



Elkhorn River Headwaters landscape



occurs in the northeastern Sandhills and includes large areas of Brown, Rock, Holt, Garfield, and Wheeler counties. The area consists mainly of level sand plain with a regionally high water table and extensive wet meadows and shallow marshes. Rolling sand dunes and Sandhill marshes and lakes are scattered through the region. Center pivot crop fields are common in areas.

The South Fork and North Fork of the Elkhorn River headwater in the region. The BUL's meadows support the state's largest populations of the federally and state threatened western prairie fringed orchid. The area is also habitat for several other federal and state listed species including the small white lady's-slipper orchid, American burying beetle, and whooping crane. Waterfowl and other waterbirds make extensive use of the region's wetlands. Protected areas in the BUL include several wildlife management areas, among them Goose Lake, South Pine, Swan Lake, and Dry Creek.

Stresses Affecting Species and Habitats

- ❖ Livestock (and horses) grazing heavily in riparian zones may lead to soil compaction, erosion, and increased sediment and nutrient loads in the stream
- ❖ Specific livestock grazing and haying practices that may reduce native plant diversity and promote uniform habitat structure
- ❖ Invasive species, primarily reed canary grass, smooth brome, Kentucky bluegrass, leafy spurge, narrow-leaf cattail, European phragmites, Garrison creeping foxtail, eastern red cedar, purple loosestrife, and carp
- ❖ Die-off of mature cottonwoods
- ❖ Herbicide application in meadows to control leafy spurge is a threat to western prairie fringed orchid populations and plant diversity
- ❖ Wetland drainage, which can also lead to lowered groundwater levels and stream channel down-cutting
- ❖ Stream channelization and in-stream structures, including culverts, that bar fish movement
- ❖ Conversion of prairie and groundwater depletions resulting from center pivot irrigation development
- ❖ Loss of native riparian vegetation from excessive grazing leads to increased run-off, sedimentation, and a lack of stream shading that results in altered water temperatures harmful to fish
- ❖ ATV use in waterway
- ❖ 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 in the landscape. 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 (ensure that in-stream structures allow for fish passage)
- ❖ Maintain the natural hydrology of Sandhills streams
- ❖ Implement integrated noxious weed control strategies that do not negatively impact western prairie fringed orchid populations nor plant diversity
- ❖ Work with the USDA to ensure that wetlands enrolled in their programs allow occasional moderate grazing, burning, or haying to reduce vegetative litter accumulation and to promote biodiversity. Presently, some program wetlands are fenced and not actively managed.
- ❖ 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
- ❖ Restore native riparian flora
- ❖ Place stock tanks for livestock away from stream channel and promote programs that fund riparian buffer strips
- ❖ Promote citizen-science stream-quality monitoring
- ❖ Discontinue game fish stocking in streams with rare fish
- ❖ Install fences to discourage ATV access to stream beds. Also, install signage detailing the impacts ATV use has on biodiversity, and inform law enforcement of problematic areas
- ❖ Work with wind energy companies to select turbine sites that minimize fragmentation and impacts to native species. Avoid placing wind turbines in areas used or inhabited recently by threatened and endangered species. Wind farms should not be located within the recommended radius of prairie grouse leks and nesting grounds. Turbines can be halted temporarily during peak migration periods for bats and birds. Pre- and post-construction monitoring should be implemented. See Nebraska Game and Parks Commission guidelines for wind energy development.

Tier I At-risk Species

Plants:

Blowout Penstemon
Hall's Bulrush²
Small White Lady's-slipper³
Western Prairie Fringed Orchid
Wolf Spikerush⁴

Animals:

River Otter
Bell's Vireo
Burrowing Owl
Greater Prairie Chicken
Loggerhead Shrike
Trumpeter Swan
Whooping Crane
Blanding's Turtle
American Burying Beetle
Ghost Tiger Beetle
Regal Fritillary
Bucholz Black Dash
Plains Topminnow
Pimpleback
Plain Pocketbook

Aquatic Communities:

Freshwater Lake*
Headwater, Warm Water Stream
Mid-order, Warm Water Stream

Terrestrial Communities:

Cottonwood-Peachleaf Willow Riparian Woodland
Cottonwood-Diamond Willow Woodland*
Sandbar Willow Shrubland*
Chokecherry-Plum Shrub Thicket
Freshwater Seep
Sandhills Fen*
Sandhills Wet Meadow*
Spikerush Vernal Pool
Cattail Shallow Marsh*
Sandhills Hardstem Bulrush Marsh*
Reed Marsh*
Northern Pondweed Aquatic Wetland*
Water-lily Aquatic Wetland
Eastern Sand Prairie*

Sandhills Mesic Tall-grass Prairie*
Sandhills Dune Prairie
Perennial Sandbar
Sandbar/Mudflat

* Priority for conservation in this BUL

¹ This is the only BUL where the species is known to occur

² Known to occur in only one other BUL

³ Known to occur in only two other BULs

⁴ Known to occur in only three other BULs