

## Compatibility Determination

**Station Name:** Chincoteague NWR

**Date Established:** May 13, 1943

**Establishing Authority:**

Migratory Bird Conservation Act

**Purpose(s) for which Established:**

For use as an inviolate sanctuary, or for any other management purpose for migratory birds.

**Description of Proposed Use:** Concessions (Guided tour - land)

The use of concession operated tours is covered in the station 1993 Public Use Plan, the 1992 Final Environmental Impact Statement for the Chincoteague National Wildlife Refuge Master Plan, and the 1993 Chincoteague National Wildlife Refuge Master Plan. These three documents are appended for additional information.

A concession operated interpretive cruise was initiated on June 21, 1969, by Island Cruises, Inc., to acquaint visitors with another aspect of the refuge and also give visitors a water view of Assateague Island. A concession operated land tour of the refuge was added in 1970 when 658 people took advantage of a guided tour into the interior of the refuge. The tour covered 13 miles round trip and was conducted in an open air bus which held 32 passengers. After two trips, the vehicle was screened in because of the severe insect problem. This "Wildlife Safari" was operated by local business man Lee Savage until April, 1972. For a short period (April - July, 1972) the interpretive tour was conducted by the refuge as a visitor service. On July 1, 1972, Island Cruises, Inc., was awarded this contract, conducting both the cruise and the safari. In addition to the interpreted cruise, clamming and fishing excursions were also offered to the public until the early 1980s when they were discontinued. The cruise and land safari continued under Island Cruises until 1994 when the safari contract was awarded to Assateague Island Tours. There were no bidders for the cruise. Consequently, it was discontinued.

The new concession contract limits the number of trips up the Service Road to the following:

Day after Labor Day through March - 52(once daily on weekends)

April to Memorial Day Weekend - 61(once daily)

Memorial Day Weekend through Labor Day Weekend - 300(three daily)

In general these are the maximum number of trips that can be made during the year. Additional trips may be authorized by the refuge manager. Fewer trips may also be conducted.

The land safari departs from the refuge boat launch parking area and travels the interior of the refuge a distance of approximately 15 miles round trip. During the tour a portion of nine refuge impoundments are passed. These impoundments range in size from six to 793 acres, totaling 1,689 acres. Total impounded water on the refuge amounts to 2,657 acres.

The goal of the refuge water management program is to manipulate water levels in the various impoundments to manage for threatened and endangered species, migrating and wintering waterfowl, shorebirds, and marsh and water birds. More specifically, the objectives of all impoundments except North Wash Flats impoundment are as follows:

- A. Maximize production of waterfowl food plants in the spring to have at least 75% plant coverage. Provide exposed moist soil conditions covering approximately 50% of each impoundment to provide feeding areas for shorebirds in the spring and fall migrations periods.
- B. Manipulate impoundment water levels to retard or prevent undesirable plant species (e.g. slat marsh fleabane, salt meadow grass, and common reed) from establishing or increasing within the impoundments.
- C. Gradually reflood the impoundments, as rainfall permits, to provide feeding and resting habitat for migrating and wintering waterfowl. Gradual reflooding in all impoundments to slowly increase the water level over a period of time (ranging from one to three months). This technique will prolong the availability of moist soil emergents for waterfowl use by gradually providing new feeding areas along the impoundment water edges.

Specific management objectives for the North Wash Flats impoundment include:

- A. Drawdown water levels in early spring to provide nesting areas for piping plovers and least terns to prevent nests lost to flooding. Pump water out of the impoundment during spring rains to minimize sheet water out of the impoundment during spring rains to minimize sheet water formation which could flood nest.
- B. Provide some habitat for the spring shorebird migration.
- C. Partially reflood in summer (mid July) to provide feeding and resting area for fall migrating shore birds and as a peregrine falcon feeding and resting area.
- D. Provide habitat for wintering waterfowl during late fall and winter.

#### **Anticipated Impacts on Refuge Purpose:**

The proposed use will intermittently interrupt feeding, resting, preening, and general maintenance activities of migratory birds utilizing the impoundments along the tour route.

Conflicts arise when migratory birds and humans are present in the same areas (Boyle and Samson 1985). Response of wildlife to human activities includes: departure from site (Owen 1973, Burger 1981, Kaiser and Fritzell 1984, Korschgen et al. 1985, Henson and Grant 1991, Kahl 1991, Klein 1993), use of sub-optimal habitat (Erwin 1980, Williams and Forbes 1980), altered behavior (Burger 1981, Korschgen et al. 1985, Morton et al. 1989, Ward and Stehn 1989, Havera et al. 1992, Klein 1993), and an increase in energy expenditure (Morton et al. 1989, Belanger and Bedard 1990). Altered behavior that increases energy expenditure, can cause a decline in body condition (Morton et al. 1989, Belanger and Bedard 1990, Morton 1991). Waterfowl in poor condition experienced higher mortality rates (Haramis et al. 1986, Hepp et al. 1986). Body condition and lipid reserves during winter and spring migration can affect reproductive success of waterfowl (Ankney and MacInnes 1978, Raveling 1979, Krapu 1981).

On Back Bay NWR Laskowski et al. (1993), studied behavior of snowy egrets, female mallards, and greater yellowlegs within 91.4 meters of impoundment dikes used by the general public. Behavior of snowy egrets was recorded during August and September 1992 to represent post-breeding marsh and wading birds. Mallards were monitored during migration (November 1992) and during the winter January (1993). Greater yellowlegs' behavior was observed during the northward shorebird migration (May 1993). Behavior was monitored during the typical public activities of walking, bicycling, and driving a vehicle past the sample sites.

The study found that snowy egret resting behavior decreased and alert behavior increased in the presence of humans. Preening decreased when humans were present, but this change was not significant. Feeding, walk/swim, and flight behaviors were not related to human presence. Female mallards in November increased feeding, preening and alert behaviors in the presence of humans. Resting, walk/swim, and flight behavior were not influenced by human presence. In January, female mallard resting and preening behavior were not influenced by the presence of humans. However, feeding, alert, walk/swim, and flight behaviors were related to human presence. Greater yellowlegs increased alert behavior in the presence of humans. No other behaviors were affected. Maintenance behavior (combined feeding, resting, and preening) decreased when humans were present for all study species. In addition, this decrease was accompanied by an increase in escape behavior by each species. Maintenance behavior of mallards in January decreased in the presence of vehicles and combined disturbance. Escape behavior increased when vehicles were present. Maintenance behavior of greater yellowlegs declined when bicycles and vehicles were present but was not influenced by pedestrian presence. The presence of bicycles and vehicles increased escape behavior. Snowy egrets and female mallards increased movement between subplots and to areas within the study area but further from the disturbance.

Kelin (1993), Freddy et al. (1986) and Vaske (1983) found out-of-vehicle activities to be more disturbing than vehicular traffic. Klein (1989), in a disturbance study at J. N. "Ding" Darling National Wildlife Refuge, found that approaching birds on foot was clearly the most disruptive activity of visitors to the refuge.

Land vehicle tours on the refuge will most affect wading birds during the summer months and shorebirds during late summer migration (late August through early September) when up to three trips per day may be scheduled. Typically during the summer months, impoundments along the tour route are fairly dry and therefore support few migratory birds, resulting in minimal disturbance. Wading bird populations peaked in impoundments along the route with an average population of 620 birds during June - August, 1993. Peak shorebird populations along the tour route during the fall migration (August - September) for the period 1990-1993 averaged approximately 3,600 birds. During Spring migration, the average peak shorebird population for the period 1990 - 1993 averaged 5,180. During this period (late April - early June) the tour is limited to one trip daily except after Memorial Day when the schedule can expand to three trips daily.

Waterfowl populations will be most affected during the months of November through March. During these months for the period 1990 - 1993, the average peak population of waterfowl was 10,750 birds. During this time of the year the land tour vehicle is limited to one trip per day on Saturdays and Sundays; therefore, disturbance is expected to be minimal.

**Determination:** (Check One)

This use is compatible  X  This use is not compatible \_\_\_\_\_

**The following stipulations are required to ensure compatibility:**

The concession operation will follow a designated route.

The scheduled number of trips as specified in the contract will be followed, so as to lessen impacts during critical periods of the year.

Passengers will not be permitted to exit the tour vehicle to gain a closer look at wildlife.

The disturbance caused by this activity will be monitored, and if needed, modifications will be made to lessen the impact to migratory birds.

**Justification:**

Although minor disturbance to migratory birds will occur along the tour route only a portion of the periphery of nine impoundments will be affected. Birds may move away from this edge, but ample area exists in the affected impoundments as well as other impoundments that will provide suitable areas for feeding, resting, and general maintenance. The limited schedule of tours will minimize impacts. In the North Wash Flats ample distance from the peregrine falcon nesting tower and the piping plover nesting area exists to prevent any disturbance from occurring.

If all tours were carried out according to schedule and were at capacity, a potential exists for over 20,000 people to experience an interpreted tour into the heart of the refuge. From this

experience they will have a better understanding of the Fish and Wildlife Service and the importance of places like Chincoteague National Wildlife Refuge in the protection and management of the nation's wildlife resources. Such an understanding will increase the public support of refuge programs.

**Prepared By:** John D. Schroer, Refuge Manager July 7, 1994  
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