



Commonwealth of Massachusetts
State Reclamation and Mosquito Control Board



NORTHEAST MASSACHUSETTS MOSQUITO CONTROL & WETLANDS MANAGEMENT DISTRICT

Culiseta melanura Larval Habitat Identification and Characteristics in the Northeast

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Cs. melanura



Connecticut Agricultural Experiment
Station

- Primary vector: EEE virus
- Early spring bird amplification
- Bridge vector: EEE/WNV
- Adults present all season (2-6 generations).
- June adult collection may predict potential EEE risk. (15%)
- Larvae present in winter
- Larvae treatment



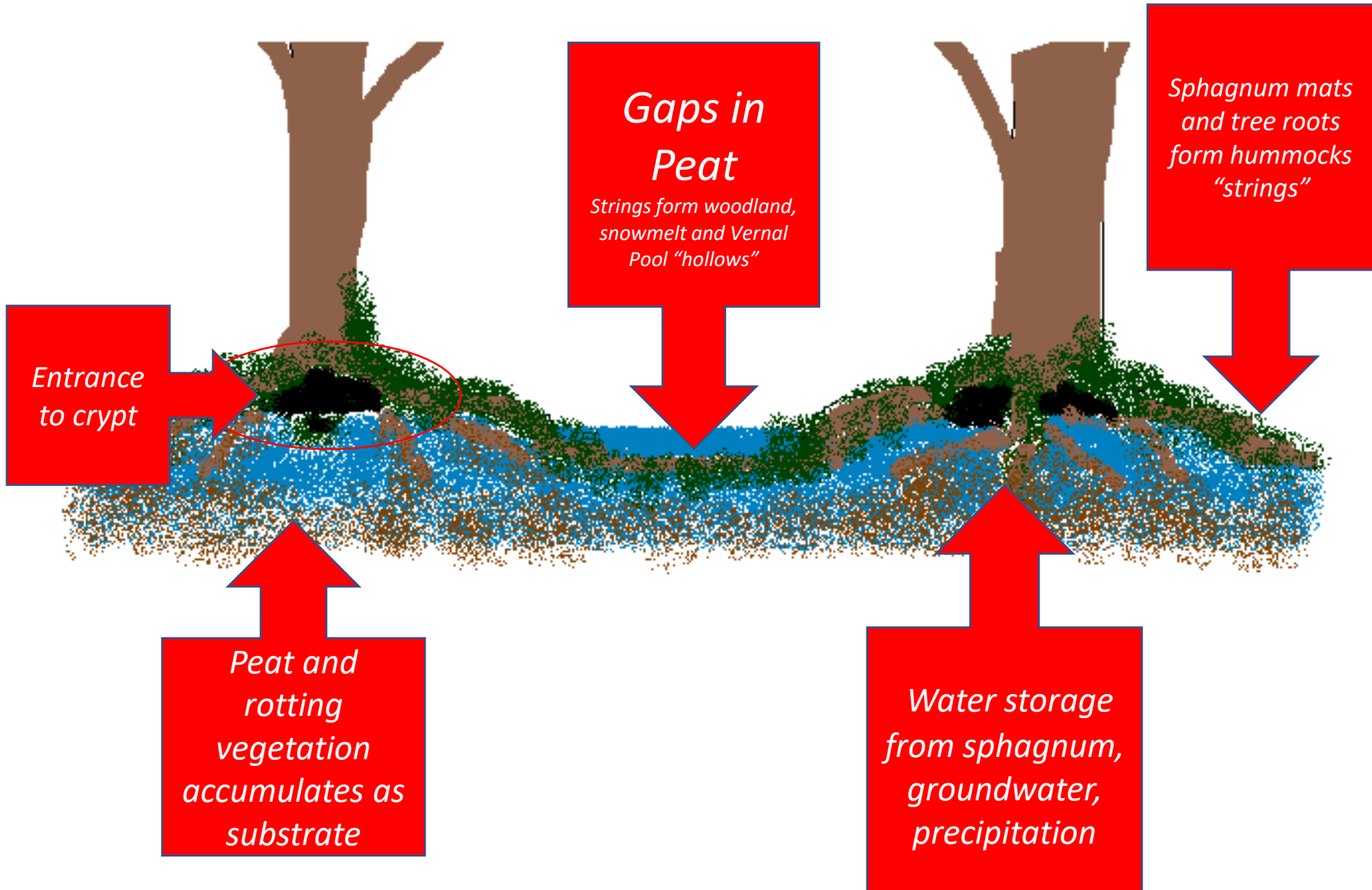
Melanura Habitat Northeast

Acidic Peat/Sphagnum Bogs

- Mature hemlock, young red maple understory, yellow birch colonies, beech, winterberry
- Atlantic White Cedar
- Mature Red Maple
- Live and rotting trees
- Sphagnum/peat
- Underground crypts



Acid Bog Dynamics

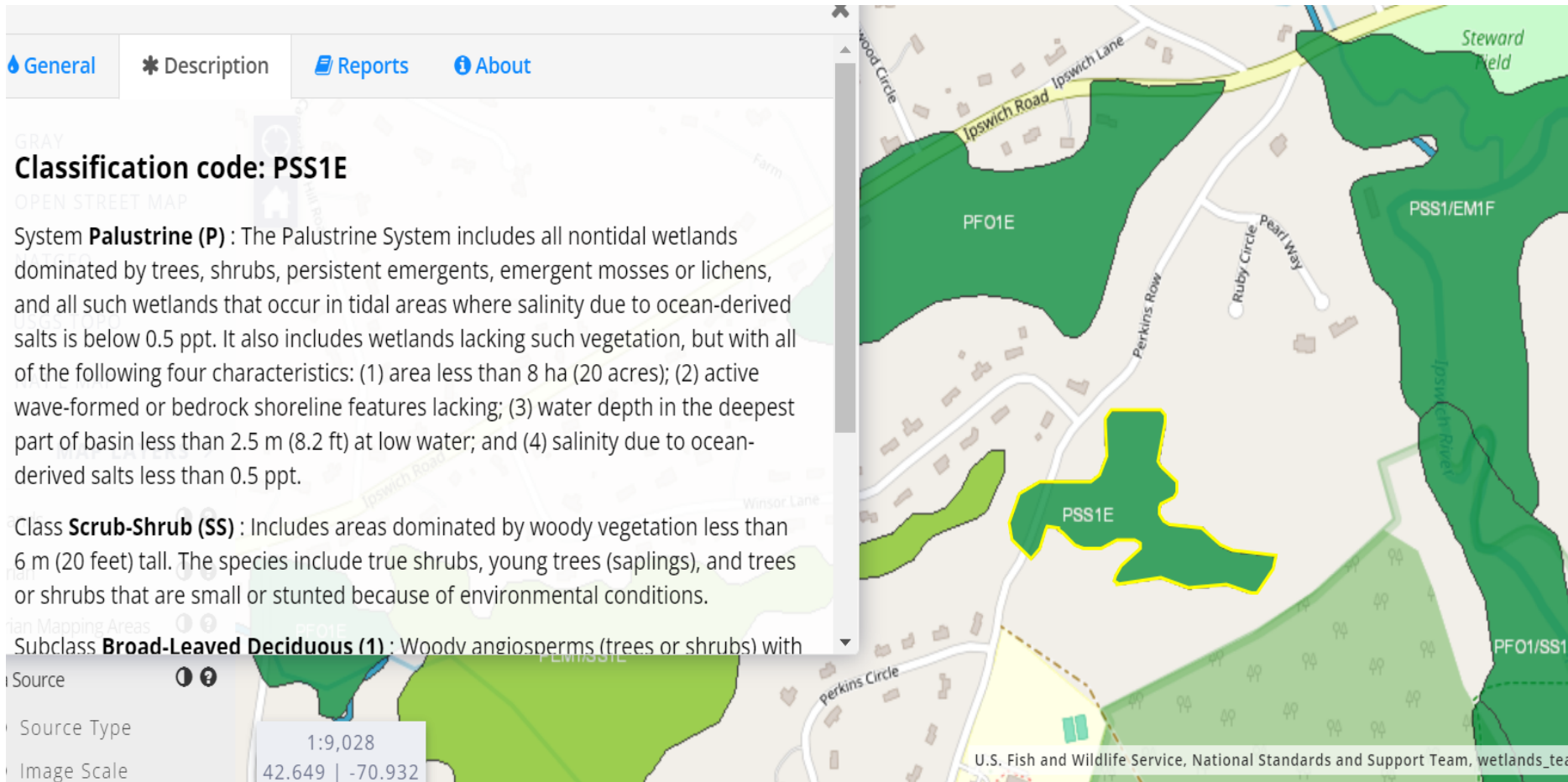


Target by Aerial Map to Ground Sampling



USGS Wetland Data

<https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/>



The screenshot displays the USGS Wetland Mapper interface. On the left, a navigation menu includes 'General', 'Description', 'Reports', and 'About'. The 'Description' tab is active, showing the following information:

- Classification code: PSS1E**
- System Palustrine (P)**: The Palustrine System includes all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 0.5 ppt. It also includes wetlands lacking such vegetation, but with all of the following four characteristics: (1) area less than 8 ha (20 acres); (2) active wave-formed or bedrock shoreline features lacking; (3) water depth in the deepest part of basin less than 2.5 m (8.2 ft) at low water; and (4) salinity due to ocean-derived salts less than 0.5 ppt.
- Class Scrub-Shrub (SS)**: Includes areas dominated by woody vegetation less than 6 m (20 feet) tall. The species include true shrubs, young trees (saplings), and trees or shrubs that are small or stunted because of environmental conditions.
- Subclass Broad-Leaved Deciduous (1)**: Woody angiosperms (trees or shrubs) with

Below the description, there is a 'Source' section with a scale of 1:9,028 and coordinates 42.649 | -70.932. The map on the right shows various wetland areas with labels such as PFO1E, PSS1E, PSS1/EM1F, and PFO1/SS1F. A specific area labeled PSS1E is highlighted with a yellow border. The map also shows roads like Ipswich Road, Perkins Row, and Ruby Circle, and a field labeled Steward Field. The bottom right corner of the map area contains the text: 'U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team'.

Melanura Micro-Habitat

- Tea colored water (tannic acid)
- Isolated deep crypts (NOT in gaps)
- Organic substrate, no mineral soils
- pH range 3.5 to 5
- Fall-Winter crypt temperature range 42-53F
- Spring-Summer crypt temperature range 58-67F
- Average dimension
 - Less than a 1 ft opening
 - Depth up to 2 ft or more



- Sphagnum crypt opening
- The only species of mosquito present
- Few predators/non-targets
 - Isopods
 - Amphipods
 - Spiders



Sampling Equipment

Collection or rearing containers

Dipper

Bilge pump

Baster

Eye dropper

Shallow pan

Small rock hammer

Hip or higher waders

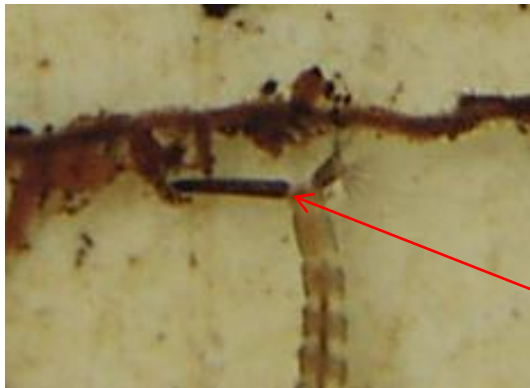
Lots of Patients!!



Identification of *Cs. melanura* larvae

Overwinter as larvae and are easily identified

- Body grayish/tawny coloration, prominent antennae as long as head, single row of comb scales, pair of setae at base of long dark siphon, large robust thorax
- Larvae found at 2nd, 3rd, and 4th instar (ranging from 4 to 42 individuals per dip per crypt) median=12



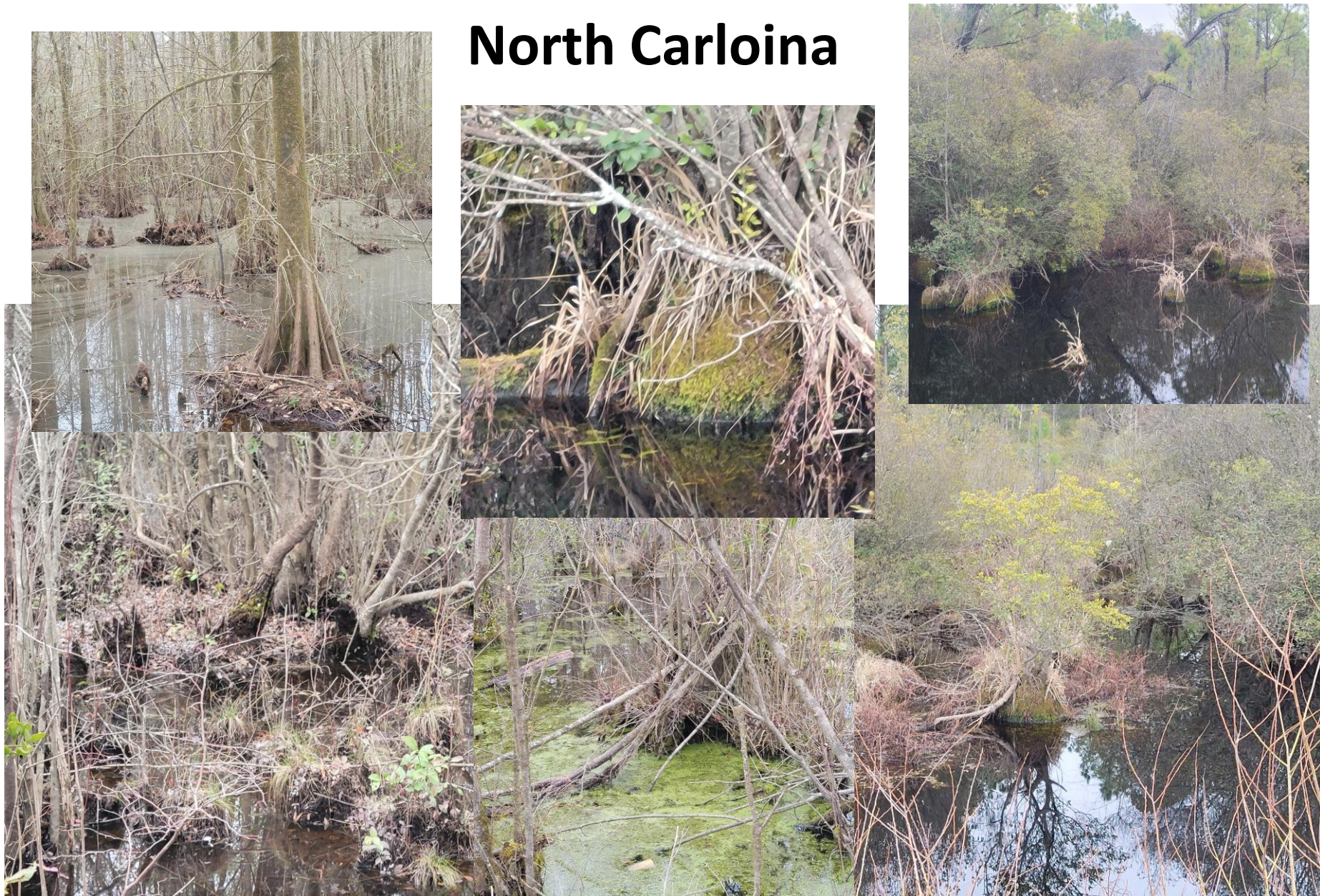
Florida



South Carolina



North Carolina



Virginia





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QUESTIONS

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