# Upper Loup Rivers and Tributaries

landscape includes the upper reaches of the Middle Loup, Dismal, North Loup and Calamus rivers from their headwaters in the central Sandhills southeastward to where the rivers enter the loess hills. The landscape includes the river channels and a two-mile buffer on each side of the channels. These rivers start as spring-fed, narrow streams in Sandhills meadows. Here, many of the meadows have been ditched and the streams channelized. The streams gain flow throughout their journey, taking on a meandering and braided characteristic. The valley bottoms are occupied by wet meadows with some cottonwood woodlands, marshes and isolated cropland. The bluffs are mainly Sandhills dune prairie. The steep bluffs of the North Fork and the South Fork of the Dismal's rivers support groves of eastern red cedar woodland.

The river flows are nearly constant throughout the year because their primary source comes from consistent groundwater seepage. The only mainstem impoundment in the region is on the Calamus River, forming Calamus Reservoir. Downstream diversions on the Loup rivers, within the loess hills, block fish movement into the upper reaches of these streams. Many small, colder-water tributary streams flow into these rivers.

The upper reaches of the rivers and some tributaries support assemblages of rare fish, including the Topeka shiner, blacknose shiner, and finescale dace. The federally and state endangered whooping cranes use braided channels and adjacent meadows as migratory stopover roosts. The federally and state threatened western prairie fringed orchid occurs in wet meadows within the valleys. The American burying beetle is found within this landscape. Protected areas within the landscape include portions of the Nebraska National Forest and a few smaller wildlife management areas.

## Natural Legacy Demonstration Site

**Calamus Wildlife Management Area and State Recreation Area – Nebraska Game and Parks Commission**
Calamus Reservoir and the adjacent Calamus Wildlife Management Area exhibit a variety of habitats including Sandhills dune prairie, Sandhills freshwater marsh, and wet meadows. Visitation rates are high in a relative central location that will be beneficial for demonstrating habitat projects.

## Stresses Affecting Species and Habitats

- Specific livestock grazing and haying practices that may reduce native plant diversity and promote uniform habitat structure
- Ditching and channel straightening in the upper stream reaches that often lead to channel degradation and reduced groundwater levels
- Stocking exotic and game fish into tributary streams with rare fish
- Golf course and housing development, particularly along the Calamus River
- Invasive species, including reed canary grass, purple loosestrife, narrow-leaf cattail, European phragmites, smooth brome, eastern red cedar, Garrsion creeping foxtail, Russian olive, and carp
- Dam building and water diversion on the rivers
- Conversion of grasslands and groundwater depletion from center pivot irrigation
- Poorly-sited utility-scale wind turbines

## Conservation Strategies

- Work with private landowners to develop and implement creative methods of forage utilization on wet meadows that avoid repeated annual mid-summer haying and do not require ditching to facilitate haying. Also, work with private landowners to implement strategic grazing on uplands.
- Implement integrated invasive weed control strategies that have minimum impacts to meadow and wetland plant diversity, including programs to reduce eastern red cedar encroachment into grasslands
- Restore the hydrology of wet meadows and fens through ditch-plugging and water control structures (ensure that in-stream structures allow for fish passage)
- Reduce the number of culverts on small streams containing rare fish by installing bridges
- Remove non-functional in-stream structures that form barriers to aquatic species movement (e.g., water diversion structures)
- Protect key stretches of the river valley through zoning and conservation easements
- Discontinue exotic and game fish stocking in the river and tributary streams
- 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
Hall's Bulrush[2]
Western Prairie Fringed Orchid
Wolf Spikerush[4]

**Animals:**
River Otter
Bell's Vireo
Burrowing Owl
Interior Least Tern
Long-billed Curlew
Piping Plover
Trumpeter Swan
Whooping Crane
Blanding's Turtle
American Burying Beetle
Iowa Skipper
Regal Fritillary
Married Underwing
Ghost Tiger Beetle
Blacknose Shiner[4]
Finescale Dace
Northern Redbelly Dace
Plains Topminnow
Topeka Shiner[2]

**Aquatic Communities:**
Headwater, cold water stream
Headwater, warm water stream*
Mid-order, warm water river*

**Terrestrial Communities:**
Cottonwood-Peachleaf Willow Riparian Woodland
Cottonwood-Diamond Willow Woodland*
Cottonwood Riparian Woodland
Dry Upland Bur Oak Woodland*
Green Ash-Elm-Hackberry Canyon Bottom Woodland
Green Ash-Eastern Red Cedar Scarp Woodland*
Sandbar Willow Shrubland*
Riparian Dogwood-False Indigobush Shrubland*
Buckbrush Shrubland
Buffaloberry Shrubland
Chokecherry-Plum Shrub Thicket

Freshwater Seep*
Northern Cordgrass Wet Prairie*
Sandhills Wet Meadow
Eastern Bulrush Deep Marsh
Cattail Shallow Marsh
Sandhills Hardstem Bulrush Marsh*
Reed Marsh*
Northern Pondweed Aquatic Wetland*
Water-lily Aquatic Wetland*
Loess Mixed-grass Prairie
Eastern Sand Prairie
Sandhills Mesic Tall-grass Prairie*
Sandhills Dune Prairie
Sandhills Dry Valley 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