

FIELD SUMMARY REPORT

THIEF RIVER FALLS NW

NORTH DAKOTA

I. Introduction:

- A. Map name: Thief River Falls NW
- B. Quads with check sites: Concrete, Union, Hank's Corner, North Salt Lake, ~~Corden~~^{Gardar}, Walhalla, Bathgate.
- C. Report prepared by: Peggy Year
- D. Personnel: Howard Browsers, Acting Project Director
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- E. Date of field trip: 20 June 1987.
- F. Available photography:
1. Date: 4 June 1987
 2. Scale: 1:65,000
 3. Type: CIR of NASA
- G. Collateral data:
1. USGS topographic 7.5' quadrangle maps: Concrete, Union, ^{Gardar}Crystal, Hensel, Backoo, Hallson, Hank's Corner, Walhalla, Leroy, Cavalier NW, Neche, Bathgate, Bathgate NE, Pembina, Joliette, Bowesmont, Drayton, North Salt Lake, St. Thomas.
 2. USGS 1:250,000 for Thief River Falls, North Dakota/Minnesota.

3. USDA - SCS Soil Surveys for Cavalier, Pembina and Walsh Counties of North Dakota.
4. USGS - Water Resources Data for North Dakota, 1979, 1985.
5. Pembina River Project, U.S. Department of Interior, FWS, Bismarck Field Office, 1983.

II. Overview:

The Thief River Falls NW is included within 48°30' to 49°00' N latitude and 97°00' ^{to 98°00'} W longitude, with the Red River of the North forming the eastern boundary of delineation for Region 6. Elevations range from 1580 feet in the southern portion of the Pembina Hills to 789 feet near the Red River. There is an elevation drop of 4 feet to one mile on the eastern 2/3 of the quadrangle. The average annual precipitation is 18 - 20 inches per year. In the year and one half, prior to the date of photography the amounts of precipitation were:

	Precipitation (in inches)	
	1978	1979 (January - May)
Cavalier	12.77	7.78
Drayton	15.26	6.86
Pembina	20.52	7.41
Walhalla	19.94	8.43

The average annual temperature is approximately 36° F with extreme temperatures of 112° to -54° F.

The Thief River Falls NW is classified as Bluestem Prairie by Bailey in his Descriptions of Ecoregions of the United States. The quadrangle can be divided into two separate physiographic regions. The first is located on the western 1/3 of the quad and formed on the west shore of glacial Lake Agassiz. This area has a steep gradient between historic beaches of the glacial lake and is ^{dissected} ~~bisected~~ by numerous rivers and streams. The eastern 2/3 is the remnant

lakebed of Lake Agassiz. The area is nearly level with low ridges and shallow depressions. The majority of this area's wetlands have been drained or channelized to enhance agriculture production.

III. Biological Characteristics:

- A. Marine: Not present.
- B. Estuarine: Not present.
- C. Riverine:

The lower perennial and intermittent subsystems are both represented on the Thief River Falls NW. The distinction between the two subsystems will be facilitated by the use of the Water Resources Data for North Dakota, 1979, 1985. The Red River has already been classified as R2UBH throughout this quadrangle. The Pembina River will be classified as R2UBG throughout the quadrangle. The Tongue River will also be classified as R2UBG, at least from Akra eastward or until updated data can be obtained for the river above Renwick Dam.

The remaining linear wetlands in the riverine system will be classified as intermittent. Seasonal and semi-permanent will both be used for water regime indicators (R4SBC; R4SBF). Occasionally the "x" modifier will be added to distinguish channelized portions of streams from natural portions.

- D. Lacustrine:

There is only one naturally occurring lake on the Thief River Falls NW. This is the North Salt Lake. It will be classified as L2ABG. The rest of the lakes are the result of impoundments. Their interpretation will be added by collateral data which will be sent from the regional office in Denver.

- E. Palustrine:

Palustrine will be the major system used on the Thief River Falls NW. The majority of the basins will be in the western 1/3 of the quad. The

eastern 2/3 of the quadrangle are almost completely devoid of wetland basins as a result of massive drainage.

Palustrine emergent temporary (PEMA) signatures will probably vary the greatest of any of the other signatures. One example is a very light signature with a light blue interspersed throughout the basin. This helps to distinguish it from the white signature that surrounds it which is upland. Other temporary signatures are a light gray to a dark blue, and also included dots of open water. In some cases, PEMA's were a light blue intermixed with pinks and reds in a non-basin oriented situation.

Palustrine emergent seasonals (PEMC) were generally a dark blue open water signature. Sometimes the seasonal basins were vegetated and had a smooth-toned white or red signature.

Palustrine emergent semi-permanents (PEMF) were almost always dark blue open water signatures intermixed with a white vegetated clumping indicative of Typha spp. a very good semi-permanent indicator. Palustrine aquatic bed semi-permanents (PABF) will be used for the open water portions, less than 20 acres of the semi-permanent basin. In most cases, all combinations of the palustrine classes were found in what is referred to as low prairie situation.

Palustrine scrub-shrub seasonals and temporaries (PSSC and PSSA) and palustrine forested seasonals and temporaries (PFOC and PFOA) are much more abundant on this quadrangle than in most of the Prairie Pothole Region. The water signatures will vary from a light gray (temporary) to a dark blue open water signature (seasonal). The scrub-shrub have a rough textured red signature with a low canopy. The forested areas also vary from a light gray to a dark blue, open water signature. The canopy is generally much higher than the scrub-shrub canopy and should be easily discernible under the stereoscope. If a drainage ditch is located within any of these basins a "d" modifier will be added.

Channelized portions of linear wetlands or road ditches will be classified as PEMax or PEMCx. Major drainage ditches will be classified as PEMCx on the open water and PEMFx in areas where Typha spp. can be identified.

Dugouts, sewage lagoons, and impoundments will be labeled PABFx, PABGx, PABFh, or PABGh depending on the size of the excavation or impoundment. Gravel pits will be classified as PUBFx or PUBGx also depending on the amount of water. If these areas have become over grown than a PEM/FOCx or PEM/SSCx or their reciprocals will be used.

The following is a list of commonly found plant species and their classification:

PEMA

spikerush	<u>Eleocharis</u> spp.
blue grass	<u>Poa palustris</u>
dock	<u>Rumex</u> spp.

PEMC

smartweed	<u>Polygonum</u> spp.
reed canary grass	<u>Phalaris arundinacea</u>
spikerush	<u>Eleocharis</u> spp.
white top	<u>Scolachloa festucacea</u>
mannagrasses	<u>Glyceria</u> spp.
water plaintain	<u>Alisma plantago-aquatica</u>
glassworts	<u>Salicornia rubrum</u>
<u>PEMF</u>	
cattail	<u>Typha</u> spp.
hardstem bulrush	<u>Scirpus acutus</u>
river bulrush	<u>Scirpus fluviatilis</u>

PABF

glassworts	<u>Salicornia rubrum</u>
bladderworts	<u>Utricularia</u> spp.

PSS

willow

Salix spp.

red osier dogwood

Cornus stolonifera

PFO

willow

Salix spp.

cottonwood

Populus deltoides

IV. Imagery, Preliminary Delineations (Expected cover types), Field Checking:

The imagery of the Thief River Falls NW is of acceptable quality and should facilitate the interpretation of this quadrangle. It covers 100% of the 1:100,000.

The present conditions in the field correspond very well to the conditions found at the time the photography was taken. The interpretation of the photography appears very straight forward and no problems were encountered or are foreseen.

V. Summary:

This was a very good field trip. A lot of ground was covered and no major problems arose. It was definitely beneficial to the interpretation of the photography.