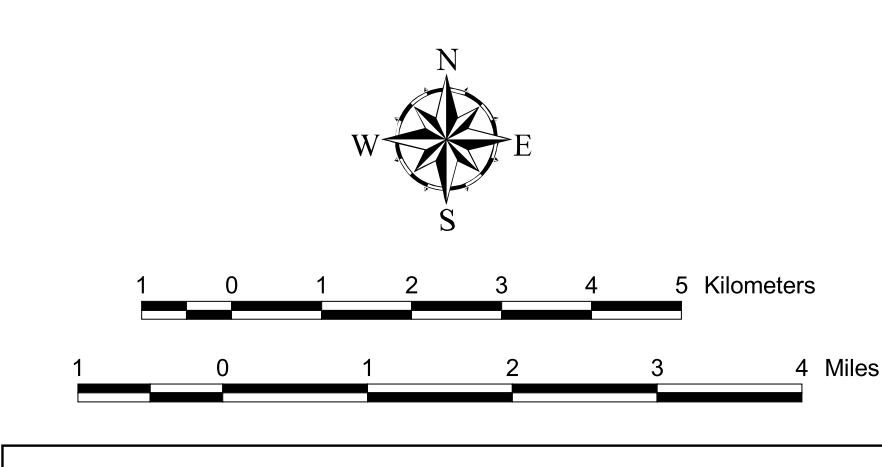
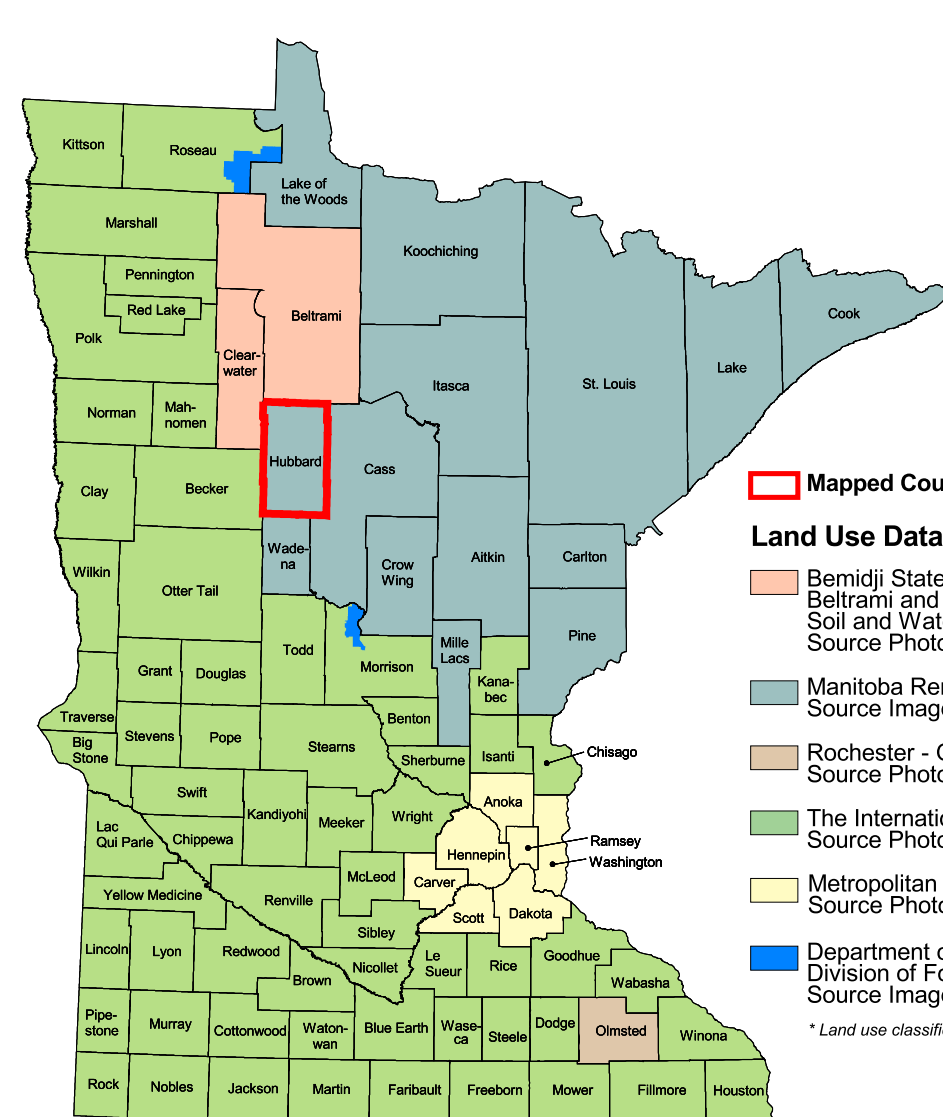
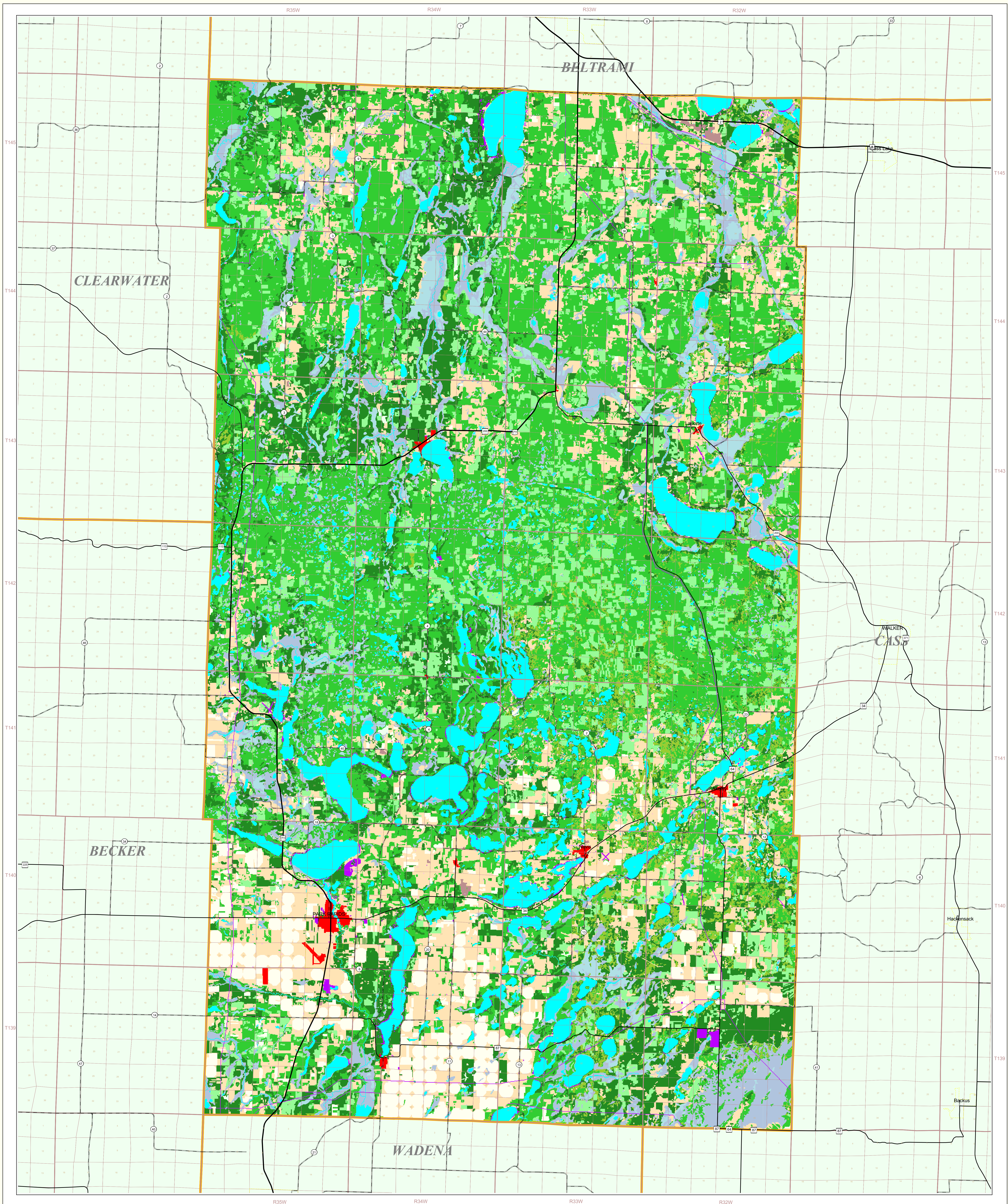


# Hubbard County Land Use and Cover

State of Minnesota

June 18, 1995



- MAP FEATURES**
- Land Use**
    - Urban/Industrial
    - Farmsteads and Rural Residences
    - Other Rural Developments
    - Cultivated Land
    - Grassland
    - Shrubby Grassland
    - Regeneration/Young Forest
    - Mixed Forest
    - Deciduous Forest
    - Coniferous Forest
    - Wetlands: Bogs
    - Wetlands: Marsh and Fens
    - Water
    - Gravel Pits and Open Mines
    - Bare Rock
  - Cities**
    - COUNTY SEAT
    - Other Cities
  - Highways**
    - Interstate Highway
    - U.S. Trunk Highway
    - State Trunk Highway
    - County State-Aid Highway (CSAH)
  - Public Land Survey**
    - State Boundary
    - County Boundary
    - Township & Range
    - Section
  - Data Sources**
    - Manitoba Remote Sensing Centre, Source Imagery Dates: 1987-1988
    - 1:90,000 Scale Data, U.S. Bureau of the Census, 1986
    - Minnesota Department of Transportation, 1987-88

**Hubbard County Land Use Statistics**  
Source: The Land Management Information Center (LMIC)

DESCRIPTION	ACRES	% ACRES
Urban/Industrial	1501.4	0.2
Farmsteads and Rural Residences	1117.4	0.2
Other Rural Developments	3945.1	0.6
Cultivated Land	25575.4	4.0
Grassland	104164.6	16.3
Shrubby Grassland	441.3	< 0.1
Regeneration/Young Forest	57098.8	8.9
Mixed Forest	20435.5	3.2
Deciduous Forest	21260.2	33.2
Coniferous Forest	92344.7	14.4
Wetlands: Bogs	16336.1	2.4
Wetlands: Marsh and Fens	5221.2	0.2
Water	51881.6	8.1
Gravel Pits and Open Mines	747	0.1
Bare Rock	99.2	< 0.1
<b>TOTAL</b>	<b>639,522</b>	<b>100%</b>

- Land Use Data Sources\***
- Bemidji State University - Department of Geography, Source Imagery Dates: 1987-1988
  - The International Geostationary Earth Observation Satellite (IGERS) Source Imagery Dates: 1986-1990
  - Manitoba Remote Sensing Centre, Source Imagery Dates: 1987-1988
  - Rochester - Olmsted Planning Department, Source Imagery Dates: 1982
  - Metropolitan Council, Source Imagery Dates: 1990
  - Department of Natural Resources, Source Imagery Dates: 1962, 1963 and 1966
- \*Land use classifications vary slightly between data sources.

**ABOUT THIS MAP**

**Data Sources:** With the exception of roads, the land use / land cover categories displayed on this map were derived from 30 meter resolution Landsat Thematic Mapper satellite imagery, bands 3, 4 and 5. Satellite imagery dates ranged from September, 1987 to August, 1988. The road category was created from road layers found in the Minnesota Department of Transportation's 1:50,000-scale BaseMAPF data set. Classifications were checked using 1:60,000 color and black-and-white infrared National High Accuracy Photography (NHAP). U.S. Forest Service plot data were used to check the forest classifications for Lake County.

**Data Interpretation and Computerization:** The Manitoba Remote Sensing Centre (MRSC) interpreted the Landsat imagery using a supervised maximum likelihood classification. These classification iterations were typically performed prior to an exhaustive manual verification process using the MAP photography. Transition matrix types (e.g. coniferous, mixed, deciduous forest classes) were processed by first developing a classification using relatively large samples of individual types and then performing a limited classification around a slightly controlled confidence interval. Mixed classes falling outside of the pure class confidence interval were then assigned to a single mixed class.

MRSC used the USFS plot data to reclassify some Lake County coniferous areas to mixed forest. The "regeneration/young forest" category was first field-checked by Minnesota Department of Natural Resources, Forestry Division personnel, after which they revised the category definition to include some older trees on poorer sites.

This data exhibits a per class and overall classification accuracy of not less than 95 percent.

**On-line documentation:** <http://lucy.lmic.state.mn.us/landuse.htm>

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The Manitoba Remote Sensing Centre, Winnipeg  
Minnesota Department of Natural Resources  
University of Minnesota - Department of Forest Resources  
Widshelm, Smith and Nolting

**Map Projection:** UTM, Extended Zone 15  
**Datum:** NAD83

**Liability statement**  
The Land Management Information Center (LMIC) does not warrant the results you may obtain by using this map. This map is provided "as is" without warranty or implied warranties, including warranties of merchantability and fitness. In no event will LMIC be liable for any consequential, incidental or special damages, including any lost profits or lost savings, even if a LMIC representative has been advised of the possibility of such damages or any other claim by any third party.

**Distribution Information**  
This map was prepared in April, 1995. Both the map and the data used to create it are available from the Land Management Information Center at Minnesota Planning.

You may also view a generalized, interactive land use map of Minnesota, along with detailed information about land use data at:  
<http://mapserver.lmic.state.mn.us/landuse>

**For further assistance, or to order copies of this map, contact:**  
Land Management Information Center  
658 Cedar Street  
Centennial Building, Room 330  
St. Paul, MN 55155  
Phone: (651) 296-1211  
FAX: (651) 296-1212  
E-Mail: [clearinghouse@mnplan.state.mn.us](mailto:clearinghouse@mnplan.state.mn.us)

