

April 11, 2001

Memorandum

To: Refuge Manager, Chincoteague National Wildlife Refuge

From: Supervisor, Virginia Field Office

Subject: Biological Opinion on Monitoring and Predator Control within Piping Plover Nesting Areas of the Chincoteague National Wildlife Refuge, Virginia

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion on the proposed monitoring, nest exclosure, predator control, and off-road vehicle (ORV) use within all units of the Chincoteague National Wildlife Refuge (CHNWR), Accomack County, Virginia, and its effects on the federally listed threatened piping plover (*Charadrius melodus*). Your October 31, 2000 Intra-Service Section 7 Biological Evaluation Form was received by this office on that date via electronic mail. On December 6, 2000, I notified you via facsimile transmittal that formal consultation would be required in accordance with section 7 of the Endangered Species Act (Act) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*).

This biological opinion is based on information provided in your October 31, 2000 Intra-Service Section 7 Biological Evaluation Form and your *Piping Plover Monitoring and Management, Summer 2000 Report*. The opinion is also based on additional information provided by your office, records contained within this office, conversations with your staff and piping plover experts, field investigations, and other sources of information. A complete administrative record of this consultation is on file at this office.

Consultation History

- 05-26-00 Service (Regional Director - Region 5) issues biological opinion for calendar year 2000 activities at CHNWR related to plover monitoring, predator control and ORV use. The opinion requires reinitiation of consultation between the Refuge and Ecological Services prior to the calendar year 2001 plover nesting season.
- 10-31-00 Virginia Field Office (VAFO) receives an electronic version of CHNWR's Intra-Service Section 7 Biological Evaluation Form. Refuge Manager indicates that the proposed action is not likely to adversely affect the piping plover.
- 12-06-00 VAFO Field Supervisor transmits facsimile to CHNWR Manager indicating that proposed action is likely to adversely affect the piping plover and that formal consultation would be required.

12-21-00 VAFO staff (Karen Mayne and Eric Davis) conduct site visit to CHNWR to discuss piping plover management activities.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

The proposed action consists of continued monitoring, nest enclosure, and predator control activities for the piping plover within all units of the CHNWR. The units of CHNWR include the Virginia portion of Assateague Island, Assawoman Island, the northern portion of Metompkin Island, and portions of Cedar Island. The action also includes the use of ORVs by the Refuge and the National Park Service (NPS). These activities are explained in detail in the enclosed *Intra-Service Section 7 Biological Evaluation Form*. One significant departure from previous years is that the entire “overwash area,” from the bay to the ocean, will be closed to recreational ORVs from two days prior to the first anticipated hatch until all chicks in the area have fledged. This closure was implemented during June 2000 and was not part of the proposed action in 2000.

STATUS OF THE SPECIES (POPULATION AND RECOVERY UNIT)

Information concerning the status of the Atlantic Coast population of the piping plover and the Southern Recovery Unit was provided in the Service’s biological opinion dated May 26, 2000 (USFWS 2000a). The Southern Recovery Unit includes Delaware, Maryland, Virginia, North Carolina, and South Carolina.

The overall Atlantic Coast population has continued to increase since listing in 1986 (Hecht *in litt.*, USFWS 2000b). As stated in the May 26, 2000 opinion, there were approximately 800 pairs in 1986 and approximately 1370 pairs in 1998. During 2000, there were approximately 1410 pairs (Table 1). The goal for the Atlantic Coast population remains 2000 pairs. The Southern Recovery Unit, which includes CHNWR, continues to fall well short of its goal of 400 pairs. The 183 pairs reported for 2000 is down from 203 pairs in 1998. The two-year period of 1999-2000 had a total of 365 pairs, the lowest two-year result since 1992-1993. In Virginia, the number of pairs has remained more or less stable since 1986. There were 100 pairs in 1986 and 96 pairs in 2000. However, the distribution of these pairs has changed over time. Most of the nests are on the northern barrier islands, while plovers on the southern islands are declining.

Higher productivity results from the northern Virginia barrier islands partially offset lower productivity elsewhere in the Southern Recovery Unit (Table 2) (Hecht *in litt.*, USFWS 2000b). In Virginia, the number of chicks fledged per pair was 1.42 in 2000, 1.21 in 1999, and 1.01 in 1998. On CHNWR, productivity was 1.55 in 2000, 1.35 in 1999 and 1.09 in 1998, according to the enclosed *Intra-Service Section 7 Biological Evaluation Form*. Clearly, the relatively high productivity results on

CHNWR help offset poor productivity in southern Virginia and the rest of the Southern Recovery Unit. In the Southern Recovery Unit, productivity was 1.09 in 2000, 1.04 in 1999 and 0.96 in 1998. Overall, plover productivity increased in Virginia and throughout the Southern Recovery Unit since 1998, though results are still well below the goal of 1.5 fledged chicks per pair that is believed necessary to maintain a secure population (USFWS 1996). Productivity of 1.24 is believed to be necessary to maintain a stationary population (Melvin and Gibbs 1994). Results from the Southern Recovery Unit fall continue to fall short of stability and recovery goals. Plovers from the northern Virginia barrier islands are crucial to prevent the continued decline of the Southern Recovery Unit. Furthermore, USFWS (1996) states that each recovery unit's productivity goal is 1.5 chicks per pair for five consecutive years to mitigate for threats small populations inherently suffer such as environmental stochasticity and genetic drift.

ENVIRONMENTAL BASELINE

As defined in 50 CFR 402.02, "action" means all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by federal agencies in the United States or upon the high seas. The "action area" is defined as all areas affected directly or indirectly by the federal action, and not merely the immediate area involved in the action. The direct and indirect effects of the actions and activities resulting from the federal action must be considered with the effects of other past and present federal, state, or private activities, and the cumulative effects of certain future state or private activities within the action area.

For the purposes of this consultation, the Service has determined that the action area for this project will encompass all barrier beach units of CHNWR, including Assateague, Assawoman, Metompkin, and Cedar Islands.

Description of the Action Area – Information concerning the action area was provided in the Service's biological opinion dated May 26, 2000 (USFWS 2000a) and in the enclosed *Intra-Service Section 7 Biological Evaluation Form*.

Status of the Species in the Action Area – Information concerning the status of the piping plover in the action area was provided in the Service's biological opinion dated May 26, 2000 (USFWS 2000a).

At CHNWR, there were 63 nesting pairs in both 1998 and 2000, and 55 pairs in 1999. The 63 nesting pairs is the highest in at least a decade according to the enclosed *Intra-Service Section 7 Biological Evaluation Form*. Productivity was 1.55 in 2000, 1.35 in 1999, and 1.09 in 1998. The eight-year productivity average is 1.29, just above the 1.24 believed to be necessary to maintain a stable population (Melvin and Gibbs 1994), but well below the 1.5 believed to be necessary to maintain a secure population (USFWS 1996).

In 2000, a Service vehicle crushed a nest with four plover eggs (USFWS 2000c). During routine

patrols, the vehicle entered an area with vegetated dunes. The established protocol called for vehicles to follow old routes or to have one person walk in front of the vehicle. Since vegetative dunes do not normally support plover nests, the Service personnel did not take action to either avoid driving through the vegetative dunes or to have the passenger walk in front of the vehicle. This unfortunate incident was simply a lapse in judgment. The established protocol was in place, and the personnel were aware of the protocol. CHNWR personnel are aware that plovers do occasionally nest in stands of American beachgrass (*Ammophila breviligulata*) or other vegetation (Patterson 1988, Fleming *et al.* 1990, MacIvor 1990). Increased awareness that accidents can happen when protocols are not followed is sufficient. No additional measures are needed to prevent this unusual occurrence in the future.

EFFECTS OF THE ACTION

Direct Effects – Management activities will have a net positive effect on the plovers, though there are some risks to the birds. Marking and enforcing restricted areas will benefit the birds by reducing human activity near the birds. Active and passive predator control activities will also protect the birds by offering safe havens inside nest enclosures and by reducing the numbers of predators. The intensive management will result in data that will assist the understanding of plover biology and should result in more informed management decisions in the future.

CHNWR's southern islands are only open to the public for daytime use, but enforcement is limited due largely to staffing. Members of the boating public have been known to stop on these islands for breaks from fishing, picnicking, or solitude. Pedestrian activity may harass adults or chicks or may crush eggs. The extent of unauthorized use of the southern islands is unknown. However, plover productivity rates on Assawoman and Metompkin Islands are such that the Service does not believe it is a severe problem. Cedar Island has more intensive human use since much of the island is in private ownership, and there are some unregulated ORVs on that island.

On Assateague Island, the concerns regarding human disturbance are greater than on the southern islands. Intensive monitoring, while providing a net benefit, does pose a threat. In 2000, a nest was lost due to a failure to follow the prescribed monitoring protocol. While official vehicles crushing nests surely will be rare, the possibility exists. Direct take due to monitoring could be in the form of vehicle ruts in wet sand preventing chick movement to feeding areas or to avoid predators, though take due to official vehicle ruts would be very rare. Crushing a nest, thereby taking one to four eggs, is the most likely form of take due to intensive monitoring. Take from nest enclosure activities and observation is unlikely.

Pedestrian traffic on Assateague Island is another threat to the birds. Some pedestrians walk on the Wild Beach, though most stay within one mile of their car in the parking lot (Schroer, pers. comm.). These pedestrians may knowingly or unknowingly harass adult plovers or chicks by walking too close. CHNWR's restrictions on walking on the upper beach and efforts to educate the public about plovers should decrease this threat. Consequently, this form of take is unlikely.

Indirect Effects – Indirect effects to piping plovers could include an increased predation rate due to human activity. Human activity on the islands may result in trash on the ground. This trash could both attract predators and increase the carrying capacity of the predators due to increased food availability. The increased numbers of predators may kill, harm, or harass plovers. Plovers may expend more energy in predator surveillance and avoidance, and that energy expenditure could decrease overall fitness. This risk of take is unlikely because recreational use of these sites is light, except at the overwash zone. In the overwash zone, recreational use of the beach is allowed prior to plover hatching season, and it is intensively supervised.

Interrelated and Interdependent Actions – An interrelated activity is an activity that is part of the proposed action and depends on the proposed action for its justification. An interdependent activity is an activity that has no independent utility apart from the action under consultation. No activities that are interrelated to or interdependent with the proposed action are known at this time.

CUMULATIVE EFFECTS – Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Future federal, State, local or private actions that are anticipated to occur within the action area, (i.e., units of CHNWR) will either be carried out by, or will require a permit from, the Service. These actions will therefore require a section 7 consultation. The Service is not aware of any future State, local or private actions that could occur within the action area that would not be subject to a section 7 review. Therefore, cumulative effects, as defined in the Act, are not expected to occur within the action area.

CONCLUSION

After reviewing the status of the piping plover, the environmental baseline for the action area, the effects of the proposed monitoring, predator control, and temporary ORV closures within piping plover nesting areas, and the cumulative effects, it is the Service's biological opinion that these activities, as proposed, are not likely to jeopardize the continued existence of the piping plover. No critical habitat has been designated for this species; therefore, none will be affected.

The Service bases this determination of no jeopardy on the minimal level of anticipated adverse effects coupled with the protection gained by the management activities. Furthermore, the plovers in the action area are doing reasonably well. Plovers in the Southern Recovery Unit are still imperilled; however, the management activities at CHNWR should provide a net benefit to the plovers.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and federal regulations pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns that include, but are not limited to, breeding, feeding or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by CHNWR for the exemption in section 7(o)(2) to apply. CHNWR has the continuing duty to regulate the activities covered by this incidental take statement. If CHNWR (1) fails to assume and implement the terms and conditions, or (2) fails to require any permittee or other party to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to any permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, CHNWR must report the progress of the action and its impact as specified in the incidental take statement [50 CFR 402.14(i)(3)].

AMOUNT OR EXTENT OF TAKE

It is anticipated that no more than four eggs or one chick may be taken every five years as a result of the proposed activity. The incidental take is expected to be in the form of killing, harming, or harassing. The take may be caused directly by a vehicle crushing a plover egg or chick that was not seen by monitors, or indirectly by degradation of habitat due to creation of ruts in wet sand that impede chick movements. Pedestrians may prevent plovers from using the beach and intertidal areas for foraging. Detection of mortality or injury to piping plover eggs and chicks is extremely difficult due to the small size of the eggs and chicks and because their coloration blends with the beach substrate. Dead chicks and eggs may be covered with wind-blown sand, washed away by tides, or consumed by scavengers. Because detection of take of piping plovers is difficult, the discovery of a single crushed egg or chick is set as the measure of the anticipated take, unless evidence shows differently.

Short-term harassment of adults is anticipated while setting up the exclosures or during monitoring. This short-term harassment is expected to have a net benefit to the species.

EFFECT OF THE TAKE

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat.

REASONABLE AND PRUDENT MEASURE

The Service believes the following reasonable and prudent measure is necessary and appropriate to minimize the likelihood of incidental take of piping plovers:

1. Proposed activities and access to plover nesting areas must be timed and conducted to minimize impacts on piping plovers.

TERMS AND CONDITIONS

In order to be exempt from the prohibitions of section 9 of the Act, CHNWR must comply with the following terms and conditions, which implement the reasonable and prudent measure described above and outline required reporting/monitoring requirements. These terms and conditions are non-discretionary.

1. Public activity, both pedestrian and vehicular, shall be restricted in all piping plover nesting areas of CHNWR units from March 15 through August 31 (or until all plovers have fledged, if later) of each year, in accordance with the plan developed in the October 31, 2000 *Intra-Service Section 7 Biological Evaluation Form* (Enclosure 1). Pedestrian and vehicle corridors shall be moved, constricted or temporarily closed if territorial, courting, nesting, or brooding plovers are disturbed, or if disturbance is anticipated because of unusual tides.
2. The entire beach area known as the “overwash zone” shall be closed to public ORV use two days before the first expected plover hatch date and continue until all chicks in the area have fledged. The area that shall be closed will be 200 meters north of the northern-most plover brood.
3. During the plover breeding season (March 15 through August 31) official vehicle use of the Assateague Island unit beach shall be limited to that considered essential in the judgment of the Refuge Manager. Official vehicle use will be confined to daylight hours when possible. Vehicle speed shall not exceed ten miles an hour. Official vehicle use by summer NPS residents shall be restricted to a maximum of eight round trips per day, except under emergencies.
4. Official vehicles should avoid creating deep ruts that could impede plover chick movements. If official vehicles are creating deep ruts that could impede chick movements, CHNWR shall take appropriate measures to correct the situation and these measures should be taken at least five days prior to the anticipated hatch date.

5. Personnel who monitor plovers shall maintain and regularly update a log of the locations of nests and unfledged plover chicks on the Assateague Island unit. Drivers of official vehicles (Service and NPS) shall keep up to date regarding the most current information on locations of nests and unfledged chicks.
6. Night use of the beach by official vehicles during the plover breeding season shall be limited to the greatest extent possible. NPS summer residents shall coordinate night trips during the plover breeding season to minimize the number of trips. When plover broods with unfledged chicks are within 50 meters of the rope that marks the overwash zone plover closure area, CHNWR puts up flagging 200 meters north and south of the brood location. Except in extreme emergencies, during night trips a person with a flashlight should walk ahead of the vehicle while within this 400-meter area to look for plovers.
7. In accordance with the Revised Recovery Plan (USFWS 1996, Appendix G), a log shall be maintained by CHNWR that records the date, time, vehicle number and operator, and purpose of each vehicle trip through the overwash zone when unfledged chicks are present. A separate vehicle log is not necessary for trips for monitoring purposes as long as the monitoring log is sufficient to document the date of the vehicle trip and personnel conducting the monitoring.
8. If any piping plovers (eggs, chicks, or adults) are killed or injured by other than natural causes, the Refuge Manager must notify the Virginia Field Office at the address and phone number below within 24 hours of the take (or next work day) to determine if reinitiation of consultation is necessary. Any reports of mortality or injury due to vehicles shall be accompanied by the vehicle log or monitoring log of the day and previous day that the plover was lost. Care must be taken in handling dead specimens of any proposed or listed species that are found to preserve biological material in the best possible state. In conjunction with the preservation of any dead specimens, the finder has the responsibility to ensure that evidence intrinsic to determining the cause of death of the specimen is not unnecessarily disturbed. The finding of dead specimens does not imply enforcement proceedings pursuant to the Act. The reporting of dead specimens is required to enable the Service to determine if take is reached or exceeded and to ensure that the terms and conditions are appropriate and effective.
9. CHNWR prepares annual monitoring reports on Refuge piping plover productivity, and should continue to submit these reports to VAFO no later than December 1 of each year.
10. The contact for all reporting requirements is:

Supervisor
Virginia Field Office
U.S. Fish and Wildlife Service
6669 Short Lane

Gloucester, Virginia 23061

(804) 693-6694

The Service believes that no more than four piping plover eggs or one chick may be incidentally taken as a result of the proposed action over a five year period. The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed action. If, during the course of the action, this level of incidental take is met or exceeded, such incidental take represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided. CHNWR must immediately provide an explanation of the causes of the taking, and review with the VAFO the need for possible modification of the reasonable and prudent measures.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs federal agencies to use their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities taken to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

In order to reduce the impacts of unauthorized public use of the southern islands of the Refuge complex and to further reduce the effects of predation, the Refuge should increase law enforcement patrols, monitoring, and predator control efforts. Monitoring of these islands should be increased to three days a week during the nesting season, and should include weekend patrols.

The Refuge should work with the NPS to implement a program to reduce vehicle use by summer residents of the old Coast Guard station through the overwash zone during the plover nesting season to the absolute minimum.

In order for VAFO to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, VAFO requests notification of the implementation of any conservation recommendations.

REINITIATION NOTICE

This concludes formal consultation on the actions outlined in the Intra-Service consultation form. As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary federal agency involvement or control over the action has been retained or is authorized by law and if: (1) the

amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that it causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or designated critical habitat that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

VAFO appreciates this opportunity to work with CHNWR on the proposed actions. Please contact Mr. Eric Davis at (804) 693-6694 extension 104 or me at extension 103 if you require additional information.

Karen L. Mayne

Enclosures

cc: Superintendent, Assateague Island National Seashore, Berlin, MD (Michael Hill)
USFWS, Sudbury, MA (Anne Hecht)
CBFO, Annapolis, MD (Mary Ratnaswamy)
Virginia Department of Game and Inland Fisheries (Ruth Boettcher)
ARD, ES, Region 5, Hadley, MA (Sherry Morgan)
Chief, Refuges, Region 5, Hadley, MA (Attn: Tom Stewart)
Endangered Species Coordinator, Region 5, Hadley, MA (Paul Nickerson)

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