



## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
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March 28, 2008

Michael B. Murray  
Superintendent  
Cape Hatteras National Seashore  
National Park Service  
1401 National Park Drive  
Manteo, North Carolina 27954

Subject: Second Amendment to the Biological Opinion for Cape Hatteras National Seashore's Interim Protected Species Management Strategy

Dear Superintendent Murray:

This letter constitutes a second amendment to the U.S. Fish and Wildlife Service's (USFWS) Biological and Conference Opinions (BO) (dated August 14, 2006) and amendment (dated April 24, 2007) on the Cape Hatteras National Seashore's (Seashore) Interim Protected Species Management Strategy (Strategy). These opinions are provided in accordance with section 7(a)(2) of the Endangered Species Act of 1973 (Act), as amended (16 United States Code [U.S.C.] 1531 *et seq.*). These opinions assessed the effects of implementation of the Seashore's Strategy on the piping plover (*Charadrius melodus*) of the Atlantic Coast, Great Lakes and Great Plains populations; seabeach amaranth (*Amaranthus pumilus*); and loggerhead (*Caretta caretta*), green (*Chelonia mydas*), and leatherback (*Dermochelys coriacea*) sea turtles; and proposed critical habitat for the wintering population of the piping plover in North Carolina.

On December 10, 2007, we received your request for reinitiation of the section 7 consultation based on the Seashore's inability to meet the performance goals established in their Interim Strategy, and as reflected in the Incidental Take Statement that accompanied the amended BO. The USFWS received the Seashore's annual reports outlining the results of their implementation of the Interim Strategy during 2007 (required by the consultation) on February 1, 2008. On February 8, the USFWS sent the Seashore a letter confirming receipt of their reports and reinitiation request. The Seashore and USFWS staff held a meeting on February 20, 2008, to discuss the annual reports and any revisions to the Interim Strategy and/or performance measures the Seashore may propose that would form the basis for the consultation (see email from Seashore dated February 15, 2008). We have also reviewed the recommendations for 2008 pre-nesting closures provided by the Seashore on March 14, 2008. The Seashore did not propose any increases in their performance targets, or substantial changes regarding implementation of the Strategy with the notable exception of the establishment of a pre-nesting closure at the north end of Ocracoke Island. A complete administrative record of this consultation is on file in the

Raleigh Field Office.

One issue discussed during the February 20, 2008 meeting was the discrepancies between the North Carolina Wildlife Resources Commission (NCWRC) and the Seashore's databases for reported sea turtle nesting and false crawls. The NCWRC data on sea turtle nesting and false crawls recorded during 2001 through 2006 were used by the USFWS in developing the incidental take statement and the reinitiation trigger in our amended BO. Based on those data, a 1.3:1 false crawl to nest ratio was established as the level at which the anticipated amount of incidental take would be exceeded because this was the highest false crawl to nest ratio the Seashore had experienced in the five years prior to the BO amendment (range 0.53:1 to 1.32:1 between 2001 and 2006). However, in subsequent evaluations of the data, the Seashore found inconsistencies between what was recorded in the Seashore's database (see Table 1) and what was reported to NCWRC. As a result, we have analyzed the data provided in the Seashore's 2007 annual report, and recalculated the false crawl to nest ratio to determine if changes are warranted in the incidental take level and the trigger for reinitiation of consultation. The Seashore has not proposed changes to their performance measure of a false crawl to nest ratio of 1:1.

Table 1. Sea turtle (all species) nests, false crawls, and the ratio of false crawls to nests by season for Cape Hatteras National Seashore. Data taken from the Seashore's 2007 annual report.

Season	False Crawls	Nests	False Crawl:Nest Ratio
2001	49	75	0.65:1
2002	60	99	0.61:1
2003	48	87	0.55:1
2004	78	43	1.81:1
2005	104	73	1.43:1
2006	65	76	0.86:1
2007	114	82	1.39:1
			Mean = 1.04:1

Based on the data provided by the Seashore in their 2007 annual report (see Table 1), the highest false crawl to nest ratio in a single year was 1.81:1. This is higher than the highest recorded false crawl to nest ratio calculated in the BO amendment. However, at this time changing the reinitiation trigger to correspond to the highest false crawl to nest ratio reported in the last seven years seems inappropriate when the Seashore's performance target remains a false crawl to nest ratio of 1:1. The Seashore has stated that the ratio of 1.39:1, reported in 2007, is the result of a high number of false crawls recorded specifically at South Beach (which was closed to ORV traffic throughout most of the sea turtle nesting season). As such, when these data (and the number of nests in the same area) are removed from the analysis the Seashore then "met" their performance measure (i.e., the false crawl to nest ratio was below the reinitiation trigger of 1.3:1). When differences in the false crawl to nest ratio can be explained by simple, additional analysis of the data (as is the case with the 2007 data), it seems prudent to consider such factors before drawing conclusions on whether the performance measure is met or not, or whether reinitiation of consultation is necessary or not. In this case, it seems appropriate to conclude that

while the measure was not technically met there is a reasonable explanation for the overall results, even though the cause of the increased false crawls inside the full beach closure west of Cape Point is not specifically known.

The efficacy of using a false crawl to nest ratio as a performance target or a reinitiation trigger on beaches with ORV access must be considered in the context of the ratio of false crawls to nests in relation to many factors, including past years' performance throughout the Seashore and at specific locations; explicit issues unrelated to the Interim Strategy that may affect nesting activity at a location (e.g., town lighting); ORV tracks obscuring nesting activities before they can be identified; the ability and effort that goes into discerning false crawls from nests; and, the mean ratio of false crawls to nests over time. For example, the mean false crawl to nest ratio for the past seven years (2001 to 2007) is 1.04:1. This approximates the Seashore's performance target of 1:1. Furthermore, the Seashore has exceeded their performance target only three times in the last seven years, and two of those years preceded the implementation of the Seashore's Interim Strategy. Thus, the Seashore's implementation of the Interim Strategy may be resulting in a decreased level of disturbance to nesting sea turtles that reduces the number of false crawls. Alternatively, the Seashore may have increased their efforts and ability to discern false crawls from nesting crawls, thus having improved the accuracy of the reported number of false crawls to nests. Given these possibilities and the difficulties associated with differentiating nesting activities on beaches with ORV access, at this time we are not adjusting the reinitiation level for the ratio of false crawls to nest (i.e., 1.3:1) in light of a single year's results.

The Seashore and the USFWS discussed several issues regarding the piping plover during the February 20, 2008 meeting. One such issue was the number of piping plover breeding pairs reported at the Seashore each year. The Seashore established performance measure 1 for piping plovers to include "four (4) or more breeding pairs per year." This performance target was based on the number of breeding pairs reported at the Seashore in previous years; the implementation of protective measures in the Interim Strategy; the Seashore's intention to produce at least one breeding pair at each of the major breeding sites (as defined) at the time of the consultation (i.e., Bodie Spit, Cape Point including South Beach, Hatteras Spit, and South Ocracoke Spit); and the Seashore's existing mandates to manage resources such that they are not impaired. In our past discussions, we have stated that the number of breeding pairs at the Seashore may be somewhat unpredictable because you cannot control the number of birds that arrive on the Seashore to nest. However, Seashore management decisions may influence the number of birds that stay and establish nesting territories. Subsequent management decisions and other factors such as weather throughout the breeding season determine the extent to which the birds' decision to stay was a good one. To that end, we support the Seashore's decision to establish a pre-nesting closure at the north end of Ocracoke Island in 2008, in addition to continuing the prenesting closures at the other key sites, as well as the continuation of predator control measures.

The Seashore has seen the number of breeding pairs of piping plover steadily increasing since an all-time low of two pairs in 2002 and 2003. In fact, the Seashore experienced a 50% increase in the number of breeding pairs from 2002 and 2003 to 2004 and 2005, and a 100% increase from 2004 and 2005 to 2006 and 2007. We believe those increases are based, in part, on the Seashore's ability to identify and establish early-season breeding closures in accordance with the Interim Strategy. Based on those increases, the USFWS anticipates continued increases in the

number of breeding pairs reported at the Seashore. At the very least, we would expect the same number of breeding pairs as recorded in the past couple of years. As such, we have redefined the reinitiation trigger. The redefined reinitiation trigger would set a new limit of breeding pairs at the Seashore, thereby reducing the amount of take associated with the number of breeding pairs.

In addition, the Seashore's performance measure 2, related to the number of piping plover nests produced each year, was originally established to define the minimum number of nests that the Seashore would produce. However, the performance measure failed to take into consideration that an excess number of nests (or renests) in relation to the number of breeding pairs may indicate a higher than anticipated level of disturbance. Successful piping plover nesting is dependent on many factors (e.g., storms, predators, human or pet caused disturbance), and a breeding pair may renest if the first nest is lost. However, repeated renesting may indicate that disturbance levels are too high for the breeding pair to fledge their brood. To address this issue, we have developed a new reinitiation trigger that establishes an upper limit on the number of renests or nesting attempts throughout the Seashore and for any individual breeding pair. Exceeding the level of nesting attempts for reasons other than direct loss due to severe weather events would result in exceedance of the authorized level of incidental take.

The Seashore and the USFWS also discussed clarification of performance measure 3 as it relates to the annual productivity of piping plovers. The Seashore originally developed the performance target to fledge at least one chick per nest, per year in their March 30, 2007 letter. At that time, the Seashore's focus was on their recent record of usually having more breeding pairs of piping plovers than nests. This did not take into account the fact that a breeding pair may have more than one nest in succession if the first or subsequent nests are not successful. This fact was demonstrated during the 2007 breeding season when the six nesting pair at the Seashore produced a total of 11 nests over the course of the season as a result of the failure of early nests. As such, the Seashore has proposed to return to the standard productively calculation of "chicks per breeding pair." We support this decision and have made a similar adjustment to the reinitiation trigger.

Lastly, the Seashore and the USFWS have had many discussions over the past year on the development of a monitoring protocol for non-breeding piping plovers in accordance with performance measure 4. The Seashore is preparing a final draft protocol for review by the USFWS; the Seashore anticipates its completion before the next wintering season.

Based on the information identified above and conversations between USFWS and the Seashore, the following changes have been made to the corresponding sections of the BO:

#### **DESCRIPTION OF THE PROPOSED ACTION**

*Insert the following immediately before the "Sea Turtles" section on page 9 of the August 14, 2006 BO:*

Performance Measure 3: Number of fledged chicks in the Seashore: at least one (1) fledged chick, on average, per breeding pair (annually).

**AMOUNT OR EXTENT OF TAKE ANTICIPATED**

Replace the summary paragraphs in the "Piping plover" section on pages 78-79 of the August 14, 2006 BO with the following:

- 1) Breeding Piping Plovers: The USFWS expects incidental take of breeding piping plover will be difficult to detect for the following reasons:
  - a) breeding adults may be scared away from or prevented from forming a nest at the Seashore;
  - b) the nests are cryptic;
  - c) the hatchlings are small and sand colored;
  - d) dead young are easily covered by sand or waves; and,
  - e) predators may carry away young.

However, based on the Seashore's performance measures and targets identified in their March 30, 2007 letter, and the Seashore's performance in recent years, the level of incidental take is expected to be those breeding pairs, nests, eggs, and chicks that exceed the target levels of:

- a) six (6) breeding pair per year;
- b) four (4) or more nests or 75% of the number of breeding pairs (whichever is greater); and,
- c) an average of one (1) chick fledged per breeding pair, per year.<sup>1</sup>

The Seashore's proposed monitoring will provide data that will allow the NPS to determine if they exceed the exempted level of take and adjust the protective measures to enhance conservation of the piping plover the following year. Incidental take for the proposed action is anticipated during each nesting season (i.e., April 1 to August 31 of each year) until a long-term ORV Management Plan is developed (anticipated 2009) or December 31, 2009, whichever comes first.

**REINITIATION NOTICE**

Replace item (1) in the first paragraph of this section on page 85 of the August 14, 2006 BO with the following:

- (1) the amount or extent of incidental take for breeding piping plovers or nesting sea turtles is exceeded. The amount or extent of incidental take for breeding piping plovers will be considered exceeded if implementation of the Seashore's Strategy results in fewer than:
  - a. six (6) breeding pairs of piping plovers per year; or,
  - b. four (4) nests or 75% of the number of breeding pairs producing nests per year (whichever is higher); or,
  - c. an average of one (1) fledged chick per breeding pair, per year.

The amount or extent of incidental take for breeding piping plovers also will be considered exceeded if implementation of the Seashore's Strategy results in more than:

- a. a number of nesting attempts (i.e., nests with at least one egg) for all breeding

<sup>1</sup> We acknowledge that the Seashore's performance target and subsequently our level of incidental take is below the minimum productivity level required to maintain a stable population (i.e., 1.24 fledged chicks per breeding pair) or the recovery plan level (i.e., 1.5 fledged chicks per breeding pair). However, the Seashore's target reflects higher productivity than has been achieved in recent years (2001-2006 mean fledged chicks per breeding pair = 0.61).

- pairs that is twice the number of breeding pairs at the Seashore, per year, for reasons other than direct loss of the nest due to severe weather events; or,
- b. two nests for any one breeding pair, per year for reasons other than direct loss due to severe weather.

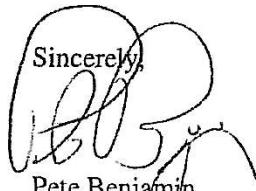
The amount or extent of incidental take for nesting sea turtles will be considered exceeded if implementation of the Seashore's Strategy results in:

- a. fewer than 10% of the State's total annual nesting numbers; or,
- b. a false crawl to nest ratio that is greater than 1.3:1.

This concludes changes to the BO based on our review of the Seashore's December 10, 2007 letter and 2007 Annual Reports. As a reminder, if critical habitat is designated you may ask the USFWS to confirm the conference opinion for the wintering population of the piping plover as a BO issued through formal consultation. The request must be in writing. If the USFWS reviews the proposed action and finds that there have been no significant changes in the action as planned or information used during the conference, the USFWS will confirm the conference opinion as a BO on the project and no further section 7 consultation will be necessary.

If you have any questions about this amendment, please contact me at (919) 856-4520 extension 11, or via email at [Pete\\_Benjamin@fws.gov](mailto:Pete_Benjamin@fws.gov).

Sincerely,



Pete Benjamin  
Field Supervisor