

FIELD INDICATORS OF HYDRIC SOIL Version 7.0 for LRRs K AND M: NC/NE and MW Regional Supplements

Hydric Soil Indicators **for ALL Soils:** use for all soil textures.

A1. Histosol. Classifies as a Histosol ($\geq 16''$ organic material in the upper $32''$).

A2. Histic Epipedon. $8-16''$ of organic material over mineral soil of chroma ≤ 2 . Saturation or artificial drainage is required.

A3. Black Histic. $8-16''$ of organic material starting within $6''$ of soil surface with hue 10YR or yellower, value ≤ 3 , and chroma ≤ 1 . Saturation or artificial drainage is not required.

A4. Hydrogen Sulfide. Hydrogen sulfide odor within $12''$ of the surface.

A5. Stratified Layers. Several stratified layers starting within $6''$ of the soil surface. One or more of the layers has value ≤ 3 with chroma ≤ 1 or is muck, mucky peat, peat or mucky modified mineral texture. The remaining layers have a chroma ≤ 2 . Sandy material has value ≤ 3 and chroma ≤ 1 and 70% soil particles masked by organic material.

A10. 2 cm Muck.₁ A layer of muck ≥ 2 cm ($0.75''$) thick with

value ≤ 3 and chroma ≤ 1 starting within $6''$ of the soil surface.

A11. Depleted Below Dark Surface. A layer with a depleted or gleyed matrix that has $\geq 60\%$ chroma ≤ 2 starting $\leq 12''$ of the surface that has a minimum thickness of either:

- $6''$ or
- $2''$ if the $2''$ consists of fragmental soil material.

Loamy layer(s) above have value ≤ 3 and chroma ≤ 2 . Sandy layers have value ≤ 3 , chroma ≤ 1 , and $\geq 70\%$ organic coatings on the soil particles.

A12. Thick Dark Surface. A layer $\geq 6''$ thick with a depleted or gleyed matrix that has $\geq 60\%$ chroma ≤ 2 starting below $12''$ of the surface. The layers above have value ≤ 2.5 and chroma ≤ 1 to $12''$ and value ≤ 3 and chroma ≤ 1 in the remainder of the epipedon. If sandy, $\geq 70\%$ of particles are covered with organic material.

Hydric Soil Indicators **for SANDY Soils:**

S1. Sandy Mucky Mineral. A mucky modified mineral layer $\geq 2''$ starting within $6''$ of the soil surface.

S3. 2 in Mucky Peat or Peat.₁ A layer of mucky peat or peat $\geq 2''$ thick with value ≤ 3 and chroma ≤ 2 starting within $6''$ of the soil surface and underlain by sandy soil materials.

S4. Sandy Gleyed Matrix. A gleyed matrix which occupies $\geq 60\%$ of a layer starting within $6''$ of the soil surface.

S5. Sandy Redox. A layer starting within $6''$ of the soil surface that is $\geq 4''$ thick and has a matrix with $\geq 60\%$ chroma ≤ 2 with $\geq 2\%$ distinct or prominent redox concentrations.

S6. Stripped Matrix. A layer starting within $6''$ of the surface in which Fe/Mn oxides and/or organic matter were stripped from the matrix, exposing the base color of the soil. The stripped areas and translocated oxides and/or OM form a faintly contrasting pattern of ≥ 2 colors with diffuse boundaries. The stripped zones are $\geq 10\%$ of the volume and are rounded.

Hydric Soil Indicators **for LOAMY and CLAYEY Soils:**

F1. Loamy Mucky Mineral. A mucky modified mineral layer $\geq 4''$

thick, starting within $6''$ of the soil surface.

F2. Loamy Gleyed Matrix. A gleyed matrix that occupies $\geq 60\%$ of a layer starting within $12''$ of the soil surface.

F3. Depleted Matrix. A layer that has a depleted matrix that has $\geq 60\%$ chroma ≤ 2 with a minimum thickness of either:

- $2''$ if the $2''$ is entirely within the upper $6''$ of the soil, or
- $6''$ and starts within $10''$ of the soil surface.

F6. Redox Dark Surface. A layer $\geq 4''$ thick entirely within the upper $12''$ of the mineral soil that has:

- matrix value ≤ 3 and chroma ≤ 1 and 2% or more distinct or prominent redox concentrations as soft masses or pore linings, or
- matrix value ≤ 3 and chroma ≤ 2 and $\geq 5\%$ distinct or prominent redox concentrations as soft masses or pore linings.

₁ Problematic in NC/NE

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F7. Depleted Dark Surface.

Redox depletions, with value ≥ 5 and chroma ≤ 2 in a layer at least 4" thick entirely within the upper 12" of the mineral soil that has:

- matrix value ≤ 3 and chroma ≤ 1 and $\geq 10\%$ redox depletions, or
- matrix value ≤ 3 and chroma ≤ 2 and $\geq 20\%$ redox depletions.

F8. Redox Depressions.

In closed depressions subject to ponding $\geq 5\%$ distinct or prominent redox concentrations as soft masses or pore linings in a layer ≥ 2 " thick entirely within the upper 6" of the soil surface.

Indicators for use with Problematic Hydric Soils

A16. Coast Prairie Redox.

A layer starting within 6" of the soil surface that is ≥ 4 " thick and has a matrix chroma ≤ 3 with $\geq 2\%$ distinct or prominent redox concentrations as soft masses and/or pore linings.

S7. Dark Surface.

A layer 4" thick starting within 6" of the soil surface with a matrix value ≤ 3 and chroma ≤ 1 . At least 70% of the visible soil particles in this

layer must be masked with organic material. The matrix color of the layer directly below the dark layer must have the same colors as those described above or any color that has a chroma ≤ 2 .

S8. Polyvalue Below Surface.

A layer with value ≤ 3 and chroma ≤ 1 starting within 6" of the soil surface. At least 70% of the visible soil particles in this layer must be masked with organic material. Immediately below this layer, $\geq 5\%$ of the soil volume has value ≤ 3 and chroma ≤ 1 . The remainder of the soil volume has value ≥ 4 and chroma ≤ 1 to 12" or the spodic horizon, whichever is less.

S9. Thin Dark Surface.

A layer ≥ 2 " thick starting within the upper 6" of the soil, with value ≤ 3 and chroma ≤ 1 . At least 70% of the visible soil particles in this layer are masked with organic material. The layer below must have a value ≤ 4 and chroma ≤ 1 to a depth of 12" or to the spodic horizon, whichever is less.

F12. Iron/Manganese Masses.

On floodplains, a layer ≥ 4 " thick with $\geq 40\%$ chroma ≤ 2 and $\geq 2\%$ distinct or prominent redox concentrations as soft Fe/Mn masses with diffuse boundaries.

The layer occurs entirely within 12" of the soil surface. Fe/Mn masses have value ≤ 3 and chroma ≤ 3 ; most commonly they are black. The thickness requirement is waived if the layer is the mineral surface layer.

F21. Red Parent Material.

A layer derived from red parent materials that is ≥ 4 " thick, starting within 10" of the soil surface with a hue of 7.5YR or redder. The matrix has a value and chroma > 2 and ≤ 4 . The layer must contain $\geq 10\%$ depletions and/or distinct or prominent redox concentrations occurring as soft masses or pore linings. Redox depletions should differ in color by:

- value ≥ 1 and chroma ≤ 1 than matrix, or
- value ≥ 4 and chroma ≤ 2 .

TF12. Very Shallow Dark Surface.

In depressions and other concave landforms:

- if bedrock occurs within 6-10" of surface, a layer ≥ 6 " starting within 4" of surface with a value of ≤ 3 and chroma ≤ 2 , or
- if bedrock is within 6", more than half of soil thickness must have a value of ≤ 3 and chroma ≤ 1 ,

- Remaining soil to bedrock must have the same colors as above or any other color with a chroma ≤ 2 .

USER NOTES:

Depleted matrix:

- value ≥ 5 & chroma 1
- value ≥ 6 & chroma ≤ 2
- value 4 or 5 & chroma 2 with $\geq 2\%$ distinct or prominent redox concentrations, or
- value 4 & chroma 1 with $\geq 2\%$ distinct or prominent redox concentrations

Distinct:

- Δ hue = 0 & Δ value ≤ 2 & Δ chroma > 1 to < 4
- Δ hue = 0 & Δ value > 2 to < 4 & Δ chroma < 4
- Δ hue = 1 & Δ value ≤ 1 and Δ chroma > 1 to < 3
- Δ hue = 1 & Δ value > 1 to < 3 & Δ chroma < 3
- Δ hue = 2 & Δ value = 0 & Δ chroma > 0 to < 2 , or
- Δ hue = 2 & Δ value > 0 to < 2 & Δ chroma < 2

Mucky modified mineral soil.

5-14 % organic C for sandy soils, 8-18 % organic C for loamy and clayey soils.

2 Problematic in NC/NE only