

THREATENED NATURAL COMMUNITIES AND RARE SPECIES

BIG STONE COUNTY, MINNESOTA 1987-1989

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Natural Communities are functional units of the natural landscape, classified and described by considering vegetation, hydrology, landform, soils, and natural disturbance regimes. The Natural Community Types on this map are classified primarily by vegetation and major habitat features. Natural Community areas were located by air photo interpretation¹ and confirmed by field inventory². Native prairie is emphasized; woodlands, wetlands (other than Wet Prairie), and aquatic communities were not surveyed extensively in Big Stone County. Uncolored areas are primarily cropland or other lands where the natural vegetation has been destroyed by human activity (such as overgrazed and non-native grasslands, planted woodlots, gravel pits, and rock quarries). Mature woodland areas which have developed mostly from savanna and brush since the onset of European settlement and fire suppression, and wetland and aquatic communities are also not mapped. Classification and inventory of Natural Communities in Minnesota is an ongoing effort of the Natural Heritage Program and the Minnesota County Biological Survey³.

DESCRIPTION OF MAP UNITS

PRAIRIE

MP Mesic Prairie – prairies on deep, moderately-drained to well-drained loamy soils formed in calcareous glacial till or alluvium. Occurring mostly on the rolling topography of the Big Stone moraine, in abandoned glacial-river channels, and on level terraces in the Minnesota River Valley. Cover grasses are mainly big bluestem (*Andropogon gerardii*), Indian grass (*Sorghastrum nutans*), and little bluestem (*Schizachyrium scapularium*). Common forbs are heartleaf golden alexanders (*Zizia aurea*), purple prairie-clover (*Petalostemon purpureum*), white prairie-clover (*P. candidum*), smooth blue aster (*Aster laevis*), Missouri goldenrod (*Solidago missouriensis*), Floodman's thistle (*Cirsium flodmani*), northern bedstraw (*Galium boreale*), rattlesnake-root (*Prenanthes racemosa*), violet wood sorrel (*Oxalis violacea*), Maximilian's sunflower (*Helianthus maximiliani*), and lead plant (*Amaranthus canescens*).

HP Hill Prairie – prairies on well-drained, loamy soils formed in calcareous glacial till, often with boulders at the surface. Typically occurring on moderate to steep slopes on the Big Stone moraine, and along the bluffs and associated coulees of the Minnesota River Valley. Cover grasses are mostly little bluestem, side-oats grama (*Bouteloua curtipendula*), prairie dropseed (*Sporobolus heterolepis*), and porcupine grass (*Stipa spartea*). Common forbs are pasque flower (*Pulsatilla nuttalliana*), purple coneflower (*Echinacea angustifolia*), gray goldenrod (*Solidago nemoralis*), rigid sunflower (*Helianthus rigidus*), silky aster (*Aster sericeus*), upland white aster (*Solidago pharicoides*), dotted blazing star (*Liatris punctata*), and lead plant.

WP Wet Prairie – prairies on deep, poorly-drained, silty clay loam to sandy loam soils. Typically occurring in depressions in the Big Stone moraine and within abandoned glacial-river channels in the Minnesota River Valley. Cover grasses are mainly prairie cordgrass (*Spartina pectinata*), northern reedgrass (*Calamagrostis incanescens*), big bluestem, and sedges, (e.g., *Carex tetanica*, *C. lasiocarpa*, and *C. sarawellii*). Common forbs are great blazing star (*Liatris pycnostachya*), yellow stargrass (*Hypochaeris hirsuta*), New England aster (*Aster novae-angliae*), winged loosestrife (*Lythrum alatum*), bottle gentian (*Gentiana andrewsii*), and giant goldenrod (*Solidago gigantea*).

PRIMARY COMMUNITY

RO Rock Outcrop – plant communities growing in fissures and shallow depressions on granitic outcrops in the Minnesota River Valley. Outcrops are scattered within dry to mesic prairie communities. Characteristic plants of rock outcrops are rock spike-moss (*Salvinella rupestris*), sand dropseed (*Sporobolus cryptandrus*), false pennyroyal (*Lamium brachiatum*), prickly pear cactus (*Opuntia fragilis*), ball cactus (*Coryphantha vivipara*), slender-leaved bluet (*Houstonia longifolia*), rusty woodsia (*Woodsia ilvensis*), famelflower (*Talinum parviflorum*), awned cyperus (*Cyperus aristatus*), aromatic aster (*Aster oblongifolius*), and golden aster (*Heterotheca villosa*).

RARE SPECIES SITES

Rare plants and animals that are listed or are candidates for listing under the provisions of the Federal or Minnesota Endangered Species Acts. Mapped sites are determined from ground inventory and historical records.

- ★ Vascular Plants
- ◆ Birds
- ◇ Colonial Waterbirds
- Mammals
- ☆ Butterflies

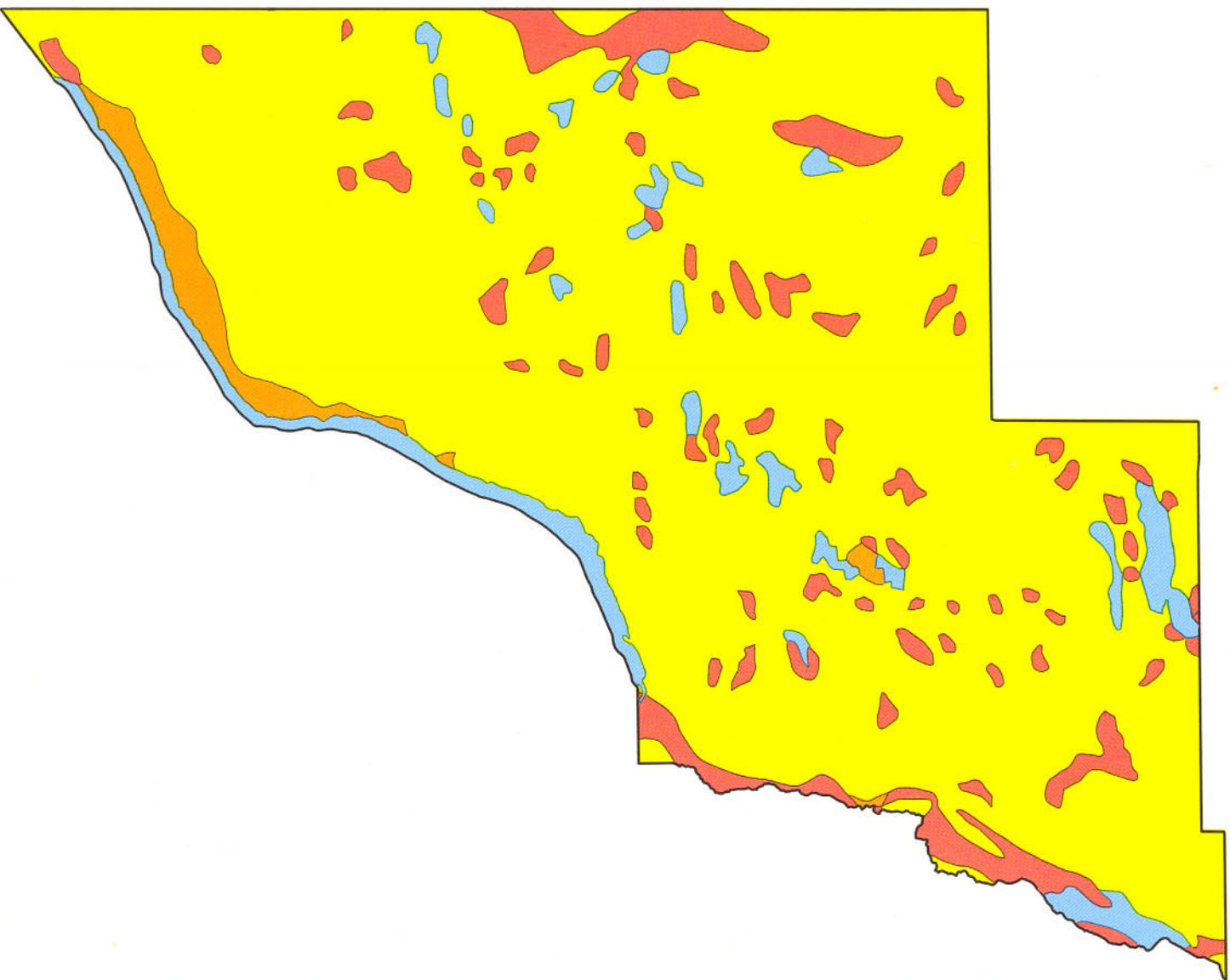
MISCELLANEOUS FEATURES⁴

- Minor Civil Divisions
- Streams
- Lakes and Rivers
- Managed Areas
- Primary Roads
- Other Roads
- Railroads
- NWR – National Wildlife Refuge
- WPA – National Waterfowl Production Area
- WMA – State Wildlife Management Area
- SP – State Park
- SNA – State Scientific & Natural Area

FOOTNOTES

- Natural communities were photointerpreted from 1:65,000 color infrared photography taken in May, 1980 and April 1982 (National Aeronautics and Space Administration), and 1:58,000 color infrared photography taken in April and October 1984 (National High Altitude Photography Program, U.S. Geological Survey). Photography and viewing facilities were provided by the National Wetlands Inventory, U.S. Fish and Wildlife Service, Bloomington, Minnesota.
- Data are available from the Minnesota Natural Heritage Information System, Department of Natural Resources, St. Paul, Minnesota.
- Almendinger, J. C., compiler and editor; N. E. Aaseng, R. P. Dana, B. C. Delaney, H. L. Dunne, K. A. Rusterholz, and N. P. Sather, contributors. 1991. A key to natural communities in Minnesota, version 1.3. Biological Report No. 20. Minnesota Natural Heritage Program, Department of Natural Resources, St. Paul, Minnesota.
- Federal and state legislation concerning endangered species is detailed in Coffin, B. and L. Plannmuller. 1988. Minnesota's endangered flora and fauna. University of Minnesota Press, Minneapolis, Minnesota.
- Miscellaneous features were digitized from 1:24,000 U.S. Geological Survey topographic base maps. Data obtained from the Land Management Information Center, Minnesota State Planning Agency, St. Paul, Minnesota.

THE ORIGINAL VEGETATION OF BIG STONE COUNTY



DESCRIPTION OF MAP UNITS

Original Vegetation of Big Stone County from Public Land Survey Records as interpreted by Francis J. Marschner¹, with slight modifications based on 1989 review of the Public Land Survey Records. Equivalent Natural Communities surveyed in 1987-1989 are given in parentheses. Rock Outcrops were not mapped by Marschner.

- Prairie** (Mesic Prairie, Hill Prairie)
- Wet Prairies, Marshes, and Sloughs:** mostly Marsh-grasses, Flags, Reeds, Rushes, Wild Rice, with Willow and Alder-brush in places. (Wet Prairie)
- Oak Openings and Barrens:** Scattered trees and groves of Oaks (mostly Bur Oak) of scrubby form with some brush and thickets.

FOOTNOTE

- Marschner, F.J. 1974. The original vegetation of Minnesota (map scale 1:500,000). USDA Forest Service, North Central Forest Experiment Station, St. Paul, Minnesota. (redraft of the original 1930 edition)

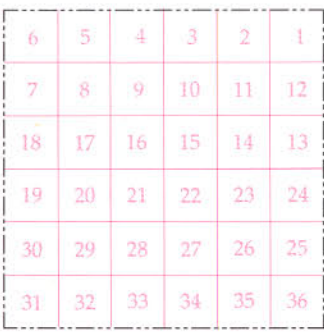


Diagram showing how sections are numbered in a township

(1:100,000)

