

AMERICAN WHITE PELICAN (*Pelecanus erythrorhynchos*)

Associated Species: Other species that may respond similarly to habitat components used by the American White Pelican are: California Gull, Caspian Tern, and Double-crested Cormorant for nesting habitat. Other species that may use the same foraging habitat include Western and Clark's Grebes, Pied-billed Grebe, Forster's Tern, Great Blue Heron, Black-crowned Night Heron, Snowy and Cattle Egret and Common Merganser.

Distribution: The American White Pelican occurs mainly in western and southern portions of North America, breeding inland in colonies on remote islands and wintering along warm southern coasts. Pelicans migrate from northern breeding areas annually but are year round residents of Texas and Mexico. Populations breeding west of the Rocky Mountains move southwest into California and due south to the west coast and central states of Mexico. Spring returning occurs in late February in Nevada and early March in Utah. Further north in Yellowstone and Canada, birds arrive in April and May. Autumnal departure seems to be drawn out from October through December. In Utah, three factors seem to play a role when birds depart, the opening of the fall waterfowl hunting season, availability of fisheries, and ice up. In Utah, the only known breeding colonies are located in the northern portions of the state, specifically within the Utah Lake/Great Salt Lake ecological complex. Gunnison Island persists as the only colony nesting site for American White Pelican in Utah and currently ranks as one of the largest breeding colonies in North America (Parrish et al. 2002). During spring migration, breeding season and fall staging and migration periods, American White Pelican can be observed at many reservoirs throughout the state.

Ecology (Evans and Knopf 1993): American White Pelicans are highly social. Nesting in colonies, using cooperative flight and foraging strategies, pelicans are among the most gregarious of avian species. These birds are often observed sleeping, roosting and sun bathing together (Parrish et al. 2002). They are monogamous. Pair formation occurs after arrival in Utah, the last week in March. Nest building occurs in less than 5 days. For the colony as a whole, nest initiation extends over three months in Utah. A two egg clutch is produced within a week of nest completion with an incubation period of 30 days. Nestling attendance by a parent occurs to three weeks of age, after which young congregate into pods of young or creches that often are mobile. Breeding begins at three years of age. Fledgling rates vary with type of cover near nest, range is from 0.89 to 0.34 young fledged per nest. Fledgling success decreases as nesting dates become later (one chick per nest in early April to about 0.4 per nest for eggs laid in June, Utah). There is significant mortality of second eggs or second young. In Utah, both young fledged at 9.7 percent and 9.4 percent of 195 and 374 nests (Knopf 1979 in Parrish et al. 2002). Forty-one percent mortality from fledgling through first year, 16 percent in second year. Maximum reported life span is 26.4 years.

Primary food is fish. American White Pelican are diurnal and nocturnal foragers. Capture rates are higher during the day and at the leading edge of foraging flocks, than at night. White Pelicans obtain their food by dipping their bills into the water and scooping up prey. They do not dive, unlike Brown Pelicans. American White Pelican are widely noted for their habit of cooperative foraging. Coordinated swimming groups encircle fish or drive them into the

shallows where they can be more easily caught with synchronized bill dipping. Traditional foraging areas for Gunnison Island adults have occurred to the east of the colony on Bear River Bay, including the Refuge and east and southeast at state waterfowl management areas.

Habitat Requirements: Preferred nesting habitats are islands, especially associated with fresh water lakes. Colonial nest sites are usually islands with flat or low gradient slopes so adults can access nest by flying in. Gravel or sandy, unconsolidated substrate are preferred for nesting. Foraging sites are shallow marshes, rivers, and lake edges, where mainly small fish of little commercial value are taken. Breeding colonies are often over 30 miles from foraging areas. Fish are often sought in water less than 8 feet deep. Pelicans forage mainly on “rough” fish often small, less than one-half their bill length.

Seasonal Use/Refuge Habitats: The Refuge is likely the most important or key foraging location for the Great Salt Lake breeding population (Frank Howe, Utah Division of Wildlife Resources, pers. comm.). These birds are present from March through November and use deep emergent and submergent marshes for feeding and loafing (Tables 5 and 6). Main use is in Unit 2, canals, and that part of Willard Spur within the Refuge boundary (parts of Units 6,7 and 8). Islands are also used for loafing. Use of the Refuge by breeding birds peaks the last week of June. The pelicans readily fly over the Promontory Mountain range from their breeding colony on Gunnison Island to the freshwater marshes of the Refuge where there is an abundant supply of carp and gizzard shad, *Dorosoma cepedianam*.

Habitat and/or Population Objectives: Though the species continental population has recently stabilized, it remains potentially vulnerable to habitat degradation and disturbance at colony sites. American White Pelican is considered a Priority Species in the Utah Partners in Flight Plan (Parrish et al. 2002) and a species of High Concern in the Intermountain West Waterbird Plan (Ivey et al. 2003 *in press*).

Utah objective is to *Maintain breeding and foraging habitat within the Great Salt Lake ecosystem so as to provide conditions that allow American White Pelican breeding adult populations to occur at the twenty-five year average of 10,120 per annum.*

Population Objective: Maintain summer foraging habitat to support at least 20percent of American White Pelican breeding population, based on the annual estimates (Division of Wildlife Resources) (recognizing some birds utilizing the Refuge are nonbreeders).

Habitat Objective: Maintain 2,800 acres of deep emergent marsh, 2,500 acres of deep submergent marsh, and 6,600 acres of mid-depth emergent marsh to provide water depths suitable for foraging American White Pelican and where fishery populations are abundant (April-October).

Habitat Management Strategy: See Section V. Habitat Management Strategies: Wetlands.

Refuge Specific Monitoring Needs:

1. Determine number of American White Pelican utilizing Refuge during breeding and migration seasons.
2. Determine relative abundance and age classes (sizes) of carp and shad in Refuge units.
3. Participate in Utah Division of Wildlife Resources's distribution surveys of American White Pelican in western and southern Utah which emphasizes spring, fall and non-breeding migrants.