

MAP REPORT FORM

Scale 1:100,000

Map Name: St. Cloud SE State(s): Minnesota

MAP PREPARATION

Photography Used:

<u>Emulsion</u>	<u>Scale</u>	<u>Date</u>	<u>Percent Coverage</u>
1. Color-Infared	1:65,000	5/1/80	100%
2.		5/2/80	
3.			

Field Check Dates:

1. September 21, 1981
2. November 17, 1981
- 3.

Contractor(s) for Photo Interpretation:

1. South Dakota Cooperative Wildlife Research Unit, South Dakota State University  
Brookings, SD 57007.
- 2.
- 3.

Collateral Data Used:

1. U.S.G.S. Topographic Quad Sheets
2. Soil Survey of Swift Ct. 1973
3. Soil Survey of Pope Ct. 1972
4. Soil Survey of Stevens Ct. 1971
5. Stewart, R. E., and H. A. Kantrud. 1971. Classification of natural ponds and lakes in the glaciated prairie region. USFWS Res. Publ. 92. 57pp.
6. Fassett, N. C. 1957. A manual of aquatic plants. Regents of the University of Wisconsin. 405 pp.
7. Hotchkiss, N. 1972. Common marsh, underwater and floating-leaved plants of the United States and Canada. Constable and Company., Ltd. 124 pp.
- 8.

WETLAND COMMUNITIES

<u>MAP SYMBOLS</u>	<u>LOCAL NAME</u>	<u>DOMINANT VEGETATION</u>	<u>WATER REGIME</u>
PEM	Temporary wetland	<u>Carex</u> sp., <u>Juncus</u> sp., <u>Hordeum jubatum</u> , <u>Aster</u> sp., <u>Spartina pectinata</u>	A
PEM	Saturated wetland	<u>Carex</u> sp., <u>Juncus</u> sp.,	B
PEM	Seasonal wetland	<u>Carex atheroides</u> , <u>Polygonum</u> sp., <u>Phalaris arundinacea</u> , <u>Scolochloa festucacea</u>	C
PEM	Semipermanent wetland	<u>Typha</u> sp., <u>Scirpus</u> sp.	F
POW	Semipermanent wetland	Open Water	F,G,K
PSS	Scrub-Shrub wetland	<u>Salix</u> sp., <u>Populus deltoides</u> , <u>Larix laricina</u>	A,B,C,F
PFO	Includes subclasses 1, 2, 5 Forested wetland	<u>Salix</u> sp., <u>Populus deltoides</u> , <u>Larix laricina</u> , <u>Betula</u> sp., <u>Quercus</u> sp.	A,B,C,F
	Includes subclasses 1, 2, 5		
L1OW	Lake	Open Water	G,H
L2OW	Lake	Open Water	G
L2US	Shore	Non-vegetated or pioneer sp.	C
R2OW	Perennial river	Open Water	G,H
R2US	Shore	Non-vegetated or pioneer sp.	C
R4SB	Intermittent stream	Open water and scattered clumps of emergents	C,F

Where appropriate, the special modifiers of d, h, x were used.

The water regime U was used on wetlands where the specific water regime could not be determined.

## GEOGRAPHY

### General Location:

Central Minnesota

Latitude: 45°30' - 45°00'

Longitude: 95°00' - 94°00'

### Bailey's Ecoregion Classification and Description:

1. 2210 - Eastern Deciduous Forest Province - continental climate, adequate precipitation in all months, average annual precipitation 900 - 1500 mm (35 - 60 in.), small under deficits in summer, surplus in spring, cold winters and warm summers, average temperature 4° - 15° C (40 - 60° F).  
Maple - Basswood Forest and Oak Savanna Section (2213).
2. 2530 - Tall-Grass Prairie Province - flat and rolling plains relief < 90 mm (300 ft.), young glacial drifts and dissected till plains, precipitation and temperature as above, woody vegetation on flood plains.  
Bluestem Prairie Section (2531)
3. The map is dominated by 2213 with two small sections of 2531 in the south west and south east corners.
- 4.

## SPECIAL MAPPING PROBLEMS

### PROBLEM

1. The biggest problem encountered was  
determining the water regime of SS and FO  
wetlands. Specifically small isolated  
groups of trees often lacked adjacent  
visual evidence of wetness while areas  
having a gradient from definitely wet FO,  
to upland FO were difficult to differentiate  
along that gradient.  

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2. Lack of collateral data, specifically a  
dearth of S.C.S. soil surveys and U.S.G.S.  
topo maps. The ortho-photo quads  
substituted for the topo maps are virtually  
worthless.  

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3. Very large wetland areas encompassing a  
multitude of EM, SS and FO wetlands with a  
variety of water regimes created problems  
when there were small areas of upland  
within the area. The danger here was  
including the very similar (photo-signature)  
upland within the seasonably flooded  
wetland classes. Often times the relief  
was such that differentiation by  
stereo-viewing was not adequate to pick  
the two areas apart.  

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### RESOLUTION

1. As included in the St. Cloud SW map  
report, the photo-signature on these areas  
were an unreliable indicator. It was  
believed that the non-wet signature was  
vivid and/or reddish in tone and wet areas  
being duller and grayish. This is not  
necessarily the case. It was found that  
Betula and Populus caused the reddish  
signature and Quercus created the duller  
tone. This just reinforces the statement  
that the signature alone is inconsistent as  
as FO/SS water regime indicator. When  
available, U.S.G.S. topo maps and S.C.S.  
soil surveys are a valuable aide. If these  
are not available then the adjacent wetland  
is used in determining FO/SS water regime  
and then photo-signature is relied on to  
provide the upland wetland break.  

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3. Reliance upon the U.S.G.S. topo maps and  
extra attention to subtle signature and  
elevation differences.  

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## SPECIAL MAPPING PROBLEMS

### PROBLEM

4. From the east map boundry to the western  
map boundry the areas became increasingly  
wet. Specifically the seasonably flooded  
wetlands or the western edge were whitish,  
monotone and smooth textured, however as  
one progressed eastward soon these seasonal  
wetlands were wetter and on the western  
third had open water. The east/west boundry,  
seasonally flooded wetlands were easier to  
interpret than the transitional one  
throughout the center of the map.

5. Although not a serious problem some fields  
with plugged tile drainages created an open  
water area in these basins originally  
drained. These areas become more frequent  
as we progressed eastward.

6. Because the photography was taken on two  
dates thus causing some flight misalignment,  
work areas were drawn in to extreme edges  
and over fiducial marks. The interpreter  
was exposed to a lot of distortion, inferior  
resolution and at times monoscopic viewing.

7. Burned areas caused delineation and  
interpretation problems. The upland/wetland  
boundry (by signature) was subtle or  
non-existent; EM, SS, and FO were very hard  
to differentiate within these areas.

### RESOLUTION

4. Awareness of this situation helped quite  
a bit. The vegetation within a seasonal  
wetland has the same growth pattern and  
texture whether its underwater or not.  
Many times when there was open water in a  
seasonal, it was very shallow and it was  
evident that the same vegetation continued  
right on through the entire basin. U.S.G.S.  
topo maps (which usually indicated when a  
semi-permanent wetland is present) were  
also a help.

5. These areas were observed to lack emergent  
wetland vegetation, no drainage present  
and generally were surrounded by crops with  
no undisturbed bands of non-crop vegetation  
encompassing the wet area.

6. The interpreter made do with what  
photocoverage was available. Fortunately  
these areas did not occur excessively.

7. U.S.G.S. topo maps and S.C.S. soil surveys  
were very helpful when available. Generally  
these areas were assigned a water regime  
of U since the photo-signature was so  
drastically altered.

SPECIAL MAPPING PROBLEMS

PROBLEM	RESOLUTION
8. <u>On a few areas throughout the map, man-made and natural beaches bordering the lakes have an extremely white photo-signature that can be differentiated from a seasonally flooded wetland if photo-signatures are typical. A problem can be anticipated if the beach has scattered debris or other factors that cause a darker or mottled signature.</u>	8. <u>Careful attention to photo-signature, U.S.G.S. topo maps and their marsh symbols and physical features i.e. parking lot that would indicate a man-made beach/recreational area.</u> <u> </u> <u> </u> <u> </u>

USER CAUTION

The map document was prepared primarily by stereoscopic analysis of high altitude aerial photographs. Wetlands were identified on the photographs based on vegetation, visible hydrology, and geography in accordance with Classification of Wetlands and Deep Water Habitats of the United States (An Operation Draft) Cowardin, et al., 1977. The aerial photographs typically reflected conditions during the specific year and season when they were taken. In addition, there is a margin of error inherent in the use of aerial photographs. Thus a detailed on-the-ground and historical analysis of a single site may result in revision of the wetland boundaries established through photographic interpretation. In addition, some small wetlands and those obscured by dense forest cover may not be included on the map document.

Federal, State, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either design or products of this inventory, to define limits of proprietary jurisdiction of any Federal, State, or local government or to establish the geographical scope of regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, State, or local agencies concerning specific agency regulatory programs and proprietary jurisdictions that may affect such activities.

Additional information regarding this map or other National Wetland Inventory activities may be obtained by contacting:

- 1) Ron Erickson, Regional Wetland Coordinator, USFWS, Federal Building,  
Fort Snelling; Twin Cities, Minnesota 55111.
- 2) South Dakota Cooperative Wildlife Research Unit, South Dakota State  
University, Brookings, South Dakota 57007.