South Dakota Wetland Inventory
U. S. Fish and Wildlife Service
1:100,000 Map Narrative Report
O'Neill NE

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. The photointerpreters were Howard Browers, 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 the O'Neill NE 1:100,000 quadrangle was done on 1:65,000 color infrared aerial photographs taken 23 May 1983 and on 1:58,000 National High Altitude Photography (NHAP) taken on 2 June 1984. Photography covered 100% of the quadrangle. Classification of wetlands was 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 23 and 25 May 1985 and 21 October 1986.

Special Mapping Problems

The Niobrara River presented some difficulty in interpretation. There were several pink signatures. A bright pink, rough-textured signature indicated shrubs. There was also a smoother pink signature that, at first, we were not calling scrub-shrub. Because of the location of the wetlands and what we have seen in the field, we decided to call the areas scrub-shrub. Our decision was reinforced when we looked at the signature under a higher

power scope and the signature looked more rough-textured. The third pink signature was smooth and not quite as bright as the scrub-shrub signature. In the field, these were areas of Phragmites and were classified as such on the photo.

The white signatures adjacent to the Niobrara and Missouri Rivers were classified as R2USA. There was a similar white signature in areas removed from the river. Since it is not likely that these areas would have unconsolidated shore and judging by what has been seen in the field, these areas were considered to be semi-permanent.

Because of the areas of high relief on the map, there were a lot of linears. It was sometimes difficult to decide if these linears were palustrine or riverine. If the linear followed a steep gradient and formed a relatively deep channel, it was considered to be riverine. If it followed a gentle slope and did not form a deep channel, then the linear was considered palustrine.

There were some areas of cloud cover that totally obscured wetlands. If there was no replacement photography, these areas were delineated and designated as cloud cover. We did have replacement photography for two photos. Three NHAP photos replaced two NASA photos. There were no real problems with tie-in between the NASA and NHAP photos.

Lacustrine System

There was only one basin classified in the lacustrine system. An impoundment on the Niobrara River was classified L2UBHh.

Riverine System

The most common classification of riverine basins was R4SBF. These were represented by open water in well-defined channels on the photography and often by permanent water on topographic maps.

Both the Missouri River and the Niobrara River were classified R2UBH. Unconsolidated shores were classified R2USA or R2USC.

Palustrine System

There were several palustrine temporary (PEMA) signatures. The most common was dark-gray in a well-defined basin. Others were reddish-gray and purple-gray.

Palustrine emergent seasonal basins (PEMC) most often exhibited a dark-blue, open-water signature. Other signatures included red and grayish-red.

Palustrine emergent semipermanent (PEMF) basins were clumped and rough-textured with a white to gray color. The vegetation was either within a blue, open water signature or tightly packed in a basin with little or no discernable water. Basins that were mixed emergent and open water were classified PEM/ABF. Palustrine aquatic bed wetlands (PABF) were blue, open-water areas less than 8 ha; this classification was used on basins with little clumping but collateral data indicated that they were semipermanent. The PABF classification was often used on oxbow lakes adjacent to rivers and streams. Impoundments were very common on the O'Neill NE. Smaller ones were classified PABFL. Larger ones were classified PABGh.

Palustrine forested temporary (PFOA) wetlands were identified by a dark-gray signature beneath trees. Seasonal forested (PFOC) wetlands exhibited dark-blue or open water signatures beneath trees. There were many forested wetlands found along the Niobrara and Missouri Rivers.

Scrub-shrub wetlands (PSSA, PSSC) were very prevalent along the Missouri and the Niobrara. They exhibited a rough-textured pink signature. The shrubs were often mixed with unconsolidated shore (PSS/USC) particularly on islands in the Niobrara. The wetlands called PSS/USC displayed the rough-textured signature of scrub-shrub mixed with a light-gray to white signature. Scrub-shrub and forested classes were mixed where appropriate.

Road ditches with a light-blue water signature were classified $PEMA_x$ while those with a darker water signature were $PEMC_x$. Forested or scrub-shrub ditches were also identified ($PFOC_x$, $PFOA_x$, $PSSC_x$, $PSSA_x$). Dugouts and sewage lagoons were classified as $PABF_x$ or $PABG_x$. Gravel pits were classified as $PUBF_x$ or $PUBG_x$. Impoundments were classified PABGh, PABFh, PEM/ABFh or PEMCh depending on the strength of the water signature, presence of vegetation, depth and size of impoundment.

Vegetation commonly found in emergent temporaries (PEMA) included bluegrass (Poa palustris), docks (Rumex spp.) and various sedges (Carex spp.) and rushes (Juncus spp.). Emergent seasonal basins (PEMC) commonly contained smartweeds (Polygonum spp.), spikerushes (Eleocharis spp.), and reed canary grass (Phalaris arundinacea). Typical vegetation found in emergent semipermanent (PEMF) basins included cattail (Typha spp.) and various bulrushes (Scirpus spp.). Aquatic bed semipermanent basins (PABF) often contained duckweed (Lemna minor), pondweed (Potamogeton spp.) and various species of Ranunculus. Willows (Salix spp.) and cottonwood (Populus deltoides) were typical of palustrine forested (PFOC, PFOA) and scrub-shrub (PSSC, PSSA) wetlands. 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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