CINNAMON TEAL (Anas cyanoptera septentrionalium)

Associated Species: Other bird species that may respond similarly to habitat components used by the Cinnamon Teal are: Mallard, Gadwall, Northern Pintail, Green-winged Teal, Blue-winged Teal, Northern Shoveler, White-faced Ibis, Long-billed Curlew, Willet, Wilson's Phalarope, Western Meadowlark, Northern Harrier, Short-eared Owl, Horned Lark, Vesper and Savannah Sparrow.

Distribution: Though there are five subspecies only one, *A. c. septentrionalium* breeds in North America. This subspecies breeds primarily in the Great Basin and western intermountain regions of the U.S. and winters mainly on coastal marshes and interior wetlands in Mexico. Over half of the total North American population is said to breed in the marshes east and north of the Great Salt Lake in Utah (Bellrose 1980). The Cinnamon Teal rarely breeds in the midcontinent prairie-parkland region. Important breeding areas include Great Salt Lake and surrounding marshes in Utah; Malheur Lake, Summer Lake, and Klamath marshes in Oregon, and Ruby Lake and Carson Sink in Nevada.

Results of a five-year survey of the Great Salt Lake showed a mean population of 16,795 Cinnamon Teal for the period August-September (Paul and Manning 2002). The mean population for the Refuge during that same survey was 3,609.

Ecology (Gammonley 1996): Cinnamon Teal are seasonally monogamous, with most pairs forming before arriving on breeding areas. Females lay 4 to 16 eggs in a well-concealed nest near water in rushes, sedges, and grasses, or sometimes over water in dense bulrushes or cattails. Nests are often placed below matted, dead stems of vegetation so that the nest is completely concealed on all sides and above; female approaches through tunnels in vegetation. After 21-25 days of incubation, chicks are hatched precocial and down-covered. Within 24 hours the chicks will follow the hen directly to nearest water. Males remain with their mates until late incubation, and guard females and sometimes sites within wetlands near the nest. After breeding, molting males form small flocks on nearby wetlands or perform molt migrations to large marshes with abundant emergent vegetation. Females perform all brood-rearing duties, and usually remain with their young through fledgling. Hens with broods use seasonal and semi-permanent wetlands with abundant emergent cover. Broods often feed over dense submergent vegetation in deeper portions of semipermanent wetlands. Breeding period in Utah is late April to late July.

An omnivorous species, the Cinnamon Teal feeds primarily by dabbling in shallowly flooded zones (less than 8 inches) along wetland margins; in deeper water, feeds at surface or in emergent or submergent vegetation. Seeds of hardstem bulrush, alkali bulrush, and smartweed, *Polygonum* spp., are common in the diet in all seasons and provide a high-energy food source. To meet the protein costs associated with egg production, females increase their consumption of aquatic insects (Chironomidae and Corixidae), snails (Gastropods), and zooplankton (Cladocera) from spring migration through laying.

Habitat Requirements: Cinnamon Teal use freshwater (including highly alkaline) seasonal and semipermanent wetlands of various sizes including large marsh systems, natural basins, reservoirs, sluggish streams, ditches, and stock ponds. Appears to prefer basins with well-developed stands of emergent vegetation; uses emergent zones to a greater extent than open-water portions of basins. Nests near water in low, dense perennial vegetation such as Baltic rush, *Juncus balticus*, saltgrass, *Distichlis spicata,* spikerush, *Eleocharis macrostachya,* tufted hairgrass, *Deschampsia caespitosa*, western wheatgrass, *Agropyron smithii,* foxtail barley, *Hordeum jubatum*, and various forbs; less often at base of greasewood, *Sarcobatus vermiculatus* and other shrubs and over emergent marsh vegetation. Feeds primarily by dabbling in shallowly flooded zones (less than 8 inches) along wetland margins.

Seasonal Use/Refuge Habitats: Cinnamon Teal nest in dike and salt meadow habitats and utilize shallow emergent, mid-depth emergent and shallow submergent Refuge habitats for foraging and molting (Table 5). They are present on the Refuge from March-November (Table 6). More details will be added to this section in subsequent updates as time permits. Updates may include which Refuge units the species has historically and currently used and timing of use (arrival, late and peak dates).

Habitat and/or Population Objectives: An accurate continental population estimate is unavailable though data suggests a population size of 260,000-300,000. This estimate makes the Cinnamon Teal one of the least abundant dabbling ducks in North America (Gammonley 1996).

Population Objective: 1) Support 900 pair of breeding Cinnamon Teal on the Refuge; 2) Support staging/molting population at 8,200 (August).

Habitat Objectives: 1) Maintain 791 acres of dikes and 2,600 acres of salt meadow habitat throughout the nesting season (April-July) for breeding habitat.
2) Provide 8,600 acres of shallow emergent (2-8 inches) habitat for foraging, brood rearing and molting Cinnamon Teal (June-August).

Habitat Management Strategy: See Section V. Habitat Management Strategies: Dikes, Wetlands and Salt Meadow.

Research and Monitoring Needs:

1. Develop protocols to accurately determine nesting density, distribution, and nesting success on the Refuge.
2. Determine factors limiting nesting and reproductive success (i.e. excessive predation rates, interspecific competition, etc.) on the Refuge.
3. Conduct brood surveys to estimate total Cinnamon Teal production.

Landscape Scale Research Needs (Gammonley 1996):

Determine nesting, brooding, feeding and staging site selection criteria that influences survival and reproductive success.