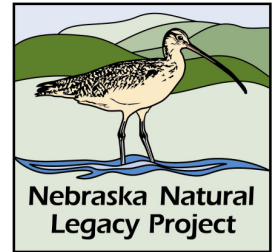




## Sandhills Alkaline Lakes



landscape occurs in Sheridan, Morrill, and Garden counties in the western Sandhills.

The area consists of prairie-covered high dunes and interdunal valleys. The area has a poorly-developed drainage system, and many of the region's wetlands and lakes are alkaline.

This is the largest alkaline wetland complex in the state and a vital nesting and migratory habitat for shorebirds and other waterbirds, including avocets and black-necked stilts. This

landscape includes the largest populations of the federally and state endangered blowout Penstemon in the state. Conservation lands in the BUL include the Crescent Lake National Wildlife Refuge, the Nature Conservancy's Graves Ranch Preserve, and Smith Lake Wildlife Management Area.

### Natural Legacy Demonstration Site

#### **Crescent Lake National Wildlife Refuge - U.S. Fish and Wildlife Service**

This Refuge, located in the Nebraska Panhandle, has over 45,000 acres of rolling sandhills and numerous wetlands. The refuge grasslands range from the densely-vegetated meadows to the sparsely-covered "choppies" dune tops. Managers are challenged with management of several at-risk species, including those that need open sand blowouts. Natural communities at this Refuge include sandhills wet meadow, sandhills hardstem bulrush marsh, reed marsh, western alkaline meadow, western alkaline marsh, and sandhill dune prairie.

### Stresses Affecting Species and Habitats

- ❖ Specific livestock grazing and haying practices that may reduce native plant diversity and promote uniform habitat structure (e.g., season-long grazing, annual mid-summer haying)
- ❖ Invasive species, primarily reed canary grass, smooth brome, European phragmites, Garrison creeping foxtail, narrow-leaf cattail, purple loosestrife, and carp
- ❖ Loss of active blowouts on dunes as habitat for the blowout Penstemon. Lack of fire and some present-day range management practices have greatly reduced blowouts.
- ❖ Wetland drainage, which can also lead to lowered groundwater levels and stream channel down-cutting
- ❖ Stream channelization and in-stream structures barring fish movement

- ❖ Stocking of exotic and game fish in streams with rare fish species
- ❖ Conversion of prairie and groundwater depletions resulting from center pivot irrigation development
- ❖ Increased water alkalinity
- ❖ Poorly-sited utility-scale wind turbines

## Conservation Strategies

- ❖ Improve implementation of biodiversity management, including increased use of prescribed fire and strategic livestock grazing, on wildlife management areas and federal lands. This is especially critical in meadows and wetlands where excessive thatch accumulation causes exotic cool-season grass dominance and loss of diversity.
- ❖ Work with private landowners to develop and implement creative methods of forage utilization on wet meadows that avoid ditching to facilitate haying. Also, work with private landowners to implement strategic grazing on uplands.
- ❖ Restore the natural hydrology of wet meadows through ditch plugging and water control structures
- ❖ Maintain the natural hydrology of Sandhills streams
- ❖ Reduce the number of culverts on small streams containing rare fish populations by installing bridges
- ❖ Implement integrated noxious weed control strategies that have minimum impacts to meadow and wetland plant diversity. Work with extension and agronomy groups to prevent the promotion and planting of exotic forage grasses, such as Garrison creeping foxtail and reed canary grass, and forbs in Sandhills wet meadows.
- ❖ Where feasible, create and maintain blowout complexes on public lands as habitat for the blowout penstemon through use of prescribed fire and intense livestock grazing
- ❖ Promote and implement increased shorebird research and increase management of wetlands as shorebird habitat
- ❖ Work with wind energy companies to select turbine sites that minimize fragmentation and impacts to native species. See Nebraska Game and Parks Commission guidelines for wind energy development.

## Tier I At-risk Species

### Plants:

Blowout Penstemon

### Animals:

Bell's Vireo

Burrowing Owl

Loggerhead Shrike

Long-billed Curlew

Piping Plover  
Short-eared Owl  
Trumpeter Swan  
Regal Fritillary

**Aquatic Communities:**

Alkaline Lake\*  
Freshwater Lake\*  
Headwater, warm water stream  
Mid-order, warm water river

**Terrestrial Communities:**

Chokecherry-Plum Shrub Thicket  
Freshwater Seep  
Western Alkaline Meadow\*  
Cattail Shallow Marsh  
Reed Marsh  
Western Alkaline Marsh\*  
Northern Pondweed Aquatic Wetland  
Water-lily Aquatic Wetland  
Saline/Alkaline Aquatic Wetland\*  
Sandhills Dune Prairie\*  
Sandhills Dry Valley Prairie

\* Priority for conservation in this BUL