

# MONTANA HIGHLINE MAPPING CONVENTIONS

JUNE 22-26, 1990

The format for this project consists of two different dates and emulsions of imagery for wetland signatures of the Montana Highline. This includes Havre NW, Shelby NE, Shelby NW, and Cut Bank NE. These conventions will cover prairie pothole basins, alkali flats, riverine and vegetated linears, oxbows, impoundments, and a miscellaneous section.

## BASIN CONVENTIONS

Basins represent the majority of wetlands in the Montana Highline project. A basin wetland can be described by water regime as temporary, seasonal, or semipermanent. The following guidelines are used to distinguish basin types.

### Temporary Water Regimes

Temporary basins usually occur as open water with evidence of plow marks through the basin in agricultural areas. On the May imagery, these tones are light blue with a darker frayed edge. Occasionally, particularly on the June imagery, temporary basins will not be seen as open water. They appear as vegetated basins containing foxtail, western wheatgrass, timothy, Kentucky bluegrass, mat muhly, and Nuttall's alkali grass. The photographic tone will be bluish-gray and sometimes pinkish-gray. Temporaries which have been retilled may be lacking vegetation and appear as whitish-gray water spots. These lighter tones are difficult to distinguish from upland areas.

Alkali saltflats are characterized by temporary flooding of shallow basins in which salts are leached from the soil through frequent evapotranspiration. Hydrophytic growth is limited to patchy stands of inland saltgrass and slender glasswort. The exposed soil in these basins show as bright white tones on the imagery, but should not be confused with the gray-white upland tones. These areas should be classified as PUSA. Basins larger than twenty (20) acres (lacustrine), usually labelled as dry lake bed on topographic maps, will be labelled L2USA.

### Seasonal Water Regimes

Basin seasonals usually appear on the imagery as open water that show no evidence of cattail or softstem bulrush. Seasonal tones are generally dark blue with reddish-purple fringes which in most cases represent slough grass or smartweed. Pinkish-purple tones sometimes noted within these basins are probably spikerush. Extreme high water conditions exhibited in the eastern areas of Shelby NE and southeastern Shelby NW (May imagery) cause PEMC and PEMA signatures to reverse. Seasonal basins tend to be lighter tones of blue, while temporary signatures show darker mixes of purple tones. In the northwest sections of Shelby NW and Cut Bank NE (June imagery), the seasonal signatures may be reddish-purple if the basins lack standing water. Distinguish these seasonals from the temporaries by tillage marks which circumvent the seasonal basins.

### Semipermanent Water Regimes

Semipermanent wetlands were found in impoundments and oxbows and will be categorized as PEMF, PABF, PEM/ABF, and L2ABF. Each classification will be separately defined as follows:

PEMF oxbows contain cattail and softstem bulrush in the Milk River floodplain. The cattail is easily recognized as cloning (grainy-white popcorn appearance). The hardstem bulrush is not as easily recognized. It appears as an almost indistinguishable grainy gray to charcoal colored hue overset on the open water.

Most impounded wetlands have a very strong open water signature. These areas will be labeled PABFh and L2ABF and may occasionally have a periphery of cattail, softstem bulrush, or common threesquare. Also, they may exhibit maretail or yellow water buttercup as a speckled pink signature within the impoundment.

L2ABF basins were found containing yellow water buttercup and open water. These basins were also shown on the topographic maps as permanent water.

### LINEAR CONVENTIONS

The majority of coulees do not exhibit wetland characteristics and will not be delineated. These are typified by a bright-red signature. Care must be taken not to delineate linears that are nothing more than grassy waterways. These typically occur in agricultural areas. Linear wetlands will be delineated if the channel is noticeably entrenched and there is evidence of open water and/or emergents. Most linears will be PEMC and occasionally PEMA or PEMF in some areas. The larger coulees are good drainage ways that typically promote spikerush and willow. Spikerush dominates these areas and exhibits a dark blue-purple tone, while the surrounding willows promote a bright pink tone. Care must be taken not to over delineate these areas by closely following the contours on topographic maps.

Linear intermittent riverine systems must be well established with good open water signatures. They will be classified as R4SBA thru F depending upon their hydrologic situation.

The two major drainage ways in the work area are the Milk River and Cut Bank Creek. The Milk River is classified as a lower perennial riverine system and Cut Bank Creek is an upper perennial. Riverine bars are classified as R2/R3USA and C.

Forested linears were found to contain willows and/or cottonwood and will be labeled PFOA or PSSA.

Road side ditches will be delineated as PEMAx thru Fx. Water regime differences will denote the same vegetation characteristics as basin wetlands.

## MISCELLANEOUS

This section will address obscure conventions that are not prevalent throughout the work area.

Some light, mottled, bluish-gray "shotgun pattern" tones not directly associated with wetlands will be classified as upland. They may be delineated as PEMA's if they lie within the basin contours and appear to be wet.

Care must be taken not to delineate clumps of dark blue tones in coulees which are probably buckbrush or fireweed. At first glance these look like a dark open water tone.

Oil refinery slag ponds will be delineated as PUBHx. This classification will only be used in close proximity to such refineries.

Sewage treatment settling ponds will be classified as PABGx or L2ABGx.

A "d" modifier will be used on all wetlands that have been ditched/drained. Do not delineate drainage ditches, unless they are in excess of one and one-half (1 1/2) miles in length and well channelized.

All excavation tanks will be delineated as PABFx.