

South Dakota Wetland Inventory
U.S. Fish and Wildlife Service
1:100,000 Map Narrative Report
Milbank SW

MAP PREPARATION

Contractor for this wetland inventory was the South Dakota Fish and Wildlife Research Unit, P.O. Box 2206, South Dakota State University, Brookings, South Dakota 57007. Photointerpreters were Howard Browers, Paul Sand, Kris Sletten and Peggy Year. Preparation for this narrative report was completed by Peggy Year. 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 Milbank SW 1:100,000 quadrangle was done on 1:65,000 color infrared aerial photographs taken in April 1982. Photography covered 100% of the quadrangle. Classification of wetlands was done according to Cowardin et al. (1979). National Wetlands Inventory mapping conventions were also used to assist in photointerpretation. Field checking for the quadrangle was done on 20 March 1985 and 21 March 1985.

SPECIAL MAPPING PROBLEMS

The major problem encountered on the mapping of this quadrangle was the dryness of the wetlands at the time the photography was taken. Water conditions were extremely depressed resulting in difficulty defining the upland wetland boundary for both seasonals and semi-permanents. Some temporaries were undoubtedly missed due to the fact that they exhibited no signature on the photography. Seasonals and semi-permanents were illustrated by many signatures ranging from very rough-textured dry seasonals, to open water

semi-permanents with slight clumping along the edges, to tight-packed cattail marshes. Also, some seasonal signatures were faded out to a light blue or gray signature usually reserved for temporaries.

Verification of wetlands and upland-wetland boundaries was gained through the use of soil surveys, topographic maps, South Dakota Game Fish and Parks Conservation officers, John Koerner, manager of the Waubay National Wildlife Refuge, and Dan Hubbard and the Water Retention Project for Grant County. Topographic maps and information supplied by outside resources were relied on heavily due to the depressed water conditions and lack of soil surveys for some of the counties involved. If a basin with intermittent water and/or marsh symbols was indicated on the topo then the basin was delineated and usually designated as a seasonal or semi-permanent. There were some cases, however, of wetlands that were indicated on the topographic map as permanent water that exhibited a solid seasonal signature on the photography. In cases such as this the photography was used as the primary source.

There were four examples of wetlands that were indicated as palustrine emergent unknowns (PEMU). All of these basins appeared very well-defined and deep. They were represented by intermittent water on 1972 topographic maps. These basins were completely dry and showed signs of having been plowed. And yet, as far as could be discerned from the photography, these wetlands had not been drained or tampered with in any fashion. In cases such as this the photography was used as the primary source.

Riverine System

There were only four R4SBF's delineated in Milbank SW. Three of these were the Big Sioux River, Indian River, and a portion of Mahoney Creek. All of these exhibited a strong open water signature and appear to contain a

large volume of water. The fourth was a drainage into Blue Dog Lake. The flow was quite strong at the time of the field work. There were some cattail found along the edges of the stream with pockets of cattail found along its course that were delineated separately and labeled semi-permanent (PEM/ABF). Due to the steep gradient on the western edge of the Coteau, there were some R4SBA's and R4SBC's delineated and classified.

Palustrine System

Temporaries (PEMA) found on the eastern edge of the Coteau du Prairie were located primarily in well-defined basins. They exhibited a variety of signatures from very pink, a light gray to an even-toned light blue. Temporaries that are not located on the Coteau were somewhat more difficult to identify and sometimes impossible. It was decided that any wet-looking basin oriented signature would be pulled as a PEMA. The most difficulty encountered in identifying PEMA's was in plowed fields. In some cases there was no indication at all of the presence of a PEMA. These wetlands were obviously missed. If a ditch was identified in conjunction with a PEMA ~~than~~ a "d" modifier was added (PEMAd).

There were several palustrine forested temporaries (PFOA) found on the Milbank SW. Most of these were located on the edges of seasonals and semi-permanents. Some, however, were basin oriented. In one or two instances a ditch was located in the PFOA that appeared to be modifying it. These were classified as PFOAd.

Scrub-shrub was much more prevalent on the Milbank SW as compared to the Milbank NW. Scrub-shrub temporaries (PSSA) were located in basins with a pink to grayish blue tone with a mottled or rough texture. One could generally ascertain the height of the shrubs in relation to the surrounding area, so as to make identification easier when differentiating between

PSSA's and rough textured seasonals. Some of the PSSA's appeared to be in the process of being drained. These were called PSSAd.

In some cases it appeared more appropriate to mix classifications. The more common vegetative type was always listed first. These combinations included: PEM/FOA, PFO/EMA, PSS/EMA, PEM/SSA. When ditches were found in the wetlands a "d" modifier was added, i.e. PEM/FOAd.

There were a very few number of saturated wetlands (PEMB) encountered on this 1:100,000. They were identified by a wet non-basin like mottled signature. Trees or shrubs or some patches of upland within the wetland were usually associated with these areas. They were most often mixed with other classes for more accurate identification. These were PEM/SSB, PEM/FOB, PSS/EMB, PFO/EMB. Some PEMB's were located in the field so as to verify their presence and the photosignature being exhibited.

The variety of signatures exhibited by palustrine emergent seasonals (PEMC) made these the most difficult wetland to identify on the Milbank SW. The basin oriented PEMC's exhibited a signature that could be identified as any of the following: a bright white or grayish even-toned dry seasonal; a dark blue open water signature; a vegetated light blue center with a bluish to pink edge (the pink edge being included in the PEMC); a dark blue open water signature with a pink border extending to a tree line surrounding the basin (everything included within the basin to the tree line was included in the PEMC); a blue open water signature with reddish or white smooth-toned vegetation, to differentiate them from a more clumped vegetated signature which would indicate a semi-permanent; a mixed white, pink, or reddish vegetated rough-textured signature, lacking height in the vegetation which might have indicated trees, shrubs, or cattail clumping; and finally, a dark red even-toned vegetated signature. Several PEMC linears

were delineated on the Milbank SW. These were identified by a dark blue open water signature.

There were several palustrine forested seasonal (PFOC) signatures. These could be found both along the edges of wetland basins or within the basin itself. They were usually associated with a dark blue open water signature. If emergent vegetation was supported by more than 30% of the basin it was classified as PEM/FOC. If forested vegetation dominated more than 30% of the basin it was classified as PFO/EMC. A strong growth of trees with little open water visible under the canopy or along the borders of wetland basins were referred to as PFOC.

Palustrine scrub-shrub seasonal (PSSC) basins were indicated by a gray to blue vegetated signature with the scrub-shrub exhibiting a pink or reddish rough texture in which, often times, height could be detected. If the shrubs dominated over 30% of the basin it was classified as PSS/EMC. If emergents dominated the basin it was classified as PEM/SSC.

Ditches were found in conjunction with a great number of these seasonal basins. A "d" modifier was added to many of the wetlands exhibiting this signature.

Palustrine emergent semi-permanent (PEMF) wetlands were characterized by the presence of whitish gray clumped vegetative signature. The wetlands varied from tight packed vegetation to an open water signature with slight clumping along the edges which aided identification. Those that were mixed emergent and aquatic bed (PEM/ABF, PAB/EMF) had a blue open water signature with a border of cattail, clumps of white to gray vegetation scattered throughout the wetland or a few whitish colored clumps in the central portion of the basin. If corroborated by permanent water on the topo, some open water signatures were identified as palustrine aquatic bed semi-

permanent (PABF). One of the major problems encountered was the depressed condition of the semi-permanents. Identification of the upland-wetland boundary was very difficult at times and, in some cases, seasonal or temporary borders were delineated.

Road ditches with weak water signatures were classified as PEMAx, while ditches with stronger water were called PEMCx. If clumping was present in the ditches they were classified as PEMFx. Occasionally the classification of PFOCx or PEM/FOCx was utilized.

Drainage ditches were delineated only if they were a channelized portion of a stream. They were classified as PEMAx, PEMCx and PEM/ABFx.

Gravel pits were classified as PUBFx. Dugouts were classified as PABFx or PEM/ABFx. Impoundments were classed as PABFh or PABGh. Large sewage lagoons were labeled PABGx. Other classifications utilized were PEM/ABF_h, PABF_{hx}, PEMC_h.

Vegetation commonly found in emergent temporary basins (PEMA) included sedges (Carex spp.), bluegrass (Poa palustris) and dock (Rumex spp.). Emergent seasonals were dominated by smartweed (Polygonum spp.), reed canary grass (Phalaris arundinacea) and white top (Scolochloa festucacea). Typical vegetation found in emergent semi-permanents (PEMF) was cattail (Typha spp.) and bulrush (Scirpus spp.). Typical aquatic bed species were duckweed (Lemna spp.) and pondweed (Potamogeton spp.). 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).

Lacustrine System

Two of the main classifications for the lacustrine system in the Milbank SW were L2ABG and LIUBG. LIUBG was used if the water was considered

permanent. A few of the deeper lakes on the Waubay National Wildlife Refuge were classified as LIUBH. Most of the lakes in the area of Waubay National Wildlife Refuge were surrounded by unconsolidated shore (LZUSA). Bitter Lake, which has extensive mud flats, also contained some areas that were classified as unconsolidated shore.