FIELD REPORT FOR BOSTON N.W. AND S.W.
September 19-22, 1978

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During the third week in September, we field checked areas that had caused specific photographic interpretation problems. In general, check sites were selected for the following reasons: unclear signature due to spring flooding, uncertainty about vegetation not visible on early spring photography, questions concerning areas that looked wet on the photo but were not labeled as wetland on the USGS maps, questions about areas that looked vegetated but were mapped as open water by USGS.

Discussion of Ground Survey Results

Results of our field trip are discussed below according to the specific interpretation problem involved.

Flooding

Most of the photography for Boston N.W. and S.W. was taken in the spring (4-1-77). Conditions at this time of year are extremely wet and many wetlands, especially those adjacent to Riverine areas, are flooded. As a result, some PSS, and or PEM, wetlands were incorrectly labeled (e.g., Site 24, 28B, 1B, 6A). The photographic signatures of flooded wetlands look very dark. Vegetation may or may not be visible (e.g., Site 23, 4B). Thus, it is difficult to distinguish between PSS, PEM, and PSS/EM wetlands.

Aquatic Beds

Aquatic beds are not visible on USGS spring (4-1-77) photography. To determine whether AB vegetation exists, POW and L20W areas should be checked on Mass. Map Down photographs (6/71, 7/71, 8/71). Site 20B was originally delineated as L10W, but our field check revealed that aquatic beds dominated the area.

The Map Down photograph (7-4-71) agreed with our field check. Site 25A was delineated as L10W and classified as L2AB/OW4H in the field since aquatic beds easily covered 30% of the area. However, examination of the Mass. Map Down photo (6-11-71) showed barely 30% AB coverage. Thus, whenever we rely on Map Down photographs to determine the existence of aquatic beds, we should keep in mind that vegetation of this type may not reach maximum development until late summer or early fall. Aquatic beds do show up on our fall (10-25-75) USGS photography (Site 11B).

Upland Delineated as Wetland

Field observation revealed that in some cases upland may be mistakenly delineated as wetland. Check Site 32 was delineated as PF04 on the photo; a careful ground check proved it to be upland. Although there were no wetland symbols on the USGS map, the area was pulled out as wetland on the photo because the elevation looked uniformly low and the signature was dark. Hummocks and shallow depressions cover the area. Site 32 may appear wet at certain times of the year because small pockets of water may collect throughout its bumpy terrain. Nevertheless, we found upland species even in the low pockets. White pine was dominant and was seen in association with lowbush blueberry, wintergreen, partridgeberry, and bracken fern.

On the Lowell quad, we checked an open field that looked wet on the photo but was not labeled wetland on the USGS map. A GS contour line showed half of the field as being slightly higher. We confirmed this on the ground and decided that the entire area should be designated upland. Low-growing open-field emergents may look wet on spring photography. When delineating such areas in the future, we will have to pay close attention to all available indicators, contour lines, comparison with similar known wetland and upland signatures, and examination of map down photos.

Polygon Size

A comparison of the initial delineation and in field classification of several field check sites reveals that in many cases polygons, which were labeled correctly, could be broken up.

Site 22 was correctly labeled PFO but a PSS/EM wetland should be pulled out of the larger area. At Site 25B a PFO/SS area should be separated from a PSS/EM area. At Site 31 a PFO section can be pulled out of a PSS wetland.

Compact vs. Taller Shrubs

Our field checks seem to confirm that compact scrub shrub areas (i.e., Myrica gale and or Chamaedaphne) can be distinguished from taller scrub shrub areas (i.e., alder, red maple). In compact shrub wetlands, Myrica gale is usually the dominant species, or Myrica gale may be codominant with Chamaedaphne. On rare occasions Chamaedaphne alone may be dominant. Cephalanthus was seen commonly throughout the field trip. In some wetlands, it appears as a compact shrub, but in others it is taller.

We discussed the possibility of establishing a new category (PSS8) to separate compact shrub wetlands dominated by Myrica gale and Chamaedaphne from taller shrub wetlands such as those dominated by alder and red maple (PSS1). The distinction between PSS1 and PSS8 wetlands is more meaningful in most of Massachusetts where PSS1 wetlands are common and PSS3 wetlands rare.

CONCLUSIONS

1. We need to rely heavily on collateral data (Map Down photos) on ground checks to delineate:
   a. areas affected by spring flooding,
   b. aquatic beds on spring photography.
2. Early summer Map Down Photography (6-11-71) can be used to confirm the existence but not the extent of AB vegetation which does not reach maximum

development until late summer or early fall.

3. Areas that look wet but which are not labeled as wetland on the USGS maps should be examined carefully to avoid delineating upland as wetland.

4. Polygons should be broken up whenever it is possible to pull out discrete wetland units.

5. Compact shrubs (Myrica gale and Chamaedaphne) can be separated from taller shrub wetlands such as those dominated by alder and red maple. It would be useful to incorporate this distinction into our classification system.

CLASSIFICATION LIST OF FIELD CHECK SITES

Field Site #	USGS Quad/ Photo Name	Initial Delineation	In-field Classification	Comments
1B	Medfield	PSS/EM	PEM5P	Very dark signature due to flooding, can't see vegetation clearly.
2B	Medfield	PSS/EM	PSS1/EM5E	
3B	Wrentham	PEM	PEM5E	Light signature, even texture.
4B	Wrentham	POW	PEM5/AB5E	Spring flooding, no vegetation visible.
5B	Wrentham	PEM	PSS1/EMSE	Light tone, but a little uneven--may indicate SS.
6A	Wrentham	PEM	PEM5/AB4E	Too early (4-1-77) to see AB.
6B	Wrentham	PEM	PSS1/EM5E	Dark signature due to flooding, can't see vegetation clearly.
7A	Wrentham	PSS	PSS1E	
7B	Wrentham	L1OW	L2AB4/5/H	Too early (4-1-77) to see AB.
8B	Wrentham	PEM	PAB4G	Too early (4-1-77) to see AB.
9B	Oxford	PSS	PSS1E	
10B	Oxford	L1OW	L2AB4H	Too early (4-20-74) to see AB.
11B	Grafton	L2E,	L2EM/AB4H	AB visible (10-23-75), lichen like texture.
12B	Concord	PFO/EM	PEM5C	Trees present, not 30% coverage, redraw polygon.
13A	Concord	PSS/EM	PSS1/EM5E	
13B	Concord	PFO	PFO1E	
14B	Concord	PEM	PSS1/EM5E	Dark signature due to spring flooding along river (also hard to see on map down photo).
15B	Concord	PSS/EM	PSS3/EM5E or F	
16B	Maynard	no label	PSS1/EM5E	Flooding.
17A	Framingham	PEM/OW	PSS1/EM5F	Flooding.
17B	Framingham	PEM/OW	PEM5F	Flooding.
17C	Framingham	PEM/OW	PSS5F	Flooding.
18	Natick	PEM	PEM5E	
19B	Milford	PEMd	PSS1/EM5Ed	Light tone, difficult to see SS.
20A	Hudson	L2OW	L2AB (mixed)	Too early (4-1-77) to see AB.
20B	Hudson	L1OW	L2AB (mixed)	Too early (4-1-77) to see AB.
21	Hudson	PSS/EM	PSS1/EM 3 F or F	Very dark, can see some depth and texture.
21A	Lexington	PEM	PEM5E	
22	Reading	PFO	PSS1/EM5E	SS/EM area should be pulled out of surrounding FO wetland.
23	Reading	L1OW	PSS1/OWB	Flooding.
24	South Groveland-PEM		PSS1/EM5B	Flooding.
25A	South Groveland-L1OW		L2AB4/OWH	Too early to see AB.
25B	South Groveland-PFO/SS		PSS1/EM5E	Polygon should be broken up.
26A	Haverhill SE-PSS/EM		PEM3/OWG	Break up polygon.
26B	Haverhill SE-PSS/EM		PSS1E	
27A	Haverhill NE-L1OW		L1OW	
27B	Haverhill NE-L1OW		PSS1/EM2G	Pull out vegetated areas as linears.
28A	Derry	PSS	PSS1/AB4G	Too early (4-1-77) to see AB.
28B	Derry	PSS	PEM5F	Flooding, difficult to distinguish from SS.
29	Derry	PSS/EM	PSS1/EM5E	

CLASSIFICATION LIST OF FIELD CHECK SITES (contd)

Field Site #	USGS Quad/ Photo Name	Initial Delineation	In-field Classification	Comments
30	Windham	no label	PEM5E	
31	South Merrimack-PSS1		PFO1E	Break up polygon, pull out FO area.
32	South Merrimack-PFO4		Upland	Low area, white pine looks dark.
33	New Boston	PSS/EM	PSS1/EM5E	
34	Nashua South-PSS		PSS1/3E	
35	Pepperell	PFO/SS	PSS1E	Break up polygon, pull out PSS.
36	Ashburnham	PEM	PFO1/SS1E	Break up polygon, pull out FO/SS (SS not EM--look at map down).
37	Ashburnham	PSS/OW	PSS1/AB3G	Look at map down.
38	Shirley	L2AB	L2EM/AB4H or G	Can't see EM, check map down.
1C	Blue Hills	PSS/EM	PSS1/EM5E	
1D	Blue Hills	PSS/EM	PFO5/EME	Break up polygon, pull out FO/SS, flooding.
2C	Brockton	POW	PEM/AB5E/F	Too early to see AB, break up polygon (north end=OW).
3C	Brockton	L1OW	PEM/AB F	Flooding.
4C	Boston South-PFO/SS		PEM5C	Polygon too large, wetland limited to waters edge.

BOSTON S.W. AND BOSTON N.W. FIELD TRIP--ABBREVIATED LIST OF COMMUNITIES

Site 1B PEM5P

Calamagrostis dominant. Scirpus cyperinus locally abundant. Associated with Carex stricta, Spiraea latifolia, Boehmeria cylindrica (common), Dryopteris sp., Caphalanthus, Rosa palustris and Cornus amomum.

Site 2B PSS/EM (1/5E)

Salix sp. dominant shrub. Calamagrostis dominant emergent. Associated with Spiraea latifolia, Spiraea tomentosa, Cephalanthus occidentalis, Scirpus cyperinus, Osmunda regalis, Acerrubrum, alnus sp., Dryopteris sp., Eupatorium maculatum, Lythrum alatum and Lythrum salicaria co-dominant in area.

Site 3B PEM5E

Calamagrostis and Phalaris dominant emergents. Associated with Pontederia cordata (creek side), Peltandra virginica (creek side), Spiraea latifolia, Onoclea sensiblis, Acer rubrum, Cornus amomum, Salix sp. (tree), and Scirpus cyperinus (locally abundant).

Site 4B PEM/AB (5/5F)

Typha latifolia dominant emergent. Spirodela polyrhiza dominant aquatic. Associated with Impatiens sp., Scirpus cyperinus, Cares stricata; Phalaris arundinarea and Calamagrostis sp. (co-dominant along edge).

Site 5B PSS/EM (1/5E)

Acer rubrum dominant shrub. Typha latifolia dominant emergent. Associated with Salix sp., Scirpus cyperinus, Calamagrostis, Vaccinium corymbosum, Ilex verticillata, Dryopteris sp., and Rhusvernix.

Site 6A PEM/AB (5/4F)

Cephalanthus dominant shrub along edge. Mixed emergents associated with Ilex verticillata, yellow water lilly, and Eleocharis.

Site 6B PSS/EM (1/5F)

Cephalanthus dominant shrub. Dominant-emergents = Dulichium and Eleocharis. Associated with Lysimachia terrestris and Polygonum.

Site 7A PSS1E

Acer rubrum dominant. Associated with Vaccinium corymbosum, Pinus strobus, and Decodon verticillatus.

Site 7B L2AB/OW (4/5H)

Dominant species = Nymphaea, Brasima, and Lemnarea. Associated with Sparganium (edge), Pontederia cordata, Iris sp., and Cephalanthus.

Site 8B PAB4G

Nuphar and Brasenia dominant. Associated with Sparganium, Polygonum sp. and Pontederia.

Site 9B PSS1E

Chamaedaphne, Clethra alnifolia and Acer rubrum dominant. Associated with Sphagnum spp., Vaccinium corymbosum, Alnus sp., Carex sp., Myrica gale, and Chamaecyparis thyoides.

Site 10B L2AB4H

Mixed aquatics = Nymphaca, Nuphar, Brasenia and Eleocharis, Pontedaria cordata (edge). Dominant submergent = myriophyllum.

Site 11B L2EM/AB (3/4H)

Nymphaea sp. dominant aquatic. Eleocharis or Sparganium dominant emergent. Edge = Typha latifolia, Decodon verticillatus, Myrica gale and Acer rubrum (shrub).

Site 12B PEM5C

Calamagrostis (?) dominant emergent. Associated with Carex, unidentified grasses, Iris sp., and Eleocharis.

Site 13A PSS/EM (1/5E)

Spartina pectinata and Lythrum salicaria do-dominant emergents. Mixture of shrubs - Salix sp., Cornus amomum, Cephalanthus and Acer rubrum.

Site 13B PFO1E

Acer rubrum deominant. Associated with Cornus amomum, unidentified shrub, white oak, Bidens sp., Lythrum salicaria, and Dryopteris.

Site 14B PSS/EM (1/5E)

Cephalanthus dominant shrub. Lythrum salicaria dominant emergent. Associated with Dryopteris, Osmunda regalis, and Polyganum sp.

Site 15B PSS/EM (3/5E or F)

Chamaedaphne dominant shrub. Acer rubrum common. Bidens dominant emergent. Associated with Spiraea tomentosa, Nyssa sylvatica, Sphagnum spp. and Hypericum.

Site 16B PSS/EM (1/5E)

Lythrum salicaria dominant emergent. Calamagrostis abundant. Shrubs = Acer rubrum, and Cornus sp. Associated with Typha latifolia, Dryopteris, Impatiens, and Onoclea sensibilis.

Site 17A PSS/EM (1/5F)

Cephalanthus dominant shrub. Lythrum salicaria dominant emergent.

Site 17B PEM5F

Typha latifolia dominant, nearly monospecific. Associated with Cephalanthus and Lythrum salicaria.

Site 17C PSS5F

Dead Cephalanthus predominant. Associated with Vitis sp., some live Cephalanthus, Salix sp. and Lythrum.

Site 18 PEM5E

Typha latifolia, Lythrum salicaria, Calamagrostis sp., dominant emergents. Associated with Scirpus cyperinus, Carex stricta., and Sphagnum spp.

Site 19B PSS/EM (1/5 Ed)

Acer rubrum dominant shrub. Mixed emergents - Osmunda regalis, Scirpus cyperinus, Typha latifolia, Aster, and Chamaedaphne.

Site 20A and B L2AB (mixed)

Dead stumps throughout. Floating algae may be dominant--Lemnaceae.

Site 21 PSS/EM (1/3 F or G)

Sparganium, Potamogeton, Cephalanthus, Pontederia, Lemna sp., Spirodela, Scirpus cyperinus, and Typha latifolia.

Site 21A PEM5E

Lythrum salicaria dominant. Associated with Typha latifolia, Leersia sp., Sagittaria latifolia, Sparganium sp., Leersia (abundant), Cephalanthus, and Scirpus cyperinus.

Site 22 PSS/EM (1/5E)

Well-mixed--Calamagrostis, Rosa palustris, Cephalanthus, Acer rubrum, Salix sp., Carex stricta, Scirpus cyperinus, Onoclea sensibilis, Osmunda regalis, Typha litifolia, and Dryopteris.

Site 23 PSS/OW (1B)

Myrica gale dom.

Site 24 PSS/EM (1/5 B)

Well-mixed. Osmunda regalis co-dominant emergent. Spiraea latifolia co-dominant shrub. Associated with Typha latifolia, Carex sp., Dryopteris sp., Cornus amomum, Lythrum salicaria and Lysimachia.

Site 25A L2AB/OW (4H)

Nymphaea and Brasenia dominant aquatics.

Site 25B PSS/EM (1/5E)

Decodon verticillatus and Scirpus acutus dominant along shoreline. Acer rubrum and Myrica gale co-dominant shrubs. Typha latifolia co-dominant. Associated with Dryopteris, Cephalanthus, Peltandra, Hypericum sp., and Pontederia.

Site 26A PEM/OW (3G)

Sparganium sp. and Sagittaria latifolia co-dominant emergents along waters edge. Nymphaca and Lemnacia (Spirodela) co-dominant aquatics. Lythrum salicaria dominant at northern end.

Site 26B PSS1E

Alder and red maple dominant shrubs.

Site 27A L1OW

Site 27B PSS/EM (1/2G)

Sparganium, and Pontederia dominant emergents. Shrubs = Cephalanthus, and alder.

Site 28A PSS/AB (1/4G)

Nuphar sp. and Nymphaea dominant aquatics. Cephalanthus and Myrica gale dominant shrubs. Associated with Typha latifolia, Scirpus cyperinus, and Acer rubrum.

Site 28B PEM5F

Scirpus (probably acutus or validus) nearly manospecific. Some Myrica gale.

Site 29 PSS/EM (1/5E)

Acer rubrum and Alnus sp. dominant shrubs. Typha latifolia and Scirpus cyperinus dominant emergents. Associated with Vaccinium corymbosum, Ilex verticillata, and Calamagrostis.

Site 30 PEM5E

Cladium mariscoides dominant, monospecific.

Site 31 PFO1E

Acer rubrum dominant. Associated with Phalictrum, Nyssa sylvatica, Carex, Sphagnum spp., Alder sp. and Rhus vernix.

Site 32 Upland

White pine dominant. Associated with lowbush blueberry, wintergreen, partridge berry, and Brachen fern.

Site 33 PSS/EM (1/5E)

Well-mixed: Cornus amomum, Spiraea latifolia, Cephalanthus, Calamagrostis, Scirpus cyperinus, Juncus sp., Eupatorium perfoliatum, Eupatorium maculatum, and Bidens sp.

Site 34 PSS1/3E

Acer rubrum and Chamaedaphne co-dominant shrubs. Associated with Ilex verticillatus, Vaccinium corymbosum, Alnus sp. and Cornus amomum.

Site 35 PSS1E

Glyceria sp., Chamaedaphne, Sphagnum, High bush blueberry, Red maple, white pine, Ilex verticillata, and Salix.

Site 36 PFO/SS (1/1E)

Red maple dominant tree. Gray birch dominant shrub. Associated with larch, Viburnum dentatum, Aster sp., Kalmia angustifolia, Carex sp., Juncus sp. and Hypericum.

Site 37 PSS/AB (1/3G)

Myrica gale and leather leaf co-dominant shrubs. Nymphaea, Potamogeton and Sparganium present.

Site 38 L2EM/AB (3/4 H or G)

Eliocharis dominant emergent. Aquatics well-mixed = Potamogeton, Nymphaea, and Nyphar. Associated with Sparganium, and Typha latifolia (edge). Submergents = Vallisneria, Myriophyllum and unidentified aquatics. Dead stumps present.

Site 1C PSS/EM (1/5E)

Cephalanthus dominant shrub, Lythrum salicaria dominant emergent. Associated with Rosa sp., Scirpus cyperinus, Spiraea latifolia, Spiraea tomentosa, Typha latifolia, Calamagrostis, and Acer rubrum.

Site 1D PFO/EM (5/E)

Dead Acer rubrum dominant. Sparganium dominant emergent. Associated with Lythrum salicaria, Decodon verticillatus, Peltandra virginica, Juncus effusus, Scirpus cyperinus, and Potamogeton sp.

Site 2C PEM/AB (5 E/F)

Leersia oryzoides dominant. Associated with Sagittaria latifolia, Bidens sp., Nymphaea, Pontederia cordata, Hypericum, Sparganium, and Typha latifolia.

Site 3C PEM/AB (F)

Pontederia cordata and Potamogeton sp. co-dominant. Associated with Leersia oryzoides, Dulichium arundinaceum Sparganium (abundant), and Sagittaria latifolia.

Site 4C PEM5C

Phragmites australis dominant. Associated with Lythrum salicaria and Typha latifolia.