

An aerial photograph of a coastal region. In the foreground, a long bridge spans across a body of water. To the right, a town with various buildings and parking lots is visible. The water shows some sediment patterns, with lighter-colored areas. In the background, more land with houses and trees is visible under a clear sky.

Sediment Management Planning

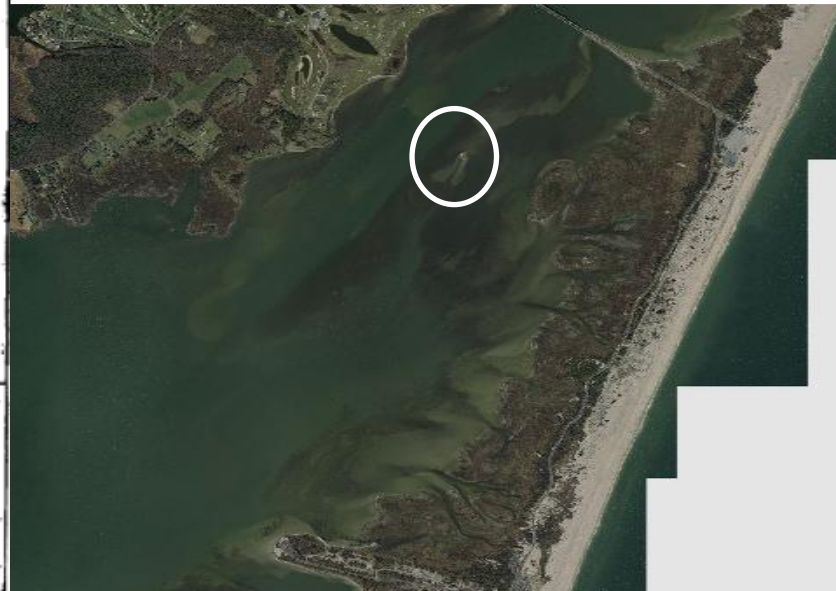
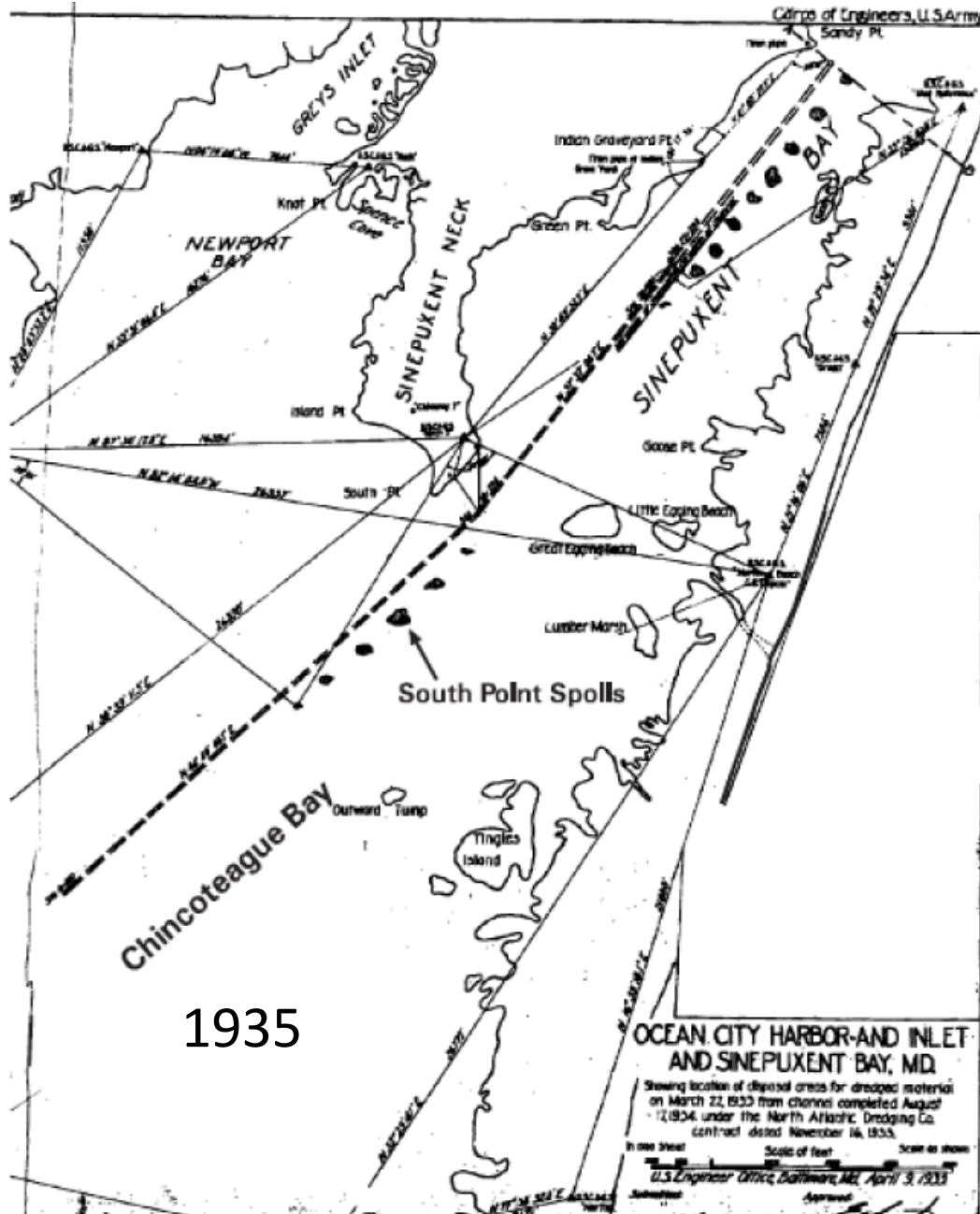
Sustainable Island Maintenance

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Timeline:

- **1933** Storm created inlet minimized island formation in the CB
- **1935** > 14 dredge spoil islands created
- **1962** Ash Wednesday storm
- **1987** placement of scour protection at Rt 50 bridge Skimmer island formed shortly thereafter
- **1995** MD Coastal Bays Admitted into NEP
- **1998** COE OC Water Resources Report
- **2000** CCMP Released
- **2004** State of the Bays Report
- **2005** Navigation and Dredging Planning Guide (Navigation and Dredging Advisory Group NADAG) for Maryland's Coastal Bays (met initially Dec 1999)
- **2010** Sediment management meeting, stressed loss of bird habitat
- **2011 – 2014** Skimmer Island nourishment, Sunset Marina funded
- **2012** Planning Workshop Engineering with Nature: Sediment Management in the Coastal Bays
- **2012** Hurricane Sandy
- **2014/2015** 4 new islands from beneficial use (dredge spoil islands.
- **2022** skimmer, and 4 dredge spoil islands have eroded

Necessary Spoil Islands



Ocean City, Maryland, and Vicinity Water Resources Study

Final Integrated Feasibility Report and Environmental Impact Statement



Table 5-1: Restoration needs and relative significance and scarcity of habitats proposed for restoration efforts.

| Objective | Restoration Need | Habitat Scarcity | Habitat Significance |
|---|--------------------------|------------------|----------------------|
| Create bare-substrate islands for beach-nesting colonial waterbirds | 10's to 100's of acres | Rare | Very Great |
| Maintain island habitat for vegetation-nesting colonial waterbirds | <10 acres | Uncommon | High |
| Restore/create salt marsh | 100's to 1000's of acres | Common | High |
| Restore/create forested wetlands | 100's to 1000's of acres | Common | High |



US Army Corps
of Engineers
Baltimore District

1998 COE OC Water Resources Report

Identified five Environmental Restoration Projects that were important to reverse degradation from agriculture, development, and erosion in the coastal bays.

- 1. Restore a total of 5 ha (12 ac) of salt marsh at the Isle of Wight Wildlife Management Area and
- 2. Restore a total of 3.4 ha (8.5 ac) of salt marsh at Ocean Pines,
- 3. Stabilize the eroding South Point Island to its 1997 size of approximately 0.93 ha (2.3 ac),
- 4. Construct a new 1.2 ha (3 ac) island in proximity to South Point to create vegetated habitat for colonial waterbirds, and
- 5. Create a 1.2 ha (3 ac) island near Dog Island that will be bare substrate with a shell surface for colonial waterbird nesting. The island created near Dog Island will also include three additional cells that will be available to local citizens, businesses, and government for the placement of material dredged locally. Thus, an additional 1.2 ha (3 ac) area of salt marsh will be added in the near future, and up to 8 ha (19 ac) area could eventually be created, increasing the size of this island to as much as 10 ha (25 ac).
- Items 1 and 2 and part of 5 were completed..

Navigation and Dredging Advisory Group Planning Guide Update

- NADAG Master Plan
- Recommendation
- A.i.i. Support for and promotion of the beneficial use of dredged materials, including habitat restoration and creation. Beneficial Use Includes:
 - restoration of underwater grasses;
 - restoration of islands;
 - stabilization of eroding shorelines;
 - creation or restoration of wetlands; and
 - creation, restoration, or enhancement of fish or shellfish habitats.
- WC, OC, OP will develop and maintain a list of nonfederal channels in need of dredging
- A Navigation and Dredging Advisory Committee was formed but has not met since about 2003, should this committee be reformed?

Advisory Group

- - US Army Corps of Engineers
- - Ocean City Engineer
- - User Group Representatives
- - Private Local Dredging Firms
- - Community Representatives
- - Harbor/Marina Representatives
- - MD Dept. of the Environment
- - DNR representatives (Boating Services, heritage, NRP, CZM, POS)
- - WC Shoreline Commission, OC Port Warden
- -Maryland Environmental Service
- - U.S. Coast Guard
- - US Fish and Wildlife Service
- - Environmental Groups
- - Worcester County
- - EPA
- - Academic institutions
- - NOAA

Chap 4 Dredge Material Management

- Proposed disposal sites (Source: Sediment Management Workshop – Sept. 2010)
 - 1. Beach for best material which offers unlimited capacity (possibly 20,000 cubic yards)
 - 2. Fill Northside Park Lagoon to -5 feet (15,000 cubic yards)
 - 3. County landfill for poor material, limit based on county needs (5 cubic yards)
 - 4. Future sites: beach / landfill
 - 5. Re-establish wetland mitigation island at Loop Road (139th street) This is the dredge disposal area of the only canal dredge project that has occurred to date. A marsh complex was created, however the island has settled and most of the vegetation is gone.
 - 6. Private West OC wetland mitigation sites identified by Coastal Bays – ex. Carlson project
 - 7. Dog Island future Corps Project – no OC money available at this time



ERDC TN-DOER-E24
August 2008

Dredged Material as a Tool for Management of Tern and Skimmer Nesting Habitats

by Walker Golder,¹ David Allen,² Sue Cameron,³ and Trudy Wilder⁴

Recommendations:

Substrate 90%, sand/shell, or sand gravel

Slope of 30:1 not > 3:1, elevation 3 – 6 ft,
5 – 12 a

No Shoreline stabilization

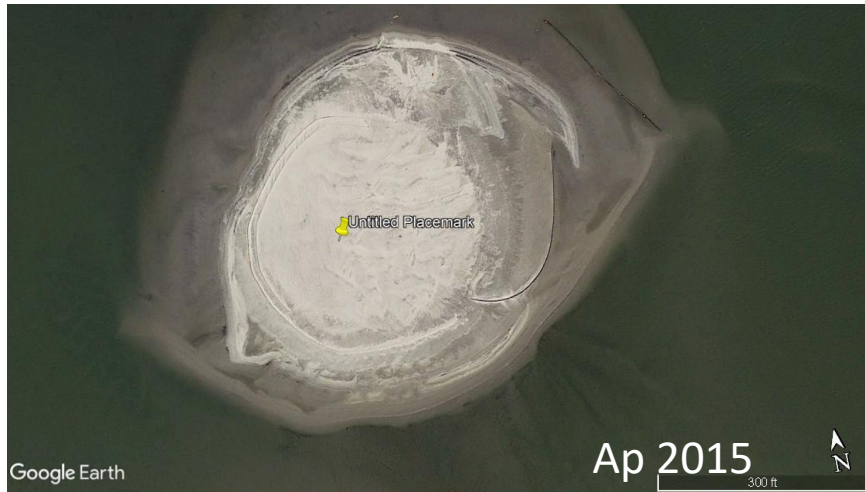
Need long-term management plan to close the site during the period when terns occupy the site.

Nourishment every 3 – 5 yrs

Recent Coastal Bays Lessons

| Island | Year replenished | Initial Size (a) | Ht (ft) NAVD | Bird Use | Year lost | Years used |
|--------------------------|-----------------------------|------------------|--------------|--------------------------------|-----------|------------|
| Skimmer | 2011, - 12, -13, - 14 | <5 | 2+ | Many | 2022 | 30+ |
| Tern | Mar 2015 | 4.4 | 5.2 | BB Gulls, CanG | 2017 | 2 |
| Mark 14 | Mar 2015 | 1.4 | 5.1 | Least Tern | 2017 | 2 |
| Mark 12 | Nov 2015 | 2.5 | 5.2 | Least, Royal, Brn Pel, CanG | 2023 | 8 |
| Robbins Marsh | Mar 2015 | 3.4 | 1.5 | none | 2016 | 0 |

Collier or Tern island completed Mar 2015



Proposed Islands

- Reedy Island – 57th st, in permitting 16,000 cyds
- Skimmer Island – Rt 50 Bridge, ? 3,000 cyds placed over 4 yrs
- South Point Spoils – currently used but rapidly degrading, needs attention
- Cedar Island – NPS, needs assessment
- Needed to replace the islands lost since 1989
~ 4,000,000 cyds

New approach

- Dredging for restoration – Islands and marsh
- Use of structure - Islands
- Periodic replenishment – islands and marsh

