

FIELD REPORT FOR
WILLIAMSPORT NW, SW

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Participants: Janice Stone, Massachusetts Remote Sensing Project
Michael Broschart, Massachusetts Remote Sensing Project
William Zinni, Region 5 Assistant Wetlands Coordinator,
USFWS

INTRODUCTION

The Williamsport NW and SW work areas are located in north-central Pennsylvania, longitude 77°W to 78°W and latitude 41°N to 42°N. The major watersheds located within the work areas are the Susquehanna, Cowanesque, Lycoming and Tioga Rivers. According to Bailey (1978)* there are two ecoregions represented here: Warm Continental, Laurentian Mixed Forest, Northern Hardwoods Forest (2113); and Hot Continental, Eastern Deciduous Forest, Appalachian Oak Forest (2214).

The field trip objectives were:

- 1) To determine water regimes of various PEM, PSS, and PFO signatures.
- 2) To determine subclasses of PSS and PFO.
- 3) To determine which riverine systems are lower perennial and upper perennial.

The aerial photography is 1:58,000 color Infra-red positives.

IN-FIELD AND PHOTO OBSERVATIONS

Jackson Summit

SITE 1 - A) PSS1E; B) PFO4E--This wetland is located in a low, slightly sloping area at the headwaters of Mitchell Creek. Evidently this location collects runoff from the surrounding hills. The scrub shrub wetland has a dark green, rough textured signature on the CIR photo and the forested portion has red crowns with a dark green signature underneath. Alnus rugosa dominates the scrub shrub and Tsuga canadensis is the most important species in the forest.

SITE 2 - PEM1A--This site is a low, slightly sloping runoff area from surrounding cultivated fields and pasture. The dominant species was

* Bailey, R. G. 1978. Description of the Ecoregions of the United States. Forest Service, USDA. Ogden, Utah. 77 pp.

Solidago spp. with such wetland vegetation as Juncus spp., Carex spp., Scirpus cyperinus, and Eupatorium maculatum being common. This small area has a dull grayish-white signature on the photo.

Tioga

SITE 3 - A) PAB4/UBF; B) PSS1F--At this location Spiraea latifolia was growing in standing water up to 6 inches deep. The PAB4/UBF has a dark open water signature on the photo and Lemna spp. was the dominant floating vascular plant. Surrounding this is a dark green signature indicating PSS1F.

SITE 4 - PEM1C--Juncus effusus dominates this wet spot surrounded by pasture and cultivated fields. Some cattle grazing had occurred. A dark green tone is associated with this wetland on the photo.

SITE 5 - PF04/SS1E--The terrain here was uneven with a hummocky microtopography. Cattle trampling was evident, at least along the edges. Tsuga canadensis and Alnus rugosa were the most common species. The soil was quite mucky. The signature is dark green, rough texture indicating the scrub shrub and red crowns of the hemlock.

Crooked Creek

SITE 6 - A) PAB3/4F; B) PEM1E; C) PSS1E--Site A is dominated by Nuphar spp. with some Nymphaea spp. and Lemna spp. The photo signature is dark open water with hazy white mixed in, especially along the edge. Site B has Juncus spp., Typha latifolia, Carex spp., Scirpus cyperinus and a variety of other wetland plants. The signature is white. Alnus rugosa dominates site C and the signature is dark green.

SITE 7 - A) PEM1A; B) PEM1A--Scirpus spp. was the most common species at the A location with some Typha latifolia. This wetland has a grayish-white signature. On the other side of the road was a wetland dominated by Juncus spp. and Phalaris arundinacea. The signature is a slightly dark spot in a red upland field. Both areas are drained by a small stream.

Cherry Flats

SITE 8 - PEM1/AB4F--This wetland was near the road and on the edge of a forested swamp. The standing water was probably due to the impounding effect of the road. Bidens spp. was found on mounds interspersed within the standing water, which was covered by a dense growth of Lemna spp. The photo signature is dark with some pinkish color mixed-in.

SITE 9 - A) PEM1/SS3Eb; B) PEM1/UBF--Location A was an interspersion of Chamaedaphne calyculata with the dominant emergents Juncus canadensis and J. militaris. On the photo this wetland is a mixed signature of green, white and orange. Across the road in what appeared to be an old mine dump site was a mixture of Juncus spp., Carex spp. and

Dulichium spp. with open water. The signature is mostly dark open water with some scattered clumps of whitish vegetation showing.

SITE 10 - PSS1E--This wetland was at the headwaters of a small drainage that flows into Sand Run. The soil was quite mucky. Spiraea latifolia was growing in a fairly dense stand. The signature is an orangish-green color.

Linden

SITE 11 - A) PEM1A; B) --The PEM1A was a slight depression in an alfalfa field. Juncus spp. was present as well as Polygonum spp. This wetland on the photo is a dark spot in a red upland field. The upland site was a field of Medicago satina and on the photo a green signature is present but no depression is indicated.

SITE 12 - PFO1A--Acer saccharinum was the major tree species in this wetland along the West Branch Susquehanna River. Flood debris was high up in the trees and pipe drains and overground flow directed run-off into this area from adjoining cornfields. The signature on the photo is not very distinct except for a few dark spots showing underneath the trees.

SITE 13 - A) PEM1C; B) PEM1A--In this low spot surrounded by cultivated fields, Leersia spp. and Alisma spp. were co-dominant in the seasonal portion and Eupatorium maculatum was dominant in the temporary edge. On the photo the seasonal wetland is a dark green smooth textured signature and the temporary is whitish with faint red mixed in.

Carroll

SITE 14 - PEM1C--Vegetation was very sparse in these depressions with muddy spots present in the deepest portion. Evidently these wetlands have held water but just recently dried up. These depressions were scattered throughout a forested area. Polygonum spp. was most common with Carex spp. and Scirpus spp. also present. There is a dark signature on the photo indicating standing water.

Loganton

SITE 15 - PAB3/FO5Fb--This swamp was located in a low area at the headwaters of a short drainage, Jamison Run. Nuphar spp. dominated the site. Dead trees were also present. The signature is dark with a rough texture (indicating dead trees).

Jersey Shore

SITE 16 - PEM1E--This wetland was drained by a small intermittent stream which drains into Pine Creek. Typha latifolia was the major vegetative cover. The photo signature is dark green with some white toned areas.

Snow Shoe

SITE 17 - A) PSS1/EM1B; B) PSS1E--Located on the floodplain of North Fork Beech Creek location A is dominated by Aronia (Pyrus) melanocarpa with ground cover of Sphagnum spp. and Rubus hispidus and a variety of emergents such as Eleocharis spp., Juncus spp., Scirpus spp. and Carex spp. This spot is associated with a bright orange signature. The PSS1E is primarily Alnus rugosa and the photo signature is an orangish-green tone.

SITE 18 - PEM1F--Typha latifolia was the dominant emergent vegetation in this wetland. Some standing water was present. Sphagnum spp. was observed growing on a few mounds but most of it had been flooded out. The photo signature is dark like standing water.

Tamarack

SITE 19 - PEM1E--This site is a pipeline cut through Tamarack Swamp. The vegetation coverage is equally dominated by Typha latifolia, Juncus spp. and Sagittaria spp. The signature is a mixture of green and greenish-white.

SITE 20 - A) PSS1E; B) PSS3B--Location A was dominated by Alnus rugosa, Rubus hispidus, and Sphagnum spp. on mounds with very wet mucky channels in between. The PSS3B contained very densely packed Chamaedaphne calyculata and Sphagnum spp. The PSS3B was surrounded by the PSS1E. A dark green signature is the alder dominated swamp and the orange tone indicates the leatherleaf dominated saturated bog.

Lee Fire Tower

SITE 21 - PSS1/EM1B--Vaccinium ^{CORYMBOSUM} ~~canadensis~~ and V. angustifolium along with Scirpus spp., Carex spp. and Sphagnum spp. were the most observable vegetation. This wetland was surrounded by upland forest and formed the headwaters of a small drainage. It has a dark orange signature on the photo.

SITE 22 - PEM1/SS1B--This wetland was located in a forested area and appears to be at the headwaters of a small drainage. Scirpus spp. and Sphagnum spp. were co-dominants. The signature on the photo is orange mixed with some white.

Cedar Run

SITE 23 - PF04/SS1B--This was another forest swamp with Pinus strobus and Tsuga canadensis as co-dominants. Sphagnum spp. was also present in this bog which is at the headwaters of Morris Run. The signature is dark green, rough textured with some red trees present. This bog is protected by the Pennsylvania Dept. of Water and Forests and is called Reynolds Spring. Alnus rugosa was the dominant shrub.

SITE 24 - PF04B--Pinus strobus and Tsuga canadensis co-dominate in this forest bog at the headwaters of Red Run. Abies balsamea, Sphagnum spp. and Vaccinium spp. (cranberries and blueberries) were common.

Signature is dark green with red crowns and some orange color mixed in.

Tiadaghton

SITE 25 - PEM1/AB4Fb--A monospecific stand of Typha latifolia characterizes this wetland with Lemna spp. in the areas with standing water. A bluish-white signature with some dark open water areas are associated with this wetland on the photo. The bluish-white signature is tight-packed cattail.

SITE 26 - A) PSS1E; B) PF01/4E--Salix spp. dominated the PSS1E wetland. Cattle grazing was evident in this area. The photo signature is dark green with a rough texture. Fraxinus spp. was most common in the forested wetland with some Tsuga canadensis and Pinus strobus also present. Tsuga canadensis and Osmunda cinnamomea were found on high sphagnum hummocks and it was very mucky between these hummocks. Red crowns with dark green beneath represents the photo signature for this wetland.

Keeneyville

SITE 27 - PEM1Cd--The floodplain and valley of Marsh Creek was the location of this wetland. Phalaris arundinacea was the major plant found here. A bright white signature on the photo is associated with this wetland.

SITE 28 - PEM2/AB4F--This wetland was situated on the floodplain of Marsh Creek. Sparganium eurycarpum dominated with Typha latifolia also common. Lemna spp. was found in the opening water zones. It has a pinkish signature with a dark spot in the middle.

SITE 29 - PEM1/AB4F--Another wetland on the floodplain of Marsh Creek, Typha latifolia and Lemna spp. being the most common plants. It has a greenish-white signature with interspersions of dark open water areas. Also a few spots with a pinkish tinge.

Asaph

SITE 30 - A) PUBFb; B) PEM1Eb--Locations A and B represent a beaver impounded area within Tioga State Forest. The dominant plant species was Phalaris arundinacea. The dark photo signature is PUBFb and the reddish and whitish signature is the PEM1Eb.

SITE 31 - PEM1B--This was a seep on a slope within a pasture. Carex spp. was the dominant plant with Eupatorium perfoliatum and Verbena hastata also common. It has a greenish signature in a red upland pasture.

Knoxville

SITE 32 - PEM2/AB3Fh--The USGS quad shows this wetland as an open water impoundment. Evidently water levels within this impoundment had been lowered either artificially or naturally. Sparganium eurycarpum was the dominant emergent with a scattering of Typha latifolia. The

aquatic bed was dominated by Nuphar spp. The signature is basically dark open water with a few whitish clumps along the edges.

SITE 33 - PEM1F--Another impounded area along Crooked Creek which had lowered water levels. A fairly tight stand of Typha latifolia characterized the wetland here. Also present were Carex spp., Sparganium eurycarpum, Scirpus spp. and Lemna spp. It has a green and white mottled signature with some dark open water spots.

SITE 34 - PEM1E--On the floodplain of Crooked Creek, this wetland was dominated by Typha latifolia with Carex spp., Scirpus spp. and Eupatorium perfoliatum common. The photo signature is whitish.

SUMMARY

Several different photo signatures are associated with PEM's. Emergent temporary wetlands are generally small areas located in cultivated fields or pastures having a dull grayish-white, grayish-white with some red or slightly dark signatures. PEM1E's usually have a bright white signature and cover extensive areas next to drainages or low flat locations. PEM1C's in most cases have a dark green, smooth textured signature. However, instances are recorded where a PEM1C has a white signature and a PEM1E has a dark green. Location and topography will often be factors in differentiating the seasonal and seasonal/saturated water regimes should a question arise. Some emergents with Sphagnum spp. also show an orange tone and this is a saturated water regime. Emergent semipermanent wetlands have a greenish-white or bluish-white mottled signature indicating a situation where vegetation is tightly packed. One seep area is represented as a PEM1B and was a dark area in a sloping pasture. Beaver impounded areas are usually PEM1E's.

The majority of the scrub shrub wetlands are PSS1E'S, having a dark green, rough textured signature. Several PSS3B's are represented and they have an orange signature. However, the orange signature is also associated with alder, spiraea, blueberry, cranberry and sphagnum with emergents. Orange is usually associated with a saturated water regime.

The majority of the forested wetlands are PF04E or B's with red crowns and dark green underneath being the representative signature. However, due to the date of the photography (5-6-83) some hardwoods are showing a light red tone, especially along major river systems. Forested wetlands along floodplains are not wet, the bright red tone under the FO representing upland. In these forested floodplains, look for PEM1A's or PEM1C's as channels amidst the trees. The red conifers (usually hemlock) along streams and in steep ravines within heavily forested areas are generally not wet. Delineating linear PF04's should be avoided. Several PF04A's are present along drainages but a definitive wet signature is indicated. Contour lines on USGS quads should be a guide in delineating these wetlands.

In general, the dry conditions warrant being conservative in pulling wet signatures in cultivated fields or pastures and along drainages.

During the course of field work, it was determined that most streams and rivers could be classified as either R2 or R3. Many rivers encountered in fairly open, flat areas had a good flow and cobble-gravel substrates. Fishery biologists in Pennsylvania have been consulted concerning several streams in the work area and a final decision as to the classification of these questionable streams and rivers will be made by the Regional Office.

Since the photography was in early May we cannot see the aquatic bed on the photos. Sometimes the bright pink signatures were bur-reed, which is considered non-persistent.

Also, in some cases the dark green rough-textured signature associated with alder will not be wet. Field observations showed alder stands growing up the side of fairly steep hills. It will therefore be necessary to follow contour lines on USGS quads very carefully in delineating PSS1E.

APPENDIX

Partial Plant Community List for Williamsport NW and SW Check Sites

- SITE 1 - PSS1E. Alnus rugosa, Glyceria spp., Polygonum sagittatum,
Impatiens capensis.
- PF04E. Tsuga canadensis, Pinus strobus, Glyceria spp., Carex
spp.
- SITE 2 - PEM1A. Solidago spp., Eupatorium maculatum, Juncus spp., Scirpus
cyperinus, Carex spp.
- SITE 3 - PAB4/UBF. Lemna spp.
- PSS1F. Spiraea latifolia.
- SITE 4 - PEM1C. Juncus effusus, Scirpus cyperinus.
- SITE 5 - PF04/SS1E. Tsuga canadensis, Alnus rugosa, Ilex verticillata,
Betula lutea, Sphagnum spp.
- SITE 6 - PAB3/4G. Nuphar spp., Nymphaea spp., Lemna spp.
- PEM1E. Juncus spp., Carex spp., Bidens spp., Typha latifolia,
Polygonum spp., Leersia spp.
- PSS1E. Alnus rugosa, Spiraea latifolia, Viburnum dentatum,
Prunus spp.
- SITE 7 - PEM1A. Scirpus spp., Typha latifolia, Eupatorium maculatum.
- PEM1A. Juncus spp., Phalaris arundinacea, Eupatorium maculatum,
Eupatorium perfoliatum.
- SITE 8 - PEM1/AB4F. Bidens spp., Lemna spp., Alnus rugosa.
- SITE 9 - PEM1/SS3Eb. Juncus canadensis, Juncus militaris, Carex spp.,
Chamaedaphne calyculata, Pyrus melanocarpa, Vaccinium oxycoccus.
- PEM1/UBF. Juncus spp., Carex spp., Dulichium spp.
- SITE 10 - PSS1E. Spiraea latifolia, Pyrus melanocarpa, Vaccinium spp.,
Juncus spp.
- SITE 11 - PEM1A. Juncus spp., Polygonum spp., Taraxacum officinale,
Trifolium repens, Plantago spp., Setaria spp.
- SITE 12 - PF01A. Acer saccharinum.
- SITE 13 - PEM1C. Leersia spp. and Alisma spp., Typha latifolia, Carex spp.
- PEM1A. Eupatorium maculatum.

- SITE 14 - PEM1C. Polygonum spp., Carex spp., Scirpus spp.
- SITE 15 - PAB3/FO5Fb. Nuphar spp., Brasenia spp., dead trees.
- SITE 16 - PEM1E. Typha latifolia, Impatiens capensis.
- SITE 17 - PSS1/EM1B. Pyrus melanocarpa, Rubus hispidus, Sphagnum spp.
Sagittaria spp., Typha latifolia.
- PSS3B. Chamaedaphne calyculata, Sphagnum spp.
- SITE 21 - PSS1/EM1B. Vaccinium spp., Scirpus spp., Carex spp., Sphagnum spp.
- SITE 22 - PEM1/SS1B. Scirpus spp., Sphagnum spp., Carex spp., Rubus hispidus, Vaccinium angustifolium.
- SITE 23 - PFO4/SS1B. Pinus strobus, Tsuga canadensis, Alnus spp., Carex spp., Lonicera spp.
- SITE 24 - PFO4B. Pinus strobus, Tsuga canadensis, Abies balsamea, Sphagnum spp.
- SITE 25 - PEM1/AB4Fb. Typha latifolia, Scirpus cyperinus, Lemna spp.
- SITE 26 - PSS1E. Salix spp., Carex spp.
- PFO1/4E. Tsuga canadensis, Pinus strobus, Fraxinus spp., Onoclea sensibilis, Impatiens capensis.
- SITE 27 - PEM1Cd. Phalaris arundinacea, Eupatorium maculatum.
- SITE 28 - PEM2/AB4F. Sparganium eurycarpum, Typha latifolia, Sagittaria spp., Lemna spp.
- SITE 29 - PEM1/AB4F. Typha latifolia, Bidens spp., Impatiens capensis, Lemna spp.
- SITE 30 - PUBFb.
- PEM1Eb. Phalaris arundinacea, Carex spp.
- SITE 31 - PEM1B. Carex spp., Eupatorium perfoliatum, Verbena hastata.
- SITE 32 - PEM2/AB3Fh. Sparganium eurycarpum, Typha latifolia, Scirpus spp., Nuphar spp., Lemna spp.
- SITE 33 - PEM1F. Typha latifolia, Carex spp., Sparganium eurycarpum, Lemna spp., Scirpus spp.
- SITE 34 - PEM1E. Typha latifolia, Carex spp., Scirpus spp., Eupatorium perfoliatum.