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DEPARTMENT OF NATURAL RESOURCES
AND ENVIRONMENTAL CONTROL

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SECRETARY

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Department of the Interior
US Fish and Wildlife Service
Prime Hook National Wildlife Refuge
11978 Turkle Pond Road
Milton, DE 19968

RE: DRAFT ENVIRONMENTAL ASSESSMENT FOR DUNE WORK AT PRIME HOOK NATIONAL WILDLIFE REFUGE

The Delaware Department of Natural Resources and Environmental Control (Department) has the following comments on the *Draft Environmental Assessment for Dune Work at Prime Hook National Wildlife Refuge.*

Prime Hook National Wildlife Refuge was established in 1963 under the authority of the Migratory Bird Conservation Act for use as a sanctuary for migratory birds. Appropriate public uses of the Refuge include six major wildlife-dependent recreational uses: hunting, fishing, wildlife observation, photography, environmental education, and environmental interpretation. The Prime Hook National Wildlife Refuge is in the process of developing a Comprehensive Conservation Plan (CCP).

The draft EA states that the pattern of consecutive tides over mean higher high water (MHHW) has significantly increased since the refuge impoundments were established. The entire coastal zone of the Delaware Bay is unstable and subject to erosion forces, sediment compaction, tectonic subsidence[1], and relative sea level rise with average rates of erosion continuing or accelerating. In the long run allowing the system to self-adjust may enable the existing wetlands to better keep up with sea level rise, as the effects of "storm sedimentation" could aid in the vertical accretion of these areas.

Historically the refuge has experienced low sediment accretion rates. Prior to the current dune breaches, there was minimal tidal input of sediment into the freshwater system. According to preliminary data collected as part of the cooperative study by the Delaware Coastal Management

[1] "Memorandum on Subsidence at Prime Hook National Wildlife Refuge," August 25, 2010, by Bartholomew Wilson, P.G., based on ongoing but unpublished research. Also reference Fletcher III, C.H., 1988. "Holocene Sea Level History and Neotectonics of the United States Mid-Atlantic Region," *The Journal of Geology*, Vol. 96, No. 3. pp. 323-337.

Program and the Refuge, the lack of regular sediment input in addition sea level rise have resulted in the Refuge's marshes in Unit 2 degrading much faster than anywhere else in the state. Increased sea level rise as well as anticipated higher storm frequency and intensity will continue to exacerbate these conditions. Without tidal influence, the freshwater impoundments may revert to open water lagoons.

This project, though relatively small, represents a challenging dilemma for the Department that will be replayed many times over the coming years and decades: How does the state balance increasingly limited financial resources and the increasing instability of the coastal zone with issues of public safety, private property, economic vitality, and protection of fragile ecosystems? The preferred approach is, admittedly, a short-term solution that may not survive the next Nor'Easter.

Alternative 1: No Action

As stated in the EA draft, the no action alternative will allow a natural conversion of a manmade freshwater system back to a brackish salt marsh or open water system and the natural transgression and formation of the natural dune lines. This option would also allow the ecosystem to self-adjust in response to relative sea level rise, wave dynamics, sediment supply, and legacy human effects.

This alternative may improve the sediment accretion rates as the overwash and inlet formation can contribute to the sediment budget of the Refuge's ecosystems in the long term. The Department concludes the No Action Alternative would not impact wildlife and migratory birds using the proposed project area for breeding or migration stopover habitat.

Alternative 2: Preferred Approach

This approach proposes to reconstruct approximately 700 feet of dunes on refuge land using on site sediments on an interim basis until a long-term conservation strategy is adopted. The sediments would be used to repair and connect dunes on the refuge and approximately 3,200 feet of adjacent private lands. In addition, this alternative proposes to fill newly created inlets south of Fowler's Beach Road. The EA notes that the size of the dune will be limited by the available sand. The Service has estimated the cost of this approach to be between $11,000 and $13,000 and would take approximately 2-3 weeks to complete.

Based on the Department's experience with other dune repair projects, I am concerned that the cost and time estimates for this approach is significantly underestimated. Department scientists and engineers have recently observed that the beach in the vicinity of the breaches south of Fowler's Beach Road is sand starved and likely does not have enough sand available to recreate dunes at the recommended dimensions noted in the draft EA. For this reason, it is unlikely that the proposed alternative will achieve the short term goals of the Refuge and the U.S. Fish and Wildlife Service. The Department recommends that the U.S. Fish and Wildlife Service augment available on-site sand with sand from off-site sources in order to achieve the Department's desired dune dimensions and levels of flood protection as a short term interim measure until the Refuge determines and begins to implement its long-term strategy developed in the CCP.

Peak shorebird migration generally occurs in September and tapers off by early October. Duck hunting season begins October 22. There are several duck blinds within the project area. To minimize disturbance during peak shorebird migration, minimize impacts for recreational opportunities and to avoid safety issues during duck hunting season, work should be completed between October 1 and October 22.

Alternative 3
Alternative 3 includes the same dune line repairs and filling of existing inlets as Alternative 2; however no sand would be scraped from refuge lands in this alternative. All materials would be hauled in from off-site sources. Sand or sediment currently on refuge lands would not be scraped to reconstruct dune or fill inlets on private lands. The Service has estimated the cost of this alternative to be between $47,000 and $74,000.

Department scientists and engineers have recently observed that the beach in the vicinity of the breaches south of Fowler's Beach Road is sand starved and likely does not have enough sand available to recreate dunes at the recommended dimensions noted in the draft EA. Again, the Department supports the option of hauling in sand from off-site sources as a short-term interim measure only until such time as the Refuge's long-term strategy is developed and implemented. This additional sand will add to the system and improve flooding protection for Unit II.

Additional Requirements and Comments
The U.S. Fish and Wildlife Service is obligated to obtain a federal consistency certification from the Delaware Coastal Management Program. In addition 401 Water Quality Certification and a State Wetlands permit may be necessary. The U.S. Fish and Wildlife Service should also consult with the Department's Natural Heritage Program regarding potential impacts to endangered species, including:

- ***Beach-nesting birds***
  In addition to piping plover, least tern and American oystercatcher should be mentioned in '*Section V. Affected Environment and Environmental Consequences, A. Impacts on Soils and Coastal Sediment Budgets, 2. Environmental Consequences, c. Alternative 3.*' The proposed action (page 24) commits DNREC to weekly surveys of Unit II for beach-nesting birds. The USFWS should secure an agreement with DNREC regarding this issue. It should be noted that fledging of beach-nesting birds is not always complete by August 15.

- ***Shorebirds***
  The EA states that no negative impacts to shorebirds are anticipated once the project is complete. However, the closing of the breaches in Unit II may reduce nesting and foraging habitat for shorebirds. The breach areas and washover areas have been used extensively by migratory shorebirds. Red knots and other shorebirds feed on horseshoe crab eggs along the tide edge, particularly at the breaches/inlets and exposed peat shelves and then roost on the washover areas and islands in the marsh/impoundment.

The red knot is a candidate species for listing under the Endangered Species Act. Though I understand the USFWS is not required to address candidate species under the statute, federal agencies are strongly encouraged to include candidate species in Section 7 reviews under the ESA. We suggest that the USFWS consult with the Chesapeake Bay Field Office on red knots (in addition to other federally listed species including piping plover and Delmarva fox squirrel). Data collected during the 2010 spring shorebird migration demonstrates that red knots were using the overwash areas for foraging and roosting; this information should be acknowledged in the EA.

- ***Vegetation Communities***
  The EA correctly indicates that "American beach grass" and "overwash dune grassland" communities are rare; however, it is incorrect to state that the "overwash dune grassland community" is " . . . *not extremely rare* . . ."(Page 21). Comparison of the two communities statewide acre per acre reveals more acres of Beachgrass-Panicgrass Dune Grassland than Overwash Dune Grassland.

In summary, the Department supports the Service's goal of maintaining an intact dune line as a transitional action while completing the Comprehensive Conservation Plan process. It does not guarantee future policy or financial support for similar projects, either short- or long-term. The Service should consider supplementing existing material with off-site material, schedule work to commence no earlier than October 1st and to conclude no later than October 22. The Service should also re-evaluate the costs associated with conducting this project. Partnering with the Department will require a memorandum of agreement that spells out the role, obligations and expectations of both the Service and the State. This shall include funding limitations for the Department.

Sincerely,

Collin P. O'Mara
Secretary