As North America's biggest native waterfowl, trumpeter swans can reach 32 pounds with wingspans to eight feet. Getting airborne requires a lumbering takeoff along a 100-yard runway. Despite their size, this once-endangered, recovering species is as elegant as any swan, with a graceful neck and snowy plumage. Power lines near their wetland habitats pose collision hazards, but can be significantly reduced through use of bird diverters—devices attached to power lines to make them more visible.

Encore of the Trumpeter

STORY AND PHOTOS BY *KRISTIE BURNS*

The comeback of trumpeter swans took wetland recovery and tremendous effort, and this story ends with a pleasant, unexpected surprise.

Dave Hoffman, a Clear Lake-based DNR wildlife technician, describes how a trumpeter swan with newly hatched cygnets was dramatically saved from painful injury—or death—by the placement of diverters on some power lines.

"There were some younger swans that flew to the north, and a male guarding his young shot up to chase the younger ones off. As he was coming back, he headed right toward the power lines. He got close and all of a sudden he just went straight up and over and just dropped straight down into the wetlands. He saw they were there and avoided them."

Cob, another trumpeter swan, was not so lucky. Twelve years ago he flew straight into a set of power lines and was found with a broken wing, unable to fly. His wing had to be amputated, which almost meant the end of his life. However, his surprise comeback shows how the efforts of many individuals can turn an assumed ending into a new beginning that parallels the journey of the entire trumpeter swan population itself. The story of Cob and trumpeter swans in general is a story about a wildlife recovery that was unexpected, water quality, wetland restoration, and how individuals can make a difference.

Back in 1932, the prospects for trumpeter swans

looked as dim as injured Cob's chances. At the time, only 69 swans were believed to have survived extirpation in the entire United States, and all of those were near Yellowstone Park. The Midwest Interior Region, which includes Iowa, did not have any trumpeters and wasn't even considered to have viable wetland habitat. Just as Cob's wing was removed, modern development had amputated the habitat of trumpeter swans from all regions where they once thrived.

Most trumpeters over the years had befallen a similar fate as Cob—victims of human development. Today, power lines and lead poisoning, illegal shootings and disease kill the majority of swans. However, in the 1800s, market hunting and wetland drainage drastically reduced their numbers. Being the largest waterfowl in North America—weighing up to 32 pounds and having an 8-foot wing span—they were in demand for meat as well as warm feathers for comforters, mattresses, jackets, hats and pillows. And like Cob, their comeback was hindered by habitat loss.

Where was Cob to go? What can one do with a one-winged swan? Was their hope of bringing back trumpeters swans when most of their habitat had been drained away for farmland and commercial or housing developments? By 1930, an estimated 95 percent of wetlands in Iowa was drained—prairie lost too—making Iowa officially the most ecologically altered state in the nation.

In both cases, the solution started with a few very persistent people.

In the early 2000s, Shannon Jensen, curator at the Alaska Zoo, was eager to get involved in a trumpeter restoration project. But, it wasn't easy to find swans for the zoo, and getting them involved a lot of paperwork, official documents, legwork, travel and creativity. It didn't deter Jensen. She looked for opportunities until she found her chance. She describes the moment Cob was given a home: "I was going to pick up a camel from the Minnesota Zoo, and at the same time I contacted the Trumpeter Swan Society. They located swans in Iowa in rehab. So they drove them to the Minnesota Zoo and the zoo held them for a couple of days until I could get them."

She not only gave Cob a home during this trip, but also Pen—a female trumpeter—found with a broken wing beneath a power line near Clear Lake by Hoffman and sent to rehab a year earlier. Pen was saved by the ISU Wildlife Care Clinic in Ames. Hoffman says, "without them amputating the broken wing she would have been euthanized."

This same persistence started Iowa's trumpeter swan restoration in 1992. Retired DNR biologist Ron Andrews says, "if you look at the history of trumpeter swans, they supposedly required large wetland complexes and we are one of the states with the fewest amount of wetlands in the north central area of the U.S., so restoration ideas were put on the back burner. But this one guy kept after us at the DNR and I'm glad he did."

Gary Barratt of Armstrong was "that" guy. He had a couple captive swan pairs. In 1992, he gave the DNR one pair for an outdoor classroom in Clear Lake. They nested and laid two eggs. One egg hatched to became the first modern day trumpeter the DNR was involved with. It launched Iowa's trumpeter swan restoration.

But this was only the beginning of a long journey. In the same way, Cob and Pen also had a long journey ahead. Once a swan is injured and has had major surgery it can become stressed. The trauma of injury, as well as the travel to Minnesota and then Alaska, added additional stress.

Cob and Pen arrived in Alaska and took to one another quickly, cause for celebration—trumpeter swans mate for life. Once the female lays between four and seven eggs, the male defends the territory around their nest for 35 days until cygnets hatch. Although cygnets can fly after 15 weeks, they often stay together as a family until the next spring. Once cygnets leave the nest for good, the male and female stay together, often returning to the same nest site to have cygnets each year. Although bonded, nobody expected a lot out of Pen and Cob other than perhaps 20 years of service as educational ambassadors for wetlands and waterfowl. So when they hatched their first cygnets in 2014, everyone was not only thrilled, but surprised.

But not as surprised as Andrews with the comeback of

Wildlife technician Dave Hoffman gives hands-on experiences to students from Adair-Casey/Guthrie Center School District by letting kids touch while he talks swan biology. The swans are calm during interactions. These events help kids to form deeper connections to wildlife.

the trumpeter population as a whole. Andrews led Iowa's swan restoration project from 1992 to 2010. He says, "for the animals to adapt from what wetlands were like historically to what they are now is a wonderful situation. We hoped for 15 free-flying wild pairs in Iowa and we are up to 55 the past few years!"

However, just like with Cob and Pen, the comeback of trumpeters only continued because of the efforts of many. Or, as Andrews says, "the public's powerful passion propelled the project forward."

Bringing trumpeters back required more than a few new cygnets. The most important part was providing habitat. Mary Nelson, one of the first citizens involved with trumpeter restoration says, "they are the signals of healthy wetlands, which is good for them and us too." Hoffman adds, "swans will pick out the highest quality wetlands." For another public participant, Paul Willis, his land is a good example. His wetland was tested and found to have some of the best water quality. The swans discovered it too, and nested there the first time this year.

Hoffman says, however, that the DNR was worried it wouldn't even be possible to bring back trumpeters because of major concerns about water and habitat quality.

According to a research paper, Economic Benefits of Nitrogen Reductions in Iowa, by Iowa State University and the Center for Agriculture and Rural Development, "Iowa's public water supply systems have invested at least $1.8 million in nitrate treatment equipment since 2000." And according to Des Moines Water Works, the utility spent over $500,000 to remove nitrates in 2016 and plans to expand its nitrate removal capabilities in coming years at an estimated cost of $15 million.

Stacked against these numbers, Paul Willis' land is the perfect case study for how one person can make a difference and how habitat recovery is still an achievable dream.

Willis established his wetland in 2002 by working with the federal Wetlands Reserve Program to restore part of his farmland to its original wetland condition. He started by removing some of the original tiling placed during the 1800s, and followed by creating areas where water could collect naturally and seeding over 113 varieties of forbs in his adjacent prairie.

Looking out over his wetland today from the hilltop near his red barn, it is hard to imagine the lush wetlands below were not there 18 years ago. Now they are filled with cattails, willows, song birds, waterfowl, and even a swan pair that had their first pair of cygnets on the property this year.

Nelson joined the swan restoration project with swans first. She acquired her first trumpeter pair in the late '90s after she saw a show on Iowa PBS about raising them. She got them from Kenneth Howell in Tulsa, Okla.,

The sun sets over a privately owned wetland in Hamilton County. The trumpeter swan parents become restless around sunset as they work to make sure all their young are safe and tucked into the nest as predators become active at twilight.

Mary Nelson, of the Willows Waterfowl Sanctuary, feeds a group of eager trumpeter swans, mute swans, and a variety of geese by their pond.

who raises waterfowl, and named her pair Ike and Mamie because of her location near Boone—birthplace of former first lady Mamie Eisenhower. When Mamie died, Molly came along, and it was Molly and Ike that produced Cob, who went to rehab because that amputated wing from a power line collision issue, and ended up in Alaska with Pen.

Mary and Paul are good examples of why Andrews says, "I wouldn't trade all the work with the animals, but I also wouldn't trade all the people I met over the years to establish some wonderful friendships."

He says, "our first gathering of private swan owners was in Atlantic, because they were wintering about 60 to 70 birds there on an old gravel pit. The first swans had their own private ponds." There is also Beemer's pond in Hamilton County that established itself. "Almost 200 birds in the winter are not uncommon." And now you can also see them at Maffitt Reservoir southwest of Des Moines in the winter.

But did all these swans appear naturally after private owners established habitat for them? Is it really like Dave Hoffman says: "build it and they will come?"

Not quite. Just like with Pen and Cob, the journey didn't end with establishing a home for a returning swans. Pen and Cob found a wonderful home with the Alaska Zoo, and surprised everyone by having cygnets. However, more effort was needed to connect their young brood with established habitats. It resulted in the most surprising

Sound Asleep: Trumpeter cygnets don't develop their distinctive black beaks until they are adults. Even older juveniles have a pinkish center to their black bills. People can mistake young trumpeters for mute swans because of this. However, although adult mute swans have pink beaks, their young have black beaks!

Dave Hoffman holds a swan from Alaska while talking about swan biology before their release into Viking Lake.

ABOVE: At the Willows Waterfowl Sanctuary, swans with leg or wing injuries are unable to survive in the wild. However, they still contribute to sustaining trumpeter populations with breeding. FAR LEFT: Paul Willis' land shows one person can make a difference and how habitat recovery is achievable. Willis got involved in the swan project land-first by establishing his wetland in 2002 in partnership with the federal Wetlands Reserve Program. In 2019 he welcomed his first nesting pair of trumpeter swans. LEFT: Retired DNR biologist Ron Andrews, founder of Iowa's trumpeter restoration effort, holds a painting gifted by a member of the community as a thank you.

reward for Nelson, Hoffman and many others involved in swan restoration. But before their surprise is revealed, let's explore those efforts.

Iowa's work came in the form of yearly swan releases. In fact, Iowa has released more swans into the wild than any other state—more than 1,200 swans aged one to two years old at more than 80 sites. Plus 1,600 cygnets have hatched in Iowa wetlands.

"It is interesting that a little state like Iowa was able to do that as well as release almost the largest total number of swans," says Andrews, noting Iowa also had the nation's largest swan observation database.

In fact, according to the DNR, the trumpeter swan restoration project has cost $1.5 million dollars (much of it donated or private funds), relying on 31 private individuals, two dozen county conservation boards, 19 corporations, 16 conservation organizations, four schools, the Iowa State University Trumpeter Swan Committee, the U.S. Fish and Wildlife Service, the DNR, several other states and 17 zoos.

Tiffany Mayo, the trumpeter survival plan coordinator and stud book keeper at the Cleveland Metroparks Zoo, says, "honestly I don't think there would be swans in the Midwest without the collaboration of everyone including zoos." Wisconsin, Minnesota, Ohio, Iowa, Michigan all relied heavily on zoo participation in order to get swans reintroduced and now the Interior Midwest swan population is more than 25,000.

Nelson donated 15 to 20 cygnets over the years to Iowa's release program. Jensen says the Alaska Zoo sent at least three sets of cygnets to swan releases in Oregon, however, last year they participated in the Iowa DNR program.

Jensen, at a swan release last May, described how she arrived in Iowa with swans to release into the wild. "First we had to split the cygnets off from their parents a month ago." It took required health testing before they can come into Iowa, which they passed. "We held them away from their parents so they wouldn't be re-exposed to any wild birds." After catching and delivery to FedEx, they flew out at 5 p.m. and arrived in Indianapolis for a short layover and then to Omaha at 5 a.m. "Then Katie from the Safari Park in Ashland, Neb., met me here and helped me get the swans from FedEx to U-haul, then we drove them here to Lake Icaria in Iowa."

This is also where the surprise happens. On May 8, 2019, Hoffman arrived at Lake Icaria near Corning at 8 a.m., with equipment to band the swans before release. He gave a short educational program before the release and gave the public a chance to touch a trumpeter. Nelson arrived in her car with fellow swan enthusiast and educator, Holly Felsen-Welch, to watch the release. She didn't have any swans to release this year, but wanted to participate.

And that's when they found out the four swans to be released by the Alaska Zoo into the wild were none other than the offspring of Cob and Pen—the two swans they rescued and rehabilitated in Iowa back in 2007—the swans that would not have even been alive if not for their dedication and that of many others to swan restoration and their willingness to take a chance and try their hardest to save just one swan.

The 10 additional swans released that weekend were donated from zoos in Cleveland, Kansas City, Green Bay, Oklahoma City, the Bronx, Southwick, Mass., Topeka and Maryland. The joyous trumpeting and outspread wings were not the only thank you the swans gave their human advocates. Wild swans, once released or hatched in the wild, become ambassadors for the wetland habitat they live in and enrich the lives of people who saved them as well. Iowa wetlands filter water, help prevent flooding and soil erosion, provide beauty, enhance quality of life in Iowa, fuel economic development, increase tourism and provide habitat for up to 400 species of plants, animals and other waterfowl.

Hoffman talks about how we can move forward and continue this mutually beneficial progress. "What I really believe with swan releases and wetland field trips is getting kids connected to nature. With that connection you educate and empower and they take ownership of those animals and wetlands, ultimately valuing them, caring for and protecting them."

And because of continuing progress, it's not only Cob and Pen that surprise after many years. Remember those 69 swans that somehow survived extinction in 1932? According to the 2015 Trumpeter Swan Survey done every five years by the U.S. Fish and Wildlife Service, the 2015 estimate of trumpeter swan abundance in North America is now 63,016.

Cygnets leave the nest in the first few days of life and stick close to their parents. They copy their parent's actions, including swimming, and ducking under the water to forage for food.

Students from the Adair-Casey/ Guthrie Center School District share the excitement of a trumpeter swan release onto Lake Anita last May. The DNR hosts a release every year in May at the same location.