

## **A Whitepaper Outlining the Need to Address Energy Development and Other Urgent Conservation Priorities for Nebraska's Sandhills**

Prepared by the Sandhills Task Force

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### **Background:**

The Sandhills Task Force (STF) was formed in 1993, and is a 501(c)(3) non-profit organization and a Land Trust. The STF currently has 15 Board members and 11 make their primary livelihood from ranching within the Sandhills. The Goal of the Sandhills Task Force is *to enhance the Sandhill wetland-grassland ecosystem in a way that sustains profitable private ranching, wildlife and vegetative diversity, and associated water supplies*. Additional information about the Sandhills Task Force is available at <http://www.sandhillstaskforce.org>.

The Strategic Plan for the STF identifies several threats and stressors to profitable private ranching, wildlife and vegetative diversity, associated water supplies, and the Sandhills wetland/grassland ecosystem. They include the following: Changes in Land Use and Landscape Fragmentation, Disruption of Disturbance Regimes, Energy Development, Invasive Species, Decreased Water Quantity and Quality, and Wetland Loss.

The Sandhills Task Force is primarily focused on working with ranchers to deliver conservation projects. However, the Strategic Plan of the Sandhills Task Force does have a Comprehensive Strategy for Legislation and the Board is concerned about the threats and stressors mentioned above. For example, wind energy development in the Sandhills has been a topic of discussion at STF Board meetings over the past several years. The Board has not taken any official position on this issue, but they did agree to help sponsor a *Symposium to Initiate Conversation on Wind Energy Development in Nebraska* that was held in North Platte in February 2014.

At the November 4, 2015 Board meeting of the Sandhills Task Force, Homer Buell reported that he and Mike Kelly met with Governor Ricketts regarding protecting and preserving the Sandhills. At this meeting, Homer and Mike were representing themselves and not the STF. The Governor asked that a 3-5 page whitepaper be put together for him to review before deciding if he would put together a work group to look at the situation, perhaps something along the lines of the Kansas model in the Flint Hills. The STF Board voted to move forward with developing the whitepaper.

## **The Sandhills as a Unique Resource:**

The Sandhills is a contiguous 19,300 square-mile sand dune formation located in north central Nebraska and comprises one of the largest contiguous tracts of grassland remaining in the United States (figure 1). The area consists of approximately 11 million acres of grassland (Sandhills prairie) and 1 million acres of wetlands. The Sandhills recharges several extensive aquifers of the Ogallala Formation which contain a storage capacity of nearly one billion acre-feet of water. This water is the lifeblood of the Sandhills, and also provides water for agriculture, industrial, and municipal uses throughout much of Nebraska.

This landscape supports a strong ranching economy and community. Due to the fragility of the sandy soils, the Sandhills are mostly considered largely unsuitable for the cultivation of crops. Over the years, ranching has proven to be the best economic and environmental use of the Sandhills. The Sandhills are a productive cattle ranching area where livestock are raised under range conditions. Over 500,000 beef cattle roam this Sandhills prairie on grass-stabilized sand dunes.

The Sandhills provide habitat for more than 700 native plant species, and more than 300 species of birds, 55 species of mammals, 75 species of fish, and 27 species of reptiles and amphibians. The North American Waterfowl Management Plan lists the Sandhills as a habitat area of major concern in North America. The Sandhills are the most important waterfowl production area in Nebraska and are considered to be the best duck production area south of the Prairie Pothole Region. The Sandhills are considered to be an important breeding site for many other nesting birds, including: sharp-tailed grouse, greater prairie chicken, long-billed curlew, upland sandpiper, vesper sparrow, western meadowlark, American avocet, trumpeter swan, black tern, and ferruginous hawk. Many of North America's migratory birds, including whooping and sandhill cranes and waterfowl rely on the Sandhills diverse wetland habitats for their spring and fall journeys. Eighty percent of the World's population of sandhills cranes migrate through the Nebraska Sandhills every spring and fall.

The quality habitat of the Sandhills supports the state and/or federally listed threatened or endangered species discussed below. The migration corridor of the whooping crane encompasses most of the Sandhills and the American burying beetle can also be found throughout portions of the Sandhills. Some of the Sandhill's rivers and streams support the northern river otter, the piping plover, and the interior least tern. Sandhills streams and their associated wetlands also provide habitat for the northern redbelly dace, finescale dace, blacknose shiner, and Topeka Shiner. Wet meadows provide habitat for the western prairie fringed orchid and the small white lady's-slipper. Active blowouts provide habitat for blowout penstemon. In addition, the *Nebraska Natural Legacy Project State Wildlife Action Plan* identifies all or parts of eight Biologically Unique Landscapes (BULs) within the Sandhills. The Legacy Plan lists seven tier 1 at-risk plant species, and 30 tier 1 at-risk animal species within these BULs.

The vast and open stretches of intact grassland in the Sandhills provide scenic vistas that are a unique treasure to Nebraska and the Nation. This scenic landscape attracts visitors from throughout the nation, and has led to the designation of several Scenic Byways through the Sandhills, including Highway 2 Sandhills Scenic Journey Byway that has been deemed one of the 10 most scenic roads in the country. The Sandhills is also a growing destination for people wanting to view a dark and unobstructed night sky. The beautiful scenery, abundant and diverse wildlife, and the ranching way of life, all help to provide tourism opportunities that are not available anywhere else. The Sandhills of Nebraska are very special, and there truly is no other place like the Sandhills.

### **Issues, Concerns, and Opportunities:**

It is beyond the scope of this whitepaper to discuss all of the varied and complicated aspects of the threats and stressors that face the Sandhills. There are numerous viewpoints, and understandably, some of these are very strongly held.

Some of the threats are facing us immediately and the need to address them is urgent. One of the most urgent threats we feel should be addressed is the inappropriate placement of energy development. Additional priority threats are fragmentation, due both to inappropriate placement of energy development and other causes, and invasive species. If these threats are not addressed soon, the Sandhills could be irreparably altered. These threats are discussed briefly below.

Energy development- If implemented properly, the energy captured from wind can produce less carbon emissions. There are private property rights issues involved with wind energy development, with some landowners wanting the right to establish wind energy on their property, while others are concerned about the impacts to their property from wind energy development, including the associated need for transmission lines. Concerns have been expressed from some landowners and citizens about the impacts wind energy development can have on scenic vistas. There have been a number of studies documenting that wind turbines can be a source of increased mortality for many species of birds and bats. There have also been studies that have raised concerns about the negative impacts to some species of wildlife due to the presence of wind turbines and/or the fragmentation of the native habitats that can result from wind energy development. However, there have also been studies that show no negative impacts to some wildlife species due to wind energy development. Regardless, there are legitimate concerns associated with the inappropriate placement of wind energy development, and many of the concerns can be addressed through appropriate siting.

Fortunately, there are good resources available that can help to provide information on this topic. There are a number of scientific studies and reviews that have been published that should be consulted. The University of Nebraska-Lincoln has established a Nebraska Wind Energy and Wildlife Project (<http://snr.unl.edu/renewableenergy/wind/>) that can provide a lot of excellent

information, including the *Nebraska's Biodiversity and Wind Energy Siting and Mitigation Map*.

Fragmentation- One of the most unique aspects of the Sandhills is that it is a vast and mostly intact grassland. This landscape and the scenic vistas it provides can easily be degraded by power transmission lines, roads, and other disturbances that break up the intact landscape. In addition, over the past few years some parts of the Sandhills have had the highest rate of grassland conversion in the nation. This loss of intact grasslands impacts numerous wildlife species, but it also impacts the ranching economy, tourism, and water quality and quantity.

Invasive Species- The Sandhills' grassland and wetland areas remain vulnerable to numerous invasive species, and these species not only impact native habitats, but also impact the ranching economy, and have the potential to fragment and alter the character of the Sandhills landscape. In particular, eastern red cedars have dramatically increased throughout the grasslands in much of the eastern and central Sandhills. Addressing the spread of red cedars trees into native rangeland is an especially urgent issue that needs addressed.

Despite the very real threats and stressors mentioned above, it is important to note that the overall health of the Sandhills ecosystem is currently very good. Large expanses of native prairie, interspersed with wetlands and streams, remain intact. The ranchers of the Sandhills have worked tirelessly to be good stewards of this fragile environment and are interested in maintaining the health of this ecosystem. Working to maintain the health of the unique treasure that is the Nebraska Sandhills is something that the STF will continue to address, and it is our hope that others throughout Nebraska will also lend their support.

### **Conservation Initiatives to Consider:**

The conservation of Nebraska's Sandhills will need to be tailored to meet the unique needs of this special resource. The responsibility for this should be led by Nebraskan's, and the STF is proud of our past work and pledge to assist with this responsibility into the future. Other western states and partners have dealt with addressing complex natural resource issues, and much can be learned from their efforts.

One model to give consideration to is what was done in Kansas to address wind energy development in their Flint Hills region. In 2004, the Governor of Kansas recommended that the State Energy Resources Coordination Council form a Wind and Prairie Task Force to *develop principles, guidelines, and tools that local entities can use as they address the issues concerning wind-energy development in the Flint Hills and other environmentally sensitive areas*. The Wind and Prairie Task Force had representatives from farmers, ranchers, county government, tourism, conservation organizations, and the energy industry. More information is available at:

[http://www.kansasenergy.org/sercc\\_wptf.htm](http://www.kansasenergy.org/sercc_wptf.htm). In addition, the University of Nebraska-Lincoln has established a Nebraska Wind Energy and Wildlife Project

(<http://snr.unl.edu/renewableenergy/wind/>) that can provide a lot of excellent information, including the *Nebraska's Biodiversity and Wind Energy Siting and Mitigation Map*.

In Wyoming, the Governor recently issued an Executive Order to address Core Area Protection for the Greater Sage Grouse. The purpose of the Executive Order was to address how to work with private landowners, industry, and agencies, to address the conservation needs of sage grouse and the landscape that supports grouse as well as other services. Additional information is available at: <https://wgfd.wyo.gov/Habitat/Sage-Grouse-Management>.

There are numerous other examples from western states, and if a work group is formed to address Sandhills Conservation, they can look into these further and can visit with the Western Governors Association, Partners for Conservation organization, and other organizations and agencies to obtain additional information.

### **A Path Forward:**

Due to the unique quality of Nebraska's Sandhills, and the complicated and at time divisive issues associated with addressing real and potential threats, great care and thought needs to be given on how to best address these issues. Addressing all of the information and issues in a five page whitepaper was a challenging task. We recognize that a lot of additional information is available, but we were not able to include with the level of detail in this whitepaper that will ultimately be required for good decision making.

A potential approach in our state would be to form a work group to develop a long-range plan for the conservation of the Sandhills. Although the focus of the plan should be long-range, some of the threats mentioned earlier are present and ongoing, so there is an urgent need to address them before the Sandhills loses its unique and valuable characteristics. The work group could include representation from private landowners; agriculture, industry, tourism, economic development, and conservation agencies and organizations; and universities and government agencies, including local towns and counties. The work group would be able to address the issues in much greater detail than this whitepaper, and would be able to produce detailed recommendations to address the conservation of the Sandhills and the ranching and other economic benefits that it sustains.

Action is needed now to ensure that the conservation of the Sandhills is addressed, so that this special treasure that is unique to Nebraska is there for the benefit of future generations.

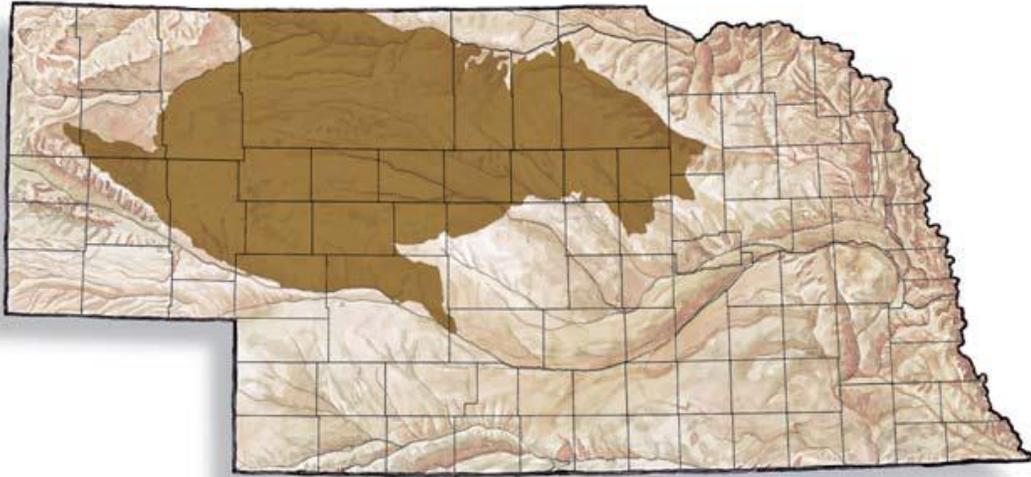


Figure 1. Location of the Sandhills in Nebraska.