Island Loss & Colonial Nesting Bird Population Declines

Maryland Coastal Bays Program
STAC Meeting
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Coloniality

- “Selfish Herd”
- Social Benefits
- Resource Rarity
Barren Sand Island Nesting Birds

- Black Skimmer (Endangered)
- Gull-billed Tern (Endangered)
- Least Tern (Endangered)
- Royal Tern (Endangered)
- Piping Plover (Endangered)
- Wilson’s Plover (Endangered)

- Common Tern (declining)
- Roseate Tern (extirpated)
- Sandwich Tern (rare)
Royal Terns
Black Skimmers

Breeding Pairs

Number of Sites

Breeding Pairs

Number of Sites

Common Tern

\[ y = -62.12x + 125635 \]

\[ r^2 = 0.3333 \]

\[ P < 0.050 \]
Island Losses

- Island Dependent Bird Species
- Human changes to coastal barrier process in MD - no breaches in MD barrier islands in over 40 years.
- Ocean City Water Resources Plan – 1998
- Continued Island Loss
- Brinker et al. Waterbirds 2007
- Erwin et al. Estuaries 2010
OCEAN CITY HARBOUR AND INLET
AND SINEPUXENT BAY, MD.

Showing location of disposal areas for dropped materials
on March 22, 1933 from channel completed August
1934 under the North Atlantic Shipping Co.
contract dated November 16, 1933.

U.S. Engineer's Office, Baltimore, Md., April 4, 1933.

Scale of feet

Submittal

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

<table>
<thead>
<tr>
<th>Objective</th>
<th>Restoration Need</th>
<th>Habitat Scarcity</th>
<th>Habitat Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create bare-substrate islands for beach-nesting colonial waterbirds</td>
<td>10’s to 100’s of acres</td>
<td>Rare</td>
<td>Very Great</td>
</tr>
<tr>
<td>Maintain island habitat for vegetation-nesting colonial waterbirds</td>
<td>&lt;10 acres</td>
<td>Uncommon</td>
<td>High</td>
</tr>
<tr>
<td>Restore/create salt marsh</td>
<td>100’s to 1000’s of acres</td>
<td>Common</td>
<td>High</td>
</tr>
<tr>
<td>Restore/create forested wetlands</td>
<td>100’s to 1000’s of acres</td>
<td>Common</td>
<td>High</td>
</tr>
</tbody>
</table>
During the late 1980s there were only small portions of the flood tidal shoal barely above mean high tide – the high return white areas in the image are shallow water areas exposed at most low tides.
Skimmer Island – late 1980s
Skimmer Island ~ 1995
Skimmer Island Progression
1998-2009
Looking NE from the Rt 50 bridge at high tide (+4.20 MLLW)
Southernmost Portion
Looking NW from the Rt 50 bridge at high tide (+4.20 MLLW)

Skimmer Island
19 October 2009

Complete Island

Southernmost Portion

Looking NW from the Rt 50 bridge at high tide (+4.20 MLLW)
Grain size from Gudelsky Park, recipient of sand from the Sunset Marina channel dredging.
SCALE OF CONSTRUCTION

1. NORTHERN AREA: LEVEL 2 FT RELATIVE TO NAVY BASE AND REFER TO NAVY BASE AS SHOWN ON Plan Sheet 2-5 and 33
2. DRAINAGE BETWEEN RIPPLE POINT AND MARSHLAND作った。コンポジション
3. DRAINAGE BETWEEN RIPPLE POINT AND MARSHLAND
4. DRAINAGE BETWEEN RIPPLE POINT AND MARSHLAND
5. DRAINAGE BETWEEN RIPPLE POINT AND MARSHLAND
6. DRAINAGE BETWEEN RIPPLE POINT AND MARSHLAND
7. DRAINAGE BETWEEN RIPPLE POINT AND MARSHLAND

LEGEND:
- Existing contours
- Proposed contours
- Spot elevations existing
- Proposed
- Limit of disturbance
- Discharge point

SKIMMER ISLAND

DESIGNED CONSTRUCTION

DATE: 5-20 Sheet No: 3 of 5

SCALE: 1:50
Slide 37 was the last slide of the formal presentation. The following are miscellaneous related slides that were no used in the presentation.
Skimmer Island – Why we’re here

• Summarize the natural resource problem
• Present a possible management action
• Seek a win-win solution to a difficult problem
• Answer agency questions & obtain agency input to improve permit application
channels are too deep (>1.5m)

too shallow (intertidal)

excessively strong currents (1 m/s) and extensive sediment transport

wave-limited (boats)