From:	Timothy Pinion
To:	Mike Murray
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Subject:	desired conditions for sea turtles and PIPL
Date:	09/03/2009 04:20 PM
Attachments:	DRAFT_Desired_conditions_sea_turtles_20090902.docx DRAFT_Desired_conditions_piping_plovers_20090902.docx

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Hi, Mike and Thayer.

These tables are my effort to capture targets that I hope will be useful as desired conditions for sea turtles and piping plovers. I drew largely from information in the BO (thanks for providing pertinent excerpts, Mike) and the Recovery Plans for the species.

Similar tables for AMOY and colonial waterbirds will be more challenging since we do not have Recovery Plans or BOs to draw from.

Please let me know if these are targets that might be useful, or if you have any questions about the information presented here.

Thanks,
--Tim


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DRAFT_Desired_conditions_piping_plovers_20090902.docx

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DRAFT DISCUSSION PURPOSES ONLY

Desired Future Conditions for Piping Plovers at Cape Hatteras National Seashore.

Variable	Short-term target	Long-term target	Source
Number of nesting pairs	15	30	Short-term target adapted from USFWS BO*; Long-term target from Piping Plover Recovery Plan
Fledge rate	1.0 chicks per pair	1.5 chicks per pair	Short-term target from USFWS BO; Long-term target from Piping Plover Recovery Plan
Percent of NC total nesting pairs	24%	Same as short-term target	Adapted from USFWS BO**; (in 2008 CAHA had 11 of NC's 64 nests, or 17%)
Depredation rates	No eggs, chicks, or adults lost to predators until long-term fledge rate targets are achieved	Same as short-term target	From Draft CAHA predator management plan

*The information is in the BO under: Effects of the Action, A. Piping Plovers, Nature of the effect:

> "The biologically appropriate measure of population impacts is not the size of the current remnant population, but rather the potential pairs and productivity foregone. The 15 pairs documented at CAHA in 1989 and comparison of current habitat with 1989 aerial photos furnish empirical evidence of potential for a population of at least five times the current number *[which was 3]* (i.e., 15 pairs). However, the demonstrated population growth elsewhere in the range provides evidence that the potential contributions at CAHA are two to four times that number (i.e., 30 to 60 pairs). The USFWS estimated carrying capacity for CAHA to be *[sic]* 30 pairs. (See USFWS, 1996a, appendix B. Actual population growth at many of the sites in other states has exceeded the projections made in this exercise.)"

**Environmental Baseline, A, Piping Plover section (no page #) that says:

"Using data from 1992 to 1999 (when surveys were consistent and a period that CAHA reports to be prior to an increase in disturbance), CAHA accounted for about 24 percent of the piping plover breeding activity in North Carolina. However, using data from 2000 to 2005, CAHA accounted for only 11 percent of the piping plover breeding activity in North Carolina."

DRAFT FOR DISCUSSION PURPOSES ONLY

Desired Future Conditions for Sea Turtles at Cape Hatteras National Seashore.

Variable	Short-term target	Long-term target	Source
Number of Nests	10% of NC total	200 nests annually in 50 years, with a 2% annual increase from current nest numbers	Short-term from USFWS BO; long-term adapted from FWS revised recovery plan*
Emergence Rate	>50%	>75%	Uses CAHA 8-yr low of 52% to set minimum threshold of 50%; Minimum bar used to avoid conflict with "number of nests relocated" target; Long-term rate increases as other threats, such as depredation, are reduced
Ratio of false crawls to nests	1:1 or less	Same as short-term target	USFWS BO
Number of nests relocated	<20%; Minimize number of nests relocated for reasons other than "risk of daily overwash or well-documented risk of erosion"	Same as short-term target	<20% target from Sandy MacPherson based on work by Mark Dodd; Text in quotes from FWS recovery plan; (in 2008 CAHA relocated 17% of nests)
Depredation Rate	Annual rate of mammalian predation on nests is 10% or less	Same as short-term target	From FWS recovery plan
Disorientation from Artificial Lighting	Percentage of total nests with hatchlings disoriented by artificial lighting does not exceed 10%	Same as short-term target	From FWS recovery plan

*National Marine Fisheries Service and U.S. Fish and Wildlife Service. 2008. Recovery Plan for the Northwest Atlantic Population of the Loggerhead Sea Turtle (Caretta caretta), Second Revision. National Marine Fisheries Service, Silver Spring, MD.