



CREATING A SWAN HABITAT IN A
SAGEBRUSH SEA IS ANYTHING BUT

BLACK & WHITE

STORY BY
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Wildlife biologists classify species into two broad categories: generalists such as the great horned owl can flourish in a wide variety of habitats compared to specialists which have very specific habitat needs. The trumpeter swan, the largest waterfowl in North America with a wingspan reaching 7 feet, is also one of most specialized birds in Wyoming.

Swans depend exclusively on shallow wetlands year-round. In mostly arid Wyoming, such wetlands are scarce in summer, let alone during long, frigid winters. Recent droughts have also taken their toll with an obvious reduction in the number and size of wetlands throughout the state. Yet since 2005, the number of resident swans that live year-round in Wyoming has more than doubled. In September 2015, we documented a record high number of 212 adult and subadult swans, birds at least a year old, in Wyoming outside of Yellowstone National Park. The growth in the state's swan population reflects the success of a long-term Green River range expansion project by Wyoming Game and Fish Department and many partners. Since 2004, department efforts have focused on creating and restoring additional wetland habitat in the Green River Basin.

But first, why does this magnificent white bird require help in Wyoming? A bit of history is needed. Wyoming resident swans are part of a small remnant population called the Tri-State or Greater Yellowstone flock that has persisted in western Wyoming, eastern Idaho and southwestern Montana since the early 1900s. At that time, the birds were thought to be the only trumpeter swans remaining in North America. Conservation actions began in the 1930s to save the species from extinction. The first step was to create Red Rock Lakes National Wildlife Refuge in Montana where the flock was fed in the winter and protected from hunting and other disturbances. This original Tri-State flock of approximately 70 swans flourished and grew to more than 500 by the 1950s. In that same decade, another completely separate and larger nesting flock was discovered in Alaska that wintered along the West Coast in British Columbia and Washington. Trumpeter swans as a species appeared to be secure. This was one of the great conservation success stories of that era.

By the 1960s, however, growth of the resident Greater Yellowstone population began to falter and the number of breeding age adults and productivity declined from previous peaks. The main reason appeared to be crowding at the Red Rocks refuge where most of the resident swans continue to nest. A secondary factor seemed to be the growing number of swans that migrated from interior Canada to winter in the Greater Yellowstone area. The underlying cause for both of these trends highlight a basic attribute of swan behavior: Swans are traditionalists. They are the only waterfowl in which the young, or cygnets, stay with their parents the entire first year. Cygnets learn where to sum-



The trumpeter swan is a specialist species that depends on shallow-water wetland habitats throughout the year. Photo by Mark Gocke

mer and winter from adults, and once established, these patterns stick. Swans that had a tradition of migrating farther south were eliminated much earlier by fur-traders and European settlers. So our resident swans ended up with one of the most restricted distributions of any bird species in the lower 48 states; they crowded into an area less than 100 miles across both in summer and winter. And in winter they had to share this same area with an increasing number of swans from Canada.

By the mid-1980s, the situation for resident trumpeter swans in Wyoming and the Greater Yellowstone area was looking a bit precarious. Wyoming had only 60-70 adult birds. These swans lived year-round in the high-elevation Snake River area in Teton County and Yellowstone National Park. Dave Lockman, the department's waterfowl biologist for western Wyoming, initiated the first Wyoming trumpeter swan study in 1985. Working with colleagues in the Pacific Flyway, he also was the principle

author of the first regional management plan for the Tri-State flock. These biologists understood that it was critical to expand both the number and distribution of nesting swans if this regional

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nesting population was to persist.

But how to get swans to move to new locations? After some years of experimentation, the answer proved to be releasing captive-raised swans into new areas without adults. Previous habitat surveys indicated that the Green River stays open in the winter and offered both excellent summer and winter habitat.

With Lockman moving to Cheyenne in 1989, the department's Nongame Program stepped up to carry on the range expansion project. We released 75 swans at selected sites around Pinedale from 1994 to 2002. The captive-raised swans were provided by the nonprofit Wyoming Wetlands Society in Jackson founded and directed by Bill Long, a veteran department game warden. By 2003, the first goal was achieved: establishing 10 nesting pairs in the Green River Basin. Releasing captive-raised swans ceased at that time and we shifted to focus on creating additional summer habitat for this growing population.

Creating swan wetlands proved at first to be a daunting task. Swans require large ponds ranging from 8 to 10 acres with depths less than 3.5 feet, and little human disturbance. For nesting, swans also need islands, and most importantly, abundant aquatic vegetation. Raising a family of four cygnets until the young can fly, about 100 days after hatching, requires around 6 tons of vegetation.

First we needed to find landowners who wanted wild swans and had the potential habitat to support them. Then we had to obtain funding. There were some grants that could provide funding for wetland restoration and construction, but they required writing a proposal based on a costly technical plan and accurate expense budget. What a Catch-22. We needed money to develop project plans to obtain grants, but funding for initial planning was not readily available. Both state and federal grants also required matching funds from other sources. How were we to get the ball, or rather money, rolling?

We were lucky that the swan project blossomed during what proved to be a dynamic time for new funding sources for wildlife conservation. The first break was the creation of the U.S. Fish and Wildlife Service's State Wildlife Grant Program in 2002. This program provides an annual appropriation for states to benefit species of greatest conservation needs. In 2003, we were awarded a grant to develop a landscape-level wetland plan for swan habitat in the Green River Basin. It was also fortuitous that the newly retired Lockman was seeking contract work. He spent two very busy summers assessing potential sites, working closely with landowners to develop plans for ponds that would also fit in with ongoing ranch operations. His final project report included detailed plans for 22 possible projects on 13 ranches.

Now we had plans, but how to obtain funding for wetland development? After more than a year of searching without luck, the tide turned. In 2005, the Wy-



Homestead Pond near Boulder saw construction for swan habitat from 2013 to 2014.

Photo by Susan Patla

SWAN PROJECTS

Rimfire Ranch, Daniel

Fall 2008 to fall 2010
4 ponds and 20 acres

Friendly Pond, Big Piney

Fall 2008
6 acres

Duck Creek Pond, Pinedale

Fall 2009 to spring 2010
9 acres

Circle Nine Ranch, Boulder

Winter 2010 to summer 2011
6 acres

Homestead Pond, Boulder

Fall 2013 to summer 2014
12 acres

Wild Red Project, Daniel

Fall 2015 to spring 2016
7 acres





oming Legislature with the support of Gov. Dave Freudenthal, created the Wyoming Wildlife and Natural Resource Trust. In June 2007, in partnership with the Natural Resource Conservation Service's Pinedale office, we received our first swan habitat grant from the trust to build the 10-acre Duck Creek project south of Pinedale.

An additional source of federal funding appeared in 2007 with the creation of the Wyoming Landscape Conservation Initiative (WLCI). The purpose of this multi-agency effort is to provide money for projects in southwestern Wyoming to enhance wildlife habitat while still allowing responsible energy development. Late in 2007, the Bureau of Land Management received its first appropriation for on-the-ground projects. Our proposal to build four wetland ponds on the Rimfire Ranch near Daniel was ready to go. Matching funds were obtained for this project through the Natural Resource Trust. Work on swan habitat projects began to roll. Through 2015, more than \$1,000,000 has been raised through the landscape initiative and natural resource trust for wetland projects in the Green River Basin.

An additional funding coup occurred in 2012 with a successful application to the federal North American Wetland Conservation Act, the most prestigious program for wetland grants in the country. The department, in partnership with The Conservation Fund and the U.S. Fish and Wildlife Service received an award for conservation easements and wetland and riparian projects in the Upper Green River area. Our success with earlier projects proved essential in convincing grant reviewers of the value of wetland habitat in Wyoming.

All in all, funding for 10 ponds on

A trumpeter swan swims through Flat Creek at the elk refuge near Jackson.

Photo by Jon LeVasseur

IN 2005, THE WYOMING LEGISLATURE WITH THE SUPPORT OF GOV. DAVE FREUDENTHAL, CREATED THE WYOMING WILDLIFE AND NATURAL RESOURCE TRUST.

five ranches has been obtained, with nine ponds constructed. This has accounted for 60 acres of new wetland habitat through 2015. Though it takes three to five years to establish adequate aquatic vegetation for nesting swans, wildlife response has been almost immediate once a pond is filled. In addition to swans, which have been observed at all



As North America's largest waterfowl, trumpeter swans can weigh up to 28 pounds with wingspans up to 7 feet.

Photo by Diana LeVasseur

project ponds, ducks, geese, shorebirds, herons, sage grouse, raptors, moose, muskrats and pronghorn have all benefited from these new sources of water and vegetation. But the greatest reward is that swans have established nests at three project sites.

There is much to celebrate—but certainly more work to do. The number of resident adult swans in the state has more than doubled. The increase in distribution of nesting pairs is even more striking. Swans can now be found nesting in the Green River Basin from the Upper Green River pothole country south of Union Pass down to Seedska-dee National Wildlife Refuge, 30 miles north of the city of Green River. The number of nests and young produced in the new expansion area now exceeds the core area near Jackson. Continuation of wetland project work in both expansion and core areas in Wyoming will help keep the trumpeter swan population growing and viable for future generations of citizens. A view of a white swan is one that never fails to arouse wonder and joy.

—Susan Patla has served as the department's nongame wildlife biologist in the Jackson and Pinedale regions since December 1998. She received the very prestigious Craighead Wildlife Conservation Award in 2014.

HELPING HANDS

In addition to the landowners who generously provided both enthusiasm and suitable sites for pond construction, Susan Patla cites the following key players in the success of the trumpeter swan range expansion:

- Dave Lockman — retired western Wyoming waterfowl and wildlife biologist
- Jack Doyle — late civil engineer from Pinedale
- Luke Lynch — late Wyoming director of The Conservation Fund
- Reneé Dana — retired Wyoming Landscape Conservation Initiative coordinator
- Bob Budd — Wyoming Wildlife and Natural Resources Trust
- Bill Long — Wyoming Wetlands Society
- Jennifer Heyward — Natural Resources and Conservation Service
- Mark Hogan and Dave Kimble — Fish and Wildlife Partners Program
- Mark Noble — Noble Construction in Pinedale
- Rob Doyle and Brian Remlinger — Alder Environmental in Jackson
- Holly Copeland — The Nature Conservancy
- Bob Oakleaf — retired Game and Fish Nongame Program supervisor
- Bureau of Land Management staff