



Crane Trust Science & Research

Established in 1978

Maintained Acres: 8,105

Maintained River Miles: 16

Nature Trails: 10.4 miles

Sandhill Cranes annually:
1.25 million

88 at-risk species
supported by habitat
managed by Crane Trust

The Crane Trust is a center for scientific discovery and outreach related to the protection and maintenance of critical habitat for cranes and other migratory species along the Platte River. Our scientific team seeks to understand how conservation practices such as habitat restoration and prescribed burning affect habitat for migratory birds, including the federally endangered whooping crane.

Our core science-based activities include three key areas:

- Conduct long-term biological monitoring and inventories
- Evaluate land management practices
- Serve as leaders in cutting-edge research

What we discover and document at the Crane Trust provides useful insights, data, and guidance for other conservation groups and land managers throughout North America. Crane Trust research is regularly published in peer-reviewed journals and is actively shared with regional conservation partners, the scientific community, and the public to advance understanding and improve conservation practices.

Prairie Studies

Beginning the summer of 2015, more than 60 long-term monitoring plots were established across about 5,600-acres of Crane Trust property. We regularly monitor these sites and assess changes in habitat quality and suitability. This provides us with tools to:

- Evaluate the effectiveness of our land management efforts
- Model quality habitat for restoration
- Monitor the effects of climatic variation.

Several land management and conservation organizations conduct biological monitoring in Nebraska. However, intensive long-term efforts are relatively uncommon here, and most efforts focus on sensitive species of concern in our state. This gives the Crane Trust an opportunity to be an important participant in biological monitoring efforts in Nebraska. Our system is based on overlapping surveys of both plant and animal communities, specifically birds and small mammals. We have learned that different grazing and management regimes simultaneously influence all those interlocked biological components at once. See cranetrust.org/publications for more recent information.

Plants from the Past

The Crane Trust has a fully functioning herbarium, where plants collected from around the property are preserved, mounted, recorded, and stored for further research. This provides a library of identified plants for future research purposes. Herbariums are essential to the study of plant taxonomy, geographic distributions, and change in vegetation over time. A plant library may be the only physical record of an extinct species, providing data about changes in climate and human impacts. The Crane Trust Herbarium includes specimens dating back to the early 1980s.



MORE 

Sandhill Crane Counts During Migration

Since 1998, the Crane Trust has conducted aerial Sandhill Crane surveys during the spring migration. Once a week for 10 weeks, we fly along the river at a low altitude for 83 miles between Chapman and Overton estimating Sandhill Crane roost numbers along the whole stretch. On these flights, researchers count Sandhill and Whooping Cranes, American White Pelicans, Trumpeter Swans, and dark geese on the river and in adjacent wet meadows and fields.

These counts tell us the number of cranes each week of their migration, and where they are congregating in the highest numbers. By comparing the data across time and location, scientists can determine what habitat is best for cranes to roost in and changes occurring. This information helps us set new priorities for conservation. This snapshot of everything happening on the Platte helps illustrate the vast nature of the spring migration. **Visit our social media pages and website in spring for updates on these counts.**



Wildlife Biologist Bethany Ostrom after an early morning flight to count birds on the river. *Photo by Matt Fong*



Monarch butterfly on Rough Blazing Star (*Liatris Aspera*). *Photo: Amy Sandeen*

Pollinator Habitat at the Trust

Pollinators are integral to a healthy prairie. As a steward of the land, the Crane Trust hopes to provide a refuge for pollinators of all kinds. With the recent reports of global declines in butterflies, moths, and other pollinators, Crane Trust researchers recognize the need to study and maintain habitat for these insects. Regal fritillary and monarch butterflies are at risk of extinction in Nebraska. Both are present on the Crane Trust property throughout the summer, and efforts to monitor these and other pollinators' habitat, conservation, and plant associations are underway.

The Bison's Role in Platte River Basin Ecology

Historically, the American bison roamed freely across what is now Nebraska. Their 150-year absence from the Platte River Valley has prompted land managers and researchers to speculate about the impacts the vast herds of these animals once had on grasslands and wet meadows in this region. Various grazing systems have been used on Crane Trust properties. Ultimately, the recipe for sustainable grasslands has included doses of grazing, rest, fire, and some mechanical means of vegetation control. Thanks to the Crane Trust, bison now roam again on more than 1,000 acres of relic and restored prairie of the Platte River Valley.

Currently, we are researching:

- herd hierarchy and interactions
- novel behaviors and stress
- parasite effects and health
- vegetation response to reintroduction
- genetic diversity



Photo: Amy Sandeen

Long-term monitoring studies include the evaluation of bison-bird interactions, both direct and indirect, as a means of learning how the addition of this historic grazer can benefit cranes and other migratory birds.