

Winona Bluffs

Conservation Challenges:

- *Conversion to agricultural uses
- *Changes in agricultural practices, reducing infiltration
- *Conversion to mining
- *Deforestation/logging
- *Urbanization
- *Increased drainiling makes stream flow more flashy, reduces groundwater
- *Oak forests are transitioning into climax forests, and are not maintained at intermediate stages
- *Waterways are more incised, with more alluvium, and higher turbidity
- *Invasive spp.: Buckthorns, Eurasian honeysuckle, garlic mustard, leafy spurge, EAB
- *Habitat fragmentation
- *Thin soils over bedrock
- *Valley bottoms prone to high-volume floods of increased frequency
- *The Mississippi Valley is a portal for new species to migrate into the state (native to N. America and non-native)
- *Fire-dependent communities are likely to decline due to difficulty in restoring natural fire regimes

Conservation Opportunities:

- * Conservation partners along Mississippi Flyway

Rare Species:

| | | |
|--------------------------|--------------------------|----------------------------|
| Acadian Flycatcher | Ebonysnell | Pistolgrip |
| American Brook Lamprey | Elephant-ear | Plains Wild Indigo |
| American Ginseng | Elktoe | Prairie Moonwort |
| Bald Eagle | Fawnsfoot | Prairie Vole |
| Bat Concentration | Fluted-shell | Pugnose Minnow |
| Beaked Snakeroot | Goat's-rue | Purple Sand-grass |
| Bell's Vireo | Goldie's Fern | Purple Cliffbrake |
| Black Buffalo | Gopher snake | Rock Pocketbook |
| Black Redhorse | Gray's Sedge | Round Pigtoe |
| Black Sandshell | Green Dragon | Sheepnose |
| Blanchard's Cricket Frog | Henslow's Sparrow | Shovelnose Sturgeon |
| Blanding's Turtle | Hickorynut | Small White Lady's Slipper |
| Blue Sucker | Higgins Eye | Silverleaf grape |
| Blunt-lobed Grape Fern | Hooded Warbler | Skipjack Herring |
| Bluntnose Darter | Jewelled Shooting Star | Smooth Softshell |
| Broad Beech-fern | Lake Sturgeon | Snowy Champion |
| Bullfrog | Lance-leaved Violet | Spike |
| Butterfly | Lilia-leaved Twayblade | Splendid Tiger Beetle |
| Buttonbush | Long-bearded Hawkweed | Squirrel-corn |
| Cattail Sedge | Milk snake | Sword Moss |
| Catchfly Grass | Monkeyface | Timber Rattlesnake |
| Cerulean Warbler | Montia | Valerian |
| Clasping Milkweed | Mucket | Wartyback |
| Cliff Goldenrod | Narrow-leaved Spleenwort | Washboard |
| Common Gallinule | North American Racer | Western Fox snake |
| Creeping Juniper | Northern Cricket Frog | W. Harvest Mouse |
| Cross-leaved Milkwort | Ottoo Skipper | White Baneberry |
| Crystal Darter | Paddle fish | White Heath Aster |
| Ebony Spleenwort | Pallid Shiner | Witch-hazel |
| | Peregrine Falcon | Woodland Vole |
| | Pirate Perch | Yellow Bass |
| | | Yellow Pimpernel |

Existing Conservation Network:

State Parks:

Great River Bluffs

State Forests:

Richard J. Dorer Memorial Hardwood

SNAs:

King's/Queen's Bluff

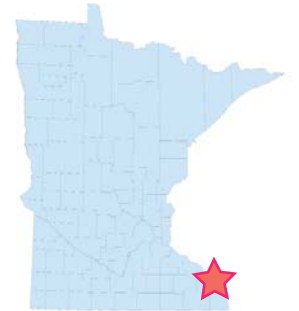
Aquatic Management Areas:

Reinvest in Minnesota: Yes

Local: Krueger Woods Natural Area

Winona Bluffs Opportunity Area

The Winona Bluffs are in the middle of an area that provides some of the greatest vertical relief in southern and central Minnesota. Steep north-facing and south-facing slopes and rock outcrops provide a setting for a variety of forest, savanna and prairie communities in very close juxtaposition. Southerly aspects frequently have goat prairies, mixed hardwoods occupy east-and west-facing slopes, and mesic hardwoods are found on north-facing slopes. The tributaries to the Mississippi River are more northerly flowing, and provide a different aspect for tributary valleys than in much of the remainder of the Blufflands. Variations in terrain afford opportunities for a mosaic of community types within a small area. *Unlike most other Opportunity Areas, there is very little level ground. The limestone geology provides important habitat for bats, rattlesnakes, and other fauna with specific habitat needs for cliffs and caves.* This OA also includes floodplain habitats in the Mississippi Valley. The southernmost location of white cedar in Minnesota is located in the Bluffs OA.



Counties:

Winona

Rare Native Plant Communities:

- Black Ash - Sugar Maple - Basswood - (Blue Beech) Seepage Swamp
- Dry Bedrock Bluff Prairie (Southern)
- Dry Limestone - Dolomite Cliff (Southern)
- Dry Sand - Gravel Prairie (Southern)
- Mesic Limestone - Dolomite Cliff
- Mesic Sandstone Cliff (Southern)
- Oak - Shagbark Hickory Woodland
- Red Oak - Sugar Maple - Basswood - (Bitternut Hickory) Forest
- Red Oak - White Oak - (Sugar Maple) Forest
- Red Oak - White Oak Forest
- Seepage Meadow/Carr, Impatiens Subtype
- Silver Maple - (Virginia Creeper) Floodplain Forest
- Southern Dry-Mesic Oak Forest
- Southern Mesic Cliff
- Sugar Maple - Basswood - (Bitternut Hickory) Forest
- Sugar Maple - Basswood - Red Oak - (Blue Beech) Forest

Ecological Evaluations:

Kellogg Weaver Dunes
Greenfield 13

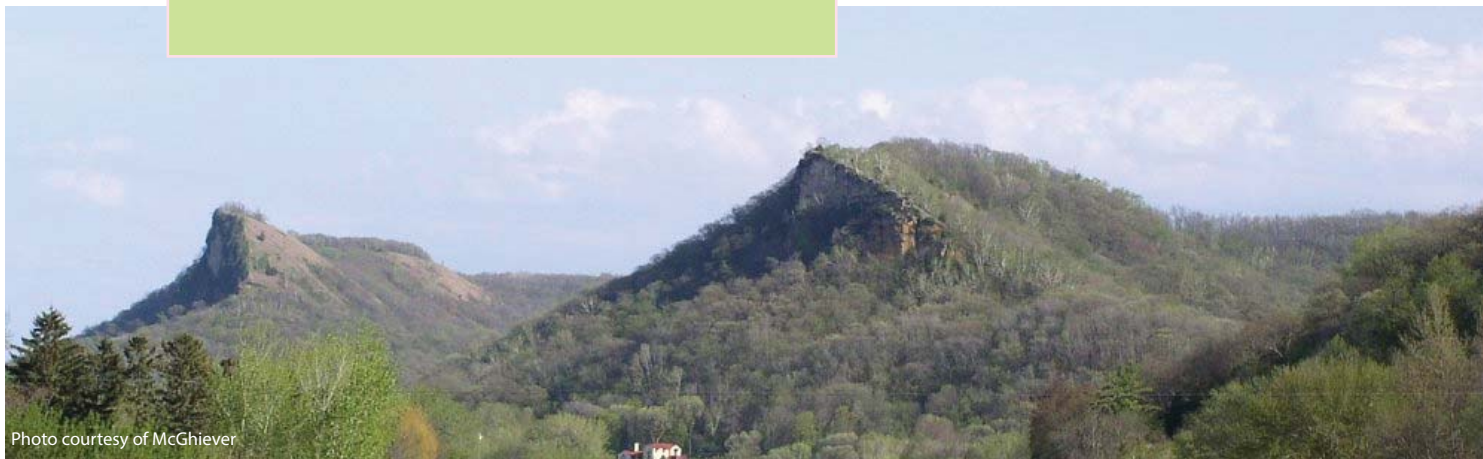


Photo courtesy of McGhievar

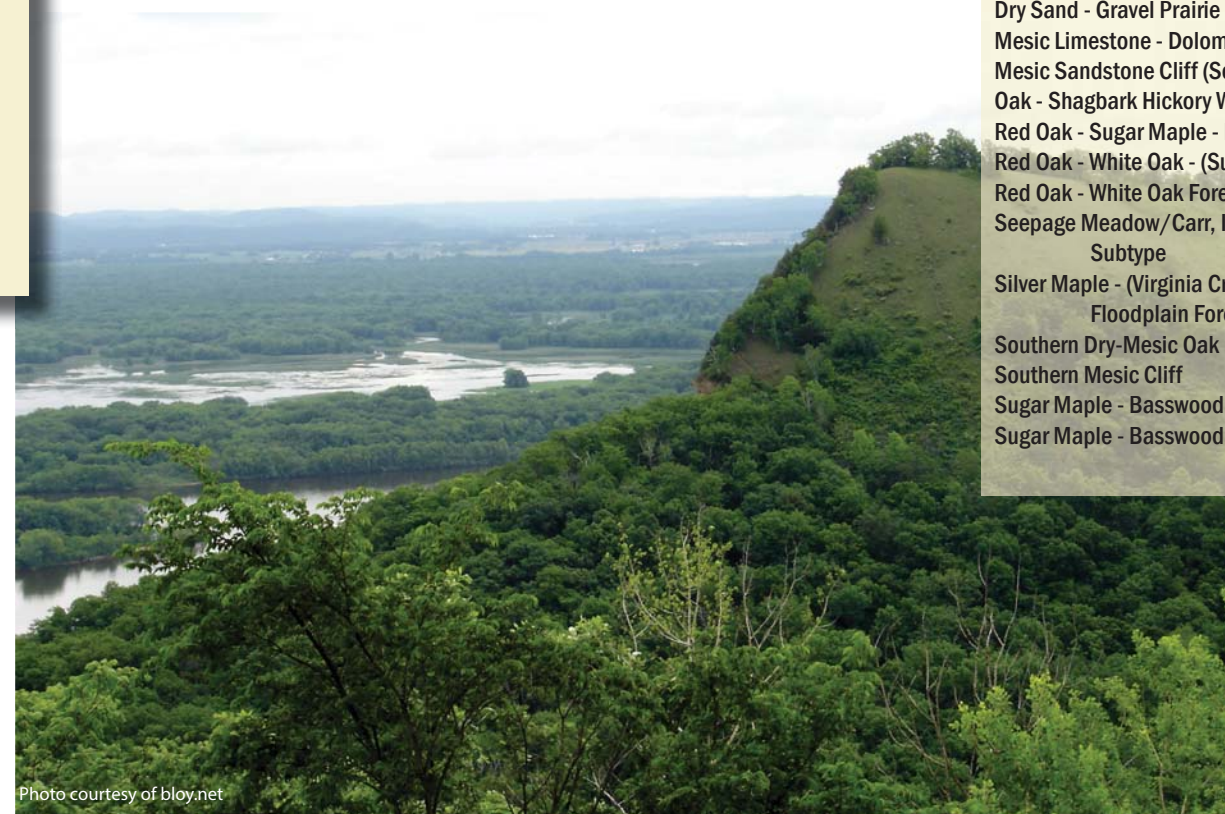
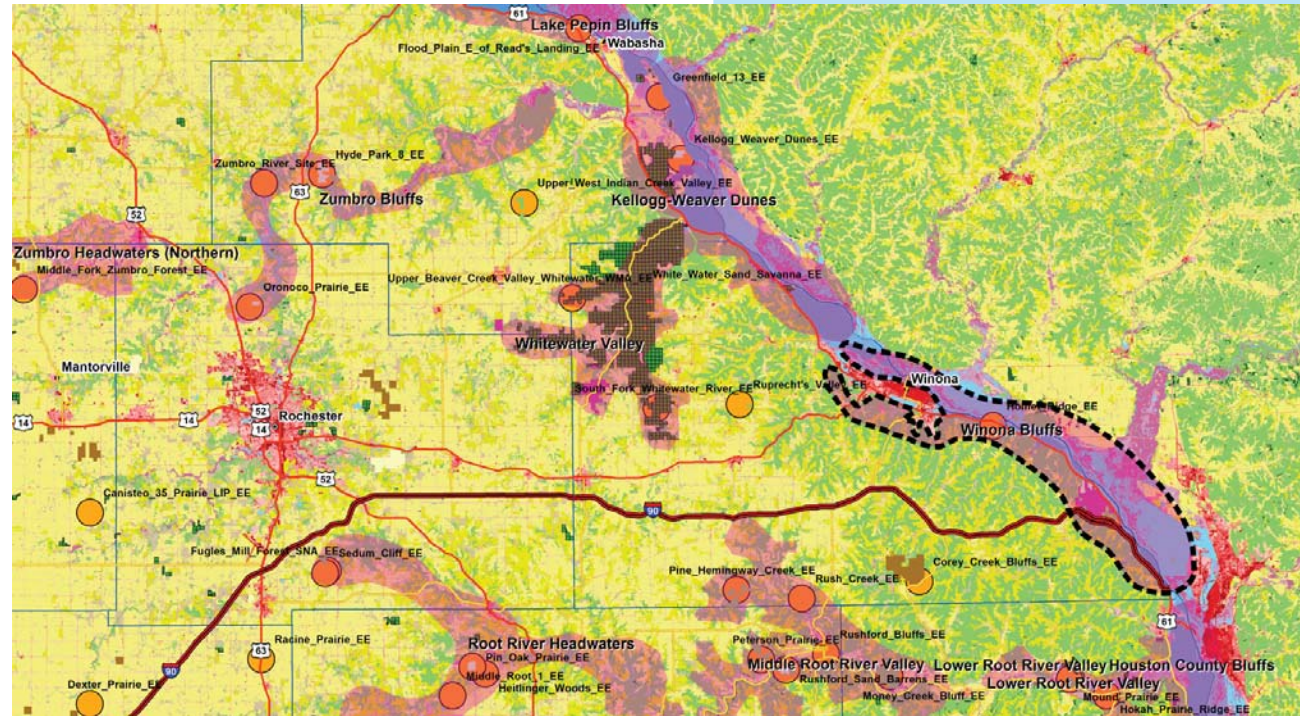


Photo courtesy of bloy.net

Winona Bluffs

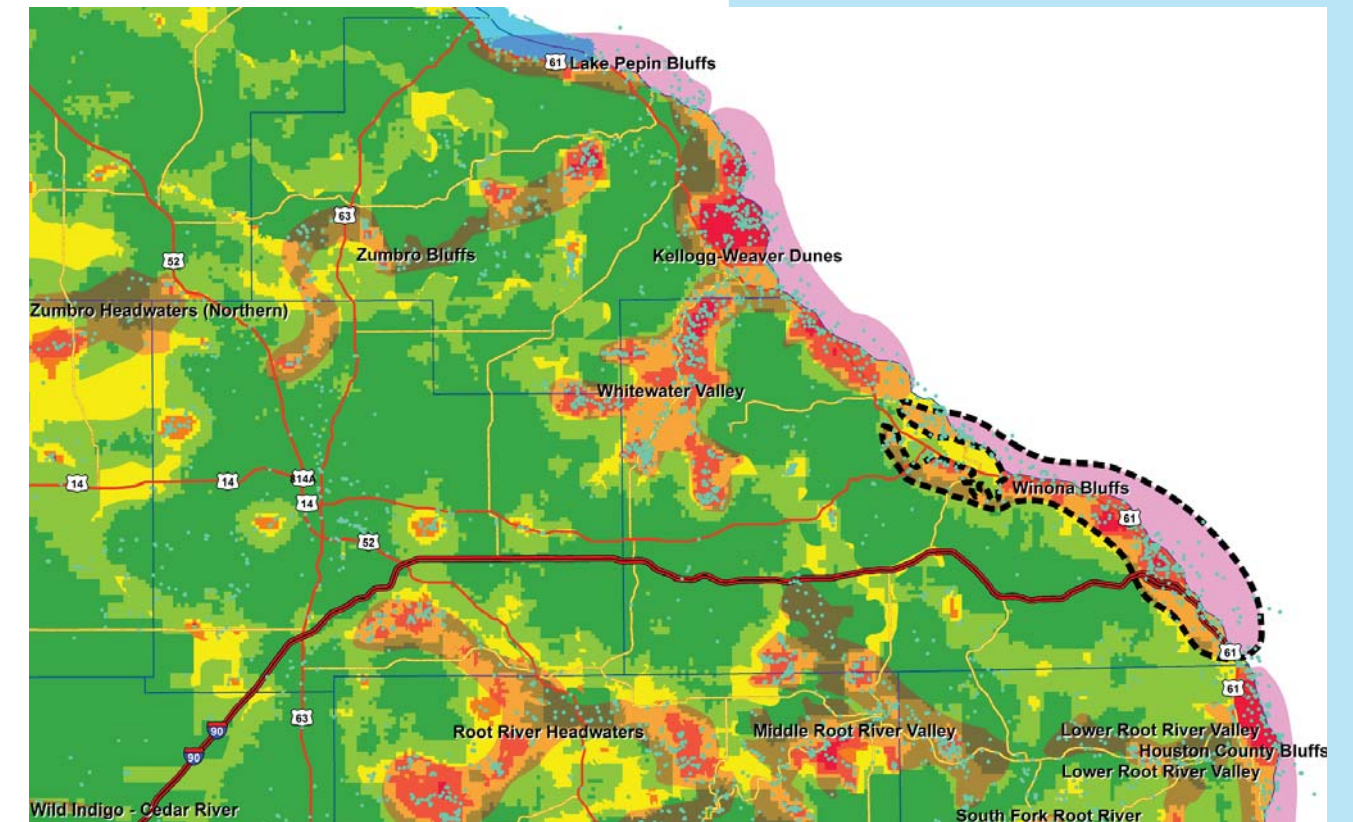
Ecological Evaluations, Land Cover, Public Ownership



Please see Legend at the front of the Opportunity Area Descriptions for a key to this map

Winona Bluffs

Marxan Prioritization, Element Occurrences



Legend

- Profiled COA
 - Conservation Opportunity Area
 - Rare Feature
 - County Boundary
 - Large Lake
- Marxan Conservation Prioritization**
- Lowest Priority
 - Low Priority
 - Medium Priority
 - High Priority
 - Highest Priority
- Interstate Highway
 - U.S. Trunk Highway
 - MN Trunk Highway