2022 MAPSS/MAWS NATURAL RESOURCES WORKSHOP

Wednesday, September 7, 2022
Wolfe's Neck Center for Agriculture & the Environment
and
Wolfe's Neck State Park

The 2022 MAPSS/MAWS Natural Resources Workshop will once again be held at Wolfe's Neck Center and Wolfe's Neck State Park in Freeport, Maine, on Wednesday, September 7, 2022 from 8:30 am until 3:00 pm. Check-in will be at the Mallet Barn 8:30 am to 9:00 a.m.

At the registration table, you will be given a location map to sites you are to visit, as well as additional technical handouts/keys. Assistants will be at all of the sites to point out the soil pits and other areas where you are to make observations (and determinations) and to answer questions. You have from 9:00 am – 12:00 pm to visit the sites. Station attendants will be visiting each of the stations along with regulators, prior to the workshop, so they will be able to answer most regulatory questions for workshop participants.

1. This year we have developed a fictional, proposed solar project that would be sited in a field and adjoining forest, with a proposed operations and maintenance (O&M) building that will require a septic system. Opportunities for this "project footprint" will be delineating the wetland boundary, delineating the hydric soil boundary, allowable site stormwater BMP's, what subsurface data is needed for stormwater design, and what data is needed to submit for a Site Law permit application. Are these soils "Prime Farmland" or "Soils of Statewide Importance"? Is there an NRPA stream determination(s)? Do shoreland zoning setbacks apply? Where are suitable septic system sites?

2. In the State Park there is a stream determination and opportunity to observe forested soil test pits is a natural (undisturbed) area.

3. Visit a site where the WNC is performing studies on Topsoil Regeneration.

4. Post-lunch panel discussion at the Mallet Barn of the sites and soils will include determinations by State and federal regulators and experts. **Lunch is on your own at the Mallet Barn**.

These are challenging sites that will generate lively discussion. Experts as well as State and Federal Regulators will be present to answer questions and provide valuable guidance for interpreting these difficult sites and soil conditions.

The cost of the workshop is $45.00 for MAPSS or MAWS members or associate members and $50.00 for all others. Regulatory staff, volunteer station monitors, and volunteer conference workers are exempt from the registration fee.

Always check www.mapss.org for the latest field conference updates and additional information.

DUE TO EVOLVING RECOMMENDATIONS REGARDING COVID-19, MEETING ATTENDEES SHOULD FOLLOW MAINE CDC GUIDELINES.

Please send your checks, payable to MAPSS, to:
Gary Fullerton 104 Millturn Road
Limington, Maine 04049-3141

You may register on-line at:
http://mainewetlands.org/upcoming-events

Though registrations will be accepted the day of the workshop, for planning purposes, we ask that you registerby September 1. Check www.mapss.org for background information and updates.

If you have any questions about the workshop, call Rodney Kelshaw at (207) 944-6776 (leave a message, he does not answer if it is an unknown number) or send him an e-mail at:

rodney@flycatcherllc.com

Orientation and Registration will be at Wolfe's Neck Center Mallet Barn on Wolfe's Neck Road in Freeport, Maine.

43.8292, -70.0831

Please remember, Freeport famously has poor mobile phone service so expect during the day to not have 100% service.

Name:

_____

Address:

_____

Phone Number: _____

E-mail: _____

Number Attending Workshop:_____X $45.00 = _____X $50.00 = _____

Total Due: $_____


Harraseeket River
Wolfe's Neck Road
Wolfe's Neck Oceanfront Camping
Wolfe's Neck Woods State Park
arraseeket Lunch and Lobster Company
Wolfe's Neck Farm, Mallet Barn
MALLET BARN: Registration, Orientation,
Lunch, and afternoon Panel Discussion
Google Earth
© 2022 Google
N
1 km

2022 MAPSS/MAWS Natural Resources Workshop Definitions:

NRPA

Article 5-A: NATURAL RESOURCES PROTECTION ACT: §480-C: §480-B. Definitions

Coastal wetlands. "Coastal wetlands" means all tidal and subtidal lands; all areas with vegetation present that is tolerant of salt water and occurs primarily in a salt water or estuarine habitat; and any swamp, marsh, bog, beach, flat or other contiguous lowland that is subject to tidal action during the highest tide level for the year in which an activity is proposed as identified in tide tables published by the National Ocean Service. Coastal wetlands may include portions of coastal sand dunes.

Title 38: WATERS AND NAVIGATION Chapter 3: PROTECTION AND IMPROVEMENT OF WATERS

Subchapter 1: ENVIRONMENTAL PROTECTION BOARD Article 5-A: NATURAL RESOURCES PROTECTION ACT §480-B Definitions

River, stream or brook. "River, stream or brook" means a channel between defined banks. A channel is created by the action of surface water and has 2 or more of the following characteristics.

A. It is depicted as a solid or broken blue line on the most recent edition of the U.S. Geological Survey 7.5-minute series topographic map or, if that is not available, a 15-minute series topographic map. [1995, c. 92, §2 (NEW).]

B. It contains or is known to contain flowing water continuously for a period of at least 6 months of the year in most years. [2001, c. 618, §1 (AMD).]

C. The channel bed is primarily composed of mineral material such as sand and gravel, parent material or bedrock that has been deposited or scoured by water. [1995, c. 92, §2 (NEW).]

D. The channel contains aquatic animals such as fish, aquatic insects or mollusks in the water or, if no surface water is present, within the stream bed. [1995, c. 92, §2 (NEW).]

E. The channel contains aquatic vegetation and is essentially devoid of upland vegetation. [1995, c. 92, §2 (NEW).]

"River, stream or brook" does not mean a ditch or other drainage way constructed, or constructed and maintained, solely for the purpose of draining storm water or a grassy swale. [2001, c. 618, §1 (AMD) .]

Chapter 1000: GUIDELINES FOR MUNICIPAL SHORELAND ZONING ORDINANCES

PREFACE: The *Mandatory Shoreland Zoning Act*, 38 M.R.S.A. sections 435-449, requires all municipalities to adopt, administer, and enforce ordinances which regulate land use activities **within 250 feet of great ponds, rivers, freshwater and coastal wetlands, including all tidal waters; and within 75 feet of streams as defined.**

Outlet stream - any perennial or intermittent stream, as shown on the most recent highest resolution version of the national hydrography dataset available from the United States

Geological Survey on the website of the United States Geological Survey or the national map, that flows from a freshwater wetland.

Shoreland zone - the land area located within two hundred and fifty (250) feet, horizontal distance, of the normal high-water line of any great pond or river; within 250 feet, horizontal distance, of the upland edge of a coastal wetland, including all areas affected by tidal action; within 250 feet of the upland edge of a freshwater wetland; or within seventy-five (75) feet, horizontal distance, of the normal high-water line of a stream.

Setback - the nearest horizontal distance from the normal high-water line of a water body or tributary stream, or upland edge of a wetland, to the nearest part of a structure, road, parking space or other regulated object or area.

Stream - a free-flowing body of water from the outlet of a great pond or the confluence of two (2) perennial streams as depicted on the most recent , highest resolution version of the national hydrography dataset available from the United States Geological Survey on the website of the United States Geological Survey or the national map to the point where the stream becomes a river or where the stream meets the shoreland zone of another water body or wetland. When a stream meets the shoreland zone of a water body or wetland and a channel forms downstream of the water body or wetland as an outlet, that channel is also a stream.

Tidal waters – all waters affected by tidal action during the highest annual tide.

Tributary stream – means a channel between defined banks created by the action of surface water, which is characterized by the lack of terrestrial vegetation or by the presence of a bed, devoid of topsoil, containing waterborne deposits or exposed soil, parent material or bedrock; and which is connected hydrologically with other water bodies. “Tributary stream” does not include rills or gullies forming because of accelerated erosion in disturbed soils where the natural vegetation cover has been removed by human activity.

This definition does not include the term "stream" as defined elsewhere in this Ordinance, and only applies to that portion of the tributary stream located within the shoreland zone of the receiving water body or wetland.

NOTE: Water setback requirements apply to tributary streams within the shoreland zone.

Upland edge of a wetland - the boundary between upland and wetland. For purposes of a coastal wetland, this boundary is the line formed by the landward limits of the salt tolerant vegetation and/or the highest annual tide level, including all areas affected by tidal action. For purposes of a freshwater wetland, the upland edge is formed where the soils are not saturated for a duration sufficient to support wetland vegetation; or where the soils support the growth of wetland vegetation, but such vegetation is dominated by woody stems that are six (6) meters (approximately twenty (20) feet) tall or taller.

Vegetation - all live trees, shrubs, and other plants including without limitation, trees both over and under 4 inches in diameter, measured at 4 1/2 feet above ground level.

Velocity zone - an area of special flood hazard extending from offshore to the inland limit of the primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources.

Water body - any great pond, river or stream.

Wetland - a freshwater or coastal wetland.

Prime Farmland: The National Soil Survey Handbook (NSSH) and 7 CFR 657 Prime and Unique Farmlands, defines Prime Farmlands as follows: "*Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber and oilseed crops, and is also available for these uses (the land could be in cropland, pastureland, rangeland, forest land, 3 v.7.22.20 or other land, but not urban built-up land or water). It has the soil quality, growing season and moisture supply needed to economically produce sustained high yields of crops when treated and managed, including water management, according to acceptable farming methods*."

The NSSH lists "other considerations for prime farmland" which includes (iv) Water Table – "The soils either have no water table or have a water table that is maintained at a sufficient depth during the cropping season to allow cultivated crops common to the area to be grown." Most map units are drained but a few undrained areas are included. Note that only the drained areas meet the prime farmland criteria. The NSSH also requires that prime farmlands soils have a permeability of at least 0.06 inches per hour in the upper 20 inches. Also, per the NSSH, (iii) Irrigation – "Some map units have areas with a developed irrigation water supply that is dependable and of adequate quality while other areas do not have such a supply. In those map units, only the irrigated areas meet the prime farm land criteria." 7 CFR 657 also states that prime farmlands have no or few surface rocks (would not interfere with farming) and that "less than 10% of the surface layer (upper 6") in these soils consists of rock fragments coarser than 3." Slope alone is not a specific criteria but is tied to the erodibility of the soil and is determined by multiplying the K factor (erodibility) x percent slope. To qualify as a prime farmland, the product must be 2.0 or less. The pH of the soil must be between 4.5 and 8.4 in all horizons within 40" or within the root zone. Prime farmlands cannot flood frequently during the growing season (no more than once in 2 years).

How to Determine if a Soil is Prime Farmland:

1. You do not have to determine the soil moisture regime. All of Maine has a soil moisture regime that qualifies (aquic or Udic)

2. You do not have to determine the soil temperature regime (frigid and mesic qualify). Cryic does not qualify, however.

3. You do have to determine the groundwater table depth. The depth to groundwater table must be deep enough during the cropping season to allow cultivated crops common to the area to be grown (24" or deeper has been chosen to meet this criteria). The soil can also be drained and qualify if the ground water table is a at depth of less than 24".

4. You should not have to determine soil pH as the allowable range is 4.5 – 8.4.

5. You do need to determine surface stoniness. To qualify as prime farmland, there can't be enough stones to interfere with farming.

6. You do need to determine the erodibility of the soil by looking up the K factor and multiplying it by the slope. In order for the soil to be prime farmland, the product of that multiplication has to be less than 2.0.

7. You do need to determine whether or not the soil floods less often than once in every 2 years, required in order to be prime farmland. 4 v.7.22.20

8. You do need to determine the permeability rate of the soil which must be equal to or more than 0.06 inches per hour in the upper 20". Base this decision on the presence or absence of a "root restrictive layer" including hardpan or bedrock. Layers above a root restrictive layer will have a permeability of 0.06" per hour or more. Layers below a hardpan or bedrock will not have adequate permeability.

9. You do need to determine the percent of the surface layer (upper 6") that is coarse fragments over 3". It must be less than 10% in order to qualify as a prime farmland.

10. You may need to determine an adequate and dependable water supply from precipitation or irrigation. Soils that are somewhat excessively or excessively drained would not qualify as prime farmlands unless irrigated.

Soils of Statewide Importance According to 7 CFR 657, Prime and Unique farmlands is defined as follows: "*Criteria for defining and delineating this land are to be determined by the appropriate State agency or agencies. Generally, additional farmlands of statewide importance include those that are nearly prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods*." There are no specific national criteria for classifying soils of statewide importance but the NRCS in Maine has recently developed those criteria.

How to Determine if a Soil is of Statewide Importance:

1. Does not meet Prime Farmland criteria.

2. Does not have a seasonal groundwater table within 16 inches of the mineral soil surface during the growing season of most years (moderately well or well drained).

3. Are less than 15% slope.

4. Have less than 3% cover of rocks or stones greater than 10 inches in diameter and less than 40% cover of rocks less than 10 inches but more than 2" in diameter.

5. Are more than 20 inches to a root restrictive layer (hardpan or bedrock)

6. Have greater than 2 inches of available water holding capacity in the upper 20 inches of soil (loamy fine sand or finer).

7. NRCS further requires areas designated as of statewide importance to be composed of at least 50% coverage of soils meeting the criteria. That means small areas of soils meeting the criteria scattered about a site do not have to be added up as they would not be realistically farmable (similar to pit and mound topography in wetland determinations where you use what

predominates). Additional Considerations As previously mentioned, NRCS has compiled a list of Prime Farmland soils and Soils of Statewide Importance, by map unit. Many of those map units are named for the predominant soil series present in the map unit. Some of those soil series have a wide range of characteristics which go beyond the characteristics allowed for prime farmlands or soils of 5 v.7.22.20 statewide importance.

PLEASE REFER TO http://www.mapss.org/links.htm FOR ADDITIONAL REGULATORY DEFINITIONS AND STANDARDS OF PRACTICE APPLICABLE TO THIS FIELD CONFERENCE.