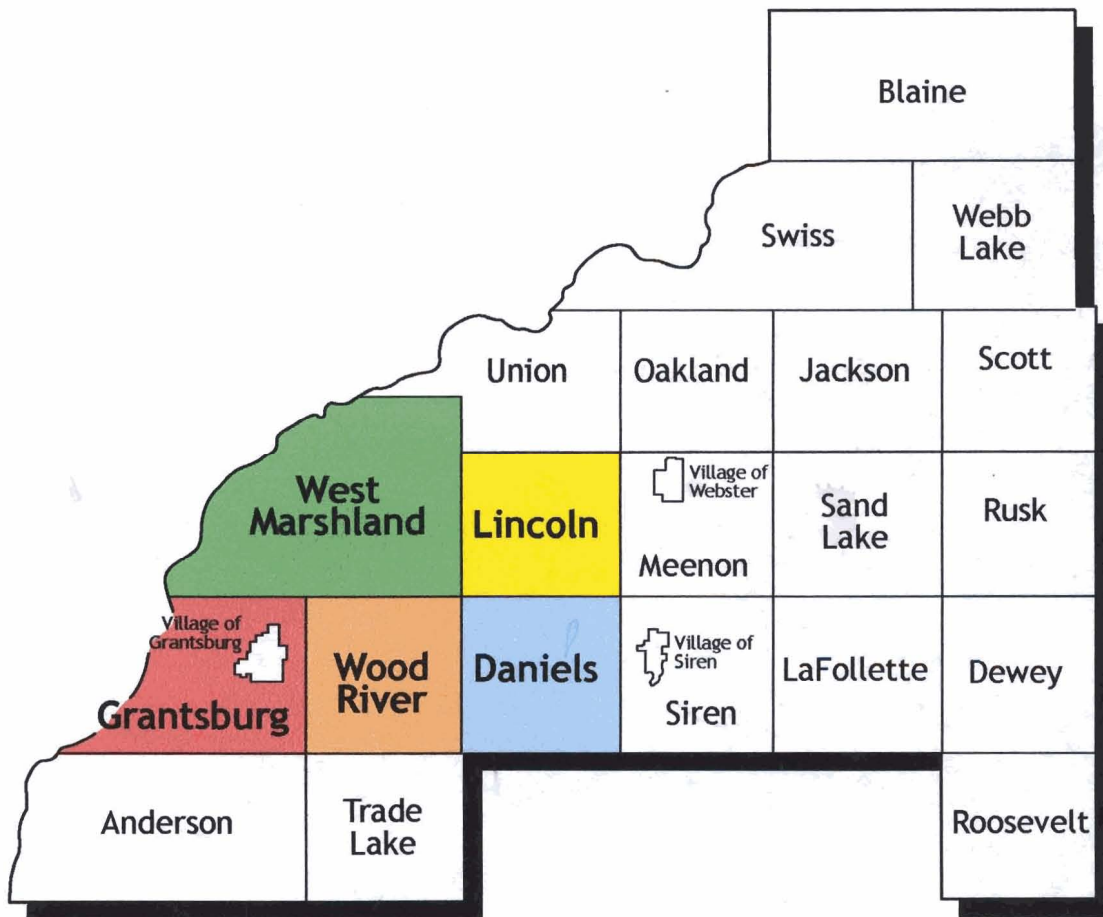


Long Range Land Use Plan

Town of Daniels / Town of Grantsburg
Town of Lincoln / Town of West Marshland
Town of Wood River

Burnett County, Wisconsin



Prepared by:
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1400 South River Street
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INTRODUCTION

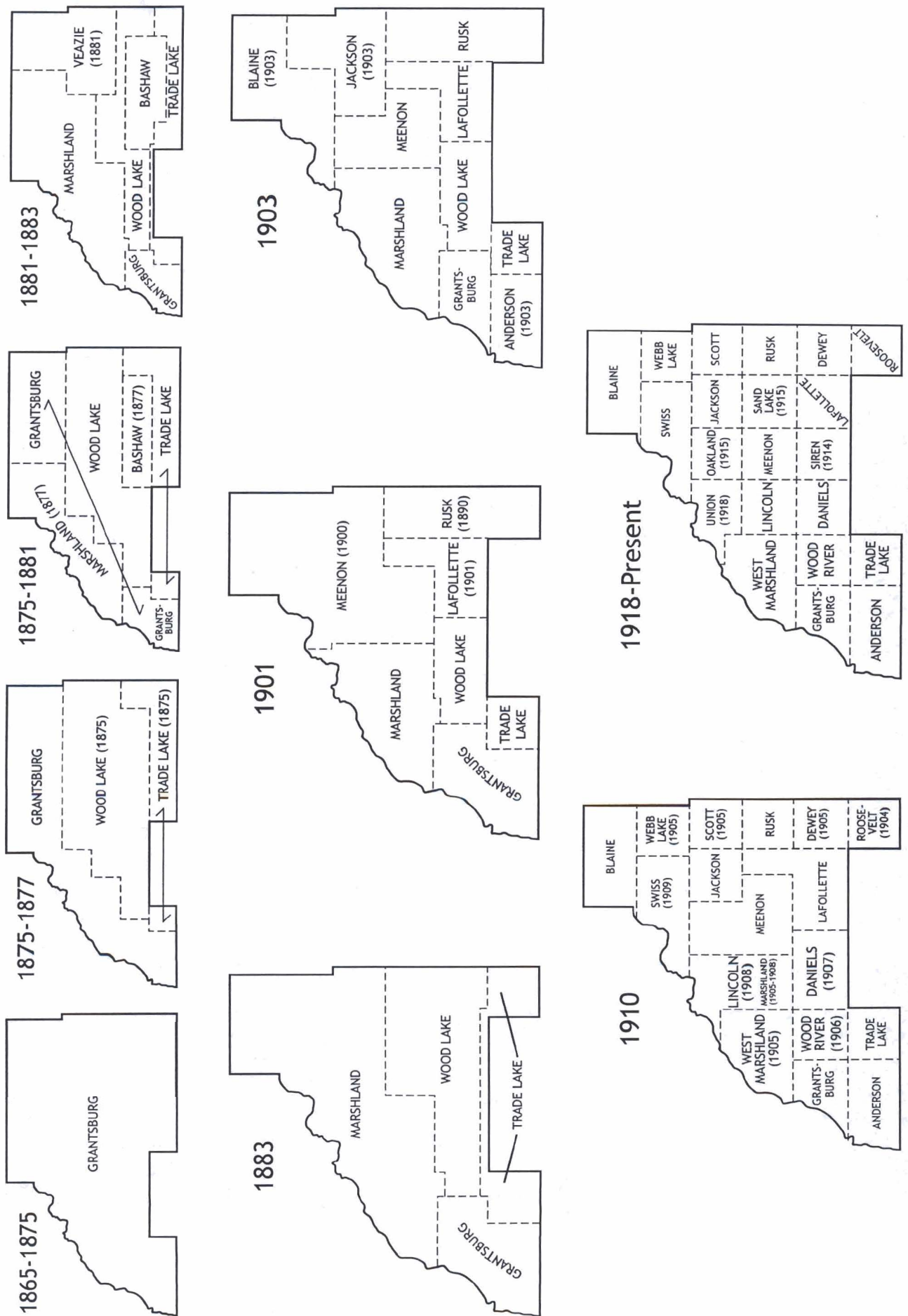
Historical Summary. The area presently comprising the towns of Daniels, Grantsburg, Lincoln, Wood River and West Marshland is known to have been inhabited as early as 800 B.C. by Middle Woodland and Late Woodland Native American culture groups. The region was later inhabited by members of the Ojibwe (Chippewa) and Dakota (Sioux) who took advantage of the area's abundant fish and game. The first European presence in the area would have been French explorers and fur traders arriving via the St. Croix River valley down from Lake Superior to the Mississippi River. Early French explorers in the area include Pierre-Esprit Radisson and Medart Chouart, Sieur des Groseillers (1658-1661) and Daniel Greysolon. Sieur du Luht (1679-1680). French control of the area lasted from the mid-1600s to 1763, when the British assumed dominance in North America. Much like the French, the English maintained close ties to the native peoples for the fur trade and established a series of forts and trading posts. The most prominent of these sites in proximity to the planning area was constructed in 1804-05 by the Northwest Company and XY Company near the confluence of the Yellow and St. Croix Rivers, and is today the site of Fort Folle Avione Historical Site.

The early 1800s saw the decline of the fur trade and the first few settlers arriving in the area, but it was not until the Ojibwe title to the land was extinguished in 1842 that the number of settlers began to increase. Although Wisconsin attained statehood in 1848, it was not until the late 1870s and 1880s that vital rail links made their way into the northern part of the state that full scale immigrant settlement, the growth of the lumbering industry and development of agriculture began to take place.

County and Town Development. Burnett County was created on January 1, 1865 from portions of southern Douglas County and northern Polk County. When created, the entire county was encompassed by one single town, the Town of Grantsburg. By 1875, the county was partitioned into three towns: Grantsburg, Wood Lake and Trade Lake. The period between 1875 and 1883 saw the creation of the towns of Marshland, Bashaw and Veazie.

In 1883, Washburn County was created from the eastern portion of Burnett County, leaving the remaining county with four civil towns. By 1901, three additional towns were created: Rusk (1890), Meenon (1900) and LaFollette (1901). The year 1903 saw the addition of three new civil towns: Blaine, Jackson and Anderson. In 1905, the Town of Marshland was divided into two parts: West Marshland and Marshland (renamed Lincoln in 1908), the Town of Wood River was formed in 1906 and the Town of Wood Lake was renamed Daniels in 1907. The remaining towns of the county assumed their present shape by 1918. Figure 1 on the following page illustrates the historic development of civil towns in Burnett County.

Figure 1:
Development of Civil Towns in Burnett County



PLANNING AREA & PHYSICAL SETTING

Planning Area. The planning area of this plan encompasses the following five civil towns:

Table 1: Town Locations by Legal Description

Civil Towns	Congressional Township and Range Locations
Town of Daniels	(T38N, R17W)
Town of Grantsburg	(T38N, R19W & R 20W [partial])
Town of Lincoln	(T 39 N, R 17W)
Town of West Marshland	(T39N, R18W & 19 West [partial], T40N [partial], R 18 W [partial] & R 19 W [partial])
Town of Wood River	T 38 N, R 18 W

Figure 2 on the following page illustrates the location of the towns in relationship to the rest of Burnett County.

Land Cover. The three primary land cover types dominate the planning area include forested areas, openfield-agricultural-shrubland and wetlands. Within each of these three broad categories are several defined subcategories. Figure 3 illustrates the existing land cover in the planning area from the WISCLAND database.

In the planning area, the most prominent land cover type are forests (38.09%) followed by wetlands (26.31%) and agricultural/open-space lands (23.58%).

The largest contiguous forest areas in the planning area are found in the eastern portions of the towns of Grantsburg and West Marshland in addition to the northern and western areas of the Town of Lincoln. Sizeable woodlots are also found throughout the towns of Wood Rivers and Daniels.

The most prominent wetland areas include the Crex Meadows system extending from northeastern Grantsburg through central West Marshland, the Amsterdam Slough system in southeastern Lincoln and northeastern Daniels and the Fish Lake wetlands in the southeastern portion of the Town of Grantsburg. Additional wetlands areas include the forested marshes of northern West Marshland as well as land in the Clam River and Wood River corridors. Figure 4 illustrates the wetland areas as defined by the Wisconsin Department of Natural Resources as five acres or larger.

The largest contiguous areas of agricultural/open-space/pasture lands are found in the town of Wood River and Daniels and the southeastern portion of the Town of Grantsburg. Smaller agricultural areas are found in south-central Lincoln and extreme southeastern West Marshland.

The following tables detail the land coverage in each of the five participating towns.

Figure 2:
Location of Planning Area

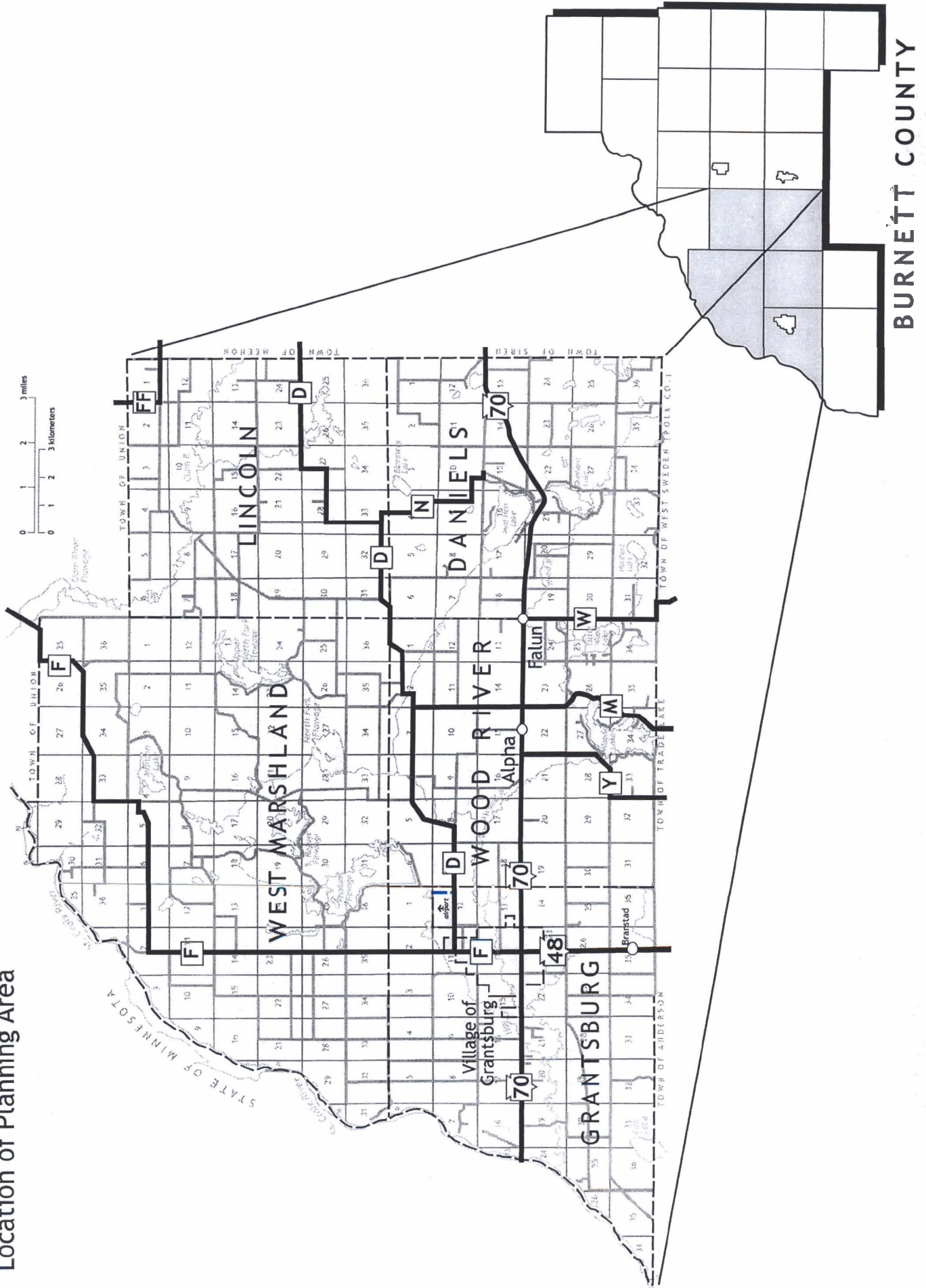
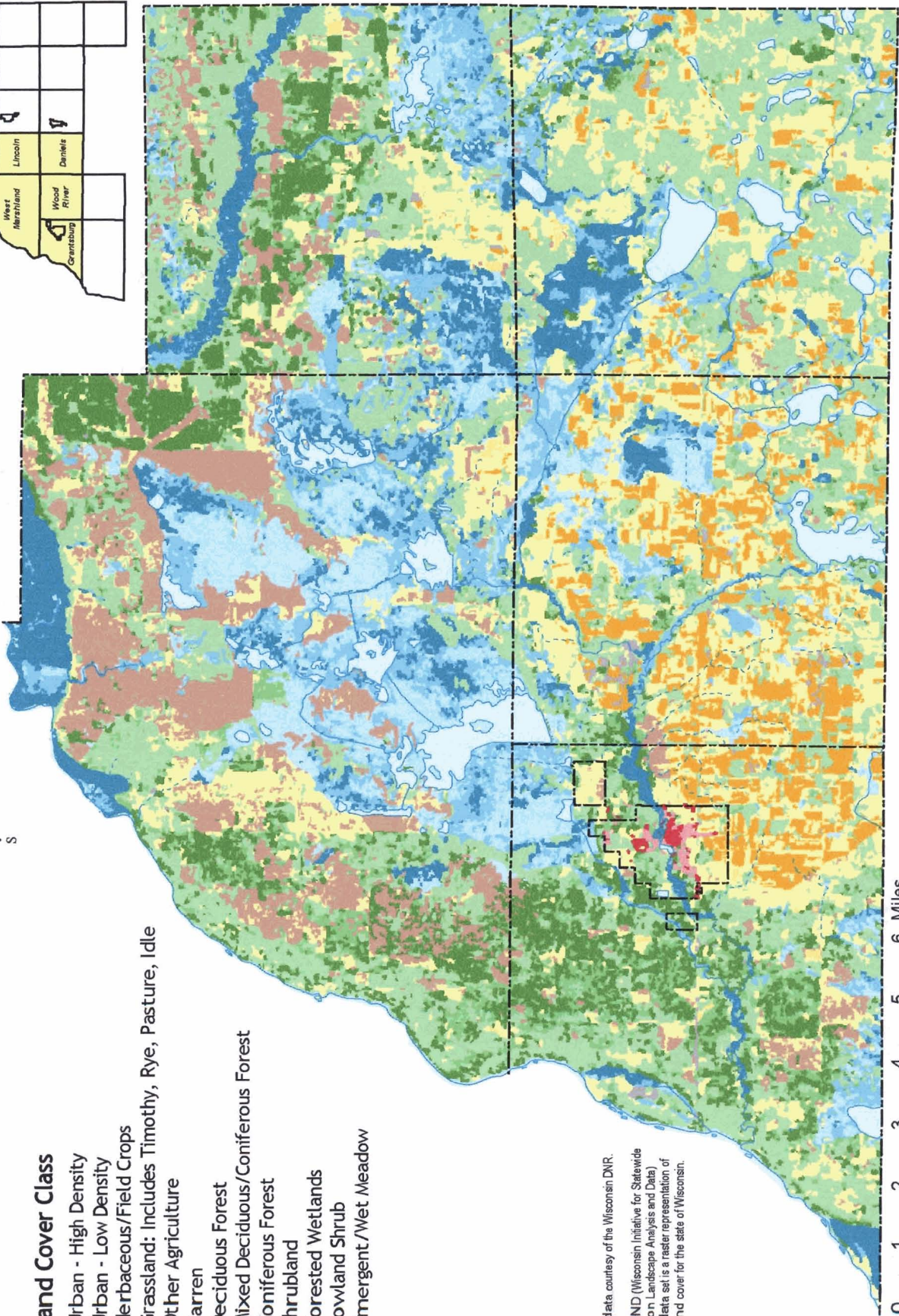
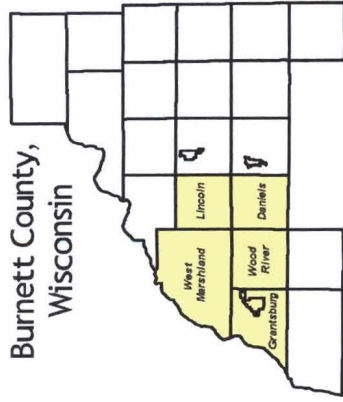


Figure 3

Land Cover

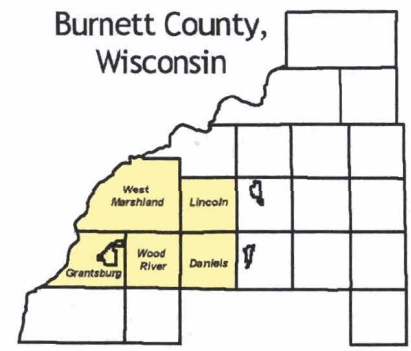
Land Cover Class

- Urban - High Density
- Urban - Low Density
- Herbaceous/Field Crops
- Grassland: Includes Timothy, Rye, Pasture, Idle
- Other Agriculture
- Barren
- Deciduous Forest
- Mixed Deciduous/Coniferous Forest
- Coniferous Forest
- Shrubland
- Forested Wetlands
- Lowland Shrub
- Emergent/Wet Meadow



Source:
WISCLAND data courtesy of the Wisconsin DNR.
The WISCLAND (Wisconsin Initiative for Statewide Cooperation on Landscape Analysis and Data) Land Cover data set is a raster representation of vegetation/land cover for the state of Wisconsin.

Figure:4
Wetlands



- Wetland (> 5 acres)
- Lake
- River or Stream
- Intermittent
- Village of Grantsburg
- Unincorporated Community



Source:
Wetland data courtesy of Burnett County Land Information Office.

Wisconsin Wetland Inventory (WVI) data includes wetlands five acres and larger. WVI data delineation and classification are obtained from air photo interpretation and field verification of 1:24,000-scale black-and-white infrared stereoscopic aerial photography.

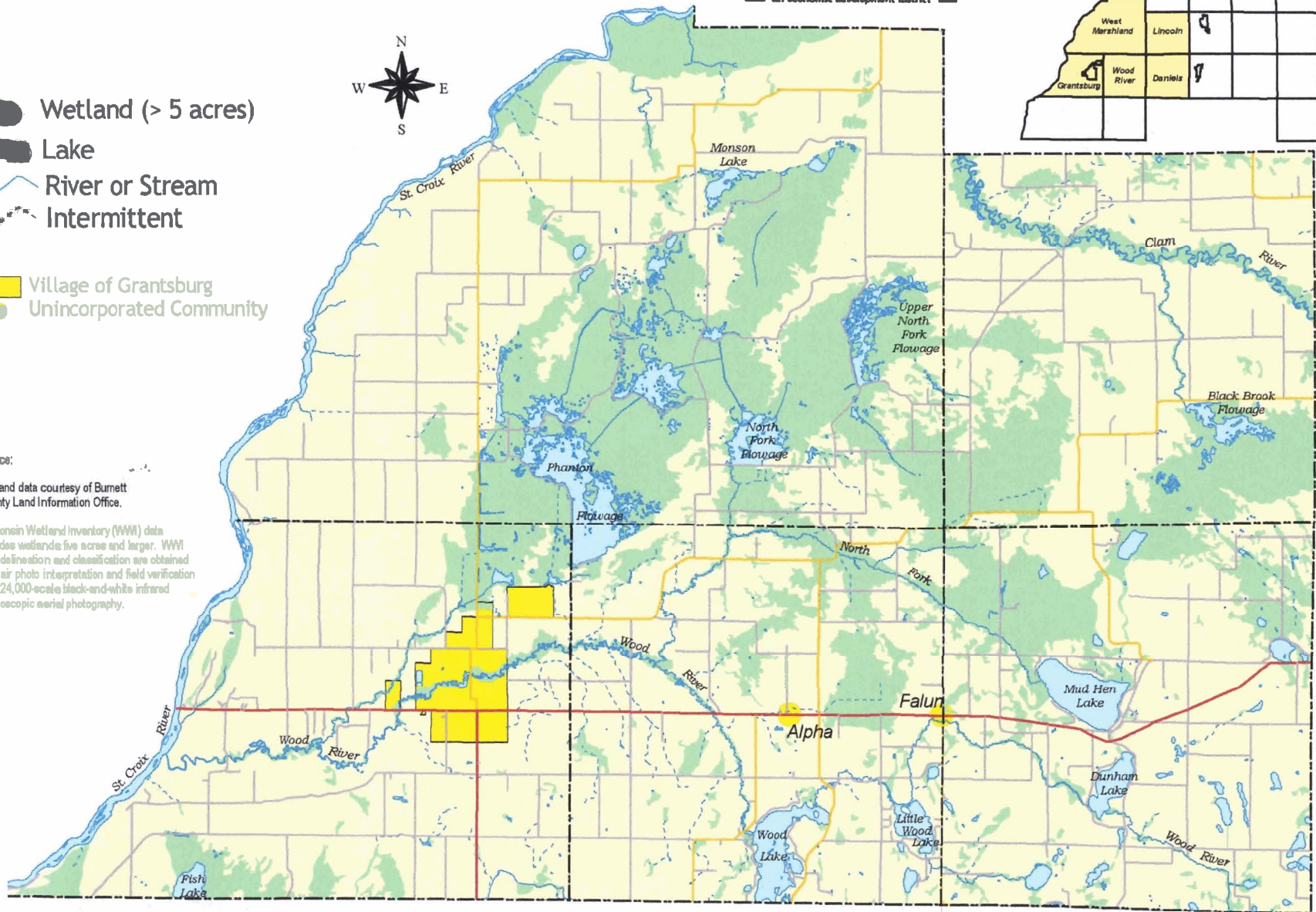


Table 2: Land Cover for the entire Five Town Planning Area

Land Cover Class	Acres	Square Miles	Percent of Area
High Intensity Urban	12	.02	.01%
Low Intensity Urban	11	.02	.01%
Total Urban	23	.04	.02%
Agriculture	302	.47	.22%
Grassland (Timothy, Rye, Pasture & Idle)	25,130	39.27	18.17%
Herbaceous / Field Crops	7,192	11.23	5.20%
Total Agriculture	32,624	50.97	23.58%
Broad-Leaf Deciduous Forest	34,835	54.43	25.18%
Mixed Deciduous/Coniferous Forest	6,456	10.08	4.67%
Coniferous Forest	11,398	17.81	8.24%
Total Forest	52,689	82.32	38.09%
Shrubland	11,913	18.62	8.61%
Barren Land (Rock Outcrops, Gravel Pits)	530	.82	0.38%
Emergent / Wet Meadow Wetlands	13,314	20.80	9.62%
Lowland Shrubs	13,160	20.57	9.51%
Forested Wetlands	9,917	15.50	7.17%
Total Wetlands	36,391	56.87	26.31%
Open Water	4,165	6.51	3.01%
TOTAL	138,335	216.15	100.00%

Table 3: Land Cover for the Town of Daniels

Land Cover Class	Acres	Square Miles	Percent of Area
High Intensity Urban	0	0	0.00
Low Intensity Urban	0	0	0.00
Total Urban	0	0	0.00
Agriculture	52	.08	0.23
Grassland (Timothy, Rye, Pasture & Idle)	6,103	9.54	26.66
Herbaceous / Field Crops	1,311	2.05	5.73
Total Agriculture	7,466	11.67	32.62
Broad-Leaf Deciduous Forest	8,233	12.86	35.97
Mixed Deciduous/Coniferous Forest	493	.77	2.15
Coniferous Forest	500	.78	2.18
Total Forest	9,226	14.41	40.31
Shrubland	139	0.22	0.61
Barren Land (Rock Outcrops, Gravel Pits)	73	0.11	0.32
Emergent / Wet Meadow Wetlands	1,093	1.71	4.78
Lowland Shrubs	1,965	3.07	8.58
Forested Wetlands	1,786	2.79	7.80
Total Wetlands	4,844	7.57	21.16
Open Water	1,141	1.78	4.98
TOTAL	22,889	35.76	100.00

Table 4: Land Cover for the Town of Grantsburg

Land Cover Class	Acres	Square Miles	Percent of Area
High Intensity Urban	12	.02	.05%
Low Intensity Urban	11	.02	.05%
Total Urban	23	.04	0.10%
Agriculture	83	.13	0.36%
Grassland (Timothy, Rye, Pasture & Idle)	4,171	6.52	17.96%
Herbaceous / Field Crops	1,613	2.52	6.95%
Total Agriculture	5,867	9.17	25.27%
Broad-Leaf Deciduous Forest	6,290	9.83	27.09%
Mixed Deciduous/Coniferous Forest	2,389	3.73	10.29%
Coniferous Forest	3,867	6.04	16.66%
Total Forest	12,546	19.60	54.04%
Shrubland	904	1.41	3.89%
Barren Land (Rock Outcrops, Gravel Pits)	128	.20	0.55%
Emergent / Wet Meadow Wetlands	1,152	1.80	4.96%
Lowland Shrubs	1,150	1.80	4.95%
Forested Wetlands	982	1.53	4.23%
Total Wetlands	3,284	5.13	14.14%
Open Water	466	.73	2.01%
TOTAL	23,218	36.28	100.00%

Table 5: Land Cover for the Town of Lincoln

Land Cover Class	Acres	Square Miles	Percent of Area
High Intensity Urban	0	0	0
Low Intensity Urban	0	0	0
Total Urban	0	0	0
Agriculture	70	.11	0.31%
Grassland (Timothy, Rye, Pasture & Idle)	2,994	4.68	13.31%
Herbaceous / Field Crops	39	0.06	0.17%
Total Agriculture	3,103	4.85	13.79%
Broad-Leaf Deciduous Forest	6,546	10.23	29.09%
Mixed Deciduous/Coniferous Forest	1,133	1.77	5.04%
Coniferous Forest	2,581	4.03	11.47%
Total Forest	10,260	16.03	45.60%
Shrub-land	2,039	3.19	9.06%
Barren Land (Rock Outcrops, Gravel Pits)	40	0.06	0.18%
Emergent / Wet Meadow Wetlands	1,670	2.61	7.42%
Lowland Shrubs	2,762	4.32	12.28%
Forested Wetlands	2,436	3.81	10.83%
Total Wetlands	6,868	10.74	30.52%
Open Water	190	0.30	0.84%
TOTAL	22,500	35.17	100.00%

Table 6: Land Cover for the Town of West Marshland

Land Cover Class	Acres	Square Miles	Percent of Area
High Intensity Urban	0	0	0.00%
Low Intensity Urban	0	0	0.00%
Total Urban	0	0	0.00%
Agriculture	85	0.13	0.18%
Grassland (Timothy, Rye, Pasture & Idle)	4,839	7.56	10.32%
Herbaceous / Field Crops	22	0.03	0.05%
Total Agriculture	4,946	7.72	10.55%
Broad-Leaf Deciduous Forest	8,911	13.92	19.00%
Mixed Deciduous/Coniferous Forest	1,980	3.09	4.22%
Coniferous Forest	4,113	6.43	8.77%
Total Forest	15,004	23.44	32.00%
Shrubland	8,638	13.50	18.42%
Barren Land (Rock Outcrops, Gravel Pits)	25	0.04	0.05%
Emergent / Wet Meadow Wetlands	7,420	11.59	15.82%
Lowland Shrubs	5,512	8.61	11.76%
Forested Wetlands	3,901	6.10	8.32%
Total Wetlands	16,833	26.30	35.90%
Open Water	1,442	2.25	3.08%
TOTAL	46,888	73.25	100.00%

Table 7: Land Cover for the Wood River

Land Cover Class	Acres	Square Miles	Percent of Area
High Intensity Urban	0	0.00	0.00%
Low Intensity Urban	0	0.00	0.00%
Total Urban	0	0.00	0.00%
Agriculture	12	0.02	0.05%
Grassland (Timothy, Rye, Pasture & Idle)	7,023	10.97	30.75%
Herbaceous / Field Crops	4,207	6.57	18.42%
Total Agriculture	11,242	17.56	49.22%
Broad-Leaf Deciduous Forest	4,855	7.59	21.26%
Mixed Deciduous/Coniferous Forest	461	0.72	2.02%
Coniferous Forest	337	0.53	1.48%
Total Forest	5,653	8.84	24.75%
Shrubland	193	0.30	0.85%
Barren Land (Rock Outcrops, Gravel Pits etc.)	264	0.41	1.16%
Emergent / Wet Meadow Wetlands	1,979	3.09	8.66%
Lowland Shrubs	1,771	2.77	7.75%
Forested Wetlands	812	1.27	3.56%
Total Wetlands	4,562	7.13	19.97%
Open Water	926	1.45	4.05%
TOTAL	22,840	35.69	100.00%

Source: WISCLAND Satellite Data

Rivers and streams. The entire planning area falls within the greater St. Croix River watershed system, with waterways flowing west and south into the St. Croix and ultimately into the Mississippi River. The main local watersheds systems in the planning area are the Clam River and Wood River and their various tributaries. Figure 4 displays the river and stream systems of the planning area. The table below reveals the amount of linear water features (rivers, streams, intermittent water courses, drainage ditches and canals) in each of the five towns.

Table 8: Miles of Linear Water Features

Waterway Type	Town of Daniels	Town of Grantsburg	Town of Lincoln	Town of West Marshland	Town of Wood River	PLANNING AREA TOTAL
Perennial River	13.11	25.67	18.22	25.64	24.96	107.60
Intermittent	4.05	13.58	10.46	12.35	24.24	64.68
Ditches / Canals	1.57	1.46	0.00	1.57	0.00	4.60
TOTAL	18.73	40.71	28.68	39.56	49.20	176.88

Source: Extrapolated via GIS from United States Geological Service 1:24,000 Topographic Series

Lakes. The five towns collectively contain just over 6,000 acres of open water. These resources range in character from the range recreation lakes with intensely developed shorelines to the undisturbed flowages in Crex Meadows. The largest lakes in the planning area include: Mud Hen Lake, Wood Lake, Dunham Lake, Little Wood Lake, Hunter Lake, Blomberg Lake, Doctor Lake, Monson Lake and Fish Lake. The largest flowages include Phantom Flowage, North Fork Flowage, Upper Phantom Flowage, South Refuge Flowage and Upper North Fork Flowage. The table below reveals the acreage and type of open water in each of the five towns.

Table 9: Acres of Open Water

Waterway Type	Town of Daniels	Town of Grantsburg	Town of Lincoln	Town of W. Marshland	Town of Wood River	PLANNING AREA TOTAL
Lake / Pond	1,368.2	192.5	277.2	1,286.6	1,071.0	4,195.5
Rivers / Streams	6.2	398.5	93.5	318.5	25.4	842.0
Reservoir / Flowage	0.0	47.8	0.0	1,007.4	0.0	1,055.2
Sanitary Treatment Pond	0.0	0.0	0.0	0.0	2.6	2.6
TOTAL	1,374.4	638.7	370.8	2,612.5	1,099.0	6,095.3

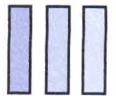
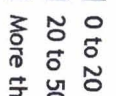
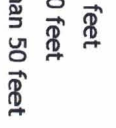
Source: Extrapolated via GIS from United States Geological Service 1:24,000 Topographic Series

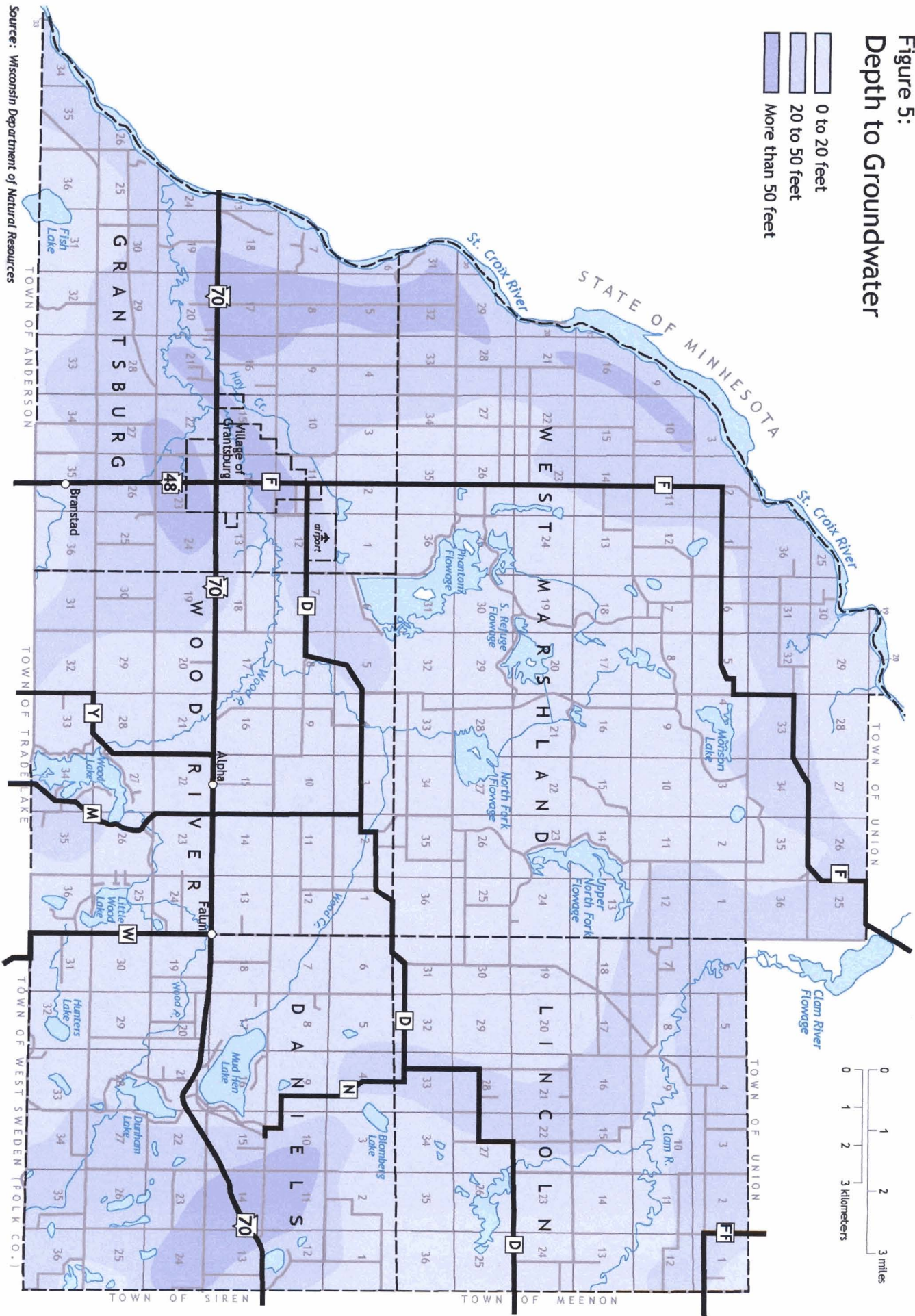
Depth to groundwater and flood hazard areas. Overall for the five town planning area, the depth to groundwater is shallow. For all but a few areas, groundwater is within 50 feet of the surface. Areas where groundwater is deeper include the central and northern portions of the Town of Grantsburg, western West Marshland and the eastern portion of Daniels. Of note, groundwater is not exactly the same as potable drinking water. Even in areas where the groundwater level is shallow, there may be a need to drill deeper to find water suitable for household use. Figure 5 illustrates the depth to groundwater for the entire planning area.

The federal Department of Housing and Urban Development publishes maps which identify flood hazard areas to assist in risk management for potential building sites. Sites designated as flood hazards areas in the five towns include the Clam River corridor, the Wood River corridor through the Town of Grantsburg, the lands immediately adjacent to the St. Croix River and numerous lakeshore areas in the Town of Daniels. Figure 6 illustrates these flood hazard areas.

Susceptibility to groundwater contamination. The prime factors for determining susceptibility to groundwater contamination are the depth the groundwater and the overlaying soil type. As illustrated in

Figure 5:
Depth to Groundwater

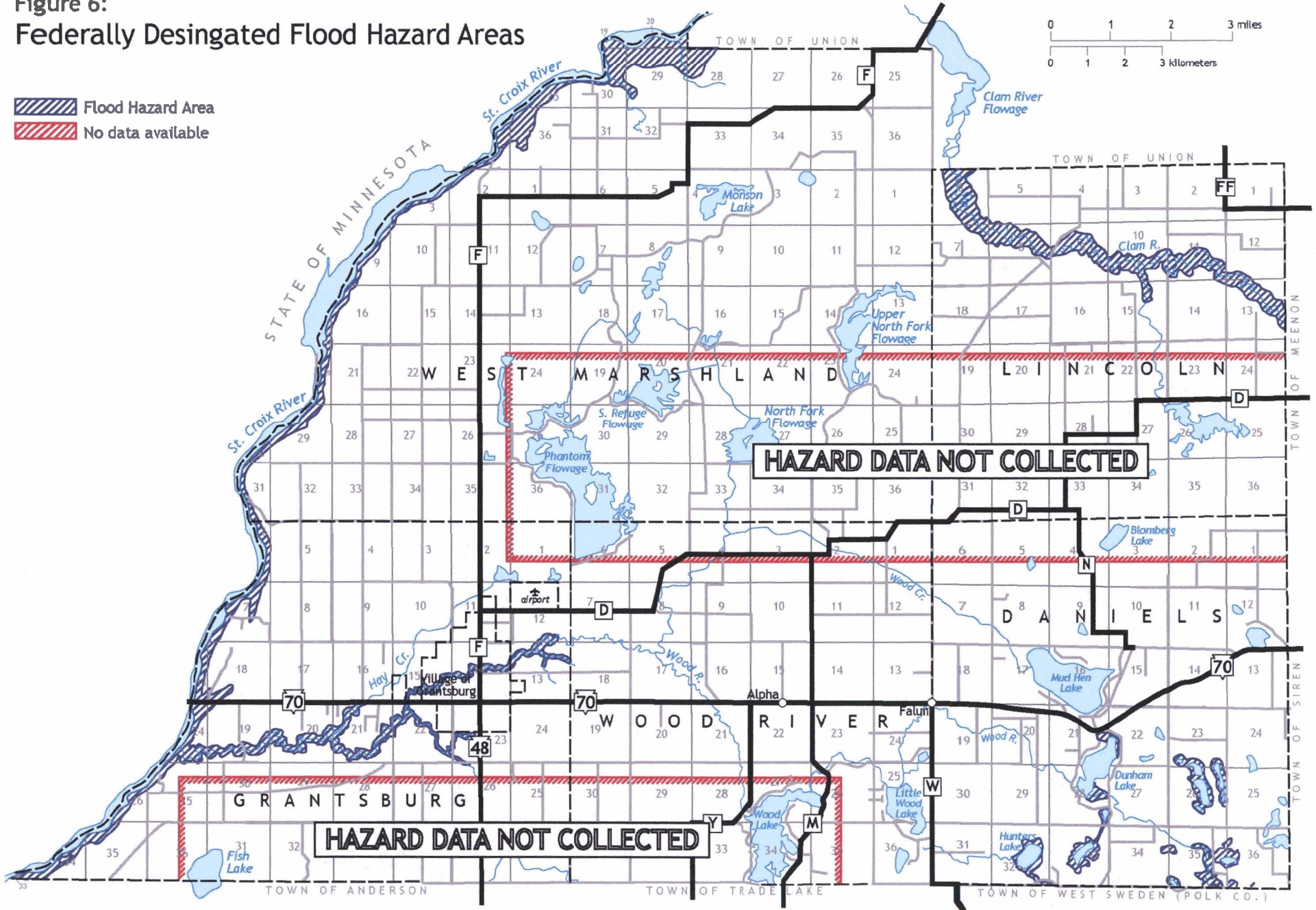
-  0 to 20 feet
-  20 to 50 feet
-  More than 50 feet



Source: Wisconsin Department of Natural Resources

Figure 6:
Federally Designated Flood Hazard Areas

-  Flood Hazard Area
-  No data available

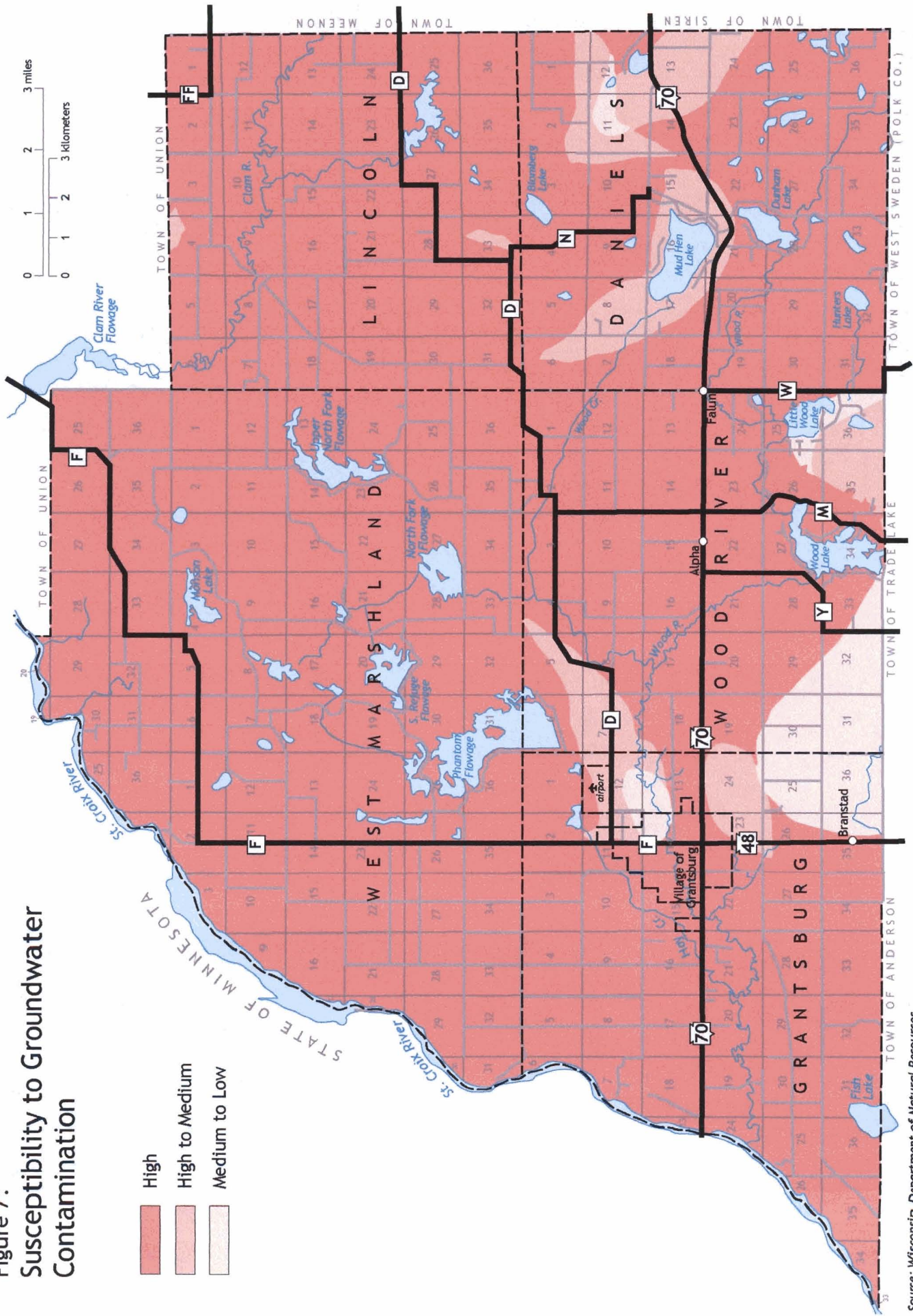


Source: FEMA Flood Hazard Boundary Maps Comm. No. 550032A

Figure 5, in much of the planning are the depth to groundwater is 50 feet or less. Subsequently, much of the planning area is classified as having a high susceptibility, the exceptions being four small "medium to low susceptibility" areas found in southeastern Grantsburg-southwestern Wood River, southeastern Wood River, Sections 10 and 11 in Daniels and within the Village of Grantsburg. Figure 7 illustrates the three groundwater contamination category areas. Areas with less contamination susceptibility have deeper groundwater and less permeable soil.

**Figure 7:
Susceptibility to Groundwater
Contamination**

- High
- High to Medium
- Medium to Low



Source: Wisconsin Department of Natural Resources