

COMPATIBILITY DETERMINATION

Station Name: Chincoteague NWR
13, 1943

Date Established: May

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), and the conservation of endangered and 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 of Proposed Use: Research /Studies - Outside Organizations/Agencies/Universities

Prior to the construction of the bridge to Assateague Island in 1962, very little research or management study activity occurred on the refuge. The use of the refuge as an outdoor research laboratory was first documented with the initiation of the peregrine falcon banding program by the U.S. Army in 1970. Falcon research is now in its 24th year.

Research by various groups and agencies have been diverse. Research activities have ranged from broad scale investigations of a complete botanical survey of the refuge to habitat use, abundance, and distribution of neotropical migrants. Other studies have been concentrated on the refuge's endangered fox squirrel population, the exotic sika deer, and most recently, an investigation of the ecology of the deer tick and the incidence of Lyme's Disease on the refuge. In most instances, these studies have been conducted by educational institutions (colleges and universities) and with investigations having a duration of one to three years.

Anticipated Impacts on Refuge Purpose(s):

Many studies have demonstrated adverse effects of human disturbances, including researcher activity, on reproductive success of birds. Tremblay and Ellison (1979) documented that

visits to black-crowned night-heron colonies just before or during laying provoked abandonment of newly constructed nests or either predation of eggs or abandonment of eggs followed by predation. In some instances, investigator disturbance caused mortality of young. Ellison and Cleary (1978) studied the double-crested cormorant to assess the influence of investigators visiting colonies during the breeding season. They discovered that frequent visits caused nest abandonment, predation by gulls, and discouraged late nesting birds from settling in disturbed experimental colonies. However, Frederick and Collopy (1989) found no differences in reproductive parameters in nests of tricolored herons visited frequently (16 times) to those visited infrequently (7 times). Henson and Grant (1991) found trumpeter swans most sensitive to human activity on their breeding grounds. Other studies have documented human disturbance that disrupt feeding patterns of birds (Pfister et al. 1991) and nest site placement (Knight and Fitzner 1985). Based on data collected in the field, Erwin (1989) and Buckley and Buckley (1976) provided management guidelines to minimize disturbance to colonial nesting waterbirds by the general public and investigators.

By restricting this activity and monitoring researchers, impacts are expected to be minimal.

Determination: (Check One)

This use is compatible X This use is not compatible

The following stipulations will ensure compatibility:

Prior to initiation of any research and/or management studies on the refuge, the requesting agencies or organization is required to apply for a permit and submit a Research/Management Study Proposal as outlined in the Refuge Manual 4 RM 6. The study proposal requires an outline of the objectives, justification, and procedure of the study.

Priority of approval will be based on studies that contribute to the enhancement, protection, use, preservation, and management of native wildlife populations and their habitat.

Proposals that are privately funded or funded by other agencies will be approved at the refuge level where as those that require Service funds will be forwarded to the Regional or Washington Office for approval.

Approved research/study proposals will be issued a Special Use Permit with appropriate restrictions to lessen disturbance to wildlife, identify restricted areas, and other limits as needed.

Justification:

The Service encourages and supports research and management studies in order to provide scientific data upon which decisions regarding management of the refuge may be based. Allowing refuge approved research and management studies will provide valuable information to better manage the wildlife resources under the refuge's auspices.

Project Leader John D. Schroer, Refuge Manager July 27, 1994
(Name/Title/Signature/Date)

Review and Concurrence

(Name/Title/Signature/Date)

Name/Title/Signature/Date)

LITERATURE CITED

- Buckley, P. and F. Buckley. 1976. Guidelines for the protection and management of colonially nesting waterbirds. North Atlantic Regional Office. NPS. Boston, MA 54 pp.
- Ellison L. N. and L. Cleary. 1978. Effects of human disturbance on breeding of double-crested cormorants. *Auk* 95:510-517.
- Erwin, R. M. 1989. Responses to human intruders by birds nesting in colonies: Experimental results and management guidelines. *Col. Waterbirds* 12(1):104-108.
- Frederick, R. B. and M. W. Collopy. 1989. Researcher disturbance in colonies of wading birds: Effects of frequency of visit and egg-marking on reproductive parameters. *Col. Waterbirds*. 12(2):152-157.
- Henson, P. and T. A. Grant. 1991. The effects on human disturbance of trumpeter swan breeding behavior. *Wildl. Soc. Bull.* 19:248-257.
- Knight R. L. and R. E. Fitzner. 1985. Human disturbance and nest site placement in black-billed magpies. *J. Field Ornithol.* 56(2):153-157.
- 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.
- U. S. Fish and Wildlife Service. 1982. National Wildlife Refuge System - Refuge Manual Dept. of Interior, USFWS, Washington, D.C.
- Tremblay, J. and L. N. Ellison. 1979. Effects of human disturbance on breeding of black-crowned night-herons. *Auk* 96:364-369.