SOUTH DAKOTA WETLAND INVENTORY

U.S. Fish and Wildlife Service

1:100,000 Map Narrative Report

Jamestown 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. Photointerpreters were Howard Browers, Dave Nomsen, Paul Sand, Kris Sletten, and Peggy Year. Preparation of this narrative report was completed by Kris Sletten. 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 Jamestown SE 1:100,000 quadrangle was done on 1:65,000 color infrared aerial photographs taken 15 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 17 July 1984.

SPECIAL MAPPING PROBLEMS

The major problem encountered on the mapping of this quadrangle was that of high water conditions. As a result of high water and flooding, it was difficult to differentiate between seasonal and temporary wetlands that exhibited open water signatures. It was also difficult to define the actual basins because of runover from flooding. This condition seemed to be more pronounced in the middle of the quadrangle from east to west. There also appeared to be a wetness gradient from north to south with strip 1 exhibiting stronger water conditions than strip 5.

Because of these high water conditions, some wetlands that are actually temporary were probably classified as seasonal. There were some guidelines, however, that aided in the classification of temporary basins exhibiting open water signatures and which, hopefully, kept misclassifications to a minimum. First, if expansive open water areas included extensive areas of exposed upland they were classified as temporary. On smaller open water wetlands, evidence of farming could also be used in classification. If smaller shallow looking open water wetlands showed evidence of farming, they were generally classified as temporary. Basins not exhibiting farming

open water were classified as seasonal if the basins were adjacent to agriculture but had not been farmed.

In general, basins with strong open water signatures were classified as seasonal. Many of these seasonal basins had temporary areas which could not be delineated because no clear signature difference could be detected that could separate seasonal from temporary waters.

A second mapping problem was also created by the high water conditions. It was difficult to distinguish between temporary basins with a dark gray signature and ephemeral areas exhibiting a similar signature. Only the dark gray signatures which were confined to a well defined basin were classified as temporary. Expansive areas of dark gray which did not appear to be in a basin were considered to be ephemeral and were not delineated.

A third problem was that of flooding along the James River. It was sometimes difficult to differentiate the river channel from the surrounding flood waters. Topographic maps were used to approximate the river channel in many of these areas. The surrounding flood waters were usually classified as seasonal because most exhibited open water signatures. Expansive dark gray areas surrounding the river channel were not delineated.

WETLANDS

Lacustrine System

Lacustrine basins were not common on the Jamestown SE. L2ABG was the most common call for fairly large, deep basins with an open water signature. Semi-permanent vegetation usually border these basins. Large impoundments on rivers such as the Maple River were classified as L2ABGh or L1UBGh based on depth and water permanence.

Riverine System

The most common classification of riverine basins was R4SBF. The Maple River as well as some smaller creeks with strong open water signatures were classified as such. The James River was classified as R2UBG.

Palustrine System

Emergent seasonal (PEMC) was the most common palustrine wetland on the Jamestown SE. Most of these basins were characterized by a dark, blue open water signature. Some seasonal basins exhibited a white even-textured vegetative signature with no clumping. In instances where it was difficult to distinguish seasonals from temporaries, the absence of cultivation was often used to classify the basins as seasonal.

Emergent seasonal wetlands (PEMA) were characterized by several signatures. Some temporaries were characterized by a dark gray signature in a well defined basin. Others exhibited a gray to white signature, with no clumping or standing water. Those temporary basins with an open water signature are discussed in SPECIAL MAPPING PROBLEMS.

Some wetlands were too small to be delineated with a polygon and were indicated with a dot. Dot temporaries had a weak blue open water or dark gray signature. Stronger open water signatures were dot seasonals.

Palustrine emergent semi-permanent wetlands (PEMF) were characterized by the presence of a whitish gray clumped vegetative signature. Those 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. Because of the high water conditions on this photography, the presence of a few clumps justified classification of the basin as semi-permanent. High water conditions also created many seasonal or temporary borders around semi-permanent basins. Oxbows and old channel remnants of the James River were classified as palustrine aquatic bed (PABF).

Temporary forested wetlands (PFOA) were characterized by a dark gray or blue open water signature beneath the trees. Seasonal forested wetlands (PFOC), were identified by the presence of trees in a strong open water basin. Emergent and forested classes were mixed where appropriate. A few scrub-shrub wetlands (PSSA or PSSC) were identified.

Road ditches with weak water signatures were classified as PEMAx while ditches with stronger water were called PEMCx. On occasion road ditches were classified as PEMFx when clumping was present and occasionally a ditch was classified as either PFOCx or PEM/FOCx. Gravel pits were classified as

PUBFx and dugouts as PABFx. Impoundments were classed as PABFh, PABGh, PAB/EMFh or PEM/ABFh.

Vegetation commonly found in emergent seasonal basins (PEMC) included reed canary grass (*Phalaris arundinacea*), and smartweeds (*Polygonum* spp.). Typical vegetation found in emergent temporaries (PEMA) included sedges (*Carex* spp.), bluegrass (*Poa palustris*), and dock (*Rumex* spp.). Cattail (*Typha* spp.) and hardstem bulrush (*Scirpus acutus*) were typical of emergent semi-permanent (PEMF) basins while duckweed (*Lemna* spp.) and pondweed (*Potamogeton* spp.) were typical of aquatic bed semi-permanents (PABF). Willows (*Salix* spp.) and cottonwood (*Populus deltoides*) were 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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