SOUTH DAKOTA WETLAND INVENTORY

U.S. Fish and Wildlife Service

1:100,000 Map Narrative Report

Milbank NW

MAP PREPARATION

Contractor for this wetland inventory was the South Dakota Cooperative Fish and Wildlife Research Unit, P.O. Box 2207, South Dakota State University, Brookings, South Dakota 57007. Photointerpreters were Howard Browers, Ross Libra, Kris Sletten, and Peggy Year. Preparation of this narrative report was completed by Kris Sletten and Peggy Year. 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 Milbank NW 1:100,000 quadrangle was done on 1:65,000 color infrared aerial photographs taken in May 1979 and April 1982. 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 9 May 1984 and 16 July 1984

SPECIAL MAPPING PROBLEMS

The main problem encountered during the mapping of this quadrangle was the difference in photography dates. Strips 1, 2, and 3 were photographed in 1979 while strips 4 and 5 were photographed in 1982. The years from 1979 to 1981 were relatively dry while the spring of 1982 was quite wet. During the dry years, many palustrine emergent semipermanent basins were probably grazed or cut for hay. Then, in 1982 when the basins were reflooded, the vegetation was probably covered and did not show up on the photography. Thus, basins that exhibited strong clumped vegetative

photosignatures on the 1979 photography might well have exhibited open water signatures on the 1982 photography, making the identification of palustrine emergent semipermanent wetlands difficult. A field check verified that wetland basins on the 1982 photography that exhibited an open water cloudy signature and/or a vegetative ring, which sometimes gives the appearance of washed up debris, with little to no clumping, were actually semipermanent. It was then decided that it would be necessary to be rather aggressive on identifying questionable wetlands. Collateral data such as topographic maps, support of the presence of even minimal clumping and information supplied by personnel of the U.S. Fish and Wildlife Service and the South Dakota Department of Game, Fish and Parks who were familiar with areas in question also helped to facilitate the decision making process.

Another problem involved the identification of palustrine emergent temporary basins, especially those along drainage areas. These areas were illustrated by a light even-toned gray signature that made it difficult to decide if they were indeed wetland or simply ephemeral. Soil Conservation Service (SCS) soil surveys were used extensively to determine if the soil in these areas was hydric. The list of South Dakota soils with actual and high potential for hydric conditions was also consulted. If the soil in question consistently displayed hydric characteristics, then the area was classified as a palustrine emergent temporary.

The final major mapping problem occurred along the northwestern edge of the Milbank NW quadrangle. This is an area of wind-blown sand and high wetland basin density. This high density presented a particular mapping problem in that it was impossible to provide labels for each wetland. In areas where just the water regime is evident it is assumed that the wetland is palustrine emergent. In areas that could not facilitate labeling, an

assumption of emergent seasonal is applied. Also, due to the unique hydric and soil conditions of this area, the presence of minimal clumping denotes a semipermanent wetland basin.

Wetlands - Lacustrine System

The most common lacustrine system in the Milbank NW was the L2ABG. If collateral data supplied by the South Dakota Lakes Survey, 1981, verified a depth of more than 2 meters (6 feet) the call was upgraded to an L1UBH. On a rare occasion an L2ABF call was made. L2ABG's and L2ABF's were generally bordered by cattail (*Typha* spp.).

Another type of lake encountered was an L2USA. The shorelines of these lakes appear to be devoid of emergent or submergent vegetation, as was indicated on the photography as well as in the field.

Large impoundments were classified as L2ABGh and sewage lagoons of over 8 ha (20 acres) were classified as $L2ABG_x$.

Riverine System

The R4SBF became a very common call along the eastern edge of the Coteau des Prairie on the Milbank NW. R4SBF's were usually indicated by a strong water signature in high relief areas, some of which had gradients of up to 500 feet/one-half mile. The R4SBC call was used in some instances; and, although the call was rare, an R4SBA was also used. These were most easily identified in the field by the presence of an eroded stream bed.

Palustrine System

There were several palustrine emergent temporary (PEMA) signatures encountered on the Milbank NW quadrangle. The most common was that of a gray to white signature. Identification of temporaries was especially difficult in plowed fields where they varied from a shallow, weak,

open-water signature to a wet, streaked signature. Some temporaries took on a maroon signature indicating the beginning of vegetative growth within the basin. Dot temporaries had a weak blue open water signature whereas the stronger blue open water signatures were dot seasonals. On the whole, temporaries had to be confined to a well-defined basin or they were not delineated.

Temporary forested wetlands (PFOA) were identified by a dark gray or blue open water signature found beneath the trees. These wet forests were found on the edges and within the basins of emergent wetlands. Several scrub-shrub wetlands with a rough-textured gray signature were identified.

Saturated wetlands presented another challenging situation. These were encountered on the eastern edge of the Coteau and occurred rarely. They are quite easily identified on the photography by a gray rough-textured signature, displaying a lack of a basin and quite often the presence of trees or shrubs. This led to a combination of classifications in at least one instance of PFO/EMB. SCS soil surveys were used to confirm the presence of wet soils. Field observation showed these areas to have a hummocky appearance with shrubs and carices dominating.

The most common palustrine on the Milbank NW quadrangle was the palustrine emergent seasonal (PEMC). Some seasonal basins were characterized by a dark blue, open water signature or by a smooth even-toned vegetative signature with an absence of recognizable clumping. Seasonal basins on the Coteau were contained in especially well-defined basins with strong open-water signatures. Dry seasonal basins exhibited a whitish or grayish white vegetative signature with no clumping. Dry wetlands in plowed fields were classified as PEMC if the basins had not been plowed. There were instances, however, where plowed areas exhibiting strong, open-water conditions were classified as PEMC. This situation was usually the result of seasonal wetlands being plowed in the dry years and reflooding when precipitation

increased and so began functioning as a seasonal wetland again.

There were a surprising number of forested seasonals (PFOC) these were illustrated, on the photography as well as in the field, by a very strong, open-water signature beneath the trees. On some occasions tree growth was stunted. Trees were located within the basin not just on the periphery. The palustrine scrub-shrub seasonal (PSSC) was used, but was rare.

The palustrine emergent semipermanent wetlands (PEMF) were 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 discernible water. A mixed classification of emergent and aquatic bed (PEM/ABF or PAB/EMF) is now being utilized so as to classify the water regime at climax vegetation. If there was 30% or less open water then it is classified as a PEM/ABF. If there was 30% or less vegetation then it was classified as a PAB/EMF. This will facilitate more accurate identification.

There were other unique semipermanent signatures identified in the Milbank NW, such as (1) a cloudy tone throughout the basin with minimal clumping along the periphery; (2) a clear open-water signature with a ring of vegetation that appeared to have been washed up due to continual wind action; and (3) a clumped red-toned vegetative signature, more than likely a result of the cattail being flooded.

Road ditches with a weak blue water signature were classified as $PEMA_x$ while ditches with stronger water were $PEMC_x$. Those that exhibited strong clumping were referred to as $PEMF_x$. Small sewage lagoons were classified as $PABG_x$. Impoundments were either PEMAh, PEMCh, PEMFh, PABFh, or PABGh, depending on the strength of the water signature, its depth and the size of the impoundment.

Gravel pits were generally classified as $PUBF_x$. However, some abandoned pits had begun to fill in and become overgrown. These were sometimes classified as $PFOC_x$, $PFOA_x$, or PFO/EMC_x.

Dugouts were classified as $PUBF_x$. This designation was changed to a $PABF_x$.

Vegetation commonly found in emergent temporaries (PEMA) include bluegrass (*Poa palustris*), dock (*Rumex* spp.), and various sedges (*Carex* spp.). Emergent seasonal basins (PEMC) frequently contain reed canary grass (*Phalaris arundinacea*), whitetop (*Scholochloa festucacea*), and smartweeds (*Polygonum* spp.). Typical vegetation found in emergent semipermanent (PEMF) basins was cattail (*Typha* spp.), river bulrush (*Scirpus fluviatilis*), and hardstem (*Scirpus acutus*).