

MISSOURI RIVER NEBRASKA/KANSAS PHOTO INTERPRETATION

Lincoln NE and SE; Fremont NW and NE;
Nebraska City NW and SW; Omaha SW;
Sioux City SW, Sioux City SE;
Kansas City NW, NE, SE, and SW;
Lawrence NW and NE

Photo Interpretation Mapping Conventions

Field Reconnaissance Conducted October 9-19, 1990

General Linear Convention

All blue line hydrologic symbols on topographic maps will be delineated. This symbology should correlate with the photo signature. Linears with field notes that have no correlating topo symbol will also be delineated as well as linears with a good photo signature. Where a PEM drainage way disappears (has no signature) through a field, that segment will not be delineated. Forced connections will be made for segments only a pen dash or two in length. Covertypes will be broken where appropriate. Numerous "short segments" of coertype changes will be avoided.

Lacustrine System

All lacustrine systems will be greater than twenty (20) acres. Emergent vegetation around these lakes will be classified under the palustrine system. Those areas influenced by impoundments will carry the "h" modifier.

- L1UBHh** - Limnetic, unconsolidated bottom, permanently flooded, impounded. Use for impoundments with an open water signature over twenty (20) acres.
- L1UBHx** - Limnetic, unconsolidated bottom, permanently flooded, excavated. Use for large mining pits with open water and considerable depth.

Riverine System

The U.S.G.S. Water Resource Book for Nebraska (1982) and Kansas (1981) will be used to determine the water regime on streams and rivers. The photo signature will be used to dictate water regime if information is unavailable.

- R2UBH/G** - Lower perennial, unconsolidated bottom, permanently flooded/intermittently exposed. These rivers are low gradient with a wide developed floodplain. Signature is open water. Most are shown as double line rivers on the topo. These will be delineated as polygons when photo signature dictates.
- R2USC** - Lower perennial, unconsolidated shore, seasonally flooded. These are sand or mud flats along lower perennial rivers. Signatures will vary from white, white blue, and light grey.
- R4SBF/C/A** - Intermittent, streambed, semipermanent, seasonally, temporarily flooded. Streambeds will be classified on water data or signature. R4SBF the streambed is entrenched and shows continuous water. R4SBC the streambed is entrenched and you can see sporadic water. R4SBA is seldom used but consists of a dry chalky white to grey signature with an entrenched streambed. The "x" modifier will be used where it is evident the stream channel direction has been altered by man.

Palustrine System

- PEMA** - Emergent, temporarily flooded.

Linears - Signatures in drainages that are not entrenched are a faint pink to a lush red and are also light grey. These appear as thin lines down the middle of a drainage. They are more evident in comparison to the upland grassy waterways that give a monotone red to pink signature. PEMA linears will be pulled out as segments wherever a photo signature exists and will not necessarily show hydrologic connection (e.g. where a drainage disappears through a plowed field). Forced connections will only be made for short segments of one or two pen dashes.

Polygons - Signatures that appear in fields, generally show a return of bright pink to faded pink and a light rusty brown on a majority of the photography. On high water photos the signature ranges from grey tones to dark crisp blacks. Stay away from the grey signatures on these photos. Stick with the basin and avoid frayed edges.

PEMAh - Same as polygons above but impounded. Signature light pink to red in color.

PEMAx - Same as above PEMA linears but excavated. For irrigation and road ditches with the temporary signature or a blue line on topo.

PEMC - Emergent, seasonally flooded.

Linears - Signatures appear as thin dark rusty brown to black lines down the center of a drainage. They are not entrenched. Segmented delineations will be consistent with the temporary convention.

Polygons - To be found in fields, along rivers and creeks, oxbows and swales. Signatures will range from darker browns and deep reds to solid blacks. Clumpy areas in pastures with brown to green signature mixed with pink mottling will also be considered seasonal. All delineations will generally be darker than temporary returns. Along the Missouri River, photo signature is a brownish white and corresponds to Phalaris sp. and Phragmites sp..

PEMCh - Same as above polygons but impounded. Signature darker in comparison to temporary emergents.

PEMCx - Same as above PEMC Linears but excavated. This classification will be used for irrigation and road ditches showing a seasonal signature or a blue line on topo.

PEMB - Emergent, saturated. These generally will be located on the down-hill side of impoundments. Most will be polygon size with a signature following that of seasonal emergents.

PEMF - Emergent, semipermanently flooded.

Linears - This delineation is seldom used but return is very dark. Area and hydrologic situation should support decision.

Polygons - Signatures are dark red and black mottling to fluffy white. Generally found in swales, oxbows, and impoundments.

PEMFh - Same as above but impounded. Signatures are dark brown to black to fluffy white. These signatures are representative of bulrush and cattail.

- PABF** - Aquatic bed, semipermanently flooded. Areas include natural ponds, oxbows, pockets in swales, and some drainages. Signature is bright pink to a bright whitish pink.
- PABFh** - Same as above but impounded. This delineation will only be used if photo signature exists.
- PABFx** - Same as above but excavated. These include dugouts in fields away from the influence of cattle and mining pits. Aquatic bed photo signature must be present for this delineation.
- PABGx** - Same as above PABF but for sewage treatment and settling ponds.
- PUSA** - Unconsolidated shore, temporarily flooded. White saline signature in fields.
- PUSA/Ch** - Unconsolidated shore, temporarily, seasonally flooded, impounded. Temporaries will be a whitish signature. Seasonals will show some water present with a light blue signature, both signatures will clearly show impoundment.
- PUBFx** - Unconsolidated bottom, semipermanently flooded, excavated. These will be dugout farm ponds and level drains in drainage ways with water present. Level drains are commonly found beside the stream channel and are flat.
- PUBFh** - Due to farming practices and water turbidity a decision was made to label all impoundments with water present PUBFh rather than PABFh as used in the past. Level drains found in the center of stream channels will also be labelled PUBFh.
- PUBGh** - Impoundments that are approximately 15 acres or larger will be labelled intermittently exposed.
- PUBHx** - Unconsolidated bottom, permanently flooded, excavated. Use this label for gravel pits where there is a question of depth and are small in size.

- PSSA** - Scrub-shrub, temporarily flooded.
- Linears** - These are found in drainages and streambeds. Typically their return is a light pink to light red and some brown depending on the emulsion.
- Polygons** - Typically found on river floodplains and banks of some creeks as well as sloughs. Some can be found at the back of impoundments and would receive the "h" modifier. Signature is typically same as above. They are also present on beach bars and sand bars in and along rivers. (These have a light red to brown signature and differ from the white and grey signature of R2USC.)
- PSSC** - Scrub-shrub, seasonally flooded. This delineation is rare except along the Missouri River and in back of some impoundments. Signature is same as above but generally darker.
- PFOA** - Forested, temporarily flooded. The majority of forested wetlands occur in floodplain/drainage situations. The major species found in these instances are black willow, peach leaf willow, green ash, cottonwoods, silver maples, red maples, elms, sycamores, and in the southern portion of the work area, pin oak, hickory, and honey locust are also found.
- Linears** - Forested linears will be pulled when tree crowns obscure the stream channel. It is important to pull linears with symbology on topo when a question to delineate arises.
- Polygons** - Floodplain contours along with soil types and photo signatures will determine the pulling of PFOA polygons along rivers and streams. Tree crowns should be tight.
- PFOC** - Forested, seasonally flooded. This delineation will be found along the Missouri River. Dominant species is peach leaf willow and is limited to the first bench of the floodplain.

Areas of Special Interest

Lancaster County with Salt Creek and the Todd Valley has a very important saline wetland map prepared by the Nebraska Fish and Wildlife Department. We will follow the existing map very closely. These areas with their evident white saline signature will be labeled PUSA and C. Plants associated with saline soils are Inland saltgrass, Seablite, Foxtail barley, Saltwort, Prairie bulrush, and Marsh elder.