

FY15 RSM-EWN IPR
New York/Honolulu Districts
Sandy Hook Channel RSM
Donald Cresitello & Lauren Molina

Bottom Line Up Front (BLUF): Address the shoaling issue at the Sandy Hook Channel.

Problem Statement/Issue

- Shoaling rate in the Sandy Hook Federal Navigation Channel is increasing rapidly.
- Potential contributors to the increased shoaling rate include the updrift federally authorized coastal flood risk management project.
- No sustainable solution to the shoaling problem has been identified.



Approach to Address Problem
(non-technical)

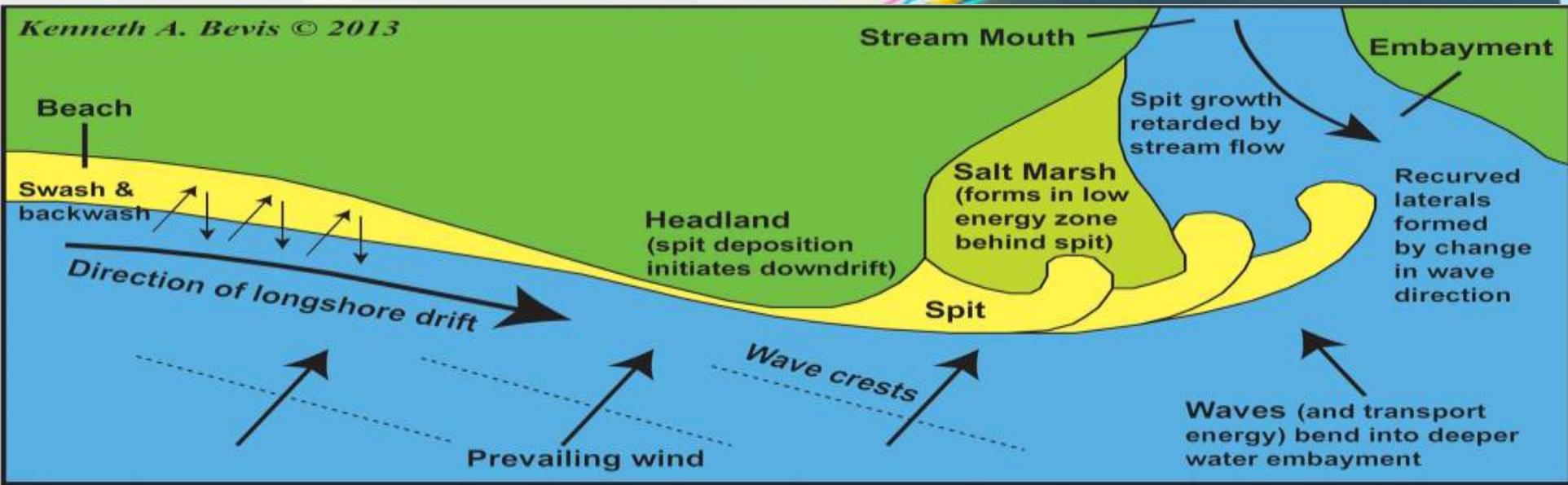
- Conduct a shoreline change analysis for Sandy Hook and the New Jersey shoreline
- Update the Regional Sediment Budget
- Forecast future shoaling rates
- Identify shoaling sources
- Propose engineering solutions to mitigate the issue

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Approach to Address Problem (Tools, Models, Technologies)

- Google Earth: Aerial Imagery
- Various Sources: Aerial Imagery
- ArcGIS: Shoreline Digitizing
- DSAS: USGS Digital Shoreline Analysis System
- SBAS: Sediment Budget Analysis System
- Channel Condition Surveys
- Beach Profile Surveys
- Stakeholder Meetings
- Site Visits
- Committee on Tidal Hydraulics



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USACE RSM PDT

- New York District
 - Donald Cresitello: Project Management
 - Lynn Bocamazo: Coastal Engineer
 - Ed Wrocenski: Navigation O&M
- Honolulu District
 - Lauren Molina: Coastal Engineer
 - Jessica Podoski: Coastal Engineer
 - Tom Smith: Navigation O&M

Stakeholders/Partners

- National Parks Service (NPS)
- State of New Jersey (NJ)
- U.S. Navy (USN)

What key leveraging opportunity(s) did stakeholders/partners provide?

- NPS – Potential beneficial use options within park
- NPS & NJ – Do not endorse coastal structures
- USN – Plans to deepen the channel



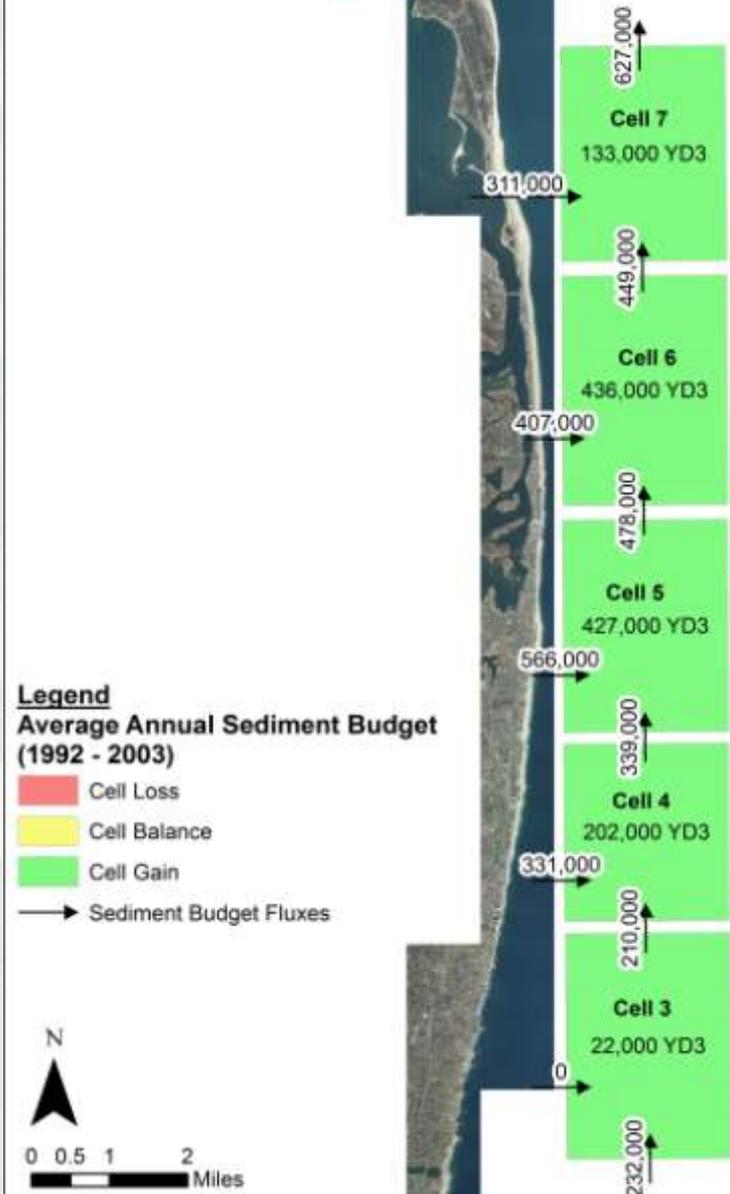
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Ups – 3 Positives from effort

- Identified root cause of the increased shoaling: **long-term spit growth** (not the federally authorized coastal food risk management project)
- Alternatives to reduce impacts of Sandy Hook spit growth on the navigation channel
 - Bed Leveling
 - Deposition Basin
 - Advanced Maintenance
 - USN Dredging
- Two USACE districts worked together in getting this RSM study accomplished.



Previous Sediment Budget



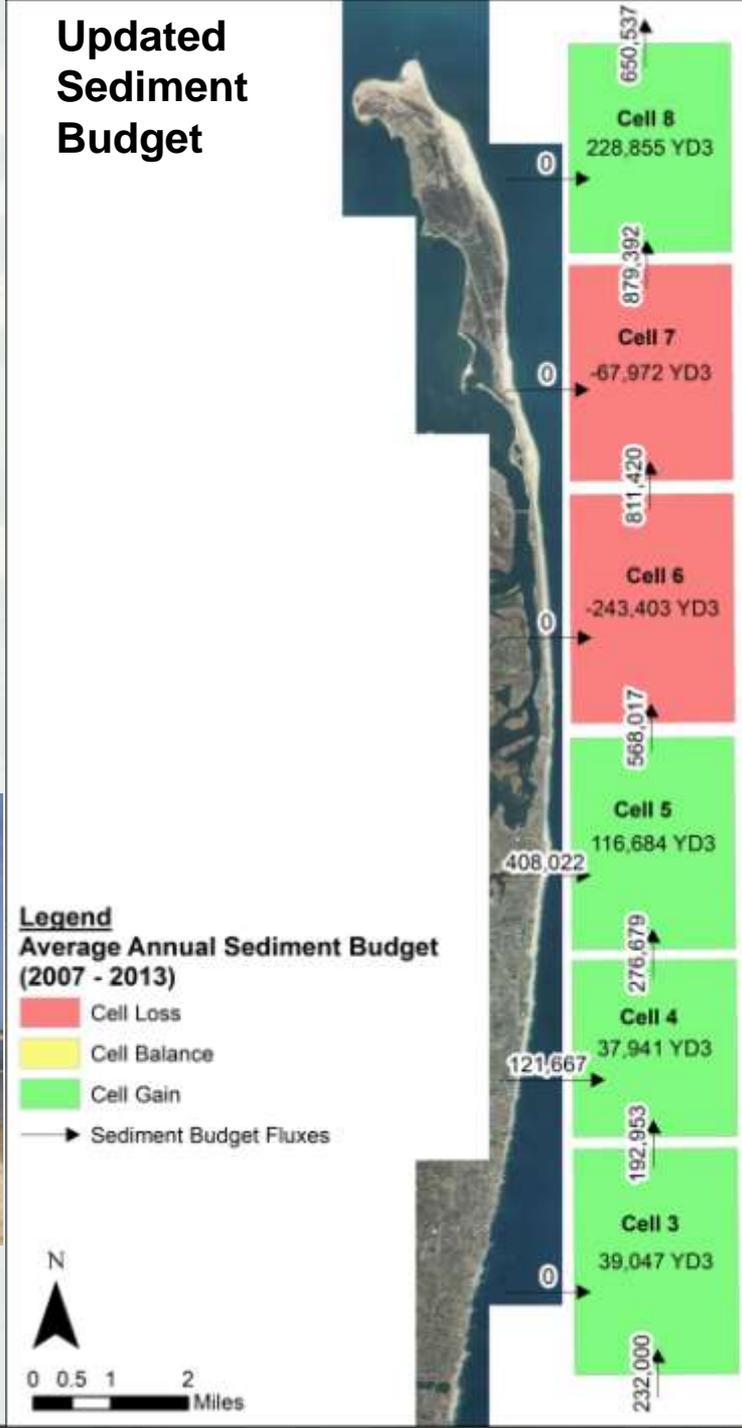
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Downs – 3 Negatives from effort

- Problem not going away
- Relocating the channel is not a viable option
- NPS and NJ have indicated the coastal structures are not to be considered as primary options



Updated Sediment Budget



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Value to the Nation

- Cost Savings: \$2M per forgone dredging event
- Value Added (Dispose of shoaling material in the offshore borrow area):
 $250,000\text{cy/yr} * \$10/\text{cy} = \$2,500,000/\text{yr}$
- Leveraging Resources: \$0 - USN to pay for channel deepening, but that is a National funding source
- \$/Habitat Credits: \$? – Create shorebird habitat within the park
- Environmental Benefits: \$? – Create shorebird habitat within the park
- Improved Partnerships, Happy Stakeholders: Priceless
- Permitting and compliance requirements improved (cost savings from reduction in requirements): \$250,000 per forgone dredging event
- Capacity of placement site saved and therefore \$ saved on coordination, surveys, modeling, etc to designate a new placement site not needed for x-years: \$0 - No near-term disposal area capacity concerns.
- Cost Savings from avoiding a lawsuit: \$5,000,000/vessel grounding
- Other?
 - \$1,000,000/yr - Protect essential fish habitat from future spit growth.

