NORTH DAKOTA WETLAND INVENTORY

U.S. Fish and Wildlife Service

1:100,000 Map Narrative Report

New Rockford SE

MAP PREPARATION

Contractor for this wetland inventory was the South Dakota Cooperative Fish and Wildlife Research Unit, P. O. Box 2206, South Dakota State University, Brookings, South Dakota 57007. Photo interpreters were Mike Broschart, Howard Browers, Dave Nomsen, Kris Sletten, and Peggy Year. Preparation of this narrative report was completed by Howard Browers. Regional Wetland Coordinator was Charles Elliot, U.S. Fish and Wildlife Service, Denver Federal Center, P. O. Box 25486, Denver, Colorado 80225.

Wetland delineation and classification for New Rockford SE 1:100,000 quadrangle was done on 1:65,000 color infrared aerial photographs taken 16 May 1979. Photography covered 100% of the quadrangle. Classification of wetlands was done according to Cowardin et al. (1979). National wetland inventory mapping conventions were also used to assist in photointerpretation.. Field checking for the quadrangle was done on 12, 13 July 1983.

SPECIAL MAPPING PROBLEMS

The most important mapping problem encountered with this quadrangle had to do with water conditions at the time of photography. Water conditions at the time of photography appeared to be quite high which made it difficult to differentiate between seasonal and temporary wetlands that were exhibiting an open water signature. This condition appeared to be more pronounced in the middle of the quadrangle between the James River on the west and Sheyenne River on the east. There appeared to be somewhat of a wetness gradient from

north to south with strip 5 exhibiting stronger water conditions then strip 1. As a result both temporary and seasonal basins exhibited open water signatures. However, several guidelines were established to aid in the classification of temporary basins which exhibited open water signatures. First, if expansive open water areas included extensive areas of exposed upland they were classed as temporary. Second, if these open water areas included shelterbelts or in some cases farm buildings, a temporary classification was used. For some of the smaller open water wetlands evidence of farming could also be used in classification. A temporary classification was given to many of the small, shallow looking open water basins which showed evidence of farming. By the same token, wetland basins not exhibiting strong open water, probably due to the presence of vegetation, were classified as seasonal if these basins were adjacent to agriculture but had not been farmed.

As a general rule, basins with strong open water signatures were classified as seasonal. It should be noted that some of these included temporary areas which could not be delineated. This condition was verified during field checking. These basins had to be classified as entirely seasonal since no clear signature difference could be detected that would separate the two water regimes.

Another problem was differentiating between temporary basins with a dark gray signature and ephemeral areas exhibiting a similar signature. This problem was resolved by classifying as temporary only those dark gray signatures which were confined to a well defined basin configuration. Expansive areas of dark gray which did not appear to be in a basin were considered to be ephemeral and therefore not delineated.

WETLANDS

Lacustrine System

Lacustrine basins were not common on the New Rockford SE. Occasionally an L2ABG or L2ABF was identified and characterized by an open water signature in a fairly large, deep basin. Semi-permanent vegetation usually bordered these wetlands.

The presence of emergent vegetation and U.S.G.S. topographic maps aided in the differentiation between lacustrine basins and open water seasonal basins greater than 8 ha.

The large impoundments on the James River such as Arrowwood Lake and Jim Lake were classified as L2ABGh. Personnel at Arrowwood National Wildlife Refuge provided information concerning the depth and water permanence of these lakes.

The classification L1UBHh was used for Lake Ashtabula which is an impoundment on the Sheyenne River.

Riverine System

The most common classification of riverine basins was R4SBF. This classification was used on the James River in areas where it wasn't impounded. Smaller creeks such as Pipestem and Baldhill were also classified as R4SBF. These creeks were characterized by strong open water signatures with some pockets or edges of cattail. Permanent water was usually indicated on topographic maps. The Sheyenne River was classified R2UBH

Palustrine System

The most common palustrine wetland on the New Rockford SE was the emergent seasonal (PEMC). Most seasonal basins were characterized by a dark, blue, open water signature. Some seasonal basins were characterized by a whitish even textured vegetative signature with an absence of recognizable clumping. The absence of cultivation was often used as a clue in classifying

these basins. Linear PEMCs were indicated by a narrow discontinuous band of seasonal water in a relatively short channel which in some areas had been farmed. Linear PEMAs were located in more poorly defined channels which in nearly all cases had been farmed.

Palustrine emergent semi-permanent wetlands (PEMF) were characterized by the presence of a whitish gray clumped vegetative signature. Palustrine wetlands that were mixed emergent and aquatic bed (PEM/ABF or PAB/EMF) had a blue open water signature with clumps of white to gray vegetation scattered throughout the wetland. Many of these semi-permanent basins were surrounded by open water seasonals (PEMC) or temporaries (PEMA). Due to the high water on some areas the presence of just a few clumps was considered enough evidence to classify a basin as semi-permanent. Palustrine aquatic bed wetlands (PABF or PABG) were blue, open water areas less than 8 ha and were generally surrounded by a definitive clumped, rough textured cattail (Typha spp.) signature. The PABF classification was also used on oxbows and old channel remnants of the James and Sheyenne rivers.

Palustrine emergent temporary wetlands (PEMA) were characterized by several photosignatures. Similar to semi-permanents some temporaries exhibited a gray to white signature; however, it was smooth textured without clumping or standing water. Other temporaries were characterized by a dark gray signature in a well defined basin configuration. Other temporary basins were characterized by an open water signature as discussed under SPECIAL MAPPING PROBLEMS. Wetlands too small for a polygon were delineated by a dot. Dot temporaries had a weak blue open water or dark gray signature whereas the stronger open water signatures were dot seasonals.

Temporary forested wetlands (PFOA) were identified by a dark gray or blue open water signature beneath the trees. Extensive linear temporary forested areas were identified along the Sheyenne River. Seasonal forested wetlands (PFOC) were located within seasonal wetland basins surrounded by standing water. Emergent and forested classes were mixed where appropriate. On occasion a scrub shrub wetland (PSSC) was identified.

Road ditches with a weak water signature were classified as PEMAx while ditches with stronger water were called PEMCx. On occasion road ditches were classified as PFOAx or PEMFx. Gravel pits were classified PUBFx or occasionally as PEMCx. Dugouts were classified as PABFx. Impoundments were classified as PABFh, PABGh, or in some cases emergents were included (PAB/EMFh or PEM/ABFh).

Vegetation commonly found in emergent seasonal basins (PEMC) included reed canary grass (*Phalaris arundinacea*), whitetop (*Scolochloa festucacea*), and smartweeds (*Polygonum* spp.). Typical vegetation found in emergent semi-permanent (PEMF) basins was cattail and hardstem bulrush (*Scirpus acutus*).

Duckweed (*Lemna* spp.) and pondweed (*Potamogeton* spp.) were found in aquatic bed semi-permanents (PABF). Bluegrass (*Poa palustris*), dock (*Rumex* spp.), and various sedges (*Carex* spp.) were found in emergent temporaries (PEMA). Willows (*Salix* spp.) and cottonwood (*Populus deltoides*) were typically found in palustrine forested wetlands (PFOA, PFOC). More detailed descriptions of wetland vegetation in the Dakotas are provided in Stewart and Kantrud (1971, 1972), Fulton (1979), and Larson (1979).

REFERENCES

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