MAP REPORT FORM
Scale 1:100,000

Map Name: Stillwater SW
State(s): Minnesota

MAP PREPARATION

Photography Used:

<table>
<thead>
<tr>
<th>Emulsion</th>
<th>Scale</th>
<th>Date</th>
<th>Percent Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color-infrared</td>
<td>1:65,000</td>
<td>5/1/80</td>
<td>100%</td>
</tr>
</tbody>
</table>

Field Check Dates:
1. Nov. 18, 1981
2.
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 Wright Ct. 1968
5. Soil Survey of Isanti Ct. 1958
GEOGRAPHY

General Location:

Central Minnesota
Latitude: 45° 30' - 45° 00'
Longitude: 94° 00' - 93° 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. 2213 - Applicable to approximately 99% of the Stillwater SW map.
2531 - Applicable to approximately 1% (extreme southwest corner) of the Stillwater SW map.

4.
## WETLAND COMMUNITIES

<table>
<thead>
<tr>
<th>MAP SYMBOLS</th>
<th>LOCAL NAME</th>
<th>DOMINANT VEGETATION</th>
<th>WATER REGIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEM</td>
<td>temporary wetland</td>
<td>Carex sp., Juncus sp., Hordeum jubatum, Aster sp., Spartina pectinata</td>
<td>A</td>
</tr>
<tr>
<td>PEM</td>
<td>saturated wetland</td>
<td>Carex sp., Juncus sp.</td>
<td>B</td>
</tr>
<tr>
<td>PEM</td>
<td>seasonal wetland</td>
<td>Carex atheroides, Polygonum sp., Phalaris arundinacea, Scolochloa festucacea, Eleocharis sp., Ranunculus sp., Beckmania syzigachne, Scirpus sp.</td>
<td>C</td>
</tr>
<tr>
<td>PEM</td>
<td>semipermanent wetland</td>
<td>Typha sp., Scirpus sp.</td>
<td>F</td>
</tr>
<tr>
<td>POW</td>
<td>semipermanent wetland</td>
<td>open water</td>
<td>F, G, H</td>
</tr>
<tr>
<td>PSS</td>
<td>Scrub-shrub wetland</td>
<td>Salix sp., Populus deltoides, Larix laricina</td>
<td>A, B, C, F</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Includes subclasses 1, 2, 5, 6</td>
<td></td>
</tr>
<tr>
<td>PFO</td>
<td>forested wetland</td>
<td>Salix sp., Populus deltoides, Larix laricina, Betula sp., Quercus sp.</td>
<td>A, B, C, F</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Includes subclasses 1, 2, 5, 6</td>
<td></td>
</tr>
<tr>
<td>L10W</td>
<td>lake</td>
<td>open water</td>
<td>G, H</td>
</tr>
<tr>
<td>L20W</td>
<td>lake</td>
<td>open water</td>
<td>G</td>
</tr>
<tr>
<td>L2US</td>
<td>shore</td>
<td>non-vegetated or pioneer sp.</td>
<td>C</td>
</tr>
<tr>
<td>R20W</td>
<td>perennial river</td>
<td>open water</td>
<td>G, H</td>
</tr>
<tr>
<td>R2US</td>
<td>shore</td>
<td>non-vegetated or pioneer sp.</td>
<td>C</td>
</tr>
<tr>
<td>R4SB</td>
<td>intermittent stream</td>
<td>open water and scattered clumps of emergent vegetation</td>
<td>C, F</td>
</tr>
</tbody>
</table>

Where appropriate, the modifier K and special modifiers d, h, x were used.

The water regime U was used on wetlands where the specific water regime could not be determined.
1. Two date photography (5/1/80 and 5/2/80) caused flight line misalignment, causing several work areas to extend into fiducial marks, labels or edge of the photography. Clouds were not a problem.

2. Water regime determination of SS and FO wetlands was the most difficult problem in interpretation. Those areas occurred in large expanses of wetland/upland mixes and in small isolated spots in agriculturally active fields. Photo-signatures varied, elevations were often not available and some areas were too small to be separated out the the SCS soil survey.

2. Generally the photo-signature of wet FO areas were a duller grayish tone, however, around the edges of seasonal and saturated wetlands, a band of brighter red broadleaf trees, i.e. Populus sp. was indicative of wetness. Larix sp. always appeared the duller gray with a needle-like texture, however, due to the color, the Larix sp. could not consistently be separated from the broadleaf FOs. Numerous times detailed elevations were not available for these areas - see problem #3, and the soil surveys were sporadic in their information - see problem #4. Inevitably, there will be small upland areas included in the large multiple-class wetland complexes.

3. Lack of 7½' topos and soil surveys. The replacement ortho-quads and 15' maps were not satisfactory replacements.

3. The orthos have no contour data and the 15' maps have 20 foot contours. 20 foot contours can be detected on the photography without too much problem, it's those areas less than 20 feet that are important to know. Without a soil survey, all delineations are visually subjective.
Determining the effect of drainage ditches (other than county ditches) on associated wetlands, ditch purpose and water flow caused some problems. Numerous times two wetlands would be connected by a ditch perhaps a ditch runs through a corner of a very large complex area, we were to put a special modifier d on all associated wetlands that could be effected by the ditch. Another case would be when a ditch runs into

4. Highest credibility is given to the USGS topos with a more generalized consideration allowed for the soil surveys. On those occasions where no topo was available and a soil survey was, an adequate photo-signature was necessary to pull wetlands on "wet" soils.

5. It's the decision of the Regional Office to map those ditches offering "significant waterfowl habitat." As a result we are pulling those ditches with open water and/or semi-permanent vegetation/open water. Both Riverine and linear Palustrine systems are used to classify these areas. The water regimes used on perennial and intermittent riverine systems include F, G, and H.

6. When a ditch is encountered that runs through a wetland complex, the d modifier is placed on the associated wetlands that are effected by the ditch. Even if the ditch's purpose is questionable, the fact that the ditch exists dictates the d modifier. There comes a time, however, that the d modifier is dropped from an associated wetland label because of its relative distance from the ditch. This usually occurs in

SPECIAL MAPPING PROBLEMS

On several occasions the soil survey and the topo map seemed to differ. This occurred when a wet soil (cap unit IIIV or greater) would extend over several 10 foot contour lines that were obviously not wet.

The large number of ditches occurring throughout the map present a variety of water regimes, sizes, and lengths.

Determining the effect of drainage ditches (other than county ditches) on associated wetlands, ditch purpose and water flow caused some problems. Numerous times two wetlands would be connected by a ditch perhaps a ditch runs through a corner of a very large complex area, we were to put a special modifier d on all associated wetlands that could be effected by the ditch. Another case would be when a ditch runs into
a lake, which in the process, goes through a saturated, then seasonal and then semipermanent band of wetlands bordering the lake and which more often than not expands out into a large wetland complex at the opposite side of the lake. To what extent is the ditch applicable? What if the ditch is not used for drainage, but for some other purpose? In a drainage ditch, determining water flow direction is difficult.

6. extensive, elongated wetland complexes or on lake border wetlands.
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, MN  55111

2)  South Dakota Cooperative Wildlife Research Unit, South Dakota State University, Brookings, SD  57007