

Field Verification of Category I Interdunal Wetlands

Submitted To:

Division of Water Resources
Wetlands and Aquatic Protection Branch
Department of Natural Resources and Environmental Control

By:

William McAvoy
Delaware Natural Heritage Program
Division of Fish and Wildlife
Department of Natural Resources and Environmental Control

September 1995

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INTRODUCTION

In helping to complete the Delaware Statewide Wetlands Mapping Project (SWMP), the Wetlands and Aquatic Protection Branch (WAPB) of the Division of Water Resources has contracted the Delaware Natural Heritage Program (DNHP) of the Division of Fish and Wildlife to field verify Category I interdunal wetlands that have been identified on draft wetland maps. Correct and accurate mapping of interdunal wetlands is critical in helping to establish the most precise geographic representation of these wetland types in the State.

Based on mapping criteria developed by the DNHP from data collected during a 1993 survey of interdunal wetlands in Delaware (McAvoy and Clancy, 1994), draft quarter-quadrant orthophotomaps were developed using aerial photographic techniques. These maps identify and delineate the boundaries of interdunal wetlands found from Cape Henlopen to the Delaware-Maryland state line. The identification of interdunal wetlands using aerial photographs, at times, may be difficult, therefore, field verification is recommended. The DNHP is responsible for determining whether these draft maps appropriately and accurately represent the nature and distribution of interdunal wetlands in the State.

Below is a summation of field verification work completed during the month of September, 1995. Methods used during the survey are described, results are presented and conclusions are given. In addition, forms containing field data are also included.

ACKNOWLEDGEMENTS

I would like to thank Larry Pomatto and Peggy Emslie of the Wetlands and Aquatic Protection Branch for their expert assistance and advice in helping to complete this project. I especially would like to thank Dave Saveikis of the Division of Water Resources for his continued financial support of the Delaware Natural Heritage Program.

METHODS

Field verification of interdunal wetlands occurring from Cape Henlopen to the Delaware-Maryland State line (Sussex County) were done randomly during the month of September, 1995.

Interdunal wetland sites identified on draft quarter-quad orthophotomaps were visited primarily to determine if they were correctly identified as Category I wetlands. Category I determinations were based on criteria developed during the 1993 survey (McAvoy and Clancy, 1994).

SWMP field forms provided by the WAPB were used to record observations. A separate form was used for each site sampled. Data collected included dominant woody and herbaceous plant species, hydrology (e.g. flooded, saturated to surface, moist, dry) and other comments. If I felt a site was given an incorrect Cowardin wetland designation, a new designation was entered in the appropriate field of the SWMP form. If a site was determined not to be a wetland, than **NON-WETLAND** was written in the *Field Determination* field.

A site number (month/day/year/#) was assigned to each site visited and hand written in the margin of the quarter-quad map. An arrow, from the map margin site number, guides the user to the site sampled. A site number on a map corresponds to a site number on the SWAMP field form. If a site was determined not to be Category I, than **NON-CAT. I** was hand written at the top of the SWMP field form.

Several interdunal wetland sites were identified during the field verification that were not mapped on the draft quarter-quads. These sites were marked on the map, given a site number, and **CAT. I ADDITION** was hand written at the top of the SWMP field form.

Vegetation data was not collected for several Category I sites that were described in detail in the 1994 report (McAvoy and Clancy, 1994). These sites were visited to determine accuracy in mapping (i.e. location and size) only and comments regarding this can be found on the SWMP field form. To save time, several sites on the Cape Henlopen SW quarter-quad that were identified as Category I during the 1993 survey, and were obviously mapped correctly on the draft maps, were not visited. These sites are indicated on a SWMP field form.

RESULTS

Seven quarter-quads (Cape Henlopen SW, Rehoboth NW, Rehoboth SW, Bethany Beach NW, Bethany Beach NE, Bethany Beach SE, Assawoman NE) were used for field verification surveys. Of those 7, a total of 95 Category I interdunal wetlands were mapped by the mapping contractor; 32 were determined not to be Category I; 18 were determined to be non-wetlands; and 8 sites are new additions to draft quarter-quad maps. Total Category I interdunal wetlands identified in the state to date equal 71; 65 are on public land and 6 are on private land.

The following Category I interdunal wetlands are found on private property:

Bethany Beach SE - 9/9/95/3,4,5
Bethany Beach NE - 9/9/95/6,7,8

The sizes, shapes and locations of sites that were mapped correctly as wetlands and Category I wetlands, were for the most part, correct. If the shape/size/location of a site needs refinement, it is indicated on the SWMP field form.

Below summarizes the results of field verification of Category I interdunal wetlands.

RESULTS OF FIELD VERIFICATION OF CAT. I INTERDUNAL WETLANDS

| <u>Quarter-Quad.</u> | <u>Total Cat. 1 Mapped</u> | <u>Non-Cat. 1</u> | <u>Non-Wetlands</u> | <u>Additions</u> |
|----------------------|----------------------------|-------------------|---------------------|------------------|
| Cape Henlopen SW | 36 | 11 | 4 | 2 |
| Rehoboth NW | 1 | 1 | 1 | 1 |
| Rehoboth SW | 20 | 6 | 5 | 0 |
| Bethany Beach NW | 4 | 4 | 1 | 0 |
| Bethany Beach NE | 10 | 6 | 5 | 1 |
| Bethany Beach SE | 8 | 0 | 0 | 3 |
| Assawoman NE | 16 | 4 | 2 | 1 |
| Totals: | 95 | 32 | 18 | 8 |

Total Cat. I interdunal wetlands identified in the state to date: $95 - 32 = 63 + 8 = 71$

Public Land: 65
Private Land: 6

CONCLUSIONS

Based on the fact that interdunal wetlands can be difficult to identify from aerial photographs and can be even more difficult to determine Category I status from aerial photographs, I feel that overall, the mapping contractor did a very good job in identifying this wetland type on draft quarter-quad maps.

It appears that errors in mapping were primarily a result of confusion created by vegetation and to a lesser extent, hydrology. Sites that were mapped as wetlands, but were actually dry upland dunes, were frequently found to be low, dry dune hollows dominated by bayberry (*Myrica cerifera*) and other xeric dune plants. Other non-wetland sites were often discovered to be low, unvegetated sandy areas that may occasionally collect precipitation.

Sites that were correctly mapped as wetlands, but were determined not to be Category I wetlands, were frequently found to be salt-meadows, primarily composed of saltmarsh hay (*Spartina patens*) and occasionally with saltmarsh cordgrass (*Spartina alterniflora*). These salt-meadows are likely a result of oceanic overwash from breaches in adjacent foredunes, as well as from influences from nearby tidal ditches that are connected to inland bays. Other non-Category I sites were often discovered to be very marginal wetlands that were dominated by woody vegetation.

The sizes and shapes of sites sampled were well mapped and only a few sites are in need of refinement (see comments on SWMP field forms).

On several quarter-quads it was found that complexes of interdunal wetlands were mapped as one unit, with inclusions of dry upland dunes. I agree with this method, because otherwise, many Category I sites too small to map would be missed.

The Category I interdunal wetlands that were missed on draft quarter-quads (8 new additions) are relatively small in size and understandably could be overlooked.

For several sites sampled, I felt the Cowardin wetland designation was incorrectly mapped and I made attempts (to the best of my limited knowledge of wetland hydrology) to make those corrections. Corrections were primarily made to the ecological system category: including scrub/shrub with an emergent designation, or changing forested to scrub/shrub. Water regime designations were occasionally changed if I felt a site was either drier, or wetter than what was originally mapped.

As mentioned above, six of the Category I wetland sites sampled are on private property (4 are mapped on draft quarter-quads and 2 are new additions). Several are in various degrees of degradation, due to the close proximity of development, adjacent drainage ditches and ground water pumping. I speculate that in the future these sites will succeed to forested wetland systems with a drier water regime. Adjacent homes at one of the new Category I sites to be mapped, are actually within the wetland itself, or on the extreme edge of the wetland. Also observed within this same wetland, was building debris, likely left over from past construction activities. Another new Category I addition, which is small in size but contains a high number of State rare plant

species (several that are unusual for interdunal wetlands), is slated for future development. A real estate sign stands nearby advertising luxury homes.

To conclude, I feel that the mapping contractor did a fine job in mapping a difficult wetland type to identify and I am confident that final wetland maps will accurately represent the distribution of Category I interdunal wetlands in the State.

LITERATURE CITED

McAvoy, W. and K. Clancy. 1994. *Community Classification and Mapping Criteria for Category I Interdunal Wetlands and Coastal Plain Ponds in Delaware*. Final Report submitted to the Division of Water Resources, Wetlands and Aquatic Protection Branch by the Delaware Natural Heritage Program, Division of Parks and Recreation.

SWMP FIELD FORMS
(separated into quarter-quadrangles)

CAPE HENLOPEN SW
REHOBOTH NW
REHOBOTH SW
BETHANY BEACH NW
BETHANY BEACH NE
BETHANY BEACH SE
ASSAWOMAN NE

CAPE HENLOPEN SW

NON-CAT. 1

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|------------------|-----------------|--|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Cape Henlopen SW | Report # | | Site # | 8/30/95/1 | Date | 8/30/95 |
| SWMP Designation | UPEMIAS | NWI Designation | | Ch. 66 Designation | | Field Determination | NON-WETLAND |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|------------------------|---------|------------------|
| | | | Toxicodendron radicans | | |
| | | | Smilax rotundifolia | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | Spartina patens | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
| | | | | |

| | | | | | | | |
|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? | Soil Scientist Verified? | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|----------|--------------------------|------------------------|--------------------|-----------------------|-------------|
| (circle) | (Enter "No" or Name) | | | | |
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Swollen / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Phragnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | Hydric Soils (✓ one) | | | | Wetlands Hydrology (✓ one) | | | |
|--------------------------------|----|----------|---|----------------------|----|----------|---|----------------------------|----|----------|---|
| Yes | No | Marginal | ? | Yes | No | Marginal | ? | Yes | No | Marginal | ? |
| | | | | | | | | | | | |

COMMENTS: Simply a dry dune hollow with scrubby vegetation

FIELD INVESTIGATOR(S):

NON-CAT. 1

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|------------------|-----------------|--|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Cape Henlopen SW | Report # | | Site # | 8/30/95/2 | Date | 8/30/95 |
| SWMP Designation | PEM1A5 | NWI Designation | | Ch. 66 Designation | | Field Determination | ? |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|-------------|---------|------------------|
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | | | |
| | | | | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
| | | | | |
| | | | | |

| | | | | | | | |
|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Swollen / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |
| | | | | | | | | | | | | | | |

COMMENTS: Site would be one of two things: 1) a dry dune hollow dominated by *Myrica verticillata*, or 2) a low, unvegetated overwash flat.

FIELD INVESTIGATOR(S):

NON-CAT. I

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|------------------|-----------------|--|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Cape Henlopen SW | Report # | | Site # | 8/30/95/3 | Date | 8/30/95 |
| SWMP Designation | PEMIES | NWI Designation | | Ch. 66 Designation | | Field Determination | PSS/EMA |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|--------------------------------|---------|------------------|-------------------------------|---------|------------------|
| <i>Acer rubrum</i> | | | <i>Toxicodendron radicans</i> | | |
| <i>Liriodendron virginiana</i> | | | | | |
| <i>Salix nigra</i> | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| <i>Laportea cuneata</i> | | | <i>Phragmites australis</i> | | |
| <i>Rhus copallina</i> | | | <i>Spartina patens</i> | | |
| <i>Hydrich visifera</i> | | | <i>Sagittaria arifolia</i> | | |
| <i>Rosa multiflora</i> | | | <i>Juncus dichotomus</i> | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
| | | | | |
| | | | | |

| | | | | | | | |
|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|---|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Wetted / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS Dry - Moist Marginal wetland | |
| Water-stained Leaves | | | | |
| Slackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |
| | | | | | | | | | | | | | | |

COMMENTS:

FIELD INVESTIGATOR(S):

NON-CAT. 2

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|-------------------------|-----------------|--|--------------------|------------------|---------------------|----------------|
| Quarter Quad | <i>Cape Henlopen SW</i> | Report # | | Site # | <i>8/30/95/4</i> | Date | <i>8/30/95</i> |
| SWMP Designation | <i>PEHIES</i> | NWI Designation | | Ch. 66 Designation | | Field Determination | <i>?</i> |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|------------------------|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | <i>Spartina patens</i> | | |
| | | | | | |
| | | | | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
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|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|------------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Wetness / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS <i>Moist</i> | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |
| | | | | | | | | | | | | | | |

COMMENTS: *Site is a salt-kay flat that is rapidly receding*

FIELD INVESTIGATOR(S):

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|-------------------------|-----------------|--|--------------------|------------------|---------------------|-----------------|
| Quarter Quad | <i>Cape Henlopen SW</i> | Report # | | Site # | <i>8/30/95/5</i> | Date | <i>8/30/95</i> |
| SWMP Designation | <i>PFO4A5</i> | NWI Designation | | Ch. 66 Designation | | Field Determination | <i>PSS/EMAS</i> |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|----------------------------|---------|------------------|------------------------------|---------|------------------|
| <i>Pinus rigida</i> | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| <i>Myrica verticillata</i> | | | <i>Cladium mariscoides</i> | | |
| <i>Vaccinium myrtillus</i> | | | <i>Vaccinium macrocarpon</i> | | |
| | | | <i>Eupatorium leucolepis</i> | | |
| | | | <i>Rhus virginica</i> | | |
| | | | <i>Juncus roemerianus</i> | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
| | | | | |
| | | | | |

| | | | | | | | |
|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Wetted / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | <i>Moist</i> | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |
| | | | | | | | | | | | | | | |

COMMENTS: *Site is more scrub - shrub with an emergent opening than forested.*

FIELD INVESTIGATOR(S): _____

NON-CAT. 2

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|------------------|-----------------|--|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Cape Henlopen SW | Report # | | Site # | 8/30/95/6 | Date | 8/30/95 |
| SWMP Designation | PEMIC5 | NWI Designation | | Ch. 66 Designation | | Field Determination | NON-WETLAND |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|-------------|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | | | |
| | | | | | |
| | | | | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
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| | | | | |

| | | | | | | | |
|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Wattressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |
| | | | | | | | | | | | | | | |

COMMENTS: Site is just a low, unvegetated sandy area

FIELD INVESTIGATOR(S):

NON-CAT. I

SWMP FIELD DATA FORM

State of Delaware
Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|------------------|-----------------|--|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Cape Henlopen SW | Report # | | Site # | 8/30/95/7 | Date | 8/30/95 |
| SWMP Designation | PEM/C5 | NWI Designation | | Ch. 66 Designation | | Field Determination | NON-WETLAND |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|-------------|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | | | |
| | | | | | |
| | | | | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
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|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Distressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |

COMMENTS: Site in a scrubby sand dune

FIELD INVESTIGATOR(S):

ADDITION - CAT. I

SWMP Series No. 95-1-02

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|------------------|-----------------|---|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Cape Henlopen SW | Report # | - | Site # | 8/30/95/8 | Date | 8/30/95 |
| SWMP Designation | PUBH | NWI Designation | | Ch. 66 Designation | | Field Determination | PEMIF5 |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|-------------|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | | | |
| | | | | | |
| | | | | | |

VEGETATION COMMENTS: _____

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
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|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Distressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | <i>Saturated to surface.</i> | |
| Wilted Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |

COMMENTS: *Site is described in detail in 1994 Final Report for Cat. I. Inter-tidal wetlands so additional vegetation data was not taken on this date.*

FIELD INVESTIGATOR(S): _____

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|-------------------------|-----------------|--|--------------------|-----|---------------------|--------------------|
| Quarter Quad | <i>Cape Henlopen SW</i> | Report # | | Site # | | Date | <i>8/30/95</i> |
| SWMP Designation | | NWI Designation | | Ch. 66 Designation | | Field Determination | <i>ALL CORRECT</i> |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|-------------|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | | | |
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| | | | | | |

VEGETATION COMMENTS: _____

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
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|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Wetness / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |
| | | | | | | | | | | | | | | |

COMMENTS: *To save time and paper, all other sites mapped as Cat. I that are not marked in the margins of the Quarter & may be correct. Correct in size, shape, position and hydrology. All these sites were visited during the 1985 survey and were determined then to be Cat. I.*

FIELD INVESTIGATOR(S): _____

ADDITION - CAT. 1

SWMP Series No. 95-1-02

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | |
|------------------|------------------|--------------------|---------------------|-----------|----------------|---------|
| Quarter Quad | Cape Henlopen SW | Report # | Site # | 9/13/95/1 | Date | 9/13/95 |
| SWMP Designation | NWI Designation | Ch. 66 Designation | Field Determination | | | |
| Air Photo Date | Air Photo # | Ground Photo | Yes | No | Ground Photo # | |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------------------|---------|------------------|--------------------------------|---------|------------------|
| <i>Pinus taeda</i> | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| <i>Vaccinium corymbosum</i> | | | <i>Sphagnum sp.</i> | | |
| <i>Myrica aspera</i> | | | <i>Vaccinium macrocarpon</i> | | |
| | | | <i>Pogonia orthochoisoides</i> | | |
| | | | <i>Juncus biflorus</i> | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
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|--------------------|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes / No | | Yes / No | | Yes / No | Yes / No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Wetness / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | <i>Saturated to surface</i> | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |

COMMENTS: *To be added to maps, a small wetland area on the edge of Shrub-Shrub.*

FIELD INVESTIGATOR(S):

NON-CAT. I

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|------------------|-----------------|--|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Cape Henlopen SW | Report # | | Site # | 9/13/95/2 | Date | 9/13/95 |
| SWMP Designation | PSS4/A5 | NWI Designation | | Ch. 66 Designation | | Field Determination | PSS4/A |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | | % Cover | Indicator Status | WOODY VINES | | % Cover | Indicator Status |
|-----------------------------|--|---------|------------------|-------------|--|---------|------------------|
| <i>Pinus taeda</i> | | | | | | | |
| <i>P. rigida</i> | | | | | | | |
| SHRUBS/SAPLINGS | | % Cover | Indicator Status | HERBS | | % Cover | Indicator Status |
| <i>Myrica cerifera</i> | | | | | | | |
| <i>Vaccinium corymbosum</i> | | | | | | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
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|--------------------|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | | Taxonomic Subgroup | Oxidized Rhizospheres | | Concretions | |
|---------------------|--|------------------------|----|--------------------|-----------------------|----|-------------|----|
| | | Yes | No | | Yes | No | Yes | No |
| Yes | No | Yes | No | | Yes | No | Yes | No |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|--|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Buttressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS <i>Dry, marginal wetland</i> | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Wreck Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | Hydric Soils (✓ one) | | | | Wetlands Hydrology (✓ one) | | | |
|--------------------------------|----|----------|---|----------------------|----|----------|---|----------------------------|----|----------|---|
| Yes | No | Marginal | ? | Yes | No | Marginal | ? | Yes | No | Marginal | ? |
| | | | | | | | | | | | |

COMMENTS: *Low, shrubby dune hollow*

FIELD INVESTIGATOR(S):

NON-CAT. 2

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|------------------|-----------------|--|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Cape Henlopen SW | Report # | | Site # | 9/13/95/3 | Date | 9/13/95 |
| SWMP Designation | PEMIC5 | NWI Designation | | Ch. 66 Designation | | Field Determination | PSS 4A |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------------------|---------|------------------|------------------------|---------|------------------|
| <i>Pinus thunbergii</i> | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| <i>Myrica verticillata</i> | | | <i>Spartina patens</i> | | |
| <i>Vaccinium corymbosum</i> | | | | | |
| | | | | | |

VEGETATION COMMENTS: _____

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
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|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|--|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Buttressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS <i>Dry, marginal wetland</i> | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |
| | | | | | | | | | | | | | | |

COMMENTS: _____

FIELD INVESTIGATOR(S): _____

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | |
|------------------|------------------|-----------------|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Cape Henlopen SW | Report # | Site # | 9/13/95/4 | Date | 9/13/95 |
| SWMP Designation | PEM1C5 | NWI Designation | Ch. 66 Designation | | Field Determination | PEM1C5 |
| Air Photo Date | | Air Photo # | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|----------------------------------|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | <i>Sisyrinchium pungens</i> | | |
| | | | <i>Pluchea odorata</i> | | |
| | | | <i>Polygonum hydropiperoides</i> | | |
| | | | <i>Eriobotrya hirsutissima</i> | | |

VEGETATION COMMENTS: _____

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
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|--------------------|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes No | | Yes No | | Yes No | Yes No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Buttressed/Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | <i>Saturated to surface</i> | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Wreck Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (√ one) | | | | | Hydric Soils (√ one) | | | | | Wetlands Hydrology (√ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |

COMMENTS: _____

FIELD INVESTIGATOR(S): _____

NON-CAT. I

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|------------------|-----------------|--|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Cape Henlopen SW | Report # | | Site # | 9/13/95/5 | Date | 9/13/95 |
| SWMP Designation | PEMICS | NWI Designation | | Ch. 66 Designation | | Field Determination | NON-WETLAND |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|-------------|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | | | |
| | | | | | |
| | | | | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
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|--------------------|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | | Taxonomic Subgroup | Oxidized Rhizospheres | | Concretions | |
|---------------------|--|------------------------|----|--------------------|-----------------------|----|-------------|----|
| | | Yes | No | | Yes | No | Yes | No |
| Yes | No | Yes | No | | Yes | No | Yes | No |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|------------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Buttressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS <i>Moist</i> | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | Hydric Soils (✓ one) | | | | Wetlands Hydrology (✓ one) | | | |
|--------------------------------|----|----------|---|----------------------|----|----------|---|----------------------------|----|----------|---|
| es | No | Marginal | ? | Yes | No | Marginal | ? | Yes | No | Marginal | ? |
| | | | | | | | | | | | |

COMMENTS: Site is simply a low dune hollow that may occasionally collect precipitation. Vegetation is not established here

FIELD INVESTIGATOR(S):

NON-CAT. I

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|------------------|-----------------|--|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Cape Henlopen SW | Report # | | Site # | 9/13/95/6 | Date | 9/13/95 |
| SWMP Designation | PEHIES | NWI Designation | | Ch. 66 Designation | | Field Determination | ? |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-------------------------|---------|------------------|-------------------------------|---------|------------------|
| <i>Pinus thunbergii</i> | | | <i>Toxicodendron radicans</i> | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| <i>Myrica aspera</i> | | | <i>Phragmites australis</i> | | |
| <i>Rosa rugosa</i> | | | <i>Syntherisma patens</i> | | |
| | | | <i>Ambrosia virginiana</i> | | |

VEGETATION COMMENTS: _____

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
| | | | | |
| | | | | |

| | | | | | | | |
|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Swollen / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Phragnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |

COMMENTS: Two individually mapped wetlands here treated as one, site is primarily dry dunes with low areas with the above mentioned vegetation.

FIELD INVESTIGATOR(S): _____

REHOBOTH NW

NON-CAT. I

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|-------------|-----------------|--|--------------------|----------|---------------------|----------------|
| Quarter Quad | Rehoboth NW | Report # | | Site # | 9/9/95/1 | Date | 9/9/95 |
| SWMP Designation | PEM1A5 | NWI Designation | | Ch. 66 Designation | | Field Determination | NON-WETLAND |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|-------------|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | | | |
| | | | | | |
| | | | | | |

VEGETATION COMMENTS: _____

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
| | | | | |
| | | | | |

| | | | | | | | | |
|--------------------|--|--------------|-----|----|----|---------|--------|--|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # | |
|--------------------|--|--------------|-----|----|----|---------|--------|--|

| Hydric? (circle) | Soil Scientist Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Buttressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | Hydric Soils (✓ one) | | | | Wetlands Hydrology (✓ one) | | | |
|--------------------------------|----|----------|---|----------------------|----|----------|---|----------------------------|----|----------|---|
| Yes | No | Marginal | ? | Yes | No | Marginal | ? | Yes | No | Marginal | ? |

COMMENTS: No indication of a wetland occurring here, only dry dunes were observed.

FIELD INVESTIGATOR(S): _____

ADDITION - CAT. 2

SWMP Series No. 95-1-02

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | |
|------------------|-------------|-----------------|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Rehoboth NW | Report # | Site # | 9/19/95/9 | Date | 9/19/95 |
| SWMP Designation | PEM/SS3A7 | NWI Designation | Ch. 66 Designation | | Field Determination | PEM/SS3A5 |
| Air Photo Date | | Air Photo # | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|------------------------------|---------|------------------|--------------------------------|---------|------------------|
| <i>Pinus taeda</i> | | | | | |
| <i>Juniperus virginiana</i> | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| <i>Myrica wrightii</i> | 70 | | <i>Xyris clifformis</i> | | |
| <i>Baccharis halimifolia</i> | 10 | | <i>Phocera intermedia</i> | | |
| | | | <i>Vitricularia reticulata</i> | | |
| | | | <i>Syngonium sp.</i> | | |
| | | | <i>Agalinis maritima</i> | | |

VEGETATION COMMENTS: _____
Rhynchospora capitellata, Panicum verrucosum, Juncus, srigoides, dichotomus

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
| | | | | |
| | | | | |

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|--------------------|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Distressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | <i>Moist</i> | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Phragmum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |
| | | | | | | | | | | | | | | |

COMMENTS: *Based on the above listed herbaceous species, this site should be designated Cat. 2*

FIELD INVESTIGATOR(S): _____

REHOBOTH SW

NON-CAT. 7

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|-------------|-----------------|--|--------------------|-----------|---------------------|-------------|
| Quarter Quad | Rehoboth SW | Report # | | Site # | 9/28/95/1 | Date | 9/28/95 |
| SWMP Designation | PEMIE5 | NWI Designation | | Ch. 66 Designation | | Field Determination | NON-WETLAND |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes No | Ground Photo # | |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|----------------------------|---------|------------------|-------------|---------|------------------|
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| <i>Myrica verticillata</i> | 100 | | | | |
| | | | | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
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|--------------------|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes No | | Yes No | | Yes No | Yes No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Buttressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | Dry | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | Hydric Soils (✓ one) | | | | Wetlands Hydrology (✓ one) | | | |
|--------------------------------|----|----------|---|----------------------|----|----------|---|----------------------------|----|----------|---|
| Yes | No | Marginal | ? | Yes | No | Marginal | ? | Yes | No | Marginal | ? |

COMMENTS: Site is a dry dune hollow dominated by bayberry (*Myrica verticillata*)

FIELD INVESTIGATOR(S):

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | |
|------------------|-------------|-----------------|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Rehoboth SW | Report # | Site # | 9/28/95/2 | Date | 9/28/95 |
| SWMP Designation | PEMIFS | NWI Designation | Ch. 66 Designation | | Field Determination | PEMIFS |
| Air Photo Date | | Air Photo # | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|-------------|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | | | |
| | | | | | |
| | | | | | |

VEGETATION COMMENTS: _____

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
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|--------------------|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Distressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | Flooded 2-4" of water | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Phragmum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |
| | | | | | | | | | | | | | | |

COMMENTS: *Vegetation data not taken, site was sampled during 1993 survey*

FIELD INVESTIGATOR(S): _____

NON-CAT. I

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|-------------|-----------------|--|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Rehoboth SW | Report # | | Site # | 9/28/95/3 | Date | 9/28/95 |
| SWMP Designation | PEMIES | NWI Designation | | Ch. 66 Designation | | Field Determination | NON-WETLAND |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|-------------|---------|------------------|
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| Myrica wifera | 100 | | | | |
| | | | | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
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|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Wetness / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Phragmum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |
| | | | | | | | | | | | | | | |

COMMENTS: Site is a dry dune hollow dominated by bayberry.

FIELD INVESTIGATOR(S):

SWMP FIELD DATA FORM

State of Delaware
Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | |
|------------------|-------------|-----------------|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Rehoboth SW | Report # | Site # | 9/28/95/4 | Date | 9/28/95 |
| SWMP Designation | PEM1E5 | NWI Designation | Ch. 66 Designation | | Field Determination | PEM1E5 |
| Air Photo Date | | Air Photo # | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|-------------|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | | | |
| | | | | | |
| | | | | | |

VEGETATION COMMENTS: _____

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
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|--------------------|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|---------------------|--|---------------------------|--------------------|--------------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Buttressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | Flooded - 2-2 1/2" of water | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (√ one) | | | | | Hydric Soils (√ one) | | | | | Wetlands Hydrology (√ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |

COMMENTS: *Vegetation data not taken, site sampled during 1993 survey.*

FIELD INVESTIGATOR(S): _____

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|--------------------|-----------------|--|--------------------|------------------|---------------------|----------------|
| Quarter Quad | <i>Rehoboth SW</i> | Report # | | Site # | <i>9/28/95/5</i> | Date | <i>9/28/95</i> |
| SWMP Designation | <i>PEMIF5</i> | NWI Designation | | Ch. 66 Designation | | Field Determination | <i>PEMIF5</i> |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|-------------|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | | | |
| | | | | | |
| | | | | | |

VEGETATION COMMENTS: _____

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
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|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|------------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Buttressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | <i>Flooded - CA. 2-4" of water</i> | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |

COMMENTS: *Vegetation data collected during 1993 survey.*
Phragmites australis is taking over site

FIELD INVESTIGATOR(S): _____

SWMP FIELD DATA FORM

State of Delaware
Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | |
|------------------|-------------|-----------------|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Rehoboth SW | Report # | Site # | 9/28/95/6 | Date | 9/28/95 |
| SWMP Designation | PEM1E5 | NWI Designation | Ch. 66 Designation | | Field Determination | PEM1E5 |
| Air Photo Date | | Air Photo # | Ground Photo | Yes | No | Ground Photo # |

| VEGETATION | | | | | |
|-----------------|---------|------------------|-------------|---------|------------------|
| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | | | |
| | | | | | |
| | | | | | |

VEGETATION COMMENTS: _____

| SOILS | | | | |
|-------|--------|---------|---------|----------------|
| Depth | Matrix | Texture | Mottles | Soils Comments |
| | | | | |
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|--------------------|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--------------|-----|----|----|---------|--------|

| Hydric? | Soil Scientist Verified? | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|---------|--------------------------|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

| HYDROLOGY | | | | | |
|--|-----|----|----------------------------------|--------|--|
| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches | |
| Watermarks | | | Depth of Inundation (if present) | | |
| Stressed / Swollen Trunks | | | Depth to Saturated Soils | | |
| Multi-stemmed Trunks | | | Depth to Groundwater | | |
| Shallow Roots | | | Recent Precipitation | | |
| Aventitious Roots | | | HYDROLOGY COMMENTS | | |
| Water-stained Leaves | | | Flooded - CA. 2-4" of water | | |
| Blackened Leaves | | | | | |
| Drainage Patterns | | | | | |
| Sediment Deposits | | | | | |
| Crack Lines | | | | | |
| Crayfish mounds | | | | | |
| Moss/Algae Mats / Other Obligates (circle which) | | | | | |
| Sulfur Odor | | | | | |

| Hydrophytic Vegetation (✓ one) | | | | Hydric Soils (✓ one) | | | | Wetlands Hydrology (✓ one) | | | |
|--------------------------------|----|----------|---|----------------------|----|----------|---|----------------------------|----|----------|---|
| Yes | No | Marginal | ? | Yes | No | Marginal | ? | Yes | No | Marginal | ? |

COMMENTS: *Vegetation data not taken, site sampled during 1993 survey.*

FIELD INVESTIGATOR(S): _____

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|--------------------|-----------------|--|--------------------|------------------|---------------------|----------------|
| Quarter Quad | <i>Rehoboth SW</i> | Report # | | Site # | <i>9/28/95/7</i> | Date | <i>9/28/95</i> |
| SWMP Designation | <i>PEM1E5</i> | NWI Designation | | Ch. 66 Designation | | Field Determination | <i>PEM1E5</i> |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

| VEGETATION | | | | | |
|-----------------|---------|------------------|-------------|---------|------------------|
| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | | | |
| | | | | | |

VEGETATION COMMENTS:

| SOILS | | | | |
|-------|--------|---------|---------|----------------|
| Depth | Matrix | Texture | Mottles | Soils Comments |
| | | | | |
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|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |

| HYDROLOGY | | | | |
|---|-----|----|------------------------------------|--------|
| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
| Watermarks | | | Depth of Inundation (if present) | |
| Stressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | <i>Flooded - CA. 2-4" of water</i> | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Shagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | Hydric Soils (✓ one) | | | | Wetlands Hydrology (✓ one) | | | |
|--------------------------------|----|----------|---|----------------------|----|----------|---|----------------------------|----|----------|---|
| Yes | No | Marginal | ? | Yes | No | Marginal | ? | Yes | No | Marginal | ? |

COMMENTS: *Vegetation data not taken, site sampled during 1993 survey.*

FIELD INVESTIGATOR(S):

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|--------------------|-----------------|--|--------------------|------------------|---------------------|----------------|
| Quarter Quad | <i>Rehoboth SW</i> | Report # | | Site # | <i>9/28/95/8</i> | Date | <i>9/28/95</i> |
| SWMP Designation | <i>PEM1E5</i> | NWI Designation | | Ch. 66 Designation | | Field Determination | <i>PEM1E5</i> |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

| VEGETATION | | | | | |
|-----------------|---------|------------------|-------------|---------|------------------|
| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | | | |
| | | | | | |
| | | | | | |

VEGETATION COMMENTS: _____

| SOILS | | | | |
|-------|--------|---------|---------|----------------|
| Depth | Matrix | Texture | Mottles | Soils Comments |
| | | | | |
| | | | | |
| | | | | |

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|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes No | | Yes No | | Yes No | Yes No |

| HYDROLOGY | | | | |
|---|-----|----|------------------------------------|--------|
| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
| Watermarks | | | Depth of Inundation (if present) | |
| Distressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | <i>Flooded - ca. 2-4" of water</i> | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Phagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | Hydric Soils (✓ one) | | | | Wetlands Hydrology (✓ one) | | | |
|--------------------------------|----|----------|---|----------------------|----|----------|---|----------------------------|----|----------|---|
| Yes | No | Marginal | ? | Yes | No | Marginal | ? | Yes | No | Marginal | ? |

COMMENTS: *Vegetation data not taken, site sampled during 1993 survey.*

FIELD INVESTIGATOR(S): _____

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|--------------------|-----------------|--|--------------------|------------------|---------------------|----------------|
| Quarter Quad | <i>Rehoboth SW</i> | Report # | | Site # | <i>9/28/95/9</i> | Date | <i>9/28/95</i> |
| SWMP Designation | <i>PEM1E5</i> | NWI Designation | | Ch. 66 Designation | | Field Determination | <i>PEM1E5</i> |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

| VEGETATION | | | | | |
|-----------------|---------|------------------|-------------|---------|------------------|
| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | | | |
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| | | | | | |

VEGETATION COMMENTS: _____

| SOILS | | | | |
|-------|--------|---------|---------|----------------|
| Depth | Matrix | Texture | Mottles | Soils Comments |
| | | | | |
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|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? | Soil Scientist Verified? | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|----------|--------------------------|------------------------|--------------------|-----------------------|-------------|
| (circle) | (Enter "No" or Name) | | | | |
| Yes | No | Yes | No | Yes | No |
| | | | | | |

| HYDROLOGY | | | | |
|---|-----|----|------------------------------------|--------|
| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
| Watermarks | | | Depth of Inundation (if present) | |
| Stressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | <i>Flooded - CA. 2-4" of water</i> | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Shagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | Hydric Soils (✓ one) | | | | Wetlands Hydrology (✓ one) | | | |
|--------------------------------|----|----------|---|----------------------|----|----------|---|----------------------------|----|----------|---|
| Yes | No | Marginal | ? | Yes | No | Marginal | ? | Yes | No | Marginal | ? |
| | | | | | | | | | | | |

COMMENTS: *Vegetation data not taken, site sampled during 1993 survey.*

FIELD INVESTIGATOR(S): _____

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|--------------------|-----------------|--|--------------------|-------------------|---------------------|----------------|
| Quarter Quad | <i>Rehoboth SW</i> | Report # | | Site # | <i>9/28/95/10</i> | Date | <i>9/28/95</i> |
| SWMP Designation | <i>PEM1E5</i> | NWI Designation | | Ch. 66 Designation | | Field Determination | <i>PEM1E5</i> |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|-------------|---------|------------------|
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | | | |
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VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
| | | | | |
| | | | | |

Mapped Soil Series: _____ Soils Survey: NCC KC SC Digital Page # _____

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Distressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Wreck Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

Flooded - ca. 2-4" of water

Hydrophytic Vegetation (✓ one)

Hydric Soils (✓ one)

Wetlands Hydrology (✓ one)

| | | | | | | | | | | | |
|-----|----|----------|---|-----|----|----------|---|-----|----|----------|---|
| Yes | No | Marginal | ? | Yes | No | Marginal | ? | Yes | No | Marginal | ? |
|-----|----|----------|---|-----|----|----------|---|-----|----|----------|---|

COMMENTS: *Vegetation data not taken, site sampled during 1993 survey.*

FIELD INVESTIGATOR(S): _____

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | |
|------------------|-------------|-----------------|--------------------|------------|---------------------|----------------|
| Quarter Quad | Rehoboth SW | Report # | Site # | 9/28/95/11 | Date | 9/28/95 |
| SWMP Designation | PEM1E5 | NWI Designation | Ch. 66 Designation | | Field Determination | PEM1E5 |
| Air Photo Date | | Air Photo # | Ground Photo | Yes | No | Ground Photo # |

| VEGETATION | | | | | |
|-----------------|---------|------------------|-------------|---------|------------------|
| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | | | |
| | | | | | |
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VEGETATION COMMENTS: _____

| SOILS | | | | |
|-------|--------|---------|---------|----------------|
| Depth | Matrix | Texture | Mottles | Soils Comments |
| | | | | |
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| | | | | |

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|--------------------|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist Verified? (Enter "No" or Name) | Soil Scientist Needed? | | Taxonomic Subgroup | Oxidized Rhizospheres | | Concretions | |
|---------------------|--|------------------------|----|--------------------|-----------------------|----|-------------|----|
| | | Yes | No | | Yes | No | Yes | No |
| Yes | No | Yes | No | | Yes | No | Yes | No |

| HYDROLOGY | | | | | |
|--|--|-----|----|----------------------------------|--------|
| INDICATORS OF HYDROLOGY | | Yes | No | PRESENCE OF HYDROLOGY | Inches |
| Watermarks | | | | Depth of Inundation (if present) | |
| Distressed / Swollen Trunks | | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | | Depth to Groundwater | |
| Shallow Roots | | | | Recent Precipitation | |
| Adventitious Roots | | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | | | |
| Blackened Leaves | | | | Flooded - CA. 2-4" of water | |
| Drainage Patterns | | | | | |
| Sediment Deposits | | | | | |
| Crack Lines | | | | | |
| Crayfish mounds | | | | | |
| Mushroom Mats / Other Obligates (circle which) | | | | | |
| Sulfur Odor | | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|---|----------------------|----|----------|---|---|----------------------------|----|----------|---|---|
| Yes | No | Marginal | ? | ? | Yes | No | Marginal | ? | ? | Yes | No | Marginal | ? | ? |
| | | | | | | | | | | | | | | |

COMMENTS: *Vegetation data not taken, site sampled during 1993 survey.*

FIELD INVESTIGATOR(S): _____

NON-CAT. I

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|-------------|-----------------|--|--------------------|------------|---------------------|----------------|
| Quarter Quad | Rehoboth SW | Report # | | Site # | 9/28/95/12 | Date | 9/28/95 |
| SWMP Designation | PEMIES | NWI Designation | | Ch. 66 Designation | | Field Determination | PEMIE |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|------------------------------|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | <i>Spartina alterniflora</i> | | |
| | | | | | |
| | | | | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
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|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Buttressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Wrack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |

COMMENTS: Site in a cord-grass meadow that is likely connected hydrologically to a ditch west of Rt. 1

FIELD INVESTIGATOR(S):

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|--------------------|-----------------|--|--------------------|-------------------|---------------------|----------------|
| Quarter Quad | <i>Rehoboth SW</i> | Report # | | Site # | <i>9/28/95/13</i> | Date | <i>9/28/95</i> |
| SWMP Designation | <i>PEM1E5</i> | NWI Designation | | Ch. 66 Designation | | Field Determination | <i>PEM1E5</i> |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|-------------|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | | | |
| | | | | | |
| | | | | | |

VEGETATION COMMENTS: _____

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
| | | | | |
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|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|------------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Swollen / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | <i>Flooded - CA. 2-4" of water</i> | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Wreck Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |
| | | | | | | | | | | | | | | |

COMMENTS: *Vegetation data not taken, site sampled during 1993 survey.*

FIELD INVESTIGATOR(S): _____

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

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|------------------|-------------|-----------------|--------------------|------------|---------------------|----------------|
| Quarter Quad | Rehoboth SW | Report # | Site # | 9/28/95/14 | Date | 9/28/95 |
| SWMP Designation | PEM1E5 | NWI Designation | Ch. 66 Designation | | Field Determination | PEM1E5 |
| Air Photo Date | | Air Photo # | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|-------------|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | | | |
| | | | | | |
| | | | | | |

VEGETATION COMMENTS: _____

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
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|--------------------|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|---|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Distressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Aventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | Flooded - CA. 2-4" of water | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Phagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|---|----------------------|----|----------|---|---|----------------------------|----|----------|---|---|
| Yes | No | Marginal | ? | ? | Yes | No | Marginal | ? | ? | Yes | No | Marginal | ? | ? |

COMMENTS: *Vegetation data not taken, site sampled during 1993 survey.*

FIELD INVESTIGATOR(S): _____

NON-CAT. I

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | |
|------------------|-------------|-----------------|--------------------|------------|---------------------|----------------|
| Quarter Quad | Rehoboth SW | Report # | Site # | 9/28/95/15 | Date | 9/28/95 |
| SWMP Designation | PEHIF5 | NWI Designation | Ch. 66 Designation | | Field Determination | NON-WETLAND |
| Air Photo Date | | Air Photo # | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|-------------|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | | | |
| | | | | | |
| | | | | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
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|--------------------|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Buttressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | Hydric Soils (✓ one) | | | | Wetlands Hydrology (✓ one) | | | |
|--------------------------------|----|----------|---|----------------------|----|----------|---|----------------------------|----|----------|---|
| Yes | No | Marginal | ? | Yes | No | Marginal | ? | Yes | No | Marginal | ? |

COMMENTS: Could find no wetlands were mapped, only typical dry dune vegetation.

FIELD INVESTIGATOR(S):

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|--------------------|-----------------|--|--------------------|-------------------|---------------------|----------------|
| Quarter Quad | <i>Rehoboth SW</i> | Report # | | Site # | <i>9/28/95/10</i> | Date | <i>9/28/95</i> |
| SWMP Designation | <i>PEM1E5</i> | NWI Designation | | Ch. 66 Designation | | Field Determination | <i>PEM1E5</i> |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|-------------|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | | | |
| | | | | | |
| | | | | | |

VEGETATION COMMENTS: _____

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
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|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | | Concretions | |
|------------------|---|------------------------|--------------------|-----------------------|----|-------------|----|
| | | | | Yes | No | Yes | No |
| Yes | No | Yes | No | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|--|-----|----|------------------------------------|--------|
| Watermarks | | | | Depth of Inundation (if present) | |
| Wetness / Swollen Trunks | | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | | Depth to Groundwater | |
| Shallow Roots | | | | Recent Precipitation | |
| Aerial Roots | | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | | | |
| Blackened Leaves | | | | <i>Flooded - CA. 2-4" of water</i> | |
| Drainage Patterns | | | | | |
| Sediment Deposits | | | | | |
| Crack Lines | | | | | |
| Crayfish mounds | | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | | |
| Sulfur Odor | | | | | |

| Hydrophytic Vegetation (✓ one) | | | | Hydric Soils (✓ one) | | | | Wetlands Hydrology (✓ one) | | | |
|--------------------------------|----|----------|---|----------------------|----|----------|---|----------------------------|----|----------|---|
| Yes | No | Marginal | ? | Yes | No | Marginal | ? | Yes | No | Marginal | ? |
| | | | | | | | | | | | |

COMMENTS: *Vegetation data not taken, site sampled during 1993 survey.*

FIELD INVESTIGATOR(S): _____

NON-CAT. I

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | | |
|------------------|-------------|-----------------|----------|--------------------|--------|---------------------|----------------|---------|
| Quarter Quad | Rehoboth SW | | Report # | | Site # | 9/28/95/17 | Date | 9/28/95 |
| SWMP Designation | PEMIE-5 | NWI Designation | | Ch. 66 Designation | | Field Determination | NON-WETLAND | |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # | |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|-------------|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | | | |
| | | | | | |
| | | | | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
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|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Buttressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Phragnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |
| | | | | | | | | | | | | | | |

COMMENTS: Typical dry dune vegetation mixed with *Spartina patens* clut from oceanic overwash.

FIELD INVESTIGATOR(S):

NON-CAT. 7

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|--------------------|-----------------|--|--------------------|-------------------|---------------------|--------------------|
| Quarter Quad | <i>Rehoboth SW</i> | Report # | | Site # | <i>9/28/95/18</i> | Date | <i>9/28/95</i> |
| SWMP Designation | <i>PEMIES</i> | NWI Designation | | Ch. 66 Designation | | Field Determination | <i>NON-WETLAND</i> |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|------------------------------|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | <i>Spartina patens</i> | | |
| | | | <i>Andropogon virginicus</i> | | |
| | | | | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
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|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Distressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Phragmum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |
| | | | | | | | | | | | | | | |

COMMENTS: *Salt flat from oceanic overwash.*

FIELD INVESTIGATOR(S):

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|--------------------|-----------------|--|--------------------|-------------------|---------------------|----------------|
| Quarter Quad | <i>Rehoboth SW</i> | Report # | | Site # | <i>9/28/95/19</i> | Date | <i>9/28/95</i> |
| SWMP Designation | <i>PEM1E5</i> | NWI Designation | | Ch. 66 Designation | | Field Determination | <i>PEM1E5</i> |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

| VEGETATION | | | | | |
|-----------------|---------|------------------|-------------|---------|------------------|
| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | | | |
| | | | | | |
| | | | | | |

VEGETATION COMMENTS: _____

| SOILS | | | | |
|-------|--------|---------|---------|----------------|
| Depth | Matrix | Texture | Mottles | Soils Comments |
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|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes No | | Yes No | | Yes No | Yes No |

| HYDROLOGY | | | | |
|--|-----|----|------------------------------------|--------|
| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
| Watermarks | | | Depth of Inundation (if present) | |
| Distressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | <i>Flooded - CA. 2-4" of water</i> | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Wreck Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (√ one) | | | | Hydric Soils (√ one) | | | | Wetlands Hydrology (√ one) | | | |
|--------------------------------|----|----------|---|----------------------|----|----------|---|----------------------------|----|----------|---|
| 25 | No | Marginal | ? | Yes | No | Marginal | ? | Yes | No | Marginal | ? |

COMMENTS: *Vegetation data not taken, site sampled during 1993 survey.*

FIELD INVESTIGATOR(S): _____

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|--------------------|-----------------|--|--------------------|-------------------|---------------------|----------------|
| Quarter Quad | <i>Rehoboth SW</i> | Report # | | Site # | <i>9/28/95/20</i> | Date | <i>9/28/95</i> |
| SWMP Designation | <i>PEM1E5</i> | NWI Designation | | Ch. 66 Designation | | Field Determination | <i>PEM1E5</i> |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|-------------|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | | | |
| | | | | | |
| | | | | | |

VEGETATION COMMENTS: _____

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
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|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|---|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Buttressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS <i>Flooded - CA. 2-4" of water</i> | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Wrack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |

COMMENTS: *Vegetation data not taken, site sampled during 1993 survey.*

FIELD INVESTIGATOR(S): _____

BETHANY BEACH NW

NON-CAT. I

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|------------------|-----------------|--|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Bethany Beach NW | Report # | | Site # | 8/23/95/8 | Date | 8/23/95 |
| SWMP Designation | PEMAS | NWI Designation | | Ch. 66 Designation | | Field Determination | NON-WETLAND |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|-------------|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | | | |
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VEGETATION COMMENTS: _____

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
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|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Buttressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Wreck Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |
| | | | | | | | | | | | | | | |

COMMENTS: Site is actually a low flooded area on beach receiving water from surf and overwash

FIELD INVESTIGATOR(S): _____

NON-CAT 1

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|------------------|-----------------|--|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Bethany Beach NW | Report # | | Site # | 8/23/95/9 | Date | 8/25/95 |
| SWMP Designation | PEM1E5 | NWI Designation | | Ch. 66 Designation | | Field Determination | PEM1E |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------------|---------|------------------|------------------------|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| Baccharis halimifolia | | | Spartina patens | | |
| Myrica verticillata | | | P. fragmitis australis | | |
| | | | | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
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|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist Verified? (Enter "No" or Name) | Soil Scientist Needed? (Yes/No) | Taxonomic Subgroup | Oxidized Rhizospheres (Yes/No) | Concretions (Yes/No) |
|------------------|---|---------------------------------|--------------------|--------------------------------|----------------------|
| Yes | No | Yes | No | Yes | No |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|--|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Buttressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS Site is receiving brackish water, possibly from adjacent ditches which are connected to bay. | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Wreck Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | Hydric Soils (✓ one) | | | | Wetlands Hydrology (✓ one) | | | |
|--------------------------------|----|----------|---|----------------------|----|----------|---|----------------------------|----|----------|---|
| Yes | No | Marginal | ? | Yes | No | Marginal | ? | Yes | No | Marginal | ? |

COMMENTS: Site in a salt-meadow, primarily composed of *Spartina patens*

FIELD INVESTIGATOR(S):

NON-CAT. I

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|------------------|-----------------|--|--------------------|------------|---------------------|----------------|
| Quarter Quad | Bethany Beach NW | Report # | | Site # | 8/23/95/10 | Date | 8/23/95 |
| SWMP Designation | PEMIES | NWI Designation | | Ch. 66 Designation | | Field Determination | PEMIE |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|-----------------------------|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | <i>Spartina patens</i> | | |
| | | | <i>Sagittaria arifolia</i> | | |
| | | | <i>Phragmites australis</i> | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
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|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist Verified? (Enter "No" or Name) | Soil Scientist Needed? (Yes/No) | Taxonomic Subgroup | Oxidized Rhizospheres (Yes/No) | Concretions (Yes/No) |
|------------------|---|---------------------------------|--------------------|--------------------------------|----------------------|
| Yes | No | Yes | | Yes | No |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|---|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Buttressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS <i>Site is a moist, salt meadow. Likely the result of over-wash from a breach in adjacent dike.</i> | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Wreck Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |

COMMENTS:

FIELD INVESTIGATOR(S):

NON-CAT. 1

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|------------------|-----------------|--|--------------------|----------|---------------------|----------------|
| Quarter Quad | Bethany Beach NW | Report # | | Site # | 9/9/95/2 | Date | 9/9/95 |
| SWMP Designation | PEAIES | NWI Designation | | Ch. 66 Designation | | Field Determination | ? |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|------------------------|---------|------------------|
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | Andropogon virginianus | 80 | |
| | | | Spartina patens | 10 | |
| | | | | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
| | | | | |
| | | | | |

| | | | | | | | |
|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|---|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Buttressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS Site is likely influenced hydrologically by adjacent blitch which is connected to the bay. Site is moist with some standing water in low spots. A Spring Tidal occurred the previous night. | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crabfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |
| | | | | | | | | | | | | | | |

COMMENTS:

FIELD INVESTIGATOR(S):

BETHANY BEACH NE

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|------------------|-----------------|--|--------------------|----------|---------------------|----------------|
| Quarter Quad | Bethany Beach NE | Report # | | Site # | 9/9/95/6 | Date | 9/9/95 |
| SWMP Designation | PSSI/EM/ES | NWI Designation | | Ch. 66 Designation | | Field Determination | PSSI/EM/ES |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------------------|---------|------------------|--------------------------------|---------|------------------|
| <i>Acer rubrum</i> | | | | | |
| <i>Juniperus virginiana</i> | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| <i>Myrica verticillata</i> | | | <i>Cladium mariscoides</i> | | |
| <i>Rosa palustris</i> | | | <i>Rhynchospora gracilenta</i> | | |
| <i>Vaccinium corymbosum</i> | | | <i>Vallisneria spiralis</i> | | |
| | | | <i>Sagittaria arifolia</i> | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
| | | | | |
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|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist Verified? (Enter "No" or Name) | Soil Scientist Needed? (Yes/No) | Taxonomic Subgroup | Oxidized Rhizospheres (Yes/No) | Concretions (Yes/No) |
|------------------|---|---------------------------------|--------------------|--------------------------------|----------------------|
| Yes | No | Yes | | Yes | No |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | Saturated to surface | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | Hydric Soils (✓ one) | | | | Wetlands Hydrology (✓ one) | | | |
|--------------------------------|----|----------|---|----------------------|----|----------|---|----------------------------|----|----------|---|
| Yes | No | Marginal | ? | Yes | No | Marginal | ? | Yes | No | Marginal | ? |

COMMENTS: Site is privately owned

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|------------------|-----------------|--|--------------------|----------|---------------------|----------------|
| Quarter Quad | Bethany Beach NE | Report # | | Site # | 9/9/95/7 | Date | 9/9/95 |
| SWMP Designation | PSS1/3/E5 | NWI Designation | | Ch. 66 Designation | | Field Determination | PSS1/3/EME5 |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------------------|---------|------------------|------------------------------|---------|------------------|
| <i>Acer rubrum</i> | | | | | |
| <i>Pinus taeda</i> | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| <i>Myrica aspera</i> | | | <i>Vaccinium macrocarpon</i> | | |
| <i>Vaccinium corymbosum</i> | | | <i>Cladium mariscoides</i> | | |
| | | | <i>Juncus roemerianus</i> | | |

VEGETATION COMMENTS: _____

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
| | | | | |
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|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Buttressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | <i>Saturated to surface</i> | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |
| | | | | | | | | | | | | | | |

COMMENTS: *Site is privately owned*

FIELD INVESTIGATOR(S): _____

ADDITION - CAT. I

SWMP Series No. 95-1-02

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | |
|------------------|------------------|-----------------|--------------------|----------|---------------------|----------------|
| Quarter Quad | Bethany Beach NE | Report # | Site # | 9/9/95/8 | Date | 9/9/95 |
| SWMP Designation | PEM1/SSE | NWI Designation | Ch. 66 Designation | | Field Determination | PEM1/SSE5 |
| Air Photo Date | | Air Photo # | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------------------|---------|------------------|----------------------------|---------|------------------|
| <i>Acer rubrum</i> | | | | | |
| <i>Pinus taeda</i> | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| <i>Myrica verticillata</i> | | | <i>Eryngium aquaticum</i> | | |
| <i>Vaccinium corymbosum</i> | | | <i>Cladium mariscoides</i> | | |
| <i>Rosa palustris</i> | | | <i>Juncus roemerianus</i> | | |
| <i>Artemisia arbuscula</i> | | | <i>Scirpus quincem</i> | | |
| VEGETATION COMMENTS: | | | <i>Fragaria virginiana</i> | | |

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
| | | | | |
| | | | | |

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|--------------------|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Buttressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | CA. 2" of standing water | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Track Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |
| | | | | | | | | | | | | | | |

COMMENTS: Site is surrounded by private homes and home to the south are partially within the wetland; construction material has also been deposited within wetland. Site is privately owned.

FIELD INVESTIGATOR(S): _____

SWMP FIELD DATA FORM

State of Delaware
Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | |
|------------------|------------------|-----------------|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Bethany Beach NE | Report # | Site # | 9/14/95/1 | Date | 9/14/95 |
| SWMP Designation | PEMIAS | NWI Designation | Ch. 66 Designation | | Field Determination | PEMIAS |
| Air Photo Date | | Air Photo # | Ground Photo | Yes | No | Ground Photo # |

| VEGETATION | | | | | |
|----------------------------|---------|------------------|---------------------------------|---------|------------------|
| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| <i>Myrica verticillata</i> | | | <i>Eragrostium leucolopis</i> | | |
| | | | <i>Juncus rospoides</i> | | |
| | | | <i>Rhynchospora gracilentia</i> | | |
| | | | <i>Lysiproticella appressum</i> | | |

VEGETATION COMMENTS: _____

| SOILS | | | | |
|-------|--------|---------|---------|----------------|
| Depth | Matrix | Texture | Mottles | Soils Comments |
| | | | | |
| | | | | |
| | | | | |

| | | | | | | |
|--------------------|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

| HYDROLOGY | | | | |
|--|-----|----|----------------------------------|--------|
| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
| Watermarks | | | Depth of Inundation (if present) | |
| Buttressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | <i>Moist</i> | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Track Lines | | | | |
| Crayfish mounds | | | | |
| Phragmum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | Hydric Soils (✓ one) | | | | Wetlands Hydrology (✓ one) | | | |
|--------------------------------|----|----------|---|----------------------|----|----------|---|----------------------------|----|----------|---|
| Yes | No | Marginal | ? | Yes | No | Marginal | ? | Yes | No | Marginal | ? |
| | | | | | | | | | | | |

COMMENTS: _____

FIELD INVESTIGATOR(S): _____

NON-CAT. I

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|------------------|-----------------|--|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Bethany Beach NE | Report # | | Site # | 9/14/95/2 | Date | 9/14/95 |
| SWMP Designation | PEM4C5 | NWI Designation | | Ch. 66 Designation | | Field Determination | NON-WETLAND |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------------------|---------|------------------|---------------------------------|---------|------------------|
| <i>Juniperus virginiana</i> | | | | | |
| <i>Pinus thunbergii</i> | | | | | |
| <i>Pinus taeda</i> | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| <i>Myrica verticillata</i> | | | <i>Andropogon virginicus</i> | | |
| <i>Vaccinium wrightii</i> | | | <i>Panicum virgatum</i> | | |
| | | | <i>Ammophila breviflorata</i> | | |
| | | | <i>Eupatorium hydropyroides</i> | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
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|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Saturated / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |

COMMENTS: Dry Herb & Shrub dune-hollow

FIELD INVESTIGATOR(S):

SWMP FIELD DATA FORM

State of Delaware
 Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|------------------|-----------------|--|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Bethany Beach NE | Report # | | Site # | 9/14/95/3 | Date | 9/14/95 |
| SWMP Designation | PEM1C5 | NWI Designation | | Ch. 66 Designation | | Field Determination | PEM1C5 |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|-----------------------------|---------|------------------|
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | <i>Drosera intermedia</i> | | |
| | | | <i>Lycopodium appressum</i> | | |
| | | | <i>Juncus biflorus</i> | | |
| | | | <i>Euthamia tenuifolia</i> | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
| | | | | |
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|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Buttressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |
| | | | | | | | | | | | | | | |

COMMENTS: A complex of small, scattered depressionnal wetlands, each too small to map individually

FIELD INVESTIGATOR(S):

NON-CAT. I

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|------------------|-----------------|--|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Bethany Beach NE | Report # | | Site # | 9/14/95/4 | Date | 9/14/95 |
| SWMP Designation | PEM1E9A5 | NWI Designation | | Ch. 66 Designation | | Field Determination | NON-WETLAND |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|----------------------------|---------|------------------|---------------------------|---------|------------------|
| <i>Pinus thunbergii</i> | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| <i>Myrica verticillata</i> | | | <i>Hudsonia tomentosa</i> | | |
| <i>Potamogeton nodosus</i> | | | <i>Panicum amarum</i> | | |
| | | | <i>P. zosterifolium</i> | | |
| | | | <i>Spartina patens</i> | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
| | | | | |
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|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Distressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |
| | | | | | | | | | | | | | | |

COMMENTS: This data form includes 4 sites on map (PEM1E5 & PEM1A5). No wetlands were encountered, only dry dunes with typical xeric vegetation.

FIELD INVESTIGATOR(S):

NON-CAT. I

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|------------------|-----------------|--|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Bethany Beach NE | Report # | | Site # | 9/14/95/S | Date | 9/14/95 |
| SWMP Designation | PEM1E5 | NWI Designation | | Ch. 66 Designation | | Field Determination | PFO/S |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | | | WOODY VINES | | |
|-----------------------------|---------|------------------|-------------|---------|------------------|
| | % Cover | Indicator Status | | % Cover | Indicator Status |
| <i>Pinus taeda</i> | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | | | HERBS | | |
| | % Cover | Indicator Status | | % Cover | Indicator Status |
| <i>Myrica verticillata</i> | | | | | |
| <i>Vaccinium corymbosum</i> | | | | | |
| <i>Aronia arbutifolia</i> | | | | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
| | | | | |
| | | | | |

| | | | | | | | |
|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | | Soil Scientist Verified? (Enter "No" or Name) | | Soil Scientist Needed? | | Taxonomic Subgroup | | Oxidized Rhizospheres | | Concretions | |
|------------------|----|---|----|------------------------|----|--------------------|--|-----------------------|----|-------------|----|
| Yes | No | Yes | No | Yes | No | | | Yes | No | Yes | No |
| | | | | | | | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | | Yes | No | PRESENCE OF HYDROLOGY | | Inches |
|--|--|-----|----|----------------------------------|--|--------|
| Watermarks | | | | Depth of Inundation (if present) | | |
| Distressed / Swollen Trunks | | | | Depth to Saturated Soils | | |
| Multi-stemmed Trunks | | | | Depth to Groundwater | | |
| Shallow Roots | | | | Recent Precipitation | | |
| Adventitious Roots | | | | HYDROLOGY COMMENTS | | |
| Water-stained Leaves | | | | | | |
| Blackened Leaves | | | | | | |
| Drainage Patterns | | | | | | |
| Sediment Deposits | | | | | | |
| Crack Lines | | | | | | |
| Crayfish mounds | | | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | | | |
| Sulfur Odor | | | | | | |

| Hydrophytic Vegetation (✓ one) | | | | Hydric Soils (✓ one) | | | | Wetlands Hydrology (✓ one) | | | |
|--------------------------------|----|----------|---|----------------------|----|----------|---|----------------------------|----|----------|---|
| Yes | No | Marginal | ? | Yes | No | Marginal | ? | Yes | No | Marginal | ? |
| | | | | | | | | | | | |

COMMENTS: Identified as Category I in 1993, but after reevaluation, I feel this site is not Cat. I due to dominance of woody vegetation.

FIELD INVESTIGATOR(S):

BETHANY BEACH SE

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|------------------|-----------------|--|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Bethany Beach SE | Report # | | Site # | 8/23/95/1 | Date | 8/23/95 |
| SWMP Designation | PEM1F5 | NWI Designation | | Ch. 66 Designation | | Field Determination | PEM/SSIE5 |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | | % Cover | Indicator Status | WOODY VINES | | % Cover | Indicator Status |
|-----------------------------|--|---------|------------------|----------------------------|--|---------|------------------|
| <i>Pinus thunbergii</i> | | | | | | | |
| | | | | | | | |
| SHRUBS/SAPLINGS | | % Cover | Indicator Status | HERBS | | % Cover | Indicator Status |
| <i>Myrica cerifera</i> | | | | <i>Juncus dichotomus</i> | | | |
| <i>Vaccinium corymbosum</i> | | | | <i>Euthamia tenuifolia</i> | | | |
| | | | | <i>Cladium mariscoides</i> | | | |
| | | | | <i>Scirpus pungens</i> | | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
| | | | | |
| | | | | |

| | | | | | | | |
|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | | Soil Scientist-Verified? (Enter "No" or Name) | | Soil Scientist Needed? | | Taxonomic Subgroup | | Oxidized Rhizospheres | | Concretions | |
|------------------|----|---|----|------------------------|----|--------------------|----|-----------------------|----|-------------|----|
| Yes | No | Yes | No | Yes | No | Yes | No | Yes | No | Yes | No |
| | | | | | | | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | | Yes | No | PRESENCE OF HYDROLOGY | | Inches |
|--|--|-----|----|---|--|--------|
| Watermarks | | | | Depth of Inundation (if present) | | |
| Buttressed / Swollen Trunks | | | | Depth to Saturated Soils | | |
| Multi-stemmed Trunks | | | | Depth to Groundwater | | |
| Shallow Roots | | | | Recent Precipitation | | |
| Adventitious Roots | | | | HYDROLOGY COMMENTS <i>Saturated to surface with standing water in areas (ca. 3")</i> | | |
| Water-stained Leaves | | | | | | |
| Blackened Leaves | | | | | | |
| Drainage Patterns | | | | | | |
| Sediment Deposits | | | | | | |
| Wreck Lines | | | | | | |
| Crayfish mounds | | | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | | | |
| Sulfur Odor | | | | | | |

| Hydrophytic Vegetation (✓ one) | | | | Hydric Soils (✓ one) | | | | Wetlands Hydrology (✓ one) | | | |
|--------------------------------|----|----------|---|----------------------|----|----------|---|----------------------------|----|----------|---|
| Yes | No | Marginal | ? | Yes | No | Marginal | ? | Yes | No | Marginal | ? |
| | | | | | | | | | | | |

COMMENTS: *Scrub-shrub should be included with emergent designation*

FIELD INVESTIGATOR(S): _____

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | |
|------------------|------------------|-----------------|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Bethany Beach SE | Report # | Site # | 8/23/95/2 | Date | 8/23/95 |
| SWMP Designation | PEM1E5 | NWI Designation | Ch. 66 Designation | | Field Determination | PEM/SS/E5 |
| Air Photo Date | | Air Photo # | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|----------------------------|---------|------------------|---------------------------------|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| <i>Myrica verticillata</i> | | | <i>Lynxgrodicella appressum</i> | | |
| | | | <i>Phytolacca foetida</i> | | |
| | | | <i>Juncus virginicus</i> | | |
| | | | <i>Euthamia tenuifolia</i> | | |

VEGETATION COMMENTS: _____

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
| | | | | |
| | | | | |

| | | | | | | |
|--------------------|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|---|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Distressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | <i>Saturated to surface with some standing water (ca. 2")</i> | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Phragmum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | Hydric Soils (✓ one) | | | | Wetlands Hydrology (✓ one) | | | |
|--------------------------------|----|----------|---|----------------------|----|----------|---|----------------------------|----|----------|---|
| Yes | No | Marginal | ? | Yes | No | Marginal | ? | Yes | No | Marginal | ? |
| | | | | | | | | | | | |

COMMENTS: *SS should be added with EM designation*

FIELD INVESTIGATOR(S): _____

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|------------------|-----------------|--|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Bethany Beach SE | Report # | | Site # | 8/23/95/3 | Date | 8/23/95 |
| SWMP Designation | PEM/F5 | NWI Designation | | Ch. 66 Designation | | Field Determination | PEM/SSIE5 |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-------------------------|---------|------------------|---|---------|------------------|
| <i>Pinus thunbergii</i> | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| <i>Myrica aspera</i> | | | <i>Juncus roemerianus</i> <i>Euthamia tenuifolia</i> | | |
| | | | | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
| | | | | |
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|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|---|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Buttressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS <i>Saturated to surface with some standing water (CA. 2")</i> | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |
| | | | | | | | | | | | | | | |

COMMENTS: *Scrub/shrub should be added with emergent designation. Site is privately owned.*

FIELD INVESTIGATOR(S):

ADDITION - CAT. 1

SWMP Series No. 95-1-02

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | |
|------------------|------------------|--------------------|---------------------|-----------|----------------|---------|
| Quarter Quad | Bethany Beach SE | Report # | Site # | 8/23/95/4 | Date | 8/23/95 |
| SWMP Designation | NWI Designation | Ch. 66 Designation | Field Determination | | PSS/EMIES | |
| Air Photo Date | Air Photo # | Ground Photo | Yes | No | Ground Photo # | |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------------------|---------|------------------|-----------------------------|---------|------------------|
| <i>Pinus thunbergii</i> | | | <i>Toxicolobos radicans</i> | | |
| SHRUBS/SAPLINGS | | | HERBS | | |
| <i>Myrica aspera</i> | | | <i>Drosera intermedia</i> | | |
| <i>Vaccinium corymbosum</i> | | | <i>Juncus dichotomus</i> | | |
| <i>Rubus sp.</i> | | | <i>Lythrum sp.</i> | | |
| | | | <i>Cladium mariscoides</i> | | |

VEGETATION COMMENTS: _____

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
| | | | | |
| | | | | |

| | | | | | | |
|--------------------|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Buttressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | <i>Saturated to surface</i> | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Phragmum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |

COMMENTS: *Small emergent wetland within scrub-shrub wetland. Site is privately owned.*

FIELD INVESTIGATOR(S): _____

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | |
|------------------|------------------|-----------------|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Bithany Beach SE | Report # | Site # | 8/23/95/5 | Date | 8/23/95 |
| SWMP Designation | PEMIES | NWI Designation | Ch. 66 Designation | | Field Determination | PEMIES |
| Air Photo Date | | Air Photo # | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|----------------------------|---------|------------------|--------------------------------|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| <i>Myrica verticillata</i> | | | <i>Euthamia tenuis/obovata</i> | | |
| <i>Vaccinium wrightii</i> | | | <i>Juncus bispinosus</i> | | |
| | | | <i>Rhynchospora granitella</i> | | |
| | | | <i>Scirpus pungens</i> | | |

VEGETATION COMMENTS: _____

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
| | | | | |
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|--------------------|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--------------|-----|----|----|---------|--------|

| Hydric? | Soil Scientist-Verified? | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|----------|--------------------------|------------------------|--------------------|-----------------------|-------------|
| (circle) | (Enter "No" or Name) | Yes No | | Yes No | Yes No |
| Yes | No | Yes | No | Yes | No |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Buttressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | <i>Flooded to ca. 4"</i> | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Phragmum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |

COMMENTS: *Site is privately owned*

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|------------------|-----------------|--|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Bethany Beach SE | Report # | | Site # | 8/23/95/6 | Date | 8/23/95 |
| SWMP Designation | PEMIES | NWI Designation | | Ch. 66 Designation | | Field Determination | PEMIES |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|---|---------|------------------|--------------------------------|---------|------------------|
| <i>Pinus thunbergii</i> | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| <i>Lyricea virifera</i> tree height = 3' | 85 | | <i>Juncus dichotomus</i> | | |
| <i>Vaccinium corymbosum</i> | | | <i>Rhynchospora capitulata</i> | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
| | | | | |

| | | | | | | | |
|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Distressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | Moist | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Phragmum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |
| | | | | | | | | | | | | | | |

COMMENTS: Short stature of dominating bayberry designated with as EM

FIELD INVESTIGATOR(S):

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | |
|------------------|------------------|-----------------|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Bethany Beach SE | Report # | Site # | 8/23/95/7 | Date | 8/23/95 |
| SWMP Designation | PEMIFS | NWI Designation | Ch. 66 Designation | | Field Determination | PSS/EME5 |
| Air Photo Date | | Air Photo # | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|------------------------|---------|------------------|------------------------------|---------|------------------|
| <i>Quercus rubrum</i> | | | | | |
| <i>Salix nigra</i> | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| <i>Myrica cerifera</i> | | | <i>Hibiscus palustris</i> | 70 | |
| <i>Rosa palustris</i> | | | <i>Thelypteris palustris</i> | | |
| | | | <i>Osmunda regalis</i> | | |
| | | | <i>Sagittaria arifolia</i> | | |

VEGETATION COMMENTS: _____

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
| | | | | |
| | | | | |

| | | | | | | |
|--------------------|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Stressed/Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Phragmum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | Hydric Soils (✓ one) | | | | Wetlands Hydrology (✓ one) | | | |
|--------------------------------|----|----------|---|----------------------|----|----------|---|----------------------------|----|----------|---|
| Yes | No | Marginal | ? | Yes | No | Marginal | ? | Yes | No | Marginal | ? |

COMMENTS: *The PFO4C5 and PEMIFS should be mapped as one.*

FIELD INVESTIGATOR(S): _____

ADDITION - CAT. 2

SWMP Series No. 95-1-02

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | |
|------------------|------------------|-----------------|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Bethany Beach SF | Report # | Site # | 8/23/95/8 | Date | 8/25/95 |
| SWMP Designation | | NWI Designation | Ch. 66 Designation | | Field Determination | PEHIES |
| Air Photo Date | | Air Photo # | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|-------------|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | | | |
| | | | | | |
| | | | | | |

VEGETATION COMMENTS: _____

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
| | | | | |
| | | | | |

| | | | | | | |
|--------------------|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Guttressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | Flooded - 2-3" of water | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |

COMMENTS: *Vegetation data not taken, site described in 1994 Final Report.*

FIELD INVESTIGATOR(S): _____

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|------------------|-----------------|--|--------------------|----------|---------------------|----------------|
| Quarter Quad | Bethany Beach SE | Report # | | Site # | 9/9/95/3 | Date | 9/9/95 |
| SWMP Designation | PSS1/3E5 | NWI Designation | | Ch. 66 Designation | | Field Determination | PSS1/3/EME5 |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|-------------|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | | | |
| | | | | | |
| | | | | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
| | | | | |
| | | | | |

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|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|---------------------|--|---------------------------|--------------------|--------------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|---|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Buttressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS <i>Saturated to surface</i> | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Wrack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | Hydric Soils (✓ one) | | | | Wetlands Hydrology (✓ one) | | | |
|--------------------------------|----|----------|---|----------------------|----|----------|---|----------------------------|----|----------|---|
| Yes | No | Marginal | ? | Yes | No | Marginal | ? | Yes | No | Marginal | ? |
| | | | | | | | | | | | |

COMMENTS: Site determined to be Category 2 during 1993 survey and site is described in Final Report, thus vegetation data was not taken on this date. Note field determination

FIELD INVESTIGATOR(S):

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | |
|------------------|------------------|-----------------|--------------------|----------|---------------------|----------------|
| Quarter Quad | Bethany Beach SE | Report # | Site # | 9/9/95/4 | Date | 9/9/95 |
| SWMP Designation | PSSI/EMIES | NWI Designation | Ch. 66 Designation | | Field Determination | PSSI/EMIES |
| Air Photo Date | | Air Photo # | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|-------------|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | | | |
| | | | | | |
| | | | | | |

VEGETATION COMMENTS: _____

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
| | | | | |
| | | | | |

| | | | | | | |
|--------------------|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Buttressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | <i>Saturated to surface</i> | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Wrack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (√ one) | | | | | Hydric Soils (√ one) | | | | | Wetlands Hydrology (√ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |
| | | | | | | | | | | | | | | |

COMMENTS: *Site determined to be Category I during 1993 survey and described in Final Report, this vegetation data was not collected for this date. Agree with field determination.*

FIELD INVESTIGATOR(S): _____

ADDITION - CAT. 2

SWMP Series No. 95-1-02

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | |
|------------------|------------------|-----------------|--------------------|----------|---------------------|----------------|
| Quarter Quad | Bethany Beach SE | Report # | Site # | 9/9/95/5 | Date | 9/9/95 |
| SWMP Designation | — | NWI Designation | Ch. 66 Designation | | Field Determination | PEM1E5 |
| Air Photo Date | | Air Photo # | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|----------------------------|---------|------------------|------------------------------|---------|------------------|
| <i>Pinus taeda</i> | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| <i>Myrica verticillata</i> | | | <i>Polygala verrucata</i> S2 | | |
| | | | <i>Festuca tenuis</i> S2 | | |
| | | | <i>Panicum wrightii</i> S1 | | |
| | | | <i>Ludwigia hirtella</i> S1 | | |

VEGETATION COMMENTS:

Vaccinium maritimum S3
Rhynchospora gracilenta S3

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
| | | | | |
| | | | | |

| | | | | | | |
|--------------------|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Wetness / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | Moist | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | Hydric Soils (✓ one) | | | | Wetlands Hydrology (✓ one) | | | |
|--------------------------------|----|----------|---|----------------------|----|----------|---|----------------------------|----|----------|---|
| Yes | No | Marginal | ? | Yes | No | Marginal | ? | Yes | No | Marginal | ? |
| | | | | | | | | | | | |

COMMENTS: Site is small, every effort should be made to map due to high diversity of rare species here.

FIELD INVESTIGATOR(S):

ASSAWOMAN NE

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | |
|------------------|-------------|-----------------|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Anawoman NE | Report # | Site # | 9/28/95/1 | Date | 9/28/95 |
| SWMP Designation | PEMIC5 | NWI Designation | Ch. 66 Designation | | Field Determination | PEMIC5 |
| Air Photo Date | | Air Photo # | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|---|---------|------------------|---|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| <i>Myrica verticillata</i> (2' tall) | | | <i>Sagittaria purpurascens</i> <i>Juncus nigricollis</i> <i>J. dichotomus</i> | | |

VEGETATION COMMENTS: _____

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
| | | | | |

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|--------------------|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|---------------------|--|---------------------------|--------------------|--------------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|--|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Distressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | <i>Flooded - CA. 3", rain the day before</i> | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Phragmum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |
| | | | | | | | | | | | | | | |

COMMENTS: *This site should be narrower than what is mapped*

FIELD INVESTIGATOR(S): _____

NON-CAT. 2

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|--------------------|-----------------|--|--------------------|--|---------------------|--------------------|
| Quarter Quad | <i>Arrowman NE</i> | Report # | | Site # | <i>9/28/95/2</i> | Date | <i>9/28/95</i> |
| SWMP Designation | <i>PEM/SS3A5</i> | NWI Designation | | Ch. 66 Designation | | Field Determination | <i>NON-WETLAND</i> |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes <input type="checkbox"/> No <input type="checkbox"/> | Ground Photo # | |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-------------------------------|---------|------------------|------------------------------|---------|------------------|
| <i>Pinus thunbergii</i> | | | | | |
| <i>Liquidambar virginiana</i> | | | | | |
| <i>Prunus serotina</i> | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| <i>Koeleria rugosa</i> | | | <i>Panicum virgatum</i> | | |
| <i>Physica triflora</i> | | | <i>Ambrosia sp.</i> | | |
| <i>Vaccinium corymbosum</i> | | | <i>Hudsonia tomentosa</i> | | |
| <i>Baccharis halimifolia</i> | | | <i>Solidago sempervirens</i> | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
| | | | | |
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|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Intressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |

COMMENTS: *Site in a dry dune area with typical xeric vegetation*

FIELD INVESTIGATOR(S):

NON-CAT. I

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|--------------|-----------------|--|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Abrawoman NE | Report # | | Site # | 9/28/95/3 | Date | 9/28/95 |
| SWMP Designation | PSS3/1A5 | NWI Designation | | Ch. 66 Designation | | Field Determination | PSS3/1A |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | | % Cover | Indicator Status | WOODY VINES | | % Cover | Indicator Status |
|-------------------------|--|---------|------------------|------------------------|--|---------|------------------|
| Liquidambar styraciflua | | | | Toxicodendron radicans | | | |
| Acer rubrum | | | | | | | |
| Taxodium virginicum | | | | | | | |
| Pinus taeda | | | | | | | |
| SHRUBS/SAPLINGS | | % Cover | Indicator Status | HERBS | | % Cover | Indicator Status |
| Thyris ariflora | | | | | | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
| | | | | |

| | | | | | | | |
|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist Verified? (Enter "No" or Name) | Soil Scientist Needed? | | Taxonomic Subgroup | Oxidized Rhizospheres | | Concretions | |
|------------------|---|------------------------|----|--------------------|-----------------------|----|-------------|----|
| Yes | No | Yes | No | | Yes | No | Yes | No |
| | | | | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Buttressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS <i>Dry</i> | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | Hydric Soils (✓ one) | | | | Wetlands Hydrology (✓ one) | | | |
|--------------------------------|----|----------|---|----------------------|----|----------|---|----------------------------|----|----------|---|
| Yes | No | Marginal | ? | Yes | No | Marginal | ? | Yes | No | Marginal | ? |
| | | | | | | | | | | | |

COMMENTS:

FIELD INVESTIGATOR(S):

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | |
|------------------|------------|-----------------|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Crawman NE | Report # | Site # | 9/28/95/4 | Date | 9/28/95 |
| SWMP Designation | PEMIES | NWI Designation | Ch. 66 Designation | | Field Determination | PEMIES |
| Air Photo Date | | Air Photo # | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|-------------|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | | | |
| | | | | | |
| | | | | | |

VEGETATION COMMENTS: _____

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
| | | | | |
| | | | | |

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|--------------------|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--------------|-----|----|----|---------|--------|

| Hydric? | Soil Scientist-Verified? | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|----------|--------------------------|------------------------|--------------------|-----------------------|-------------|
| (circle) | (Enter "No" or Name) | Yes No | | Yes No | Yes No |
| Yes | No | Yes | No | Yes | No |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Buttressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | 2-3" of standing water | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Wrack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | Hydric Soils (✓ one) | | | | Wetlands Hydrology (✓ one) | | | |
|--------------------------------|----|----------|---|----------------------|----|----------|---|----------------------------|----|----------|---|
| Yes | No | Marginal | ? | Yes | No | Marginal | ? | Yes | No | Marginal | ? |
| | | | | | | | | | | | |

COMMENTS: *Vegetation data not collected because site was sampled and described during 1993 survey.*

FIELD INVESTIGATOR(S): _____

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | |
|------------------|-------------|-----------------|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Anawoman NE | Report # | Site # | 9/28/95/5 | Date | 9/28/95 |
| SWMP Designation | PEMIES | NWI Designation | Ch. 66 Designation | | Field Determination | PEMIES |
| Air Photo Date | | Air Photo # | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|-------------|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | | | |
| | | | | | |
| | | | | | |

VEGETATION COMMENTS: _____

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
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|--------------------|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Buttressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | CA. 2" of standing water | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|---|----------------------|----|----------|---|---|----------------------------|----|----------|---|---|
| Yes | No | Marginal | ? | ? | Yes | No | Marginal | ? | ? | Yes | No | Marginal | ? | ? |
| | | | | | | | | | | | | | | |

COMMENTS: *Vegetation data was not collected. Site was sampled during 1993 survey.*

FIELD INVESTIGATOR(S): _____

SWMP FIELD DATA FORM

State of Delaware
Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|--------------|-----------------|--|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Asuawomon NE | Report # | | Site # | 9/28/95/6 | Date | 9/28/95 |
| SWMP Designation | PEMIES | NWI Designation | | Ch. 66 Designation | | Field Determination | PEMIES |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|---|---------|------------------|------------------------------|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| <i>Myrica verticillata</i> (2' tall) | | | <i>Eupatorium leucolypis</i> | | |
| | | | <i>Euthamia tenuifolia</i> | | |
| | | | <i>Sorghum purpureum</i> | | |
| | | | <i>Xyris difformis</i> | | |

VEGETATION COMMENTS: _____

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
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|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|---------------------|--|---------------------------|--------------------|--------------------------|-------------|
| Yes No | | Yes No | | Yes No | Yes No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Bulged / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | <i>3" of standing water</i> | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Phragmum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |

COMMENTS: _____

FIELD INVESTIGATOR(S): _____

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|-------------------|-----------------|--|--------------------|------------------|---------------------|----------------|
| Quarter Quad | <i>Crawman NE</i> | Report # | | Site # | <i>9/28/95/7</i> | Date | <i>9/28/95</i> |
| SWMP Designation | <i>PEMIES</i> | NWI Designation | | Ch. 66 Designation | | Field Determination | <i>PEMIES</i> |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|---|---------|------------------|---|---------|------------------|
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| <i>Myrica verticillata</i> (2' tall) | | | <i>Lycopodium appressum</i> <i>Juncus roemerianus</i> <i>Euthamia tenuifolia</i> <i>Eupatorium leucolpis</i> | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
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|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|--|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Buttressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS <i>CA. 3" of standing water</i> | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | Hydric Soils (✓ one) | | | | Wetlands Hydrology (✓ one) | | | |
|--------------------------------|----|----------|---|----------------------|----|----------|---|----------------------------|----|----------|---|
| Yes | No | Marginal | ? | Yes | No | Marginal | ? | Yes | No | Marginal | ? |
| | | | | | | | | | | | |

COMMENTS:

FIELD INVESTIGATOR(S):

SWMP FIELD DATA FORM

State of Delaware
Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | |
|------------------|-------------|-----------------|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Arawoman NE | Report # | Site # | 9/28/95/8 | Date | 9/28/95 |
| SWMP Designation | PEM1/SS4C5 | NWI Designation | Ch. 66 Designation | | Field Determination | PEM1/SS4C5 |
| Air Photo Date | | Air Photo # | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|----------------------------|---------|------------------|-------------------------------|---------|------------------|
| <i>Pinus taeda</i> | | | | | |
| <i>Quercus rubra</i> | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| <i>Myrica verticillata</i> | | | <i>Juncus virginicus</i> | | |
| | | | <i>Eupatorium leucolysium</i> | | |
| | | | <i>Sorghum nuttallianum</i> | | |
| | | | <i>Viola lanceolata</i> | | |

VEGETATION COMMENTS: _____

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
| | | | | |
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|--------------------|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | | Taxonomic Subgroup | Oxidized Rhizospheres | | Concretions | |
|---------------------|--|------------------------|----|--------------------|-----------------------|----|-------------|----|
| | | Yes | No | | Yes | No | Yes | No |
| Yes | No | | | | Yes | No | Yes | No |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Buttressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | <i>Floored - ca. 2" of water</i> | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|-----|----------------------|----------|---|-----|----|----------------------------|---|--|--|--|
| Yes | No | Marginal | ? | Yes | No | Marginal | ? | Yes | No | Marginal | ? | | | |

COMMENTS: _____

FIELD INVESTIGATOR(S): _____

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | |
|------------------|--------------|-----------------|--------------------|-----------|---------------------|----------------|
| Quarter Quad | Asrawoman NE | Report # | Site # | 9/28/95/9 | Date | 9/28/95 |
| SWMP Designation | PEMIES | NWI Designation | Ch. 66 Designation | | Field Determination | PEMIES |
| Air Photo Date | | Air Photo # | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|---|---------|------------------|-----------------------------|---------|------------------|
| | | | | | |
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| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| <i>Myrica verticillata</i> (2' tall) | | | <i>Lygodiella appressum</i> | | |
| | | | <i>Sphagnum sp.</i> | | |
| | | | <i>Eleocharis sp.</i> | | |
| | | | <i>Pluchea foetida</i> | | |

VEGETATION COMMENTS: _____

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
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|--------------------|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|---------------------|--|---------------------------|--------------------|--------------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Gutted / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | <i>Flooded - CA. 2" of water</i> | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |

COMMENTS: _____

FIELD INVESTIGATOR(S): _____

NON-CAT. I

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|-----------------------|-----------------|--|--------------------|-------------------|---------------------|--------------------|
| Quarter Quad | <i>Crosswomans NE</i> | Report # | | Site # | <i>9/28/95/10</i> | Date | <i>9/28/95</i> |
| SWMP Designation | <i>PEHIES</i> | NWI Designation | | Ch. 66 Designation | | Field Determination | <i>NON-WETLAND</i> |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|-------------|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | | | |
| | | | | | |
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VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
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|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Buttressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | Hydric Soils (✓ one) | | | | Wetlands Hydrology (✓ one) | | | |
|--------------------------------|----|----------|---|----------------------|----|----------|---|----------------------------|----|----------|---|
| Yes | No | Marginal | ? | Yes | No | Marginal | ? | Yes | No | Marginal | ? |
| | | | | | | | | | | | |

COMMENTS: *Site appears to be an overbank area from a break in the levee; low silt, unvegetated*

FIELD INVESTIGATOR(S):

ADDITION - CAT. 1

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|--------------------|-----------------|--|--------------------|-------------------|---------------------|----------------|
| Quarter Quad | <i>Amawoman NE</i> | Report # | | Site # | <i>9/28/95/11</i> | Date | <i>9/28/95</i> |
| SWMP Designation | — | NWI Designation | | Ch. 66 Designation | | Field Determination | <i>PEM1E5</i> |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|---|---------|------------------|--|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| <i>Myrica verticillata</i> (2' tall) | | | <i>Juncus tenuis</i> <i>Euthamia tenuifolia</i> <i>Sphagnum sp.</i> <i>Azorella appressum</i> | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
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|--------------------|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | | Taxonomic Subgroup | Oxidized Rhizospheres | | Concretions | |
|---------------------|--|------------------------|----|--------------------|-----------------------|----|-------------|----|
| | | Yes | No | | Yes | No | Yes | No |
| Yes | No | | | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|--|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Swollen/Trunked Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS <i>Flooded - CA. 2" of water</i> | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | Hydric Soils (✓ one) | | | | Wetlands Hydrology (✓ one) | | | |
|--------------------------------|----|----------|---|----------------------|----|----------|---|----------------------------|----|----------|---|
| Yes | No | Marginal | ? | Yes | No | Marginal | ? | Yes | No | Marginal | ? |

COMMENTS:

FIELD INVESTIGATOR(S):

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | |
|------------------|-------------|-----------------|--------------------|------------|---------------------|----------------|
| Quarter Quad | Crawoman NE | Report # | Site # | 9/28/95/12 | Date | 9/28/95 |
| SWMP Designation | PEM1F5 | NWI Designation | Ch. 66 Designation | | Field Determination | PEM1/SSFS |
| Air Photo Date | | Air Photo # | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|-----------------|---------|------------------|-----------------------|---------|------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| Acer rubrum | | | Sagittaria arifolia | | |
| Rosa palustris | | | Osmunda regalis | | |
| | | | Thelypteris palustris | | |
| | | | Sphagnum sp. | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
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|--------------------|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist-Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes No | | Yes No | | Yes No | Yes No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Buttressed / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | Flooded - CA. 6" of water | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | | Hydric Soils (✓ one) | | | | | Wetlands Hydrology (✓ one) | | | | |
|--------------------------------|----|----------|---|--|----------------------|----|----------|---|--|----------------------------|----|----------|---|--|
| Yes | No | Marginal | ? | | Yes | No | Marginal | ? | | Yes | No | Marginal | ? | |
| | | | | | | | | | | | | | | |

COMMENTS: SS should be included with EM

FIELD INVESTIGATOR(S):

NON-CAT. I

SWMP FIELD DATA FORM

State of Delaware

Department of Natural Resources and Environmental Control, Division of Water Resources

| | | | | | | | |
|------------------|-----------------|-----------------|--|--------------------|-------------------|---------------------|----------------|
| Quarter Quad | <i>Amman NE</i> | Report # | | Site # | <i>9/28/95/13</i> | Date | <i>9/28/95</i> |
| SWMP Designation | <i>PFO/C5</i> | NWI Designation | | Ch. 66 Designation | | Field Determination | <i>PFO/C5</i> |
| Air Photo Date | | Air Photo # | | Ground Photo | Yes | No | Ground Photo # |

VEGETATION

| TREES | % Cover | Indicator Status | WOODY VINES | % Cover | Indicator Status |
|--------------------|-----------|------------------|-------------|---------|------------------|
| <i>Pinus taeda</i> | <i>90</i> | | | | |
| | | | | | |
| | | | | | |
| SHRUBS/SAPLINGS | % Cover | Indicator Status | HERBS | % Cover | Indicator Status |
| | | | | | |
| | | | | | |

VEGETATION COMMENTS:

SOILS

| Depth | Matrix | Texture | Mottles | Soils Comments |
|-------|--------|---------|---------|----------------|
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|--------------------|--|--------------|-----|----|----|---------|--------|
| Mapped Soil Series | | Soils Survey | NCC | KC | SC | Digital | Page # |
|--------------------|--|--------------|-----|----|----|---------|--------|

| Hydric? (circle) | Soil Scientist Verified? (Enter "No" or Name) | Soil Scientist Needed? | Taxonomic Subgroup | Oxidized Rhizospheres | Concretions |
|------------------|---|------------------------|--------------------|-----------------------|-------------|
| Yes | No | Yes | No | Yes | No |
| | | | | | |

HYDROLOGY

| INDICATORS OF HYDROLOGY | Yes | No | PRESENCE OF HYDROLOGY | Inches |
|--|-----|----|----------------------------------|--------|
| Watermarks | | | Depth of Inundation (if present) | |
| Wetted / Swollen Trunks | | | Depth to Saturated Soils | |
| Multi-stemmed Trunks | | | Depth to Groundwater | |
| Shallow Roots | | | Recent Precipitation | |
| Adventitious Roots | | | HYDROLOGY COMMENTS | |
| Water-stained Leaves | | | | |
| Blackened Leaves | | | | |
| Drainage Patterns | | | | |
| Sediment Deposits | | | | |
| Crack Lines | | | | |
| Crayfish mounds | | | | |
| Sphagnum Mats / Other Obligates (circle which) | | | | |
| Sulfur Odor | | | | |

| Hydrophytic Vegetation (✓ one) | | | | Hydric Soils (✓ one) | | | | Wetlands Hydrology (✓ one) | | | |
|--------------------------------|----|----------|---|----------------------|----|----------|---|----------------------------|----|----------|---|
| Yes | No | Marginal | ? | Yes | No | Marginal | ? | Yes | No | Marginal | ? |

COMMENTS: *Site may be drier than a C*

FIELD INVESTIGATOR(S): _____

