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# NORTHUMBERLAND COUNTY TIDAL MARSH INVENTORY

Special Report No. 58 in Applied Marine Science and Ocean Engineering

Gene M. Silberhorn



Virginia Institute of Marine Science

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no. 58

VIRGINIA INSTITUTE OF MARINE SCIENCE

Gloucester Point, Virginia 23062

FEBRUARY 1975



DEDICATION

This report is dedicated to the memory of  
Captain Joseph F. Dalton, U.S. Navy ( Retired ),  
the first Chairman of the Northumberland County Wetlands Board.

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JUN 25 1975

NORTHUMBERLAND COUNTY  
TIDAL MARSH INVENTORY

Special Report No. 58 in  
Applied Marine Science and  
Ocean Engineering

U. S. DEPARTMENT OF COMMERCE NOAA  
COASTAL SERVICES CENTER  
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CHARLESTON, SC 29405-2413

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Virginia Institute of Marine Science  
Gloucester Point, Virginia 23062

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Northumberland County

Tidal Marsh Inventory

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## Introduction

This publication is the fourth in a series of marsh inventory reports compiled by the Wetlands Research Section, Virginia Institute of Marine Science. The three reports that have been published are Lancaster and Mathews Counties and York County and Town of Poquoson. This report is presented in much the same format as the preceding reports.

Under Section 62.1-13.4 of the Virginia Wetlands Act, the Virginia Institute of Marine Science is obligated to inventory the tidal wetlands of the Commonwealth. The inventory program is designed to assist wetlands boards and other local, state and federal agencies which have responsibilities in managing wetlands. Its results are also of interest to scientists and other concerned citizens.

A recently published study, the Guidelines for Activities Affecting Virginia Wetlands, Silberhorn, Dawes and Barnard, 1974, VIMS SRAMSOE No. 46, will be helpful in the utilization of this report. Excerpts from the above document are included in the text below, explaining marsh vegetation types and their evaluation.

The recommendations submitted in the above publication have been adopted and promulgated by the Virginia Marine Resources Commission in booklet form. Titled Wetlands Guidelines, it may be obtained from VMRC, 2401 West Avenue, Newport News, Virginia 22607.

It is our desire that this inventory report and the marsh guideline study will be useful to those concerned with this valuable resource.

## Methods

Aerial photographs and topographic maps (U.S.G.S.) were consulted in order to obtain wetland locations and patterns of marsh vegetation. Marsh community zones and patterns were substantiated by ground truth methods, including observations on foot, by boat, and by low level overflights. Acreages and wetland boundaries were also estimated.

Marshes .25 of an acre or larger are designated by number. Many marshes smaller than .25 acre (usually narrow fringing marshes) are designated by the same symbol (shaded) as the larger marshes on the section maps. Small marshes (less than one acre) are exaggerated and are not indicated to scale. Information such as individual marsh acreage, plant community percentage and acreage, marsh type and other observations are recorded in tabular form.

## Marsh Types and Evaluation

For a better understanding of what is meant by marsh types, some background information is required. The personnel of the Wetlands Research Section have classified twelve different common marsh types in Virginia, based on vegetational composition. These marsh types have been evaluated according to certain values and are recorded in the Guidelines report. The following is a brief outline of the wetland types and their evaluation as found in that publication:

"It is recognized that most wetlands areas, with the exception of the relatively monospecific cordgrass marshes of the Eastern Shore, are not homogenously vegetated. Most marshes are, however, dominated by a major plant. By providing the manager with the primary values of each community type and the means of identification he then has a useful and convenient tool for weighing the relative importance of each marsh parcel. In Virginia, many wetlands management problems involve only a few acres or a fraction of an acre. The identification of plant communities permits the manager to evaluate both complete marshes and subareas within a marsh.

"Each marsh type may be evaluated in accordance with five general values. These are:

1. Production and detritus availability. Previous VIMS reports have discussed the details of marsh production and the role of detritus which results when the plant material is washed into the water column. The term "detritus" refers to plant material which decays in the aquatic system and forms the basis of a major marine food web. The term "production" refers to the amount of plant material which is produced by the various types of marsh plants. Vegetative production of the major species has been measured and marshes have been rated in accordance with their average levels of productivity. If the production is readily available to the marine food web as detritus, a wetlands system is even more important than one of equal productivity where little detritus results. Availability of detritus is generally a function of marsh elevation and total flushing, with detritus more available to the aquatic environment in the lower, well-flushed marshes.
2. Waterfowl and wildlife utilization. Long before marshes were discovered to be detritus producers, they were known as habitats for various mammals and marsh birds and as food sources for migratory waterfowl. Some marsh types, especially mixed freshwater marshes, are more valuable because of diversity of the vegetation found there.

3. Erosion buffer. Erosion is a common coastal problem. Marshes can be eroded, but some, particularly the more saline types, are eroded much more slowly than adjacent shores which are unprotected by marsh. This buffering quality is derived from the ability of the vegetation to absorb or dissipate wave energy by establishing a dense root system which stabilizes the substrate. Generally, freshwater species are less effective than saltwater plants in this regard.
4. Water quality control. The dense growth of some marshes acts as a filter, trapping upland sediment before it reaches waterways and thus protecting shellfish beds and navigation channels from siltation. Marshes can also filter out sediments that are already in the water column. The ability of marshes to filter sediments and maintain water clarity is of particular importance to the maintenance of clam and oyster production. Excessive sedimentation can reduce the basic food supply of shellfish through reduction of the photic zone where algae grows. It can also kill shellfish by clogging their gills. Additionally marshes can assimilate and degrade pollutants through complex chemical processes, a discussion of which is beyond the scope of this paper. ..."
- "5. Flood buffer. The peat substratum of some marshes acts as a giant sponge in receiving and releasing water. This characteristic is an effective buffer against coastal flooding, the effectiveness of which is a function of marsh type and size.

"Research and marsh inventory work accomplished by VIMS personnel indicate that 10 species of marsh vegetation tend to dominate many marshes, the dominant plant depending on water salinity, marsh elevation, soil type and other factors. The term "dominant" is construed to mean that at least 50% of the vegetated surface of a marsh is covered by a single species. Brackish and freshwater marshes often have no clearly dominant species of vegetation. The marshes are considered to be highly valuable in environmental terms."

## Marsh Types and Their Environmental Contributions

(Edited from Guidelines for Activities Affecting Virginia Wetlands)

### Type I Saltmarsh Cordgrass Community

- a. Average yield 4 tons per acre per annum. (Optimum growth up to 10 tons per acre.)
- b. Optimum availability of detritus to the marine environment.
- c. Roots and rhizomes eaten by waterfowl and stems used in muskrat lodge construction. Also serves as nesting material for various birds.
- d. Deterrent to shoreline erosion.
- e. Serves as sediment trap and assimilates flood waters.

### Type II Saltmeadow Community

- a. Yields 1-3 tons per acre per annum.
- b. Food (seeds) and nesting areas for birds.
- c. Effective erosion deterrent.
- d. Assimilate flood waters.
- e. Filters sediments and waste material.

### Type III Black Needlerush Community

- a. Provides 3-5 tons per acre per annum.
- b. Highly resistant to erosion.
- c. Traps suspended sediments but not as effective as Type II.
- d. Somewhat effective in absorbing flood waters.

### Type IV Saltbush Community

- a. About or less than 2 tons per acre per annum.
- b. Nesting area for small birds and habitat for a variety of wildlife.
- c. Effective trap for flotsam.

Type V Big Cordgrass Community

- a. Yields 3-6 tons per acre per annum.
- b. Detritus less available than from Type I.
- c. Habitat for small animals and used for muskrat lodges.
- d. Effective erosion buffer.
- e. Flood water assimilation.

Type VI Cattail Community

- a. 2-4 tons per acre per annum.
- b. Habitat for birds and utilized by muskrats.
- c. Traps upland sediments.

Type VII Arrow Arum-Pickerel Weed Community

- a. 2-4 tons per acre per annum.
- b. Detritus readily available to marine environment.
- c. Seeds eaten by wood ducks.
- d. Susceptible to erosion from wave action and boat wakes, particularly in winter months.

Type VIII Reed Grass Community

- a. 4-6 tons per acre per annum.
- b. Little value to wildlife except for cover.
- c. Invades marshes and competes with more desirable species.
- d. Deters erosion on disturbed sites.

Type IX Yellow Pond Lily Community

- a. Less than 1 ton per acre per annum.
- b. Cover and attachment site for aquatic animals and algae.
- c. Feeding territory for fish.

Type X Saltwort Community

- a. Less than 0.5 ton per acre.
- b. Little value to aquatic or marsh animals.

Type XI Freshwater Mixed Community

- a. 3-5 tons per acre per annum.
- b. High diversity of wildlife.
- c. High diversity of wildlife foods.
- d. Often associated with fish spawning and nursery grounds.
- e. Ranks high as a sediment trap and flood deterrent.

Type XII Brackish Water Mixed Community

- a. 3-4 tons per acre per annum.
- b. Wide variety of wildlife foods and habitat.
- c. Deterrent to shoreline erosion.
- d. Serves as sediment trap and assimilates flood waters.
- e. Known spawning and nursery grounds for fish.

Evaluation of Wetland Types

(From Guidelines for Activities Affecting Virginia Wetlands)

For management purposes, the twelve types of wetlands identified above are grouped into five classifications based on the estimated total environmental value of an acre of each type.

Group One:

Saltmarsh Cordgrass (Type I)  
Arrow Arum-Pickerel Weed (Type VII)  
Freshwater Mixed (Type XI)  
Brackish Water Mixed (Type XII)

Group one marshes have the highest values in productivity and wildfowl and wildlife utility and are closely associated with fish spawning and nursery areas. They also have high values as erosion inhibitors, are important to the shellfish industry and valued as natural shoreline stabilizers.

Group One marshes should be preserved.

Group Two:                      Big Cordgrass (Type V)  
                                      Saltmeadow (Type II)  
                                      Cattail (Type VI)

Group Two marshes are of only slightly lesser value than Group One marshes. The major difference is that detritus produced in these marshes is less readily available to the marine environment due to higher elevations and consequently less tidal action to flush the detritus into adjacent waterways. Group Two marshes have very high values in protecting water quality and acting as buffers against coastal flooding. These marshes should also be preserved, but if development in wetlands is considered to be justified it would be better to alter Group Two marshes than Group One marshes.

Group Three:                      Yellow Pond Lily (Type IX)  
    Black Needlerush (Type III)

The two marshes in the Group Three category are quite dissimilar in properties. The Yellow Pond Lily marsh is not a significant contributor to the food web but it does have high values to wildlife and waterfowl. Black Needlerush has a high productivity factor but a low detritus availability value. Black Needlerush also has little wildlife value but it ranks high as an erosion flood buffer. Group Three marshes are important though their total values are less than Group One and Two marshes. If development in wetlands is considered necessary, it would be better to alter Group Three marshes than Groups one or Two.

Group Four:                      Saltbush (Type IV)

The saltbush community is valued primarily for the diversity and bird nesting area it adds to the marsh ecosystem. To a lesser extent it also acts as an erosion buffer. Group Four marshes should not be unnecessarily disturbed but it would be better to concentrate necessary development in these marshes rather than disturb any of the marshes in the preceding groups.

Group Five:                      Saltwort (Type X)  
    Reedgrass (Type VIII)

Based on present information Group Five marshes have few values of any significance. While Group Five marshes should not be unreasonably disturbed, it is preferable to develop in these marshes than in any other types.

For a better understanding of Virginia's Wetlands in general, the Wetlands Act of 1972 and marsh types and their evaluation, the following publications are highly recommended:

Coastal Wetlands of Virginia  
Interim Report No. 3  
Guidelines for Activities  
Affecting Virginia's Wetlands, SRAMSOE No. 46  
Gene M. Silberhorn, George M. Dawes,  
Thomas A. Barnard, Jr., June 1974  
Virginia Institute of Marine Science  
Gloucester Point, Virginia 23062

Local Management of Wetlands  
Environmental Considerations  
SRAMSOE No. 35  
Kenneth Marcellus, George Dawes,  
Gene Silberhorn, June 1973  
Virginia Institute of Marine Science  
Gloucester Point, Virginia 23062

Coastal Wetlands of Virginia Interim Report No. 2  
SRAMSOE No. 27  
Kenneth Marcellus, July 1972  
Virginia Institute of Marine Science  
Gloucester Point, Virginia 23062

Coastal Wetlands of Virginia Interim Report, SRAMSOE No. 10  
Marvin Wass and Thomas Wright, December 1969  
Virginia Institute of Marine Science  
Gloucester Point, Virginia 23062

Wetlands Guidelines  
Virginia Marine Resources Commission  
2401 West Avenue  
Newport News, Va. 23607

## MARSH PLANTS

### Abbreviations, Common Names and Scientific Names as Found in the Data Tables

Sa	Saltmarsh Cordgrass	<u>Spartina alterniflora</u> Loisel.
Jr	Black Needlerush	<u>Juncus roemerianus</u> Scheele.
Md	Saltgrass Meadow	Saltgrass <u>Distichlis spicata</u> (L.) Greene Saltmeadow Hay <u>Spartina patens</u> (Aiton) Muhl.
Sb	Saltbushes	Marsh Elder <u>Iva frutescens</u> L. Groundsel Tree <u>Baccharis halimifolia</u> L.
Sc	Big Cordgrass	<u>Spartina cynosuroides</u> (L.) Roth.
a	Saltmarsh Bulrush	<u>Scirpus robustus</u> Pursh.
b	Saltmarsh Fleabane	<u>Pluchea purpurascens</u> (Swartz) DC.
c	Saltmarsh Aster	<u>Aster tenuifolius</u> L.
d	Cattail	<u>Typha angustifolia</u> L. <u>Typha latifolia</u> L.
e	Marsh Hibiscus	<u>Hibiscus moscheutos</u> L.
f	Water Hemp	<u>Amaranthus cannabinus</u> (L.) J.D. Sauer
g	Switch Grass	<u>Panicum virgatum</u> L.
h	Foxtail Grass	<u>Setaria geniculata</u> (Lam.) Beauvois.
i	Arrow Arum	<u>Peltandra virginica</u> (L.) Kunth.
j	Pickerel Weed	<u>Pontederia cordata</u> L.
k	Reed Grass	<u>Phragmites australis</u>
l	Olney Threesquare	<u>Scirpus olneyi</u> Gray.
m	Marsh Mallow	<u>Kosteletskya virginica</u> (L.) Presl.

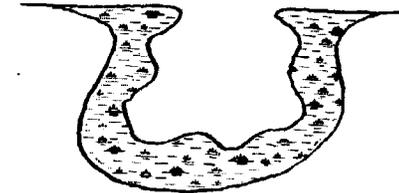
MARSH PLANTS (continued)

n	Saltmarsh Loosestrife	<u>Lythrum lineare</u> L.
o	Smartweed	<u>Polygonum</u> spp.
p	Wild Rice	<u>Zizania aquatica</u> L.
q	Sea Lavender	<u>Limonium carolinianum</u> (Walter) Britton.
r	Marsh Pink	<u>Sabatia stellaris</u> Pursh.
s	Saltwort	<u>Salicornia</u> spp.
t	Yellow Pond Lily	<u>Nuphar luteum</u> (L.) Sibthrop & Smith

## Glossary of Descriptive Terms

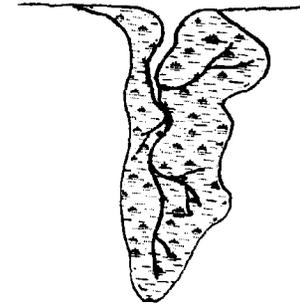
### cove marsh

a marsh contained within a concavity or recessed area on a shoreline; the marsh vegetation is usually found surrounding a central, open-water pond, and tidal flushing is permitted through an inlet.



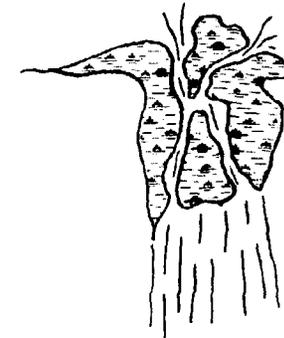
### creek or embayed marsh

a marsh occupying a drowned creek valley; in many large creek marshes the salinity decreases headward; this type of marsh may be divided for inventory purposes into sections if significant changes in the plant community occur along its length.



### delta marsh

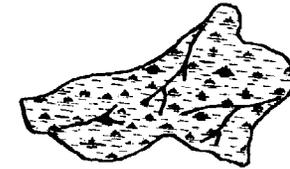
a marsh found growing on sediment deposited at the mouth of a tidal creek; tidal exchange through the creek mouth is usually restricted to narrow channels by the marsh.



Glossary of Descriptive Terms

marsh island

an isolated marsh surrounded on all sides by open water; interior portions of the marsh may contain trees scattered at highest elevations.



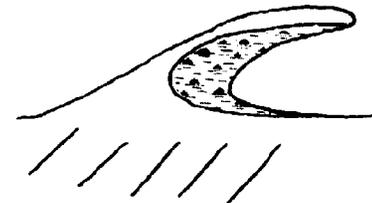
pocket marsh

a marsh contained within a small, essentially semi-circular area on a shoreline.



point or spit  
marsh

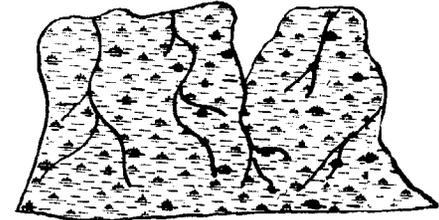
a marsh which extends from the uplands in the form of a point or spit; its development is usually influenced by tidal currents that form a sand berm behind which the marsh forms.



Glossary of Descriptive Terms

extensive marsh

a large marsh where the length and depth or width are roughly comparable; most extensive marshes are drained by many tidal channels and creeks which have little freshwater input.



fringe marsh

a marsh which borders along a section of shoreline and generally has a much greater length than width or depth.

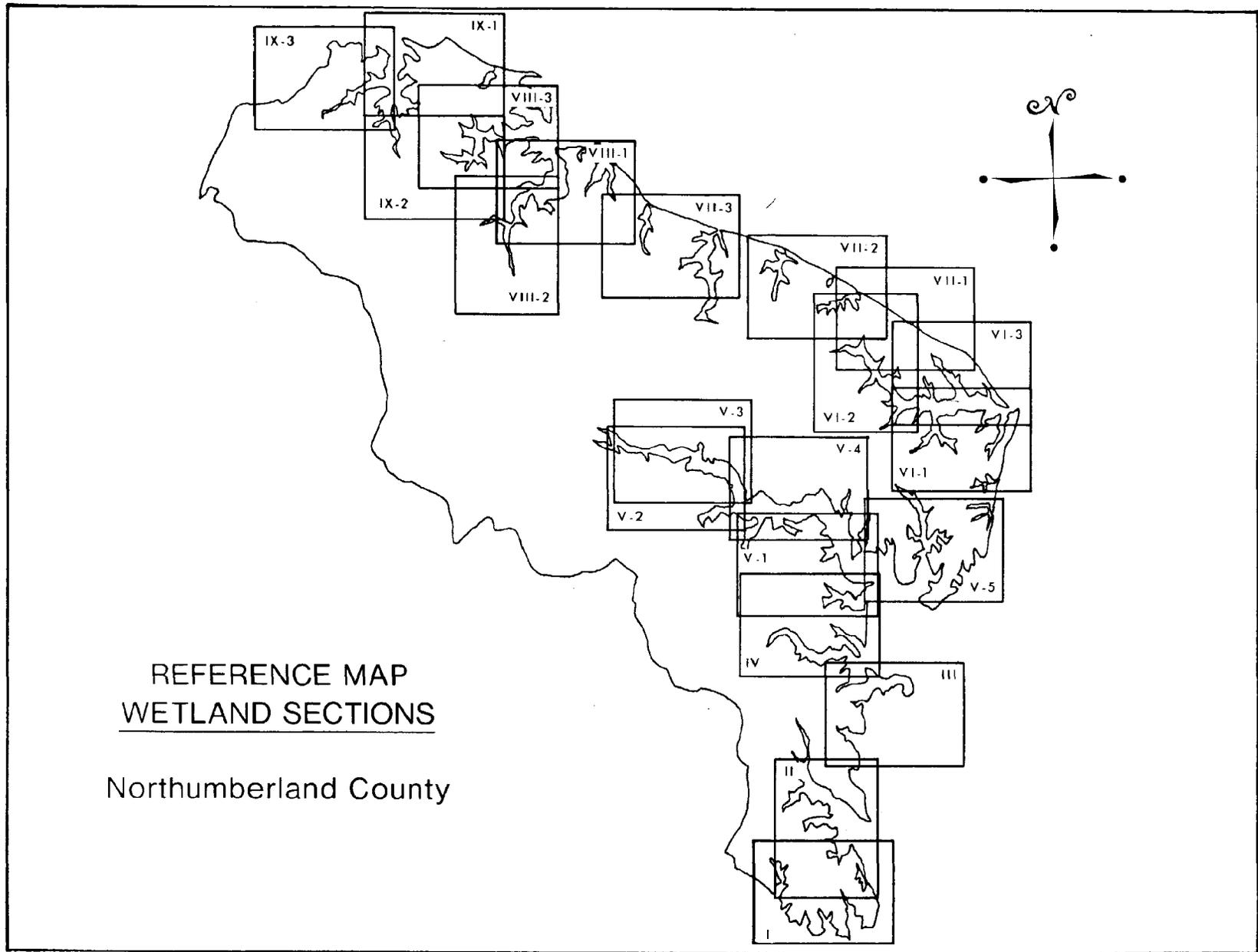


high marsh

the marsh surface is at an elevation of mean high water or above; it is usually inundated less than twice daily by tidal action.

low marsh

the marsh surface is at an elevation below mean high water; it is usually inundated twice daily by tidal action.



REFERENCE MAP  
WETLAND SECTIONS

Northumberland County

## Section I

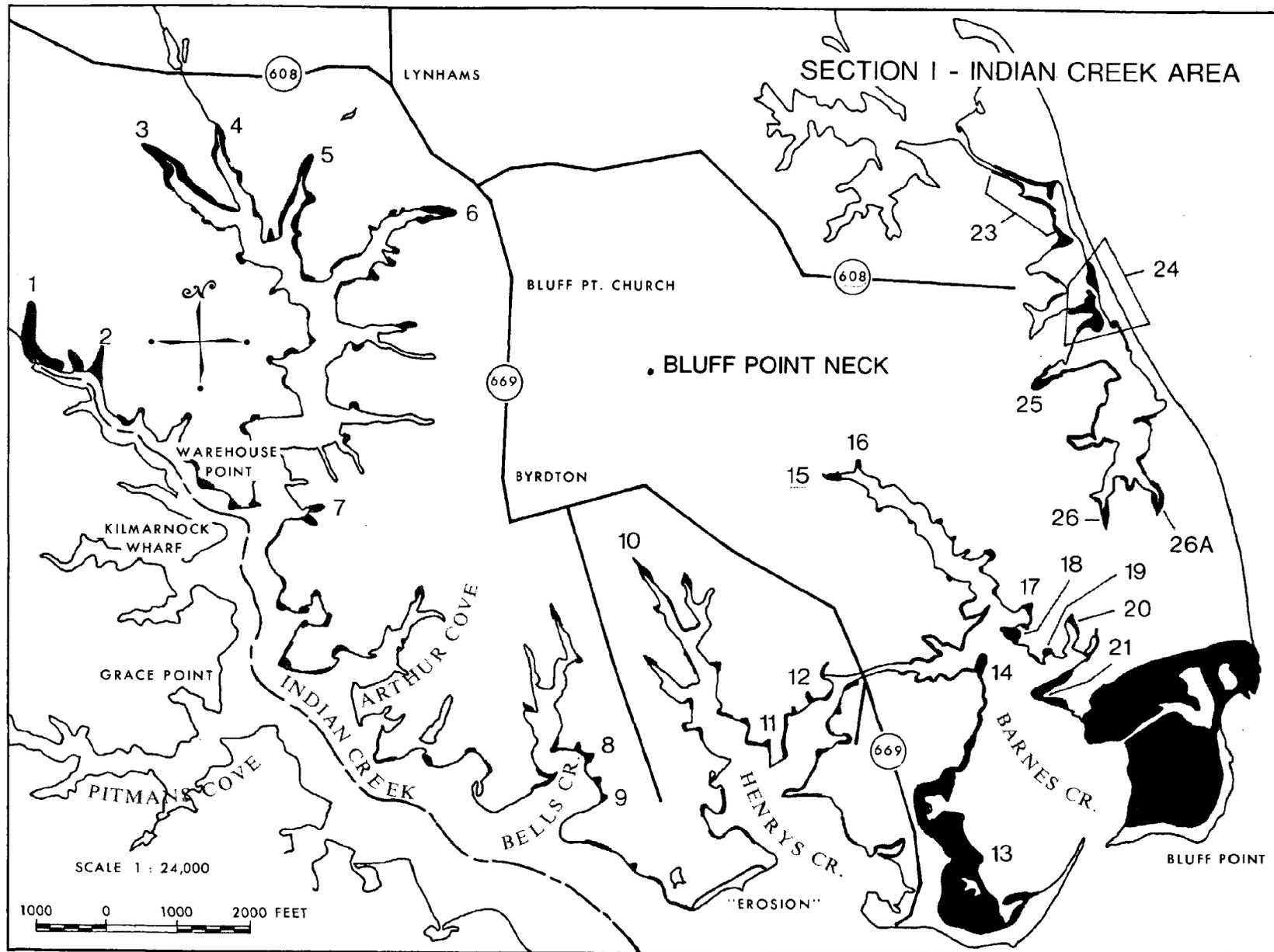
### Indian Creek Area

Indian Creek forms a natural boundary between Lancaster County and Northumberland County. The wetlands along Indian Creek in Lancaster County have been recorded in the Lancaster County Tidal Marsh Inventory, December 1973.

There are 143 acres of marshes in the Indian Creek area, ranging in size from .25 to 97.5 acres. Black Needlerush, Juncus roemarianus, is the dominant marsh plant in most of these marshes (109 acres). Many of the small marshes in the Indian Creek area are vegetated by Saltmarsh Cordgrass, Spartina alterniflora, highly valued as a contributor to the marine food web.

Most of the needlerush marshes are found in Barnes Creek. Here the substratum is mostly sand, a typical habitat for Juncus communities. Barnes Creek is a shallow water system, particularly near its relatively wide mouth. There is evidence that the mouth of Barnes Creek is in a constant state of flux. During the 1850's, the mouth was open and extended approximately 30 feet farther out towards Chesapeake Bay (U.S. Coast Survey 1852). During the 1940's, the mouth was closed off by spit formation (Fleets Bay Quadrangle, Topographic Manuscript U.S.G.S. 1944, Fleets Bay Quad. U.S.G.S. 1949). At the present time, the mouth is open, but the entrance between the two spits is quite shoal. The configuration and area of the two delta marshes at the mouth of Barnes Creek have fluctuated greatly in the last 120 years. The current trend is toward a general waning of the marshes in the area. Because of the shallow mouth, boat access into Barnes Creek is facilitated by a channel connecting it with Indian Creek via Henrys Creek.

The number of small pocket and cove marshes (1 acre or less) has decreased considerably in this area when comparing the maps mentioned above (U.S.G.S. 1944, 1949) with the more recent Fleets Bay Quadrangle (1968) in addition to our recent inventory (1947). The marsh loss was most likely caused by filling, channelization, damming for pond creation and from agricultural runoff.



Section I. Indian Creek Area.

#	PLACE NAME	ACRES	Sa		Jr		Md		Sb		Sc		OTHER ACRES	OBSERVATIONS	MARSH TYPE	
			%	ACRES	%	ACRES	%	ACRES	%	ACRES	%	ACRES				
1	Indian Creek	.5	40	.2			10		30	.15			d 20	.1	pocket marsh	XII
2	Indian Creek	.5	90	.45									d 10		pocket marsh	I
3	Indian Creek	2.5	15	.37			10	.25	60	1.5			d 15		pocket marsh	IV
4	Indian Creek	1	40	.4			20	.2	40	.4					pocket marsh	XII
5	Indian Creek	.25	30				40	.1	30						pocket marsh	XII
6	Indian Creek	2	10	.2			70	1.4	20						pocket marsh	II
7	Indian Creek	.25	80	.2					20						2 pocket marshes	I
8	Bell's Creek	.3	90	.27					5				d 5		pocket marsh	I
9	Bell's Creek	.25	90	.22			5		5						pocket marsh	I
10	Henry's Creek	.25	100	.25											pocket marsh	I
11	Henry's Creek	.25	80	.2			20								pocket marsh	I
12	Henry's Creek	.25	30				30						d 40	.1	pocket marsh	XII
13	Barnes Creek	28.5			60	17.1	30	8.5	10	2.8					g, severe erosion large spit marsh osprey nest	III
14	Barnes Creek	.75	10		80	.6	5		5						spit marsh	III

Sa = Saltmarsh Cordgrass  
 Jr = Black Needlerush  
 Md = Saltgrass Meadow  
 Sb = Saltbushes  
 Sc = Big Cordgrass

a = Saltmarsh Bulrush  
 b = Saltmarsh Fleabane  
 c = Saltmarsh Aster  
 d = Cattail  
 e = Marsh Hibiscus

f = Water Hemp  
 g = Switch Grass  
 h = Foxtail Grass  
 i = Arrow Arum  
 j = Pickerel Weed

k = Reed Grass  
 l = Olney Threesquare  
 m = Marsh Mallow  
 n = Saltmarsh Loosestrife  
 o = Smartweed

p = Wild Rice  
 q = Sea Lavender  
 r = Marsh Pink  
 s = Saltwort  
 t = Yellow Pond-lily

Section I. Indian Creek Area.

#	PLACE NAME	ACRES	Sa		Jr		Md		Sb		Sc		OTHER		OBSERVATIONS	MARSH TYPE
			%	ACRES	%	ACRES	%	ACRES	%	ACRES	%	ACRES	%	ACRES		
15	Barnes Creek	.3	10				80	.24					a		pocket marsh	II
16	Barnes Creek	.25	10				80	.2					a		pocket marsh	II
17	Barnes Creek	.3	25		70	.21			5						cove marsh	III
18	Barnes Creek	.25	30		50	.12	10		10						point marsh	III
19	Barnes Creek	.25	10		90	.22									cove marsh	III
20	Barnes Creek	.25	30				30		10				a		cove marsh	XII
21	Barnes Creek	2.5	15	.37	80	2			5	.12					point marsh	III
22	Barnes Creek	97.5	5	4.9	90	87.8	5	4.9							sb, g, large spit marsh	III
23	Near Jarvis Cr.	1			20	.2	20	.2	60	.6					point marsh	IV
24	Near Jarvis Cr.	1.5	10	.15	60	.9	20	.3	10	.15					fringing marsh	III
25	Near Jarvis Cr.	.5	100	.5											pocket marsh	I
26	Near Jarvis Cr.	1	100	1											pocket marsh	I
26a	Near Jarvis Cr.	.3	100	.3											pocket marsh	I
	Total Section I	143.4		10.0		109.1		16.3		5.7				.2		

Sa = Saltmarsh Cordgrass  
 Jr = Black Needlerush  
 Md = Saltgrass Meadow  
 Sb = Saltbushes  
 Sc = Big Cordgrass

a = Saltmarsh Bulrush  
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## Section II

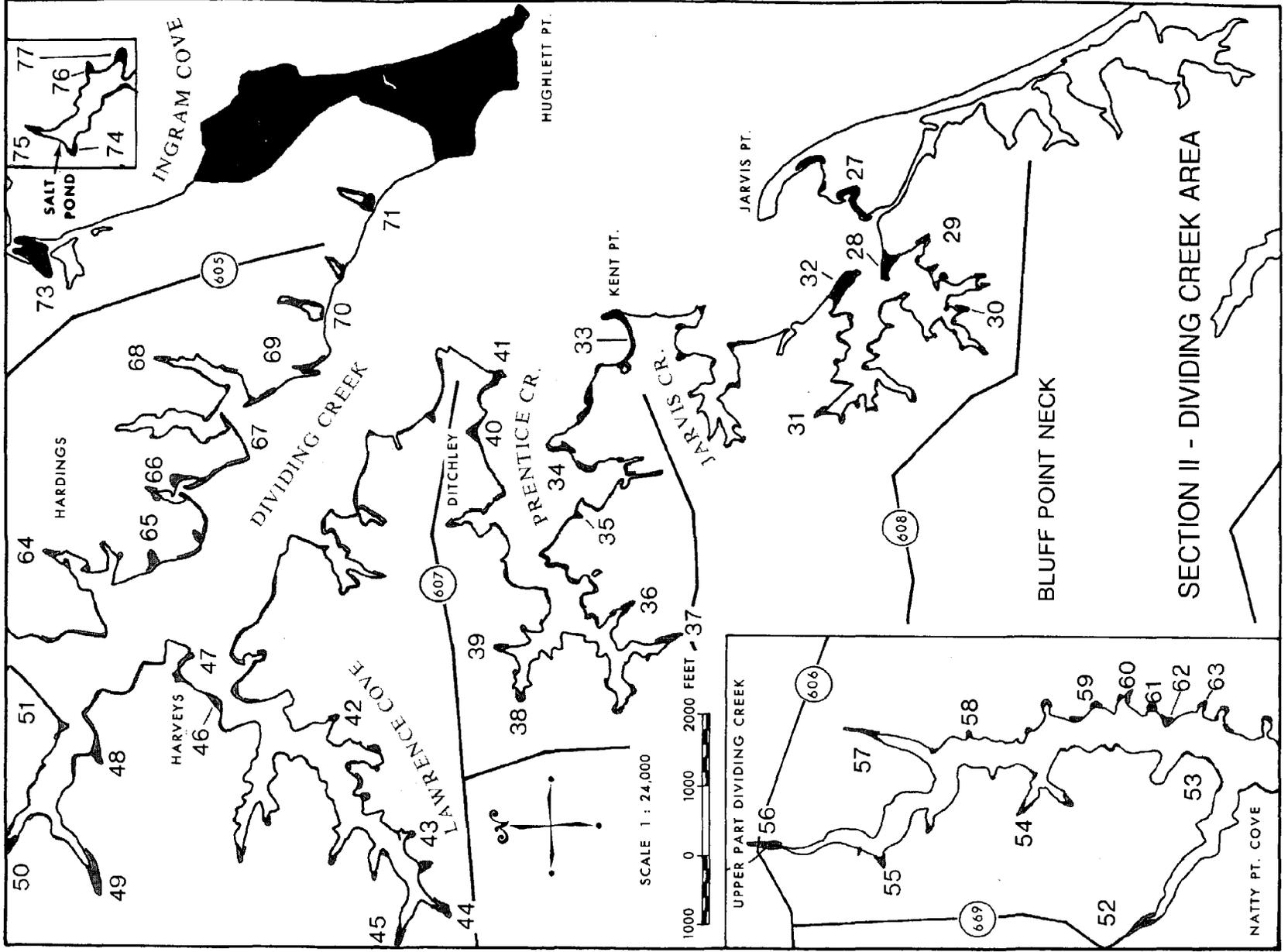
### Dividing Creek - Ingram Creek Area

The marshes of Dividing Creek are characteristically cove, pocket, fringing or spit marshes, usually less than one acre in size. The largest in the area is the Hughlett Point Marsh (No. 72) of approximately 85 acres. The marsh is almost entirely surrounded by a sand berm with only one or two tidal openings. The predominant vegetation in this marsh is Black Needlerush and Saltgrass Meadow Communities (Saltgrass Distichlis spicata - Saltmeadow Hay Spartina patens).

As in the case of Indian Creek, a number of small marshes in the Dividing Creek area have been altered by man's activities in order to gain water access. Spoil areas and dredged boat slips were frequently noted in Prentice and Jarvis Creeks.

According to earlier topographic maps (U.S.G.S. Fleets Bay 1944, 1949), a rather large marsh existed between Jarvis Creek and Kent Point. At the present time, there is no evidence of a wetland area of this magnitude in this area, except for a narrow fringing marsh (No. 33) on the northern extremity at the mouth of Prentice Creek.

Although a number of small marshes have been eradicated, several have expanded or have developed completely because of sedimentation over the last 30 years. Natural marsh creation or growth is reflected in the following marshes: Nos. 30, 32, 42, 43, 45, 49, 66, and 69.



Section II. Dividing Creek

#	PLACE NAME	ACRES	Sa		Jr		Md		Sb		Sc		OTHER		OBSERVATIONS	MARSH TYPE
			%	ACRES	%	ACRES	%	ACRES	%	ACRES	%	ACRES	%	ACRES		
27	Jarvis Creek	.5	40	.2	10		40	.2	10						cove marsh	XII
28	Jarvis Creek	.3	20	.12			50	.15	30						spit marsh	II
29	Jarvis Creek	.3	40	.12			30	.1	10				d 20		pocket marsh	XII
30	Jarvis Creek	.3	40	.12			50	.15	10						cove marsh	II
31	Jarvis Creek	.25	100	.25											pocket marsh	I
32	Jarvis Creek	.3	20		40	.12	20		20						spit marsh	XII
33	Kent Point	.5	40	.2			40	.2	20						fringing marsh	XII
34	Prentice Creek	.5	30	.15	30	.15	20	.1	20						spit and cove marsh	XII
35	Prentice Creek	.25			30		40	.1					d 30		g, cove marsh	XII
36	Prentice Creek	.25	90	.22					10						cove marsh	I
37	Prentice Creek	.25	70	.17									d 30		pocket marsh	I
38	Prentice Creek	.25	100	.2											spoil on marsh	I
39	Prentice Creek	.25	90	.22									d 10		pocket marsh	I
40	Prentice Creek	.25	90	.22					10						pocket marsh	I

Sa = Saltmarsh Cordgrass  
 Jr = Black Needlerush  
 Md = Saltgrass Meadow  
 Sb = Saltbushes  
 Sc = Big Cordgrass

a = Saltmarsh Bulrush  
 b = Saltmarsh Fleabane  
 c = Saltmarsh Aster  
 d = Cattail  
 e = Marsh Hibiscus

f = Water Hemp  
 g = Switch Grass  
 h = Foxtail Grass  
 i = Arrow Arum  
 j = Pickerel Weed

k = Reed Grass  
 l = Olney Threesquare  
 m = Marsh Mallow  
 n = Saltmarsh Loosestrife  
 o = Smartweed

p = Wild Rice  
 q = Sea Lavender  
 r = Marsh Pink  
 s = Saltwort  
 t = Yellow Pond-lily

Section II. Dividing Creek

#	PLACE NAME	ACRES	Sa		Jr		Md		Sb		Sc		OTHER		OBSERVATIONS	MARSH TYPE
			%	ACRES	%	ACRES										
41	Prentice Creek	.25	40	.1			20		40						spit marsh	XII
42	Lawrence Cove	.3	70	.21			10		20						pocket marsh	I
43	Lawrence Cove	.25	70	.17								d 30		pocket marsh	I	
44	Lawrence Cove	2.5	40	1			30	.75	30	.75				pocket marsh	XII	
45	Lawrence Cove	3	30	.9			25	.75	25	.75		d 20		pocket marsh	XII	
46	Lawrence Cove	.25	10				60	.15	30					g, fringing marsh	II	
47	Lawrence Cove	.25	70	.17			20		10					fringing marsh	I	
48	Dividing Creek	.5	40	.2			40	.2	20					pocket marsh	XII	
49	Dividing Creek	1.5	70	1.0			10	.15	20	.3				pocket marsh	I	
50	Dividing Creek	2.5	70	1.7					20	.5		e 10	.25	pocket marsh	I	
51	Dividing Creek	.5	10				70	.35	20	.1				fringing marsh	II	
52	Natty Pt. Cove	2	70	1.4								d 30	.6	pocket marsh	I	
53	Dividing Creek	.25	20		30		30		20					fringing marsh	XII	
54	Dividing Creek	.5	70	.35					20	.1		d 10		pocket marsh	I	

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Section II. Dividing Creek

#	PLACE NAME	ACRES	Sa		Jr		Md		Sb		Sc		OTHER ACRES	OBSERVATIONS	MARSH TYPE
			%	ACRES	%	ACRES	%	ACRES	%	ACRES	%	ACRES			
55	Dividing Creek	1	10	.1			30	.3	60	.6				pocket marsh	IV
56	Dividing Creek	2.6	10	.26			30	.8	60	1.56				pocket marsh	IV
57	Dividing Creek	.5	50	.25			20	.1	30					pocket marsh	I
58	Dividing Creek	.25	20				60	.15	20					pocket marsh	II
59	Dividing Creek	.25	10				60	.15	30					pocket marsh	II
60	Dividing Creek	.25	30				40	.1	30					2 pocket marshes	XII
61	Dividing Creek	.25	20		30		20		30					cove marsh	XII
62	Dividing Creek	.5	5		10		70	.35	15					spit marsh	II
63	Dividing Creek	.25	70	.17					10			d 20		cove marsh	I
64	Dividing Creek	.5	70	.35								d 30	.15	pocket marsh	I
65	Dividing Creek	.25	10		60	.15	20		10					pocket marsh	III
66	Dividing Creek	.5	40	.2			40	.2	10			g 10		cove marsh	XII
67	Dividing Creek	.6	100	.6										fringing marsh	I
68	Dividing Creek	.25	100	.25										pocket marsh	I

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Section II. Dividing Creek -

#	PLACE NAME	ACRES	Sa		Jr		Md		Sb		Sc		OTHER		OBSERVATIONS	MARSH TYPE
			%	ACRES	%	ACRES										
69	Dividing Creek	.5	10		30	.15	40	.25	20	.1					pocket marsh	XII
70	Dividing Creek	1.5					90	1.35	10	.15					cove marsh	II
71	Dividing Creek	.75	20	.15	70	.52			10						cove marsh	III
72	Hughlett Point	85			50	42.5	40	34					a,d,sb 10	8.5	small ponds	III
73	Salt Pond	5	70	3.5	20	1			10	.5					cove marsh	I
74	Salt Pond	.25	80	.2					20						pocket marsh	I
75	Salt Pond	.3	80	.24			10		10						pocket marsh	I
76	Salt Pond	1	80	.80					20	.2					pocket marsh	I
77	Salt Pond	1.5	70	1.0			20	.3	10	.2					cove marsh	I
	Total Section II	122.7		17.45		44.6		41.4		5.75				9.5		

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### Section III

#### Dameron Marsh Area

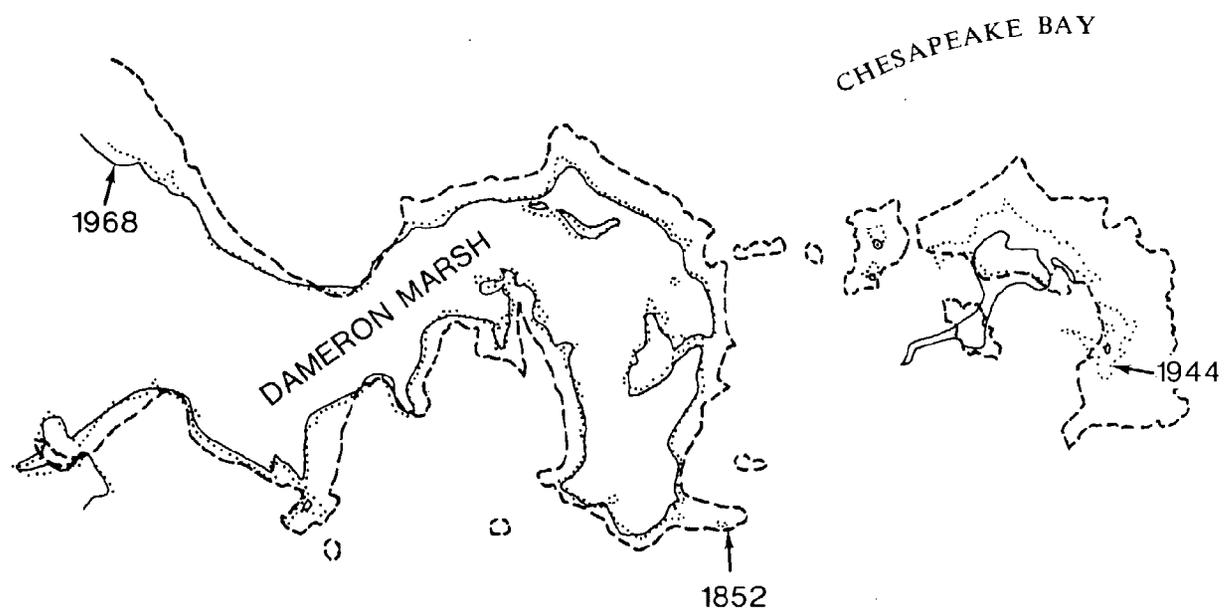
The largest single marsh in Northumberland County, Dameron Marsh (No. 109), extends for over a mile into Chesapeake Bay. This low hooked-shaped peninsula contains about 157 acres of marsh. The marsh is mostly vegetated with Black Needlerush, although there are large expanses of Saltgrass Meadow towards the bayward end of the peninsula.

Over 120 years ago, Dameron Marsh, including outlying marsh islands, was much larger with approximately 340 acres, more than twice the present acreage (U.S. Coast Survey 1852). In 1944, the estimated marsh area was 184 acres (Manuscript U.S.G.S. 1944). Subsequent erosion and a gradual rise in sea level have reduced this wetland area drastically (figure 1.). Most of the loss has been suffered by the outlying islands. The islands are now only about one-tenth the size that they were in 1852. According to our field observation (July 1974), the outlying islands have been substantially reduced since 1968 (U.S.G.S. Reedville Quadrangle). Our present estimation of acreage takes this into account.

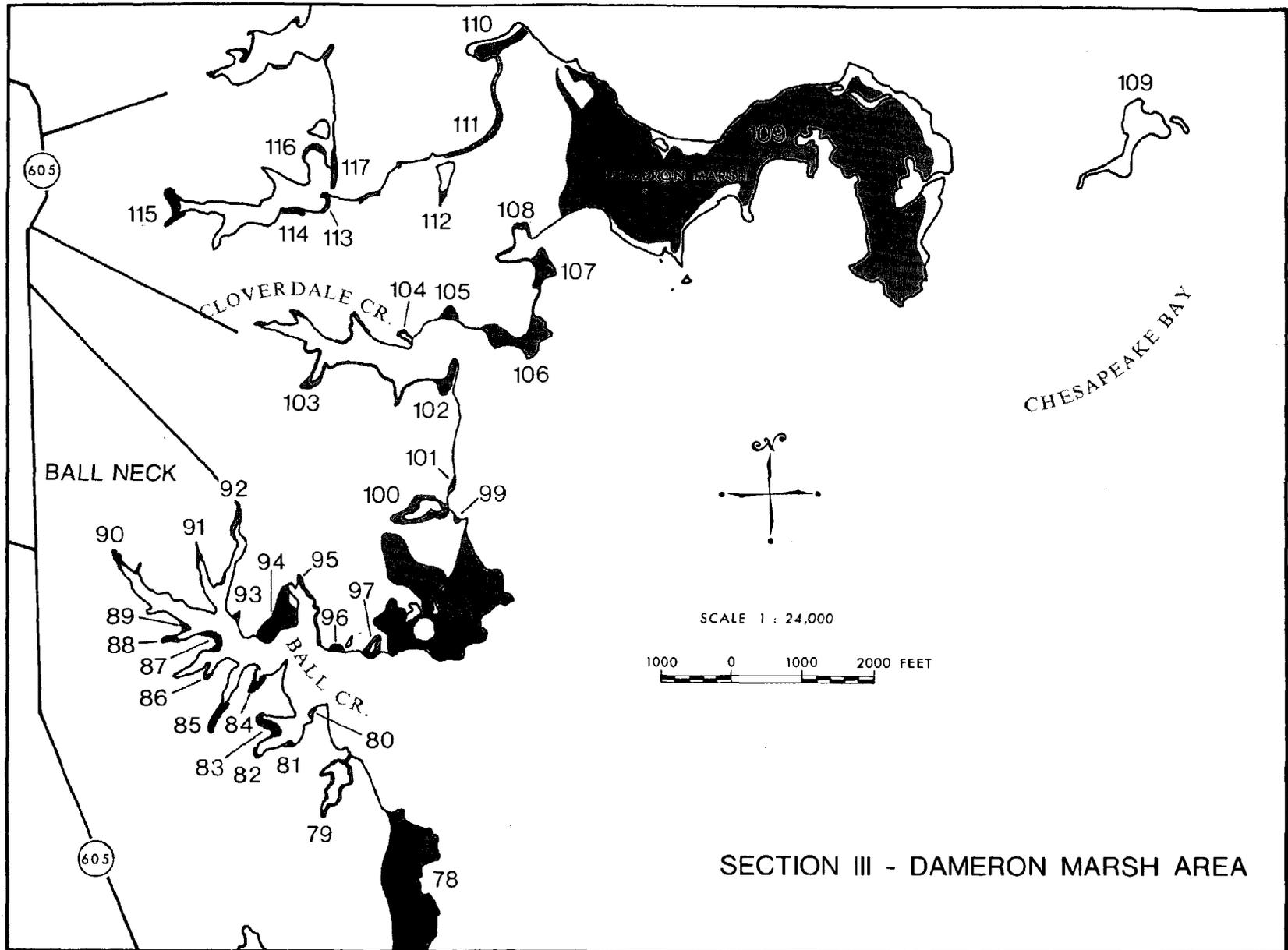
Other marshes of notable size are No. 78 (32 acres) and No. 98 (41.4 acres). These two wetland areas are dominated by high marsh, Saltgrass Meadow Communities which are flushed only by spring and storm tides. In some areas, both marshes are suffering from erosion along the margins, thereby reducing stands of fringing Saltmarsh Cordgrass.

DAMERON MARSH  
1852-1944-1968

FIGURE 1



Scale 1:20,000



Section III. Dameron Marsh Area.

#	PLACE NAME	ACRES	Sa		Jr		Md		Sb		Sc		OTHER		OBSERVATIONS	MARSH TYPE
			%	ACRES	%	ACRES	%	ACRES	%	ACRES	%	ACRES	%	ACRES		
78	Near Salt Pond	32	5	1.6	15	4.8	50	16	20	6.4			d,e 10	3.2	extensive marsh	II
79	Ball Creek	1	60	.6	5		20	.2	15	.15					cove marsh	I
80	Ball Creek	.25	60	.15	40	.1									point marsh	I
81	Ball Creek	.25	40	.1			40	.1	20						point marsh	XII
82	Ball Creek	.5	90	.45					10						pocket marsh	I
83	Ball Creek	.75	10		50	.37	30	.22	10						point marsh	III
84	Ball Creek	1.2	5				95	1.1							cove marsh	II
85	Ball Creek	1	90	.9			5		5						pocket marsh	I
86	Ball Creek	1	30	.3	50	.5	20	.2							cove marsh	III
87	Ball Creek	.75					70	.52	30	.22					fringing marsh	II
88	Ball Creek	.25					80	.2	10				k 10		pocket marsh	II
89	Ball Creek	.25					70	.17	30						spit marsh	II
90	Ball Creek	.5	80	.4			20	.1							pocket marsh	I
91	Ball Creek	.3	100	.3											pocket marsh	I

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 r = Marsh Pink  
 s = Saltwort  
 t = Yellow Pond-lily

Section III. Dameron Marsh Area.

#	PLACE NAME	ACRES	Sa		Jr		Md		Sb		Sc		OTHER		OBSERVATIONS	MARSH TYPE
			%	ACRES	%	ACRES										
92	Ball Creek	.75	90	.67			10								pocket marsh	I
93	Ball Creek	.25	10				70	.17	20						pocket marsh	II
94	Ball Creek	7.4	10	.74			40	2.94	50	3.7					pocket marsh	IV
95	Ball Creek	.25	15				80	.2	5						pocket marsh	II
96	Ball Creek	1.5	5				60	.9	35	.52					pocket marsh	II
97	Ball Creek	1.5			40	.6	50	.75					d 10	.15	pocket marsh	II
98	Chesapeake Bay	41.4	10	4.14	5	2	80	33.1							sc, extensive marsh	II
99	Chesapeake Bay	.25					80	.2	15				a 5		pocket marsh	II
100	Chesapeake Bay	2			10	.2	80	1.6	5	.1	5	.1			cove marsh	II
101	Chesapeake Bay	.5	15		40	.2	40	.2			5				fringing marsh	XII
102	Cloverdale Creek	1.2			10	.12	65	.78	20	.24	5				spit marsh	II
103	Cloverdale Creek	.5	30	.15			50	.25	20	.1					pocket marsh	II
104	Cloverdale Creek	.5	40	.2			60	.3							g, cove marsh	II
105	Cloverdale Creek	.5					80	.4	20	.1					g, pocket marsh	II

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Section III. Dameron Marsh Area.

#	PLACE NAME	ACRES	Sa		Jr		Md		Sb		Sc		OTHER		OBSERVATIONS	MARSH TYPE
			%	ACRES	%	ACRES	%	ACRES	%	ACRES	%	ACRES	%	ACRES		
106	Cloverdale Creek	6.4	20	1.0			30	1.92	50	3.2					point marsh	IV
107	Near Dameron Marsh	3.7	10	.37	30	1.11	40	1.48	20	.74					point marsh	XII
108	Near Dameron Marsh	.25	50	.12			30		20						cove marsh	I
109	Dameron Marsh	157	10	15.7	50	78.5	35	54.95	5	7.85					extensive marsh	III
110	Mill Creek Area	2	20	.4	50	1	30	.6							spit marsh	III
111	Mill Creek Area	1.11	20	.22	20	.22	50	.5	10	.11					fringing marsh	II
112	Mill Creek Area	1	20	.2	10	.1	60	.6	10	.1					cove marsh	II
113	Mill Creek Area	.25	10				80	.2	10						spit marsh	II
114	Mill Creek Area	.25	10				90	.22							fringing marsh	II
115	Mill Creek Area	.5	100	.5											2 pocket marshes	I
116	Mill Creek Area	.75	10		30	.22	30	.22	30	.22					cove marsh	XII
117	Mill Creek Area	.5			20	.1	80	.4							spit marsh	II
	Total Section III	272.2		29.21		90.14		121.69		23.75		.1		3.35		

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## Section IV

### Mill Creek Area

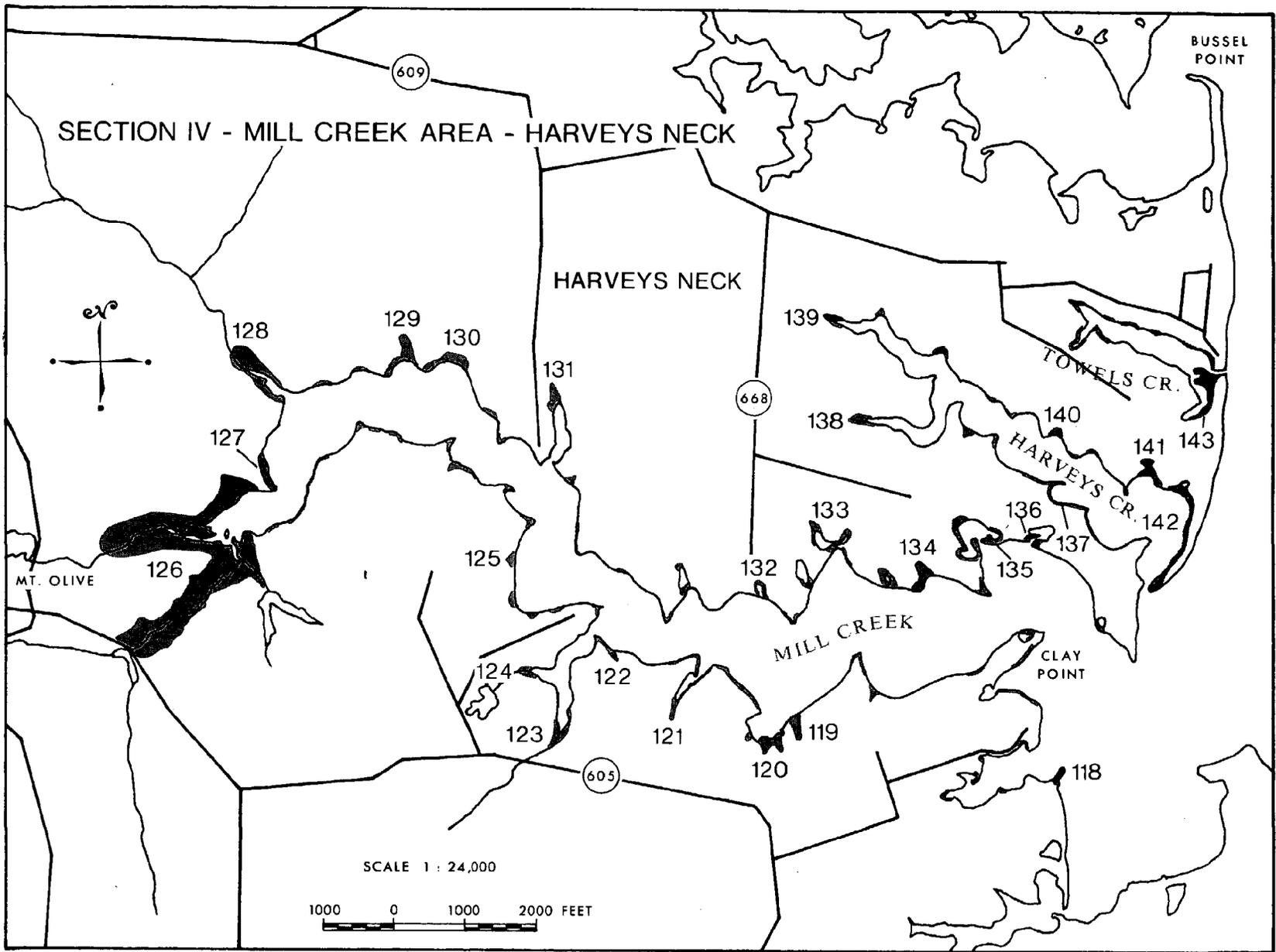
This section includes three creeks of the Harveys Neck Area; Mill Creek, which is the longest, Harveys Creek and Towles Creek. Most of the marshes in this area are small, less than one acre in size. However, there are two marshes located at the upper end of Mill Creek, marsh No. 126 with 33 acres and marsh No. 128, 13 acres. Vegetatively, the two marshes are nearly identical and are judged to be Mixed Brackish Water Types (XII), although the most common marsh plant found here is Big Cordgrass Spartina cynosuroides.

Big Cordgrass is a highly productive plant, yielding as much as 6 tons of organic material per acre annually. Among the marsh grasses, it is rivaled only by Saltmarsh Cordgrass in net productivity.

Nearly half of the marshes in this section are Type I marshes, dominated by Saltmarsh Cordgrass. Marshes of this type are nearly always intertidal and detritus flux is at a high level.

The most common associated plants in these marshes are Narrow-leaved Cattails, Typha angustifolia and Marsh Hibiscus, Hibiscus moscheutos. These species occur in the less saline parts of the marsh, usually where there is freshwater seepage along the upland margin.

Indications are that the marshes in this area have not been stressed by human activities in the last thirty years. However, the mouth of Towles Creek has been dredged and jettys installed in recent years. The wetlands at the mouth of the Creek were most likely affected by these activities.



Section IV. Mill Creek Area (Harveys Neck).

#	PLACE NAME	ACRES	Sa		Jr		Md		Sb		Sc		OTHER		OBSERVATIONS	MARSH TYPE
			%	ACRES	%	ACRES	%	ACRES	%	ACRES	%	ACRES	%	ACRES		
118	Mill Creek	.25	20				70	.17	10						spit marsh	II
119	Mill Creek	.25	80	.2			5		5				e 10		pocket marsh	I
120	Mill Creek	.5	40	.2			30	.15					d 30	.15	pocket marsh	XII
121	Mill Creek	.25	100	.25											pocket marsh	I
122	Mill Creek	.25					30		20		20		d 30		pocket marsh	XII
123	Mill Creek	.5	70	.35									e 30	.15	pocket marsh	I
124	Mill Creek	.25	70	.17			15	.10					e 15		pocket marsh	I
125	Mill Creek	.25	50	.12			10		10				e 30		pocket marsh	I
126	Mill Creek	.33	30	1							40	13.2	d,e 30	1	extensive f. pocket marshes	XII
127	Mill Creek	.5	30	.15					10		60	.3			fringing marsh	V
128	Mill Creek	.13	25	3.2					5	.65	40	5.2	d 30	1	pocket marsh	XII
129	Mill Creek	.3	30						10		60	.18			pocket marsh	V
130	Mill Creek	.25	40	.1					20		40	.1			fringing marsh	XII
131	Mill Creek	.5	80	.4									e 20	1	pocket marsh	I

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 n = Saltmarsh Loosestrife  
 o = Smartweed

p = Wild Rice  
 q = Sea Lavender  
 r = Marsh Pink  
 s = Saltwort  
 t = Yellow Pond-lily

Section IV. Mill Creek Area (Harveys Neck).

#	PLACE NAME	ACRES	Sa		Jr		Md		Sb		Sc		OTHER		OBSERVATIONS	MARSH TYPE	
			%	ACRES	%	ACRES											
132	Mill Creek	.25	70	.17			20						d	10	cove marsh	I	
133	Mill Creek	.75	30	.22	30	.22	10		10				d,e	20	.15	cove marsh	XII
134	Mill Creek	.3	10		80	.24			5				a	5		pocket marsh	III
135	Mill Creek	.5	5	.25	80	.4	5		10							cove marsh	III
136	Mill Creek	.3	40	.12	10			30		20						cove marsh	XII
137	Harveys Creek	.25	80	.2	20											fringing marsh	I
138	Harveys Creek	.75	70	.52	10				20	.15						pocket marsh	I
139	Harveys Creek	.5	80	.4									d	20	.1	pocket marsh	I
140	Harveys Creek	.25			90	.22			10							pocket marsh	III
141	Harveys Creek	.3	85	.26	5				10							pocket marsh	I
142	Harveys Creek	.3	20		50	.15	10		20							spit marsh	III
143	Towles Creek	.5	90	.45	10											cove marsh	I
	Total Section IV	55.0		17.7		1.24		.43		.8		19.0		14.45			

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## Section V

### Great Wicomico River

This large, natural system is subdivided into five parts:

- Part 1: Mouth and Southwestern Shoreline
- Part 2: Upper Part and Southern Shoreline
- Part 3: Upper Part and Northern Shoreline
- Part 4: Middle Part and Northern Shoreline
- Part 5: Mouth and Cockrell Creek

There are 113 marshes, totalling 227 acres in this section which includes Cranes Creek and Cockrell Creek, both near the mouth of the Great Wicomico River. A majority of these marshes are only a fraction of an acre in size. The largest marshes in this Section are located in the upper reaches of the Great Wicomico River and in upper tributary streams such as Bulls Creek and Bush Mill Stream.

Although most of the marshes in this section are quite small, they should not be discounted. According to studies made at VIMS, these small marshes, especially cove and pocket marshes, support very large minnow and juvenile fish populations. During the nursery season, as many as 20,000 juvenile spot will utilize a tidal marsh cove daily.

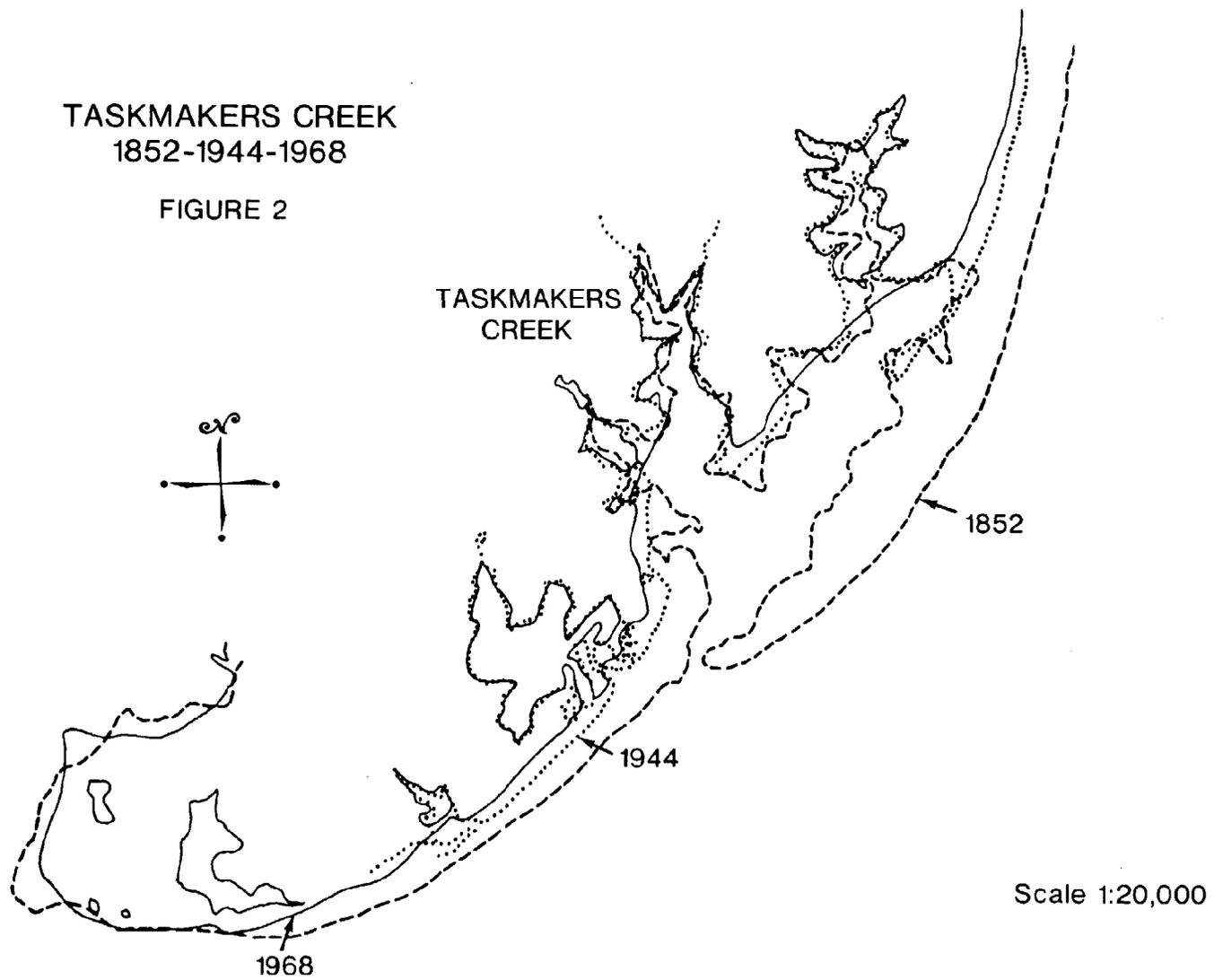
Much of the shoreline in the Great Wicomico River has suffered erosion. This is particularly the case in the Bull Neck area, at the mouth of the Great Wicomico River. In 1852, Taskmakers Creek was a branched creek system protected by a sand spit nearly 2000 feet long and up to 300 feet wide (figure 2). During a hurricane in 1933, the spit was nearly completely destroyed, reducing the creek to two coves, which were exposed to Chesapeake Bay.

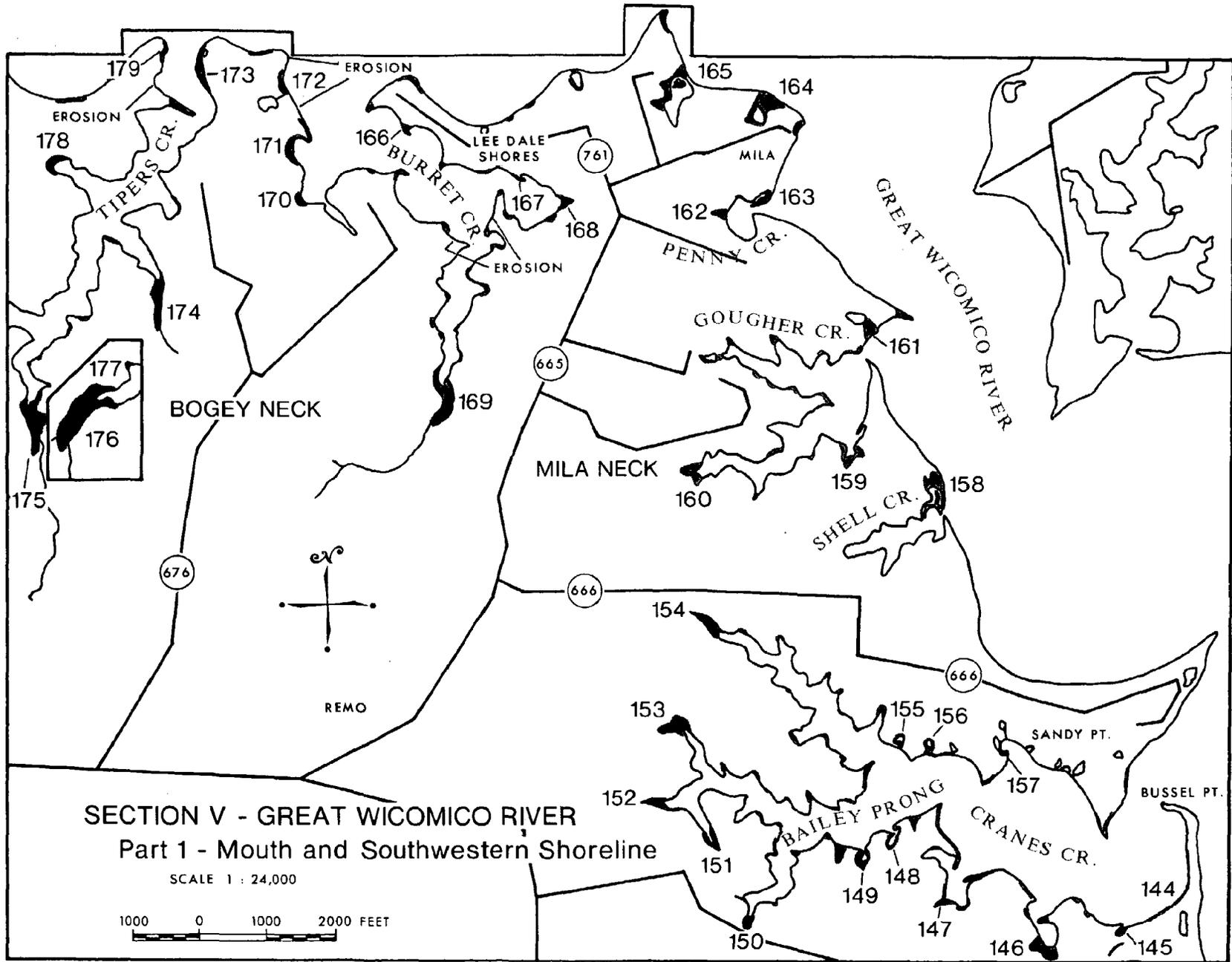
In the 1940's, only a rudiment of the former spit was left at the mouth of the northern most branch of the former Taskmakers Creek, then known as Taskmers Creek. Since the 1940's, the spit has completely closed off the northern branch (Taskmers Creek) and the body of water now is a non-tidal pond.

It should be stressed that the fringing marshes in this section, however small, are effective deterrents to wave action. Although fringing marshes are not expected to be a barrier to high energy waves, they do dissipate such erosive forces as boat wakes and tidal currents.

TASKMAKERS CREEK  
1852-1944-1968

FIGURE 2





Section V. Great Wicomico River. Part 1. Mouth and Southwestern Shoreline

#	PLACE NAME	ACRES	Sa		Jr		Md		Sb		Sc		OTHER ACRES	OBSERVATIONS	MARSH TYPE
			%	ACRES											
144	Cranes Creek	.5	5		70	.35	15		10					fringing marsh	III
145	Cranes Creek	.25	40	.1	30		20		10					cove marsh	XII
146	Cranes Creek	.5	15		70	.35	10		5					cove marsh	III
147	Cranes Creek	.25	80	.2	10							e 10		cove marsh	I
148	Cranes Creek	.3	5		90	.27			5					cove marsh	III
149	Cranes Creek	.25	30		40	.1						d 30		cove marsh	XII
150	Cranes Creek	.25	60	.15					40	.1				pocket marsh	I
151	Cranes Creek	.25	10				40	.1	40	.1			d 10	pocket marsh	XII
152	Cranes Creek	.5	90	.45									d,e 10	pocket marsh	I
153	Cranes Creek	.75	80	.6	15	.11	5							pocket marsh	I
154	Cranes Creek	.25	90	.22					10					pocket marsh	I
155	Cranes Creek	.5	15		70	.35	10		5					cove marsh	III
156	Cranes Creek	.8	10		80	.64			10					cove marsh	III
157	Cranes Creek	.25	5		90	.22			5					spit marsh	III

Sa = Saltmarsh Cordgrass  
 Jr = Black Needlerush  
 Md = Saltgrass Meadow  
 Sb = Saltbushes  
 Sc = Big Cordgrass

a = Saltmarsh Bulrush  
 b = Saltmarsh Fleabane  
 c = Saltmarsh Aster  
 d = Cattail  
 e = Marsh Hibiscus

f = Water Hemp  
 g = Switch Grass  
 h = Foxtail Grass  
 i = Arrow Arum  
 j = Pickering Weed

k = Reed Grass  
 l = Olney Threesquare  
 m = Marsh Mallow  
 n = Saltmarsh Loosestrife  
 o = Smartweed

p = Wild Rice  
 q = Sea Lavender  
 r = Marsh Pink  
 s = Saltwort  
 t = Yellow Pond-lily

Section V. Great Wicomico River. Part 1. Mouth and Southwestern Shoreline

#	PLACE NAME	ACRES	Sa		Jr		Md		Sb		Sc		OTHER		OBSERVATIONS	MARSH TYPE		
			%	ACRES	%	ACRES												
158	Shell Creek	1.5	10	.15	80	1.2	5		5						spit and cove marsh	III		
159	Gougher Creek	.5	10		70	.35			10				e 10		cove marsh	III		
160	Gougher Creek	.5	90	.45									g 10		pocket marsh	I		
161	Gougher Creek	.5	35	.17	60	.3			5						cove marsh	III		
162	Penny Creek	.5	30	.15			20	.1					d 30	e 20	.15	.1	pocket marsh	XII
163	Penny Creek	.25	40	.1			40	.1	20								spit marsh	XII
164	Great Wicomico River	.8			80	.64	10		10								cove marsh sand berm	III
165	Great Wicomico River	.5			90	.45	5		5								cove marsh sand berm	III
166	Barrett Creek	.25			80	.2	5		15								spit marsh, osprey	III
167	Barrett Creek	.25	50	.12	10				10				d 30				spit marsh	I
168	Barrett Creek	.25	20		40	.1	30		10								pocket marsh	XII
169	Barrett Creek	2	60	1.2			20	.8					d 20		.8		pocket marsh	I
170	Barrett Creek	.25	20		60	.15			20								pocket marsh	III
171	Barrett Creek	.25	5		80	.2	10		5								fringing marsh	III

Sa = Saltmarsh Cordgrass  
 Jr = Black Needlerush  
 Md = Saltgrass Meadow  
 Sb = Saltbushes  
 Sc = Big Cordgrass

a = Saltmarsh Bulrush  
 b = Saltmarsh Fleabane  
 c = Saltmarsh Aster  
 d = Cattail  
 e = Marsh Hibiscus

f = Water Hemp  
 g = Switch Grass  
 h = Foxtail Grass  
 i = Arrow Arum  
 j = Pickerel Weed

k = Reed Grass  
 l = Olney Threesquare  
 m = Marsh Mallow  
 n = Saltmarsh Loosestrife  
 o = Smartweed

p = Wild Rice  
 q = Sea Lavender  
 r = Marsh Pink  
 s = Saltwort  
 t = Yellow Pond-lily

Section V. Great Wicomico River. Part 1. Mouth and Southwestern Shoreline

#	PLACE NAME	ACRES	Sa		Jr		Md		Sb		Sc		OTHER		OBSERVATIONS	MARSH TYPE
			%	ACRES	%	ACRES	%	ACRES	%	ACRES	%	ACRES	%	ACRES		
172	Barrett Creek	.75	5		80	.6			10				g 5		fringing marsh	III
173	Tipers Creek	.75			90	.67	5		5						fringing marsh	III
174	Tipers Creek	.6	85	.51					5				d 10		pocket marsh	I
175	Tipers Creek	2.7	60	1.62						10	.27		d 30	.81	pocket marsh	I
176	Tipers Creek	5	40	2			30	1.5					d 30	1.5	pocket marsh	XII
177	Tipers Creek	.25	80	.2					5		15				pocket marsh	I
178	Tipers Creek	.25	35				35		10		20				2 pocket marshes	XII
179	Tipers Creek	.5	10		40	.2	30	.15	20						fringing marsh osprey	XII
	Subtotal Section V Part 1	24.7		8.4		7.5		3.0		.2		.27		3.4		

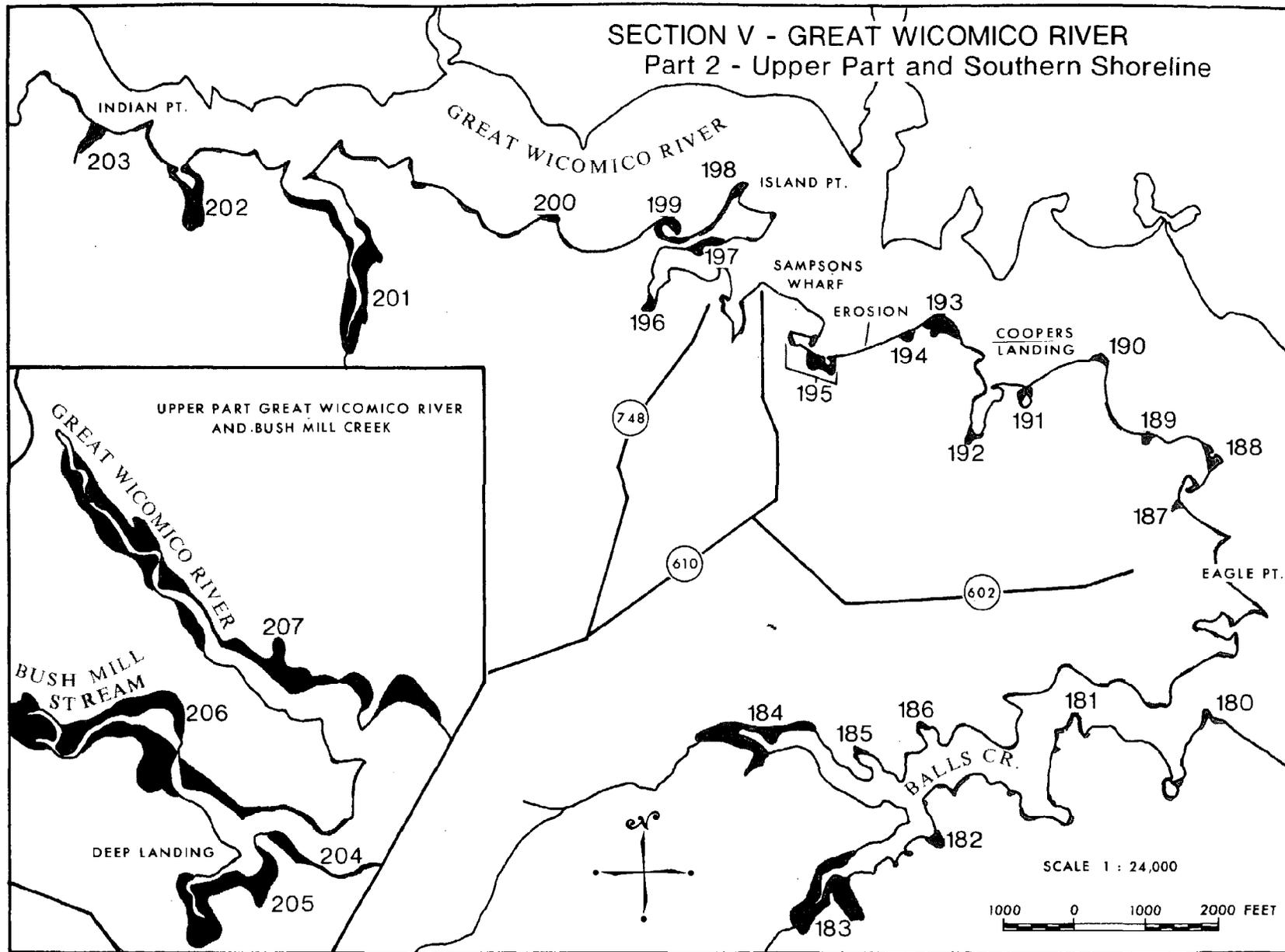
Sa = Saltmarsh Cordgrass  
 Jr = Black Needlerush  
 Md = Saltgrass Meadow  
 Sb = Saltbushes  
 Sc = Big Cordgrass

a = Saltmarsh Bulrush  
 b = Saltmarsh Fleabane  
 c = Saltmarsh Aster  
 d = Cattail  
 e = Marsh Hibiscus

f = Water Hemp  
 g = Switch Grass  
 h = Foxtail Grass  
 i = Arrow Arum  
 j = Pickerel Weed

k = Reed Grass  
 l = Olney Threesquare  
 m = Marsh Mallow  
 n = Saltmarsh Loosestrife  
 o = Smartweed

p = Wild Rice  
 q = Sea Lavender  
 r = Marsh Pink  
 s = Saltwort  
 t = Yellow Pond-lily



Section V. Great Wicomico River. Part 2. Upper Part and Southern Shoreline

#	PLACE NAME	ACRES	Sa		Jr		Md		Sb		Sc		OTHER		OBSERVATIONS	MARSH TYPE
			%	ACRES	%	ACRES										
180	Balls Creek	.25	20				30		20		30				fringing marsh	XII
181	Balls Creek	.25	70	.17			30								fringing marsh	I
182	Balls Creek	.5	30	.15			50	.25					d 10 g 10		pocket marsh	II
183	Balls Creek	9.2	20	1.84			35	3.22	10	.92			d 35	3.22	pocket marsh	XII
184	Balls Creek	18.4	20	3.68			10	1.84					d 70	12.9	pocket marsh	VI
185	Balls Creek	.25	30				50	.12	10				g 10		pocket marsh	II
186	Great Wicomico River	.25	10				70	.17	10				g 10		pocket marsh	II
187	Great Wicomico River	.25	10		70	.17			5				d 15		pocket marsh	XII
188	Great Wicomico River	.5	10		25	.12	25	.12	20	.1			g 20	.1	sc, cove marsh	XII
189	Great Wicomico River	.5	10		40	.2			30	.15			d 20	.1	pocket marsh	XII
190	Great Wicomico River	.25	10		20		40	.1	30						point marsh	XII
191	Coopers Landing	.25	40	.1	40	.1	10				10				sb, g, cove marsh	XII
192	Coopers Landing	.25	20		30								d 40 g 10	.1	pocket marsh	XII
193	Near Coopers Landing	2.7	10	.27	70	1.95			10	.27	5	.13	k 5	.14	point marsh	III

Sa = Saltmarsh Cordgrass  
 Jr = Black Needlerush  
 Md = Saltgrass Meadow  
 Sb = Saltbushes  
 Sc = Big Cordgrass

a = Saltmarsh Bulrush  
 b = Saltmarsh Fleabane  
 c = Saltmarsh Aster  
 d = Cattail  
 e = Marsh Hibiscus

f = Water Hemp  
 g = Switch Grass  
 h = Foxtail Grass  
 i = Arrow Arum  
 j = Pickerei Weed

k = Reed Grass  
 l = Olney Threesquare  
 m = Marsh Mallow  
 n = Saltmarsh Loosestrife  
 o = Smartweed

p = Wild Rice  
 q = Sea Lavender  
 r = Marsh Pink  
 s = Saltwort  
 t = Yellow Pond-lily

Section V. Great Wicomico River. Part 2. Upper Part and Southern Shoreline

#	PLACE NAME	ACRES	Sa		Jr		Md		Sb		Sc		OTHER		OBSERVATIONS	MARSH TYPE
			%	ACRES	%	ACRES	%	ACRES	%	ACRES	%	ACRES	%	ACRES		
194	Near Coopers Landing	.25	5				5						d 90	.22	pocket marsh	VI
195	Sampsons Warf	1.5	10	.15	50	.75			10	.15	10	.15	d 20	.3	cove marsh	III
196	Island Point	.3	40	.12					20		10		d 30		pocket marsh	XII
197	Island Point	.3	10		70	.21	10		10						point marsh	III
198	Island Point	.25	10		70	.17			10		10				fringing marsh	III
199	Island Point	.25	20		60	.15			15		5				spit marsh	III
200	Near Island Point	.25	15		20				50	.12	15				point marsh	IV
201	Knight Run	9.2	10	.92							20	1.84	d 70	6.44	creek marsh	VI
202	Great Wicomico River	1.8	30	.54							30	.54	d 40	.73	cove marsh	XII
203	Great Wicomico River	1.5	5	.75							25	.37	d 70	1.0	pocket marsh	VI
204	Bush Mill Stream	.75	100	.75											fringing marsh	I
205	Bush Mill Stream	13.8											d 100	13.8	pocket marsh	VI
206	Bush Mill Stream	33.1					10	3.3			60	19.87	d 30	9.9	a, e, i pocket marsh	V

Sa = Saltmarsh Cordgrass  
 Jr = Black Needlerush  
 Md = Saltgrass Meadow  
 Sb = Saltbushes  
 Sc = Big Cordgrass

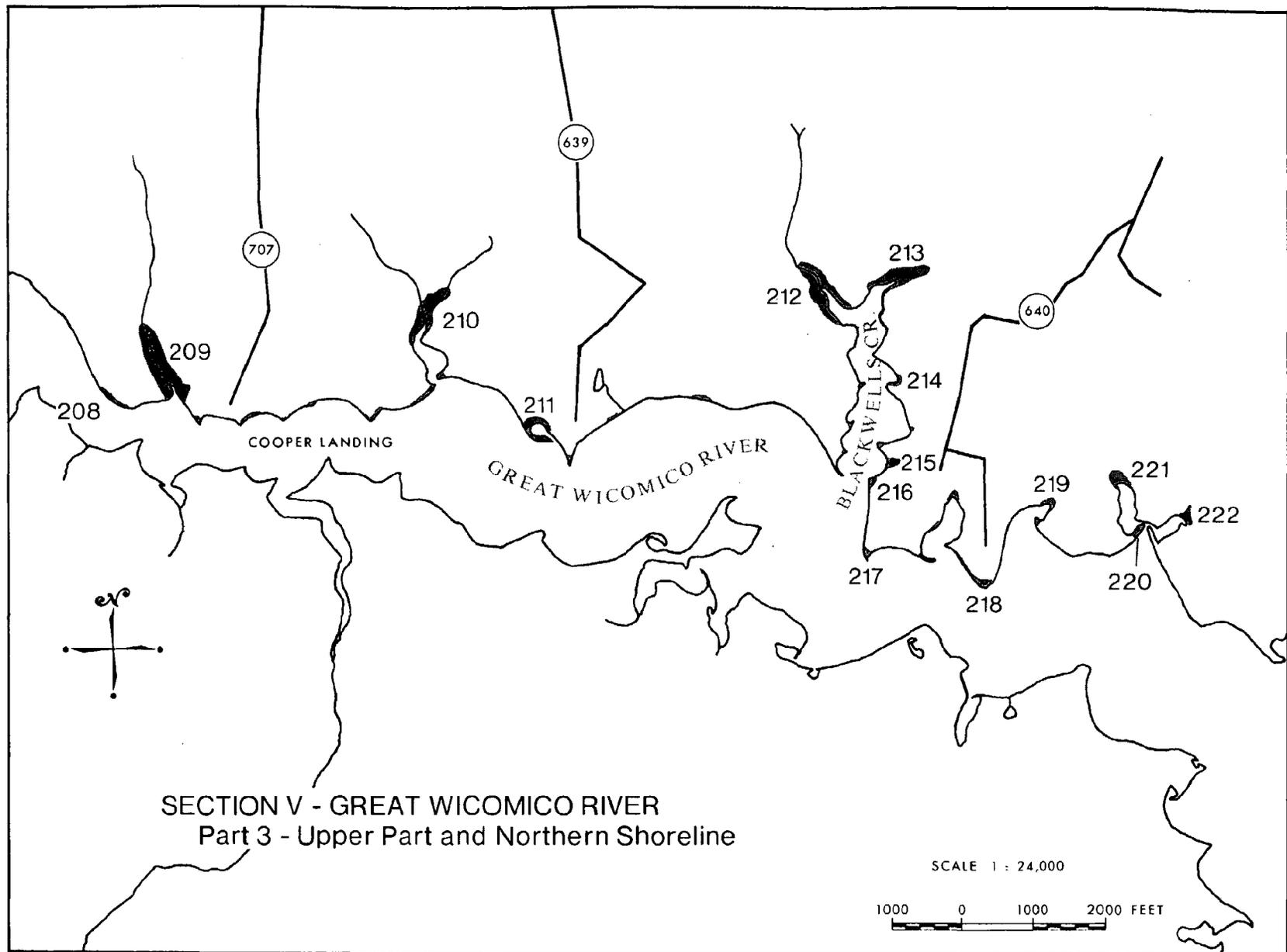
a = Saltmarsh Bulrush  
 b = Saltmarsh Fleabane  
 c = Saltmarsh Aster  
 d = Cattail  
 e = Marsh Hibiscus

f = Water Hemp  
 g = Switch Grass  
 h = Foxtail Grass  
 i = Arrow Arum  
 j = Pickerel Weed

k = Reed Grass  
 l = Olney Threesquare  
 m = Marsh Mallow  
 n = Saltmarsh Loosestrife  
 o = Smartweed

p = Wild Rice  
 q = Sea Lavender  
 r = Marsh Pink  
 s = Saltwort  
 t = Yellow Pond-lily





SECTION V - GREAT WICOMICO RIVER  
Part 3 - Upper Part and Northern Shoreline

Section V. Great Wicomico River. Part 3. Upper Part and Northern Shoreline

#	PLACE NAME	ACRES	Sa		Jr		Md		Sb		Sc		OTHER		OBSERVATIONS	MARSH TYPE
			%	ACRES	%	ACRES										
208	Near Cooper Landing	.25	60	.15					30				a 10		fringing marsh	I
209	Near Cooper Landing	9.2	10	.92							20	1.84	a d 10 60	.92 5.52	creek marsh	VI
210	Near Cedar Point	3.7	10	.37					5	.18	30	1.10	d 55	2.0	pocket marsh	VI
211	Cedar Point	.5	10		20		20	.1	30	.15	20	.1			cove marsh	XII
212	Blackwells Creek	5.5	10	.55							10	.55	a d 30 50	1.6 2.7	pocket marsh	VI
213	Blackwells Creek	2.7	10	.27									a d 60 30	1.6 .83	pocket marsh	
214	Blackwells Creek	.25	10		60	.15	30								pocket marsh	III
215	Blackwells Creek	.25	10		50	.12	10		30						pocket marsh	III
216	Blackwells Creek	.75			60	.45	20	.15			20	.15			pocket marsh	III
217	Blackwells Creek	.25			30		20		50	.12					spit marsh	IV
218	Great Wicomico River	.25			80	.2	10		10						fringing marsh	III
219	Great Wicomico River	.5			40	.2	20	.1	10				d 30	.15	cove marsh	XII
220	Great Wicomico River	.25	10		50	.12	10		30						spit marsh	III
221	Great Wicomico River	.25	20		50	.12			30						2 pocket marshes	III

Sa = Saltmarsh Cordgrass  
 Jr = Black Needlerush  
 Md = Saltgrass Meadow  
 Sb = Saltbushes  
 Sc = Big Cordgrass

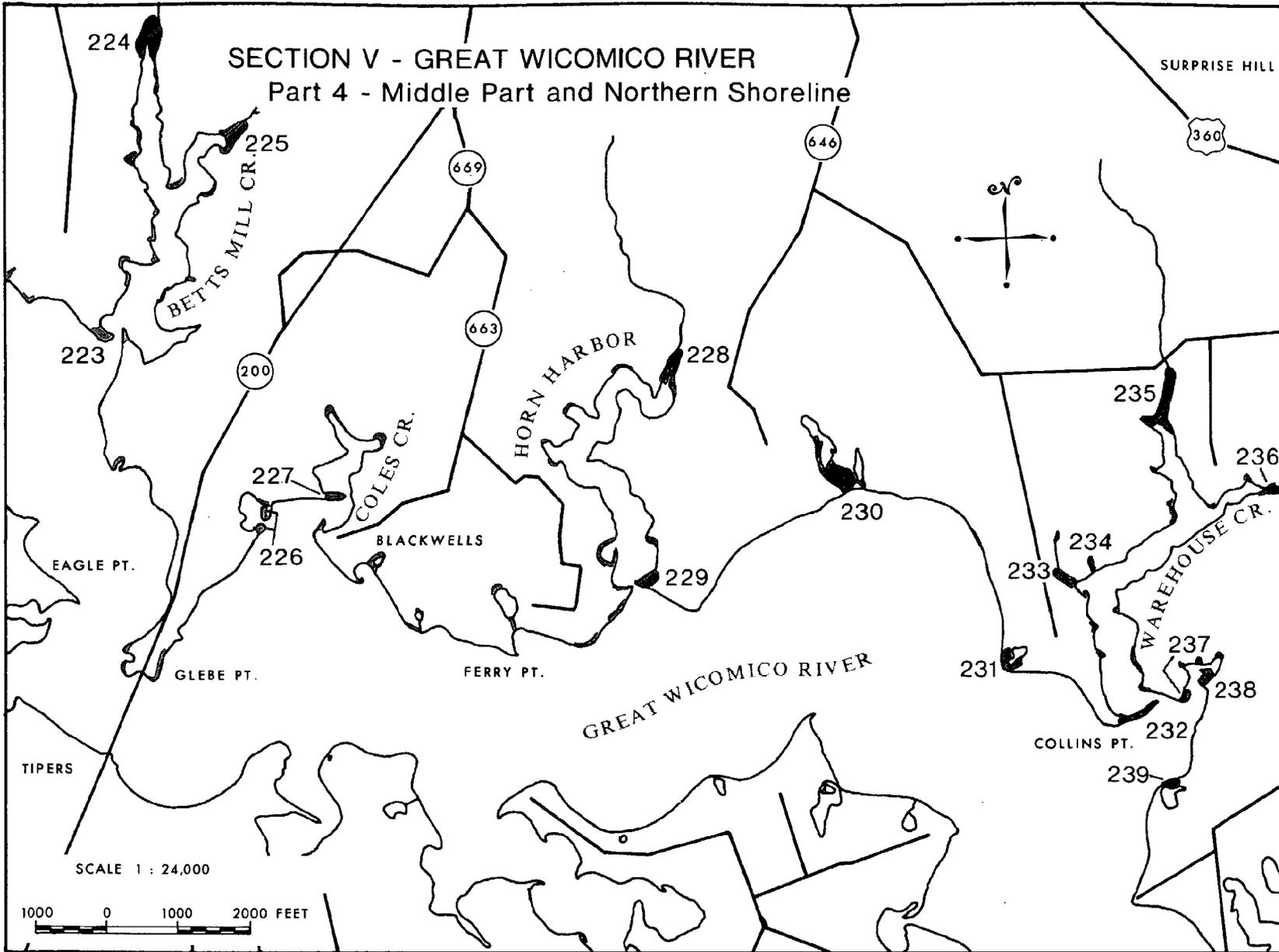
a = Saltmarsh Bulrush  
 b = Saltmarsh Fleabane  
 c = Saltmarsh Aster  
 d = Cattail  
 e = Marsh Hibiscus

f = Water Hemp  
 g = Switch Grass  
 h = Foxtail Grass  
 i = Arrow Arum  
 j = Pickerel Weed

k = Reed Grass  
 l = Olney Threesquare  
 m = Marsh Mallow  
 n = Saltmarsh Loosestrife  
 o = Smartweed

p = Wild Rice  
 q = Sea Lavender  
 r = Marsh Pink  
 s = Saltwort  
 t = Yellow Pond-lily





Section V. Great Wicomico River. Part 4. Middle Part and Northern Shoreline

#	PLACE NAME	ACRES	Sa		Jr		Md		Sb		Sc		OTHER		OBSERVATIONS	MARSH TYPE
			%	ACRES	%	ACRES										
223	Betts Mill Creek	.3	10		40	.12	20		30						spit marsh	XII
224	Betts Mill Creek	5.5	20	1.10								a d	2.20	2.20	pocket marsh	XII
225	Betts Mill Creek	3.7	10	.37	5	.18			50	1.84		a g	1.10	.18	pocket marsh	IV
226	Coles Creek	.25			70	.17	10		20						cove marsh	III
227	Coles Creek	.5	10		70	.35			20	.1					spit marsh	III
228	Horn Harbor	6.4	20	1.3	60	3.8						a d	.64	.64	pocket marsh	III
229	Horn Harbor	.75	5		85	.63			10						spit marsh	III
230	Great Wicomico River	2			40	.8	40	.8	20	.4		a			hummocks	XII
231	Great Wicomico River	.25	40	.1			40	.1	20						point marsh	XII
232	Warehouse Creek	.25	20		10		35		35						spit marsh	XII
233	Warehouse Creek	.25	30				50	.12	20						pocket marsh	II
234	Warehouse Creek	.25	10				45	.11				d	.11	.11	pocket marsh	XII
235	Warehouse Creek	5.5	40	2.2								d a	2.20	1.10	pocket marsh	XII
236	Warehouse Creek	.3	85	.25					5			d			pocket marsh	I

Sa = Saltmarsh Cordgrass  
 Jr = Black Needlerush  
 Md = Saltgrass Meadow  
 Sb = Saltbushes  
 Sc = Big Cordgrass

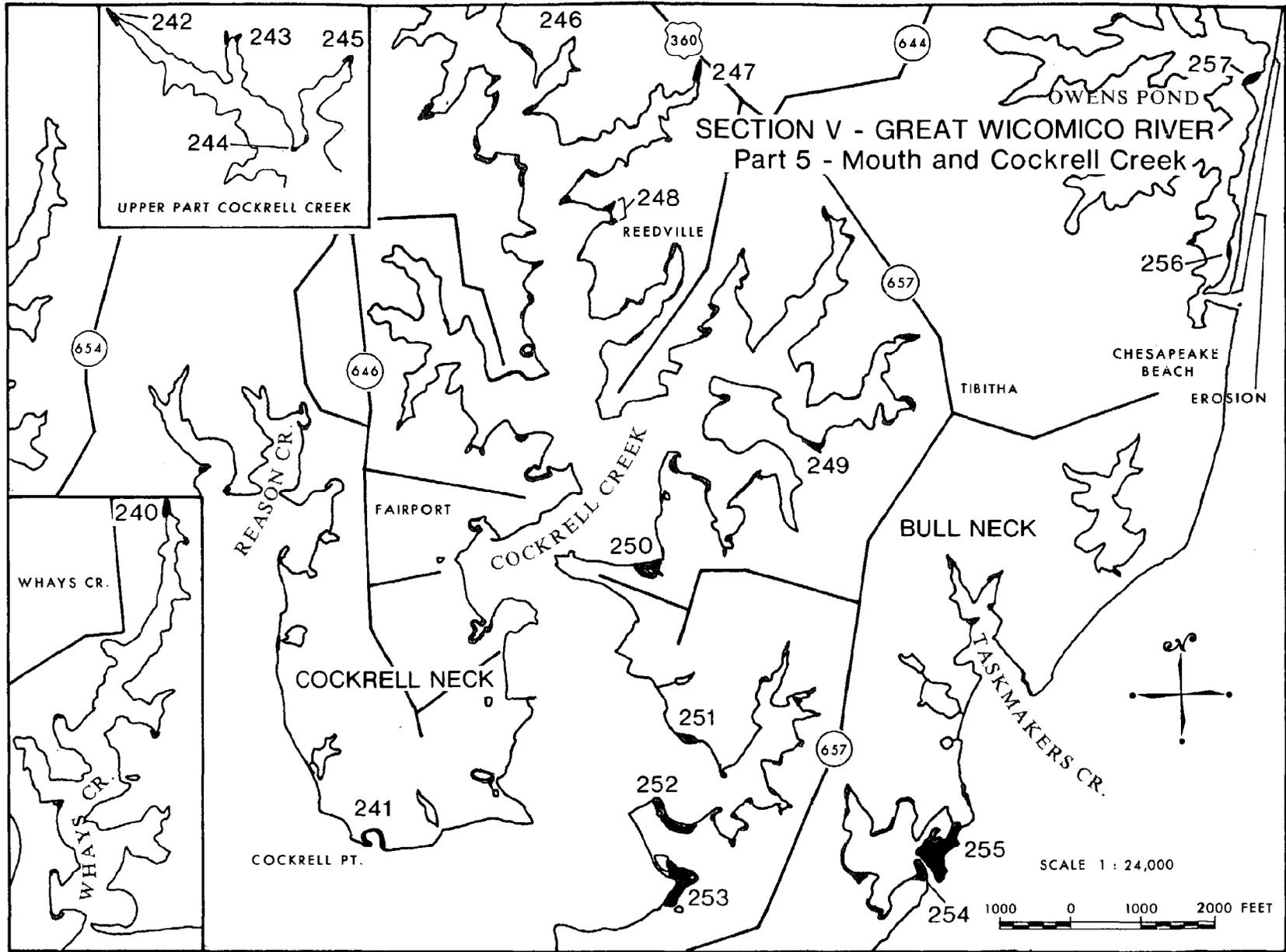
a = Saltmarsh Bulrush  
 b = Saltmarsh Fleabane  
 c = Saltmarsh Aster  
 d = Cattail  
 e = Marsh Hibiscus

f = Water Hemp  
 g = Switch Grass  
 h = Foxtail Grass  
 i = Arrow Arum  
 j = Pickerel Weed

k = Reed Grass  
 l = Olney Threesquare  
 m = Marsh Mallow  
 n = Saltmarsh Loosestrife  
 o = Smartweed

p = Wild Rice  
 q = Sea Lavender  
 r = Marsh Pink  
 s = Saltwort  
 t = Yellow Pond-lily





Section V. Great Wicomico River. Part 5. Mouth and Cockrell Creek

#	PLACE NAME	ACRES	Sa		Jr		Md		Sb		Sc		OTHER		OBSERVATIONS	MARSH TYPE
			%	ACRES	%	ACRES										
240	Whays Creek	.5	20	.1					80	.4					pocket marsh	IV
241	Cockrell Point	.5	30	.15			30	.15	20	.1			d 20	.1	cove marsh	XII
242	Cockrell Creek	.25	60	.15					40	.1					pocket marsh	I
243	Cockrell Creek	.3	80	.24					20						2 pocket marshes	I
244	Cockrell Creek	.25	40	.1			30		30						point marsh	XII
245	Cockrell Creek	.25	60	.15					40	.1					pocket marsh	I
246	Cockrell Creek	.25	10				70	.17	20						fringing marsh	II
247	Cockrell Creek	.3	20						10				d 70	.21	pocket marsh	VI
248	Cockrell Creek	.25	70	.17			20		10						2 pocket marshes	I
249	Cockrell Creek	.3	80	.24					20						fringing marsh	I
250	Cockrell Creek	1.2	10	.12	30	.36	20	.24	40	.48					cove marsh	XII
251	Cockrell Creek	.75	10				30	.22					k 60	.45	point marsh	VIII
252	Cockrell Creek	.75	10		30	.22	40	.3	20	.15					fringing marsh	XII
253	Cockrell Creek	2.5	20	.5			30	.75	40	1			g 10	.25	cove marsh	XII

Sa = Saltmarsh Cordgrass  
 Jr = Black Needlerush  
 Md = Saltgrass Meadow  
 Sb = Saltbushes  
 Sc = Big Cordgrass

a = Saltmarsh Bulrush  
 b = Saltmarsh Fleabane  
 c = Saltmarsh Aster  
 d = Cattail  
 e = Marsh Hibiscus

f = Water Hemp  
 g = Switch Grass  
 h = Foxtail Grass  
 i = Arrow Arum  
 j = Pickerel Weed

k = Reed Grass  
 l = Olney Threesquare  
 m = Marsh Mallow  
 n = Saltmarsh Loosestripe  
 o = Smartweed

p = Wild Rice  
 q = Sea Lavender  
 r = Marsh Pink  
 s = Saltwort  
 t = Yellow Pond-lily

Section V. Great Wicomico River. Part 5. Mouth and Cockrell Creek

#	PLACE NAME	ACRES	Sa		Jr		Md		Sb		Sc		OTHER		OBSERVATIONS	MARSH TYPE
			%	ACRES	%	ACRES										
254	Bull Neck	.75	10		30	.22	40	.3	20						epit marsh	XII
255	Bull Neck	6	85	5.1	15	.9									sb, epit marsh	I
256	Owens Pond	.3	40	.12	60	.18									pocket marsh	III
257	Owens Pond	.5	60	.3	40	.2									pocket marsh	I
	Subtotal Section V Part 5	16		7.4		2.1		2.1		2.3				1.0		
	Total Section V	227.2		33.0		21.6		16.0		7.6		41.6		101.4		

- |                          |                        |                   |                           |                      |
|--------------------------|------------------------|-------------------|---------------------------|----------------------|
| Sa = Saltmarsh Cordgrass | a = Saltmarsh Dulrush  | f = Water Hemp    | k = Reed Grass            | p = Wild Rice        |
| Jr = Black Needlerush    | b = Saltmarsh Fleabane | g = Switch Grass  | l = Olney Threesquare     | q = Sea Lavender     |
| Md = Saltgrass Meadow    | c = Saltmarsh Aster    | h = Foxtail Grass | m = Marsh Mallow          | r = Marsh Pink       |
| Sb = Saltbushes          | d = Cattail            | i = Arrow Arum    | n = Saltmarsh Loosestrife | s = Saltwort         |
| Sc = Big Cordgrass       | e = Marsh Hibiscus     | j = Pickerel Weed | o = Smartweed             | t = Yellow Pond-lily |

## Section VI

### Little Wicomico River

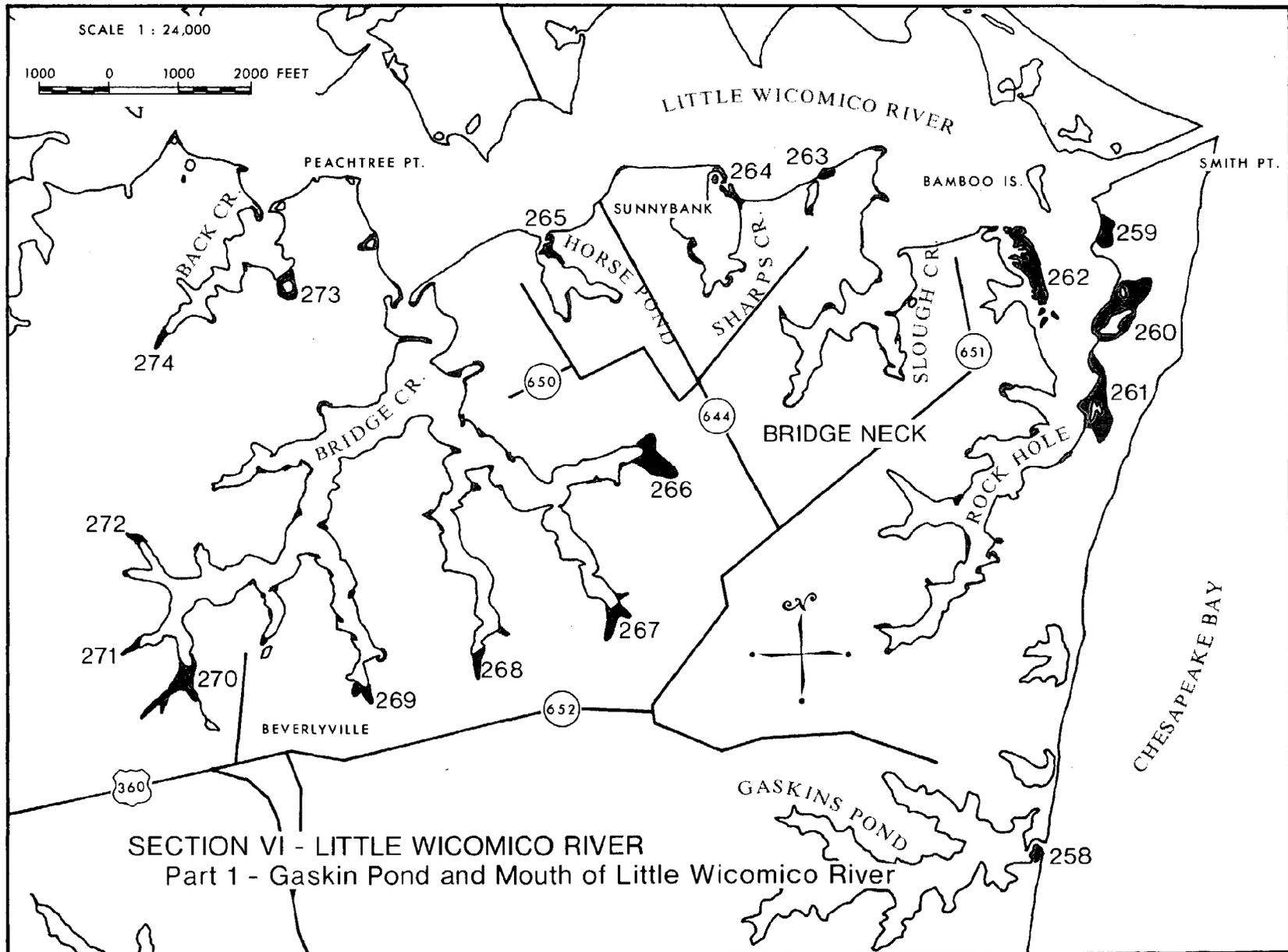
This natural system is partitioned into three units:

- Part 1: Gaskin Pond and Mouth of Little Wicomico River
- Part 2: Upper Part
- Part 3: Northern Shoreline and Mouth

There are 65 marshes in this section totalling nearly 124 acres. The largest marsh, No. 288, occurs at the upper end of the Little Wicomico River with 16.5 acres. The vegetation of this marsh is typical of the wetlands found in the upper reaches of large creeks and rivers. Because of reduced salinity, plant competition increases and as a result, there is a higher plant diversity than that typically found in more saline situations near the mouth of the river. Other marshes located at the upper ends of creeks or coves in this system are also vegetatively diverse, as an example, Nos. 266, 267, 268, 269, 270 and others.

Twenty-eight marshes in this section are dominated by Black Needlerush. This marsh community is easily recognized in the field in that the stands are homogeneous, dense, of uniform height and are dark or brownish in color. These marshes are nearly always of a slightly higher elevation than Saltmarsh Cordgrass marsh.

Although the present mouth of the Little Wicomico River is a dredged and bulkheaded channel, the original mouth was approximately one half mile to the north, where marsh No. 321 is now located.



Section VI. Little Wicomico River. Part 1. Gaskin Pond and Mouth of Little Wicomico River

#	PLACE NAME	ACRES	Sa		Jr		Md		Sb		Sc		OTHER		OBSERVATIONS	MARSH TYPE
			%	ACRES	%	ACRES										
258	Gaskin Pond	.5	40	.2									d 60	.3	delta marsh	VI
259	Rock Hole	2.7	5	.14	30	.81	40	1.1	15	.40			a 10	.27	many dead trees cove marsh	XII
260	Rock Hole	5.5	5	.28	90	4.95			5	.27					cove, sand substratum	III
261	Rock Hole	6.4	5	.32	90	5.76			5	.32					cove, sand substratum	III
262	Rock Hole	6.4	5	.32	90	5.76							a 5	.32	Md, sb island	III
263	Little Wicomico River	.25	20		30				20				a 30		cove marsh	XII
264	Sharps Creek	.25	70	.18	15		5		10						spit marsh	I
265	Horse Pond	.3	20		80	.24									fringing marsh	III
266	Bridge Creek	4.6	10	.46	30	1.38	30	1.38	10	.46			e 20	.92	pocket marsh	XII
267	Bridge Creek	2.7			60	1.62	10	.27	10	.27			d e 10 10	.27 .27	pocket marsh	III
268	Bridge Creek	1.2	50	.6	10	.12	30	.36					a 10	.12	pocket marsh	I
269	Bridge Creek	1.5	40	.6	10	.15							a e 40 10	.6 .15	pocket marsh	XII
270	Bridge Creek	3.7	10	.37	10	.37	50	1.8					d e 10 20	.37 .74	pocket marsh	II
271	Bridge Creek	.25	30				50	.12	20						pocket marsh	II

Sa = Saltmarsh Cordgrass  
 Jr = Black Needlerush  
 Md = Saltgrass Meadow  
 Sb = Saltbushes  
 Sc = Big Cordgrass

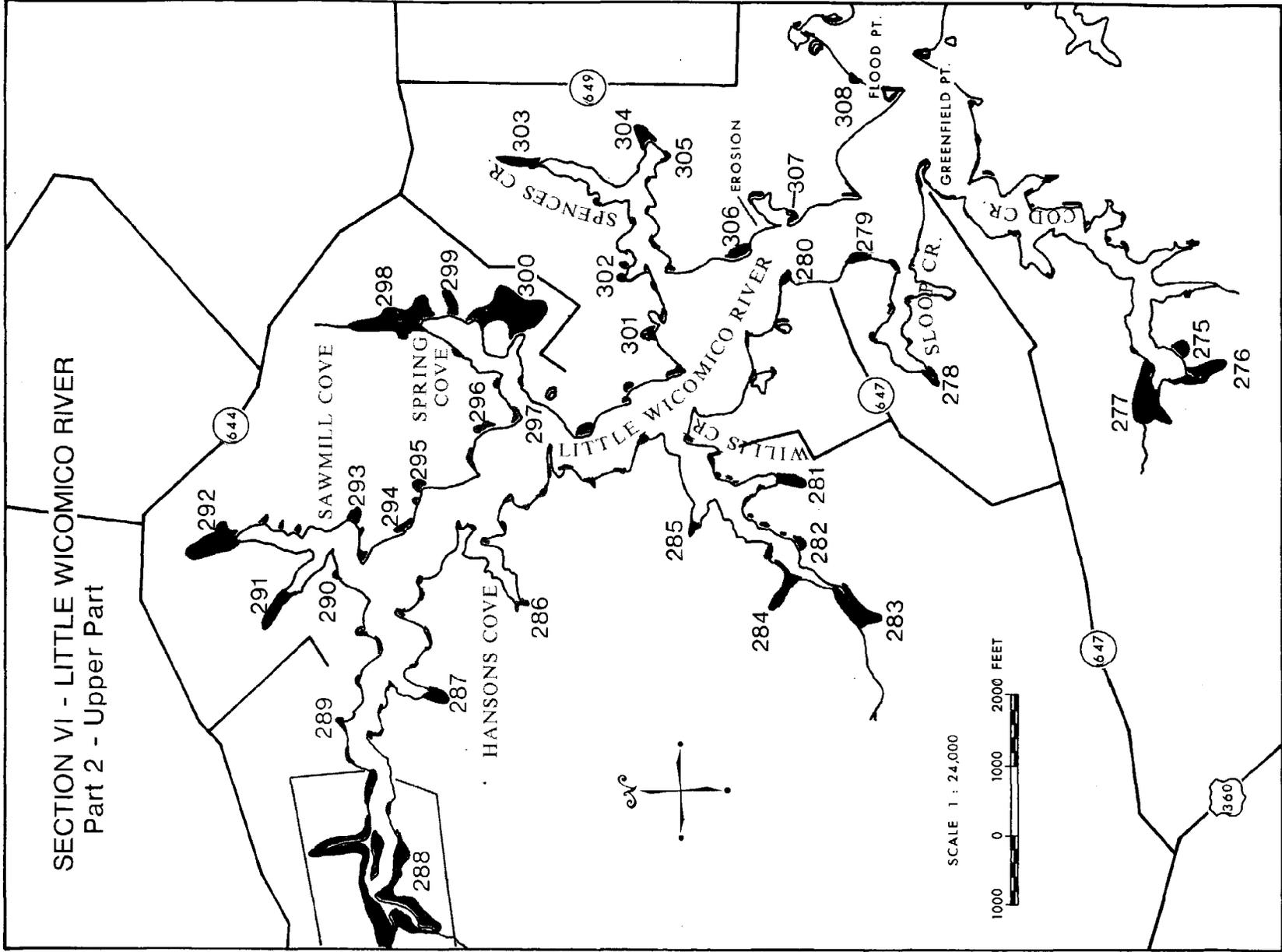
a = Saltmarsh Bulrush  
 b = Saltmarsh Fleabane  
 c = Saltmarsh Aster  
 d = Cattail  
 e = Marsh Hibiscus

f = Water Hemp  
 g = Switch Grass  
 h = Foxtail Grass  
 i = Arrow Arum  
 j = Pickerel Weed

k = Reed Grass  
 l = Olney Threesquare  
 m = Marsh Mallow  
 n = Saltmarsh Loosestrife  
 o = Smartweed

p = Wild Rice  
 q = Sea Lavender  
 r = Marsh Pink  
 s = Saltwort  
 t = Yellow Pond-lily





Section VI. Little Wicomico River. Part 2. Upper Part

#	PLACE NAME	ACRES	Sa		Jr		Ma		Sb		Sc		OTHER		OBSERVATIONS	MARSH TYPE	
			%	ACRES	%	ACRES											
275	Cod Creek	.75			10		75	.56	5				d	10	pocket marsh	II	
276	Cod Creek	5	10	.5			60	3	30	1.5					pocket marsh	II	
277	Cod Creek	7	5	.35	5	.35	60	4.2	30	2.1					pocket marsh	II	
278	Sloop Creek	1	80	.8					10	.1	10	.1			pocket marsh	I	
279	Little Wicomico River	.3	10		85	.26			5						point marsh	III	
280	Little Wicomico River	.3	5		75	.22	10		10						spit marsh	III	
281	Willis Creek	2.7	10	.27			20	.54	60	1.62			g	10	.27	pocket marsh	IV
282	Willis Creek	.75	5		30	.22	20	.15	10				d	35	.26	pocket marsh	XII
283	Willis Creek	7.4	40	2.96	20	1.48	10	.74	20	1.48			a	10	.74	pocket marsh	XII
284	Willis Creek	1	10	.1	40	.4	10	.1	10	.1			d	30	.3	pocket marsh	XII
285	Willis Creek	1	60	.6	20	.2			10	.1			d	10	.1	pocket marsh	I
286	Hansons Cove	.5			90	.45			5		5					Sa, 2 pocket marshes	III
287	Little Wicomico River	1			25	.25	25	.25	40	.4	10	.1				pocket marsh	XII
288	Little Wicomico River	16.5			20	3.1	10	1.65	10	1.65	30	4.95	d	a	3.3	e, pocket marsh	XII
													20	10	1.65		

Sa = Saltmarsh Cordgrass  
 Jr = Black Needlerush  
 Md = Saltgrass Meadow  
 Sb = Saltbushes  
 Sc = Big Cordgrass

a = Saltmarsh Bulrush  
 b = Saltmarsh Fleabane  
 c = Saltmarsh Aster  
 d = Cattail  
 e = Marsh Hibiscus

f = Water Hemp  
 g = Switch Grass  
 h = Foxtail Grass  
 i = Arrow Arum  
 j = Pickerel Weed

k = Reed Grass  
 l = Olney Threesquare  
 m = Marsh Mallow  
 n = Saltmarsh Loosestrife  
 o = Smartweed

p = Wild Rice  
 q = Sea Lavender  
 r = Marsh Pink  
 s = Saltwort  
 t = Yellow Pond-lily

Section VI. Little Wicomico River. Part 2. Upper Part

#	PLACE NAME	ACRES	Sa		Jr		Md		Sb		Sc		OTHER		OBSERVATIONS	MARSH TYPE
			%	ACRES	%	ACRES										
289	Little Wicomico River	.25			40	.1	30		30						sc, pocket marsh	XII
290	Little Wicomico River	.5	10		80	.4	10								sb, pocket marsh	III
291	Sawmill Cove	.5			40	.2	30	.15	20				e 10		spoil on marsh channel	XII
292	Sawmill Cove	7.4					20	1.48	60	4.44			a e 10 10	.74 .74	pocket marsh	IV
293	Sawmill Cove	.5			10		10		80	.4					pocket marsh	IV
294	Little Wicomico River	.25			50	.12	40	.1	10						fringing marsh	III
295	Little Wicomico River	.25			25		25		50	.12					cove marsh	IV
296	Little Wicomico River	.25			80	.2	10		10						pocket marsh	III
297	Spring Cove	.25			90	.22	10								point marsh	III
298	Spring Cove	6.4			20	1.28	20	1.28	60	3.84					pocket marsh	IV
299	Spring Cove	.25	10		80	.2			10						pocket marsh	III
300	Spring Cove	8.3			90	7.4			10	.83					pocket marsh	III
301	Spences Creek	.25	10		70	.18			20						pocket marsh	III
302	Spences Creek	.25	30		70	.18									2 pocket marshes	III

Sa = Saltmarsh Cordgrass  
 Jr = Black Needlerush  
 Md = Saltgrass Meadow  
 Sb = Saltbushes  
 Sc = Big Cordgrass

a = Saltmarsh Bulrush  
 b = Saltmarsh Fleabane  
 c = Saltmarsh Aster  
 d = Cattail  
 e = Marsh Hibiscus

f = Water Hemp  
 g = Switch Grass  
 h = Foxtail Grass  
 i = Arrow Arum  
 j = Pickerel Weed

k = Reed Grass  
 l = Olney Threesquare  
 m = Marsh Mallow  
 n = Saltmarsh Loosestrife  
 o = Smartweed

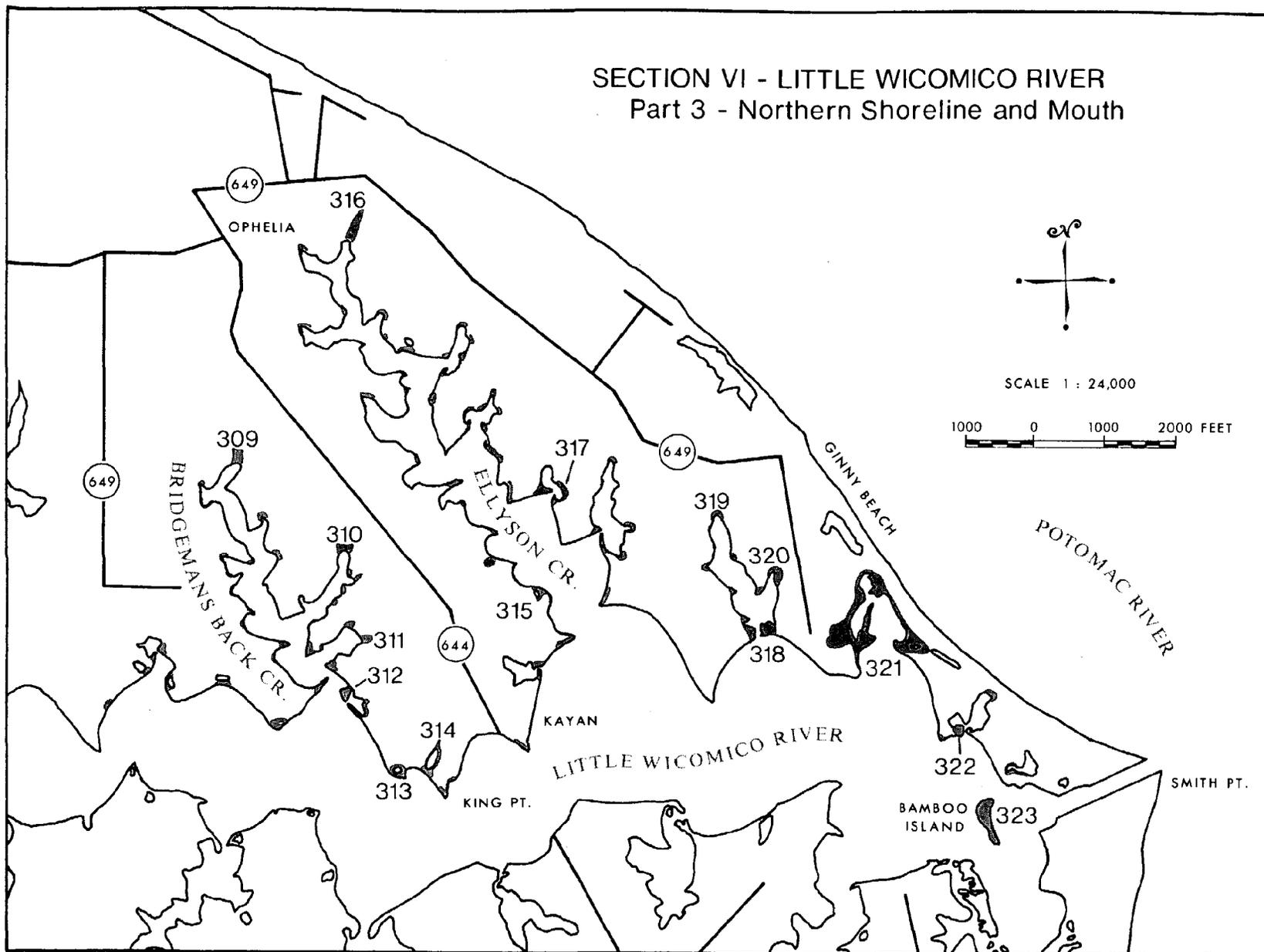
p = Wild Rice  
 q = Sea Lavender  
 r = Marsh Pink  
 s = Saltwort  
 t = Yellow Pond-lily

Section VI. Little Wicomico River. Part 2. Upper Part

#	PLACE NAME	ACRES	Sa		Jr		Md		Sb		Sc		OTHER		OBSERVATIONS	MARSH TYPE
			%	ACRES	%	ACRES										
303	Spences Creek	.5	5		30		40		20				a		spoil and dredged channels	XII
304	Spences Creek	.75			60	.45	30	.22	5				a		pocket marsh	III
305	Spences Creek	.25	10		20		40	.1	30						pocket marsh	XII
306	Little Wicomico River	.75			85	.64	5		10						point marsh	III
307	Little Wicomico River	.25	10		80	.2			10						point marsh	III
308	Near Flood Point	.25			10		80	.2	10						pocket marsh	II
	Subtotal Section VI Part 2	73.55		5.58		18.77		14.73		18.68		5.15		7.50		

- |                          |                        |                   |                           |                      |
|--------------------------|------------------------|-------------------|---------------------------|----------------------|
| Sa = Saltmarsh Cordgrass | a = Saltmarsh Bulrush  | f = Water Hemp    | k = Reed Grass            | p = Wild Rice        |
| Jr = Black Needlerush    | b = Saltmarsh Fleabane | g = Switch Grass  | l = Olney Threesquare     | q = Sea Lavender     |
| Md = Saltgrass Meadow    | c = Saltmarsh Aster    | h = Foxtail Grass | m = Marsh Mallow          | r = Marsh Pink       |
| Sb = Saltbushes          | d = Cattail            | i = Arrow Arum    | n = Saltmarsh Loosestrife | s = Saltwort         |
| Sc = Big Cordgrass       | e = Marsh Hibiscus     | j = Pickerel Weed | o = Smartweed             | t = Yellow Pond-lily |

SECTION VI - LITTLE WICOMICO RIVER  
Part 3 - Northern Shoreline and Mouth



Section VI. Little Wicomico River. Part 3. Northern Shoreline and Mouth

#	PLACE NAME	ACRES	Sa		Jr		Md		Sb		Sc		OTHER		OBSERVATIONS	MARSH TYPE
			%	ACRES	%	ACRES										
309	Bridgemans Back Creek	.25			5		75	.19	20						2 ospreys, pocket marsh	II
310	Bridgemans Back Creek	.25	10		30		30						d 30		2 pocket marshes	XII
311	Bridgemans Back Creek	.25	10		30		30						d 30		pocket marsh	XII
312	Bridgemans Back Creek	.25			90	.22	5		5						spit marsh	III
313	Peachtree Point	.25	10		80	.2			10						cove marsh	III
314	King Point	.25	80	.2					10				d 10		cove marsh	I
315	Ellyson Creek	.25			90	.22			10						cove marsh	III
316	Ellyson Creek	.6					20	.12	80	.48					Jr, pocket marsh	IV
317	Ellyson Creek	.25	15		80	.2							d 5		cove marsh	III
318	Little Wicomico River	1	5		85	.85	5		5						spit marshes	III
319	Little Wicomico River	.25	30		70	.18									2 ospreys	III
320	Little Wicomico River	.25	60	.15			20						d 20		pocket marsh	I
321	Little Wicomico River	7	25	1.75	60	4.2			15	1.0					g, cove marsh	III
322	Little Wicomico River	.5	20	.1	80	.4									spit marsh	III

Sa = Saltmarsh Cordgrass  
 Jr = Black Needlerush  
 Md = Saltgrass Meadow  
 Sb = Saltbushes  
 Sc = Big Cordgrass

a = Saltmarsh Bulrush  
 b = Saltmarsh Fleabane  
 c = Saltmarsh Aster  
 d = Cattail  
 e = Marsh Hibiscus

f = Water Hemp  
 g = Switch Grass  
 h = Foxtail Grass  
 i = Arrow Arum  
 j = Pickerel Weed

k = Reed Grass  
 l = Olney Threesquare  
 m = Marsh Mallow  
 n = Saltmarsh Loosestrife  
 o = Smartweed

p = Wild Rice  
 q = Sea Lavender  
 r = Marsh Pink  
 s = Saltwort  
 t = Yellow Pond-lily



## Section VII

### Potomac River Shoreline

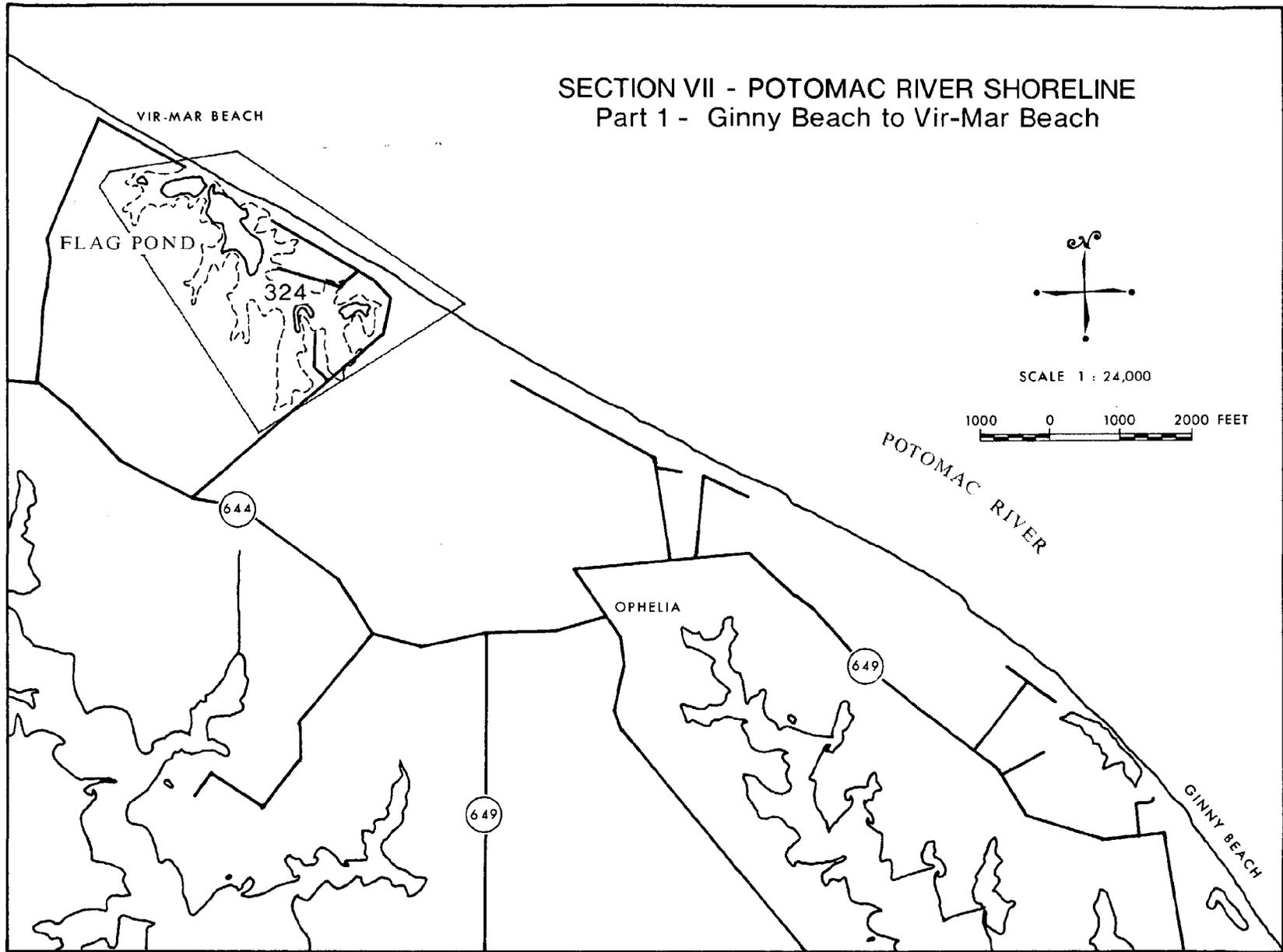
This section is divided into three parts:

- Part 1: Ginny Beach to Vir-Mar Beach
- Part 2: Hack Creek and Cubitt Creek
- Part 3: Hull Creek and Presley Creek

There are four major creek systems in this section, Hack Creek, Cubitt Creek, Hull Creek and Presley Creek. All of them except for parts of Hull Creek are rather pristine systems, with no development and only a few residences or summer cottages. Characteristically, these creeks have narrow, shallow mouths with delta marshes and are accessible by small craft only at high tide. Nesting ospreys and blue herons were commonly observed in these creeks, especially Hack Creek. The marshes at the upper end of Hack and Cubitt Creeks were dominated by Olney Threesquare, Scirpus olneyi, a sedge that is usually found only as an associated species in low saline marshes. The seeds of this sedge are highly valued as a waterfowl food. Because these creeks are unique marsh systems in the County, they should be protected from development. All or any of these creeks (Cubitt, Hack or Presley) have a great potential as natural history areas.

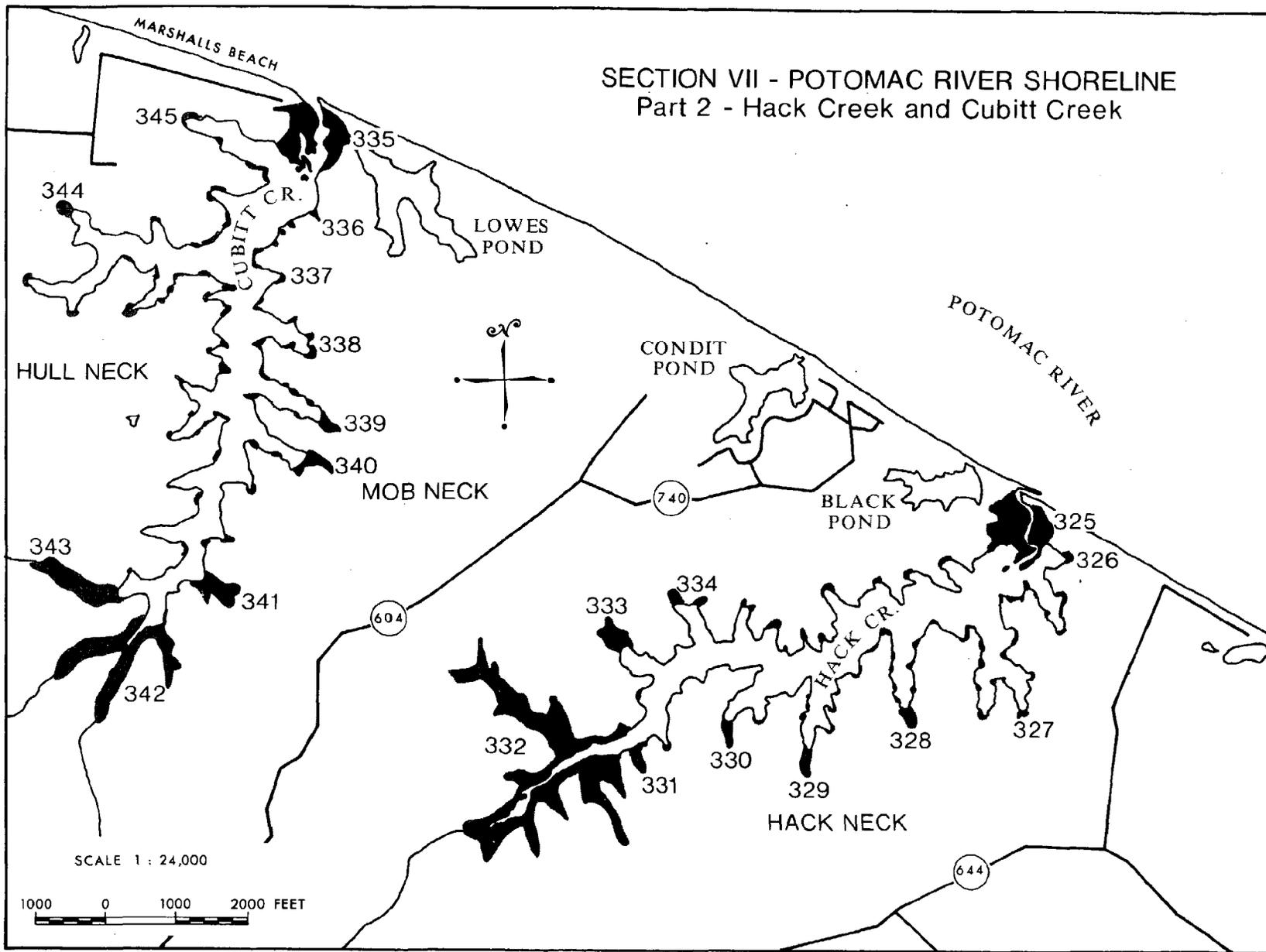
There are several non-tidal ponds behind the sand beach that support small freshwater marshes but these are not indicated in this report. One of these ponds (Flag Pond No. 324) was opened by a dredged channel and is now tidal. The marshes fringing this pond are typically freshwater, however, the influx of saline water apparently killed the marsh vegetation which appeared to be dominated by cattails. Some areas of the marsh have been filled with felled trees and stumps.

SECTION VII - POTOMAC RIVER SHORELINE  
Part 1 - Ginny Beach to Vir-Mar Beach





SECTION VII - POTOMAC RIVER SHORELINE  
Part 2 - Hack Creek and Cubitt Creek



Section VII. Potomac River Shoreline. Part 2. Hack Creek and Cubitt Creek

#	PLACE NAME	ACRES	Sa		Jr		Md		Sb		Sc		OTHER		OBSERVATIONS	MARSH TYPE
			%	ACRES	%	ACRES										
325	Hack Creek	20			20	4	70	14					1 10	2	sb, 2 ospreys delta marsh	II
326	Hack Creek	.75	70	.52									e 30	.22	pocket marsh	I
327	Hack Creek	.5					70	.35					d,e,1 30	.15	pocket marsh	II
328	Hack Creek	1			30	.3							d 70	.7	3 blue herons pocket marsh	VI
329	Hack Creek	1.2					70	.84					d 30	.36	6 blue herons pocket marsh	II
330	Hack Creek	.5					40	.2					1 d 40 20	.2 .1	pocket marsh	XII
331	Hack Creek	.75											1 100	.75	30 blue herons osprey pocket marsh	
332	Hack Creek	45							10	4.5			1 d 60 30	27 13.5	marsh creek	
333	Hack Creek	4.3					40	1.72					1 60	2.6	pocket marsh	
334	Hack Creek	.5			10		20	.1					1 d 20 50	.1 .25	2 pocket marshes	VI
335	Cubitt Creek	12			20	2.4	50	6	15	1.8			d 15	1.8	a, e, g delta marsh	II
336	Cubitt Creek	.75					30	.22			5		d 65	.49	e, pocket marsh	VI
337	Cubitt Creek	.25			10		30		20				e 40	.1	pocket marsh	XII
338	Cubitt Creek	.25	5		10		50	.12	10				e 25		2 pocket marshes	II

Sa = Saltmarsh Cordgrass  
 Jr = Black Needlerush  
 Md = Saltgrass Meadow  
 Sb = Saltbushes  
 Sc = Big Cordgrass

a = Saltmarsh Bulrush  
 b = Saltmarsh Fleabane  
 c = Saltmarsh Aster  
 d = Cattail  
 e = Marsh Hibiscus

f = Water Hemp  
 g = Switch Grass  
 h = Foxtail Grass  
 i = Arrow Arum  
 j = Pickerel Weed

k = Reed Grass  
 l = Olney Threesquare  
 m = Marsh Mallow  
 n = Saltmarsh Loosestrife  
 o = Smartweed

p = Wild Rice  
 q = Sea Lavender  
 r = Marsh Pink  
 s = Saltwort  
 t = Yellow Pond-lily

Section VII. Potomac River Shoreline. Part 2. Hack Creek and Cubitt Creek

#	PLACE NAME	ACRES	Sa		Jr		Md		Sb		Sc		OTHER		OBSERVATIONS	MARSH TYPE	
			%	ACRES	%	ACRES											
339	Cubitt Creek	1	5				20	.2					1 k 50 25	.5 .25	pocket marsh		
340	Cubitt Creek	1.4					80	1.12	10	.14			e 10	.14	pocket marsh	II	
341	Cubitt Creek	4.6					10	.46					1 d 70 20	3.2 .92	pocket marsh		
342	Cubitt Creek	13	20	2.6									1 d 60 20	7.8 2.6	3 prong pocket marsh		
343	Cubitt Creek	5.2	10	.52									1 90	4.7	e, pocket marsh	XII	
344	Cubitt Creek	.75	10		40	.3			10				d e 20 20	.15 .15	pocket marsh	II	
345	Cubitt Creek	.25					60	.15		6.44			e 40	.1	fringing marsh	II	
	Subtotal Section VII Part 2	114		3.64		7.0		25.8						71			

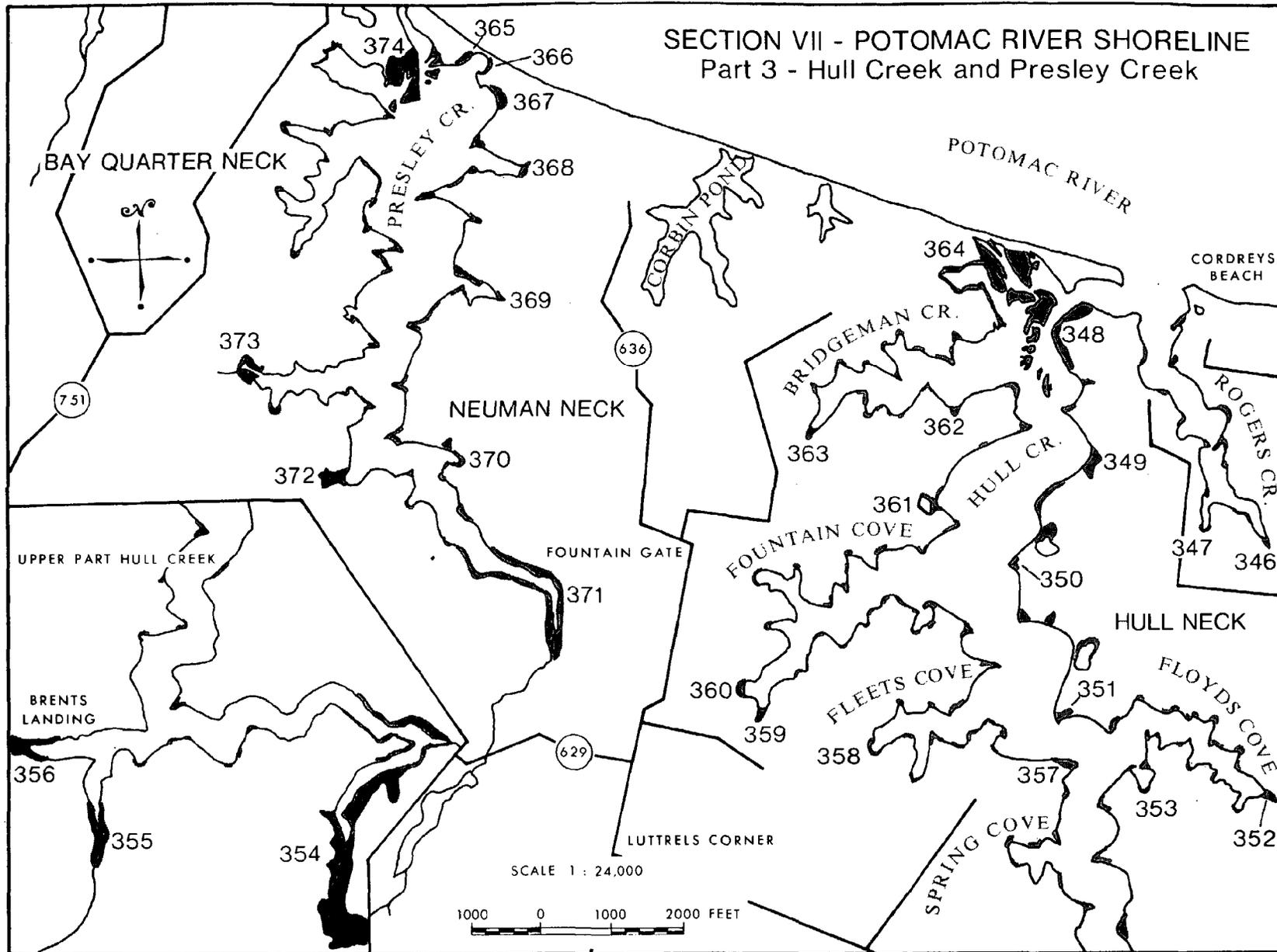
Sa = Saltmarsh Cordgrass  
 Jr = Black Needlerush  
 Md = Saltgrass Meadow  
 Sb = Saltbushes  
 Sc = Big Cordgrass

a = Saltmarsh Bulrush  
 b = Saltmarsh Fleabane  
 c = Saltmarsh Aster  
 d = Cattail  
 e = Marsh Hibiscus

f = Water Hemp  
 g = Switch Grass  
 h = Foxtail Grass  
 i = Arrow Arum  
 j = Pickerel Weed

k = Reed Grass  
 l = Olney Threesquare  
 m = Marsh Mallow  
 n = Saltmarsh Loosestrife  
 o = Smartweed

p = Wild Rice  
 q = Sea Lavender  
 r = Marsh Pink  
 s = Saltwort  
 t = Yellow Pond-lily



Section VII. Potomac River Shoreline. Part 3. Hull Creek and Presley Creek

#	PLACE NAME	ACRES	S <sub>a</sub>		J <sub>r</sub>		M <sub>d</sub>		S <sub>b</sub>		S <sub>c</sub>		OTHER		OBSERVATIONS	MARSH TYPE
			%	ACRES	%	ACRES										
346	Rogers Creek	.25	90	.22					10						pocket marsh	I
347	Rogers Creek	.25	40	.1								d 60	.15		pocket marsh	VI
348	Hull Creek	.5	80	.4	10				10						fringe, spoil on marsh	I
349	Hull Creek	.5	10		20	.1	30	.15	10			d 30	.15		bern	XII
350	Hull Creek	.25	5		90	.22			5						point marsh	III
351	Hull Creek	.25	5		90	.22			5						point marsh	III
352	Floyds Cove	.3	90	.27	5							d 5			e, pocket marsh	I
353	Floyds Cove	.25	70	.17	20							e 10			cove marsh	I
354	Hull Creek	28.5	15	4.27			10	2.85			20	5.7	d e 40 15	11.4 4.27	pocket marsh	XII
355	Hull Creek	3.7	40	1.48								d 60	2.22		pocket marsh	VI
356	Brents Landing	2.2	40	.88								d a 50 10	1.1 .22		pocket marsh	VI
357	Hull Creek	.25	10		60	.15	10		15			a 5			point marsh	III
358	Fleets Cove	.25	70	.17								d 30			pocket marsh	I
359	Fountain Cove	.5	80	.4								d e 10 10			pocket marsh	I

S<sub>a</sub> = Saltmarsh Cordgrass  
 J<sub>r</sub> = Black Needlerush  
 M<sub>d</sub> = Saltgrass Meadow  
 S<sub>b</sub> = Saltbushes  
 S<sub>c</sub> = Big Cordgrass

a = Saltmarsh Bulrush  
 b = Saltmarsh Fleabane  
 c = Saltmarsh Aster  
 d = Cattail  
 e = Marsh Hibiscus

f = Water Hemp  
 g = Switch Grass  
 h = Foxtail Grass  
 i = Arrow Arum  
 j = Pickercel Weed

k = Reed Grass  
 l = Olney Threesquare  
 m = Marsh Mallow  
 n = Saltmarsh Loosestrife  
 o = Smartweed

p = Wild Rice  
 q = Sea Lavender  
 r = Marsh Pink  
 s = Saltwort  
 t = Yellow Pond-lily

Section VII. Potomac River Shoreline. Part 3. Hull Creek and Presley Creek

#	PLACE NAME	ACRES	Sa		Jr		Md		Sb		Sc		OTHER		OBSERVATIONS	MARSH TYPE
			%	ACRES	%	ACRES										
360	Fountain Cove	.25	60	.15									d 40	.1	pocket marsh	I
361	Hull Creek	.25	10		30		40	.1	10				e 10		cove marsh	XII
362	Bridgeman Creek	.25			80	.2	5		5				k 10		pocket marsh	III
363	Bridgeman Creek	.25	60	.15					5				e 35		d, pocket marsh	I
364	Hull Creek	34	50	17	30	10.2	10	3.4	10	3.4					delta marsh	I
365	Presley Creek	1	10	.1	90	.9									fringing marsh	III
366	Presley Creek	.5	40	.2	60	.3									pocket marsh	III
367	Presley Creek	.75	20	.15	60	.45			20	.15					pocket marsh	III
368	Presley Creek	.25					20		80	.2					pocket marsh	IV
369	Presley Creek	.5	40	.1	30	.15							d 30	.15	pocket marsh	XII
370	Presley Creek	.75	30	.22			40	.3					a 30	.225	pocket marsh	XII
371	Presley Creek	9	60	5.4	10	.9							d e 20 10	1.8 .9	pocket marsh	I
372	Presley Creek	1	20	.2					20	.2			a e 30 30	.5 .5	pocket marsh	XII
373	Presley Creek	1.5	40	.6									d c 30 30	.45 .45	pocket marsh	XII

Sa = Saltmarsh Cordgrass  
 Jr = Black Needlerush  
 Md = Saltgrass Meadow  
 Sb = Saltbushes  
 Sc = Big Cordgrass

a = Saltmarsh Bulrush  
 b = Saltmarsh Fleabane  
 c = Saltmarsh Aster  
 d = Cattail  
 e = Marsh Hibiscus

f = Water Hemp  
 g = Switch Grass  
 h = Foxtail Grass  
 i = Arrow Arum  
 j = Pickerel Weed

k = Reed Grass  
 l = Olney Threesquare  
 m = Marsh Mallow  
 n = Saltmarsh Loosestrife  
 o = Smartweed

p = Wild Rice  
 q = Sea Lavender  
 r = Marsh Pink  
 s = Saltwort  
 t = Yellow Pond-lily



## Section VIII

### Coan River

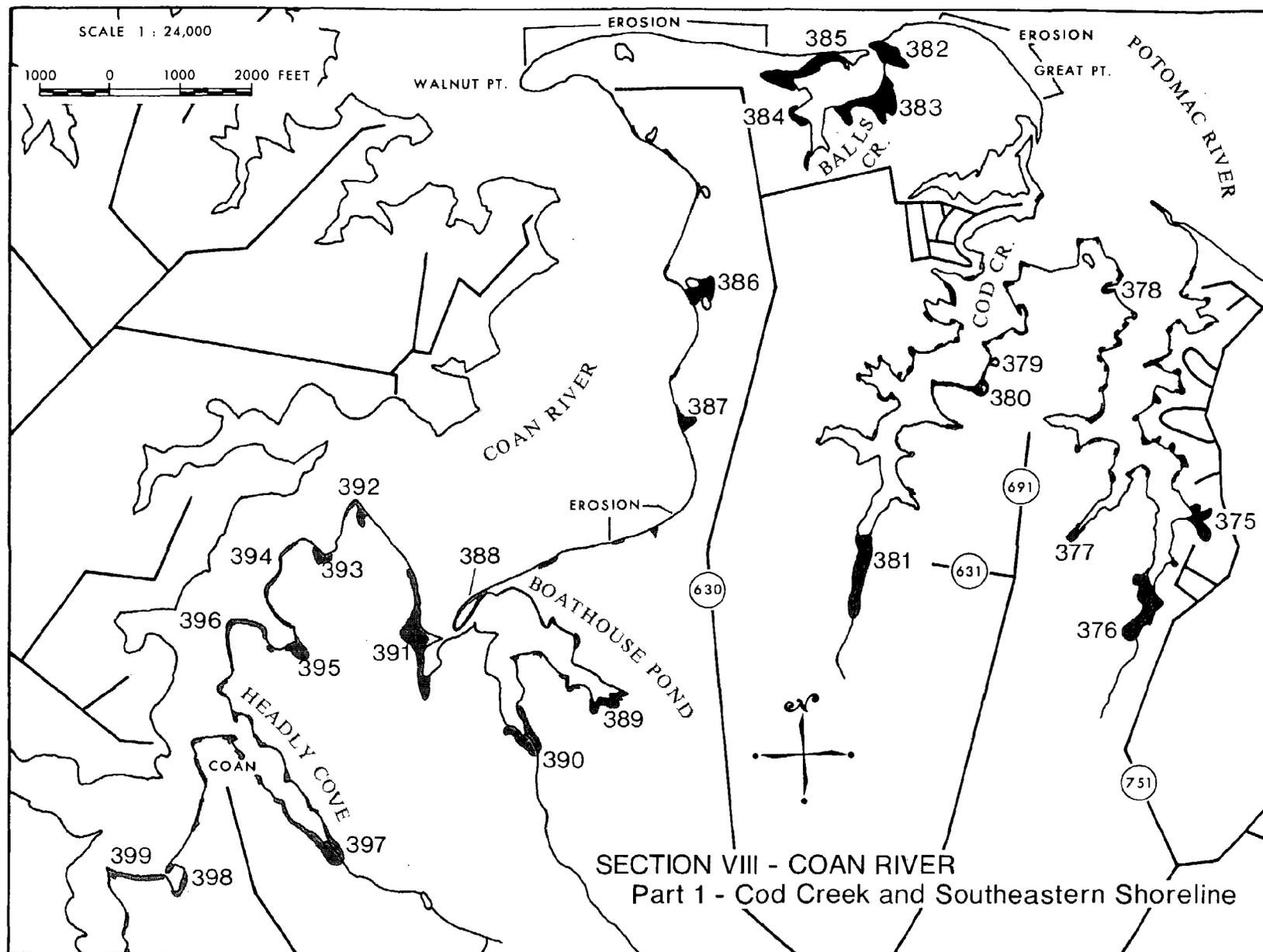
The Coan River Section is divided into three parts:

- Part 1: Cod Creek and Southeastern Shoreline
- Part 2: Upper Part and Mill Creek
- Part 3: The Glebe to Garners Creek

There are 66 marshes in this system, ranging in size from .25 to 56 acres. This system has the largest marsh acreage of any section in the County, totalling 314.3 acres. Three large marshes are found in the upper part of the River (Part 2: Upper Part and Mill Creek). These marshes (Nos. 403, 405, 410), are low salinity wetlands with large stands of Narrow-leaved cattails Typha angustifolia, Big Cordgrass Spartina cynosuroides, and Water Hemp Amaranthus cannabina. Large stands of these species are uncommon in the County. Water Hemp is a particularly valuable plant in that the seeds are one of the favorite foods for waterfowl. A single stem may produce as much as a quart of seeds in the fall of the year. In spring, the young plants of A. cannabina are usually inconspicuous among the taller marsh grasses, but by August or September their willowy, tree-like forms predominate in certain marshes.

A small marshy area near Popes Point (No. 409) is vegetated with a wide variety of marsh species, ranging from narrow fringe of Saltmarsh Cordgrass to freshwater Sweet Flag Acorus calamus, Arrow Arum, Pickerel Weed, Arrowhead Sagittaria spp. and several others. Undoubtedly, upland seepage has a dominating influence on this small pocket marsh.

Large stands of Black Needlerush dominate in two marshes in Kingscote Creek (No. 439) and in Judith Sound (No. 441). These are the largest rush dominated marshes along the Potomac River shoreline in Northumberland County. Before construction of the county road (624) leading to Lewisetta, these two marshes were a single natural system.



Section VIII. Coan River. Part 1. Cod Creek and Southeastern Shoreline

#	PLACE NAME	ACRES	Sa		Jr		Md		Sb		Sc		OTHER		OBSERVATIONS	MARSH TYPE
			%	ACRES	%	ACRES										
375	Cod Creek	4.6	40	1.84	10	.46	10	.46	30	1.38			d 10	.46	pocket marsh	XII
376	Cod Creek	7.4	60	4.44					10	.74			d 30	2.22	pocket marsh	I
377	Cod Creek	.25	40	.1			20		40	.1					pocket marsh	XII
378	Cod Creek	.25	60	.15	40	.1									cove marsh	I
379	Cod Creek	.25	70	.17	30										cove marsh	I
380	Cod Creek	.25	50	.12	40	.1			10						cove marsh	I
381	Cod Creek	6.4	20	1.3					20	1.3			d 60	3.8	pocket marsh	VI
382	Balls Creek	3	80	2.4	15	.45			5	.15					cove marsh	8 ospreys I
383	Balls Creek	4	20	.8			60	2.4	20	.8					cove marsh	II
384	Balls Creek	.25	80	.2					20						cove marsh	I
385	Balls Creek	3	50	1.5	20	.6			10	.3			k 20	.6	cove marsh	I
386	Coan River	2.5					20	.5	80	2					pocket marsh	IV
387	Coan River	.5	10				60	.3	10				d 20		pocket marsh	II
388	Boathouse Pond	1.3	45	.58	5		20	.26	30	.39					spit marsh	XII

Sa = Saltmarsh Cordgrass  
 Jr = Black Needlerush  
 Md = Saltgrass Meadow  
 Sb = Saltbushes  
 Sc = Big Cordgrass

a = Saltmarsh Bulrush  
 b = Saltmarsh Fleabane  
 c = Saltmarsh Aster  
 d = Cattail  
 e = Marsh Hibiscus

f = Water Hemp  
 g = Switch Grass  
 h = Foxtail Grass  
 i = Arrow Arum  
 j = Pickerel Weed

k = Reed Grass  
 l = Olney Threesquare  
 m = Marsh Mallow  
 n = Saltmarsh Loosestrife  
 o = Smartweed

p = Wild Rice  
 q = Sea Lavender  
 r = Marsh Pink  
 s = Saltwort  
 t = Yellow Pond-lily

Section VIII. Coan River. Part 1. Cod Creek and Southeastern Shoreline

#	PLACE NAME	ACRES	Sa		Jr		Md		Sb		Sc		OTHER		OBSERVATIONS	MARSH TYPE
			%	ACRES	%	ACRES	%	ACRES	%	ACRES	%	ACRES	%	ACRES		
389	Boathouse Pond	1	10	.1			10	.1	60	.6			f 20		pocket marsh	IV
390	Boathouse Pond	3.7	20	.74									d f 40 40	1.48 1.48	e, pocket marsh	XII
391	Boathouse Pond	3.5					10	.35	30	1.0	10	.35	d g 40 10	1.4 .35	g, cove marsh	XII
392	Coan River	.3	10				30	.1	30	.1			d 30	.1	point marsh	XII
393	Coan River	.5	30	.15					10		60	.3			pocket marsh	V
394	Coan River	.8	100	.8											fringing marsh	I
395	Coan River	.3	15						15				d 70	.21	cove marsh	VI
396	Coan River	.75	30	.22					10		60	.45			fringing marsh	V
397	Headly Cove	7.4	40	2.9							5	.37	d e f 20 15 20	1.48 1.48	a, pocket marsh	XII
398	Coan River	.25	10						20		30		d f 20 20		e, cove marsh	XII
399	Hawk Nest Point	.3	60	.18					10		30	.1			fringing marsh	I
	Subtotal Section VIII Part 1	52.7		18.7		1.7		5.75		7.5		1.17		16.2		

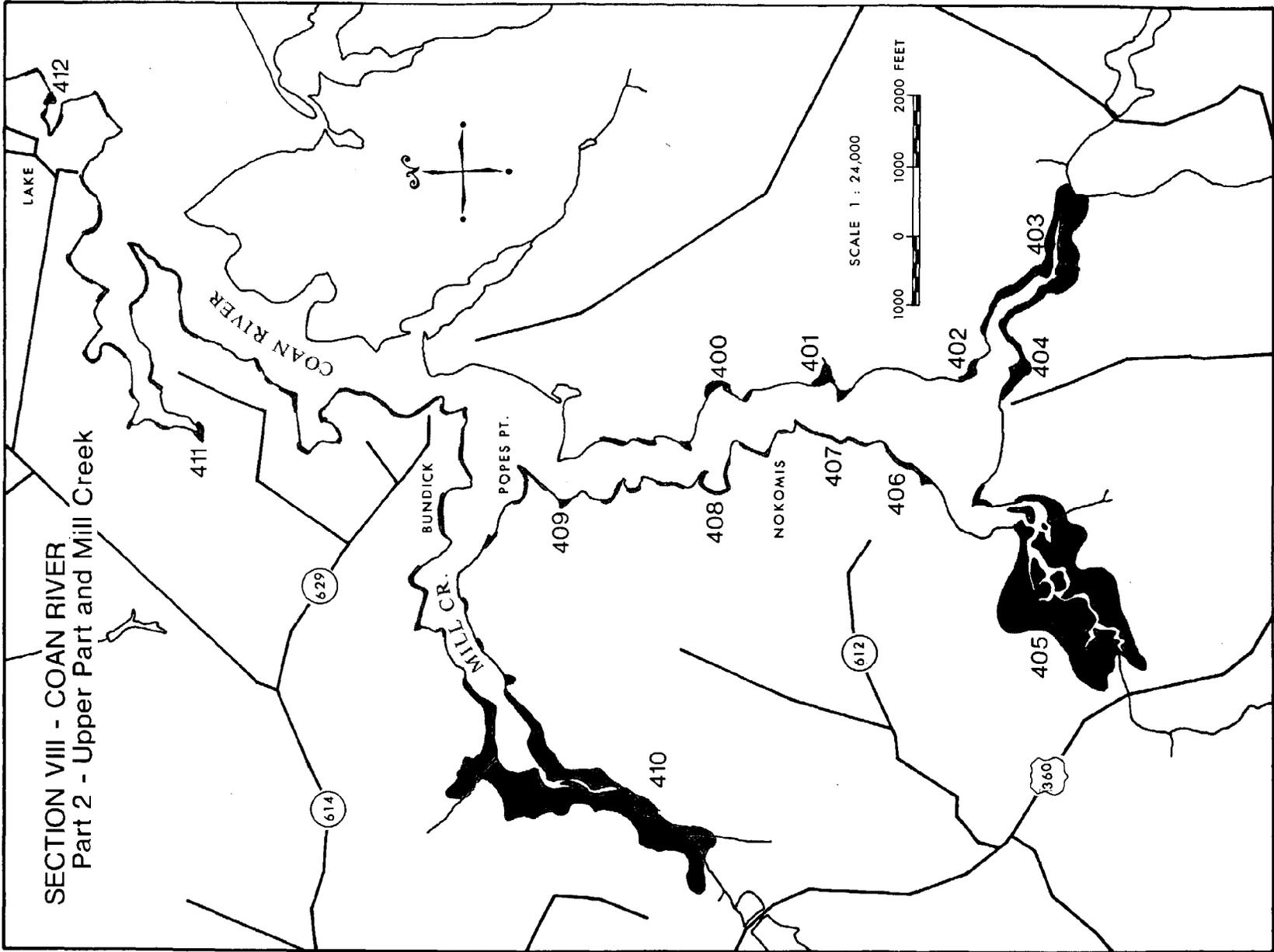
Sa = Saltmarsh Cordgrass  
 Jr = Black Needlerush  
 Md = Saltgrass Meadow  
 Sb = Saltbushes  
 Sc = Big Cordgrass

a = Saltmarsh Bulrush  
 b = Saltmarsh Fleabane  
 c = Saltmarsh Aster  
 d = Cattail  
 e = Marsh Hibiscus

f = Water Hemp  
 g = Switch Grass  
 h = Foxtail Grass  
 i = Arrow Arum  
 j = Pickerel Weed

k = Reed Grass  
 l = Olney Threesquare  
 m = Marsh Mallow  
 n = Saltmarsh Loosestrife  
 o = Smartweed

p = Wild Rice  
 q = Sea Lavender  
 r = Marsh Pink  
 s = Saltwort  
 t = Yellow Pond-lily



Section VIII. Coan River. Part 2. Upper Part and Mill Creek

#	PLACE NAME	ACRES	Sa		Jr		Ma		Sb		Sc		OTHER		OBSERVATIONS	MARSH TYPE	
			%	ACRES	%	ACRES	%	ACRES	%	ACRES	%	ACRES	%	ACRES			
400	Coan River	.3	20						5		50	.15	d	25	Md, fringing marsh	V	
401	Coan River	.75	10						10		30	.22	d f	.15 .15	pocket marsh	XII	
402	Coan River	.75	20	.15					10		20	.15	d f	f 10 40 .3	fringing marsh	XII	
403	Coan River	18.4	10	1.84									d f	9.2 50 40 7.4	i, pocket marsh	VI	
404	Rowes Landing	1	70	.7					10	.1	20	.2			pocket marsh	I	
405	Coan Mill Stream	56	10	5.6			20	11.2			40	22.4	d	30	16.8	creek marsh	XII
406	Forrest Landing	.5							10		90	.45			fringing marsh	V	
407	Forrest Landing	.25	20								80	.2			fringing marsh	V	
408	Coan River	.3	20				20		10		30		d	20	e, cove marsh	XII	
409	Near Popes Point	.25				(SEE TEXT)									pocket marsh	XI	
410	Mill Creek	.43									50	21.5	d f	8.6 20 30 12.9	creek marsh	V	
411	Coan River	.3	10				20		60	.18			d	10	pocket marsh	IV	
412	Lake	.25	10		35		45	.11					d	10	d, f, cove marsh	XII	
	Subtotal Section VIII Part 2	122.0		8.3				11.3		.3		45.3			55.6		

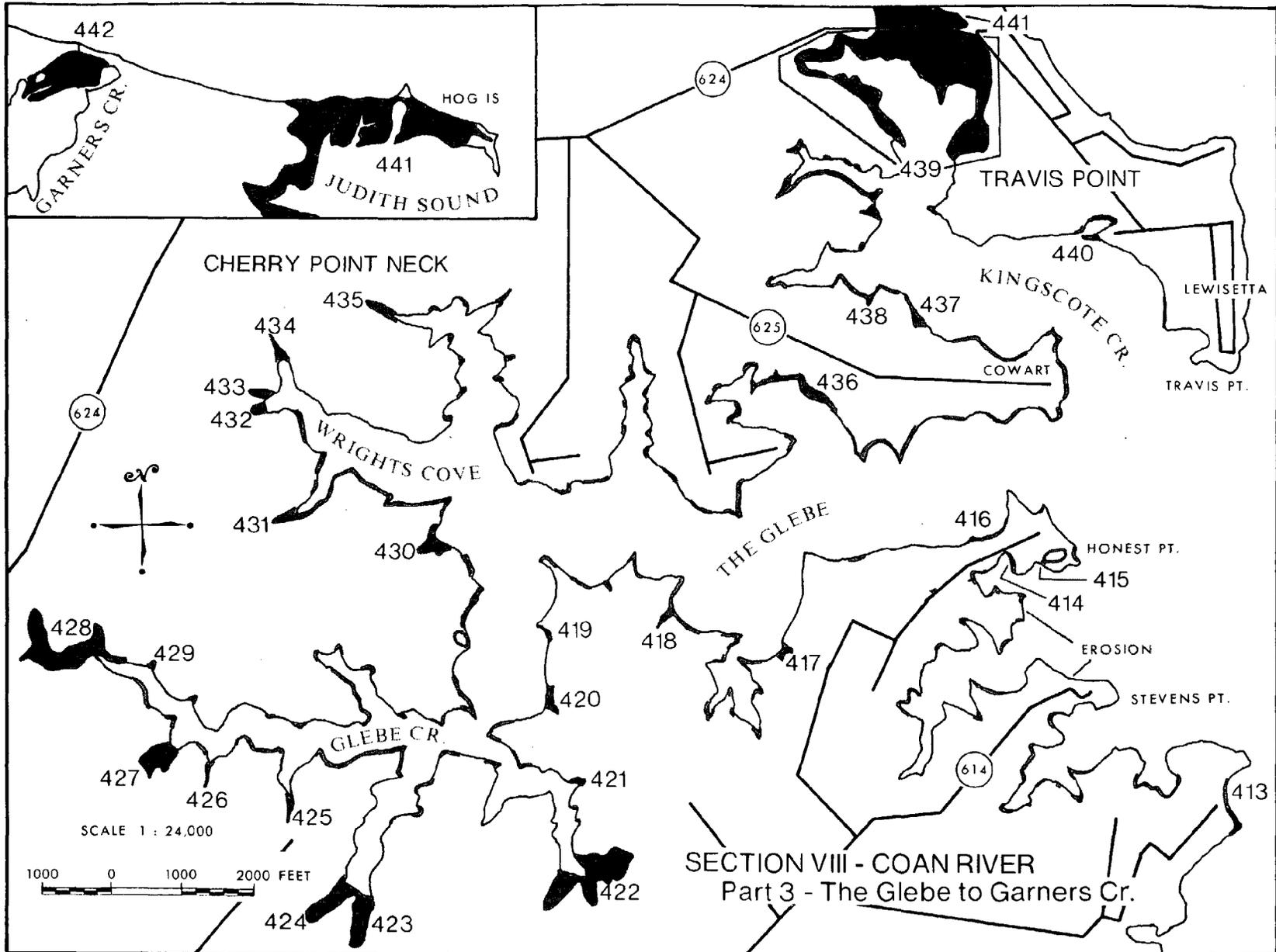
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 Jr = Black Needlerush  
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 b = Saltmarsh Fleabane  
 c = Saltmarsh Aster  
 d = Cattail  
 e = Marsh Hibiscus

f = Water Hemp  
 g = Switch Grass  
 h = Foxtail Grass  
 i = Arrow Arum  
 j = Pickered Weed 80

k = Reed Grass  
 l = Olney Threesquare  
 m = Marsh Mallow  
 n = Saltmarsh Loosestrife  
 o = Smartweed

p = Wild Rice  
 q = Sea Lavender  
 r = Marsh Pink  
 s = Saltwort  
 t = Yellow Pond-lily



Section VIII. Coan River. Part 3. The Glebe to Garners Creek

#	PLACE NAME	ACRES	% Sa ACRES	% Jr ACRES	% Md ACRES	% Sb ACRES	% Sc ACRES	OTHER ACRES		OBSERVATIONS	MARSH TYPE		
413	Coan River	.3	90	.27				10		fringing marsh	I		
414	Honest Point Area	.25	20	80	.2					fringing marsh	III		
415	Honest Point	.25	40	.1	60	.12				cove marsh	III		
416	The Glebe	.25	60	.12	10		10	20		fringing marsh	I		
417	The Glebe	.25	20		20		10	20	d g 20 10	cove marsh	XII		
418	The Glebe	.25	40	.1		20		40	.1	pocket and fringe marsh	XII		
419	Glebe Creek	.25	10		30		30	30		pocket marsh	XII		
420	Glebe Creek	.3	30		10			20	e f 20 20	pocket marsh	XII		
421	Glebe Creek	.25	10			10		40	.1	d 40	pocket marsh	XII	
422	Glebe Creek	8.4				10	.84	70	5.88	e f 10 10	.84 .84	pocket marsh	IV
423	Glebe Creek	6.4				10	.64	90	5.76			Sa, pocket marsh	IV
424	Glebe Creek	4.6				10	.46	90	4.14			Sa, pocket marsh	IV
425	Glebe Creek	.3	10					50	.15	d e 20 20		pocket marsh	IV
426	Glebe Creek	.25	10					50	.12	d 40	.1	f, pocket marsh	IV

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 n = Saltmarsh Loosestrife  
 o = Smartweed

p = Wild Rice  
 q = Sea Lavender  
 r = Marsh Pink  
 s = Saltwort  
 t = Yellow Pond-lily

Section VIII. Coan River. Part 3. The Glebe to Garners Creek

#	PLACE NAME	ACRES	Sa		Jr		Md		Sb		Sc		OTHER		OBSERVATIONS	MARSH TYPE	
			%	ACRES	%	ACRES	%	ACRES	%	ACRES	%	ACRES	%	ACRES			
427	Glebe Creek	5	10	.5					50	2.5			d 40	2	f, pocket marsh	IV	
428	Glebe Creek	9	10	.9					80	7.2			f 10	.9	pocket marsh	IV	
429	Glebe Creek	.25						40	.65	20		10	e 30		pocket marsh	XII	
430	Glebe Creek	1.3	10	.13				40	.52	20	.26	10	.13	e 20	.26	pocket marsh	XII
431	Wrights Cove	1.3	10	.13					90	1.17					pocket marsh	IV	
432	Wrights Cove	.6						20	.12	80	.48				pocket marsh	IV	
433	Wrights Cove	.75						20	.15	80	.6				pocket marsh	IV	
434	Wrights Cove	1						10	.1	80	.8		d 10	.1	pocket marsh	IV	
435	Wrights Cove	1.2	30	.36				10	.12	30	.36		f 30	.36	pocket marsh	XII	
436	The Glebe	1.4	60	.84	20	.28			20	.28					40 ft. by 1,500 ft. fringing marsh	I	
437	Kingscote Creek	.25	10		10		40	.1	40	.1					fringing marsh	XII	
438	Kingscote Creek	.3	10		30	.1	40	.12	10		10				pocket marsh	XII	
439	Kingscote Creek	42	5	2.1	85	35.7	5	2.1	5	2.1					k, cove marsh	III	
440	Kingscote Creek	1	10	.1	30	.3	30	.3	30	.3					cove marsh	XII	

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 i = Arrow Arum  
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## Section IX

### Yeocomico River

The Yeocomico River is divided into three Sections:

- Part 1: Cherry Point Neck Area
- Part 2: Lodge Creek
- Part 3: Mill Creek and Hampton Hall Branch

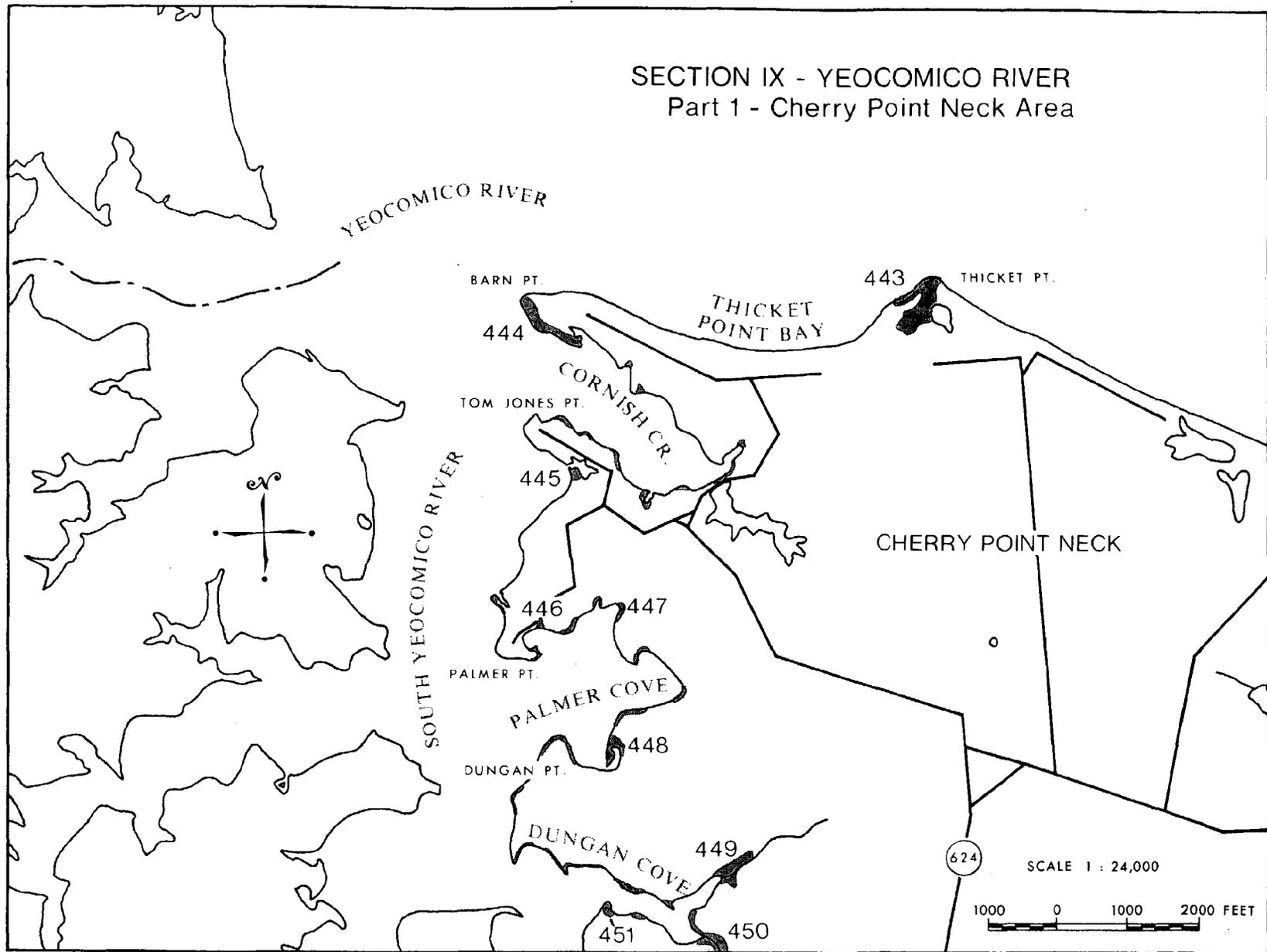
Most of the Yeocomico River lies within Northumberland County. The West Yeocomico River and Hampton Hall Branch form the natural boundary between Northumberland and Westmoreland Counties. The wetlands of the Yeocomico River within Westmoreland County will be recorded in the forthcoming Westmoreland County Tidal Marsh Inventory.

There are 31 marshes in the Northumberland County section totalling over 65 acres. The largest marshes (Nos. 455, 465, 475) occur in the upper arms of this branched river system. Typically, marshes such as these, located at the upper ends of rivers, branches or large creeks are relatively undisturbed primarily because of shoal, muddy bottoms which restrict boat traffic. Here are also found a diversity of marsh plants, of which many rank high as food sources and habitat for wildlife and waterfowl.

In contrast, along the lower reaches of the branches of the Yeocomico River and near its mouth, a large portion of the shoreline is dominated by bulkheads associated with residential development. Many of the bulkheads are of the "cosmetic" type, that is, landscaped lawns graded down to the top of the bulkhead. This is common practice in many waterfront development areas.

Many of these bulkheads are constructed beyond the natural shoreline and often a fringing marsh is destroyed in the process. This practice is not only contrary to the Virginia Wetlands Act of 1972, but more importantly, it eliminates a natural deterrent to erosion, the fringing marsh. In many cases "cosmetic" bulkheads are constructed not as an artificial barrier to erosion but as a means to "improve" the value to residential property. This practice, if carried out repeatedly within a creek or river system will certainly have a culminative, detrimental effect on the marine environment.

SECTION IX - YEOCOMICO RIVER  
Part 1 - Cherry Point Neck Area



Section IX. Yeocomico River. Part 1. Cherry Point Neck

#	PLACE NAME	ACRES	Sa		Jr		Md		Sb		Sc		OTHER		OBSERVATIONS	MARSH TYPE
			%	ACRES	%	ACRES										
443	Thicket Point	5.5	5	.27			5	.27					d 90	4.95	closed to daily tides	VI
444	Barn Point	1	5				30	.3	30	.3			k35	.35	spit marsh	XII
445	South Yeocomico River	.25	30		40	.1			15		15				cove marsh	XII
446	Palmer Cove	.25	5		90	.22			5						pocket marsh	III
447	Palmer Cove	.5	30	.15	20	.1	20	.1	10				d g 10 10		fringing marsh	XII
448	Palmer Cove	.5	30	.15	40	.2			30	.15					spit marsh	XII
449	Dungan Cove	1.3					20	.26	80	1.0					pocket marsh	IV
450	Dungan Cove	1	5				15	.15	80	.8					pocket marsh	IV
451	Dungan Cove	.25	10		50	.12			20		20				point marsh	III
	Subtotal Section IX Part 1	10.55		.57		.74		1.0		2.25				5.3		

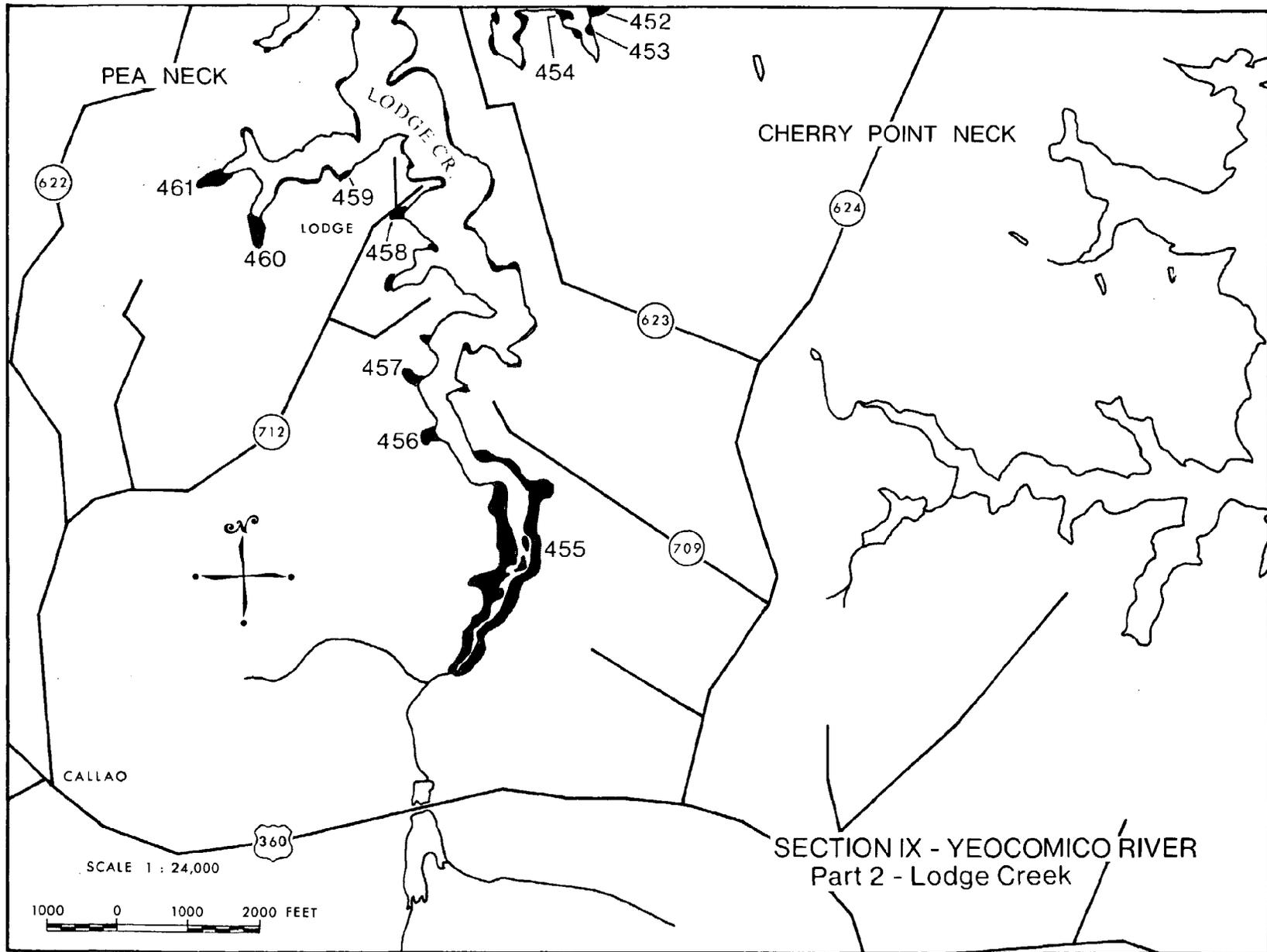
Sa = Saltmarsh Cordgrass  
 Jr = Black Needlerush  
 Md = Saltgrass Meadow  
 Sb = Saltbushes  
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a = Saltmarsh Bulrush  
 b = Saltmarsh Fleabane  
 c = Saltmarsh Aster  
 d = Cattail  
 e = Marsh Hibiscus

f = Water Hemp  
 g = Switch Grass  
 h = Foxtail Grass  
 i = Arrow Arum  
 j = Pickerel Weed

k = Reed Grass  
 l = Olney Threesquare  
 m = Marsh Mallow  
 n = Saltmarsh Loosestrife  
 o = Smartweed

p = Wild Rice  
 q = Sea Lavender  
 r = Marsh Pink  
 s = Saltwort  
 t = Yellow Pond-lily



Section IX. Yeocomico River. Part 2. Lodge Creek Area

#	PLACE NAME	ACRES	Sa		Jr		Md		Sb		Sc		OTHER		OBSERVATIONS	MARSH TYPE
			%	ACRES	%	ACRES	%	ACRES	%	ACRES	%	ACRES	%	ACRES		
452	South Yeocomico River	.75	10		30		10		50	.37					pocket marsh	IV
453	South Yeocomico River	.25	5		45				20		30				point marsh	XII
454	South Yeocomico River	.5	5		45				50						point marsh	IV
455	Lodge Creek	14	5	.7								d f 80 15	11.2 2.1	e, creek marsh	VI	
456	Lodge Creek	1	10	.1							20	.2	d f 30 40	.3 .4	pocket marsh	XI
457	Lodge Creek	1.2	10	.12									d 20f 35 35k	d .24f .42 .42k	pocket marsh	XI
458	Lodge Creek	.25	10						5		5		d 80	.2	pocket marsh	VI
459	Lodge Creek	.25	10				20		30				d 40	.1	pocket marsh	XII
460	Lodge Creek	1.3				10	.13	80	1.0				d 10	.13	pocket marsh	IV
461	Lodge Creek	1.4	20	.24		10	.14	50	.7	10	.14		d 10	.14	pocket marsh	IV
	Subtotal Section IX Part 2	21		1.16			.27		2.0		.34			15.65		

Sa = Saltmarsh Cordgrass  
 Jr = Black Needlerush  
 Md = Saltgrass Meadow  
 Sb = Saltbushes  
 Sc = Big Cordgrass

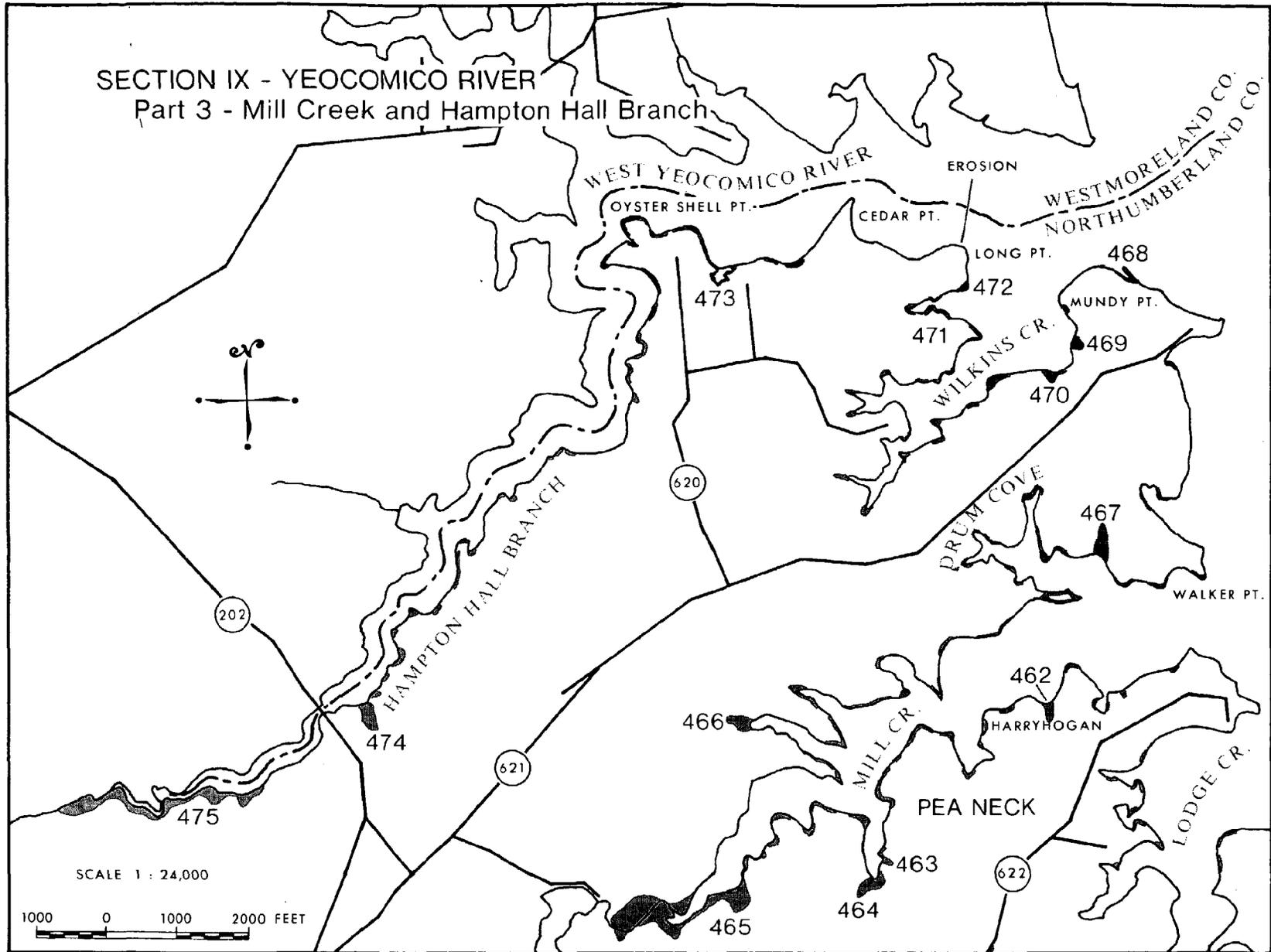
a = Saltmarsh Bulrush  
 b = Saltmarsh Fleabane  
 c = Saltmarsh Aster  
 d = Cattail  
 e = Marsh Hibiscus

f = Water Hemp  
 g = Switch Grass  
 h = Foxtail Grass  
 i = Arrow Arum  
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k = Reed Grass  
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 m = Marsh Mallow  
 n = Saltmarsh Loosestrife  
 o = Smartweed

p = Wild Rice  
 q = Sea Lavender  
 r = Marsh Pink  
 s = Saltwort  
 t = Yellow Pond-lily

SECTION IX - YEOCOMICO RIVER  
Part 3 - Mill Creek and Hampton Hall Branch



Section IX. Yeocomico River. Part 3. Mill Creek - Hampton Hall Branch

#	PLACE NAME	ACRES	Sa		Jr		Md		Sb		Sc		OTHER		OBSERVATIONS	MARSH TYPE
			%	ACRES	%	ACRES	%	ACRES	%	ACRES	%	ACRES	%	ACRES		
462	Mill Creek	.5	5		85	.42			10						pocket marsh	III
463	Mill Creek	.25	20						10				d 70	.17	pocket marsh	VI
464	Mill Creek	1.5	30	.45									d 25f 35 10e	d .37f .52 .15e	pocket marsh	XI
465	Mill Creek	14	30	4.2				5	.7				d 30f 30 e5	d 4.2f 4.2 .7e	pocket marsh	XI
466	Mill Creek	1.3	5					90	1.17				f 5		pocket marsh	IV
467	Drum Cove	.75	25		70	.52					5				pocket marsh	III
468	Mundy Point	.25	80	.2	10				10						fringing on channel	I
469	Wilkins Creek	.5	15		80	.4			5						point marsh	III
470	Wilkins Creek	.5	10		20	.1	50	.25	20	.1					pocket marsh	II
471	Wilkins Creek	.25	40	.1					20				a g 20 20		fringing marsh	XII
472	Long Point	.25	5		30		40	.1	20		5				point marsh	XII
473	Oyster Shell Pt.	.25	80	.2					20						cove marsh	I
474	Hampton Hall Branch	1.3	40	.52									d f 55 5	.7		VI
475	Hampton Hall Branch	12	10	1.2					10	1.2			d t 40 40	d t 4.8 4.8		XI

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 h = Foxtail Grass  
 i = Arrow Arum  
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