

Florida Hydric Soil Indicators (April 2024): Provided by FAESS (<http://www.faess.org/>)

Hydric Soil Indicators for All Soils: These indicators are for all soils regardless of texture. All mineral layers above any of the layers meeting an A Indicator(s) have dominant chroma 2 or less or the layer(s) with dominant chroma of more than 2 is less than 6 inches thick.

A1. Histosol. *For use in all LRRs.* Classifies as a Histosol, except Folists. All Histosol requirements contained in Soil Taxonomy must be met.

A2. Histic Epipedon. *For use in all LRRs.* A histic epipedon underlain by mineral soil material with chroma 2 or less. All Histic Epipedon requirements contained in Soil Taxonomy must be met.

A3. Black Histic. *For use in all LRRs.* A layer of peat, mucky peat, or muck 8 inches or more thick starting at a depth of ≤ 6 inches from the soil surface having hue 10YR or yellower value 3 or less, and chroma 1 or less underlain by mineral soil material with chroma 2 or less.

A4. Hydrogen Sulfide. *For use in all LRRs.* A hydrogen sulfide odor starting at a depth of ≤ 12 inches from the soil surface.

A5. Stratified Layers. *For use in all LRRs.* Several stratified layers starting at a depth of ≤ 6 inches from the soil surface. At least one layer has value 3 or less with chroma 1 or less or it is muck, mucky peat, peat or mucky modified mineral texture. The remaining layers have chroma 2 or less. Any sandy material that constitutes the value 3 or less and chroma 1 or less layer, using a 10X to 15X hand lens, must have at least 70% of the visible soil particles masked with organic material. Observation without a hand lens appear to be close to 100% masked

A6. Organic Bodies. *For use in all FL LRRs.* Presence of 2% or more organic bodies of muck or a mucky modified mineral texture starting at a depth of ≤ 6 inches from the soil surface.

A7. 5 cm Mucky Mineral. *For use in all FL LRRs.* A mucky modified mineral layer 2 inches or more thick starting at a depth of ≤ 6 inches from the soil surface.

A8. Muck Presence. *For use in LRR U.* A layer of muck with value 3 or less and chroma 1 or less starting at a depth of ≤ 6 inches from the soil surface.

A9. 1 cm Muck. *For use in LRRs P and T.* A layer of muck 1 cm or more thick with value 3 or less and chroma 1 or less starting at a depth of ≤ 6 inches from the soil surface.

A11. Depleted Below Dark Surface. *For use in all FL LRRs.* A layer with a depleted or gleyed matrix that has 60% or more chroma 2 or less starting at a depth of ≤ 12 inches from the soil surface that has a minimum thickness of either:

- a. 6 inches, or
- b. 2 inches if the 2 inches consists of

fragmental soil material. Organic, loamy or clayey layer(s) above the depleted or gleyed matrix must have value 3 or less and chroma 2 or less starting at a depth of ≤ 6 inches from the soil surface and extend to the depleted or gleyed matrix. Any sandy material above the depleted or gleyed matrix must have value 3 or less and chroma 1 or less starting at a depth of ≤ 6 inches and viewed through a 10X or 15X hand lens, at least 70 percent of the visible soil particles must be masked with organic material. Observed without a hand lens, the particles appear to be close to 100 percent masked.

A12. Thick Dark Surface. *For use in all LRRs.* A layer at least 6 inches thick with a depleted or gleyed matrix that has 60% or more chroma 2 or less starting below 12 inches of the surface. The layer (s) above the depleted or gleyed matrix and starting at a depth of ≤ 6 inches from the soil surface must have value 2.5 or less and chroma 1 or less to a depth of at least 30cm (12 inches) and value 3 or less and chroma 1 or less in any remaining layers above the depleted or gleyed matrix. In any sandy material above the depleted or gleyed matrix, at least 70% of the visible soil particles must be masked with organic material as viewed through a 10X or 15X hand lens. Observed without a hand lens, the soil particles appear to be close to 100 percent masked.

Hydric Soil Delineation Indicators for Sandy Soils: These indicators are for soil materials with a USDA texture of loamy fine sand or coarser. All mineral layers above any of the S Indicators except for Indicator S6 have dominant chroma 2 or less, or the layer(s) with dominant chroma of more than 2 is less than 6 inches thick.

S4. Sandy Gleyed Matrix. *For use in all FL LRRs.* A gleyed matrix which occupies 60% or more of a layer starting at a depth of ≤ 6 inches from the soil surface. The definition of a Gleyed Matrix must be met; colors on the gleyed pages of color charts and value of 4 or more.

S5. Sandy Redox. *For use in all FL LRRs.* A layer starting at a depth of ≤ 6 inches from the soil surface that is at least 4 inches thick, and has a matrix with 60% or more of its volume chroma 2 or less with 2% or more distinct or prominent redox concentrations as soft masses and/or pore linings.

S6. Stripped Matrix. *For use in all FL LRRs.* A layer starting at a depth of ≤ 6 inches from the soil surface in which iron/manganese oxides and/or organic matter have been stripped from the matrix exposing the primary base color of soil materials. The stripped areas and translocated oxides and/or organic matter form a faintly contrasting pattern of 2 or more colors with diffuse boundaries. The stripped zones are 10% or more of the volume and are rounded.

S7. Dark Surface. *For use in all FL LRRs.* A layer 4 inches thick starting at a depth of ≤ 6 inches from the soil surface with a matrix value 3 or less and chroma 1 or less. At least 70% of the visible soil particles must be masked with organic material as viewed through a 10X or 15X hand lens. Observed without a hand lens, the particles appear to be close to 100% masked. The matrix color of the layer immediately below the dark layer must have the same colors as those described above or any color that has chroma 2 or less.

S8. Polyvalue Below Surface. *For use in LRRs T and U.* A layer with value 3 or less and chroma 1 or less starting at a depth of ≤ 6 inches from the soil surface. At least 70% of the visible soil particles must be masked with organic material as viewed through a 10X or 15X hand lens. Observed without a hand lens, the particles appear to be close to 100% masked. Immediately below this layer, 5% or more of the soil volume has value 3 or less and chroma 1 or less and the remainder of the soil volume has value 4 or more and chroma 1 or less to a depth of 12 inches or to the spodic horizon, whichever is less.

S9. Thin Dark Surface. *For use in LRRs T and U.* A layer 2 inches or more thick starting at a depth of ≤ 6 inches from the soil surface with value of 3 or less and chroma 1 or less. At least 70 percent of the visible soil particles must be masked with organic matter when viewed through a 10X or 15 X hand lens. Observed without a hand lens the particles appear to be close to 100% masked. This layer is underlain by a layer or layers with value 4 or less and chroma 1 or less to a depth of 12 inches or to the spodic whichever is less.

S12. Barrier Islands 1 cm Muck. *For use in MLRA 153B and 153D of LRR T.* In the swale portion of dune-and-swale complexes of barrier islands, a layer of muck 0.5 inches or more thick with value of 3 or less and chroma of 2 or less and starting at a depth of ≤ 6 inches from the soil surface.

Hydric Soil Indicators for Loamy and Clayey Soils: These indicators are for soil materials with a USDA texture of loamy very fine sand and finer. All mineral layers above any of the layers meeting an F Indicator(s) except for Indicators F8 and F12 have dominant chroma 2 or less, or the layer(s) with dominant chroma of more than 2 is less than 6 inches thick.

F2. Loamy Gleyed Matrix. *For use in all FL LRRs.* A gleyed matrix that occupies 60% or more of a layer starting at a depth of ≤ 12 inches of the soil surface. The definition of a Gleyed Matrix must be met; colors on the gleyed pages of color charts and value of 4 or more.

F3. Depleted Matrix. *For use in all FL LRRs.* A layer with a depleted matrix that has 60% or more chroma 2 or less that has a minimum thickness of either:

- 2 inches if the 2 inches starts at a depth of ≤ 4 inches, or
- 6 inches and starting at a depth of ≤ 10 inches of the soil surface. **See definition of depleted matrix below.**

Depleted Matrix Definition:

The following combinations of value and chroma identify a depleted matrix:

1. Matrix value 5 or more and chroma 1 or less with or without redox concentrations; or
2. Matrix value 6 or more and chroma 2 or less with or without redox concentrations; or
3. Matrix value 4 or 5 and chroma 2 or less and 2 percent or more distinct or prominent redox concentrations; or
4. Matrix value 4 and chroma 1 or less and 2 percent or more distinct or prominent redox concentrations.

A and E horizons may have low chromas and high values and may therefore be mistaken for a depleted matrix; however, they are excluded from the concept of depleted matrix unless the soil has common or many distinct or prominent redox concentrations occurring as soft masses or pore linings.

F6. Redox Dark Surface. *For use in all FL LRRs.* A layer that is at least 4 inches thick starting at a depth of ≤ 8 inches from the mineral soil surface that has:

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

F7. Depleted Dark Surface. *For use in all LRRs.* Redox depletions, with value 5 or more and chroma 2 or less in a layer that is at least 4 inches thick starting at a depth of ≤ 8 inches from the mineral soil surface that has:

- matrix value 3 or less and chroma 1 or less and 10% or more redox depletions, or
- matrix value 3 or less and chroma 2 or less and 20% or more redox depletions.

F8. Redox Depressions. *For use in all FL LRRs.* In closed depressions subject to ponding, 5% or more distinct or prominent redox concentrations as soft masses or pore linings in a layer 2 inches or more thick and starts at a depth ≤ 4 inches from the soil surface. This indicator occurs on landforms such as: “Grady” ponds, and potholes: not micro-depressions on convex or plane landscapes.

F10. Marl. *For use in LRR U.* A layer of marl with a value 5 or more and chroma ≤ 2 starting at a depth ≤ 4 inches from the soil surface. Normally this indicator occurs at the soil surface.

F12. Iron/Manganese Masses. *For use in LRRs P and T.* On flood plains, a layer 4 inches or more thick with 40% or more chroma 2 or less, and 2% or more distinct or prominent redox concentrations as soft iron/manganese masses with diffuse boundaries. The layer starts at a depth ≤ 8 inches from the soil surface. Iron/manganese masses have value and chroma 3 or less. The thickness requirement is waived if the layer is the mineral surface layer.

F13. Umbric Surface. *For use in all LRRs.* A layer 10 inches or more thick starting at a depth ≤ 6 inches from the soil surface in which the upper 6 inches must have with value 3 or less and chroma 1 or less and the lower 4 inches must have the same colors as above or any other color that has a chroma 2 or less.

F22. Very Shallow Dark Surface. *For use in MLRA 138 of LRR P, MLRA 154 of LRR U, and West Florida portion of MLRA 152A in LRR T.* In depressions and flood plains subject to frequent ponding and/or flooding, one of the following:

- if bedrock occurs between 6 inches and 10 inches, a layer at least 6 inches thick starting at a depth ≤ 4 inches from the soil surface with value 2.5 or less and chroma 1 or less, and the remaining soil to bedrock must have the same colors as above or any other color that has chroma 2 or less, or
- if bedrock occurs at a depth ≤ 6 inches from the soil surface, more than half of the soil thickness must have value 2.5 or less and chroma 1 or less, and the remaining soil to bedrock must have the same colors as above or any other color that has a chroma 2 or less.