



Upper Niobrara River

landscape occupies the Niobrara River channel, and a two-mile wide buffer on each side of the river, from eastern Cherry County westward to the Nebraska/Wyoming border. In the far west the Niobrara River is a narrow, coldwater



stream with an open, gently sloping valley with few trees. Rocky outcrops are also common along the valley bluffs and mixed-grass prairie occurs on most of the bluffs. Eastward as the river gains flows, the valley becomes entrenched. Where the river enters the Sandhills in western Cherry County, the valley is several hundred feet deep. Ponderosa pine woodlands occupy portions of the bluff and cottonwood dominated-woodlands occupy portions of the floodplain. Portions of the valley bottom are in cropland.

The only dam on this reach of the Niobrara River is the one that forms Box Butte Reservoir in Dawes County, otherwise flows on the river are fairly natural. The upper Niobrara River supports a unique assemblage of cold-water fish including the pearl dace and the state-listed blacknose shiner and finescale dace. Wet meadows in the Niobrara River valley in western Sioux County support the state's only known population of Ute lady's-tresses orchid. Protected areas on the upper Niobrara include Agate Fossil Beds National Monument, The Nature Conservancy's Cherry Ranch, and Prairie Plains Resource Institute's Guadalcanal Memorial Prairie.

Stresses Affecting Species and Habitats

- ❖ Specific livestock grazing and haying practices that may reduce native plant diversity and promote uniform habitat structure in both uplands and riparian areas
- ❖ Invasive plant species, including houndstongue, reed canary grass, Garrison creeping foxtail, quackgrass, Russian olive, and narrow-leaf cattails
- ❖ Reduced river flows resulting from irrigation development. This threat is most prevalent in the western reaches of the river.
- ❖ Housing and ranchette development

- ❖ Conversion of valley bottom and terrace meadows to cropland
- ❖ Erosion and contamination from livestock watering in the river
- ❖ Aquatic nuisance species, especially zebra mussel

Conservation Strategies

- ❖ Implement ecologically-sensitive grazing and haying strategies on native prairies on private lands, in combination with prescribed fire and rest.
- ❖ In meadows containing the Ute lady's-tresses orchid, implement haying and grazing strategies that benefit the orchid
- ❖ Removal of invasive plant species such as Russian olive
- ❖ Maintain the natural hydrology of the Niobrara River and implement conservation strategies necessary to sustain biological diversity and ecosystem function (e.g., restoring center pivot lands to native grassland)
- ❖ Work with landowners to install livestock watering facilities in uplands to avoid having cattle water from the stream
- ❖ Coordinate with interested landowners to protect key high-quality sites through conservation easements
- ❖ Restrict stocking of exotic fish in the Niobrara river
- ❖ Modify culverts that impede fish moving upstream in the river
- ❖ Education about aquatic nuisance species control methods

Collaborative Conservation Opportunities across State Borders

Coordinate with Wyoming conservation agencies and organizations, particularly efforts to benefit shared species of greatest conservation need on the NE Upper Niobrara River BUL/WY border (i.e., Niobrara County in WY). Identified species include the plains topminnow, finescale dace, burrowing owl, ferruginous hawk, long-billed curlew, and swift fox. Species lists may be modified as new information becomes available. Innovative methods for sufficient information exchange could aid the collaborative process.

Tier I At-risk Species

Plants:

Blowout Penstemon
 Gordon's Wild Buckwheat³
 Large-spike Prairie-clover
 Meadow Lousewort¹
 Ute Lady's-tresses¹

Animals:

River Otter
 Swift Fox
 Bell's Vireo
 Brewer's Sparrow

Burrowing Owl
Ferruginous Hawk
Long-billed Curlew
Trumpeter Swan
Regal Fritillary
Blacknose Shiner
Finescale Dace
Northern Redbelly Dace
Plains Topminnow

Aquatic Communities:

Headwater, Cold Water Stream*
Headwater, Warm Water Stream
Mid-order Warm Water River*

Terrestrial Communities:

Cottonwood-Peachleaf Willow Riparian Woodland
Cottonwood Riparian Woodland
Green Ash-Elm-Hackberry Canyon Bottom Woodland
Sandbar Willow Shrubland
Buckbrush Shrubland
Buffaloberry Shrubland
Chokecherry-Plum Shrub Thicket
Freshwater Seep
Western Alkaline Meadow
Western Subirrigated Alkaline Meadow*
Western Sedge Wet Meadow*
Cattail Shallow Marsh
Reed Marsh
Western Sand Prairie*
Threadleaf Sedge Western Mixed-grass Prairie*
Wheatgrass Western Mixed-grass Prairie
Western Floodplain Terrace Grassland*
Perennial Sandbar
Sandbar/Mudflat
Rock Outcrop*

* 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