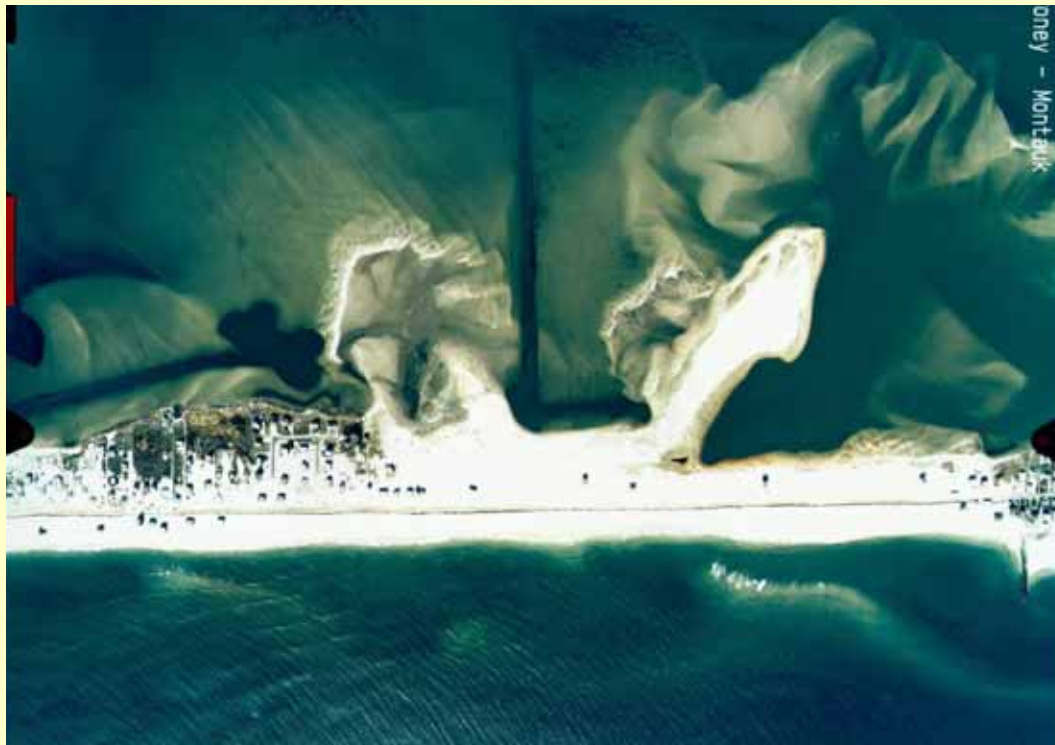
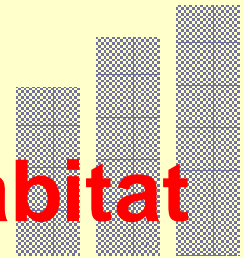
NEW YORK – RSM RESTORATION EFFORTS



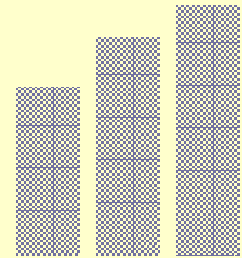
- 1 Restoration of Early Successional Habitat
- 2 East Inlet Island – Roseate Tern Restoration
- 3 Jamaica Bay – Marsh Island Restoration
- 4 Sunken Forest Bay Shoreline Restoration
- 5 Sediment Needs Assessment

RSM INITIATIVE 1:

Restoration of Early Successional Habitat



EAST INLET ISLAND SHOREBIRD RESTORATION

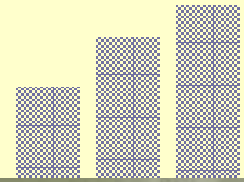


**Dredge Disposal Island
Intracoastal Waterway Dredging
Configured for Roseate Tern Habitat**

**Lessons learned:
Allowable construction
Material compatibility concerns
Habitat requirements**



SUNKEN FOREST BAY SHORELINE RESTORATION



National Park Service Marina

Erosion 5+ ft/ year impacting
Unique maritime oak holly forest

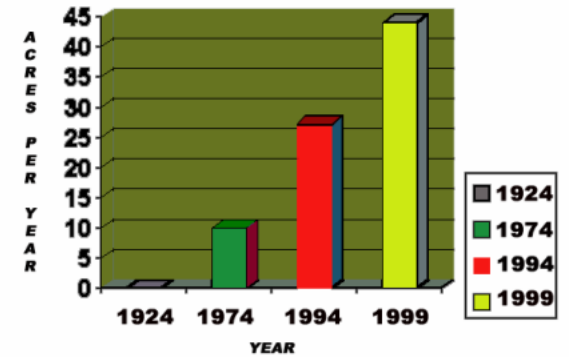
Requested assistance in design
For dredging 10,000 CY, and
Placement on bay shoreline for
restoration



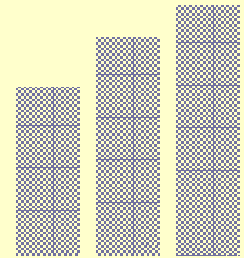
Jamaica Bay Marsh Islands

Tidal Wetland Loss

**DRAFT JAMAICA BAY TIDAL WETLANDS
LOSSES PER YEAR 1924 -1999**



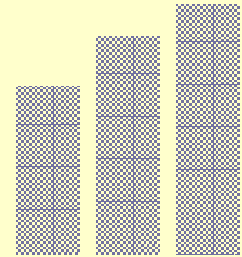
Sediment Needs Assessment



- Address sediment availability and needs in a larger context (procedures guidelines)
 - Characterize Dredging (frequency, amount, quality, disposal locations / uses, equipment)
 - Identify Uses / Needs for Material
 - Identify method to evaluate uses
 - Identify schedule and sequencing of dredging operations and opportunities
 - Identify effective operational limits of equipment
 - Identify means for Corps / local participation



Environmental Benefits and Trade Off Analysis



- **FY 06 RSM Initiative**

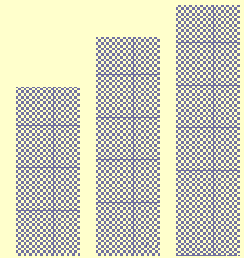
Based upon Information generated as part of FIMP Study
Identify and Document procedures for:

- Calculating Economic and Environmental outputs
- Considering total benefits and trade-offs of alternatives

Involving a nation-wide team to advance current practice



RSM “Institutionalized” in Business Practices



North Atlantic Division is leading the way
Expanding beyond the coast into watersheds and dredging

Baltimore District – Chesapeake Watershed

Philadelphia District

- New Jersey Long-term Management Study
- Delaware Watershed & Susquehanna Watershed

New York

- Fire Island Inlet to Montauk Point, New York
- New York and New Jersey Harbor Deepening Project

Authorization changes to further advance RSM

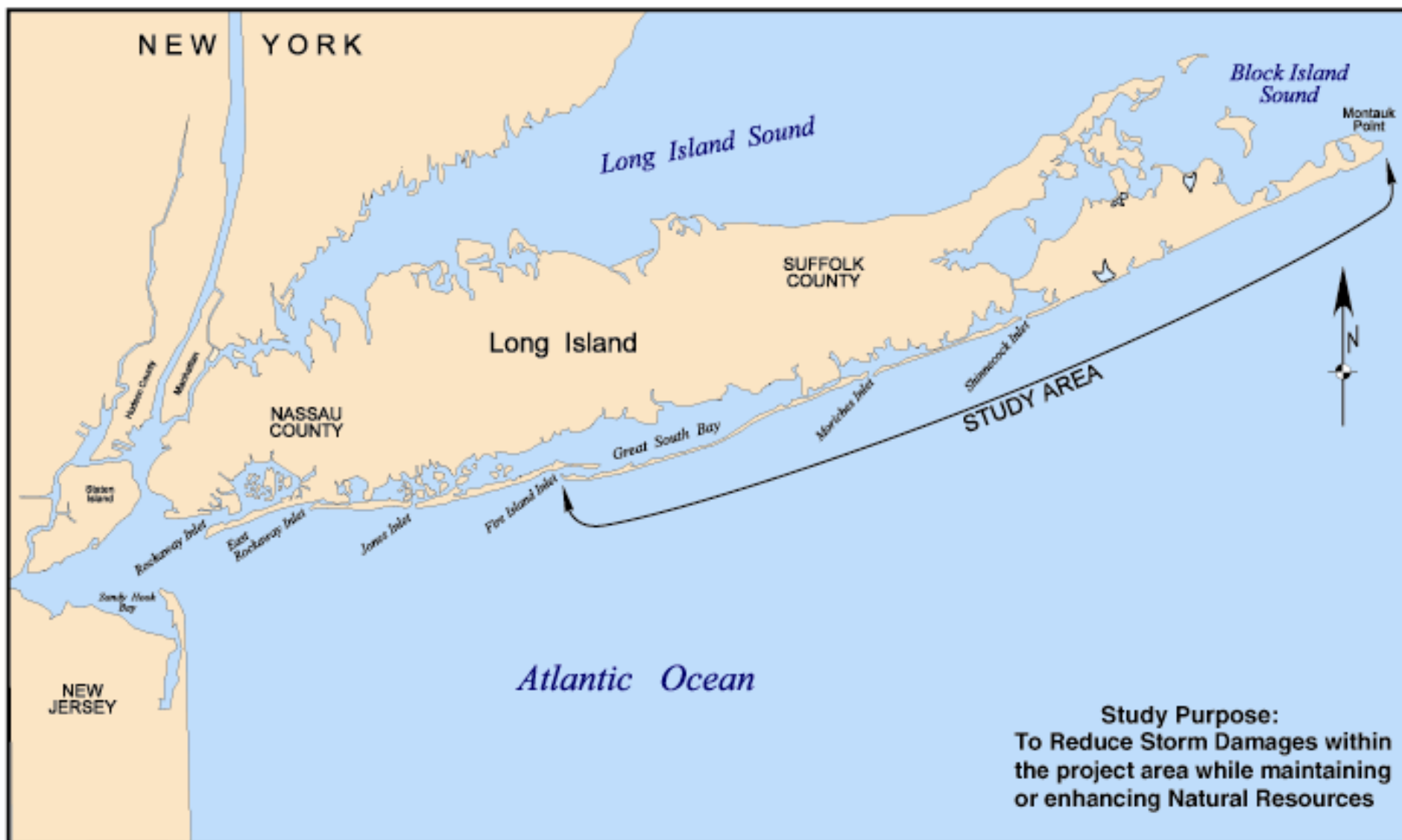




Fire Island Inlet to Montauk Point, New York Reformulation Study

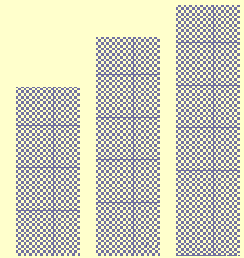


New York State
Department of
Environmental Conservation



Study Purpose:
To Reduce Storm Damages within
the project area while maintaining
or enhancing Natural Resources

Fire Island Inlet to Montauk Point Vision Statement



Formulating Plans to balance NED and NER needs
Evaluating Plans in a fashion to advance CZM policies

Targets “Process Restoration”, over landscape restoration

- Alongshore Transport
- Cross-shore transport
- Dune Growth and Evolution
- Bay Shoreline Processes
- Estuarine Circulation



Regional Sediment Management



...for balanced, sustainable solutions