NORTH DAKOTA WETLAND INVENTORY

U.S. Fish and Wildlife Service

1:100,000 Map Narrative Report

Jamestown SW

MAP PREPARATION

Contractor for this wetland inventory was the South Dakota Cooperative Wildlife Research Unit, P.O. Box 2207, South Dakota State University, Brookings, South Dakota 57007. Photointerpreters were Michael Broschart and David Nomsen. Preparation of this narrative report was completed by Michael Broschart. Regional Wetland Coordinator was Charles Elliott, U.S. Fish and Wildlife Service, Denver Federal Center, P.O. Box 25486, Denver, Colorado 80225.

Wetland delineation and classification for Jamestown SW 1:100,000 quadrangle was done on 1:65,000 color infrared aerial photographs taken in 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 in 11 May 1982, 20 April 1983, and 14 July 1983.

SPECIAL MAPPING PROBLEMS

The main problem in mapping this quadrangle was differentiating between palustrine emergent wetlands over 8 ha and the wetlands in the lacustrine system, both of which had blue open water signatures on the photograph. The black and white ortho-quads helped provide some clues to distinguish between the two. On the ortho-quad, the lacustrine systems had a dark black signature, indicative of open water. Since the ortho-quads are prepared from black and white aerial photographs taken

indication of a relatively permanent lake being present. The palustrine emergents had a smooth, even-textured whitish signature on the ortho-quad. Field work indicated that the majority of the open water palustrine wetlands fill in with emergents as the growing season progresses. The majority of these wetlands had a seasonal water regime. However, a few were also semipermanent. It was difficult to differentiate between the seasonal and semipermanent palustrine emergent wetlands which both have the blue open water signatures. So a seasonal water regime was given to the open water palustrine system (PEMC). Some open water semipermanents (PEMF) were, as a consequence, missed but at least the wetland was classified correctly to system and class. The majority of the open water lacustrine systems were L2ABG with a few L2ABF's, which were distinguished by a lighter blue signature and often surrounded by a wide band of vegetation. Alkali lakes (L2UBF) had an extremely milky light blue tone. The deep water lacustrine system (L1UBH) were distinguished by a blue open water signature on the photography, dark black color on the ortho-quad, and collateral depth information from lake contour maps. These deep lakes were bordered by an L2UBG zone when the 2 meter contour was identifiable on the lake map.

The palustrine emergent semipermanent wetland (PEMF) was clumped and rough textured with a white to gray color. The vegetation was either within a blue open water signature or in a tightly packed basin with little or no water discernible. Vegetated seasonal's (PEMC) had a white to grayish white or reddish even toned vegetation signature within a blue open water signature. The vegetation was smooth, even textured with some clumping evident in a few cases. These clumps were larger than what is usually associated with semipermanent vegetation as well as being widely scattered and smooth textured (as opposed to tight-packed and rough-textered).

Palustrine emergent temporary wetlands (PEMA) had several variable signatures. Similar to semipermanents, these wetlands had a gray to white signature; however, it was smooth textured with no clumping and no standing water. Weak open water signatures fading out into a dark gray signature were also temporary. Other temporary signatures were a maroon color or a grayish-red tone. Wetlands too small for a polygon were delineated by a dot. Dot temporaries had a weak blue open water signature whereas the stronger open water signatures were dot seasonals.

Palustrine wetlands that were mixed emergent and aquatic bed (PAB/EMF or PEM/ABF) had the blue open water signature with clumps of white to gray vegetation scattered throughout the wetland. The clumps were rough textured. Palustrine aquatic bed wetlands (PABF) were blue open water areas less than 8 ha and were also surrounded by a definitive clumped, rough textured grayish cattail signature.

Temporary forested wetlands (PFOA) were identified by a dark gray or blue open water signature beneath the trees. These wet forests were found along the borders of palustrine emergent wetlands. Seasonal forested wetlands (PFOC) were located within a seasonal wetland basin surrounded by standing water.

Many streams do not flow by the end of the growing season and are dominated by palustrine wetlands. However, some intermittent rivers were classified on this quadrangle. The R4SBF classification was given to a stream with a continuous solid open water (dark blue) signature. R4SBC was used when the channel of water is continuous yet narrow and generally drains into a R4SBF. If the channel is discontinuous or forms pools, palustrine was the classification given.

Road ditches with a weak water signature were classified as $PEMA_x$ while the ditches with stronger water were $PEMC_x$. Gravel pits with

shallow water were $PEMC_x$ whereas the deeper gravel pits as well as dugouts were $PUBF_x$. Impoundments were either PUBFh or PUBGh, depending on the strength of the open water signature, its depth, and the size of the impoundment.

WETLANDS

Lacustrine System

Several lake types are found within the Jamestown SW. One type is the deepwater lake classified as L1UBG or H. This type is restricted to lakes with depths greater than 2 m. Depth information is obtained from collateral data in which the lake contours have been mapped. A deepwater lake may be bordered by a L2UBG or L2ABG zone when the 2 m zone was identifiable on the contour map. Deepwater lakes were very rare in the Jamestown SW. Much more common were shallow lakes classified as L2ABG or L2ABF. These lakes contained beds of submergent or floating leaved aquatic plants. Some were bordered by emergents such as Typha spp. A third lake encountered were shallow alkaline lakes which were classified as L2UBF. Due to the high alkalinity and the fact that they dry out in most years, these alkaline lakes are devoid of emergent and submerged vegetation, at least in the deeper central zone.

Riverine System

All of the rivers in the Jamestown SW were classified as intermittent streams, either R4SBF or R4SBC. Many streams in this area do not flow by the end of the growing season. If the channel is discontinuous or forms pools, palustrine would have been the classification. Those streams that appear to hold a continuous flow of water through most growing seasons and do not become vegetated were classified as R4SBF.

Streams which have a continuous flow for a short period and generally drain into a R4SBF were classified as R4SBC.

Palustrine System

The most common palustrine wetland found in the Jamestown SW was the seasonal emergent wetland (PEMC). The dominant vegetation of most seasonal wetlands was whitetop (*Scolochloa festucacea*). Another common wetland was the semipermanent emergent wetland (PEMF), usually dominated by *Typha* spp. or *Scirpus* spp. Temporary wetlands (PEMA) were also present, containing various plant species such as *Polygonum* spp., *Rumex* spp., or *Carex* spp. For a more detailed description of the plant species characteristic of these palustrine, emergent wetlands refer to the publications by Stewart and Kantrud (1971, 1972).

Also present on the area were several other types of palustrine wetlands. One type was the mixed emergent and aquatic bed wetlands (PAB/EMF or PEM/ABF). These were usually large wetland complexes composed of an interspersion of emergents and standing water which contained floating-leaved or submerged vegetation. Another classification used was the palustrine aquatic bed wetland (PABF). These were small (< 8 ha) open water areas dominated by submerged or floating-leaved vegeation and were commonly surrounded by a good stand of emergents such as *Typha* spp.

Several excavated palustrine wetlands were classified. $PEMC_x$ and $PEMA_x$ were used to describe road ditches. Some of the shallower gravel pits were classified as $PEMC_x$ while the deeper ones were $PUBF_x$. Dugouts were also $PUBF_x$. Sewage lagoons were given the $PUBG_x$ classification.

The majority of the impoundments found in the Jamestown SW were classified as PUBFh whereas the larger, deeper appearing ones were PUBGh.

Temporary forested wetlands (PFOA) were usually found on the borders of palustrine wetlands. A few forested seasonal wetlands (PFOC) were also delineated. In this case, the trees were entirely surrounded by standing water in a wetland basin.

REFERENCES

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