Soil Processes and Properties

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I want to make one thing perfectly clear:

- Different soils produce different kinds and amounts of vegetation.

Let there be no misunderstanding about this:

- There is a main one-to-one relationship between soils and ecological sites.

Kinds of Map Units

Soils differ in size and shape of their areas, in degree of contrast with adjacent soils, and in geographic relationships. Four kinds of map units are used in soil surveys to show the relationships:

- *Consociations*
- *Complexes*
- *Associations*
- *Undifferentiated groups.*

Soil Mapping units that directly relate to Ecological Sites

- Consociations - delineated areas are dominated by a single soil taxon (or miscellaneous area) and similar soils.

- Complexes and Associations- Complexes and associations consist of two or more dissimilar components occurring in a regularly repeating pattern. Mapping scale determines whether the name complex or association should be used.

- Complex - major components of a complex *cannot* be mapped separately at a scale of about 1:24,000.

- Association - major components of an association *can* be separated at a scale of about 1:24,000

Part 618 NSSH– Soil Properties and Qualities

- **Subpart A – General Information**
- **618.0 Definition and Purpose**

- Soil properties are measured or inferred from direct observations in the field or laboratory. Examples of soil properties are particle-size distribution, cation-exchange capacity, and salinity.

Part 618 NSSH– Soil Properties and Qualities

- Soil qualities are behavior and performance attributes that are not directly measured. They are inferred from observations of dynamic conditions and from soil properties. Examples of soil qualities are corrosivity, natural drainage, frost action, and wind erodibility.

Part 618 NSSH– Soil Properties and Qualities

- Soil properties and soil qualities are the criteria used in soil interpretations, as predictors of soil behavior, and for classification and mapping of soils. The soil properties entered in the National Soil Information System (NASIS) must be representative of the soil and the dominant land use for which the interpretations are based.

Part 618 NSSH– Soil Properties and Qualities

- **There are currently 68 soil property and quality data elements in NASIS.**
- **In peninsular Florida, the most compelling soil property is Diagnostic Horizon Feature — Kind.**
- **More specifically, the Kind we talk about in Taxonomy is "Aquic Conditions", or the depth to the seasonal high water table.**
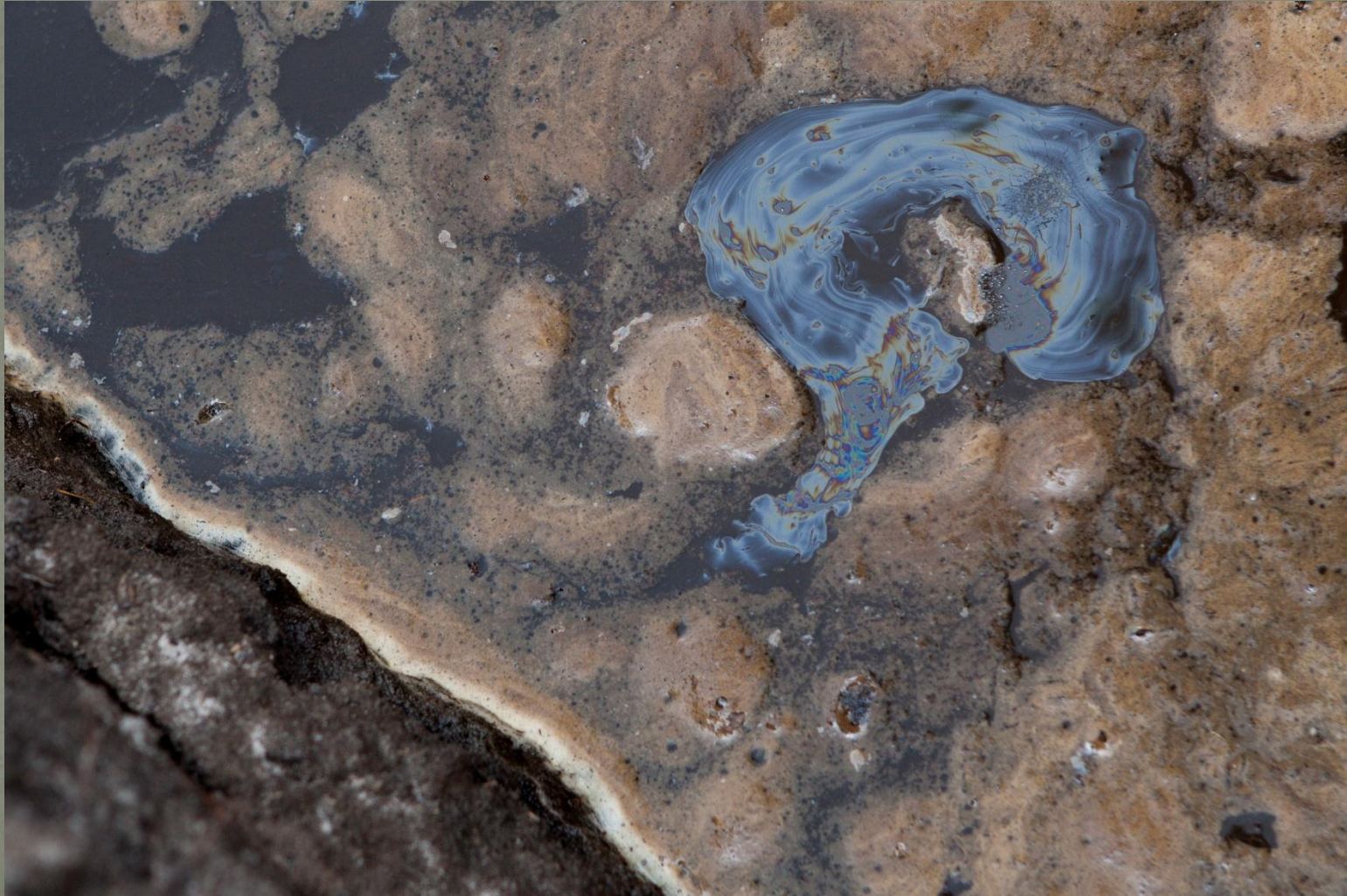
MYAKKA – the State Soil of Florida

A horizon
0-8 inches

E horizon
8-26 inches

Bh horizon
26-52 inches

water table

Myakka – water table surface. What is it?

Myakka – iron that was in solution (reduced) and now is reoxidizing.

Satellite soil series

Weak Bh horizon

redox features

The soils below are white colored, uncoated, Typic Quartzipsamments

Series	Water Table	Drainage Class	Vegetation	Proposed Ecological Site
Satellite	10-40"	Some-what Poorly	Slash Pine Wire Grass St. Johnswort	Scrubby Flatwoods
Archbold	40-80"	Well	Mainly scrub oak and pine forest	TBD
St. Lucie	>80"	Excessively	Rosemary Rusty Staggerbush Sand Pine Scrub Oaks - (Myrtle, sand live oak, Chapman's)	Sand Pine Scrub or High Sand Scrub or Deep Sand Scrub

Let me leave you with this one final thought:

- There are more than 400 different types of soils in the state of Florida.

Thank You!

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