

Compatibility Determination

Station Name: Chincoteague NWR

Date Established: May 13, 1943

Establishing Authority:

1. Migratory Bird Conservation Act
2. Refuge Recreation Act
3. Emergency Wetlands Resources Act of 1986

Purpose(s) for which Established:

1. For use as an inviolate sanctuary, or for any other management purpose for migratory birds.
2. Suitable for (1) incidental fish and wildlife oriented recreational development, (2) the protection of natural resources (3) the conservation of endangered species or threatened species.
3. The conservation of Wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions.

Description Proposed Use: Beach Use - Swimming, sunbathing and other related beach activities

The recreational beach zone, located on Assateague Island and administered by the NPS, comprises a 5,500 foot long x 100 foot wide stretch of ocean beach running from parking lot 1 to the vicinity of parking lot 4; a maximum of 961 parking spaces are being maintained by NPS as long as there is an adequate land base behind the dunes. Additional areas which receive limited amounts of this use include the south end of Assawoman Island, the north end of Metompkin Island and "Little Beach" on Assateague Island. A detailed description of the majority of this use and associated impacts can be found in the 1992 Final Environmental Impact Statement for the Chincoteague National Wildlife Refuge Master Plan (FEIS) and the 1993 Chincoteague National Wildlife Refuge Master Plan. Additional information can also be found in the station's 1993 Public Use Plan, the 1990 Public Use Plan for Assawoman and Metompkin Divisions, the 1990 Historical Use Survey Report for Assawoman and Metompkin Islands, and the 1990 Interagency Agreement between FWS and NPS Pertaining to the Administration, Development, and Use of the Toms Cove Hook Area Within the Chincoteague NWR and the Assateague Island NS, which is appended as Appendix D of the FEIS. The documents listed are appended for additional information.

After the establishment of the refuge in 1943, the only public recreation that occurred on Chincoteague before the bridge was constructed in 1962 was beach use, primary surf fishing. Visitors would drive down the beach from the Maryland end of Assateague Island. On June 17, 1957, Congress passed Public Law 85-57, Chincoteague National Wildlife Refuge, Virginia - Bridge and Road. This law authorized the Secretary of the Interior to permit the

construction of a bridge and road across Chincoteague National Wildlife Refuge. The objective of this law was "to permit the controlled development of a portion of the seashore of the Chincoteague National Wildlife Refuge, Virginia for recreational purposes, ..." This law also authorized the Secretary to enter into agreements for the construction, maintenance, and operation "of a public beach, concession, parking areas, and other related public conveniences,..."

The FWS, on April 1, 1959 entered into an agreement with the Chincoteague-Assateague Bridge and Beach Authority whereby certain refuge lands constituting what is known as Toms Cove Hook were assigned to the Authority for the purpose of developing a public beach and recreational facility. The deed of easement also provided for the construction of a bridge and access road to the Toms Cove Hook.

In 1965 the Assateague Island National Seashore (AINS) was established. Under a Memorandum of Understanding (MOU) completed in the summer of 1979 between the FWS and NPS, the AINS would provide and manage visitor contact and interpretive facilities and programs on a day-use basis for public recreation and interpretation including, but not limited to, swimming and associated beach uses. Also under that agreement, FWS would retain the primary responsibility for managing the wildlife resources within the "Assigned Area," with the understanding by both agencies that recreational use programs will be planned and carried out to minimize impacts on wildlife resources. In 1990, an Interagency Agreement replaced the MOU, with the new agreement allowing for the same uses as the MOU.

Since the opening of a public beach in the early 1960s, visitation steadily rose during the 1960s, 1970s and most of 1980s. In 1987 visitation peaked at over 1.5 million visits, with over 800,000 occurring during the summer season, June through August. Although not all summer visitation is associated with beach use, the majority of visitors from Memorial Day through Labor Day do utilize the beach. Recreational beach use tapers off quickly after early September and is not too intense prior to the end of May.

Anticipated Impacts on Refuge Purposes(s):

Between Memorial Day and Labor Day, recreational beach use on about a mile of beach precludes most wildlife use of the area during daylight hours. Weekends in May and September are also heavily used by beach goers which keeps wildlife out of the area. Numerous studies have documented that migratory birds are disturbed by human activity on beaches. Erwin (1989) documented disturbance of common terns and skimmers and recommended that human activity be restricted a distance of 100 meters around nesting sites. Kelin (1993) in studying waterbird response to human disturbance found that as intensity of disturbance increased, avoidance response by the birds increased and found that out of vehicle activity to be more disruptive than vehicular traffic. Pfister et al. (1992) found that the impact of disturbance was greater on species using the heavily disturbed front side of the beach, with the abundance of the impacted species being reduced by as much as 50 percent. Roberson et al. (1980) discovered, in studying the effects of recreational use of shorelines on nesting birds, that disturbance negatively impacted species composition. Piping plovers

which use the refuge heavily are also impacted negatively by human activity. Pedestrians on beaches may crush eggs (Burger 1987, Hill 1988, Shaffer and Laporte 1992, Cape Code National Seashore 1993, Collazo et al. 1994). Dogs may chase plovers (McConnaughey et al. 1990), destroy nests (Hoopes et al. 1992, and kill chicks (Cairns and McLaren 1980). Other studies have shown that if pedestrians cause incubating plovers to leave their nest, the eggs can overheat (Bergstrom 1991) or the eggs can cool to the point of embryo death (Welty 1982). Pedestrians have been found to displace unfledged chicks (Strauss 1990, Burger 1991, Hoopes et al. 1992, Loegering 1992, Goldin 1993).

During days when beach parking lots are filled to capacity (approximately 5-10 per year), traffic backups on Beach Road cause disturbances to wildlife. Exhaust emissions from idling vehicles during traffic backups at the beach effect the air quality along portions of the Beach Road. Exhaust emissions from idling vehicles during traffic backups at the beach effects the air quality along portions of the Beach Road.

Allowing the NPS to maintain the existing number of beach parking spaces (961), as long as a land base remains in the vicinity of the existing parking between the dunes and wetlands to the west, will commit this area to parking until the land base is lost to the natural movement of the land.

Disturbed vegetation on the artificially created dunes in the recreational beach zone destabilizes the underlying dune structure.

Determination: (Check One)

This use is compatible X This use is not compatible

The following stipulations are required to ensure compatibility:

Recreational beach use will be confined to those areas identified in this determination. The long range maximum beach capacity of 4,400 visitors at any one time, established during the master planning process, will not be exceeded. Only wildlife oriented recreational activities will be allowed north of the general beach recreational zone.

No additional parking will be permitted at the beach; however, the NPS will be permitted to maintain the existing number of parking spaces (961) as long as the land base directly behind the dunes remains. Alternate beach parking will be located off of Assateague Island.

Areas important to nesting piping plovers or other shorebirds will continue to be closed to recreational use.

A specified time pass system will be used to eliminate traffic backups at the beach, which will reduce disturbance to wildlife.

Justification:

Although these uses are forms of nonwildlife oriented recreation, they are consistent with the Act that established the Assateague Island National Seashore and the Interagency Agreement between the FWS and NPS. In addition, they are consistent with the 1957 Act which allowed for the bridge and road to be built in order for the beach to be developed into a recreational beach. These uses have been ongoing since the early 1960s and migratory bird populations on the refuge remain high.

From a biological standpoint, restrictions are in place to assure the protection of the migratory shorebirds, and particularly the threatened piping plover, which use the refuge for nesting and feeding. Recreational beach use is not allowed in areas critical to the migratory bird populations using the refuge. In addition, the shorebirds, which may be displaced by the recreational beach goers, have other suitable areas on the refuge to go.

Recreational beach use and its impacts will be evaluated annually to determine its continued compatibility.

Prepared by: John D. Schroer, Refuge Manager June 9, 1994
(Name/Title/Signature/Date)

Reviewed by: _____
(Name/Title/Signature/Date)

(Name/Title/Signature/Date)

BIBLIOGRAPHY

- Berstrom, P.W. 1991. Incubation temperatures of Wilson's plovers and killdeers. *Condor*. 91: 634-641.
- Burger, J. 1987. New Jersey Endangered Beach-Nesting Bird Project: 1986 Research. Unpublished report. New Jersey Department of Environmental Protection, New Jersey. 37 pp.
- Cairns, W.E. and I.A. McLaren. 1980. Status of the piping plover on the east coast of North America. *American Birds*. 34:206-208.
- Cape Cod National Seashore. 1993. Piping plover nest found trampled by pedestrian. News Release. Cape Code National Seashore, South Wellfleet, Massachusetts. 2 pp.
- Collazo, J.A., J.R. Walters, and J.F. Parnell. 1994. Factors Affecting Reproduction and Migration of Waterbirds on North Carolina Barrier Islands. 1993 Annual Progress Report. North Carolina State University, Raleigh, North Carolina. 57 pp.
- Erwin, M.R. 1989. Responses to Human Intruders by Birds Nesting in Colonies: Experimental Results and Management Guidelines. *Colonial Waterbirds* 12 (1) :104-108.
- Goldin, M.R. 1993. Effects of human disturbance and off-road vehicles on piping plover reproductive success and behavior at Breezy Point, Gateway National Recreation Area, New York, M.S. Thesis. University of Mass., Amherst, MA. 128 pp.
- Hill, J.O. 1988. Aspects of breeding biology of Piping Plovers *Charadrius melodus* in Bristol County, Mass., in 1988. Unpublished report. University of Mass., Amherst, MA. 44 pp.
- Hoopes, E.M., C.R. Griffin, and S.M. Melvin. 1992. Relationship between human recreation and Piping Plover foraging ecology and chick survival. Unpublished report. University of Mass., Amherst, MA. 77 pp.
- Kelin M.L. 1993. Waterbird Behavioral Responses to Human Disturbances. *Wildl. Soc. Bull.* 21:31-39.
- Loegering J.P. 1992. Piping Plover breeding biology, foraging ecology and behavior on Assateague Island National Seashore, Maryland. M.S. Thesis. Virginia Polytechnic Institute and State University, Blacksburg, Virginia. 247 pp.
- McConnaughey, J.L., J.D. Fraser, S.D. Coutu, and J.P. Loegering. 1990. Piping plover distribution and reproductive success on Cape Lookout National Seashore. Unpublished report. Cape Lookout National Seashore, Morehead City, North Carolina. 83 pp.

Pfister, C., B. A. Harrington, and M. Lavine. 1992. The Impact of Human Disturbance on Shorebirds at a Migration Staging Area. *Biological Conservation* 60 (2) :115-126.

Robertson, R. J. and N. J. Flood. 1980. Effects of Recreational Use of Shorelines on Breeding Bird Populations. *Canadian Field-Naturalist* 94 (2) :131-138.

Shaffer, F. and P. Laporte. 1992. Rapport synthese des recherches relatives au pluvier siffleur (*Charadrius melodus*) effectuees aux Iles-de-la-Madeleine de 1987 a 1991. Association quebecoise des groupes d'ornithologues et Service canadien de la faune. 78 pp.

Strauss, E. 1990. Reproductive success, life history patterns, and behavioral variation in a population of Piping Plovers subjected to human disturbance (1982-1989). Ph.D. dissertation. Tufts University, Medford, Massachusetts.

Welty, J.C. 1982. The life of birds. Saunders College Publishing, Philadelphia, Pennsylvania. 754 pp.

U. S. Department of the Interior, Fish and Wildlife Service. 1988. Management of Piping Plover on Toms Cove Hook. Environmental Assessment. Chincoteague National Wildlife Refuge. Chincoteague, Virginia. 67 pp.

U. S. Department of the Interior, Fish and Wildlife Service. 1992. Final Environmental Impact Statement for the Chincoteague National Wildlife Refuge Master Plan. Chincoteague National Wildlife Refuge. Chincoteague, Virginia. 259 pp.

U. S. Department of the Interior, Fish and Wildlife Service. 1993. Master Plan. Chincoteague National Wildlife Refuge. Chincoteague, Virginia. 125 pp.

U. S. Department of the Interior, Fish and Wildlife Service. 1993. Public Use Plan, Chincoteague National Wildlife Refuge. Chincoteague, Virginia. 96 pp.

U. S. Department of the Interior, Fish and Wildlife Service. 1990. Public Use Plan, Assawoman and Metompkin Divisions of the Chincoteague NWR. Chincoteague, Virginia. 25 pp.

U. S. Department of the Interior, Fish and Wildlife Service. 1990. Historical Use Survey Report, Assawoman and Metompkin Islands. Chincoteague, Virginia. 9pp.