

N.W. MONTANA - FLATHEAD VALLEY
P.I. CONVENTIONS

WALLACE SE.NE/KALISPELL SE.NE
CUTBANK NW,SW/CHOTEAU NW.SW
BUTTE NE.NW

LACUSTRINE SYSTEMS:

All lacustrine systems must be greater than 20 acres unless otherwise specified.

- L1UBH - lacustrine, limnetic, unconsolidated bottom, permanent.
1. Large glacial lakes (Flathead Lake, Lake McDonald).
2. Lakes with a wave-formed shoreline (bedrock or gravel beach) even if less than 20 acres.
3. Lakes for which we have contour information showing the 6 ft. deep line.
- L2UBG - lacustrine, littoral, unconsolidated bottom, intermittently exposed. Used only when we have contour information showing the L1/L2 break.
- L2ABG - lacustrine, littoral, aquatic bed, intermittently exposed. All other lakes without a wave-formed shoreline or contour information to show otherwise. Typically has an open water photosignature or white to pink color (water lily, Nuphar).
- L2USC - lacustrine, littoral, unconsolidated shore, seasonal. Usually along lake shore or possibly as a linear around L1UBH. Signature typically white to gray.
- L1UBHh- lacustrine, limnetic, unconsolidated bottom, permanent, impounded. Large impoundments or reservoirs meeting at least one of the three conditions outlined above.
- L2ABGh- lacustrine, littoral, aquatic bed, intermittently exposed, impounded. Large impoundments not meeting any of the three conditions.

RIVERINE SYSTEMS:

- R2UB - riverine, lower perennial, unconsolidated bottom. Low gradient, floodplain development, oxbows and meander scars, and the presence of trees and shrubs close by will be determining characteristics. (Flathead and Blackfoot Rivers).

R3UB - riverine, upper perennial, unconsolidated bottom. Medium to high gradient, rapids, and cobble/gravel bars opposite cutbanks will be the determining characteristics. (Clark Fork River and upper reaches of Flathead River). See topo notes for R2/R3 breaks.

Water regimes (G - intermittently exposed, H - permanent) will be determined from the U.S.G.S. Montana Water Resources book.

R2USC - riverine, lower perennial, unconsolidated shore, seasonal. Mainly sand bars opposite cutbanks or within the stream channel. Photosignature is white to gray and smooth. May be slightly vegetated.

R3USC - riverine, upper perennial, unconsolidated shore, seasonal. Mainly cobble/gravel bars opposite cutbanks. Photosignature is smooth white to gray.

R4SBF - riverine, intermittent, streambed, semipermanent. Typically a steep mountain stream shown as perennial on topo, but camouflaged by trees having a visible connection (on photo) to a R2 or R3. If open water is not evident the presence of culverts or bridges to handle runoff should furnish a clue.

R4SBC - riverine, intermittent, streambed, seasonal. Same as R4SBF but with no visible connection to R2 or R3. Connect to R2 or R3 only if water path is visible.

PSSA or PFOA can be used if wet shrubs or trees are present in the streambed. See Palustrine.

R2UBGx- riverine, lower perennial, unconsolidated bottom, intermittently exposed, excavated. Used for very large canals. Extremely isolated cases. (Pablo Feeder Canal)

R4SBFx- riverine, intermittent, streambed, semipermanent, excavated. Large irrigation canals, especially contour following canals, even if dry.

R4SBCx- riverine, intermittent, streambed, seasonal, excavated. Small irrigation canals.

Vegetated canals will be PEMFx or PEMCx. See Palustrine. The reasoning behind calling even dry canals R4 is that water supply from snow melt is generous and the canals are used intensely to irrigate for a good portion of the growing season.

PALUSTRINE SYSTEMS:

PABG - palustrine, aquatic bed, intermittently exposed.
Ponds under 20 acres without a wave-formed shoreline.
Signatures range from open water to a bright pink
(duckweed, Lemna) or a smooth white in generally round
clumps (water lily, Nuphar).

PABF - palustrine, aquatic bed, semipermanent.
Used only for weaker AB signatures. In the Ninepipe
National Wildlife Refuge area (Wallace SE - Fort Connah,
Charlo quads) and other similar areas where the
elevations are lower (3000 ft.), the topography is
flatter and the hydrology is more basin oriented, PABF-
will be used more frequently as a result of the higher
evapo-transpiration ratio.

PEMF - palustrine, emergent, semipermanent.
All emergent wetlands with the following photosignatures:
1. Dark red to brownish red, clumpy, and rough looking -
cattail (Typha).
2. Smoother, tighter, reddish brown - hardstem bulrush
(Scirpus).
3. Smoother, dark gray with white overtones or dark
smears with red overtones - cattail.

Many times these wetlands will also contain pockets of
open water.

PEMC - palustrine, emergent, seasonal.
All emergent wetlands with the following photosignatures:
1. Typically seasonal grasses are smooth dark red to
greenish brown - sedges.
2. Very smooth, bright red - horsetail (Equisetum) -
stands along the Flathead River.
3. Seasonal meadows are usually dark red to brown with
various shades of pink mixed in. Many of these
meadows are hayed and the hayed areas should be
included if they are within the confines of the
wetland. These hayed areas sometimes show up as a
more greenish gray signature.
4. Irrigated fields are typically seasonal but the
signature is highly variable. Irrigation canals
should furnish a clue as to their location.

PEMR - palustrine, emergent, saturated.
Saturated wetlands will be confined to seeps or springs
on hillsides or to meadows for which we have collateral
data (topo note or soil survey). Big Meadow in Glacier

National Park is an example of a saturated meadow which we field checked (actually it is an ancient lake bed). Signatures vary, although greenish brown to reddish or bright pink smears are typical.

- PEMA - palustrine, emergent, temporary.
All emergent wetlands with the following signatures:
1. Typically pinkish and associated with other wetlands as linears or zones or in pothole type areas as depressions. Very few stand alone PEMA's were seen. The setting is important for this signature because it is quite often the same as upland.
 2. Grayish signature - reed canary (Phalaris).
 3. Very light pink to white - iris and rush (Juncus).
 4. Greenish signature (Wallace SE).
- PSSC - palustrine, scrub/shrub, seasonal.
Typically bright pink to red shrubs in or along drainages (rivers, streams, creeks). Also associated with beaver ponds and in floodplains. Usually stressed looking (grayish) with possible pockets of open water throughout. (willow and alder < 6 meters).
- PSSA - palustrine, scrub/shrub, temporary.
Same as PSSC only not stressed and with no pockets of open water. The majority of scrub/shrub wetlands will be temporary.
- PSSB - palustrine, scrub/shrub, saturated.
Small clusters in seeps and saturated meadows.
- PFOG - palustrine, forested, dead.
Any dead, wet trees. Generally occurs only in flooded areas such as beaver marshes.
- PFOA - palustrine, forested, temporary.
Wet forested areas along stream banks and in floodplains.
- PUBGx - palustrine, unconsolidated bottom, intermittently exposed, excavated.
Gravel pits less than 20 acres with a strong open water signature.
- PUBEx - palustrine, unconsolidated bottom, semipermanent, excavated.
Gravel pits less than 20 acres with a weak open water signature.

- PABGx - palustrine, aquatic bed, intermittently exposed, excavated.
Sewage or settling ponds. Usually near a town and may contain some emergents.
- PABFx - palustrine, aquatic bed, semipermanent, excavated.
All dugouts.
- PABGb - palustrine, aquatic bed, intermittently exposed, beaver.
Typically open water with scattered reddish emergent signature. The impoundment is quite often visible on the lower side and the beaver lodge sometimes appears as a white dot nearby. Some of these beaver dams are on record as having existed as long as 75 years and many are at least 25 years old. Vegetation around the dams will not carry the "b" modifier due to their wetland status prior to beaver intrusion.
- PABGh - palustrine, aquatic bed, intermittently exposed, impounded.
Substantially large impoundments less than 20 acres with a non-emergent signature.
- PABFh - palustrine, aquatic bed, semipermanent, impounded.
Smaller impoundments with a non-emergent signature.
- PEMEx - palustrine, emergent, semipermanent, excavated.
Roadside ditches or vegetated irrigation canals with a semipermanently flooded signature (cattail).
- PEMCx - palustrine, emergent, seasonal, excavated.
Roadside ditches or vegetated irrigation canals with a seasonally flooded signature.
- PEMCd - palustrine, emergent, seasonal, drained.
Although the Flathead Valley project area does not contain many drained wetlands there are some most notably in Butte NE and Butte NW. To have the "d" modifier the wetland must show definite evidence of drainage (a ditch running out of it, fuzziness and drawdown around the wetland borders). Care must be taken not to confuse an irrigated wetland with a drained wetland. A drained wetland will only have a relatively short, minor ditch through it; whereas an irrigated wetland will have a long irrigation canal nearby (many of these will be on the topo).
- PEMAd - palustrine, emergent, temporary, drained.
Same as PEMCd above but drier.