



Whooping Crane Stopover Habitats on Fort Supply Lake, Oklahoma U.S. Army Corps of Engineers, Tulsa District

The primary purpose of this report is to: (1) protect existing wild Whooping Crane “stopover habitats; (2) improve existing habitats where needed; and (3) create new “stopover habitats” where there are opportunities.

Friends of the Wild Whoopers (FOTWW) and the U.S Army Corps of Engineers (USACE) have a Memorandum of Understanding to evaluate Whooping Crane “stopover habitats” on USACE lake properties. The project involves the six state migration corridor within in the states of Texas, Oklahoma, Kansas, Nebraska, South Dakota and North Dakota. FOTWW has completed its evaluation of Fort Supply Lake properties in Oklahoma and our recommendations are contained in this report.

Unfortunately the lake was in flood stage and locations where stopover habitats habitat likely existed were a challenge to evaluate. Fortunately USACE and Oklahoma Wildlife Division (ODWC) personnel accompanied me and they were well informed about the lake’s habitats. So, together, we successfully identified some stopover habitat sites.

There is only one wild self-sustaining population of Whooping Cranes remaining on earth. These birds are America’s symbol of conservation. They are the largest bird in North America standing 5 feet tall with a wing span of 7 feet (Figure 1). They are endangered species and need our help. This population nests and rears their young in Wood Buffalo National Park, Canada during spring and summer. After their chicks fledge, they migrate 2,500 miles through 6 states in the midsection of our nation to Aransas National Wildlife Refuge on the Texas coast where they spend the winter (Figure 3). Thus these birds are known as the Aransas-Wood Buffalo population.



Figure 1 .Two juveniles and two adult Whooping Cranes.

Destruction of nesting habitat and killing the birds for food decimated the population during the 1800’s and early 1900’s. Coupled with this is the loss of approximately 15 million wetland acres in the 6 state migration corridor. In 1943 there were only 16 Whoopers remaining. With protection and habitat management the population has slowly increased to an estimated 431 in 2018.

Today, however Whooping Cranes are facing more threats to their habitats. During their 2,500 mile migration they must stop 15 to 30 times to rest and feed. Secure stopover habitats are needed throughout the migration corridor approximately every 25 miles. And more secure wintering habitats are needed along the Texas coast near the Aransas National Wildlife Refuge. Currently about half of the population winters off the Aransas National Wildlife Refuge where they are not as safe. Continuous development along the coast is taking a serious toll on habitat.

FOTWW believes that the wild Whooping Cranes in the Aransas/Wood Buffalo population are capable of taking care of themselves with two exceptions. They need (1) humans to protect their habitats and (2) humans to stop shooting them. We firmly believe that the USACE can do much to protect and manage many “stopover habitats” within the migration corridor.

Whooping Cranes make two 2,500 mile migrations each year. They migrate to and from their winter habitats on the Texas coast to their nesting habitats in northern Canada (See migration map Fig. 2).



Figure 2. Map showing migration route through 6 mid-western states and /Canada.



Figure 3. Deer and other wildlife species often use the same habitats as Whooping Cranes.

During migration Whooping Cranes often stop over on private lands, wildlife areas, lakes and some military bases. However, many private lands are being more intensively managed and face various forms of development. And some wetlands are becoming dryer due to global warming. FOTWW contends that lands and waters on USACE and military bases within the migration corridor can provide much needed relief. Some of these lands can be developed and/or managed to provide more stopover habitats for endangered Whooping Cranes. Importantly, habitats for the cranes also benefit many other species of wildlife and fish. Likewise Whooping Cranes are compatible with other wildlife species using the same habitats (Figure 3).

The most expensive part of establishing or improving habitat is land cost. If projects can be accomplished on government lands and Indian Reservations, the cost would be relatively minimal. Importantly any habitat projects deemed to be incompatible with the mission of the agencies involved would not be considered by FOTWW.

FOTWW has completed habitat evaluations on 32 military facilities, 8 Indian Reservations and 12 USACE lakes within the wild Whooping Crane migration corridor. Some of these properties currently have suitable stopover wetland habitats while other areas could be enhanced with minor work.

The USACE and FOTWW Memorandum of Understanding allows us to focus on Whooping Crane habitat assessment and management recommendations on lands under USACE jurisdiction. We first need to determine if any suitable areas could be managed, or appropriately developed, to provide stopover habitats for Whooping Cranes. The next step would be to work to encourage appropriate management.

USACE lakes within the 6 state migration corridor are likely to become even more important to Whooping Cranes in the near future because of their locations and quality of “stopover habitats”. Fort Supply Lake and others that are located in the Whooping Crane migration corridor can be especially valuable. As the crane population increases the migration corridor may also expand in width.

Fort Supply Lake is just one of the USACE lakes that FOTWW has, and will be evaluating. The Operation Management Plan FY 2014 thru 2018 covers information for the USACE area of primary management responsibility (Compartments 1, 2 and 3). The “Wildlife Management/Hunting program” is described in a separate document prepared by ODWC. The lake was authorized under the Flood Control Act approved June 22, 1936. Construction of the lake was begun in October 1938 and completed in August 1942. There is a total of 9,899 acres of project land and water. The lake covers 1,786 surface acres of open water. A total of 8,079 acres are used for wildlife management,

recreation and project operations. Although the primary mission is flood control, important secondary benefits are water supply, recreation, and natural resource management.

We are aware that Fort Supply Lake, has been used by Whooping Cranes and we expect that to continue and increase. Both USACE and ODWC personnel have observed Whooping Cranes on the lake several times. Unfortunately, Whooping Cranes are not considered in management documents. **Friends of the Wild Whoopers strongly recommends that Whooping Cranes be added to the list needing serious attention at Fort Supply Lake and that both USACE and ODWC management documents include specific plans for endangered Whooping Cranes.** *Friends of the Wild Whoopers urges project staff to coordinate with their Tulsa District officials and the U.S. Fish and Wildlife Service to prepare a management plan.*

FOTWW Wildlife Biologist Chester McConnell visited Fort Supply Lake on October 8, 2018 to assess potential “stopover habitats” for Whooping Cranes. David Hoover, Conservation Biologist, Kansas City, MO, USACE made arrangements for our trip. Eric Summars, Assistant Lake Manager and Eddie Wilson, ODWC Biologist participated in the lake stopover habitat evaluation. After discussing the natural resource objectives for Fort Supply Lake we made a tour of the lake property by vehicle and boat to examine the most likely places that would provide Whooping Crane “stopover habitats”. FOTWW appreciates all involved with making preparations for a productive and enjoyable visit.

Whooping Cranes normally migrate over or near Fort Supply Lake during April (northward migration) and fall during October – November (southward migration). They normally stopover to rest late in the afternoon and depart early to mid-morning the following day.

Mostly, during migration, they stopover on lakes, natural wetlands and small ponds on private farms just to rest overnight. Like humans on a long trip they just need a small place to briefly stop, feed and then continue their journey. Proactive techniques implemented by conservation interest can help reduce potential morality that occurs during migration.



Figure 4. Whooping Crane stopping over for the night or a few days.

Whooping Cranes and other wildlife need lakes, wetlands and small ponds with the following features as “stopover roost sites” during migration:

- Lakes/small ponds/wetlands from 0.3 acres and larger in size
- Lakes/ponds/wetlands with some shallow areas 2 to 10 inches deep for roosting sites
- Flight glide path clear of obstructions for Whooping Cranes to land near roosting sites
- No thick bushes or trees in or near landing site
- Gradual or gentle slopes into lakes/ponds where water is shallow
- Little or no emergent or submerged vegetation in lake at roost areas
- Extensive horizontal visibility from roost site so predators can be detected
- 200 or more yards from human development or disturbance such as power lines
- Agricultural grain fields or pasture land within one mile of stopover site for foraging

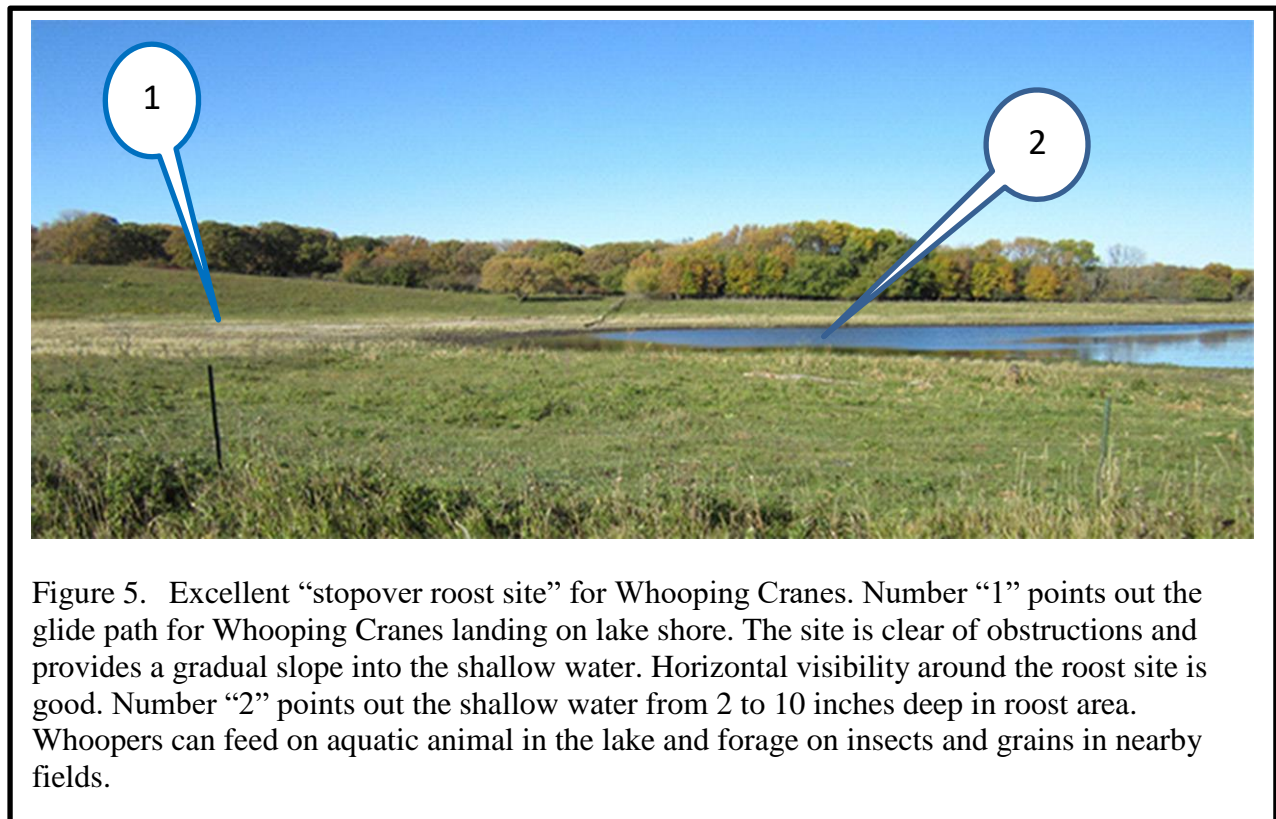


Figure 5. Excellent “stopover roost site” for Whooping Cranes. Number “1” points out the glide path for Whooping Cranes landing on lake shore. The site is clear of obstructions and provides a gradual slope into the shallow water. Horizontal visibility around the roost site is good. Number “2” points out the shallow water from 2 to 10 inches deep in roost area. Whoopers can feed on aquatic animal in the lake and forage on insects and grains in nearby fields.

FORT SUPPLY LAKE

PUBLIC HUNTING AREA

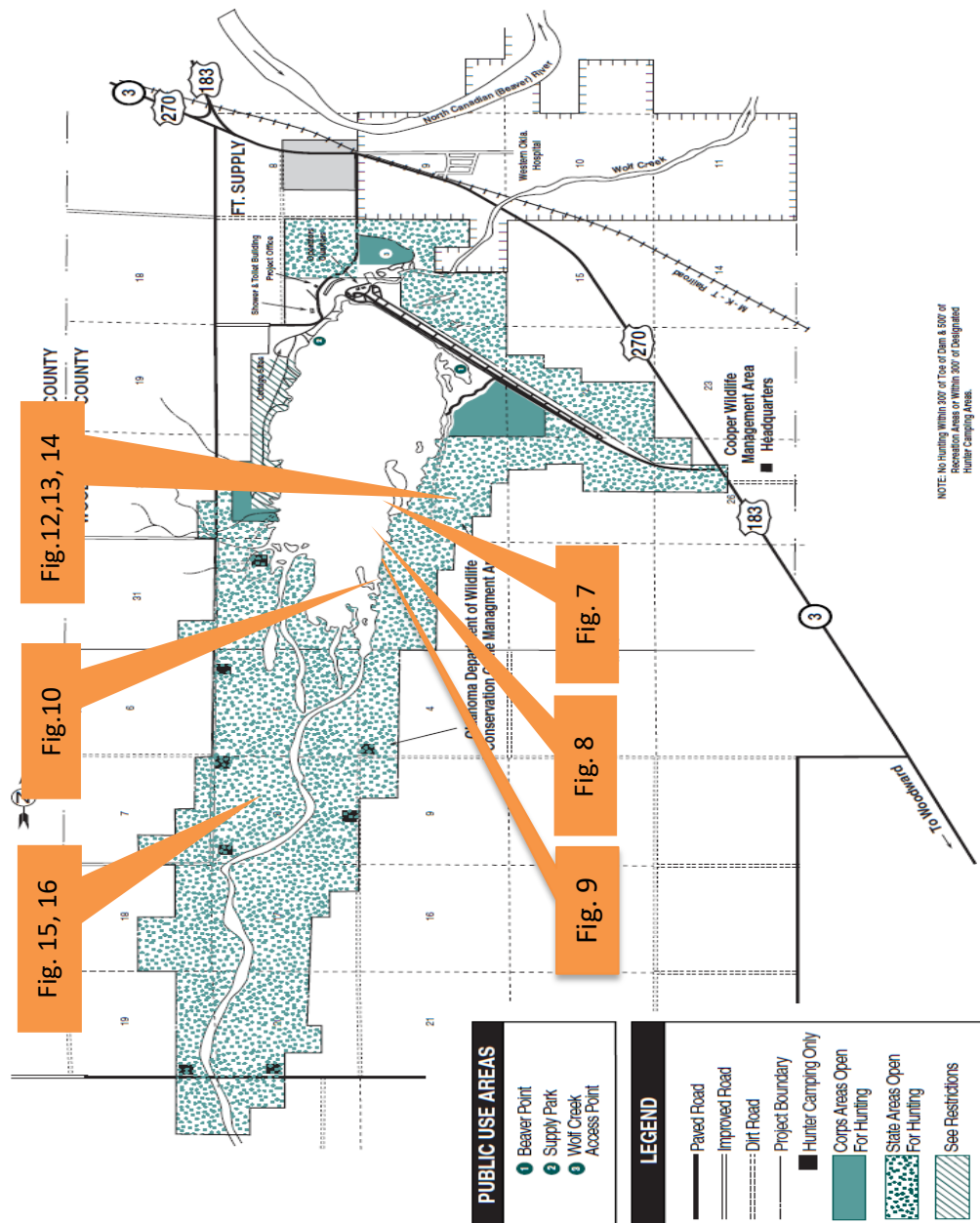


Figure 6. Map of Fort Supply Lake. Call-outs show where photos were taken.

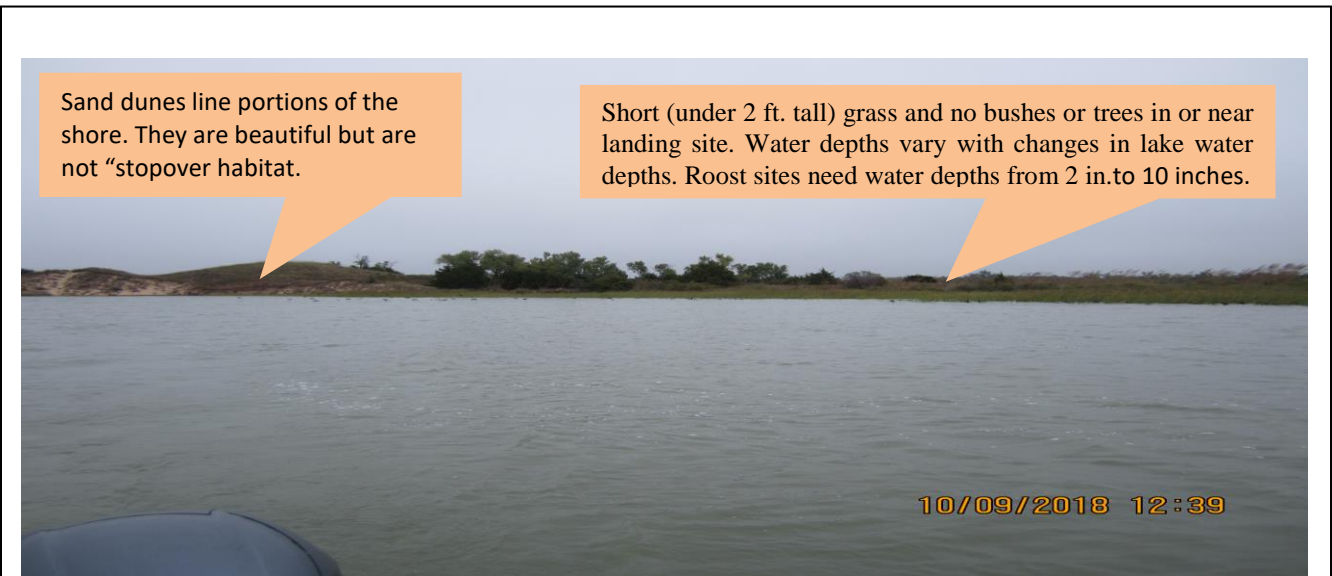


Figure 7. The shore area of Fort Supply Lake has a mixture of ecosystems. The shore area in this photo has a mixture of sand dunes, short grasses, tall grasses and a mix of shallow and deep water. During our evaluation of Whooping Crane stopover habitats, the lake water was about 1.5 feet above “normal” making much of the roost areas temporarily unsuitable for the cranes.



Figure 8. The short grass, shallow water and absence of trees and bushes in this photo would cause it to be suitable for Whooping Crane “stopover habitat” during normal water levels. During our evaluation, abundant rain (8+ inches) caused the lake depth to be deeper than normal. Water depths vary occasionally due to abundant rain and long drought periods. Importantly, due to various shore



Figure 9. The short grass and shallow water are similar to that in Figures 7 and 8. The limits of suitable shallow water and grass areas are identified by arrows 1 and 2. The trees (arrow 3) would not be a problem due to their distance from the short grass area. This site would be suitable for Whooping Crane “stopover habitat” during normal water levels. During our evaluation, abundant rain caused the lake depth to be deeper than normal. Water depths vary occasionally due to abundant rain and long drought periods. Importantly when one area of a lake is not suitable, some other area of the lake is likely to be suitable.



Figure 10. This area of shore is sand dunes. They are too steep to be used by Whooping Cranes. Also the lake water is too deep near the shore.



Figure 11. Two members of the team returning from a cruise around Fort Supply Lake to evaluate potential Whooping Crane "stopover habitats". Eddie Wilson, Senior Biologist, Oklahoma Wildlife Division (on left) and Eric Summars, Assistant Lake Manager, USACE (on right). These men are very familiar with the lake, its vegetation and water levels. Their assistance was invaluable and greatly appreciated. Photo by Chester McConnell, Friends of the Wild Whoopers



Figure 12. This photo and figures 13 and 14 reveals a 3 to 4 acre site near the lake that could be developed into a shallow water “stopover habitat” for Whooping Cranes and other wild creatures. The area could be treated with herbicide and burned when dry. A low level berm as outlined can be constructed around the developed field/pond to hold shallow water for a “stopover habitat”.



Figure 13. This photo and figure 14 reveals conditions at a 3 to 4 acre site near the lake that could be developed into a shallow water habitat for Whooping Cranes and other wild creatures. The area could be treated with herbicide and burned when dry. A low level berm (Fig.12) can be constructed around the developed field/pond to hold shallow water for a “stopover habitat”.



Figure 14. Close up photo of same wetland as shown in figure 12 and 13. Note that the vegetation is primarily devoid of trees. Both the USACE and ODWC officials indicated a strong interest in this proposal. This site, if developed could provide a good roosting and foraging site. ***Friends of the Wild Whoopers recommends that this project be accomplished.***



Figure 15. ODWC operates the wildlife management and hunting programs on 5,418 acres of Fort Supply Lake. This photo illustrates one of 21 food plots on the lake property. Whooping Cranes will forage for grain and insects in such plots.



Figure 16. Another large wildlife food plot developed by ODWC on Fort Supply. These food plots are available for foraging by Whooping Cranes and other wildlife.

DESCRIPTION OF EXISTING “STOPOVER SITES”: The photos (Figs.7, 8, 9, and 10 are existing “stopover areas” for endangered Whooping Cranes to rest and roost. All of these areas are located in isolated locations and not near frequently travel roads or power lines. The size and configuration of these wetland stopover areas vary with the levels of lake water. When the photos in this report were taken, water levels were approximately 1.5 feet higher than “normal”. Flight glide paths to the shore areas are available from different directions for approaching cranes. The shore areas are essentially clear of bushes, trees and other obstructions. Horizontal visibility from the shore and water roost sites allows Whooping Cranes to detect any predators that may be in the area. The slope of the shore and lake edge is gradual and some water depths of 2 to 10 inches are available during “normal” lake water levels. There is little emergent or submerged vegetation in lake at these roost sites. The locations are 200 or more yards from human development or disturbance such as power lines. Hundreds of acres of foraging areas are located on ODWC wildlife food plots and in nearby agriculture fields. In addition there are wild foods in adjacent managed grasslands and wetlands that provide an abundance of insects, wild seeds and other wild food.

MANAGEMENT OBJECTIVES FOR FORT SUPPLY LAKE WHOOPING CRANE STOPOVER AREAS:

Protect and manage the existing “stopover habitats” on east side of Fort Supply Lake (figures 7 through 14). These areas can provide a diversity of stopover habitats for endangered Whooping Cranes and thousands of waterfowl, wading birds, shorebirds and other wildlife species that need wetlands. Other sites not observable during our visit due to high water levels may be suitable for stopover areas during lake drawdowns.

Friends of the Wild Whoopers strongly recommends that endangered Whooping Crane “stopover habitats” be added to the natural resources management list needing serious attention at Fort Supply Lake.

DESCRIPTION OF PROPOSED SHALLOW WATER “STOPOVER HABITAT”

The photos in figures 12, 13 and 14 identifies a 3 to 4 acre site near the lake that could be developed into a shallow water “stopover habitat” for Whooping Cranes and other wild creatures. The vegetation in the identified area could be treated with herbicide and burned when dry. A low level berm would be necessary around the developed field/pond to hold shallow water.

MANAGEMENT PRESCRIPTIONS: 1. Monitor this and other such areas to suppress any tall vegetation (over 2 feet tall), noxious weeds, grass and shrubs through mechanical means (rotary cutter/Bush Hog) and appropriate chemical application if necessary.

2. Review and update the OMP and other policy documents to include protection, improvement and development of Whooping Crane stopover habitat.

CONCLUSIONS:

FOTWW was pleased to have the opportunity to visit Fort Supply Lake. We were pleasantly surprised to learn about Whooping Crane use of the lake in recent years. And we were pleased to learn about the site in figure 12 that could be developed into an excellent “stopover habitat” for Whooping Cranes. USACE and ODWC managers should focus on protecting all stopover sites described in this report. These areas currently have good “stopover habitats” with safe roosting

features and nearby agricultural landscapes that provide foraging opportunities. The lake and land area also has good fish and wildlife habitat for a large variety of wildlife species.

We sincerely appreciate the interest and cooperation of the USACE and ODWC. We are grateful to Eric Summors and Eddie Wilson and other officials of USACE and ODWC who cooperated with FOTWW and provided us with documents that assisted in our evaluation. And a special thanks to David Hoover, USACE who arranged our field trips to four lakes in Oklahoma. Importantly, I also appreciate the assistance of FOTWW Vice-President Pamela Bates in preparing this report.



Friends of the Wild Whoopers

Chester A. McConnell

Chester A. McConnell, President

wmicmc@bellsouth.net