

## Trumpeter Swan - *Cygnus buccinator*

Abundance: Uncommon

Status: NSS2 (Ba)

NatureServe: G4 S2

Population Status: population size and distribution are restricted but extirpation is not imminent; number of nesting pairs over the past decade has averaged fewer than 20 statewide and total number of resident adults is around 100

Limiting Factor: Habitat (and Human Activity): limiting factors are severe; early spring pre-nesting habitat and nesting habitat is extremely limited and decreasing as a result of significant on-going drought conditions; increasing competition for available winter habitat from a growing number of wintering migrant Canadian swans; highly sensitive to human disturbance during nesting

Comment:

### Introduction

The Trumpeter Swan, though originally distributed across most of North America, currently occurs locally from Alaska and interior Canada, south to Oregon and east to Michigan. The species was nearly exterminated by the early 1900's as a result of the commercial skin trade, unregulated hunting and habitat loss. By the 1930's, only 60-70 resident birds were thought to remain in the Yellowstone area with a similar number of winter migrants from interior Canada. The number of Tri-State Area swans, inhabiting parts of Wyoming, Montana, and Idaho, increased to over 500 by the 1950s as a result of conservation and management efforts, but numbers have fluctuated since then. In the 1950s a substantial, disjunct breeding population was discovered in Alaska that winters along the Pacific Coast south to Oregon. Over the past 20 years, the number of resident adults in western Wyoming has averaged around 100 birds. Resident nesting pairs occur only in the western part of the state in the Snake and Green River drainages. The nesting population in the Green River basin was established through a range expansion project using 75 captive-raised swans released from 1994-2001. The number of Canadian swans wintering in the Tri-state area has dramatically increased over the past 30 years, and currently between 600-1000 swans winter in Wyoming. Major wintering areas include the Snake, Salt and Green Rivers (south of Fontenelle Dam) but small numbers of swans occur throughout the state. Trumpeter swans in Wyoming are considered for management purposes part of the Tri-state Area Flocks of the U.S. segment of the Rocky Mountain Population of Trumpeter Swans, and managed and monitored through the Pacific Flyway, an coordinated interagency effort involving state and federal agencies.

### Habitat

The Trumpeter Swan inhabits isolated shallow marshes, ponds, lakes, and river oxbows located mostly away from human disturbance. For nesting, it prefers stable, quiet, and shallow waters usually greater than 10 acres in size with small islands, muskrat houses, or dense emergent vegetation which provide nesting and loafing sites. Nutrient-rich waters, with dense aquatic plant and invertebrate growth, provide the most suitable habitat. Adequate forage in the pre-nesting period (April to May) is critical for nest initiation and success. In winter, open water habitat with extensive beds of aquatic plants is required. In Wyoming, trumpeters are restricted in winter to sites where geothermal waters, springs, or outflow from dams maintain ice-free areas of open shallow water.

## Problems

- h A narrow range of habitat requirements combined with a high degree of site fidelity increases its vulnerability to impacts at traditional breeding sites.
- h Additional shallow water spring and summer wetland habitat is needed to provide adequate nesting and foraging habitat for swans in the Green River basin expansion area to support the growing swan population.
- h The increasing number of migrant swans from Canada wintering in the Greater Yellowstone Area may be out-competing resident swans for the limited amount of available winter and early spring foraging habitat. The availability of early spring habitat during the pre-nesting period appears to be a major limiting factor determining reproductive success of swans nesting in Wyoming.
- h Growth of the Wyoming nesting population of swans in the core Snake River area appears stagnant or declining. The nesting population in Yellowstone National Park has declined to only a few pairs. Pairs are not expanding into adjacent areas.
- h Collisions with power lines and fences and illegal shooting are responsible for nearly 60% of Trumpeter Swan deaths in Wyoming.
- h Although productivity of Trumpeter Swans in Wyoming has increased over the past six years, recruitment of subadults into the nesting population remains low, especially in the core Snake River area.
- h Many of the historical nesting sites are not occupied by nesting pairs or are not productive.
- h Human activity in swan habitat, including housing developments, tourism, and recreation, is increasing dramatically.

## Conservation Actions

- h Conduct habitat surveys of potential nesting and transitional habitat in the Green, Salt, and Snake River drainages, and work with private landowners and agencies to enhance and protect suitable habitat.
- h Continue to coordinate with the Greater Yellowstone Trumpeter Swan Working Group, which includes Yellowstone and Grand Teton national parks and wildlife agencies in Montana and Idaho, to promote and conduct swan research and management.
- h Continue to research and monitor early spring nesting and winter habitat use.
- h Reduce swan mortality from illegal shooting and collisions with power lines and fences.
- h Continue to reintroduce swans into suitable habitats that promote migration to new winter habitat.
- h Continue to work closely with regional land trusts to identify potential habitat, obtain conservation easements, and develop wetland management plans.
- h Conduct educational programs, wetland seminars, and field trips with local schools in an effort to involve the public in swan conservation.
- h Investigate movements and mortality of sub-adult, non-nesting swans to determine habitat needs and factors limiting recruitment of sub-adults into the nesting population.
- h Investigate if selenium and lead may be factors contributing to poor swan productivity in certain areas in Wyoming.

## Monitoring/Research

Annual monitoring should be continued in coordination with Montana and Idaho through the Pacific Flyway for the Rocky Mountain Population of Trumpeter Swans to determine 1) total wintering population, and 2) Tri-state resident population including nest occupancy, productivity, and survival of young.

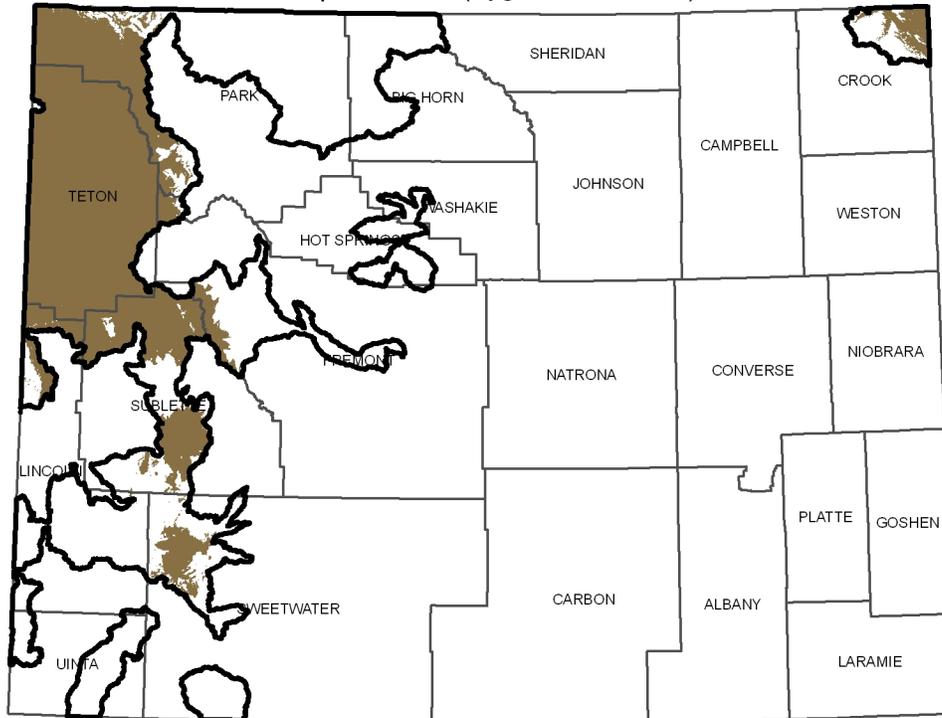
Priority areas for research include habitat assessment for range expansion efforts, wetland enhancement and restoration projects, climate change effects on wetland habitat, assessment of availability of high quality habitat in the pre-nesting period, and determining factors influencing recruitment and productivity. Coordinated research projects within the Tri-State Area would be of most value.

## Recent Developments

The number of nesting pairs continues to increase in the Green River basin expansion area; the department is working with landowners and other agencies to develop additional wetland summer habitat for swans. In 2009, we completed three projects and constructed over 40 acres of shallow water ponds with funding provided by Wyoming Wildlife and Natural Resource Trust, WY Landscape Conservation Initiative, NRCS and the FWS Partnership program. Additional projects are currently being planned.

## References

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SOURCE: Digital maps of ranges and predicted distributions for Wyoming Species of Greatest Conservation Need: April 2010. Wyoming Natural Diversity Database. University of Wyoming, Laramie, Wyoming. Note that brown indicates the predicted distribution of the species; heavy black lines indicate outermost boundaries of possible occurrence.