

Beach nourishment and beach-nesting birds: Improving project designs for plovers and terns

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All photos (and most ideas) are from presentations given at previous meetings on the effects of coastal engineering on birds available at: <http://el.erdc.usace.army.mil/dots/coastalbirds.html>





Snowy Plover



Least Tern

Similarities

- Both nest on bare sand or sparsely vegetated areas
- Both need some vegetation nearby for chick shelter
- Both suffer regular predation of eggs and chicks
- Both negatively affected by human disturbance



Snowy Plover



Least Tern

Differences

- SNPL are solitary nesters, LETE are colonial nesters
- SNPL eat insects and invertebrates, LETE eat fish
- Differences in brood foraging behavior/habitat

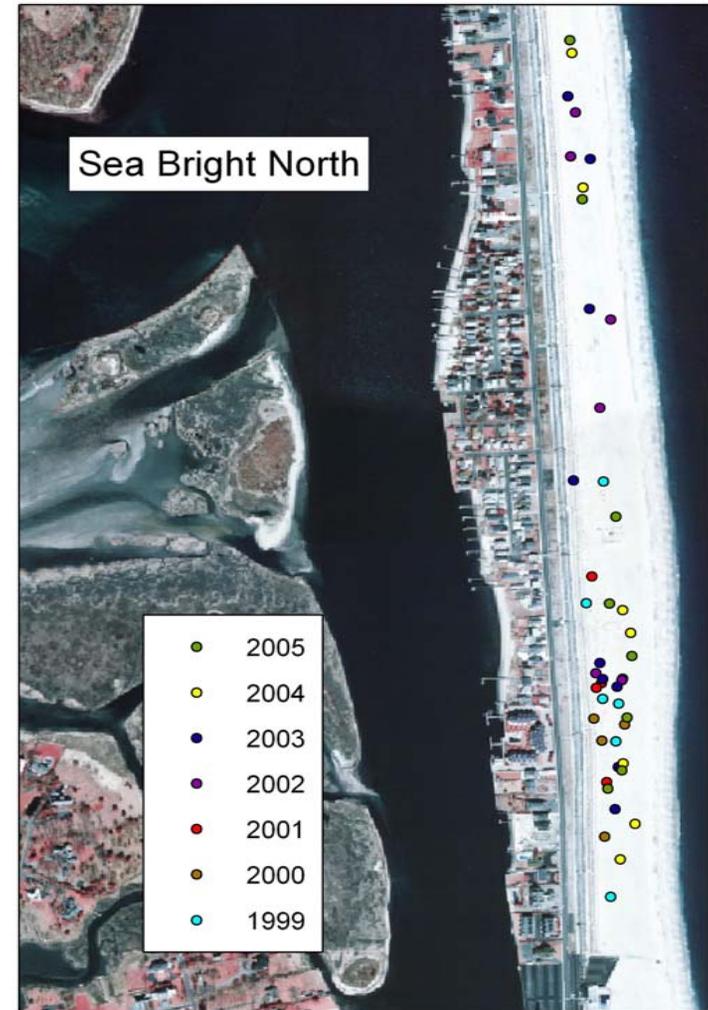
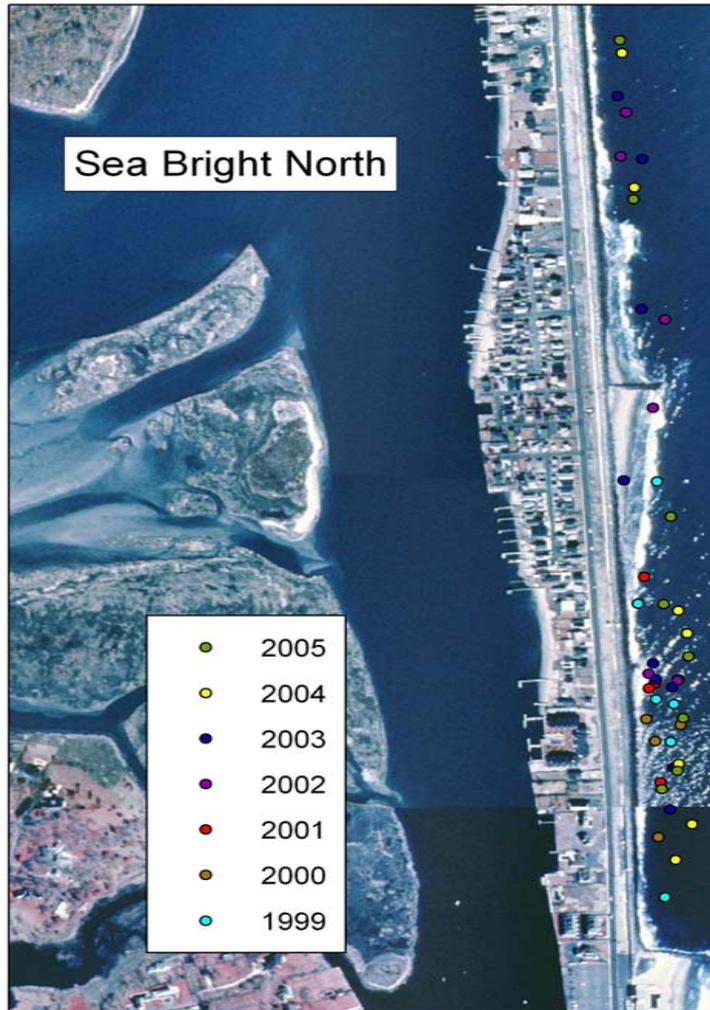


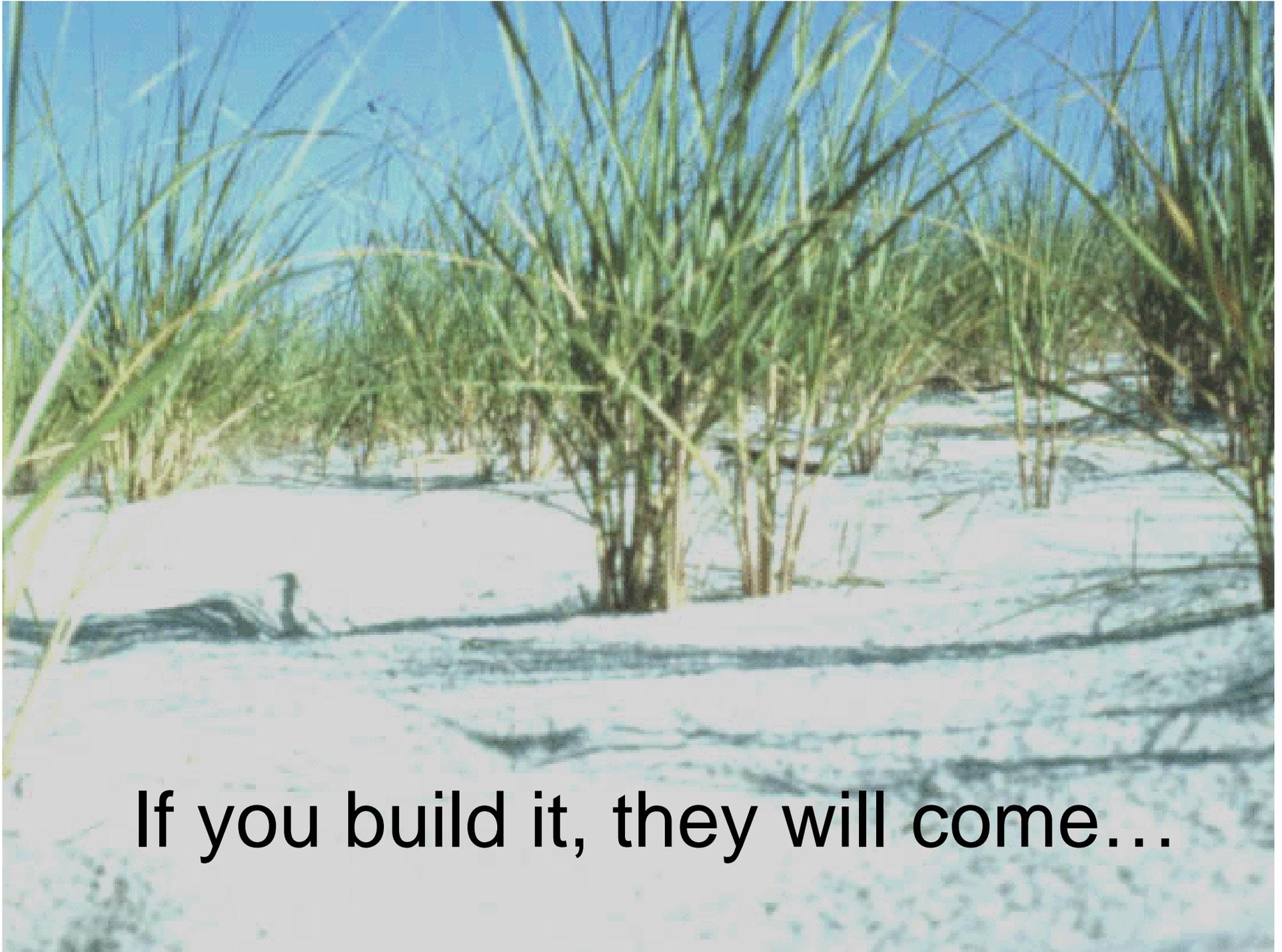
Plover chick foraging
in beach wrack

Plover foraging in
intertidal habitat



Beach nourishment can provide nesting habitat





If you build it, they will come...

If you don't manage it, they will go...



If you build it WRONG, they will fail...



- Where will chicks on this beach forage?
- This beach will probably have chronic conflicts with recreationists
- Plovers may have chronic problems with cats or foxes
- This type of project may create a population sink
- This type of project creates an uphill management battle

Preserve areas where chicks have access to productive bayside tidal flats



Why can we wish make this even for cryptobinders?



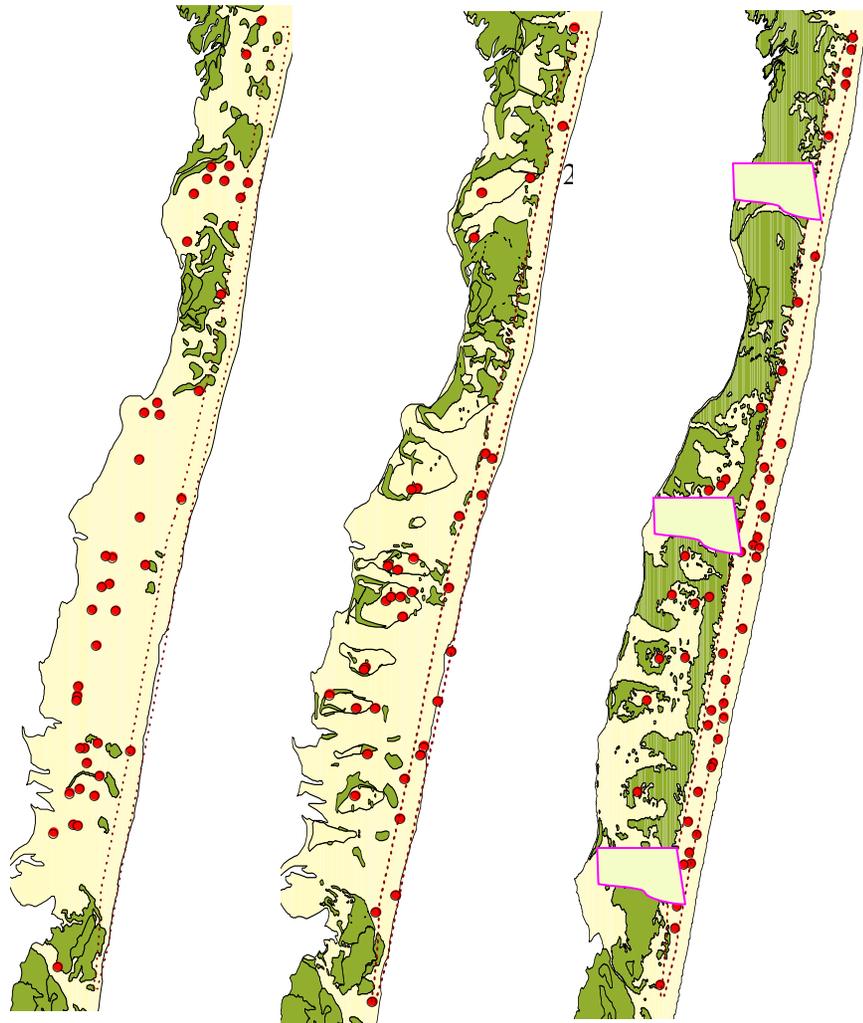
Allow chicks access to bay-side flats



1999

2002

2005



When vegetation closes off access to foraging areas...

Cut 100 m wide path through vegetation to create chick crossover areas; re-gaining access to bayside flats

What can be done when tidal flats are not available?

Proposed Foraging Enhancement Project at Barnegat Light

Proposed culvert from sump along edge of jetty

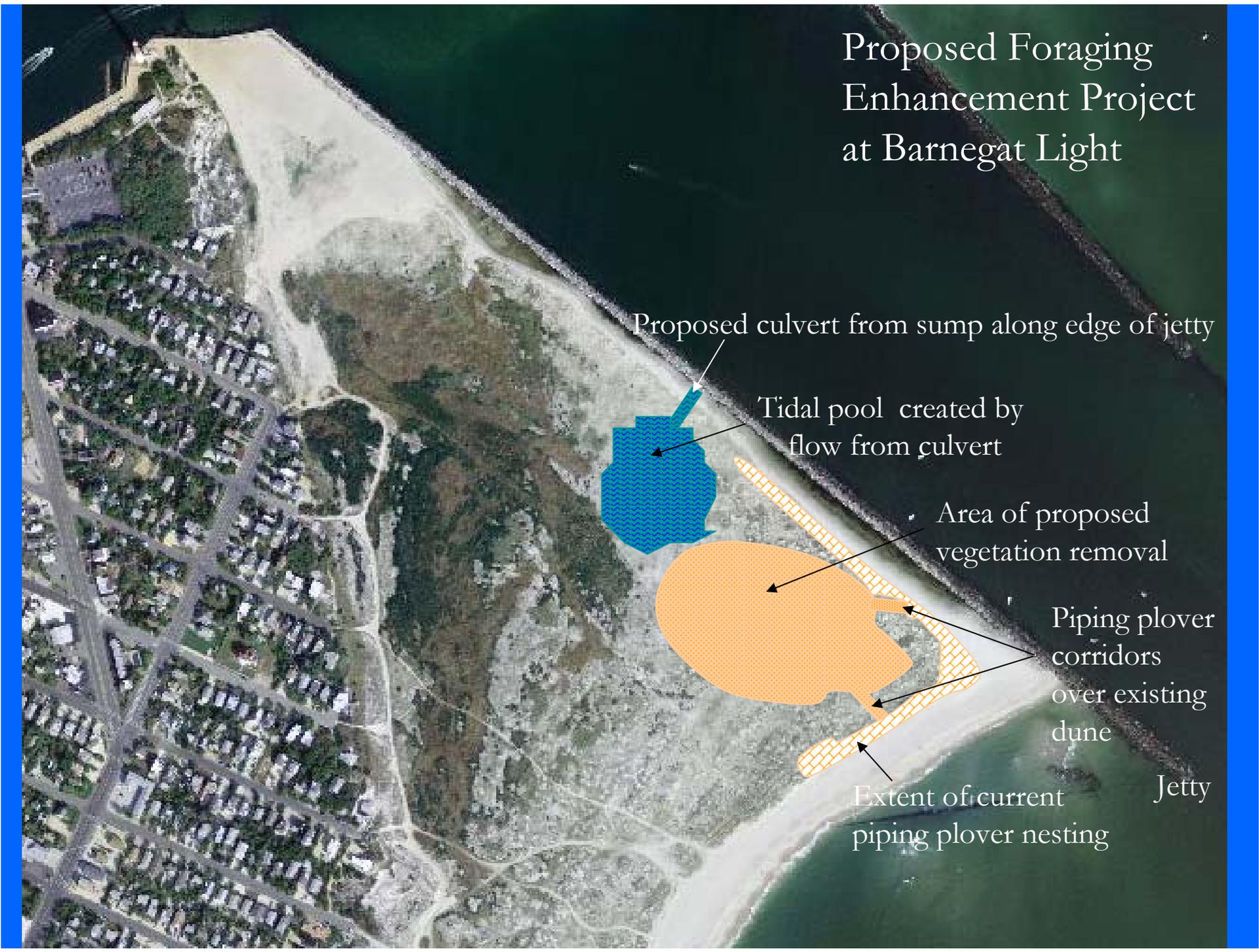
Tidal pool created by flow from culvert

Area of proposed vegetation removal

Piping plover corridors over existing dune

Extent of current piping plover nesting

Jetty



What to do when no wet habitat is available?



Leave the wrack

Don't allow this



Give birds some shore



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Create tern nesting habitat away from disturbance whenever you can



When you know terns will be nesting on beach...
Create tern nesting areas away from people



Create a barrier to human disturbance if possible
Use decoys to attract terns to preferred areas?
Restrict access to nesting areas (fence, warden)

Least Terns in coastal Mississippi

1976-1984: averaged over 4000 pairs

1994-2003: averaged less than 2000 pairs

After 2005 storms???



Think about terns and plovers when designing beach nourishment projects!!

Extent of beach nourishment in Florida (to 2004)

