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# Distribution of Submerged Aquatic Vegetation in the Chesapeake Bay and Tributaries—1985



Chesapeake Bay Program

# Distribution of Submerged Aquatic Vegetation in the Chesapeake Bay and Tributaries - 1985

by

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Acknowledgement would not be complete without high commendation for the citizens and Maryland charterboat captains who took part in an unusual pilot program to provide "groundtruthing" of SAV beds to be used in conjunction with interpretation of the 1985 photography.

The Citizens' Program for the Chesapeake Bay and the Chesapeake Bay Foundation, together with the U.S. Fish and Wildlife Service, organized nearly 150 citizens to report locations of grass beds around the Bay.

In addition, about fifteen members of the Maryland Charterboat Association, funded by Maryland DNR, participated in the ground truthing program and contributed valuable information on location of grassbeds. The entire 1985 program, though arranged on relatively short notice, promised great potential benefits (from both informational and participational standpoints) that an expanded 1986 ground truthing program was organized.

There are certain people who have made a project like this a real possibility. In addition, the production of such a report required the dedication of numerous technicians, artists and photographers. The following people deserve a note of thanks: Bert Brun, U.S. Fish and Wildlife Service (F&WS); Frank Dawson, Maryland Department of Natural Resources (Md.DNR); Woody Francis, Baltimore Corps of Engineers (COE); Michelle Feely, Mary Jo Shackelford, Harold Burrell, Kay Stubblefield, Sylvia Motley, Billy Jenkins, Adam Frisch and Maxine Butler, Virginia Institute of Marine Science (VIMS); Rich Batiuk, EPA Chesapeake Bay Program (USEPA-CBP); Ann Pesiri Swanson, Chesapeake Bay Foundation (CBF); Janet Hardy Harvey, Citizens Program for the Chesapeake Bay (CPCB); Stan Kollar, Harford Community College (HCC); Teresa Peters, Danny Elliot, Marianne Werz, Ernie Stone, Kristen Koehler, Evan Crow, Tom Crow, and John Brown, the Bionetics Corporation; Court Stevenson, University of Maryland Horn Point Laboratory (HPL). Catherine Carter, Walter Rhodes, William Perry, Jr., and David Wineholt should be recognized for conducting the field work associated with the Md.DNR ground survey.

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ABSTRACT

In 1985, color aerial photography at a scale of 1:12,000 was used to map SAV in the Maryland section of the Chesapeake Bay, while black and white photography at a scale of 1:24,000 was used to map the Virginia section. Both areas had been photographed with 1:24,000 color photography in 1984. SAV beds detected on the aerial photography were traced onto mylar USGS topographic quadrangles, and areas of each bed were then digitized. Data were reported in square meters for each quadrangle. Ground information was available from USGS, Md.DNR, University of Maryland, Horn Point Laboratory, Harford Community College and VIMS. Citizen support via the Chesapeake Bay Foundation and Citizens Program for the Chesapeake Bay as well as Maryland's Charterboat Association via Maryland's DNR Watermen's Assistance PRogram provided additional ground support.

A total of 19,390 hectares of SAV was mapped in 1985, a 26% increase over that reported in 1984 (15,400 hectares). The Upper Bay zone had 3,025 hectares, a decrease of 4.5% (15.6% of the total SAV in the bay) from that reported in 1984. Sixty-six percent of the vegetation was located on the Susquehanna Flats. The Middle Bay zone had 4986 hectares of SAV (25.7% of the total SAV in the bay), which represents a 389% increase from that reported in 1984). Most of this increase was reported from Eastern Bay, Choptank River and the Middle Eastern Shore section. SAV beds in those areas of the main stem bay that showed the greatest increase consisted primarily of *Ruppia maritima*. The Upper Potomac River section continued to show improvement in SAV abundance with 1440 hectares in 1985. Although *Hydrilla verticillata* is the dominant species, fourteen other species coexist with *H. verticillata*. The Lower Bay zone had 11,379 hectares (58.7%

of the total SAV in the bay), an amount similar to that reported in 1984. Sixty-eight percent of the SAV in this zone is found along the bayside of the eastern shore, principally between Tangier and Smith Islands and the mouths of Cherrystone Inlet, Hungars Creek, Mattawoman Creek, Pungoteague Creek, Craddock Creek and Chesconessex Creek. Western shore SAV beds are concentrated at the mouth of York River, Plum Tree Island, Back River and along the shoreline of the Mobjack Bay.

# SECTION 1

# INTRODUCTION

Communities of submerged aquatic vegetation (SAV) are an integral part of the Chesapeake Bay ecosystem. They provide an important habitat for many species which use SAV either as a food source or as protection from predators, e.g., a nursery. They reduce currents and baffle waves, allowing for deposition of suspended material and enhanced water clarity. In addition, they bind sediments with their roots and rhizomes to prevent erosion of the underlying material. They are important in nutrient cycling both through the absorption and release of nitrogen and phosphorus (Thayer et al., 1975; Kemp et al., 1984; Orth et al., 1984; Ward et al., 1984).

The interest in SAV communities generated in the 1970's because of their dramatic baywide decline has continued to the 1980's. A key aspect of the research programs recently being funded in both Maryland and Virginia entails an annual monitoring of all SAV beds in the Chesapeake Bay and its tributaries.

The first baywide aerial survey of SAV beds was conducted in 1978 and resulted in two separate reports for the SAV distribution in Virginia and Maryland (Orth et al., 1979; Anderson and Macomber, 1980). Between 1979 and 1984, a number of field and aerial surveys were conducted by various state agencies in sections of the bay, but there was no single attempt to conduct or coordinate a baywide effort to monitor the SAV distribution.

The first coordinated effort to map all the SAV beds in the bay was attempted in 1984. In addition to the aerial surveys, any ground survey information available for 1984 was included to provide as detailed a picture as possible of the distribution of SAV that year (Orth et al., 1985).

Although some problems were experienced in acquiring the photography (poor weather, airspace restrictions, etc.), almost all areas were covered with photography. Ground surveys included efforts by the U.S. Geological Survey (USGS) and the Northern Virginia Community College (NVCC) in the Potomac River, Maryland's Department of Natural Resources (DNR) SAV station survey of the entire upper bay, the Virginia Institute of Marine Science (VIMS) surveys in the lower bay, and several sectional surveys conducted by Harford Community College (HCC) and the University of Maryland's Horn Point Laboratory (HPL).

A coordinated aerial photographic survey for SAV adjacent to the shoreline of the Chesapeake Bay and its tributaries was repeated in 1985. Ground survey information was available from USGS, DNR, HPL, HCC and VIMS. In addition to these scientific surveys, the Chesapeake Bay Foundation (CBF) and the Citizens Program for the Chesapeake Bay (CPCB) solicited help from citizen volunteers to help locate SAV beds and provide ground truth for the aerial photography. Maryland's Charterboat Association also participated in the SAV ground truthing through funding provided by Maryland's DNR Watermen's Assistance Program.

This final report again represents a unique effort to combine all the SAV information for 1985 into one cohesive baywide product.

## SECTION 2

## SAV SPECIES

Ten species of submerged aquatic vegetation are commonly found in the Chesapeake Bay and its tributaries. Zostera marina (eelgrass) is dominant in the lower reaches of the bay. Myriophyllum spicatum (water milfoil), Potamogeton pectinatus (sago pondweed), P. perfoliatus (redhead grass), Zannichelia palustris (horned pondweed), Vallisneria americana (wild celery), Elodea canadensis (common elodea), Ceratophyllum demersum (coontail) and Najas guadalupensis (southern naiad) are less tolerant of high salinities and are found in the middle and upper reaches of the bay (Stevenson and Confer, 1978; Orth et al., 1979; Orth and Moore, 1981, 1983). Ruppia maritima (widgeongrass) is tolerant of a wide range of salinities and is found from the bay mouth to the Susquehanna Flats. Approximately ten other species are found less commonly and are present primarily in the middle and upper reaches of the bay and the rivers (Appendix A). One species presently found in the Potomac River and Susquehanna Flats, Hydrilla verticillata (hydrilla), has the potential for becoming one of the dominant species found there (Orth and Moore, 1984; Allaire et al., 1985; Rybicki et al., 1985). Data in this report confirm the rapid spread of H. verticillata in the Potomac River.

# SECTION 3

# METHODS

## Aerial Photography

Aerial photography was the principal method used to assess the distribution of SAV in the Chesapeake Bay and its tributaries in the 1985 study. Predetermined flight lines for photographing areas that either had SAV or could potentially have SAV (i.e., all areas where water depths were less than 2 m at mean low water) were drawn on 1:250,000 scale USGS maps to ensure both complete coverage of SAV beds and inclusion of land features as control points for mapping accuracy (Figs. 1 and 2). The large number of flight lines in Maryland compared to Virginia corresponded to the different scale at which the photography was flown in the upper bay. In addition, additional flight lines were added in Maryland for emergent wetlands mapping. Some areas in Virginia were not included because of the known lack of SAV in those areas. All the shoreline areas in Maryland were photographed in 1985.

The general guidelines used for mission planning and execution are given in Table 1. These guidelines, which address tidal stage, plant growth, sun elevation, water and atmospheric transparency, turbidity, wind, sensor operation and plotting, allowed for acquisition of photographs under near-optimal conditions. The guidelines are critical because significant distortion of any one item could significantly decrease the ability to detect the SAV or to interpret the photography properly as to the presence or absence of SAV.

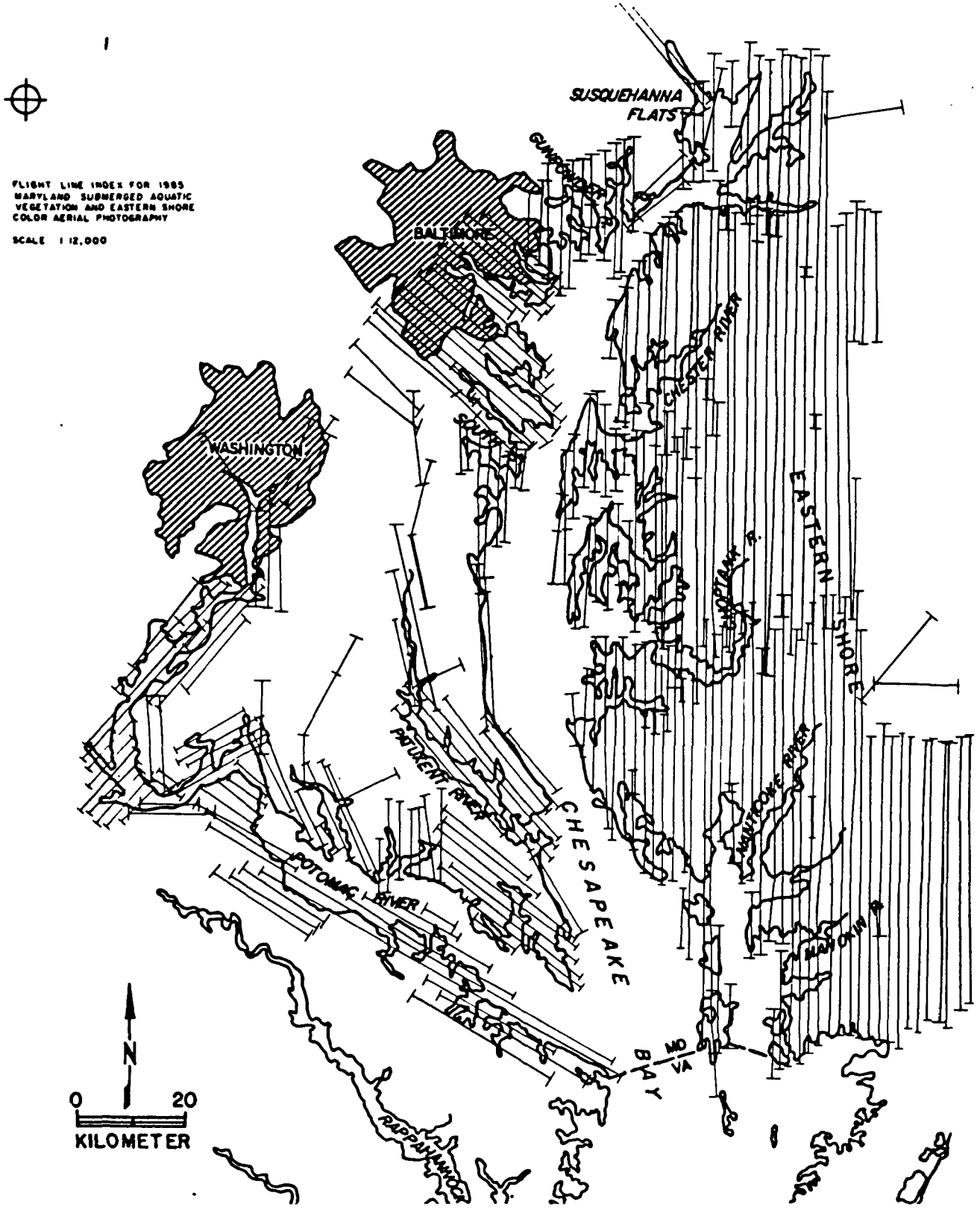



Figure 1. Flight lines used for acquisition of aerial photographs of SAV in 1985 for Maryland.

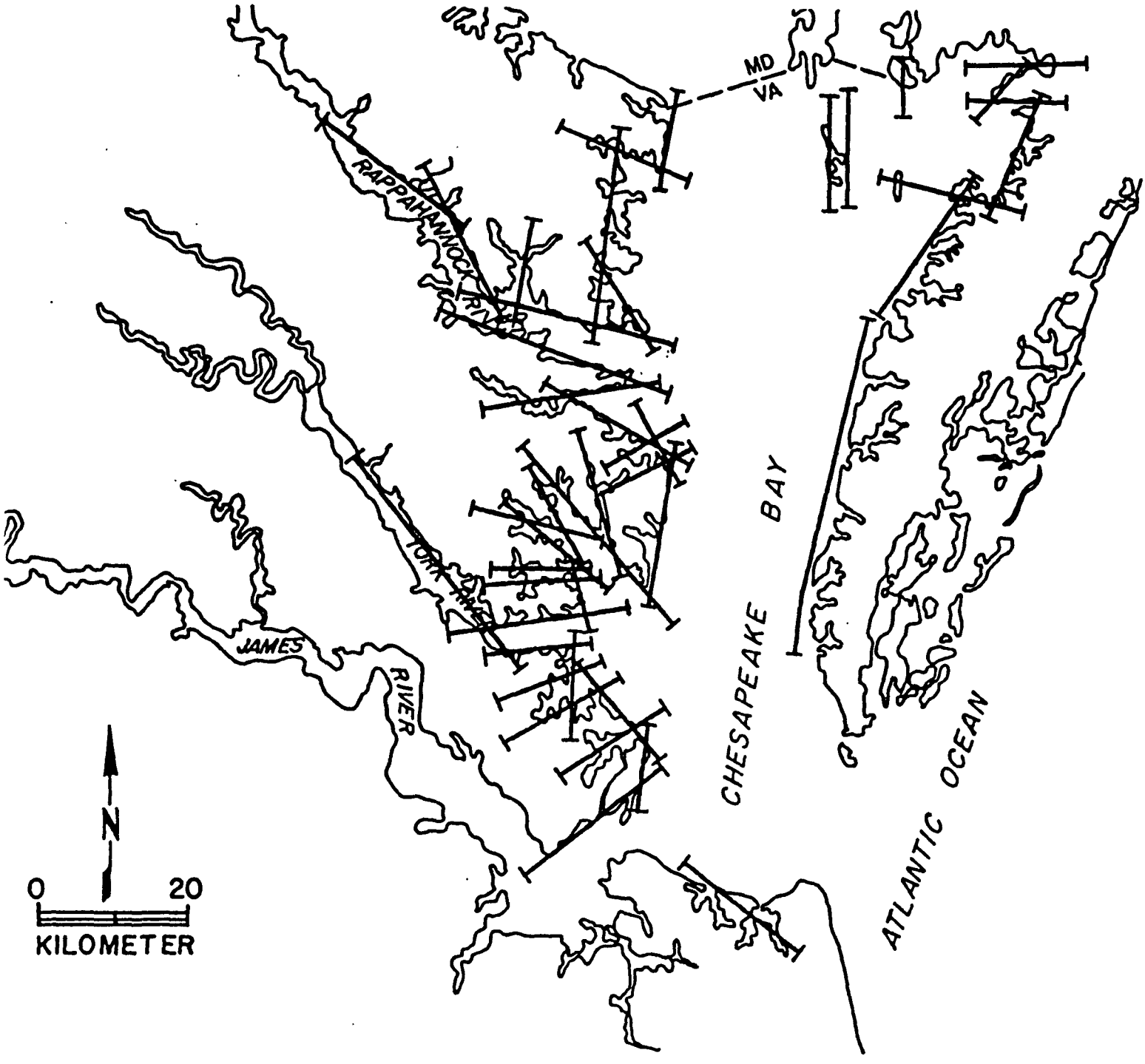



Figure 2. Flight lines used for acquisition of aerial photographs of SAV in 1985 for Virginia.

TABLE 1. GUIDELINES FOLLOWED DURING ACQUISITION OF AERIAL PHOTOGRAPHS.

1. Tidal Stage - Photography was acquired at low tide, +/- 0-1.5 ft., as predicted by the National Ocean Survey tables.

2. Plant Growth - Imagery was acquired when growth stages ensured maximum delineation of SAV, and when phenologic stage overlap was greatest.

3. Sun Angle - Photography was acquired when surface reflection from sun glint did not cover more than 30 percent of frame. Sun angle was generally between 20*p* and 40*p* to minimize water surface glitter. At least 60 percent line overlap and 20 percent side lap was used to minimize image degradation due to sun glint.

4. Turbidity - Photography was acquired when clarity of water ensured complete delineation of grass beds. This was visually determined from the airplane to insure that SAV could be seen by the observer.

5. Wind - Photography was acquired during periods of no or low wind. Off-shore winds were preferred over on-shore winds when wind conditions could not be avoided.

6. Atmospherics - Photography was acquired during periods of no or low haze and/or clouds below aircraft. There could be no more than scattered or thin broken clouds, or thin overcast above aircraft, to ensure maximum SAV to bottom contrast.

7. Sensor Operation - Photography was acquired in the vertical mode with less than 5 degrees tilt. Scale/altitude/film/focal length combination permitted resolution and identification of one square meter area of SAV (surface).

8. Plotting - Each flight line included sufficient identifiable land area to assure accurate plotting of grass beds.

The acquisition of aerial photography for SAV in Virginia was contracted to Air Photographics, Inc. by the Bionetics Corporation, the on-site contractor to the U.S. EPA Environmental Photographic Interprative Complex (EPA-EPIC). The camera used was a Wild RC 10 cartographic camera with a 152 mm (6 inch) focal length Aviogon lens. Film used was Kodak 24 cm (9 1/2 inch) square negative Double X Aerographic type 2405. The camera was mounted in a camera port in the bottom fuselage of Air Photographics, twin engine, fixed low wing Piper Aztec aircraft. A Wratten 1A haze filter was used inside the cone of the camera to reduce the degrading effect of atmospheric haze on image quality. Flights were conducted at an altitude of approximately 12,000 ft, yielding a scale of 1:24,000 for the photograph, approximating that of a standard USGS topographic quadrangle.

The SAV photography for the Maryland waters was obtained by Aero Eco under contract to the Bionetics Corporation (onsite contractor for EPA/EPIC). The camera used by Aero Eco was a Zeiss Jena LMK 15/2323 with a 153 mm (6 inch) focal length Zeiss Jena Lamegon PI/C lens. The film used was Kodak 24 cm (9 1/2 inch) squarepositive Aerochrome MS type 2448. The camera was mounted in the bottom fuselage of Aero Eco's Partenavia P68 Observer, a twin engine high wing reconnaissance aircraft. The photography was acquired at an approximate altitude of 6,000 feet, yielding a photographic scale of 1:12,000.

The only problem encountered during the acquisition of the 1985 aerial photography was getting permission to fly in the restricted airspace over Aberdeen Proving Ground. The delays caused acquisition to be pushed back to October 27, which was too late to get the SAV at its peak biomass, although much SAV was still visible.

## Mapping Process

Fig. 3 gives the location of the topographic quadrangles in the study area. This area includes all regions with a potential for SAV growth. The quadrangles are sequentially numbered to allow for more efficient access to the data. Table 2 gives the corresponding names of the 157 quadrangles shown in Fig. 3.

SAV beds were identified on the photographs using all available information, including knowledge of aquatic grass signatures on the film, areas of grass coverage from previous flights, ground information, and aerial visual surveys. Mylar topographic quadrangles (1:24,000 for Virginia, 1:12,000 for Maryland) were used as base maps in the mapping process. Delineation of SAV bed boundaries was facilitated by superimposing on a light table the appropriate mylar quadrangle with the transparent photograph. SAV boundaries were delineated on the mylar map with a pencil. Where minor scale differences were evident between the photograph and quadrangle or where significant shoreline erosion or accretion had occurred since production of the map, a best fit was obtained, or shoreline changes were noted on the quadrangle. Areas of SAV beds were derived from the topographic quadrangles. VIMS measurements were made on a Numonics Graphics Calculator, model 1224 for the lower bay, while EPIC utilized a Calma Graphic Interactive Image Analysis System based on a Data General Eclipse S230 minicomputer for upper bay areas. Each SAV bed was digitized three times and the area reported as the average of the three. Each of the three measurements was generally within 5% of the mean.

In addition to the boundaries of the SAV bed, an estimate of percent cover within each bed was made visually in comparison with an enlarged Crown

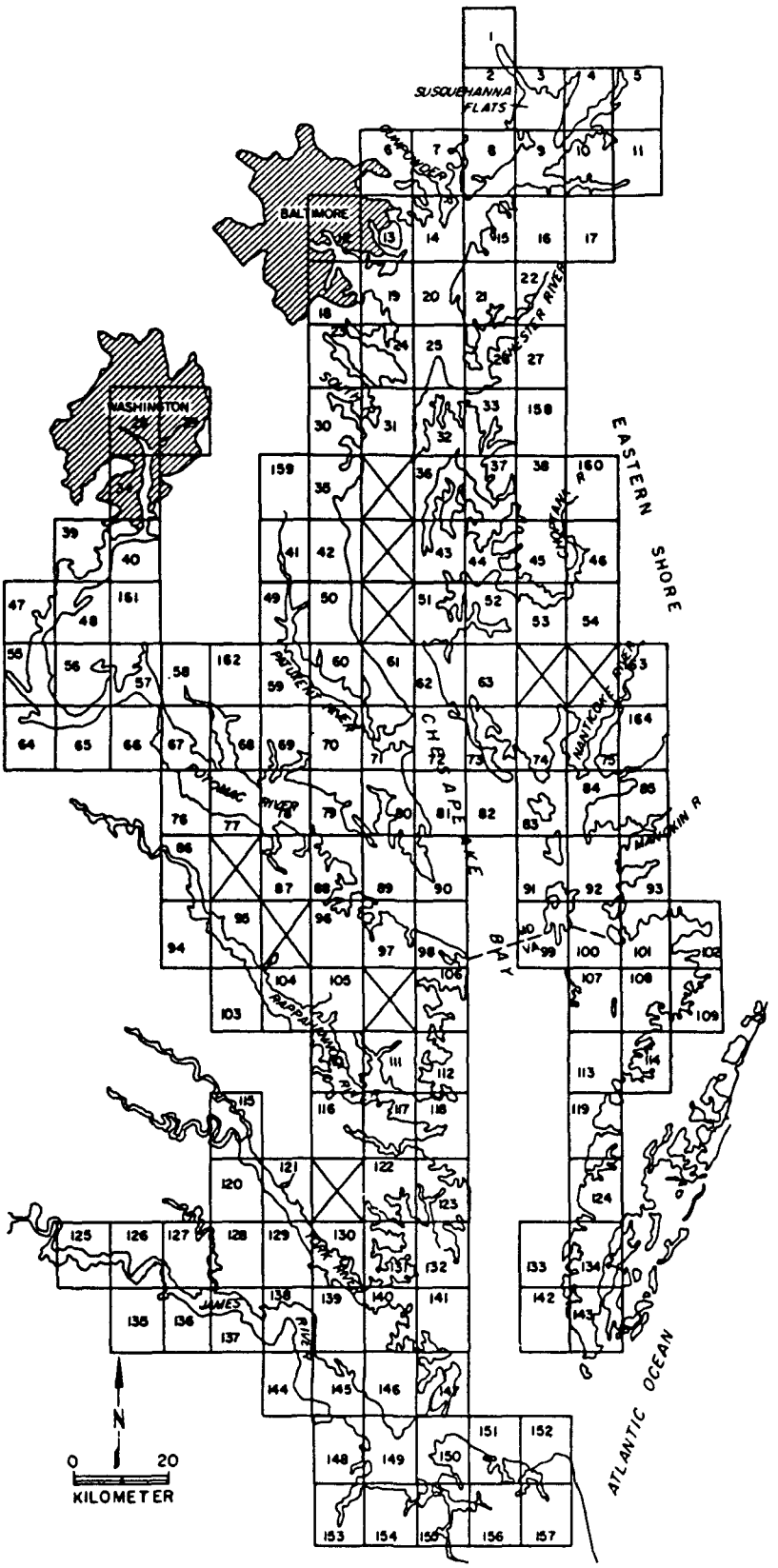



Figure 3. Location of topographic quadrangles in the Chesapeake Bay and tributaries for determining distribution of SAV.

TABLE 2. LIST OF USGS 7.5-MINUTE QUADRANGLES IN CHESAPEAKE BAY SAV STUDY ARE AND CORRESPONDING CODE NUMBERS (SEE FIG. 3 FOR LOCATION OF QUADRANGLES. THOSE TOPOGRAPHIC QUADRANGLES WITH SAV BEDS CAN BE FOUND IN APPENDIX C).

1. Conowingo Dam, Md.-Pa.
2. Aberdeen, Md.
3. Havre de Grace, Md.
4. NorthEast, Md.
5. Elkton, Md.
6. White Marsh, Md.
7. Edgewood, Md.
8. Perryman, Md.
9. Spesutie, Md.
10. Earleville, Md.
11. Cecilton, Md.
12. Baltimore East, Md.
13. Middle River, Md.
14. Gunpowder Neck, Md.
15. Hanesville, Md.
16. Betterton, Md.
17. Galena, Md.
18. Curtis Bay, Md.
19. Sparrows Point, Md.
20. Swan Point, Md.
21. Rock Hall, Md.
22. Chestertown, Md.
23. Round Bay, Md.
24. Gibson Island, Md.
25. Love Point, Md.
26. Langford Creek, Md.
27. Centreville, Md.
28. Washington West, Md.-D.C.-Va.
29. Washington East, D.C.-Md.
30. South River, Md.
31. Annapolis, Md.
32. Kent Island, Md.
33. Queenstown, Md.
34. Alexandria, Va.-D.C.-Md.
35. Deale, Md.
36. Claiborne, Md.
37. St. Michaels, Md.
38. Easton, Md.
39. Fort Belvoir, Va.-Md.
40. Mt. Vernon, Md.-Va.
41. Lower Marlboro, Md.
42. North Beach, Md.
43. Tilghman, Md.
44. Oxford, Md.
45. Trappe, Md.
46. Preston, Md.
47. Quantico, Va.-Md.
48. Indian Head, Va.-Md.
49. Benedict, Md.
50. Prince Frederick, Md.
51. Sharps Island, Md.
52. Church Creek, Md.
53. Cambridge, Md.
54. East New Market, Md.
55. Widewater, Va.-Md.
56. Nanjemoy, Md.
57. Mathias Point, Md.-Va.
58. Popes Creek, Md.
59. Mechanicsville, Md.
60. Broomes Island, Md.
61. Cove Point, Md.
62. Taylors Island, Md.
63. Golden Hill, Md.
64. Passapatanzy, Md.-Va.
65. King George, Va.-Md.
66. Dahlgren, Va.-Md.
67. Colonial Beach North, Md.-Va.
68. Rock Point, Md.
69. Leonardtown, Md.
70. Hollywood, Md.
71. Solomons Island, Md.
72. Barren Island, Md.
73. Honga, Md.
74. Wingate, Md.
75. Nanticoke, Md.
76. Colonial Beach South, Va.-Md.
77. Stratford Hall, Va.-Md.
78. St. Clements Island, Va.-Md.
79. Piney Point, Md.-Va.
80. St. Mary's City, Md.
81. Point No Point, Md.
82. Richland Point, Md.

continued

TABLE 2. (continued)

83. Bloodsworth Island, Md.
84. Deal Island, Md.
85. Monie, Md.
86. Champlain, Va.
87. Machodoc, Va.
88. Kinsale, Va.-Md.
89. St. George Island, Va.-Md.
90. Point Lookout, Md.
91. Kedges Straits, Md.
92. Terrapin Sand Point, Md.
93. Marion, Md.
94. Mount Landing, Va.
95. Tappahannock, Va.
96. Lottsburg, Va.
97. Heathsville, Va.-Md.
98. Burgess, Va.-Md.
99. Ewell, Va.-Md.
100. Great Fox Island, Va.-Md.
101. Crisfield, Va.-Md.
102. Saxis, Va.-Md.
103. Dunnsville, Va.
104. Morattico, Va.
105. Lively, Va.
106. Reedville, Va.
107. Tangier Island, Va.
108. Chesconessex, Va.
109. Parksley, Va.
110. Urbanna, Va.
111. Irvington, Va.
112. Fleets Bay, Va.
113. Nandua Creek
114. Pungoteague, Va.
115. West Point, Va.
116. Saluda, Va.
117. Wilton, Va.
118. Deltaville, Va.
119. Jamesville, Va.
120. Toano, Va.
121. Gressitt, Va.
122. Ware Neck, Va.
123. Mathews, Va.
124. Franktown, Va.
125. Westover, Va.
126. Charles City, Va.
127. Brandon, Va.
128. Norge, Va.
129. Williamsburg, Va.
130. Clay Bank, Va.
131. Achilles, Va.
132. New Point Comfort, Va.
133. Cape Charles, Va.
134. Cheriton, Va.
135. Savedge, Va.
136. Claremont, Va.
137. Surry, Va.
138. Hog Island, Va.
139. Yorktown, Va.
140. Poquoson West, Va.
141. Poquoson East, Va.
142. Elliotts Creek, Va.
143. Townsend, Va.
144. Bacons Castle, Va.
145. Mulberry Island, Va.
146. Newport News North, Va.
147. Hampton, Va.
148. Benns Church, Va.
149. Newport News South, Va.
150. Norfolk North, Va.
151. Little Creek, Va.
152. Cape Henry, Va.
153. Chuckatuck, Va.
154. Bowers Hill, Va.
155. Norfolk South, Va.
156. Kempsville, Va.
157. Princess Anne, Va.
158. Wye Mills, Md.
159. Bristol, Md.
160. Fowling Creek, Md.
161. Port Tobacco, Md.
162. Charlotte Hall, Md.
163. Mardela Springs, Md.
164. Wetipquin, Md.

Density Scale, similar to those developed for estimating of forest tree crown cover from aerial photography (Fig. 4). Bed density was classified into one of four categories based on a subjective comparison with the density scale. These were: 1. very sparse, <10%, 2. sparse, 10 to 40%; 3. moderate, 40 to 70%; or 4. dense, 70-100%. Either the entire bed, or sub-sections within the bed, were assigned a number (1 to 4) corresponding to the above density categories. In addition to the density scale, each distinct SAV unit was given a letter designation for proper identification for future comparisons.

In order to reduce interobserver variability in both the mapping and digitizing processes, steps were taken to ensure quality assurance. Sections from several areas in both Maryland and Virginia containing SAV were independently mapped and assigned a density classification. Results were compared for compatibility of the mapping effort. In addition, mapped sections were independently digitized for similar comparisons.

The discussion of the distribution of SAV has been organized into three zones as established by Orth and Moore (1982). The area between the mouth of the bay to a line stretching from the mouth of the Potomac River at Smith Point in Virginia to just above Smith Island and extending across to the north shore at the mouth of the Big Annemessex River is referred to as the Lower Bay zone (Fig. 5). The area between the north shore of the Big Annemessex River and the south shore of the Potomac River to the Chesapeake Bay bridge at Kent Island is referred to as the Middle Bay zone. The area between the Chesapeake Bay bridge and the Susquehanna Flats is referred to as the Upper Bay zone. The salinity within each zone roughly coincides with the major salinity zones of estuaries: polyhaline (18-25$^{o}$/oo), Lower zone; mesohaline (5-18$^{o}$/oo), Middle zone; oligohaline (0.5-5$^{o}$/oo), Upper

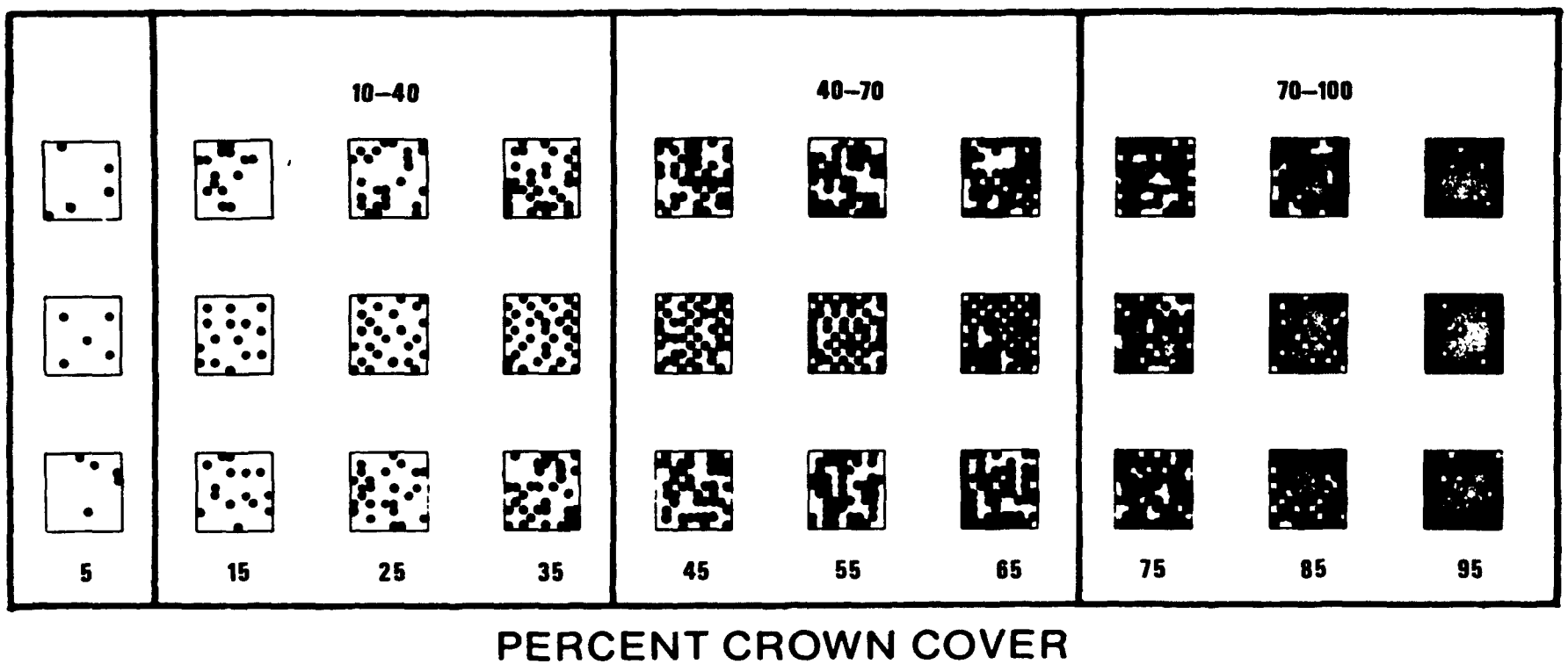



Figure 4. Crown density scale used for determining density of SAV beds: very sparse (1), 0-10%; sparse (2), 10-40%; moderate (3), 40-70%; dense (4), 70-100%.

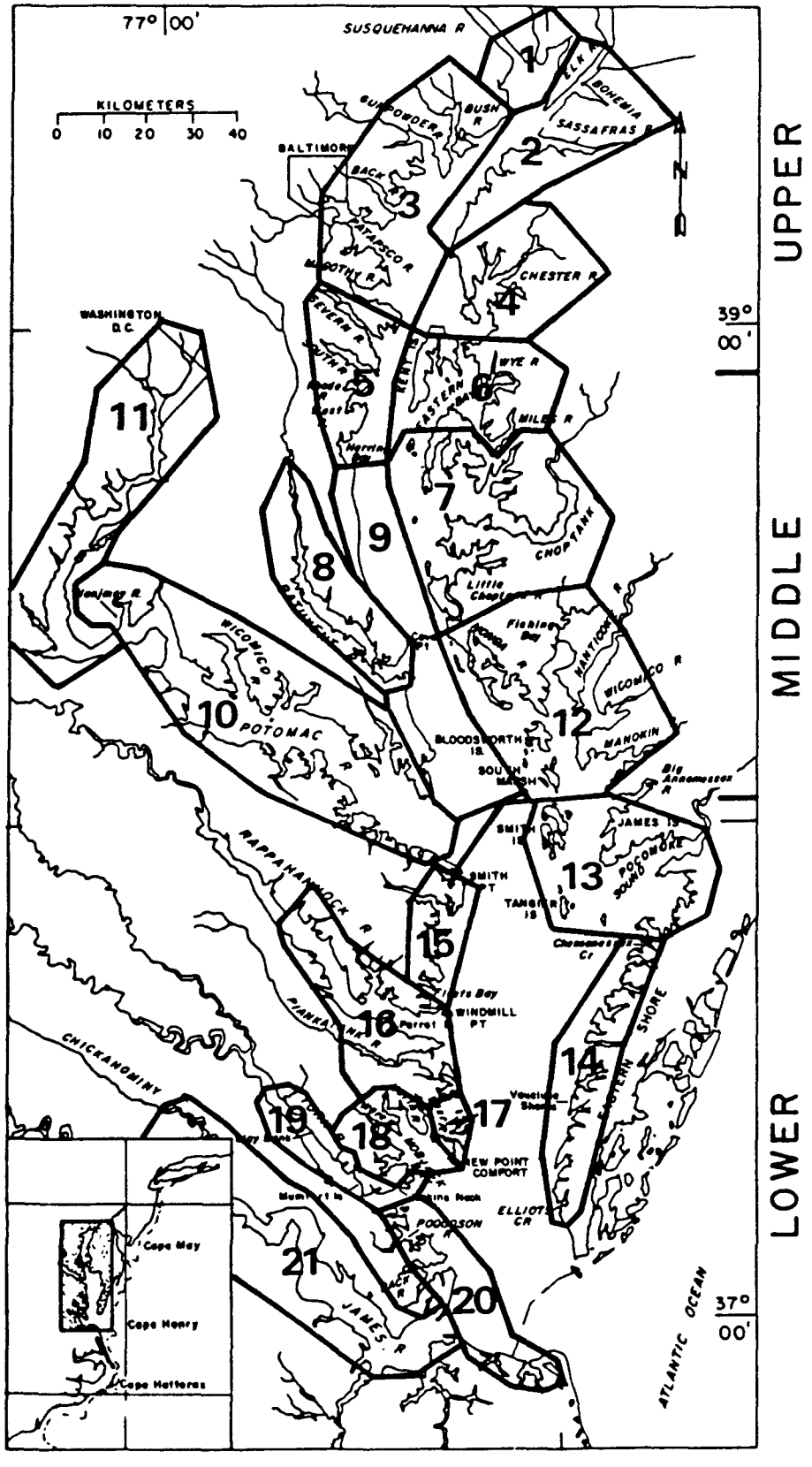



Figure 5. Location of upper, middle and lower zones of the Chesapeake Bay and the 21 major sections used for delineation of SAV distribution patterns (see Table 3 and text for exact boundaries).

zone. Although the major rivers and smaller tributaries of the bay have their own salinity regimes, the distributions of SAV in each river are discussed within the zone where it connects to the bay proper.

In addition, 21 major sections of the bay are identified for more detailed discussion of SAV distribution (Fig. 5, Table 3). These sections denote relatively distinct parts of the bay that are readily identifiable from a map. Sections 1 through 4 are located in the Upper Bay zone. Sections 5 through 12 are located in the Middle Bay zone, and sections 13 through 21 are located in the Lower Bay zone.

Orth et al. (1979) chose six sites in the Lower Bay zone to determine changes in SAV distribution starting in 1937. These sites are: Mumfort Island and Jenkins Neck in the York River; East River in the Mobjack Bay; Parrott Island in the Rappahannock River; Fleets Bay located between Windmill Point on the Rappahannock River and Smith Point on the Potomac River; and Vaucluse Shores, located on the bayside of the eastern shore just above Cape Charles (see Orth et al. (1979) for further details of these historical sites). Detailed mapping of each historical site was completed in this study similar to the earlier work to provide a 1985 update.

## Ground Truth and Other Data Bases

For those areas in Virginia where aerial photographic evidence of SAV beds was inconclusive, photoverification was accomplished by ground truthing these sites. This was done principally by small boats and divers snorkeling over the area indicated from the photograph. Since SAV beds in this region contain primarily only one or two species that vary little from year to year, a great deal of ground truth information could be extrapolated from

TABLE 3. AREA DESCRIPTION FOR EACH OF 21 MAJOR SECTIONS IN THE CHESAPEAKE BAY HAVING SAV.

| | |
|---|---|
| Section 1. | Susquehanna Flats - all areas between and including Spesutie Island and Turkey Point at the mouth of the Elk River to include the Northeast River. |
| Section 2. | Upper Eastern Shore - all areas in the Elk, Bohemia and Sassafras Rivers and SAV in areas on the eastern shore above the Swan Point quadrangle. |
| Section 3. | Upper Western Shore - all areas south of Spesutie Island and north of the bay bridge to include the Bush, Gunpowder, Middle, Patapsco and Magothy Rivers. |
| Section 4. | Chester River - includes all of the Chester River, Eastern Neck, areas north of the bay bridge on Kent Island and south of Swan Point but to include SAV on the Swan Pt. quadrangle. |
| Section 5. | Central Western Shore - all areas south of the bay bridge and north of Holland Point on Herring Bay to include the Severn, South and West Rivers and Herring Bay. |
| Section 6. | Eastern Bay - all areas south of the bay bridge on Kent Island and north of Tilghman Island from Green Marsh Point to include the Wye, East and Miles Rivers, Crab Alley Bay, Prospect Bay and Poplar, Jefferson and Coaches Islands. |
| Section 7. | Choptank River - all areas south of Tilghman Island from Green Marsh Point and north of Taylor Island to include the Choptank and Little Rivers. |
| Section 8. | Patuxent River - all areas in the Patuxent River. |
| Section 9. | Middle Western Shore - all areas south of Holland Point at Herring Bay and north of Point Lookout on the Potomac River but not the mouth of the Patuxent River. |
| Section 10. | Lower Potomac River - all areas between the mouth of the Potomac River to just above the 301 bridge at Nanjemoy Creek. |
| Section 11. | Upper Potomac River - all areas above Nanjemoy Creek to Washington D.C. |
| Section 12. | Middle Eastern Shore - all areas south of Taylor Island and north of but not including the Big Annemessex River to include the Honga, Nanticoke, Wicomico and Manokin Rivers, Fishing Bay, Bloodsworth and South Marsh Islands. |

continued

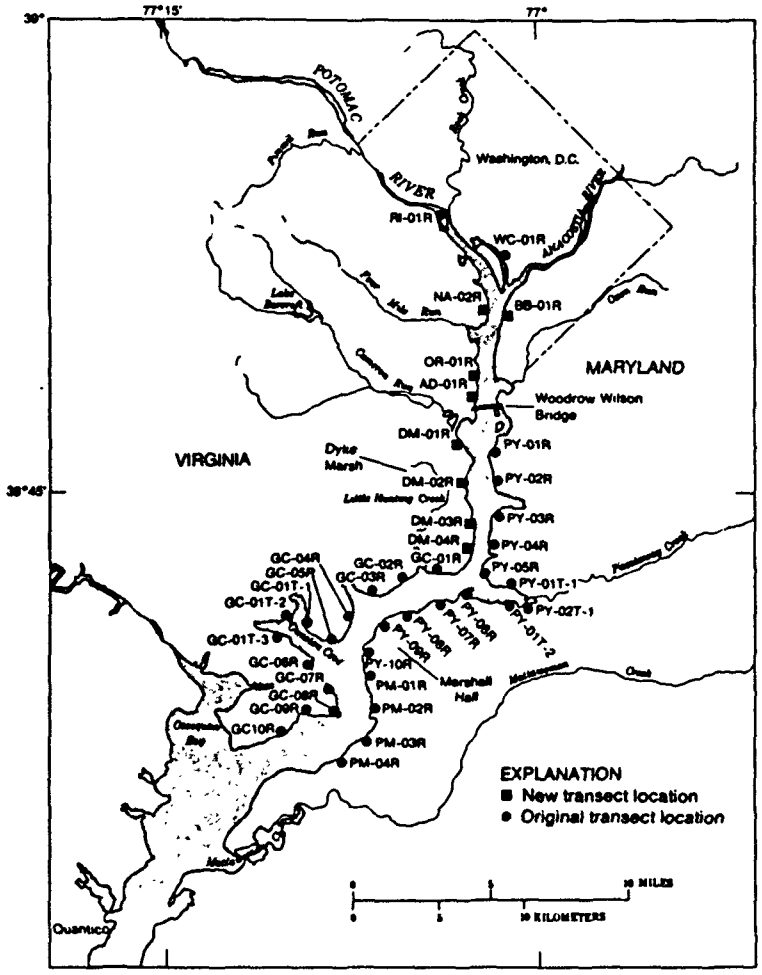
TABLE 3. (continued)

| | |
|---|---|
| Section 13. | Tangier Island Complex - all areas south of and including the Big Annemessex River and north of but including the northern shore of Chesconessex Creek to include Smith and Tangier Islands, Little Anemessex River and Pocomoke Sound. |
| Section 14. | Lower Eastern Shore - all areas south of but including the southern shore of Chesconessex Creek and north of Elliotts Creek to include Cherrystone Inlet, Hungars, Nassawadox, Occohannock, Nandua, Pungoteague and Onancock Creeks. |
| Section 15. | Reedville - includes the area between Windmill Point on the Rappahannock River and Smith Point at the mouth of the Potomac River. |
| Section 16. | Rappahannock River Complex - includes the entire Rappahannock River, Piankatank River and Milford Haven area. |
| Section 17. | New Point Comfort Region - includes the area fronting the bay from the lighthouse at New Point Comfort north to, but not including, the bay entrance to Milford Haven. |
| Section 18. | Mobjack Bay Complex - includes the East, North, Ware and Severn Rivers, the north shore of the Mobjack Bay from New Pt. Comfort lighthouse to the North River, and the area around Guinea Neck to include all the SAV around the Guinea Marsh area from the New Point Comfort quadrangle. |
| Section 19. | York River - all areas along the north shore from Clay Bank to the Guinea Marsh area and includes SAV from the Achilles quadrangle facing the York River and along the south shore to Goodwin Island. |
| Section 20. | Lower Western Shore - includes all areas south of Goodwin Island to Broad Bay off Lynnhaven Inlet, excluding the James River. |
| Section 21. | James River - all SAV in the James River including the Chickahominy River. |

earlier studies (Orth et al., 1979, 1982; Orth and Moore, 1982). In addition, VIMS is currently transplanting SAV (principally eelgrass) into different river systems. These areas are checked carefully for any SAV when transplant sites are examined by divers.

In Maryland, ground truth data were provided principally from two SAV surveys conducted in 1985, from an SAV transplanting project and an ongoing SAV research project. One field survey was conducted in the Potomac River. This survey was conducted by the USGS (Rybicki et al., 1986) and included the area from the Chain Bridge at Washington, D.C. to Quantico, Virginia (Fig. 6). Earlier surveys of the Potomac River by the USGS included sections of the river south of Quantico to the mouth of the Potomac River (Haramis and Carter, 1983; Carter et al., 1985a,b; Rybicki et al., 1985). The 1985 USGS objectives were: 1. to collect and identify all species of SAV found in the tidal river and larger tributaries, 2. to determine the distribution and abundance of SAV using shoreline surveys and transects, 3. to compare 1985 data on species composition, standing crop and water quality with previous USGS surveys, and 4. to monitor the spread of H. verticillata and to collect data on competition between H. verticillata and other SAV.

The shoreline survey was conducted in September and October, 1985, by boat, using rakes to collect samples for the presence or absence of SAV. In addition, sixty-two transects were sampled in June and again in September. Transects had sampling stations at 5 m, 15 m and then at 15 m intervals perpendicular to shore. Transects were terminated at five stations (60 m) from shore when no SAV was present or at two stations (30 m) beyond the last vegetated station. Where water depth exceeded 2.0 m at 60 m of linear distance, the fixed interval was not used, and samples were taken



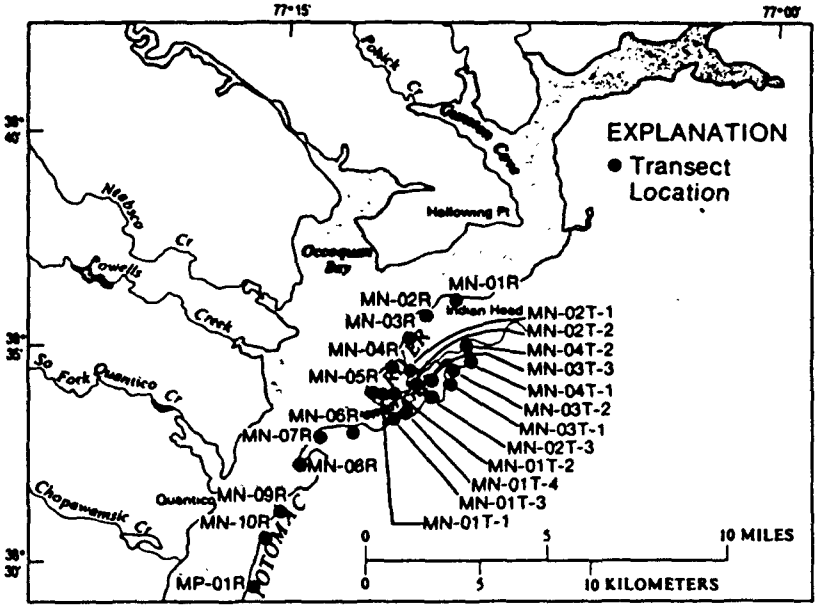




Figure 6. Location of vegetation sampling transects in the tidal freshwater portion of the Potomac River used by the U. S. Geological Survey for determining SAV distribution patterns. Codes for transects give location and tributary or river-mile for each location. (RI - Roosevelt Island; NA - National Airport; OR - Oronoco Bay; AD - Alexandria Dock; DM - Dyke Marsh; GC - Gunston Cove; BB - Bolling Air Force Base; PY - Piscataway Creek; PM - Pomonkey Creek; MN - Mattawoman; MP - 01R was not sampled) (from Rybicki, et al., 1986).

at four stations along the transect corresponding with the depths of 0.5, 1.0, 1.5 and 2.0 m.

Codes for the transects in Fig. 6 provide information on location and the river - or tributary mile for each location. For example, in MN-01T-2, MN is Mattawoman Creek, 01T is one nmi (nautical mile) up the tributary from the mouth, -2 is the second transect; in PY-06R, PY is Piscataway Creek, 06R is the sixth transect on the edge of the main river.

All stations were sampled three times using modified oyster tongs. The area sampled with each grab was 930 cm*r*. All species were identified. Samples were dried and standing crop expressed in g/sample and g/m*r* for each species. By fall, in many areas, the plants formed a tangled mass completely filling the water column; a grab area of 930 $cm^2$ resulted in a sample from a significantly larger area. For this reason, station dry weight (total dry weight of three grabs) greater than 100 g cannot be directly related to area and therefore was not calculated.

The third survey is the annual large scale multi-station survey conducted by the Md.DNR. This survey, conducted from July through August, samples 600+ randomly selected stations in certain areas of the bay from the Susquehanna Flats to Smith Island. At each station, samples are also collected with modified oyster tongs and species presence or absence, as well as standing crop, is recorded. Station locations were randomly generated and were limited to areas 2.4 m (8 ft) or less in depth on the western shore of the bay and 3.7 m (12 ft) or less on the eastern shore.

The SAV transplanting project is being conducted on the Susquehanna Flats by Stan Kollar of HCC. Information provided by his work is in the form of species presence by percentage, primarily by visual estimates.

A SAV research group at HPL headed by Court Stevenson also provided ground truth data. Maps of their study sites on the Choptank River were annotated on the maps for this report indicating the status of SAV for 1985.

In addition to the scientific surveys, private citizens participated in identifying SAV beds by checking areas in the bay for SAV. Two groups were responsible for looking for SAV under the sponsorship of separate organizations.

The Maryland Charterboat Association participated in the baywide effort, funded by the Md.DNR's Watermen's Assistance Program. Boat captains were provided with reduced SAV quadrangle maps and data sheets for each SAV bed identified on the maps. Sampling of sites with SAV were undertaken at low tide. Samples were taken by hand, net or rake. Plants were identified as to species onsite or placed in zip-lock plastic bags and sent to the DNR for identification.

Private citizens volunteered to assist in the SAV ground survey under guidance of the CBF, CPCB and F&WS. This program entailed identifying and recording the location of SAV in the bay. Volunteers were recruited through press releases, newsletters and personal letters. Volunteers, provided with an identification guide of SAV and maps of their area of interest, visited numerous sites around the bay. Each volunteer was asked to identify the location where SAV was sighted, as well as water conditions, how many and which kind of species, grassbed size, percentage area covered, and location description. All information was sent to EPIC for data storage.

All ground survey information was included on the topographic quadrangles to show positions of the survey stations in relation to the beds of SAV mapped from the aerial photographs. Each survey was designated by a unique symbol to eliminate confusion of the different methods. Where

species information was available, it was included on the map unless there was too much data or it was redundant.

## Data Presentation

SAV distribution data were analyzed by topographic quadrangle (Table 4), by section and zone (Table 5) and by quadrangles within a section (Table 6). Data for 1978 and 1984 by quadrangle, section and zone were included in Tables 5 for comparison. In addition, all the Md.DNR data for each river system from the first annual survey conducted in 1971 are included (Table 7).

TABLE 4. TOTAL AREA OF SAV IN HECTARES BY TOPOGRAPHIC QUADRANGLES FOR 1978, 1984 AND 1985.

| | QUANDRANGLE | 1978 | 1984 | 1985 |
|---|---|---|---|---|
| 1. | Conowingo Dam, Md.-Pa. | - | - | 0 |
| 2. | Aberdeen, Md. | - | 0 | 6.34 |
| 3. | Havre de Grace, Md. | 803.67 | 1741.85 | 1605.81 |
| 4. | North East, Md. | 5.62 | 13.31 | 29.46 |
| 5. | Elkton, Md. | 0.75 | 0 | 0 |
| 6. | White Marsh, Md. | - | 0 | 0 |
| 7. | Edgewood, Md. | 10.48 | 49.81+ | 6.31 |
| 8. | Perryman, Md. | - | 2.01 | 4.64 |
| 9. | Spesutie, Md. | 0.84 | 411.38 | 439.96 |
| 10. | Earleville, Md. | 4.67 | 3.47 | 11.60 |
| 11. | Cecilton, Md. | - | 0 | 0 |
| 12. | Baltimore East, Md. | - | 0 | 0 |
| 13. | Middle River, Md. | 90.06 | 0 | 74.80 |
| 14. | Gunpowder Neck, Md. | 200.71 | 183.99+ | 132.99 |
| 15. | Hanesville, Md. | 9.31 | 5.48 | 10.10 |
| 16. | Betterton, Md. | 6.40 | 5.74 | 12.89 |
| 17. | Galena, Md. | 1.46 | 11.88 | 0.61 |
| 18. | Curtis Bay, Md. | 33.40 | 0 | 0 |
| 19. | Sparrows Pt., Md. | 10.52 | 0 | 5.56 |
| 20. | Swan Point, Md. | 29.86 | 18.65 | 10.25 |
| 21. | Rock Hall, Md. | 127.25 | 30.13 | 14.71 |
| 22. | Chestertown, Md. | 12.31 | 0 | 1.92 |
| 23. | Round Bay, Md. | 137.15 | 0 | 0 |
| 24. | Gibson Island, Md. | 139.45 | 7.61 | 16.07 |
| 25. | Love Point, Md. | 11.81 | 0 | 3.94 |
| 26. | Langford Creek, Md. | 1255.20 | 599.72 | 586.06 |
| 27. | Centreville, Md. | 38.75 | 0 | 0 |
| 28. | Washington West, Md.-DC-Va. | - | 0++ | 0 |
| 29. | Washington East, DC-Md. | - | 0 | 0 |
| 30. | South River, Md. | 15.14 | 0 | 0 |
| 31. | Annapolis, Md. | 27.15 | 0 | 0.28 |
| 32. | Kent Island, Md. | 513.68 | 26.28 | 48.36 |
| 33. | Queenstown, Md. | 492.10 | 89.45 | 97.9 |
| 34. | Alexandria, Va.-DC-Md. | - | 160.40 | 512.70 |
| 35. | Deale, Md. | 61.51 | 0 | 2.43 |
| 36. | Claiborne, Md. | 421.08 | 52.25 | 346.69 |
| 37. | St. Michaels, Md. | 366.09 | 11.14 | 223.91 |
| 38. | Easton, Md. | 1.19 | 0 | 14.33 |
| 39. | Fort Belvoir, Va.-Md. | - | 0.91 | 1.73 |
| 40. | Mt. Vernon, Md.-Va. | - | 420.34 | 857.81 |
| 41. | Lower Marlboro, Md. | - | 0 | 0 |
| 42. | North Beach, Md. | - | 0 | 18.88 |

continued

TABLE 4. (continued)

| | | | | |
|---|---|---|---|---|
| 43. | Tilghman, Md. | 478.15 | 6.87 | 253.74 |
| 44. | Oxford, Md. | 562.96 | 23.25 | 329.10 |
| 45. | Trappe, Md. | 64.75 | 0 | 33.16 |
| 46. | Preston, Md. | - | 0 | 0 |
| 47. | Quantico, Va.-Md. | - | 0 | 6.67 |
| 48. | Indian Head, Va.-Md. | - | 0++ | 0.21 |
| 49. | Benedict, Md. | 1.58 | 0 | 0 |
| 50. | Prince Frederick, Md. | - | 0 | 0 |
| 51. | Sharps Island, Md. | 377.08 | 4.42 | 229.75 |
| 52. | Church Creek, Md. | 208.94 | 9.00 | 322.63 |
| 53. | Cambridge, Md. | 48.96 | 0 | 0 |
| 54. | East New Market, Md. | - | 0 | 0.75 |
| 55. | Widewater, Va.-Md. | - | 4.59 | 38.21 |
| 56. | Nanjemoy, Md. | 28.03 | 30.92 | 106.68 |
| 57. | Mathias Pt., Md.-Va. | 194.12 | 121.11 | 228.66 |
| 58. | Popes Creek, Md. | - | 0 | 0 |
| 59. | Mechanicsville, Md. | 13.62 | 0 | 0 |
| 60. | Broomes Island, Md. | 4.94 | 4.37 | 24.71 |
| 61. | Cove Pt., Md. | 2.97 | 3.75 | 2.46 |
| 62. | Taylors Island, Md. | - | 8.55 | 47.53 |
| 63. | Golden Hill, Md. | - | 0.42 | 10.90 |
| 64. | Passapatanzy, Md.-Va. | - | 0 | 0 |
| 65. | King George, Va.-Md. | 2.25 | 13.44 | 22.15 |
| 66. | Dahlgren, Va.-Md. | 8.32 | 2.67 | 1.97 |
| 67. | Colonial Beach North, Md.-Va. | 87.44 | 25.63 | 15.66 |
| 68. | Rock Pt., Md. | 22.85 | 0 | 0.27 |
| 69. | Leonardtown, Md. | 2.44 | 0 | 0 |
| 70. | Hollywood, Md. | - | 0 | 0 |
| 71. | Solomons Island, Md. | 10.54 | 0.76 | 15.52 |
| 72. | Barren Island, Md. | - | 0 | 264.99 |
| 73. | Honga, Md. | 126.94 | 5.05 | 178.58 |
| 74. | Wingate, Md. | 2.64 | 8.81 | 97.99 |
| 75. | Nanticoke, Md. | - | 0 | 0 |
| 76. | Colonial Beach South, Va.-Md. | 61.95 | 11.26 | 0 |
| 77. | Stratford Hall, Va.-Md. | 5.53 | 2.16 | 0 |
| 78. | St. Clements Island, Va.-Md. | 0.13 | 0 | 0 |
| 79. | Piney Point, Md.-Va. | - | - | 0.51 |
| 80. | St. Marys City, Md. | - | - | 19.01 |
| 81. | Point No Point, Md. | - | - | 16.50 |
| 82. | Richland Pt., Md. | 0.73 | 0.38 | 24.28 |
| 83. | Bloodsworth Island, Md. | 66.07 | 18.29 | 285.53 |
| 84. | Deal Island, Md. | 3.01 | 0 | 16.65 |
| 85. | Monie, Md. | 9.15 | 0 | 1.93 |
| 86. | Champlain, Va. | - | - | 0 |
| 87. | Machodoc, Va. | - | - | 0 |
| 88. | Kinsale, Va.-Md. | - | - | 0 |

continued

TABLE 4. (continued)

| | | | | |
|---|---|---|---|---|
| 89. | St. George Island, Va.-Md. | - | - | 8.82 |
| 90. | Point Lookout, Md. | - | - | 5.76 |
| 91. | Kedges Straits, Md. | 156.09 | 366.42 | 474.91 |
| 92. | Terrapin Sand Point, Md. | 314.48 | 187.00 | 180.48 |
| 93. | Marion, Md. | 289.33 | 0 | 200.29 |
| 94. | Mount Landing, Va. | - | - | - |
| 95. | Tappahannock, Va. | - | - | - |
| 96. | Lottsburg, Va. | - | - | - |
| 97. | Heathsville, Va.-Md. | - | - | - |
| 98. | Burgess, Va.-Md. | - | - | - |
| 99. | Ewell, Va.-Md. | 1483.30 | 2308.58 | 2129.67 |
| 100. | Great Fox Island, Va.-Md. | 540.65 | 807.81 | 1074.25 |
| 101. | Crisfield, Va.-Md. | 7.48 | 113.01 | 79.22 |
| 102. | Saxis, Va.-Md. | - | - | - |
| 103. | Dunnsville, Va. | - | - | - |
| 104. | Morattico, Va. | - | - | 0 |
| 105. | Lively, Va. | - | - | 0 |
| 106. | Reedville, Va. | 230.40 | 108.56 | 51.17 |
| 107. | Tangier Island, Va. | 405.06 | 614.44 | 613.55 |
| 108. | Chesconessex, Va. | 482.54 | 808.61 | 827.28 |
| 109. | Parksley, Va. | 80.35 | 264.80 | 241.16 |
| 110. | Urbanna, Va. | - | - | - |
| 111. | Irvington, Va. | 5.31 | 9.33 | 8.26 |
| 112. | Fleets Bay, Va. | 133.23 | 155.45 | 120.91 |
| 113. | Nandua Creek, Va. | 184.86 | 345.10 | 350.51 |
| 114. | Pungoteague, Va. | 401.63 | 716.76 | 691.94 |
| 115. | West Point, Va. | - | - | - |
| 116. | Saluda, Va. | - | - | - |
| 117. | Wilton, Va. | 10.43 | 0 | 0 |
| 118. | Deltaville, Va. | 59.43 | 6.62 | 0.70 |
| 119. | Jamesville, Va. | 406.04 | 367.36 | 327.20 |
| 120. | Toano, Va. | - | - | - |
| 121. | Gressitt, Va. | - | - | - |
| 122. | Ware Neck, Va. | 256.00 | 203.15 | 171.91 |
| 123. | Mathews, Va. | 63.88 | 30.32 | 37.39 |
| 124. | Franktown, Va. | 504.49 | 395.26 | 419.66 |
| 125. | Westover, Va. | - | - | - |
| 126. | Charles City, Va. | - | - | - |
| 127. | Brandon, Va. | - | - | - |
| 128. | Norge, Va. | 46.48 | 46.48** | 46.48** |
| 129. | Williamsburg, Va. | - | - | - |
| 130. | Clay Bank, Va. | - | - | - |
| 131. | Achilles, Va. | 797.92 | 741.50 | 710.16 |
| 132. | New Point Comfort, Va. | 1096.31 | 1092.71 | 1154.55 |
| 133. | Cape Charles, Va. | 321.42 | 308.32 | 329.48 |
| 134. | Cheriton, Va. | 85.20 | 55.99 | 63.58 |

continued

TABLE 4. (continued)

| | | | | |
|---|---|---|---|---|
| 135. | Savedge, Va. | - | - | - |
| 136. | Claremont, Va. | - | - | - |
| 137. | Surry, Va. | - | - | - |
| 138. | Hog Island, Va. | - | - | - |
| 139. | Yorktown, Va. | 1.92 | 0.23 | 0.21 |
| 140. | Poquoson West, Va. | 210.44 | 216.93 | 237.70 |
| 141. | Poquoson East, Va. | 516.63 | 687.16 | 784.53 |
| 142. | Elliots Creek, Va. | 44.58 | 14.48 | 8.41 |
| 143. | Townsend, Va. | 42.70 | 4.80 | 17.72 |
| 144. | Bacons Castle, Va. | - | - | - |
| 145. | Mulberry Island, Va. | - | - | - |
| 146. | Newport News North, Va. | - | - | - |
| 147. | Hampton, Va. | 218.25 | 233.15 | 287.10 |
| 148. | Benns Church, Va. | - | - | - |
| 149. | Newport News South, Va. | 1.87 | 0 | 0 |
| 150. | Norfolk North, Va. | - | - | - |
| 151. | Little Creek, Va. | - | 0 | 0 |
| 152. | Cape Henry, Va. | * | 37.87 | 36.76 |
| 153. | Chuckatuck, Va. | - | - | - |
| 154. | Bowers Hill, Va. | - | - | - |
| 155. | Norfolk South, Va. | - | - | - |
| 156. | Kempsville, Va. | - | - | - |
| 157. | Princess Anne, Va. | - | - | - |
| 158. | Wye Mills, Md. | - | - | 1.10 |
| 159. | Bristol, Md. | - | - | 2.08 |
| 160. | Fowling Creek, Md. | - | - | 0 |
| 161. | Port Tobacco, Md. | - | - | 0 |
| 162. | Charlotte Hall, Md. | - | - | 0 |
| 163. | Mardela Springs, Md. | - | - | 0 |
| 164. | Wetipquin, Md. | - | - | 0 |
| | TOTAL | 16,622.40 | 15,399.70 | 19,390.64 |

NOTES:
- \- indicates quadrangle not photographed and assumed to have no SAV
- 0 indicates quadrangle photographed and no SAV noted
- * area not flown in 1978 but most likely had SAV in 1978 based on data collected i subsequent years
- ** area not photographed in 1984. Area known to still have SAV. We made the assumption that the 1984 distribution would be similar to the 1978 distribution.
- \+ Information on SAV distribution taken from 1983 aerial photographs provided by Willie Burton of Martin Marietta Corp.
- ++ Presence of SAV beds not detected from 1984 aerial photography. Information provided by Virginia Carter of the USGS for the 1984 Potomac River Shoreline Su indicated presence of SAV.

TABLE 5. NUMBERS OF HECTARES OF BOTTOM COVERED WITH SUBMERGED AQUATIC VEGETATION IN 1978, 1984 AND 1985 FOR DIFFERENT SECTIONS WITHIN THE THREE ZONES IN THE CHESAPEAKE BAY (DATA FOR 1978 FROM ORTH et al. 1979, AND ANDERSON AND MACOMBER 1980. DATA FOR 1984 FROM ORTH ET AL. 1985).

| | 1978 | | 1984 | | 1985 | |
|---|---|---|---|---|---|---|
| Section | Hectares | Zone | Hectares | Zone | Hectares | Zone |
| 1. Susquehanna Flats | 804+ | | 2150 | | 2011 | |
| 2. Upper Eastern Shore | 29 | Upper | 43 | Upper | 105 | Upper |
| 3. Upper Western Shore | 484 | 2792 | 244 | 3168 | 239 | 3025 |
| 4. Chester River | 1475 | hectares | 731 | hectares | 671 | hectares |
| 5. Central Western Shore | 241 | | 0 | | 26 | |
| 6. Eastern Bay | 1800 | | 66 | | 356 | |
| 7. Choptank River | 1740 | Middle | 82 | Middle | 1528 | Middle |
| 8. Patuxent River | 34 | 4446 | 9 | 984 | 44 | 4986 |
| 9. Middle Western Shore | 11 | hectares | 0 | hectares | 23 | hectares |
| 10. Lower Potomac River | 410 | | 194 | | 381 | |
| 11. Upper Potomac River | 0* | | 600 | | 1439 | |
| 12. Middle Eastern Shore | 210 | | 33 | | 1188 | |
| 13. Tangier Island Complex | 3759 | | 5447 | | 5504 | |
| 14. Lower Eastern Shore | 1991 | | 2232 | | 2227 | |
| 15. Reedville | 364 | | 264 | | 172 | |
| 16. Rappahannock River Complex | 93 | Lower | 23 | Lower | 20 | Lower |
| 17. New Point Comfort Region | 271 | 9399 | 299 | 11,248 | 332 | 11,379 |
| 18. Mobjack Bay Complex | 1785 | hectares | 1550 | hectares | 1505 | hectares |
| 19. York River | 157 | | 238 | | 258 | |
| 20. Lower Western Shore | 925 | | 1149 | | 1315 | |
| 21. James River | 54 | | 46 | | 46 | |
| TOTAL | 16,637 | | 15,400 | | 19,390 | |

+1978 data for Susquehanna Flats remapped and digitized to allow for greater compatability to 1984 data.

*No aerial photography was taken of this area in 1978 and that the absence of SAV is based on ground survey observations by the USGS.

TABLE 6. NUMBER OF SQUARE METERS OF SAV IN EACH QUADRANGLE CONTAINED WITHIN THE 21 SECTIONS FOR 1985

| SECTION | QUADRANGLE | AREA |
|---|---|---|
| Susquehanna Flats - 1 | Conowingo Dam (1) | 0 |
| | Aberdeen (2) | 63,429 |
| | Havre de Grace (3) | 16,058,064 |
| | North East (4) | 0 |
| | Perryman (8) | 0 |
| | Spesutie (9) | 3,987,200 |
| | | 20,108,693 sq.m = 2010.87 hectares = 4966.85 acres |
| Upper Eastern Shore - 2 | North East (4) | 294,551 |
| | Elkton (5) | 0 |
| | Perryman (8) | 0 |
| | Spesutie (9) | 383,800 |
| | Earleville (10) | 115,996 |
| | Cecilton (11) | 0 |
| | Gunpowder Neck (14) | 0 |
| | Hanesville (15) | 100,989 |
| | Betterton (16) | 128,909 |
| | Galena (17) | 6,072 |
| | Swan Point (20) | 0 |
| | Rock Hall (21) | 19,175 |
| | | 1,049,492 sq.m = 104.95 hectares 259.23 acres |
| Upper Western Shore - 3 | White Marsh (6) | 0 |
| | Edgewood (7) | 63,136 |
| | Perryman (8) | 46,352 |
| | Spesutie (9) | 28,606 |
| | Baltimore East (12) | 0 |
| | Middle River (13) | 748,043 |
| | Gunpowder Neck (14) | 1,329,904 |
| | Hanesville (15) | 0 |
| | Curtis Bay (18) | 0 |
| | Sparrows Point (19) | 55,562 |
| | Round Bay (23) | 0 |
| | Gibson Island (24) | 113,509 |
| | | 2,385,112 sq.m = 238.51 hectares 589.12 acres |

continued

TABLE 6. (continued)

| | | |
|---|---|---|
| Chester River - 4 | Swan Point (20) | 102,452 |
| | Rock Hall (21) | 127,903 |
| | Chestertown (22) | 19,193 |
| | Love Point (25) | 39,355 |
| | Langford Creek (26) | 5,860,579 |
| | Centreville (27) | 0 |
| | Kent Island (32) | 137,647 |
| | Queenstown (33) | 408,774 |
| | Wye Mills (158) | 11,019 |
| | | 6,706,922 sq.m = 670.69 hectares 1656.60 acres |
| Central Western Shore - 5 | Round Bay (23) | 0 |
| | Gibson Island (24) | 47,161 |
| | South River (30) | 0 |
| | Annapolis (31) | 2,840 |
| | Deale (35) | 24,271 |
| | North Beach (42) | 188,828 |
| | | 263,100 sq.m = 26.31 hectares 64.99 acres |
| Eastern Bay - 6 | Love Point (25) | 0 |
| | Annapolis (31) | 0 |
| | Kent Island (32) | 345,923 |
| | Queenstown (33) | 570,181 |
| | Claiborne (36) | 1,376,808 |
| | St. Michaels (37) | 1,231,688 |
| | Easton (38) | 31,153 |
| | | 3,555,753 sq.m = 355.58 hectares = 878.28 acres |
| Choptank River - 7 | Claiborne (36) | 2,090,125 |
| | St. Michaels (37) | 1,007,415 |
| | Easton (38) | 112,121 |
| | Tilghman (43) | 2,537,448 |
| | Oxford (44) | 3,290,979 |
| | Trappe (45) | 331,626 |
| | Preston (46) | 0 |
| | Sharps Island (51) | 2,297,458 |
| | Church Creek (52) | 3,226,275 |
| | Cambridge (53) | 0 |
| | East New Market (54) | 7,462 |
| | Taylors Island (62) | 381,584 |
| | Fowling Creek (160) | 0 |
| | | 15,282,493 sq.m = 1528.25 hectares 3774.78 acres |

continued

TABLE 6. (continued)

| | | |
|---|---|---|
| Patuxent River - 8 | Lower Marlboro (41) | 0 |
| | Benedict (49) | 0 |
| | Mechanicsville (59) | 0 |
| | Broomes Island (60) | 247,133 |
| | Cove Point (61) | 24,610 |
| | Hollywood (70) | 0 |
| | Solomons Island (71) | 152,289 |
| | Bristol (159) | 20,836 |
| | | 444,868 sq.m = |
| | | 44.49 hectares |
| | | 109.89 acres |
| Middle Western Shore - 9 | North Beach (42) | 0 |
| | Prince Frederick (50) | 0 |
| | Broomes Island (60) | 0 |
| | Cove Point (61) | 0 |
| | Solomons Island (71) | 2,873 |
| | St. Marys City (80) | 21,659 |
| | Point No Point (81) | 165,023 |
| | Point Lookout (90) | 41,595 |
| | | 231,150 sq.m = |
| | | 23.12 hectares |
| | | 57.11 acres |
| Lower Potomac River - 10 | Nanjemoy (56) | 1,066,807 |
| | Mathias Point (57) | 2,286,617 |
| | Popes Creek (58) | 0 |
| | Dahlgren (66) | 19,719 |
| | Colonial Beach North (67) | 156,640 |
| | Rock Point (68) | 2,709 |
| | Leonardtown (69) | 0 |
| | Colonial Beach South (76) | 0 |
| | Stratford Hall (77) | 0 |
| | St. Clements Island (78) | 0 |
| | Piney Point (79) | 5,079 |
| | St. Marys City (80) | 168,452 |
| | Machodoc (87) | 0 |
| | Kinsale (88) | 0 |
| | St. George Island (89) | 88,182 |
| | Point Lookout (90) | 15,976 |
| | Lottsburg (96) | 0 |
| | Heathsville (97) | 0 |
| | Burgess (98) | 0 |
| | Charlotte Hall (162) | 0 |
| | | 3,810,181 sq.m = |
| | | 381.02 hectares |
| | | 941.12 acres |

continued

TABLE 6. (continued)

| | | |
|---|---|---|
| Upper Potomac River - 11 | Washington West (28) | 0 |
| | Washington East (29) | 0 |
| | Alexandria (34) | 5,126,963 |
| | Fort Belvoir (39) | 17,281 |
| | Mt. Vernon (40) | 8,578,090 |
| | Quantico (47) | 66,687 |
| | Indian Head (48) | 2,054 |
| | Widewater (55) | 382,062 |
| | Passapatanzy (64) | 0 |
| | King George (65) | 221,510 |
| | Port Tobacco (161) | 0 |
| | | 14,394,647 sq.m = 1,439.46 hectares 3,555.47 acres |
| Middle Eastern Shore - 12 | Taylors Island (62) | 93,724 |
| | Golden Hill (63) | 108,977 |
| | Barren Island (72) | 2,649,854 |
| | Honga (73) | 1,785,831 |
| | Wingate (74) | 979,879 |
| | Nanticoke (75) | 0 |
| | Richland Point (82) | 242,779 |
| | Bloodsworth Island (83) | 2,855,339 |
| | Deal Island (84) | 166,495 |
| | Monie (85) | 19,253 |
| | Kedges Straits (91) | 942,584 |
| | Terrapin Sand Point (92) | 33,150 |
| | Marion (93) | 2,002,883 |
| | Mardela Springs (163) | 0 |
| | Wetipquin (164) | 0 |
| | | 11,880,748 sq.m = 1188.07 hectares 2934.53 acres |
| Tangier Island Complex - 13 | Chesconessex (108) | 8,088,214 |
| | Parksley (109) | 2,411,621 |
| | Tangier Island (107) | 6,135,481 |
| | Ewell (99) | 21,296,660 |
| | Great Fox Island(100) | 10,742,470 |
| | Kedges Straits (91) | 3,806,519 |
| | Terrapin Sand Point (92) | 1,771,649 |
| | Crisfield (101) | 792,226 |
| | Marion (93) | 0 |
| | Saxis (102) | 0 |
| | | 55,044,840 sq.m = 5,504.48 hectares = 13,596.06 acres |

continued

TABLE 6. (continued)

| | | |
|---|---|---|
| Lower Eastern Shore - 14 | Elliotts Creek (142) | 84,133 |
| | Townsend (143) | 177,200 |
| | Cape Charles (133) | 3,294,759 |
| | Cheriton (134) | 635,815 |
| | Franktown (124) | 4,196,556 |
| | Jamesville (119) | 3,271,989 |
| | Nandua Creek (113) | 3,505,141 |
| | Pungoteague (114) | 6,919,414 |
| | Chesconessex (108) | 184,564 |
| | | 22,269,571 sq.m = 2,226.96 hectares = 5,500.58 acres |
| Reedville - 15 | Fleets Bay (112) | 1,209,077 |
| | Reedville (106) | 511,707 |
| | Burgess (98) | 0 |
| | | 1,720,784 sq.m = 172.08 hectares= 425.04 acres |
| Rappahannock River Complex - 16 | Mathews (123) | 106,536 |
| | Wilton (117) | 0 |
| | Deltaville (118) | 7,016 |
| | Irvington (111) | 82,576 |
| | Urbanna (110) | 0 |
| | Champlain (86) | 0 |
| | Mount Landing (94) | 0 |
| | Tappahannock (95) | 0 |
| | Dunnsville (103) | 0 |
| | Morattico (104) | 0 |
| | Lively (105) | 0 |
| | Saluda (116) | 0 |
| | | 196,128 sq.m = 19.61 hectares = 48.44 acres |
| New Point Comfort Region - 17 | Mathews (123) | 0 |
| | New Point Comfort (132) | 3,316,851 |
| | | 3,316,851 sq.m = 331.69 hectares = 819.27 acres |

continued

TABLE 6. (continued)

| | | |
|---|---|---|
| Mobjack Bay Complex - 18 | Achilles (131) | 4,837,348 |
| | New Point Comfort (132) | 8,228,629 |
| | Ware Neck (122) | 1,719,058 |
| | Mathews (123) | 267,377 |
| | | 15,052,412 sq.m = 1,505.24 hectares = 3,717.94 acres |
| York River - 19 | Poquoson West (140) | 311,790 |
| | Yorktown (139) | 2,134 |
| | Clay Bank (130) | 0 |
| | Achilles (131) | 2,264,289 |
| | West Point (115) | 0 |
| | Toano (120) | 0 |
| | Gressitt (121) | 0 |
| | Williamsburg (129) | 0 |
| | | 2,578,213 sq.m = 257.82 hectares = 636.82 acres |
| Lower Western Shore - 20 | Cape Henry (152) | 367,567 |
| | Hampton (147) | 2,871,000 |
| | Poquoson East (141) | 7,845,321 |
| | Poquoson West (140) | 2,065,254 |
| | Norfolk North (150) | 0 |
| | Little Creek (151) | 0 |
| | Kempsville (156) | 0 |
| | Princess Anne (157) | 0 |
| | | 13,149,142 sq.m = 1,314.91 hectares = 3,247.84 acres |
| James River - 21 | Hampton (147) | 0 |
| | Newport News South (149) | 0 |
| | Westover (125) | 0 |
| | Charles City (126) | 0 |
| | Brandon (127) | 0 |
| | Norge (128) | 464,766 |
| | Savedge (135) | 0 |
| | Claremont (136) | 0 |
| | Surry (137) | 0 |
| | Hog Island (138) | 0 |

continued

TABLE 6. (continued)

| | |
|---|---|
| Yorktown (139) | 0 |
| Bacons Castle (144) | 0 |
| Mulberry Island (145) | 0 |
| Newport News North (146) | 0 |
| Benns Church (148) | 0 |
| Norfolk North (150) | 0 |
| Chuckatuck (153) | 0 |
| Bowers Hill (154) | 0 |
| Norfolk South (155) | 0 |
| Kempsville (156) | 0 |
| | 464,766 sq.m = 46.48 hectares 114.81 acres |

TABLE 7. FREQUENCY OF STATIONS WITH ROOTED SUBMERGED AQUATIC VEGETATION ON THE CHESAPEAKE BAY SYSTEM, 1971-85

| RIVER SYSTEM | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Elk & Bohemia Rivers | 6.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sassafras | 30.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10.0 | 0.0 | 0.0 | 10.0 | 0.0 |
| Howell-Swan Points | 16.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Chester River | 61.1 | 36.1 | 26.5 | 23.5 | 25.0 | 25.7 | 38.9 | 44.4 | 33.3 | 38.9 | 13.9 | 0.0 | 1.1 | 19.4 | 22.0 |
| Love-Kent Points | 0.0 | 0.0 | 0.0 | 12.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Eastern Bay | 34.0 | 46.5 | 34.0 | 36.2 | 21.7 | 42.2 | 28.3 | 26.1 | 17.3 | 34.8 | 4.4 | 4.3 | 17.4 | 6.5 | 17.4 |
| Choptank River | 35.0 | 39.7 | 19.3 | 27.6 | 1.7 | 39.0 | 25.8 | 28.3 | 26.7 | 25.0 | 1.7 | 6.7 | 5.0 | 1.7 | 11.7 |
| Little Choptank River | 21.0 | 21.0 | 0.0 | 0.0 | 0.0 | 15.8 | 5.3 | 5.3 | 5.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| James-Barren Islands | 44.1 | 35.3 | 2.9 | 5.9 | 8.8 | 2.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.9 | 0.0 | 0.0 | 2.9 |
| Honga River | 50.0 | 40.0 | 13.3 | 16.7 | 10.3 | 17.2 | 3.3 | 3.3 | 0.0 | 0.0 | 0.0 | 3.3 | 3.3 | 0.0 | 3.3 |
| Fishing Bay | 8.0 | 4.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Nanticoke-Wicomico River | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Manokin River | 40.0 | 46.7 | 13.3 | 20.0 | 7.1 | 6.7 | 20.0 | 0.0 | 0.0 | 0.0 | 6.7 | 13.3 | 0.0 | 6.7 | 13.3 |
| Little & Big Annemessex R. | 70.0 | 60.0 | 30.0 | 57.9 | 33.3 | 30.0 | 30.0 | 15.0 | 0.0 | 5.0 | 5.0 | 10.0 | 0.0 | 10.0 | 18.8 |
| Pocomoke Sound | 18.2 | 10.0 | 4.8 | ** | 15.0 | 9.1 | 10.0 | 4.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.8 |
| Bloodsworth-Sound Marsh Is. | 37.5 | 22.7 | 10.9 | 11.6 | 7.0 | 2.2 | 4.4 | 0.0 | 0.0 | 2.2 | 11.1 | 2.2 | 4.3 | 0.0 | 2.4 |
| Smith Island | 64.7 | 45.5 | 25.0 | 35.3 | 22.2 | 35.3 | 23.5 | 5.8 | 17.6 | 47.1 | 47.1 | 41.2 | 35.3 | 29.4 | 23.5 |
| Total Eastern Shore | 36.4 | 28.5 | 13.3 | 18.0 | 9.7 | 17.7 | 13.9 | 11.6 | 9.0 | 12.4 | 5.4 | 4.5 | 5.6 | 4.5 | 8.3 |
| Susquehanna Flats | 44.4 | 2.7 | 0.0 | 13.5 | 11.1 | 8.1 | 11.1 | 2.7 | 8.1 | 0.0 | 2.7 | 13.5 | 5.4 | 0.0 | 2.7 |
| Gunpowder-Bush Rivers | 11.1 | 0.0 | 0.0 | 0.0 | ** | 0.0 | 11.1 | 0.0 | 11.1 | 22.2 | 11.1 | 11.1 | 11.1 | 0.0 | 11.0 |
| Back-Middle Rivers | 13.6 | 4.6 | 4.6 | 4.6 | 9.1 | 4.6 | 9.1 | 4.5 | 4.5 | 9.1 | 4.5 | 0.0 | 19.0 | 17.6 | 19.0 |
| Patapsco River | 0.0 | 5.0 | 4.8 | 9.5 | ** | 9.5 | 14.2 | 9.5 | 9.5 | 0.0 | 9.5 | 0.0 | 4.8 | 0.0 | 0.0 |
| Magothy River | 33.3 | 0.0 | 16.7 | 16.7 | ** | 16.7 | 25.0 | 8.3 | 16.7 | 16.7 | 8.3 | 0.0 | 0.0 | 16.7 | 0.0 |
| Severn River | 40.0 | 20.0 | 26.7 | 26.7 | 0.0 | 46.2 | 20.0 | 26.7 | 20.0 | 13.3 | 6.6 | 0.0 | 6.7 | 0.0 | 0.0 |
| South-West-Rhode River | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 12.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Curtis-Cove Points | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 5.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Patuxent River | 2.0 | 4.3 | 0.0 | 4.0 | 0.0 | 2.1 | 2.0 | 2.0 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Western Shore | 6.8 | 4.2 | 4.1 | 8.3 | 5.0 | 8.4 | 8.8 | 5.0 | 7.2 | 4.0 | 3.7 | 3.6 | 4.6 | 2.7 | 3.1 |
| Percent of stations vegetated | 28.5 | 21.0 | 10.5 | 14.9 | 8.7 | 14.9 | 12.4 | 9.5 | 8.4 | 9.7 | 4.9 | 4.2 | 5.3 | 4.0 | 5.7 |
| Number of areas with no SAV recorded | 5.0 | 9.0 | 12.0 | 9.0 | 11.0 | 8.0 | 8.0 | 12.0 | 13.0 | 16.0 | 12.0 | 16.0 | 15.0 | 17.0 | 13.0 |

**no stations sampled for this location

# RESULTS

## 1. SUSQUEHANNA FLATS

The distribution of SAV in this section decreased by 6.5% in 1985, from 2150 hectares in 1984 to 2011 hectares in 1985 (Tables 4-6). Mapping of SAV in this section was accomplished both by the use of aerial photography and information provided by Stan Kollar, HCC, where the SAV was too sparse to be detected from the aerial photos. Seven species of SAV were found in 1985 with M. spicatum the most abundant. Other species of importance which appear to be increasing in abundance along the Susquehanna River and in the Havre de Grace area were H. dubia, V. americana, H. verticillata.

The Md.DNR survey found SAV (M. spicatum) at one of the 37 stations they sample annually in the Susquehanna Flats (Table 7). No stations are located in the Susquehanna River, where SAV occurs as far north as Robert Island.

## 2. UPPER EASTERN SHORE

This section showed a 142% increase in SAV from 1984 to 1985. A total of 104 hectares were mapped in 1985 as compared to 43 in 1984 (Tables 4-6). Most of the increase in SAV in 1985 occurred along the Elk, Bohemia and Sassafras Rivers. Of the 7 quadrangles mapped in this section, only Galena showed a decrease in SAV. Fifteen stations were sampled by the Md.DNR in the Elk and Bohemia Rivers, with no vegetation recorded at any of the stations (Table 7). Similarly, no vegetation was found at the 10 stations sampled by the Md.DNR survey on the Sassafras River or the 5 stations on

Stillpond Creek. Other field surveys conducted by citizens and charterboat captains and SAV drift observed by Md.DNR field crews indicate that M. spicatum is the most prevalent species in this section. Seven stations sampled by Md.DNR in the southern portion of the section from Howell to Swan Points also had no SAV.

## 3. UPPER WESTERN SHORE

The 1985 aerial survey indicated there were 238 hectares of SAV, a decrease of 2.4% from that estimated in 1984 (Tables 4-6). Aerial coverage of this section was complete in 1985, thus the estimated 1984 coverage may have been fairly accurate, since little increase or decrease was generally seen on the Western Shore in 1985. Aerial photos indicated that SAV was present in all river systems (Gunpowder, Bush, Back, Middle and Magothy) in the section. Generally, most of the SAV was present along the lower sections of these rivers.

A total of 4 of 27 Md.DNR stations on the Gunpowder, Bush, Back and Middle Rivers had rooted SAV in 1985, an increase of 1 station over 1984 (Table 7). Species present in these samples were M. spicatum, Chara sp., V. americana, P. perfoliatus, and N. guadilupensis. No rooted SAV was found by Md.DNR at the 12 Magothy River stations.

## 4. CHESTER RIVER

In 1985, 671 hectares of SAV were mapped in the Chester River Section, a decrease of 8.2% from the 731 hectares mapped in 1984 (Tables 4-6). Again, most of the SAV mapped (87%) occurred on the Langford Creek

quadrangle. In all, 8 of the 9 quandrangles in the section had SAV present in 1985. Five species of SAV were reported by citizen and Md.DNR field surveys. These species were R. maritima, P. pectinatus, P. perfoliatus, Z. palustris and M. spicatum, with P. perfoliatus and R. maritima reported most often. Aerial coverge of this area was complete in 1985.

The Md.DNR Survey found 8 (22.2%) of their 35 stations in the Chester River vegetated in 1985, as compared to 7 (19.4%) in 1984 (Table 7).

## 5. CENTRAL WESTERN SHORE

A total of 26.3 hectares of SAV was mapped in this section in 1985, while none was seen in 1984 (Tables 4-6). Seventy-two percent of the SAV reported was located in Herring Bay on the North Beach quadrangle. No SAV was mapped in any of the river systems in this section except for a small bed near the mouth of the West River.

The Md.DNR survey found no rooted SAV in the Severn, South, West and Rhode River sections (Table 7).

## 6. EASTERN BAY

In 1985, 356 hectares of SAV were noted on the aerial photography, an increase of 441% over the 66 hectares reported in 1984 (Tables 4-6). R. maritima was the most abundant species reported in field surveys by citizens and Md.DNR personnel. P. pectinatus and P. perfoliatus were also reported, but other species reported in 1978, such as M. spicatum, E. canadensis, and Z. palustris were not seen.

The Md.DNR survey, as in 1984, found no SAV at the stations from Love Point to Kent Point, while an increase of 3 (6.5%) to 8 (17.4%) of 46 stations in Eastern Bay were vegetated (Table 7). R. maritima was the only species found in the survey.

## 7. CHOPTANK RIVER

In 1985, 1528 hectares of SAV were noted on the aerial photography, as compared to 82 hectares seen in 1984 (Tables 4-6). This represents a 1760% increase over the previous year. Ten of the 13 quadrangles in the section had SAV in 1985, compared to only 6 in 1984, and 6 had over 100 hectares of SAV. A total of 6 species were reported to occur in this section. R. maritima was by far the most abundant species reported in field surveys. Other species found were P. perfoliatus, P. pectinatus, Z. palustris, N. guadilupensis, and V. americana.

The Md.DNR survey found rooted SAV at 7 of 60 stations on the Choptank River in 1985 (Table 7), while none of the 19 stations on the Little Choptank River had SAV. All SAV found was R. maritima.

Studies by the University of Maryland Center for Environmental and Etuarine Studies at the Horn Point Laboratory (HPL) also confirmed the increases in SAV seen on the aerial photography. Dr. Court Stevenson, who coordinates the SAV research at the HPL, reported that there was a strong resurgence of SAV in the lower Choptank River, with Z. palustris seedlings evident at many sites in May, while R. maritima replaced it was the dominant species in July. Plants were found in areas where no grass had existed for the past five years. The main study site at Chapel Creek had dense stands of SAV in 1985 where only vestigial populations existed in 1984. Visual

reconaissance during low level aerial flights indicated that SAV was present mostly in protected coves of the lower Choptank River. No grass was sighted above the Cambridge Bridge. Although a resurgence in R. maritima was seen in 1985, other species such as P. perfoliatus, P. pectinatus and M. spicatum, once common in the Choptank River, were not observed (Stevenson et al., 1986).

The UMd.HPL is also conducting SAV transplant studies in the Choptank River. Their six study sites (Horn Point, Chapel Creek, Todd's Cove, Boone Creek, Foxhole Creek, Irish Creek) are all located along the lower Choptank River. All the selected sites had SAV in the 1970's, which had declined substantially in the 1980's.

Because of the relatively low runoff associated with the dry spring and summer of 1985, salinities were much higher (12-17 ppt) (Table 8) than normal (they can be as low as 8 ppt in wet summers). Because of this, R. maritima (a species with high salinity tolerance) was able to colonize a wide range of habitats. Mean dissolved nitrogen levels are just under 10 uM (Table 8) while dissolved inorganic phosphorus was well under 1.0 uM (Table 8). High turbidity, which has been implicated as one the major reasons for the SAV decline, is somewhat reflected by the seston values (Table 8). In relation to this, average light measurements of the study sites (Table 8) show a wide fluctuation, which most likely impacts the potential for reestablishment of SAV at sites such as Todd's Cove (Stevenson, et. al., 1986). In support of this reasoning, the study site with the lowest mean seston and lowest mean light attentation values (Irish Creek) had the greatest amount of SAV (69.8 ha) mapped from the aerial photography.

TABLE 8. HECTARES OF SAV; MEAN SALINITY (PPT), SESTON (MG/L), KD*, DISSOLVED INORGANIC NITROGEN (DIN) AND PHOSPHORUS (DIP) AND NITROGEN: PHOSPHORUS RATIO AT TRANSPLANT SITES IN CHOPTANK RIVER DURING THE 1985 GROWING SEASON. ALL DATA EXCEPT HECTARES OF SAV FROM STEVENSON ET. AL., 1986.

| Site | Hectares of SAV** 1984 | Hectares of SAV** 1985 | Salinity (mean ± SE) | Seston (mean ± SE) | Kd (mean ± SE) | DIN (uM) (mean ± SE) | DIP (uM) (mean ± SE) | N:P |
|---|---|---|---|---|---|---|---|---|
| Horn Point | 0.0 | 0.0 | 14.6 ± 0.42 | 17.2 ± 4.6 | 1.16 ± 1.41 | 9.4 ± 1.1 | 0.27 ± 0.05 | 35 |
| Chapel Creek | 3.3 | 55.7 | 15.7 ± 0.18 | 16.2 ± 2.9 | 1.05 ± 0.20 | 8.5 ± 1.8 | 0.37 ± 0.21 | 23 |
| Todd's Cove | 0.0 | 68.5 | 15.1 ± 0.30 | 29.2 ± 3.8 | 2.88 ± 0.84 | 8.8 ± 3.6 | 0.17 ± 0.04 | 51 |
| Boone Creek | 0.0 | 0.8 | 14.9 ± 0.34 | 18.2 ± 3.7 | 1.63 ± 0.38 | 4.4 ± 0.4 | 0.15 ± 0.07 | 29 |
| Foxhole Creek | 0.0 | 4.8 | 14.6 ± 0.46 | 33.9 ± 11.0 | 1.08 ± 0.02 | 7.0 ± 1.2 | 0.53 ± 0.18 | 13 |
| Irish Creek | 0.0 | 69.8 | 15.0 ± 0.29 | 10.6 ± 1.7 | 0.82 ± 0.07 | 7.9 ± 1.4 | 0.95 ± 0.57 | 8 |

*Kd - attenuation coefficient, calculated from photosynthetically active radiation measured at surface and bottom. Kd of 4 is considered beyond the light compensation ability of the most species of SAV.

**Hectares of SAV as measured from 1984 and 1985 aerial photographic surveys.

## 8. PATUXENT RIVER

In 1985, 44 hectares of SAV were noted on the aerial photography, as compared to only 9 in 1984 (Tables 4-6). SAV was noted on 4 of the 5 quadrangles in this section.

The Md.DNR survey found no SAV at the 43 stations they surveyed (Table 7).

## 9. MIDDLE WESTERN SHORE

A total of 23 hectares of SAV was noted on the aerial photography in this section in 1985 (Tables 4-6). Ninety-nine percent of their SAV occurred in areas where aerial photography was not available in 1984. Four of the eight quadrangles in this section had vegetation, with 71% of it occurring on the Point No Point quadrangle. Most of the mapped SAV in this section occurred in small marsh ponds that drain into the bay. The Md.DNR survey found no SAV at 8 sampled stations from Curtis to Cove Points (Table 7). This section is a very exposed region, with little habitat suitable for SAV; thus it would not be expected to support significant stands of SAV.

## 10. LOWER POTOMAC RIVER

In 1985 there were 381 hectares of SAV in the Lower Potomac River, as compared to 194 mapped in 1984 (Tables 4-6). This represents a 69% increase, of which 9% is accounted for by quadrangles that were not mapped in 1984 because of a lack of photographic coverage. Only 9 of the 20 quadrangles in the section had SAV, and 2 that had SAV in 1984 (Colonial

Beach South and Stratford Hall) had none in 1985. Seventy-four percent of the SAV mapped in 1985 occurred on the Mathias Point quadrangle.

The Md.DNR survey sampled 88 stations in the lower section, and found vegetation at 4 stations, all at the very northern end of the section near Upper Cedar Point, and in the Nanjemoy River. Species located at these stations were P. perfoliatus, V. americana, Z. palustris, M. spicatum and N. quadilupensis.

## 11. UPPER POTOMAC RIVER

Once again in 1985 the Upper Potomac River exhibited a significant increase in abundance of SAV (Tables 4-6). In 1985, 1440 hectares of SAV were noted on the aerial photography as compared to 600 in 1984. This represents a 140% increase. The vegetation is still largely confined to the upper reaches of the section between Alexandria, Virginia and Marshall Hall, Maryland (Figure 6). Ninety-five percent of the mapped SAV occurred on the Alexandria and Mount Vernon quadrangles, which cover the upper reaches previously described. Ten species were found in this reach during the USGS monitoring program in which 62 transects were sampled in spring and fall and a shoreline survey is made in fall. Tables 9, 10, and 11 present data for macrophyte species found on individual vegetated transects, the relative occurrence of vegetated transects, stations and grabs, and total sampled dry weight and biomass of all species of SAV for the spring and fall, respectively.

In 1985, USGS estimated that areal coverage of SAV in their study area was approximately 3600 acres, based on shoreline survey information and aerial photographs. The aerial mapping effort for the same area, calculated

TABLE 9. SPECIES OF SUBMERSED AQUATIC PLANTS FOUND ON VEGETATED TRANSECTS IN THE TIDAL POTOMAC RIVER, 1985.

| Transect | Species[1/] Spring | Species[1/] Fall |
|---|---|---|
| OR-1R | Hydr, P. pect, Zann | Heter, Hydr, Myrio, Najas m, Zann |
| AD-1R | Hydr | Cerat, Heter, Hydr, Myrio |
| DM-1R | Cerat, Hydr | Cerat, Heter, Hydr, Myrio |
| DM-2R | Hydr | Cerat, Heter, Hydr, Myrio, Vall |
| DM-3R | Cerat, Hydr, Myrio Nitella | Cerat, Heter, Hydr, Najas g, Myrio |
| DM-4R | Cerat, Heter, Hydr, Myrio, Najas g, Nitella, P. pect, Vall, Zann, | Cerat, Heter, Hydr, Najas g, Myrio, Najas m, Vall, Zann |
| GC-1R | Hydr, Myrio | Cerat, Heter, Hydr, Myrio, Vall |
| GC-2R | Cerat, Hydr, Myrio, Vall | Cerat, Heter, Hydr, Myrio, Vall |
| GC-3R | Myrio, Vall | Myrio, Vall |
| GC-4R | Cerat, Hydr, Myrio, Vall | Heter, Myrio |
| GC-5R | | Myrio |
| GC-7R | Myrio | Myrio |
| WC-1R | Vall, Zann | Hydr, Vall |
| PY-1R | Hydr, Najas g | Cerat, Heter, Hydr, Myrio, Najas g, Najas m, Vall |
| PY-2R | Cerat, Heter, Hydr, Myrio, Najas g, Nitella, Vall | Cerat, Heter, Hydr, Myrio, Najas g, Vall |
| PY-3R | Hydr, Myrio, Najas g | Cerat, Heter, Hydr, Myrio, Najas g, Vall |
| PY-4R | Zann | Cerat, Heter, Hydr, Myrio, Vall |
| PY-5R | | Heter, Myrio, Vall |
| PY-6R | Cerat, Myrio, Vall | Cerat, Heter, Hydr, Myrio, Vall |
| PY-7R | Cerat, Heter, Hydr, Myrio, Nitella, Vall, Zann | Cerat, Heter, Hydr, Myrio, Najas g, Najas m, Vall |
| PY-8R | Cerat, Heter, Hydr, Myrio, Najas g, Vall, Zann | Cerat, Heter, Hydr, Myrio, Najas g, Najas m, Vall |

Continued

TABLE 9. CONTINUED.

| Transect | Species[1/] Spring | Species[1/] Fall |
|---|---|---|
| PY-9R | Heter, Myrio | Heter, Hydr, Myrio |
| PY-10R | Cerat, Hydr, Najas g, Myrio | |
| PY-1T-2 | Cerat, Myrio | Cerat, Hydr, Myrio |
| PY-2T-1 | Cerat, Hydr, Myrio | Cerat, Hydr, Myrio |
| MN-10R | Vall | Vall |
| MN-4T-2 | Vall | Cerat, Myrio, Vall |

1/Cerat = Ceratophyllum demersum, Heter = Heteranthera dubia,
Hydr = Hydrilla verticillata, Myrio = Myriophyllum spicatum,
Najas g = Najas guadalupensis, Najas m = Najas minor
Nitella = Nitella flexilis, P. pect = Potamogeton pectinatus
Vall = Vallisneria americana, Zann = Zannichellia palustris

TABLE 10. RELATIVE OCCURRENCE OF VEGETATED TRANSECTS, STATIONS, AND GRABS FOR THE TIDAL POTOMAC RIVER, 1985. (RELATIVE OCCURRENCE AS NUMBER VEGETATED/TOTAL NUMBER)

| Study areas | Sampling unit | 1985 Spring | 1985 Fall |
|---|---|---|---|
| Roosevelt Island to Wilson Bridge | Transects | 3/6 | 3/6 |
| | Stations | 13/32 | 12/33 |
| | Grabs | 33/96 | 24/99 |
| Dyke Marsh | Transects | 4/4 | 4/4 |
| | Stations | 29/38 | 48/55 |
| | Grabs | 56/114 | 127/165 |
| Gunston Cove | Transects | 5/13 | 6/13 |
| | Stations | 19/71 | 24/79 |
| | Grabs | 32/213 | 38/237 |
| Piscataway Creek | Transects | 11/13 | 11/13 |
| | Stations | 54/95 | 65/101 |
| | Grabs | 116/285 | 167/303 |
| Pomonkey Creek | Transects | 0/4 | 0/4 |
| | Stations | 0/20 | 0/20 |
| | Grabs | 0/60 | 0/60 |
| Mattawoman Creek | Transects | 2/22 | 2/22 |
| | Stations | 7/112 | 3/111 |
| | Grabs | 15/336 | 7/333 |

TABLE 11. TOTAL SAMPLED DRY WEIGHT AND BIOMASS OF ALL SPECIES OF SUBMERSED AQUATIC VEGETATION IN THE TIDAL POTOMAC RIVER, 1985. (DRY WEIGHT IN GRAMS; BIOMASS IN GRAMS PER SQUARE METER; TR, TRACE (LESS THAN 1 GRAM); A, NO BIOMASS CALCULATED--SEE TEXT).

| | Spring 1985 | | | Fall 1985 | | |
|---|---|---|---|---|---|---|
| Transect | Vegetated stations | Dry weight | Biomass | Vegetated stations | Dry weight | Biomass |
| OR-1R | 6 | 10 | 6 | 7 | 138 | 71 |
| AD-1R | 4 | 36 | 32 | 4 | 100 | 90 |
| DM-1R | 11 | 44 | 14 | 14 | 3238 | a |
| DM-2R | 2 | Tr | Tr | 6 | 1663 | a |
| DM-3R | 6 | 128 | 76 | 12 | 1622 | a |
| DM-4R | 11 | 39 | 13 | 16 | 423 | a |
| GC-1R | 12 | 66 | 20 | 15 | 350 | a |
| GC-2R | 3 | 7 | 8 | 3 | 92 | 110 |
| GC-3R | 3 | 8 | 10 | 3 | 22 | 26 |
| GC-4R | 2 | 13 | 70 | 1 | 79 | 283 |
| GC-5R | 0 | 0 | 0 | 3 | 21 | 25 |
| GC-7R | 1 | Tr | Tr | 3 | 5 | 6 |
| WC-1R | 3 | 17 | 20 | 2 | 258 | a |
| PY-1R | 3 | Tr | Tr | 7 | 104 | 53 |
| PY-2R | 11 | 391 | 127 | 11 | 1849 | a |
| PY-3R | 3 | Tr | Tr | 4 | 261 | 234 |
| PY-4R | 2 | Tr | Tr | 2 | 38 | 68 |
| PY-5R | 0 | 0 | 0 | 3 | 41 | 49 |
| PY-6R | 4 | 3 | 3 | 3 | 130 | 155 |
| PY-7R | 4 | 12 | 11 | 11 | 1071 | a |
| PY-8R | 16 | 157 | 35 | 17 | 1562 | a |
| PY-9R | 2 | 1 | 18 | 2 | 43 | 77 |
| PY-10R | 5 | 12 | 9 | 0 | 0 | 0 |
| PY-1T-2 | 1 | 1 | 4 | 4 | Tr | Tr |
| PY-2T-1 | 3 | 19 | 34 | 3 | 552 | a |
| MN-10R | 2 | 8 | 14 | 1 | 96 | 344 |
| MN-4T-2 | 0 | 0 | 0 | 1 | 8 | 29 |

3557 acres of SAV which, without the benefit of a ground truth survey, is only 1.2% different than the USGS estimate. Since 1984, the vegetation has spread almost 2 kilometers further downriver. Almost all areas less than 2 meters deep were vegetated with SAV. The most abundant and most widely occurring species were H. verticillata, M. spicatum, H. dubia, C. demersum, V. americana and N. guadilupensis. H. verticillata, M. spicatum and C. demersum occurred in 79%, 55% and 47% of the vegetated transect samples in the fall of 1985 (Figure 7). H. verticillata dominated Hunting Creek, Swan Creek and the Dyke Marsh area (Figure 8). Results of the USGS shoreline survey show that H. verticillata was more abundant than all other species in 25% of the vegetated areas, accounting for 62% of the total fall dry weight.

As mean secchi disk readings above Marshall Hall (87 cm ± 31) were significantly better than below Marshall Hall (55 cm ± 19), poor light penetration may partially account for the lack of vegetation below Marshall Hall in this section. Other factors may also be involved because light measurements with an underwater spectroradiometer in 1985 suggest that sufficient light reaches the bottom for plant growth in less than 1.5 meters of water.

The Md.DNR survey sampled 52 stations in this section, with a total of 3 stations yielding SAV. Rooted SAV species found at these stations were M. spicatum, H. verticillata and C. demersum.

## 12. MIDDLE EASTERN SHORE

In 1985, there was 1188 hectares of SAV in this section, as compared to only 33 hectares in 1984 (Tables 4-6). This represents a 3504% increase, the largest increase seen in any section of the bay. Twelve of the fifteen

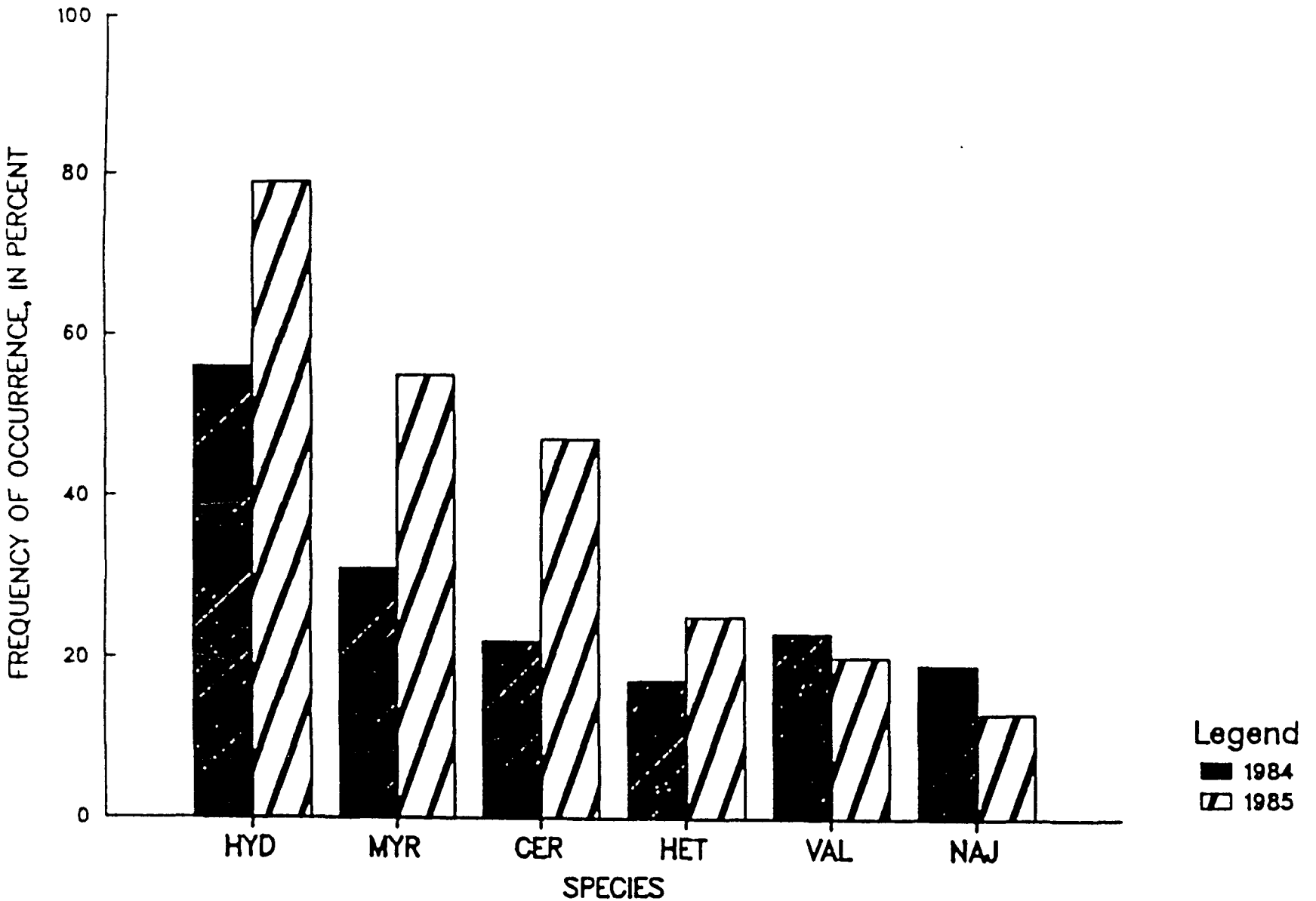



Figure 7. Frequency of occurrence of five major SAV species in the Potomac River between Washington, D.C. and Quantico, VA, 1984 and 1985 (MYR - Myriophyllum spicatum; HYD - Hydrilla verticillata; CER - Ceratophyllum demersum; HET - Heteranthera dubia; NAJ - Najas quadalupensus).

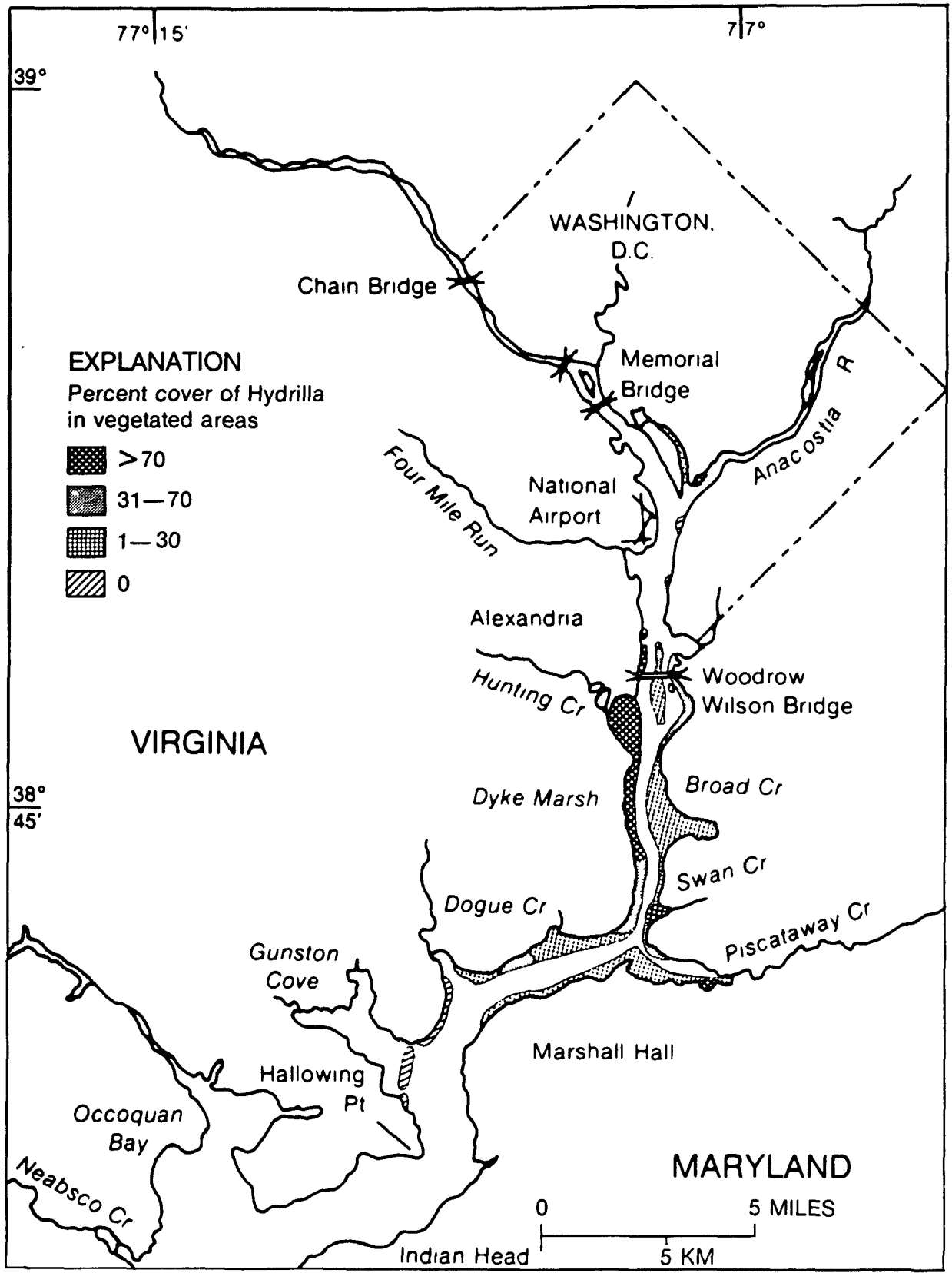



Figure 8. Percent cover of Hydrilla in vegetated areas in the tidal Potomac River in the fall, 1985 (from Rybicki, et al., 1986).

quadrangles in the section had vegetation in 1985, while only 5 had vegetation in 1984. One of the most significant increases was the 265 hectares, mostly occurring in one large bed, in the Barren Island Gap region, where no SAV was seen in 1984.

The Md.DNR survey sampled 169 stations in this section examining sites in the James-Barren Island system, Honga River, Fishing Bay, Barren Island/South Marsh Island, Nanticoke-Wicomico River, Manokin River and Big Annemessex River (Table 7). SAV was found at one station each in the James-Barren Island system, Honga and Bloodsworth Island/South Marsh Island sections, while 2 stations in the Manokin River, and 3 stations in the Big/Little Annemessex River sections had SAV. No SAV was found in the other sections sampled by the Md.DNR survey. R. maritima was found at 7 of the 8 sample points with SAV, while Z. palustris was located at the other site.

## 13. TANGIER ISLAND COMPLEX

This section contains the greatest amount of SAV in the Lower Bay zone (5,504 ha or 49% of the total for this zone) and is similar to the amount reported for 1984 (5447 ha).

SAV beds are concentrated in distinct areas in the section: adjacent to Big Marsh between Chesconessex Creek and Deep Creek, on the west side of Webb and Halfmoon Island, on the east side of Great Fox Island and in the areas between Tangier and Smith Island. Dominant species in this section are Z. marina and R. maritima. Although this section has significant stands of SAV, and data indicates that SAV has been increasing in abundance here, the MD.DNR survey found SAV in only 8 of 57 stations in this section (Table 7). The DNR survey indicated that SAV abundance decreased to 23.5% of the

surveyed stations in the Smith Island portion and has been continually declining from 47.1% of the stations in 1980, contrary to the findings of the aerial survey. An examination of the 57 stations visited by DNR scientists indicated most stations were in waters too deep or occurred just outside SAV beds delineated from aerial photographs. Where survey stations indicated presence of SAV, six of the eight stations occurred in SAV beds mapped from aerial photographs.

Observations from citizens indicated SAV in 3 of the 6 mapped SAV beds, with Z. marina being observed at 5 of the 6 stations.

## 14. LOWER EASTERN SHORE

This section contained 20% of the SAV in the Lower Bay zone with 2,227 hectares present in dense to scattered, patchy beds from Chesconessex Creek to Elliotts Creek (Tables 4-6). Large beds of Z. marina and R. maritima were present around Cape Charles, and at the mouths of Cherrystone Inlet, Hungars Creek, Mattawoman Creek, Occahannock Creek, Craddock Creek, Pungoteague Creek and Onancock Creek. The areas between these creek systems are sparsely vegetated or unvegetated because of the exposed and dynamic nature of these broad flats.

SAV in the Vaucluse Shore historical area was reduced slightly (6%) from 1984 (Table 12). The SAV at the site has been gradually declining in the last 50 years principally due to the migrating nature of the sand bars and spits which cover existing SAV and eliminate the area from potential SAV growth.

TABLE 12. AREAS OF SAV AT HISTORICAL MAPPING SITES (LOWER BAY ZONE) 1937-1985

Parrott Islands

| Date | <10% | 10-40% | 40-70% | 70-100% | Total |
|---|---|---|---|---|---|
| | Area $m^2$ | | | | |
| 1937 | 0 | 297,024 | 1,598,268 | 0 | 1,895,292 |
| 1951 | 394,797 | 778,146 | 1,222,410 | 1,158,384 | 3,553,737 |
| 1960 | 411,306 | 631,566 | 547,014 | 1,947,372 | 3,537,258 |
| 1968 | 92,064 | 1,354,110 | 1,205,628 | 124,374 | 2,776,176 |
| 1974 | 0 | 2,922 | 7,710 | 0 | 10,632 |
| 1978 | 0 | 22,872 | 0 | 0 | 22,872 |
| 1980 | 0 | 0 | 0 | 0 | 0 |
| 1981 | 0 | 0 | 0 | 0 | 0 |
| 1984 | 0 | 0 | 0 | 0 | 0 |
| 1985 | 0 | 0 | 0 | 0 | 0 |

Fleets Bay

| Date | <10% | 10-40% | 40-70% | 70-100% | Total |
|---|---|---|---|---|---|
| | Area $m^2$ | | | | |
| 1937 | 0 | 1,385,424 | 548,076 | 744,864 | 2,678,364 |
| 1953 | 1,488,258 | 597,354 | 591,018 | 284,232 | 2,960,862 |
| 1961 | 1,572,612 | 1,330,140 | 1,643,892 | 884,280 | 5,430,924 |
| 1969 | 1,436,403 | 1,938,660 | 1,592,170 | 270,372 | 5,237,605 |
| 1974 | 105,714 | 1,624,884 | 1,325,040 | 0 | 3,055,638 |
| 1978 | 167,688 | 528,918 | 33,592 | 0 | 730,198 |
| 1980 | 0 | 121,890 | 26,040 | 2,472 | 150,402 |
| 1981 | 0 | 683,250 | 9,816 | 13,986 | 707,052 |
| 1984 | 232,164 | 730,680 | 33,318 | 14,556 | 1,010,718 |
| 1985 | 436,989 | 377,019 | 44,733 | 0 | 858,741 |

Mumfort Islands

| Date | <10% | 10-40% | 40-70% | 70-100% | Total |
|---|---|---|---|---|---|
| | Area $m^2$ | | | | |
| 1937 | 0 | 495,060 | 397,368 | 23,832 | 916,260 |
| 1953 | 151,728 | 699,252 | 106,356 | 1,461,846 | 2,419,182 |
| 1960 | 0 | 258,210 | 1,880,238 | 0 | 2,138,448 |
| 1971 | 0 | 685,536 | 1,088,976 | 0 | 1,774,512 |
| 1974 | 0 | 127,488 | 23,826 | 0 | 151,314 |
| 1978 | 0 | 0 | 0 | 0 | 0 |
| 1980 | 0 | 0 | 0 | 0 | 0 |
| 1981 | 0 | 0 | 0 | 0 | 0 |
| 1984 | 0 | 0 | 0 | 0 | 0 |
| 1985 | 0 | 0 | 0 | 0 | 0 |

continued

TABLE 12. (continued)

Jenkins Neck

| Date | Area $m^2$ <10% | 10-40% | 40-70% | 70-100% | Total |
|---|---|---|---|---|---|
| 1937 | 0 | 1,180,200 | 820,612 | 32,520 | 2,033,332 |
| 1953 | 426,480 | 647,112 | 717,180 | 1,811,832 | 3,602,604 |
| 1960 | 140,448 | 794,178 | 639,012 | 2,067,948 | 3,641,586 |
| 1971 | 0 | 278,586 | 2,350,380 | 33,792 | 2,662,758 |
| 1974 | 93,972 | 303,804 | 1,599,228 | 93,912 | 2,090,916 |
| 1978 | 132,714 | 299,760 | 671,616 | 162,408 | 1,266,498 |
| 1980 | 60,810 | 191,605 | 690,968 | 179,589 | 1,122,972 |
| 1981 | 0 | 0 | 763,194 | 309,012 | 1,072,206 |
| 1984 | 72,876 | 289,388 | 563,268 | 954,360 | 1,879,892 |
| 1985 | 32,988 | 247,934 | 496,543 | 1,416,525 | 2,193,991 |

East River

| Date | Area $m^2$ <10% | 10-40% | 40-70% | 70-100% | Total |
|---|---|---|---|---|---|
| 1937 | 1,024,010 | 809,770 | 1,357,790 | 85,530 | 3,277,100 |
| 1953 | 591,840 | 1,158,490 | 1,394,740 | 1,742,050 | 4,887,120 |
| 1963 | 31,032 | 1,916,530 | 2,340,480 | 0 | 4,288,042 |
| 1971 | 0 | 2,007,460 | 2,253,080 | 96,620 | 4,357,160 |
| 1974 | 509,730 | 348,820 | 1,955,130 | 0 | 2,813,680 |
| 1978 | 47,860 | 515,000 | 1,864,850 | 0 | 2,427,710 |
| 1980 | 191,520 | 451,351 | 808,842 | 158,634 | 1,610,347 |
| 1981 | 0 | 96,174 | 1,183,542 | 198,474 | 1,478,190 |
| 1984 | 181,626 | 633,012 | 1,050,666 | 139,326 | 2,004,630 |
| 1985 | 0 | 535,308 | 829,212 | 0 | 1,364,520 |

Vaucluse Shores

| Date | Area $m^2$ <10% | 10-40% | 40-70% | 70-100% | Total |
|---|---|---|---|---|---|
| 1938 | 0 | 1,120,284 | 1,451,392 | 1,480,128 | 4,051,804 |
| 1948 | 506,706 | 1,171,884 | 1,715,556 | 0 | 3,994,146 |
| 1955 | 1,938,258 | 0 | 528,996 | 1,238,124 | 3,705,378 |
| 1966 | 452,940 | 402,324 | 2,534,178 | 604,176 | 3,993,618 |
| 1972 | 286,554 | 364,764 | 2,515,740 | 391,770 | 3,558,828 |
| 1978 | 187,728 | 507,054 | 80,872 | 2,036,526 | 2,812,180 |
| 1980 | 359,551 | 7,098 | 697,842 | 1,783,938 | 2,848,429 |
| 1981 | 327,786 | 97,950 | 355,344 | 1,852,392 | 2,633,472 |
| 1984 | 0 | 15,792 | 1,137,882 | 1,731,678 | 2,885,352 |
| 1985 | 0 | 715,404 | 522,273 | 1,459,126 | 2,696,803 |

## 15. REEDVILLE

The Reedville section (Tables 4-6) contained 172 hectares in 1985, a reduction of 35% from 1984. This reduction was also evident in the Fleets Bay historical area which declined in areal coverage by 15% (Table 12). Most of the SAV beds in this section are small and sparse, they are susceptible to disturbance and can undergo rapid changes in short periods of time. Much of the decline observed between 1984 and 1985 occurred in the patchy beds designated with a density class of 1.

## 16. RAPPAHANNOCK RIVER COMPLEX

Only 20 hectares of SAV were found in this section in 1985, similar to the total area found in 1984 (Tables 4-6). The SAV stands found in the Milford Haven area, consisting of Z. marina and R. maritima, are still present and very dense. Direct observations indicate the persistence and the very healthy nature of these beds. There were no SAV beds in the Parrott Island historical area (Table 12). Transplanting of Z. marina near Parrott Island has not been successful, while some of the transplanted Z. marina in the Piankatank River off Burton's Point in 1984 has survived and is still present in the summer of 1986. The patches of transplanted grass are very small ($<1m^2$) and were not apparent in the photographs.

## 17. NEW POINT COMFORT REGION

SAV beds in this section are concentrated in the area between New Point Comfort Lighthouse and Horn Harbor (Tables 4-6). This section contained 332 hectares of SAV, consisting of Z. marina and R. maritima, and represents on 11% increase in areal coverage from 1984.

## 18. MOBJACK BAY COMPLEX

This section contains the greatest amount of SAV along the entire western shore with 1505 hectares present in 1985 (Tables 4-6). This is a 3% decrease from 1984. SAV beds, consisting of Z. marina and R. maritima, are present along the shorelines of the entire Mobjack Bay and three of four tributaries: the Severn, Ware and North Rivers. Little SAV is found in the East River.

SAV in the East River historical area decreased 32% from 1984 (Table 12).

## 19. YORK RIVER

This section contained 258 hectares of SAV in 1958 (Tables 4-6) an increase of 8% over that found in 1984. SAV beds (Z. marina and R. maritima) are present from Gloucester Point to the mouth of the river and are principally found along the north shore. No SAV beds are found above Gloucester Point, although a number of previously vegetated sites have been used for transplant experiments by VIMS scientists. Transplanted SAV beds

(Z. marina only) at Gloucester Point are thriving and individual planted units are rapidly expanding. The bed planted in 1982 on 1.0 and 0.5 m centers is now one cohesive unit while individual units planted on 2.0 m centers in 1983 in an area adjacent to the 1982 plantings are growing. Individual sods, 225 cmr, have now increased in areal coverage to 11,000 cmr in less than 3 years. The patches are more elliptical in shape, with the long axis occurring parallel to the beach. These patches average 131 by 106 cm. Success rate with transplanted Z. marina at Mumfort Island has been much less than at the Gloucester Point area. Z. marina transplanted to Clay Bank, the previous upriver limits of the species, in the past, never survived through the summer.

SAV in the Jenkins Neck historical area increased 17% from 1984, but is still 150 ha below levels found during the years when SAV was very abundant (Table 12). SAV continues to be absent from the Mumfort Island historical area (Table 12).

## 20. LOWER WESTERN SHORE

There were 1315 hectares of SAV in this section in 1985 (Tables 4-6), an increase of 14% from 1984. These beds, consisting of both Z. marina and R. maritima, are still concentrated in Broad Bay, Back River, Drum Island Flats adjacent to Plumtree Island and on the south side of Goodwin Island. The beds found on Drum Island Flats represent one of the more extensive and densely vegetated areas along the western shore today.

## 21. JAMES RIVER

There are no SAV beds in the James River that have been identified from the aerial photography or ground surveys (Tables 4-6). Many of the tributaries of the James River most likely contain scattered, but small beds of SAV that are principally located along the marsh banks or headwaters of the tributaries. The concentration of SAV in the Chickahominy River still persists (46 hectares) and represents the most distinct beds found in the entire section. The species found in these upriver and marsh creek areas are fresh to brackish water species such as *C. demersum*, *E. canadensis* and *Najas* spp.

## SUMMARY

The distribution and abundance of submerged aquatic vegetation (SAV) was mapped for the entire Chesapeake Bay in 1985. Color aerial photography at a scale of 1:12,000 was used to map the Upper and Middle Bay zones, while black and white photography at a scale of 1:24,000 was used to map the Lower Bay zone. As a whole, the Chesapeake Bay had 19,390 hectares of SAV in 1985, a 26% increase over the 15,400 hectares in 1984.

The Upper Bay zone had 3,025 hectares of SAV in 1985 (15.6% of the total SAV in the bay). This represents a decrease of 4.5% from that reported in 1984. Sixty-six percent of the SAV in this zone was located in the Susquehanna Flats section. Three of the four sections in this zone showed a slight decrease in SAV abundance, while a 142% increase was seen in the sparsely vegetated (104 ha) Upper Eastern Shore section, principally along the Elk and Sassafras Rivers. SAV beds in the Upper Bay zone consisted of 13 species. Dominant species in the Susquehanna Flats were *Myriophyllum spicatum*, *Hydrilla verticillata*, and *Vallisneria americana*, while the Chester River was dominated by *Potamogeton perfoliatus* and *Ruppia maritima*.

The Middle Bay zone had 4986 hectares of SAV in 1985 (25.7% of the total SAV in the bay), which represents a 389% increase from that reported in 1984. All sections in the zone showed an increase in SAV, with the vast majority (3,072 ha) of the SAV and the greatest percent changes occurring in the Eastern Bay (441%), Choptank River (1760%), and Middle Eastern Shore (3504%) sections, located on the Eastern Shore of the mainstem of the bay. The Patuxent River, although sparsely vegetated, showed a 401% increase in SAV, from 9 hectares in 1984 to 44 hectares in 1985. Both Potomac River

sections increased in SAV in 1985, with the largest increase (140%) occurring in the Upper Potomac River section. A portion of the 59% increase documented in the Lower Potomac River is most likely the result of more complete aerial photographic coverage than was obtained in 1984.

SAV beds in the mainstem of the Middle Bay zone consisted principally of Ruppia maritima, with about six other species being reported. The Potomac River SAV bed consisted of fourteen different species, with the most prevalent being Myriophyllum spicatum and Hydrilla verticillata.

The return of SAV in the Upper Potomac River continues to be of significance with regard to its rapid spread in a short time frame. In less than five years, SAV has increased from almost nothing to 1440 hectares. Although H. verticillata is one of the dominant species, other species coexist and, in some areas, share the dominant role with H. verticillata.

The Lower Bay zone had 11,379 hectares of SAV in 1985 (58.7% of the total SAV in the bay). This amount was similar to that reported for 1984. Sixty-eight percent of the SAV in this zone is found along the bayside of the Eastern Shore, with the major beds being located on the broad, shallow flats in and adjacent to Tangier and Smith Islands. SAV beds are concentrated at the mouths of the major bayside creeks, principally Cherrystone Inlet, Hungars Creek, Mattawoman Creek, Occahannock Creek, Craddock Creek, Pungoteague Creek and Onancock Creek. Along the western shore of the zone, SAV beds are found in the Back River, Drum Island Flats adjacent to Plum Tree Island, the mouth of the York River adjacent to the Guinea Marshes, along the shoreline of the Mobjack Bay and in a small band from New Point Comfort to Horn Harbor. There were no major changes in SAV distribution in the nine sections in this zone. The largest change occurred in the Reedville section where SAV distribution decreased 34% from 1984.

SAV beds consist of principally two species, Zostera marina and Ruppia maritima. Zannichelia palustris has also been found in small isolated patches, but is not considered a dominant species here.

SAV was still absent in two of the six historical areas from the lower Bay Zone (Mumfort Island and Parrott Island). SAV increased in the Jenkins Neck area (17%) but decreased in the East River (33%), Fleets Bay (15%) and Vaucluse Shores (6%) areas from that reported in 1984. Changes in the Vaucluse Shore area are related to the dynamic nature of the sand bars and sand spits that continually alter the available area for SAV growth. Changes in the East River and Fleets Bay distribution occurred in beds that were very patchy. These types of beds are more susceptible to physical damage from storms and can easily change in time periods of less than one year.

Zostera marina transplanted to unvegetated areas in the Piankatank and York Rivers between 1982 and 1985 have persisted, and in some cases, are rapidly expanding. These areas are being closely monitored by VIMS' scientists to assess overall changes in distribution of these transplants with time.

## SECTION 6

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## APPENDIX A

SPECIES OF SUBMERGED AQUATIC PLANTS FOUND IN THE CHESAPEAKE BAY AND TRIBUTARIES (MODIFIED FROM CARTER, ET AL., 1985)

| Family | Species | Common name |
|---|---|---|
| Characeae (muskgrass) | Chara braunii Gm. | Muskgrass |
| | Chara zeylanica Km. ex Wild | |
| | Nitella flexilis (L). Ag. | |
| Najadaceae (pondweed) | Potamogeton perfoliatus L. | Redhead grass |
| | Potamogeton pectinatus L. | Sago pondweed |
| | Potamogeton crispus L. | Curly pondweed |
| | Potamogeton pusillus L. | Slender pondweed |
| | Ruppia maritima L. | Widgeongrass |
| | Zannichellia palustris L. | Horned pondweed |
| | Najas quadalupensis (Spreng.) Morong | Southern naiad |
| | Najas gracillima Magnus | Naiad |
| | Najas minor All | |
| Hydrocharitaceae (frogbit) | Vallisneria americana Michx. | Wild celery |
| | Elodea canadenis (Michx.) Planch. | Common elodea |
| | Egeria densa Planch. | Water-weed |
| | Hydrilla verticillata (L.f.) Caspary | Hydrilla |
| Ceratophyllaceae (coontail) | Ceratophyllum demersum L. | Coontail |
| Haloragidaceae (watermilfoil) | Myriophyllum spicatum L. | Eurasian watermilfoil |
| Pondedariceae (pickerelweed) | Heteranthera dubia (Jacqin) MacM. | Water stargrass |
| Potamogetonaceae | Zostera marina (L.) | eelgrass |

APPENDIX B

PERCENT COVER FOR SAV SPECIES PRESENT IN BEDS IDENTIFIED IN THE HAVRE DE GRACE QUADRANGLE (NW AND SW SECTIONS) BASED ON FIELD OBSERVATIONS MADE BY STAN KOLLAR (HARFORD COMMUNITY COLLEGE) (MS - MYRIOPHYLLUM SPICATUM; VA - VALLISNERIA AMERICANA; HV - HYDRILLA VERTICILLATA; HD - HETERANTHERA DUBIA; CD - CERATOPHYLLUM DEMERSUM; N - NAIAD SPP.

| Bed # | Havre de Grace NW Species Present | Percent Cover |
|---|---|---|
| J04 | Ms | 70 |
| | Hd | 5 |
| | Va | <10 |
| | Cd | <5 |
| M03 | Ms | 70-75 |
| | Hd | 5-10 |
| | Va | <10 |
| | Hv | <1 |
| | Cd | <1 |
| L04, N02, O03 P04 | Ms | 80 |
| | Hd | 5 |
| | Va | <5 |
| | Cd | <5 |
| R04 | Ms | 70 |
| | Hd | 5 |
| | Va | <10 |
| | Hv | <5 |
| | Cd | 5 |
| S03, J04, Q03 | Ms | 60 |
| | Hd | 20 |
| | Va | 5 |
| | Cd | 5 |
| | N | <1 |
| | Hv | <1 |

continued

APPENDIX B. (continued)

| Bed # | Havre de Grace SW Species Present | Percent Cover |
|---|---|---|
| A04 | Ms | 80 |
| | Hd | 5 |
| | Va | <5 |
| | Cd | <5 |
| B03, C04, F03 | Ms | 60 |
| | Hd | 20 |
| | Va | 5 |
| | Cd | 5 |
| | N | <1 |
| | Hv | <1 |
| H04 | Ms | 70 |
| | Hv | 10 |
| | Hd | 5 |
| | Cd | 5 |
| G03, J04, M03 | Ms | 50 |
| | Va | 20 |
| | Hv | 15 |
| | Hd | 5 |
| | Cd | 5 |
| N03, O04, P03 | Ms | 65 |
| | Va | 15-25 |
| | Hv | 10 |
| | Hd | 5 |
| | Cd | 5 |
| | N | 1 |
| K03 | Ms | 70 |
| | Hv | 10 |
| | Hd | 5 |
| | Cd | <5 |
| | Va | 10 |
| R02 | Va | 40-60 |
| | Ms | 10 |
| S02, T01 | Va | 10-15 |

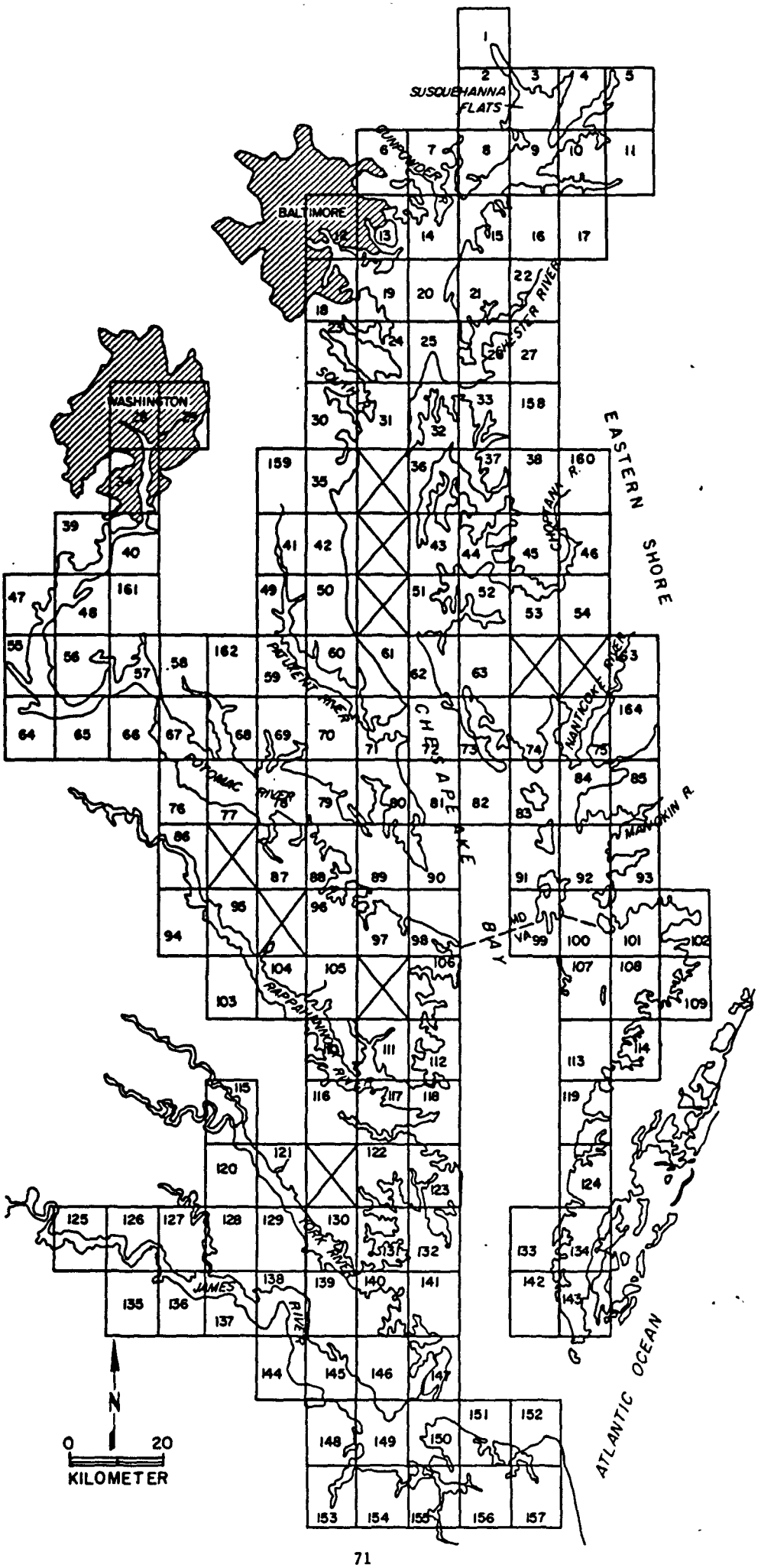
continued

APPENDIX B. (continued)

| Bed # | Havre de Grace SW (cont'd) Species Present | Percent Cover |
|---|---|---|
| X02, V03 | Ms | 40-60 |
| | Va | 25 |
| | Hv | 10-20 |
| | Hd | 5 |
| | Cd | <5 |
| | N | <1 |
| U04 | Ms | 30 |
| | Hv | 50 |
| W03 (North half) | Ms | 20 |
| | Hv | 60-70 |
| W03 (South half) | Ms | 60 |
| Y03 | Hv | 10 |
| | Va | 5 |
| Z02 | Ms | 70-80 |
| | Va | <5 |
| | Hv | <1 |
| AA3 | Ms | 80 |
| | Va | 5 |
| FA2 | Ms | 80 |

## APPENDIX C

TOPOGRAPHIC QUADRANGLES SHOWING THE DISTRIBUTION AND ABUNDANCE OF SAV (BOUNDARIES OF INDIVIDUAL SAV BEDS ARE DELINEATED BY SOLID LINES. EACH BED IS IDENTIFIED WITH A LETTER (A-Z) AND A NUMBER (1-4). THESE NUMBERS REPRESENT THE DENSITY CLASSIFICATION DISCUSSED IN THE TEXT, I.E., 1 = <10%; 2 = 10-40%; 3 = 40-70%; 4 = 70-100%).


SUSQUEHANNA FLATS
BALTIMORE
WASHINGTON
EASTERN SHORE
CHESAPEAKE BAY
POTOMAC RIVER
RAPPAHANNOCK RIVER
YORK RIVER
JAMES RIVER
ATLANTIC OCEAN
MD
VA
N
0 20
KILOMETER

1. Conowingo Dam, Md.-Pa.
2. Aberdeen, Md.
3. Havre de Grace, Md.
4. NorthEast, Md.
5. Elkton, Md.
6. White Marsh, Md.
7. Edgewood, Md.
8. Perryman, Md.
9. Spesutie, Md.
10. Earleville, Md.
11. Cecilton, Md.
12. Baltimore East, Md.
13. Middle River, Md.
14. Gunpowder Neck, Md.
15. Hanesville, Md.
16. Betterton, Md.
17. Galena, Md.
18. Curtis Bay, Md.
19. Sparrows Point, Md.
20. Swan Point, Md.
21. Rock Hall, Md.
22. Chestertown, Md.
23. Round Bay, Md.
24. Gibson Island, Md.
25. Love Point, Md.
26. Langford Creek, Md.
27. Centreville, Md.
28. Washington West, Md.-D.C.-Va.
29. Washington East, D.C.-Md.
30. South River, Md.
31. Annapolis, Md.
32. Kent Island, Md.
33. Queenstown, Md.
34. Alexandria, Va.-D.C.-Md.
35. Deale, Md.
36. Claiborne, Md.
37. St. Michaels, Md.
38. Easton, Md.
39. Fort Belvoir, Va.-Md.
40. Mt. Vernon, Md.-Va.
41. Lower Marlboro, Md.
42. North Beach, Md.
43. Tilghman, Md.
44. Oxford, Md.
45. Trappe, Md.
46. Preston, Md.
47. Quantico, Va.-Md.
48. Indian Head, Va.-Md.
49. Benedict, Md.
50. Prince Frederick, Md.
51. Sharps Island, Md.
52. Church Creek, Md.
53. Cambridge, Md.
54. East New Market, Md.
55. Widewater, Va.-Md.
56. Nanjemoy, Md.
57. Mathias Point, Md.-Va.
58. Popes Creek, Md.
59. Mechanicsville, Md.
60. Broomes Island, Md.
61. Cove Point, Md.
62. Taylors Island, Md.
63. Golden Hill, Md.
64. Passapatanzy, Md.-Va.
65. King George, Va.-Md.
66. Dahlgren, Va.-Md.
67. Colonial Beach North, Md.-Va.
68. Rock Point, Md.
69. Leonardtown, Md.
70. Hollywood, Md.
71. Solomons Island, Md.
72. Barren Island, Md.
73. Honga, Md.
74. Wingate, Md.
75. Nanticoke, Md.
76. Colonial Beach South, Va.-Md.
77. Stratford Hall, Va.-Md.
78. St. Clements Island, Va.-Md.
79. Piney Point, Md.-Va.
80. St. Mary's City, Md.
81. Point No Point, Md.
82. Richland Point, Md.

83. Bloodsworth Island, Md.
84. Deal Island, Md.
85. Monie, Md.
86. Champlain, Va.
87. Machodoc, Va.
88. Kinsale, Va.-Md.
89. St. George Island, Va.-Md.
90. Point Lookout, Md.
91. Kedges Straits, Md.
92. Terrapin Sand Point, Md.
93. Marion, Md.
94. Mount Landing, Va.
95. Tappahannock, Va.
96. Lottsburg, Va.
97. Heathsville, Va.-Md.
98. Burgess, Va.-Md.
99. Ewell, Va.-Md.
100. Great Fox Island, Va.-Md.
101. Crisfield, Va.-Md.
102. Saxis, Va.-Md.
103. Dunnsville, Va.
104. Morattico, Va.
105. Lively, Va.
106. Reedville, Va.
107. Tangier Island, Va.
108. Chesconessex, Va.
109. Parksley, Va.
110. Urbanna, Va.
111. Irvington, Va.
112. Fleets Bay, Va.
113. Nandua Creek
114. Pungoteague, Va.
115. West Point, Va.
116. Saluda, Va.
117. Wilton, Va.
118. Deltaville, Va.
119. Jamesville, Va.
120. Toano, Va.
121. Gressitt, Va.
122. Ware Neck, Va.
123. Mathews, Va.
124. Franktown, Va.
125. Westover, Va.
126. Charles City, Va.
127. Brandon, Va.
128. Norge, Va.
129. Williamsburg, Va.
130. Clay Bank, Va.
131. Achilles, Va.
132. New Point Comfort, Va.
133. Cape Charles, Va.
134. Cheriton, Va.
135. Savedge, Va.
136. Claremont, Va.
137. Surry, Va.
138. Hog Island, Va.
139. Yorktown, Va.
140. Poquoson West, Va.
141. Poquoson East, Va.
142. Elliotts Creek, Va.
143. Townsend, Va.
144. Bacons Castle, Va.
145. Mulberry Island, Va.
146. Newport News North, Va.
147. Hampton, Va.
148. Benns Church, Va.
149. Newport News South, Va.
150. Norfolk North, Va.
151. Little Creek, Va.
152. Cape Henry, Va.
153. Chuckatuck, Va.
154. Bowers Hill, Va.
155. Norfolk South, Va.
156. Kempsville, Va.
157. Princess Anne, Va.
158. Wye Mills, Md.
159. Bristol, Md.
160. Fowling Creek, Md.
161. Port Tobacco, Md.
162. Charlotte Hall, Md.
163. Mardela Springs, Md.
164. Wetipquin, Md.

# SUBMERGED AQUATIC VEGETATION 1985


**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) | | |
| Vs | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

ABERDEEN, MD

Northeast Quarter

# 2



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186


**SPECIES**

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (musksgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S

SCALE 1:12,000

# HAVRE DE GRACE, MD

## Northwest Quarter

## # 3



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985


**SPECIES**

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

HAVRE DE GRACE, MD

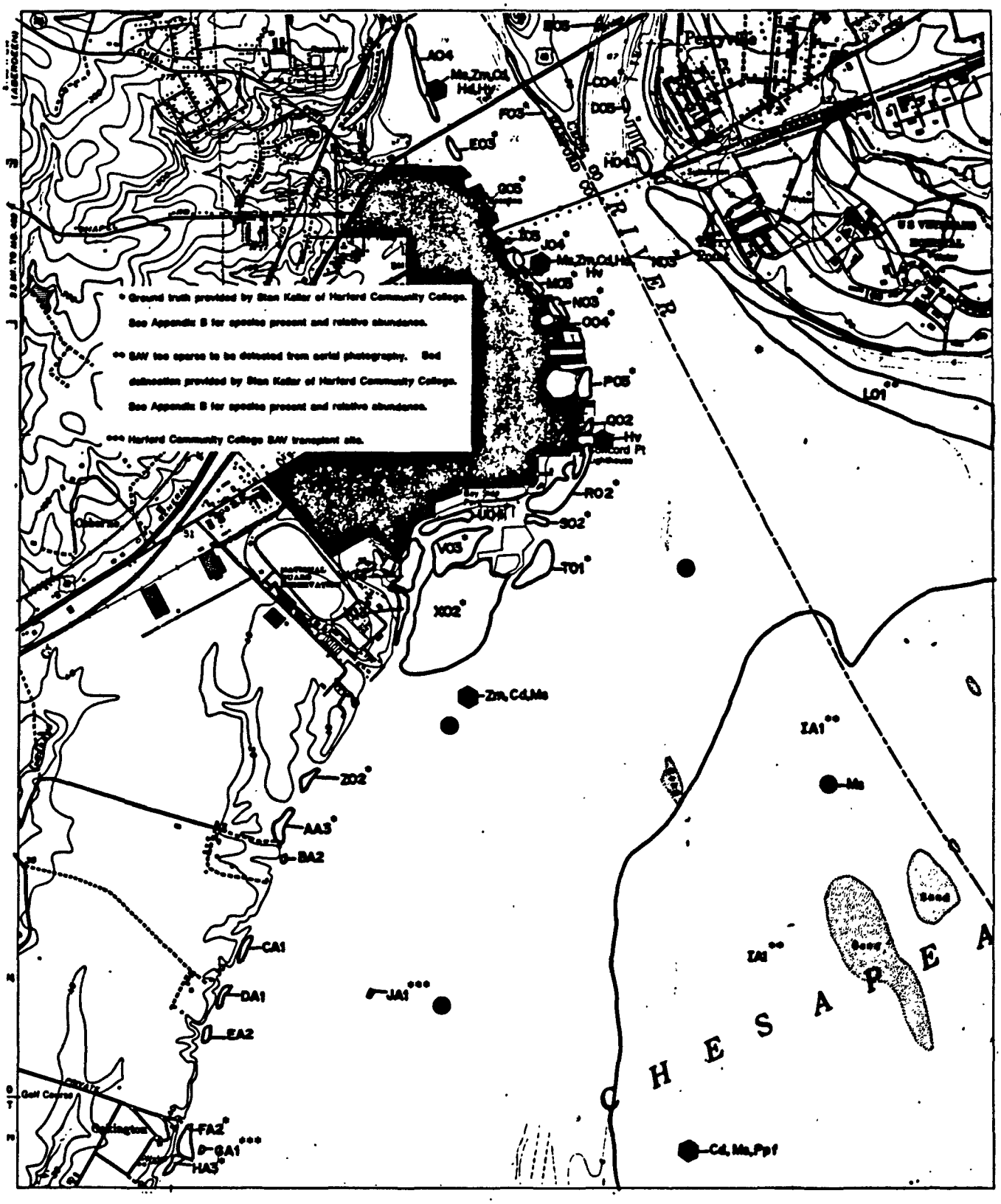
Southeast Quarter

# 3



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186




| SPECIES | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

# HAVRE DE GRACE, MD

## Southwest Quarter

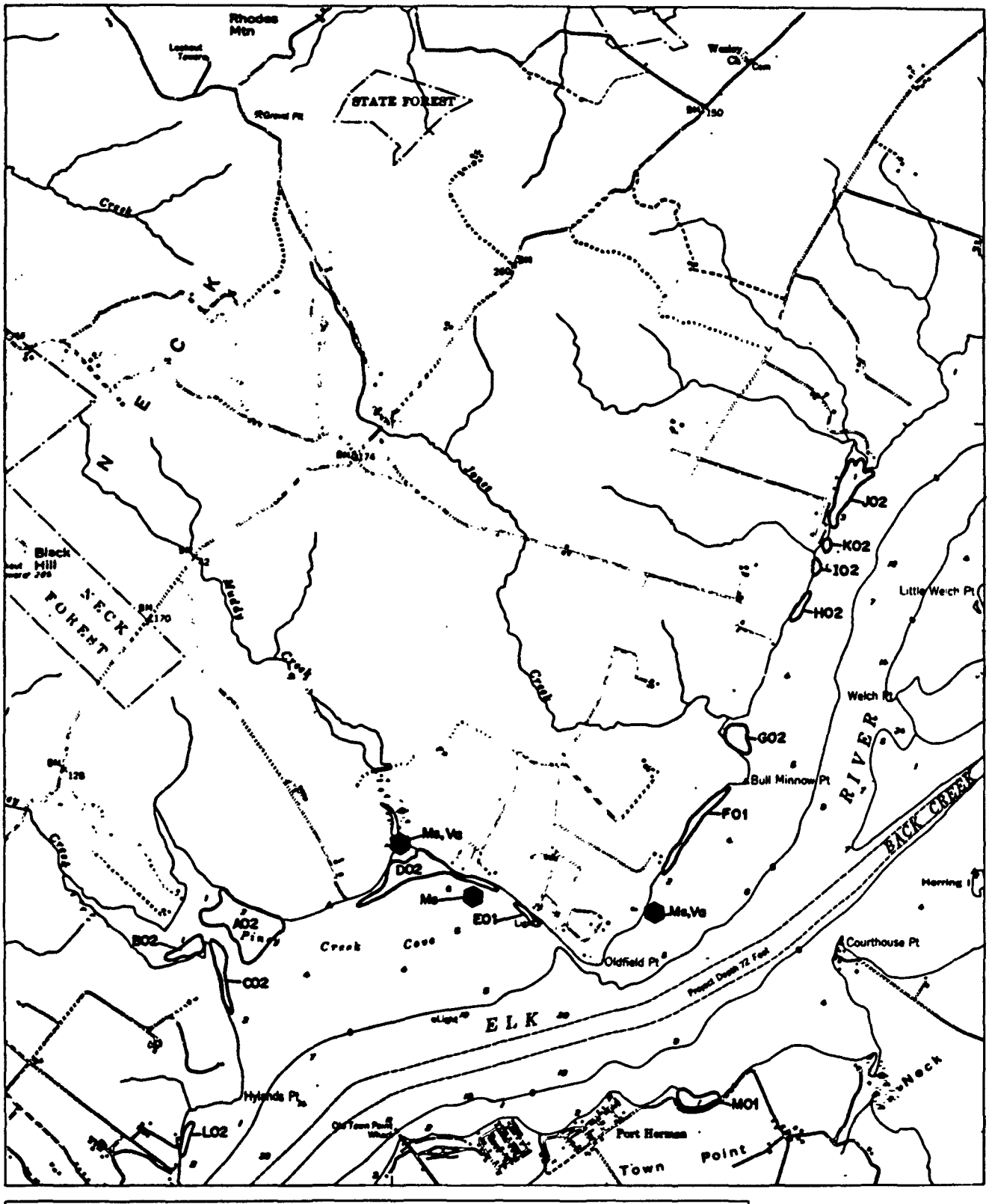
## #3



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (muskgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

NORTHEAST, MD

Southeast Quarter

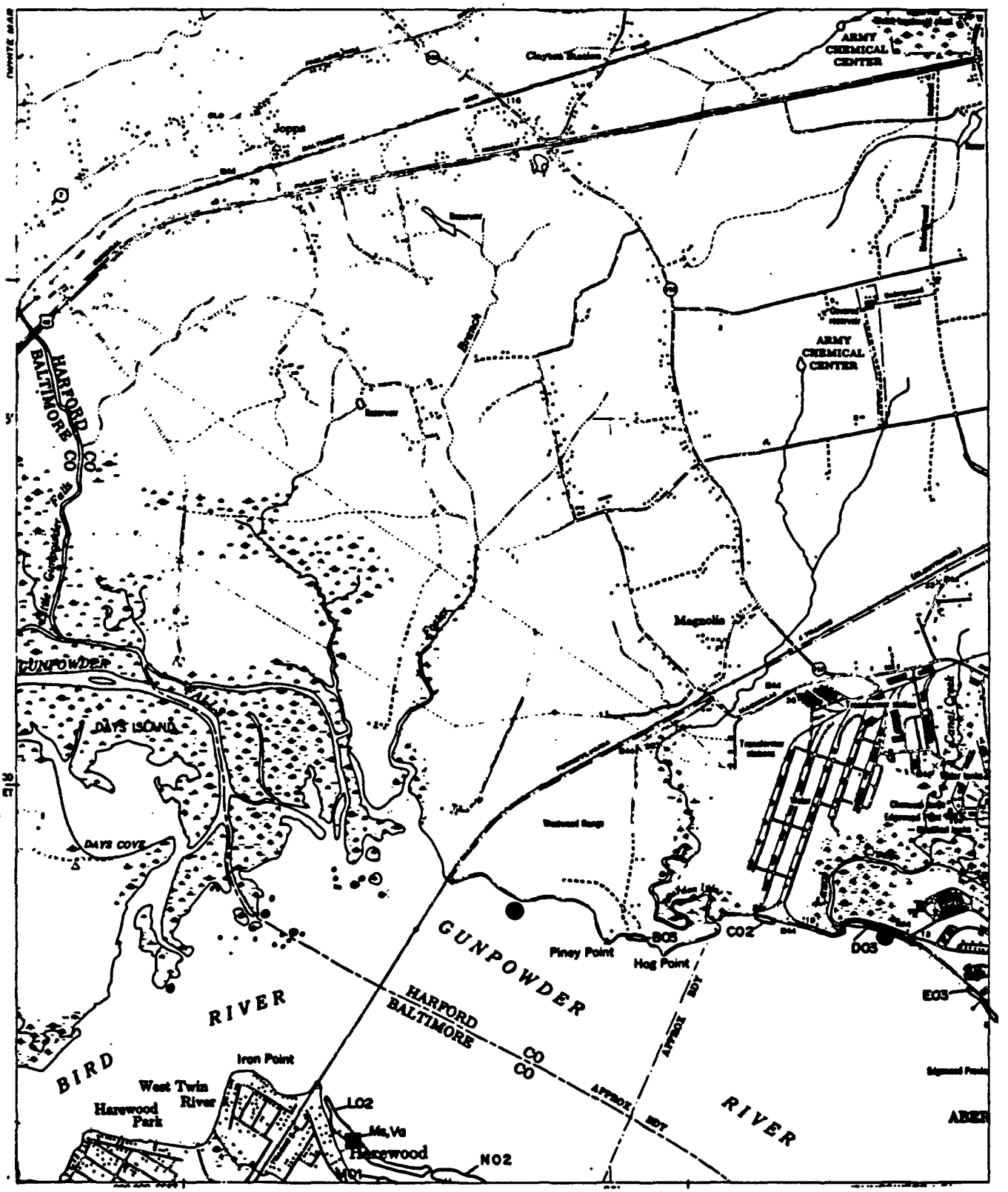
# 4



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




| SPECIES | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

EDGEWOOD, MD

Southwest Quarter

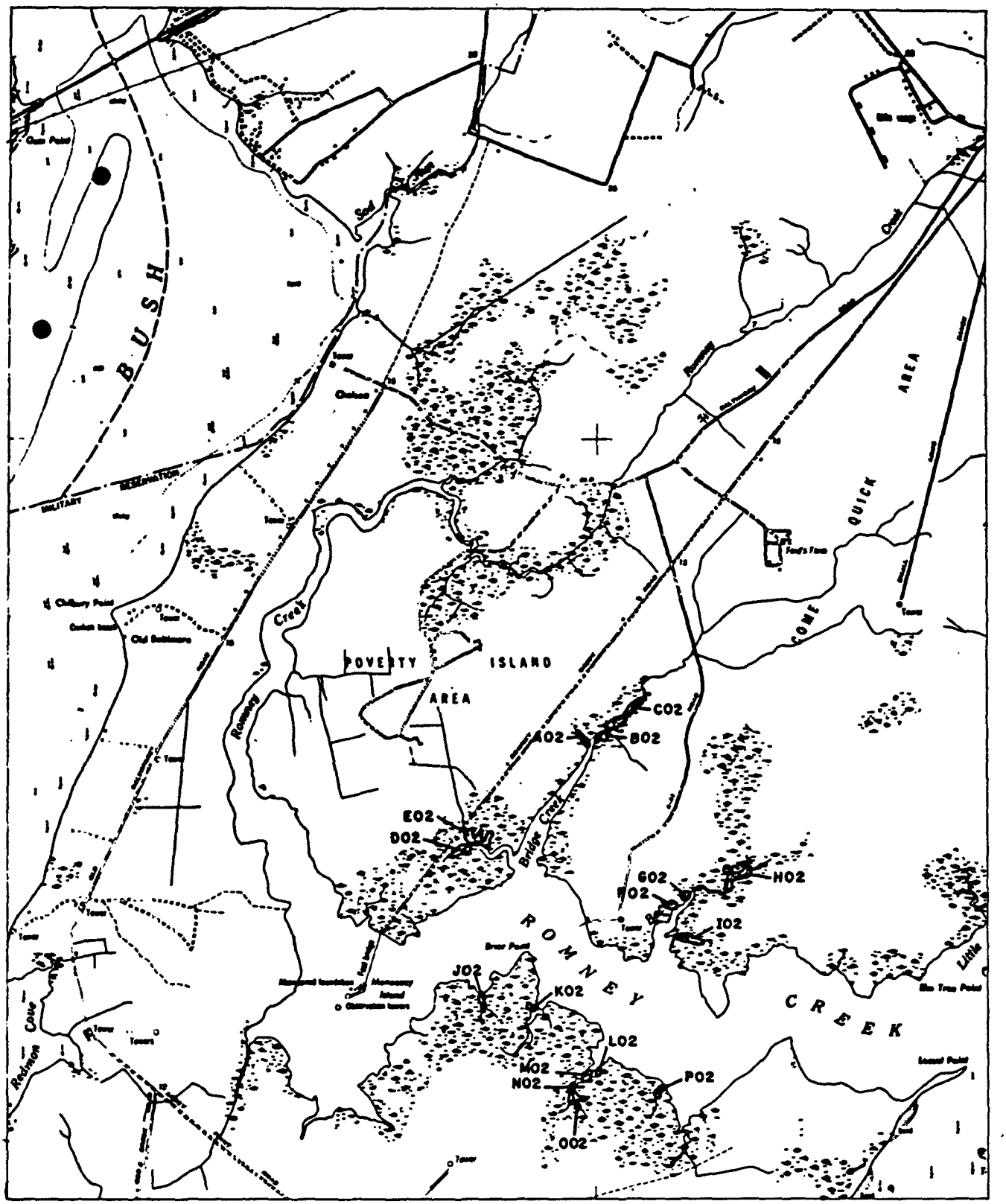
# 7



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pd | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

PERRYMAN, MD

Southwest Quarter

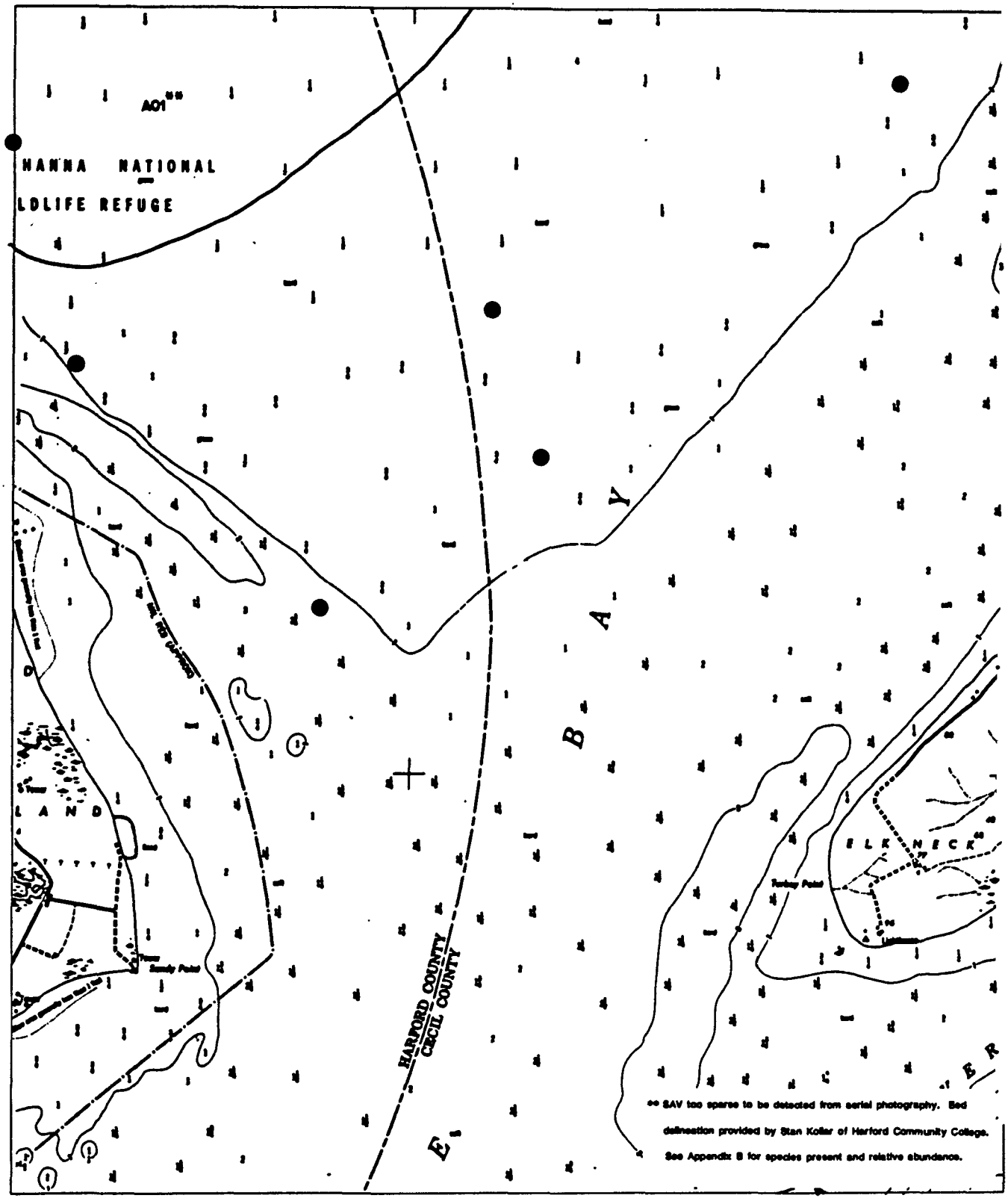
# 8



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (Musksgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

SPESUTIE, MD

Northeast Quarter

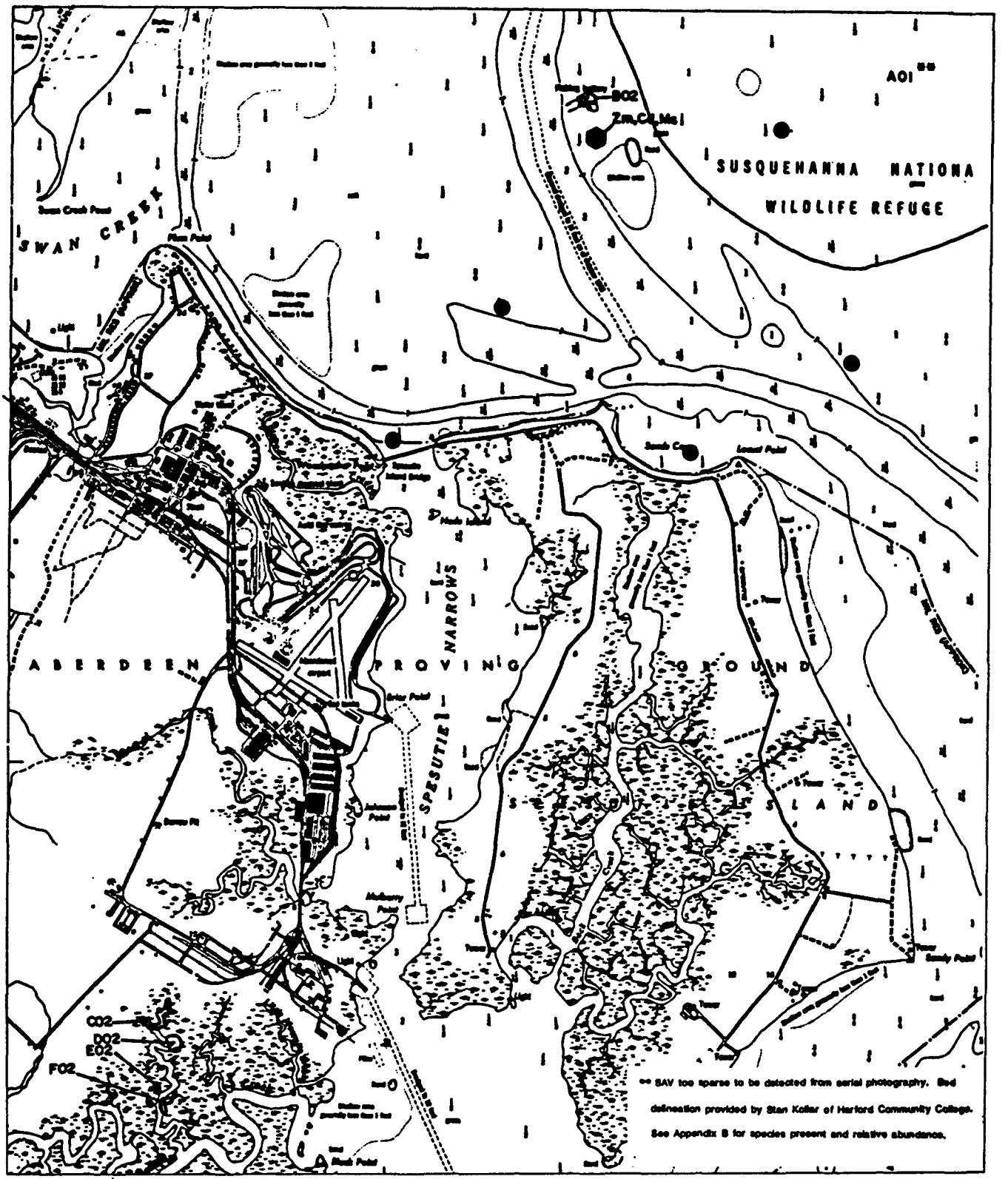
# 9



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pbl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichelia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ● Citizens Field Observation
- ▲ VIMS Field Survey
- ♦ U.S.G.S.

SCALE 1:12,000

SPESUTIE, MD

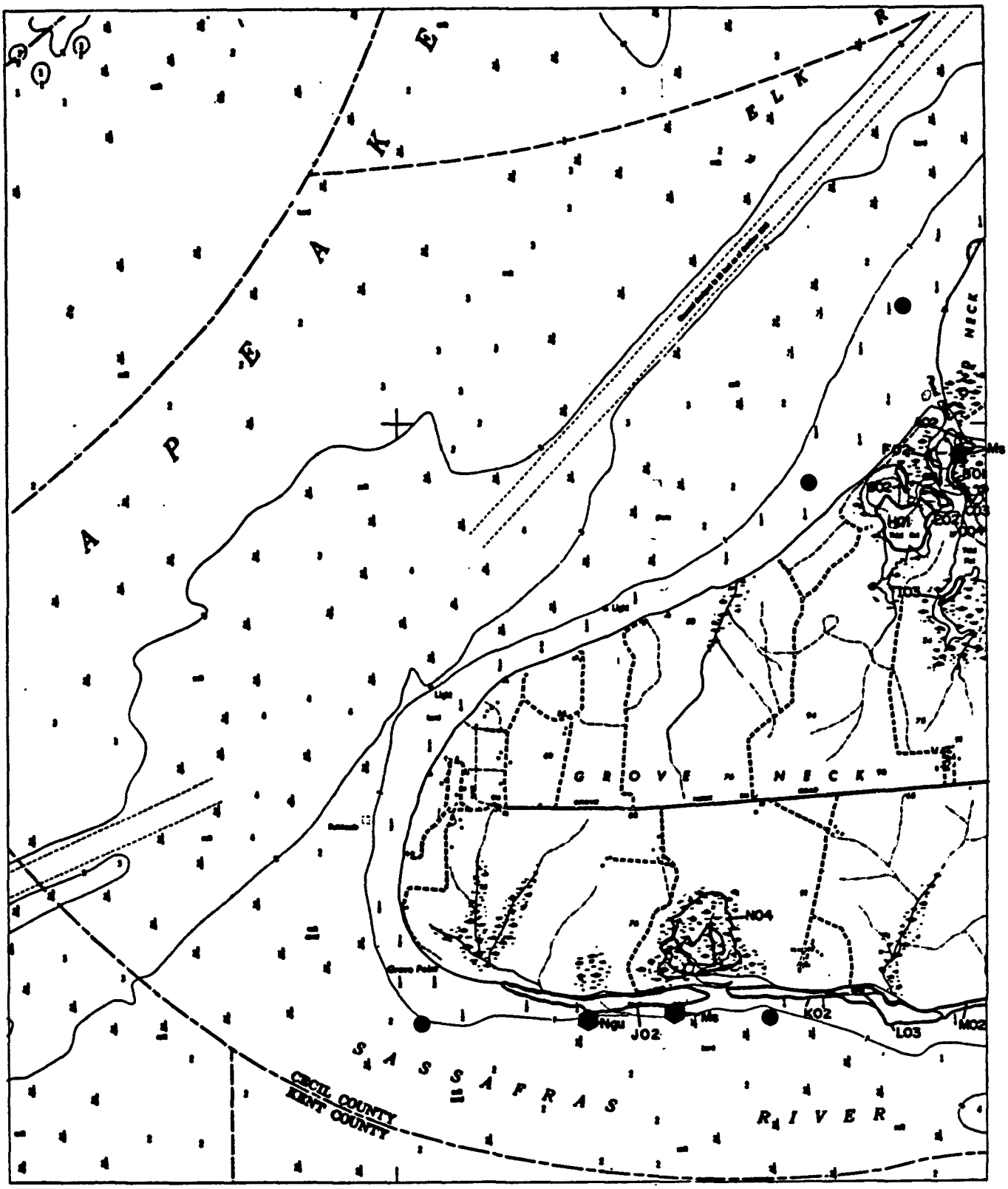
Northwest Quarter

# 9



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pcf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) | | |
| Vs | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

SPESUTIE, MD

Southeast Quarter

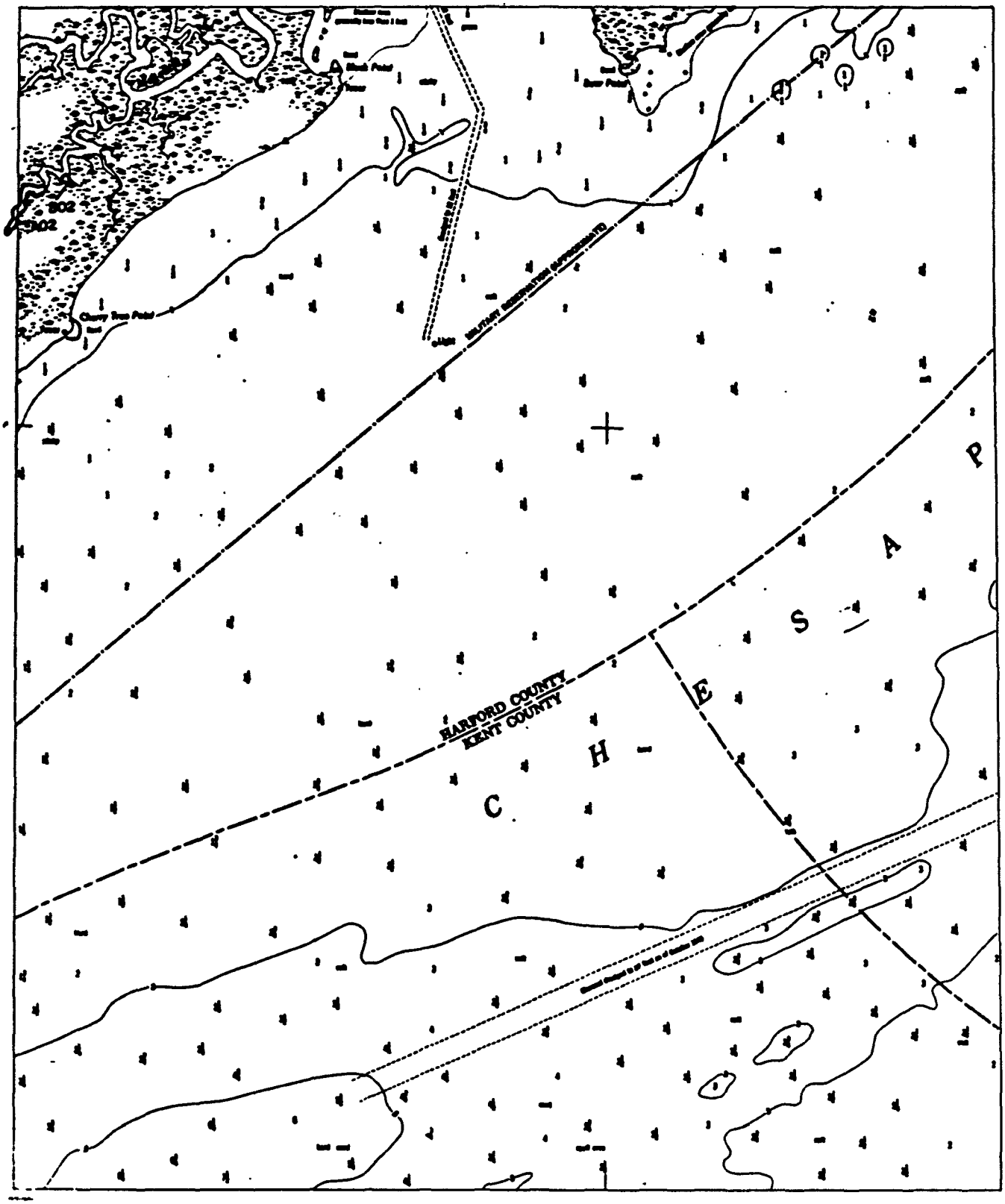
# 9



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (thread) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

SPESUTIE, MD

Southwest Quarter

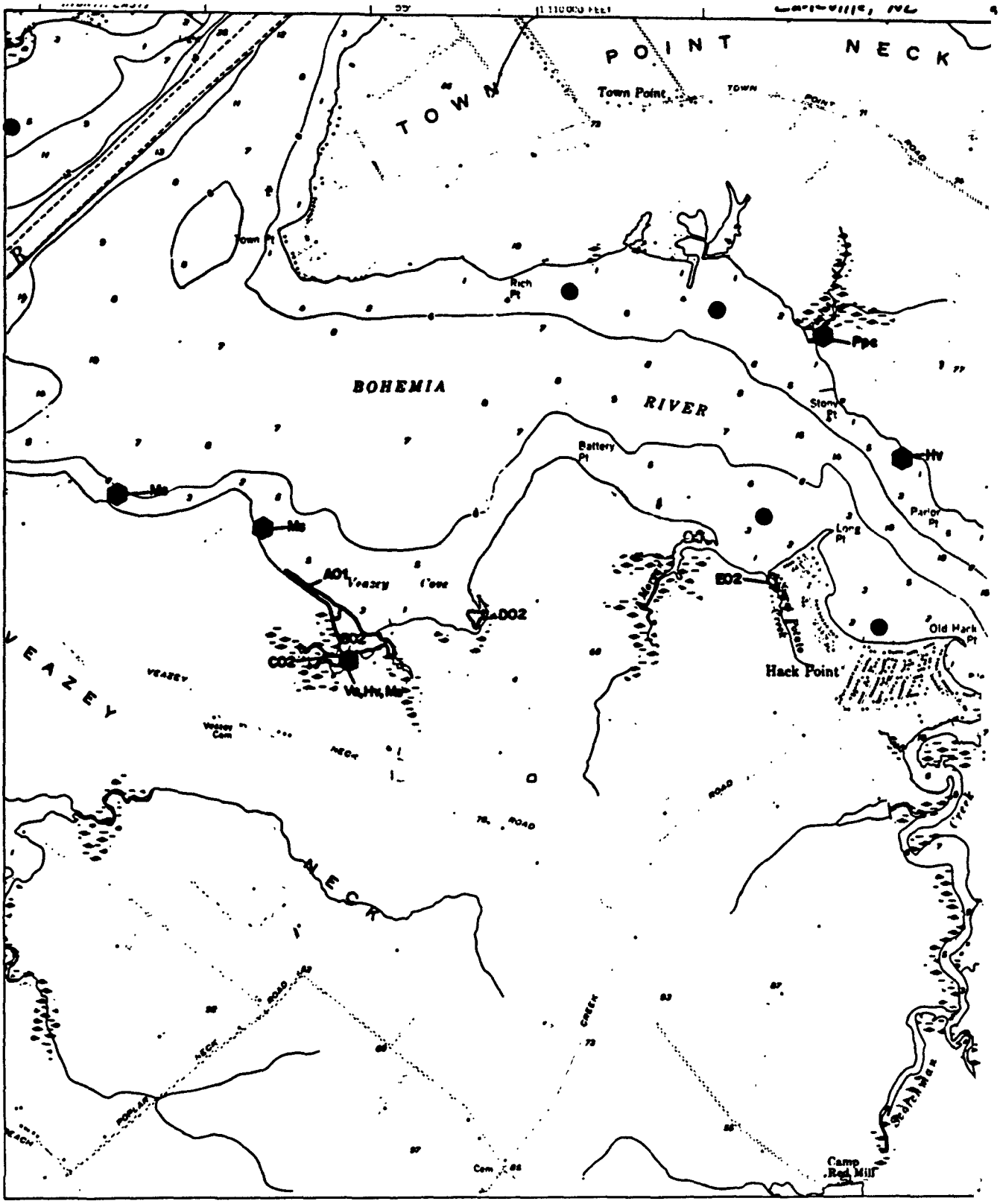
# 9



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (muskgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

EARLEVILLE, MD

Northeast Quarter

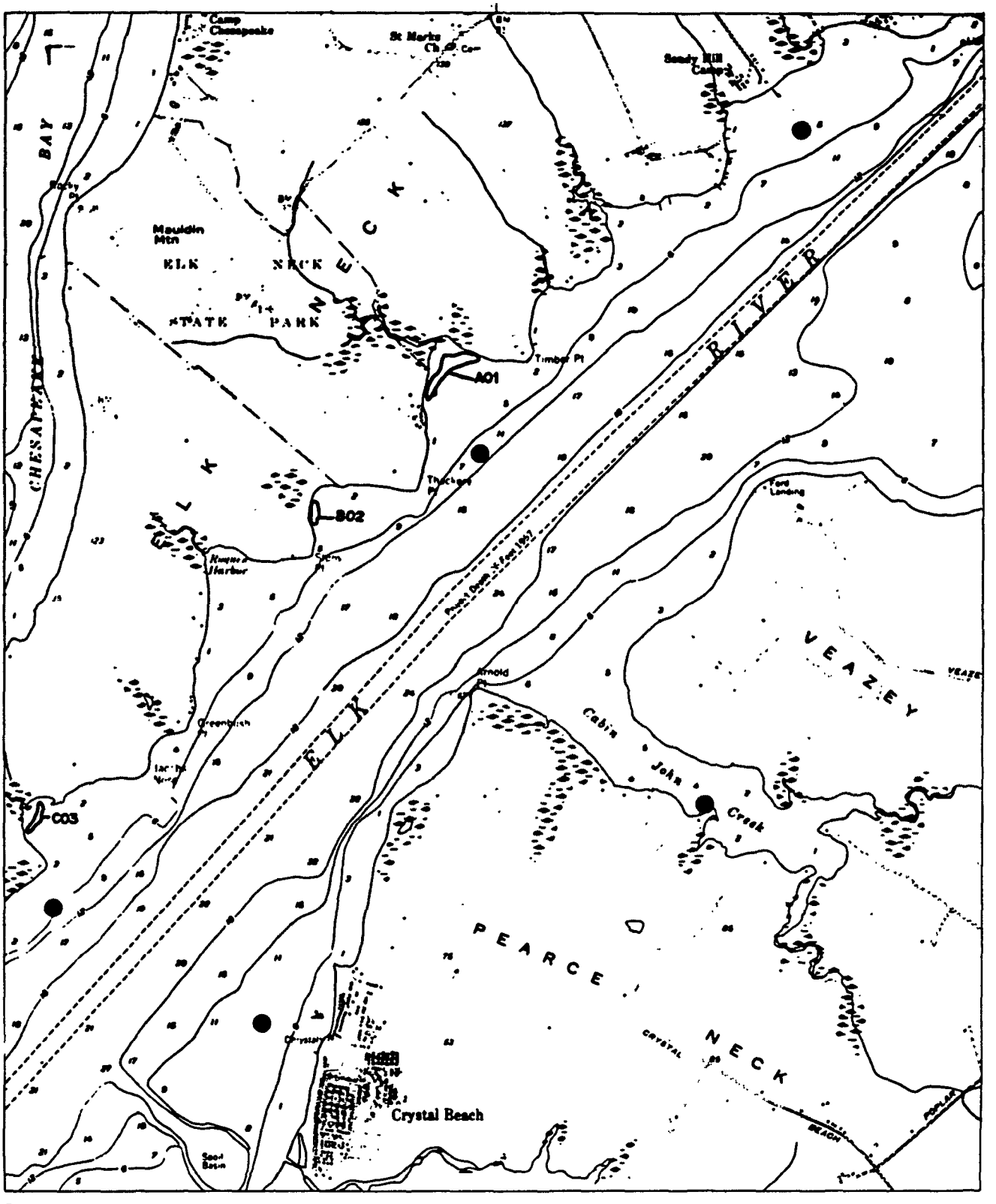
# 10



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pcl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (muskgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

EARLEVILLE, MD

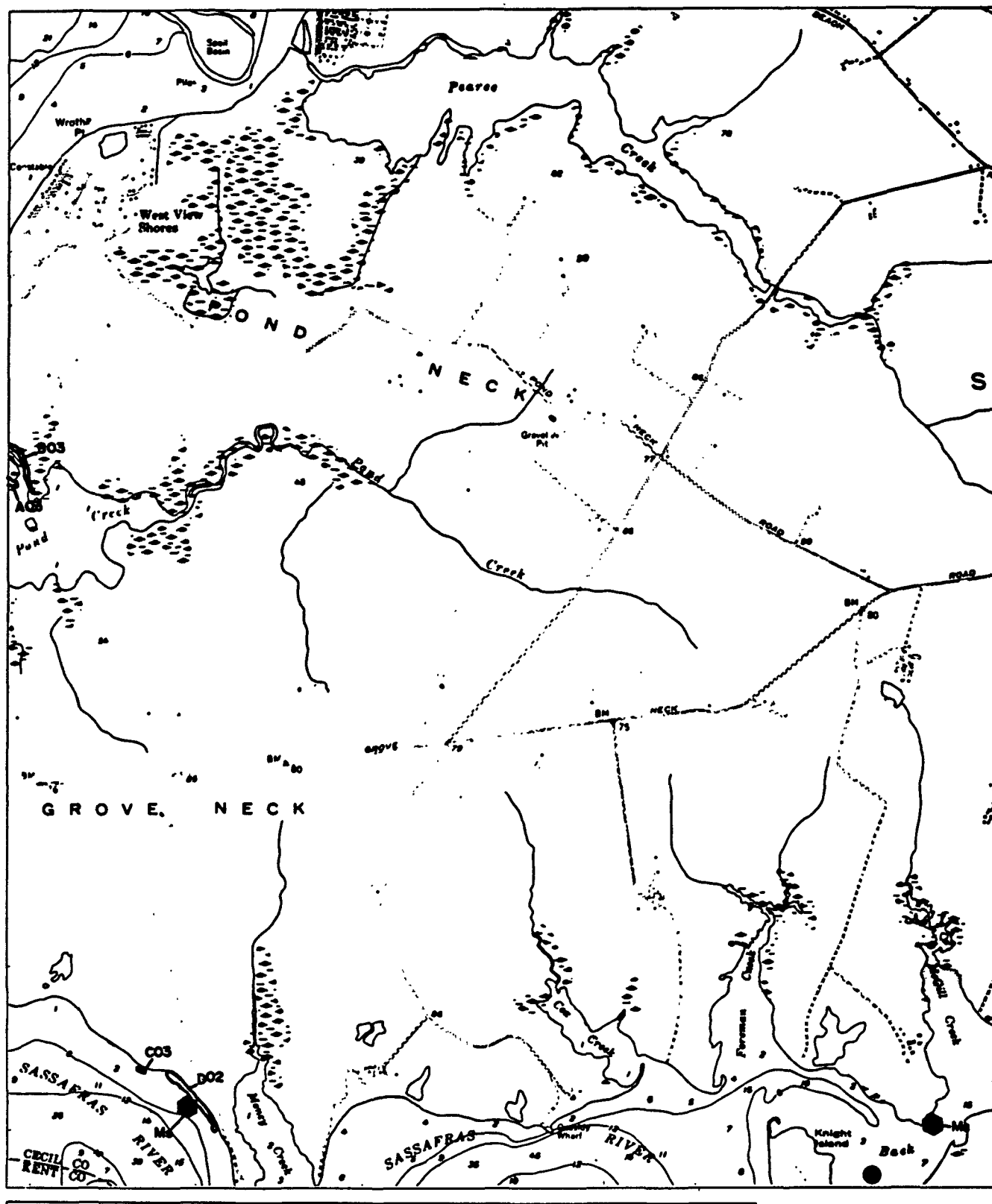
Northwest Quarter

# 10

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Pcf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (muskgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

EARLEVILLE, MD

Southwest Quarter

# 10



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985


**SPECIES**

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Pdf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (muskgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

**SURVEY STATIONS**

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ● Citizens Field Observation
- ▲ VIMS Field Survey
- ♦ U.S.G.S.

SCALE 1:12,000

MIDDLE RIVER, MD

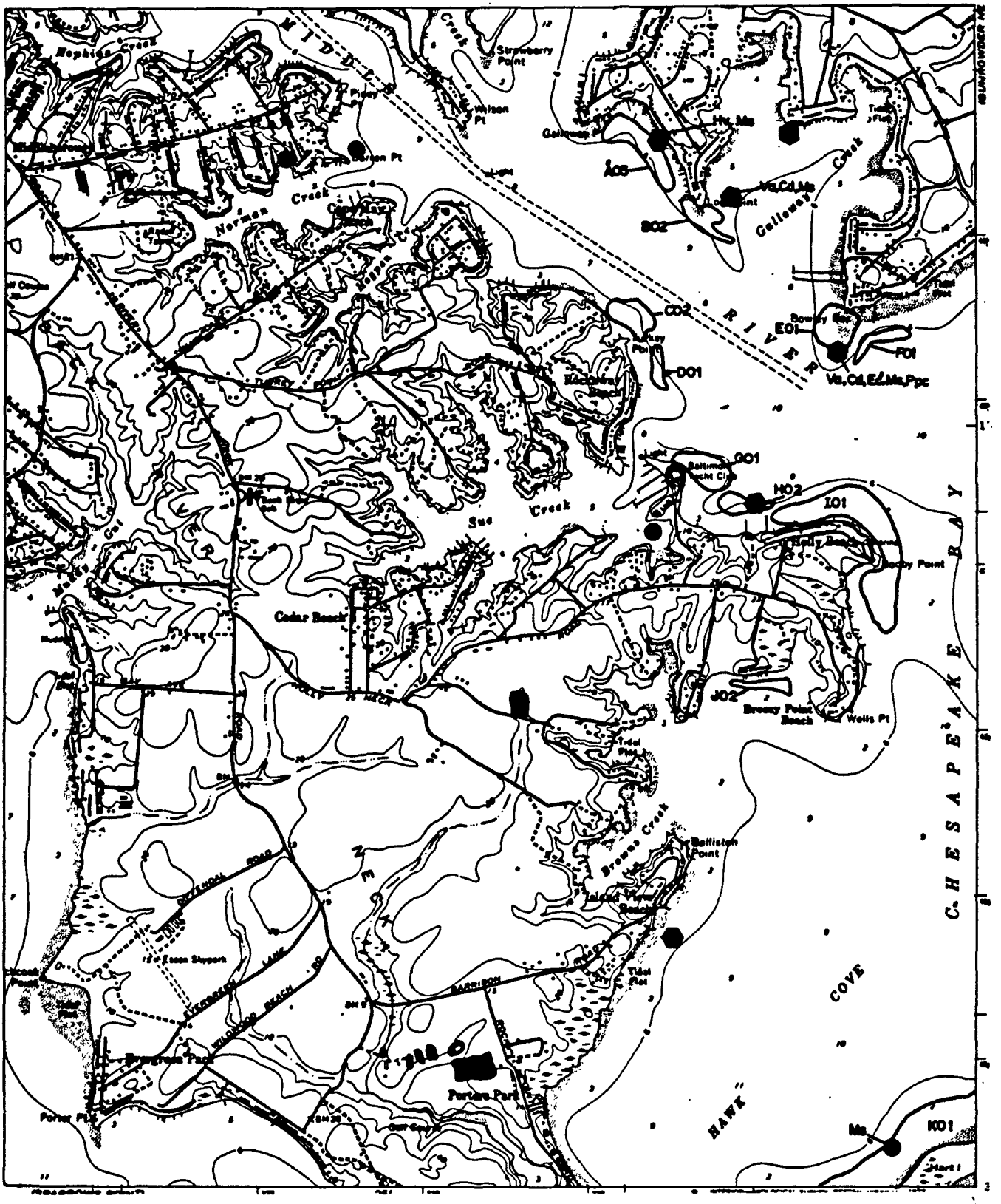
Northeast Quarter

# 13



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pcl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

# MIDDLE RIVER, MD

## Southeast Quarter

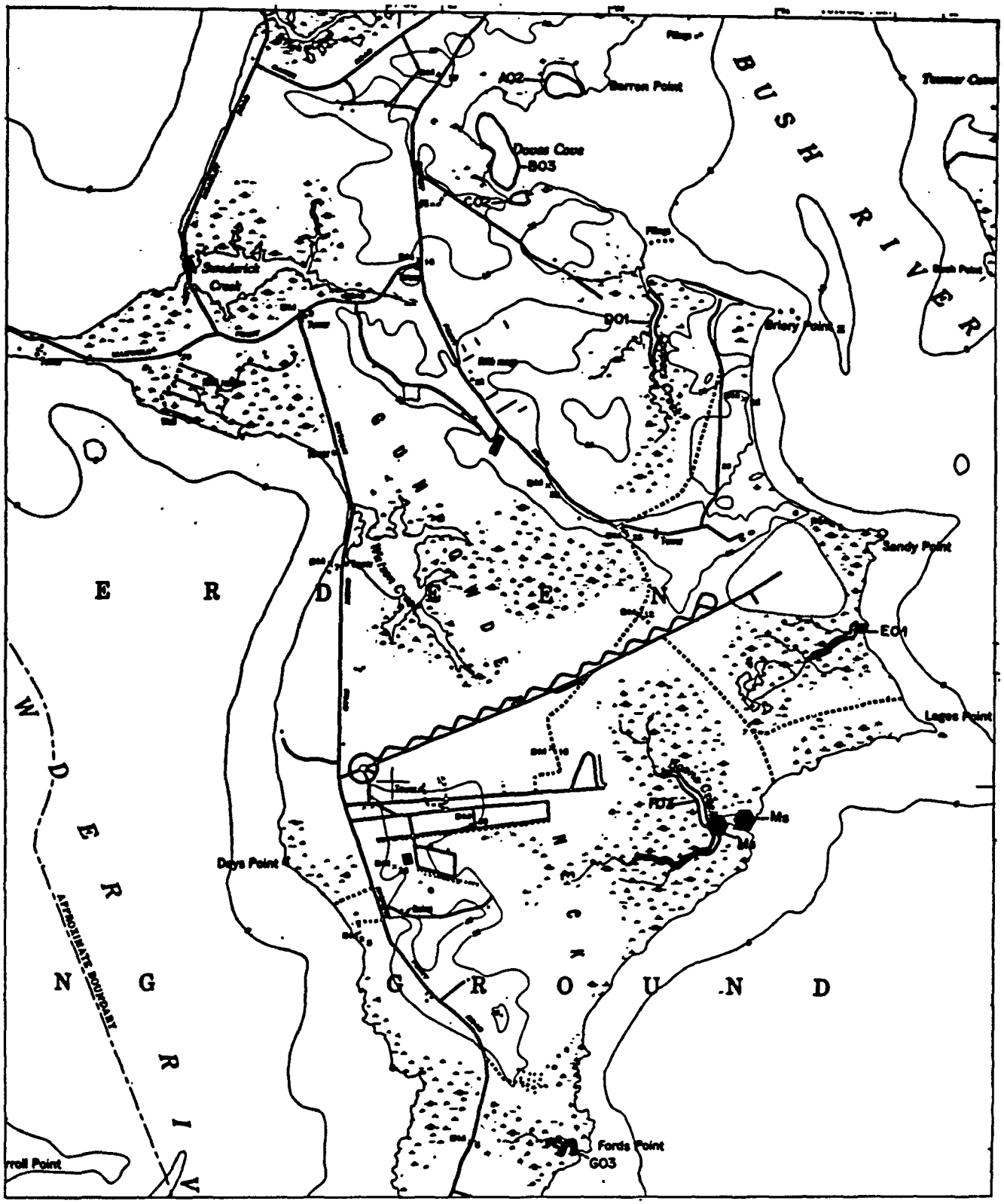
## # 13



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Pol | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) |
| Vs | *Vallisneria americana* (wild celery) | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Cazens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

GUNPOWDER NECK, MD

Northeast Quarter

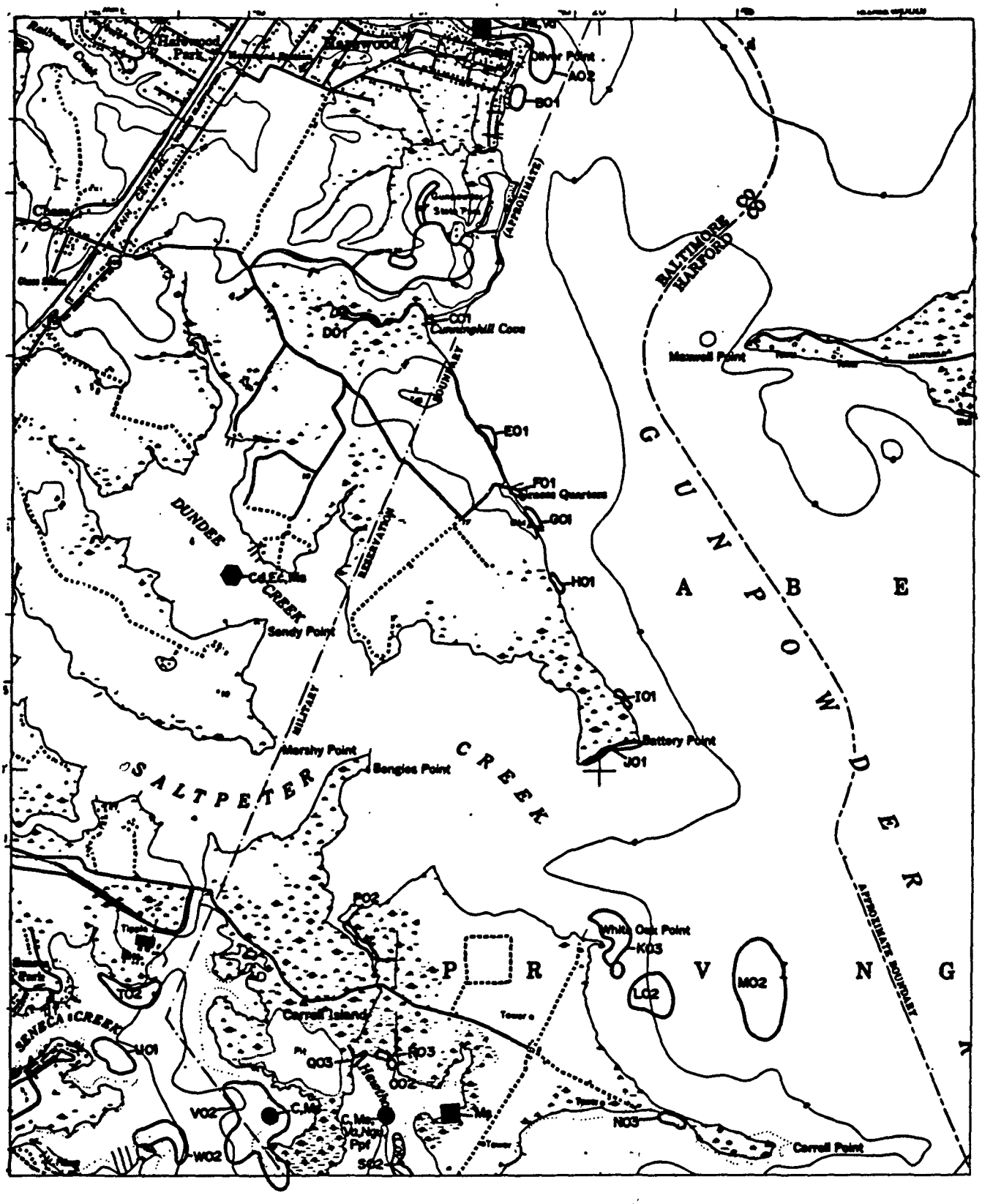
# 14



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




| SPECIES | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (muskgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

GUNPOWDER NECK, I

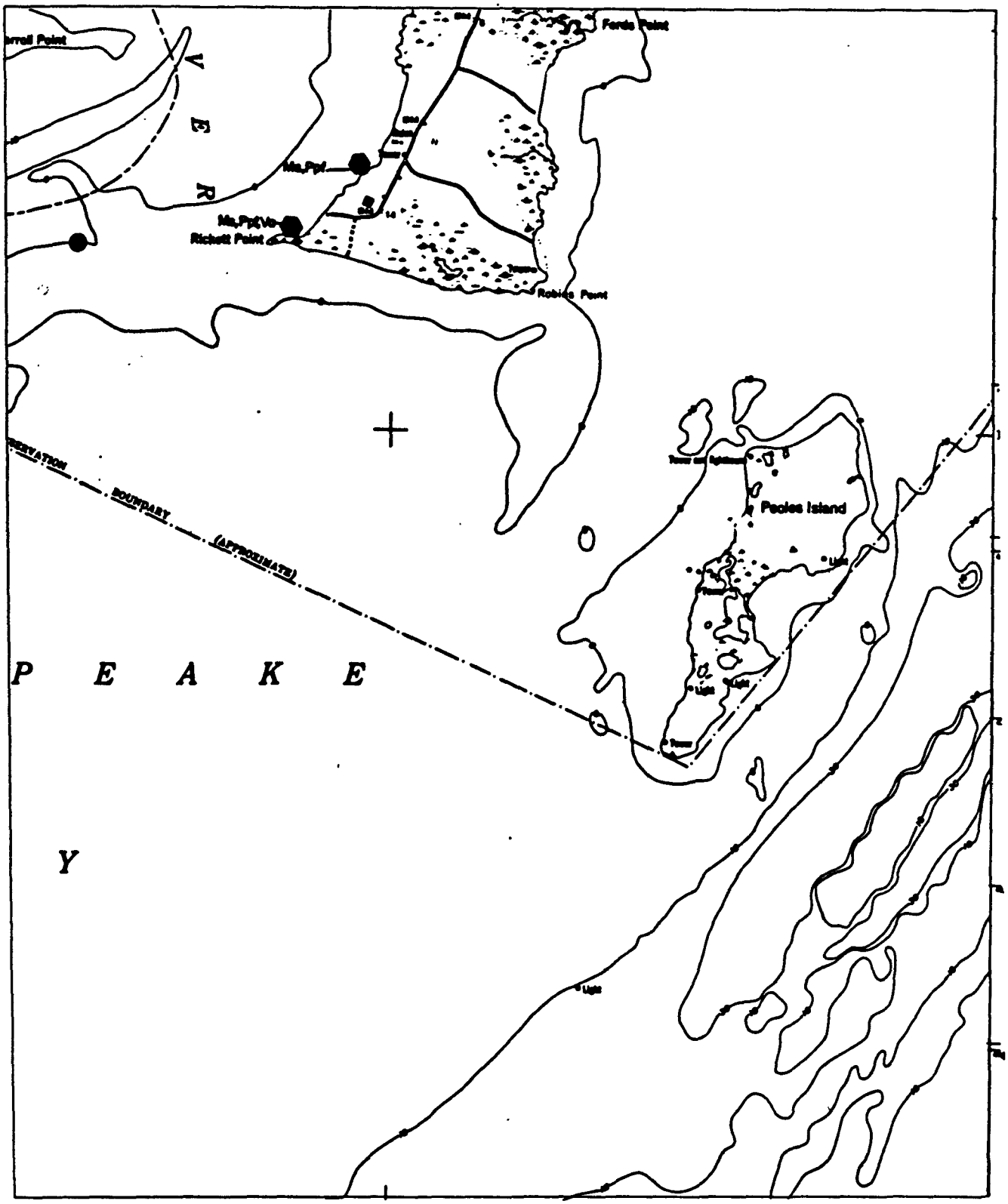
Northwest Quarter

# 14



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngd | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp. (naiads) | Ngf | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) | | |
| Vs | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

GUNPOWDER NECK, MD

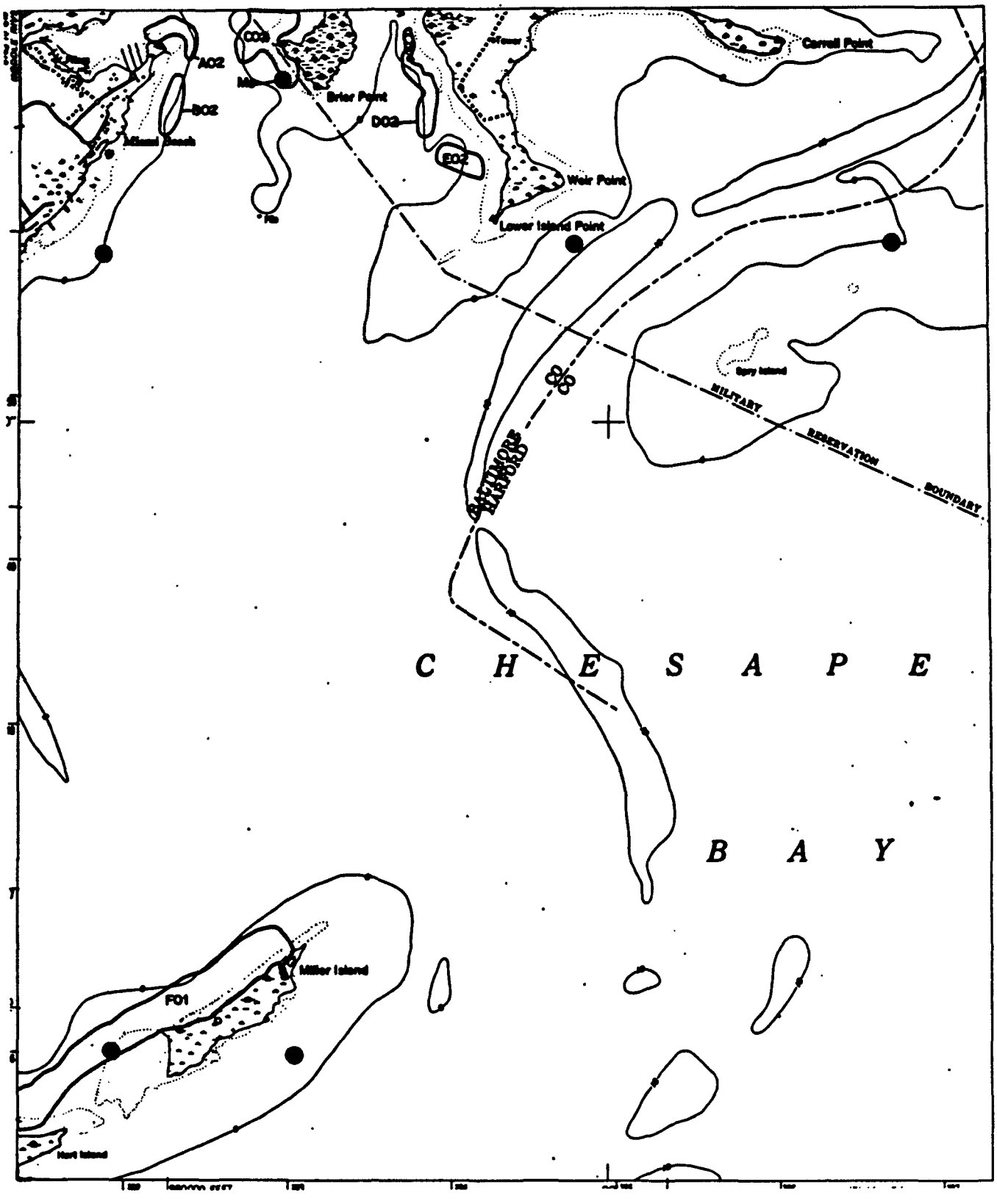
Southeast Quarter

# 14



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186




SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pdl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) | | |
| Vs | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

GUNPOWDER NECK, M

Southwest Quarter

# 14



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985


**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pol | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichelia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) | | |
| Vs | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

HANESVILLE, MD

Northeast Quarter

# 15



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985


**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pol | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

HANESVILLE, MD

Southwest Quarter

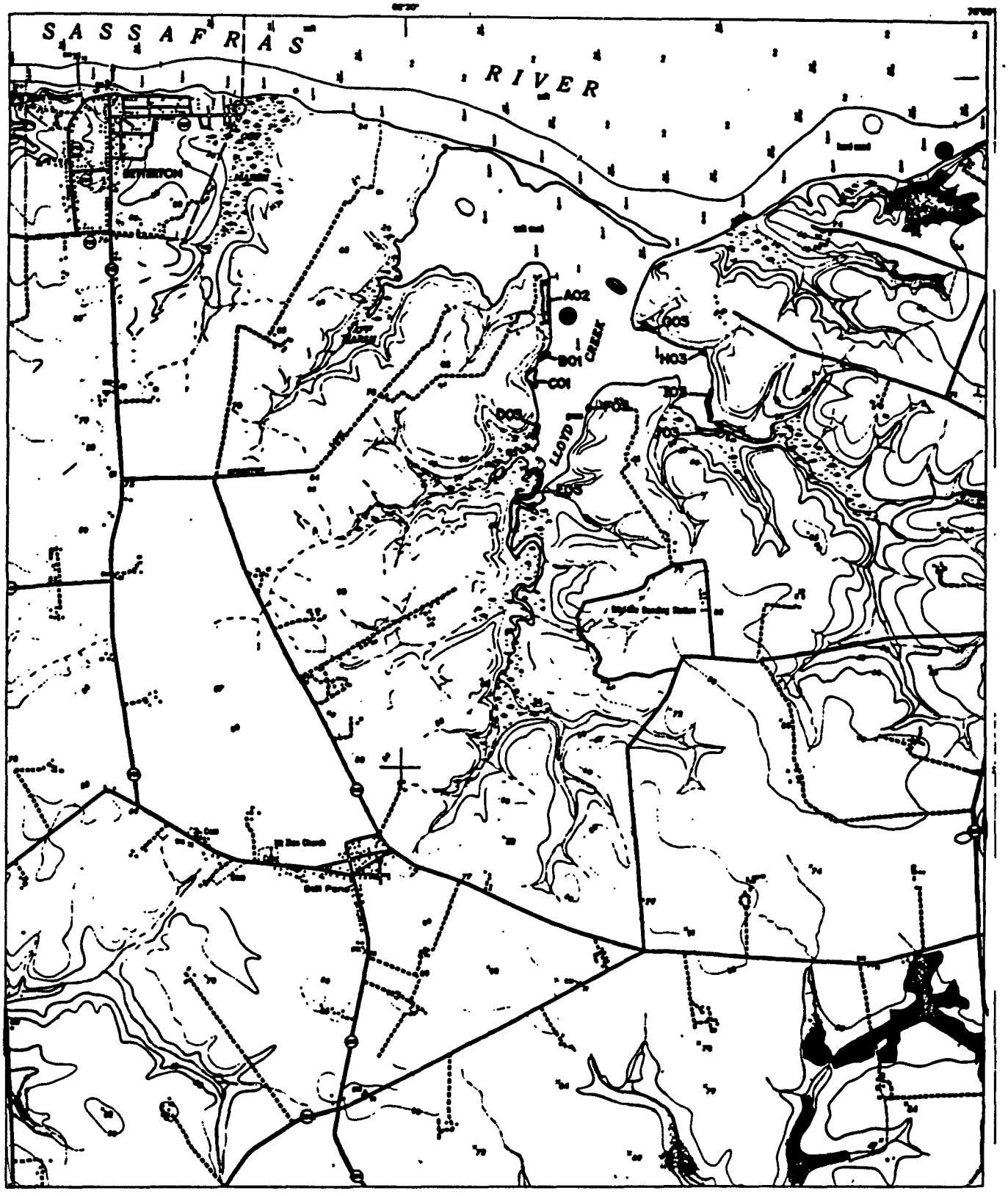
# 15



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (musksgrass) |
| Vs | *Vallisneria americana* (wild celery) | | |

**SURVEY STATIONS**

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ● Citizens Field Observation
- ▲ VIMS Field Survey
- ♦ U.S.G.S.

SCALE 1:12,000

BETTERTON, MD

Northeast Quarter

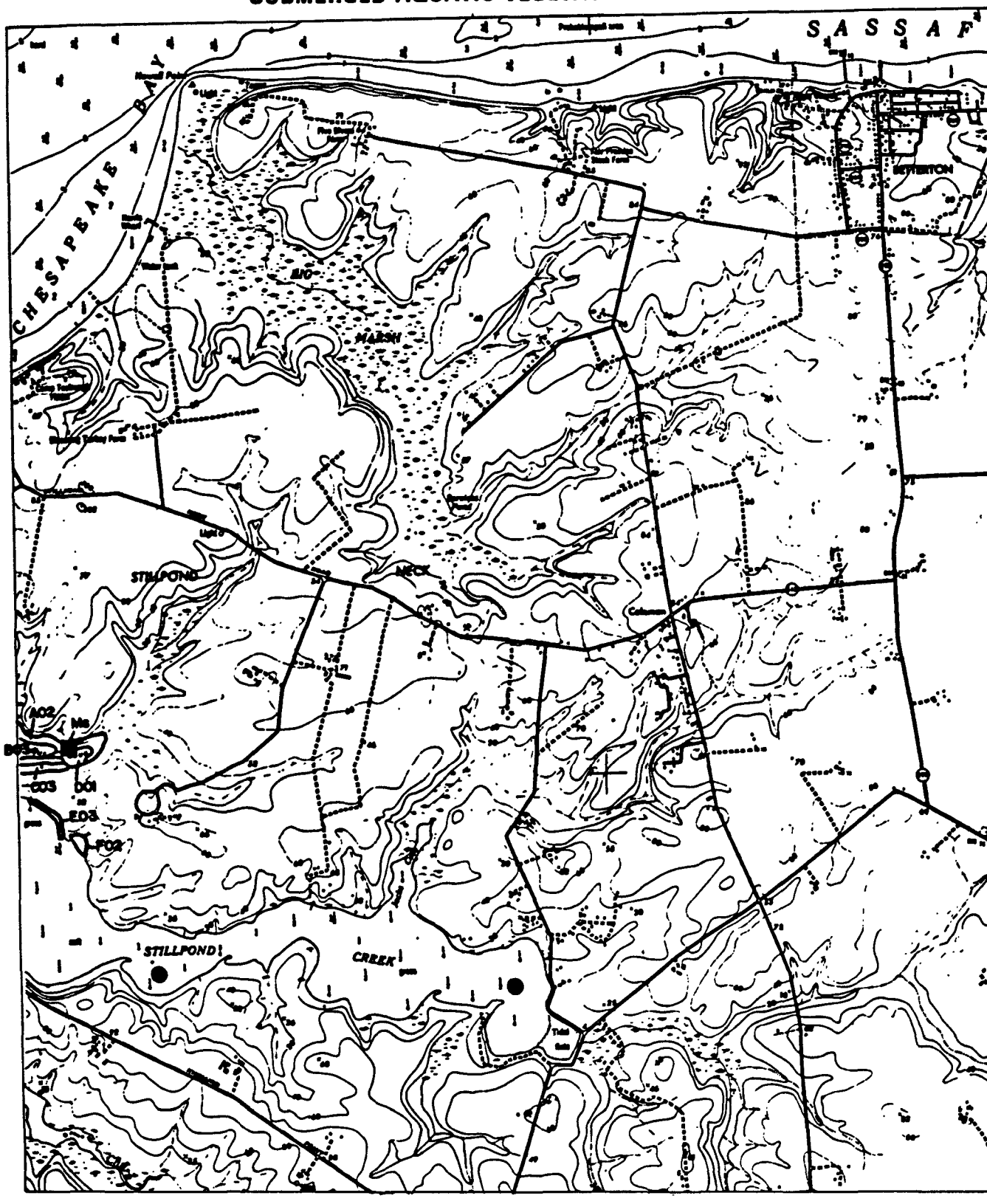
# 16



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ma | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (muskgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ● Citizens Field Observation
- ▲ VIMS Field Survey
- ♦ U.S.G.S.

SCALE 1:12,000

BETTERTON, MD

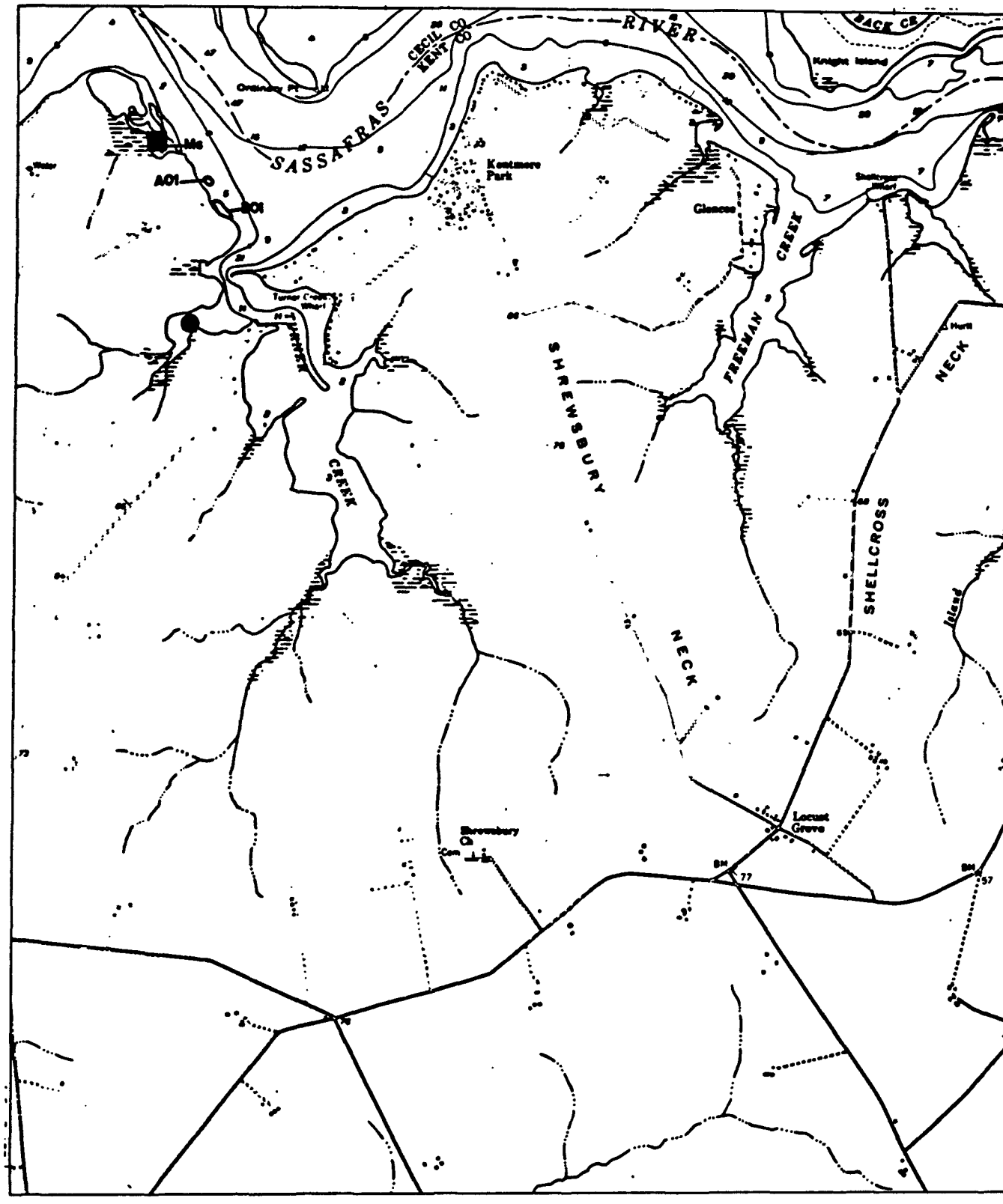
Northwest Quarter

# 16

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




| SPECIES | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Pol | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (musksgrass) |
| Vs | *Vallisneria americana* (wild celery) | | |

SURVEY STATIONS

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ● Citizens Field Observation
- ▲ VIMS Field Survey
- ♦ U.S.G.S.

SCALE 1:12,000

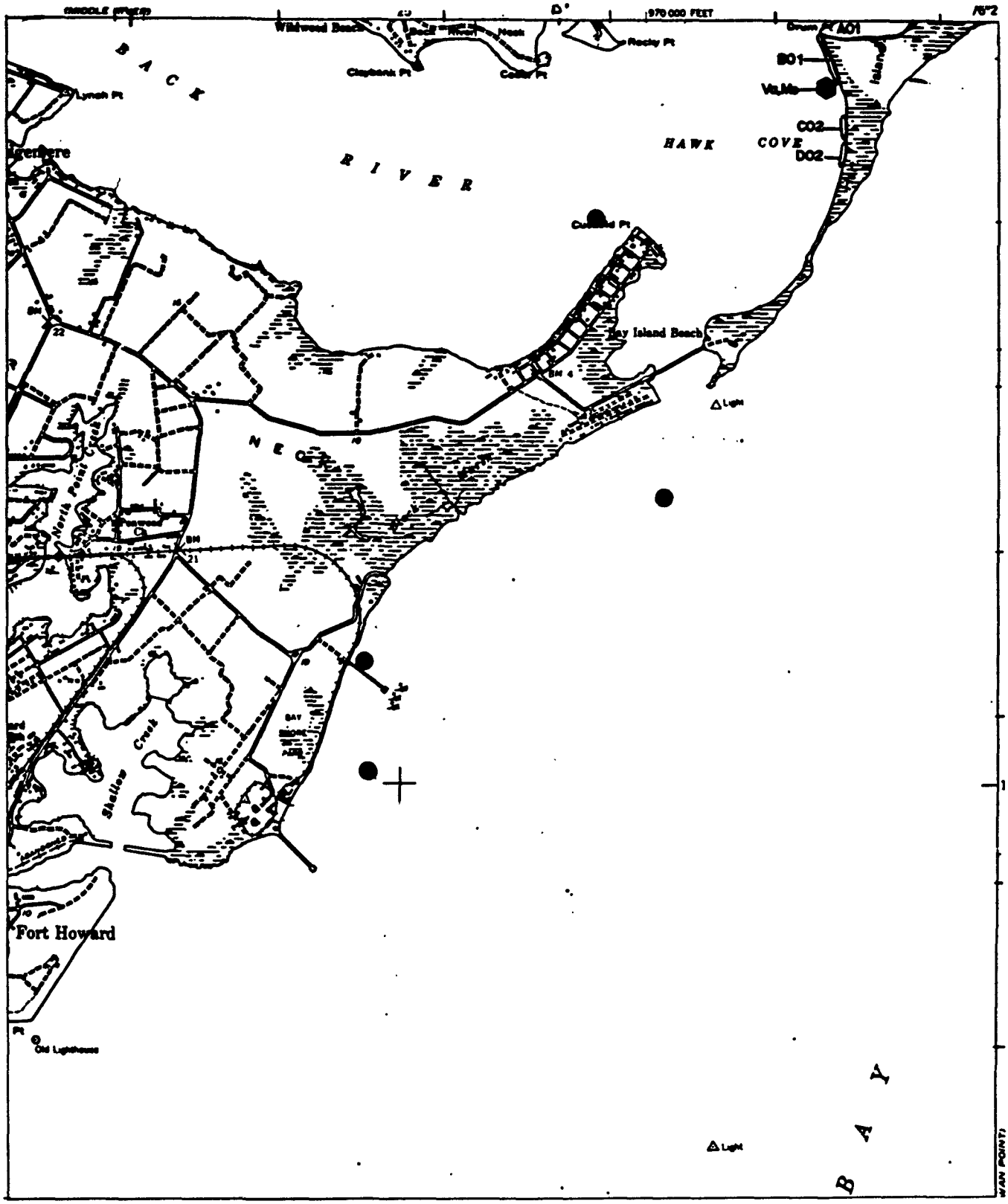
GALENA, MD

Northwest Quarter

# 17

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pd | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

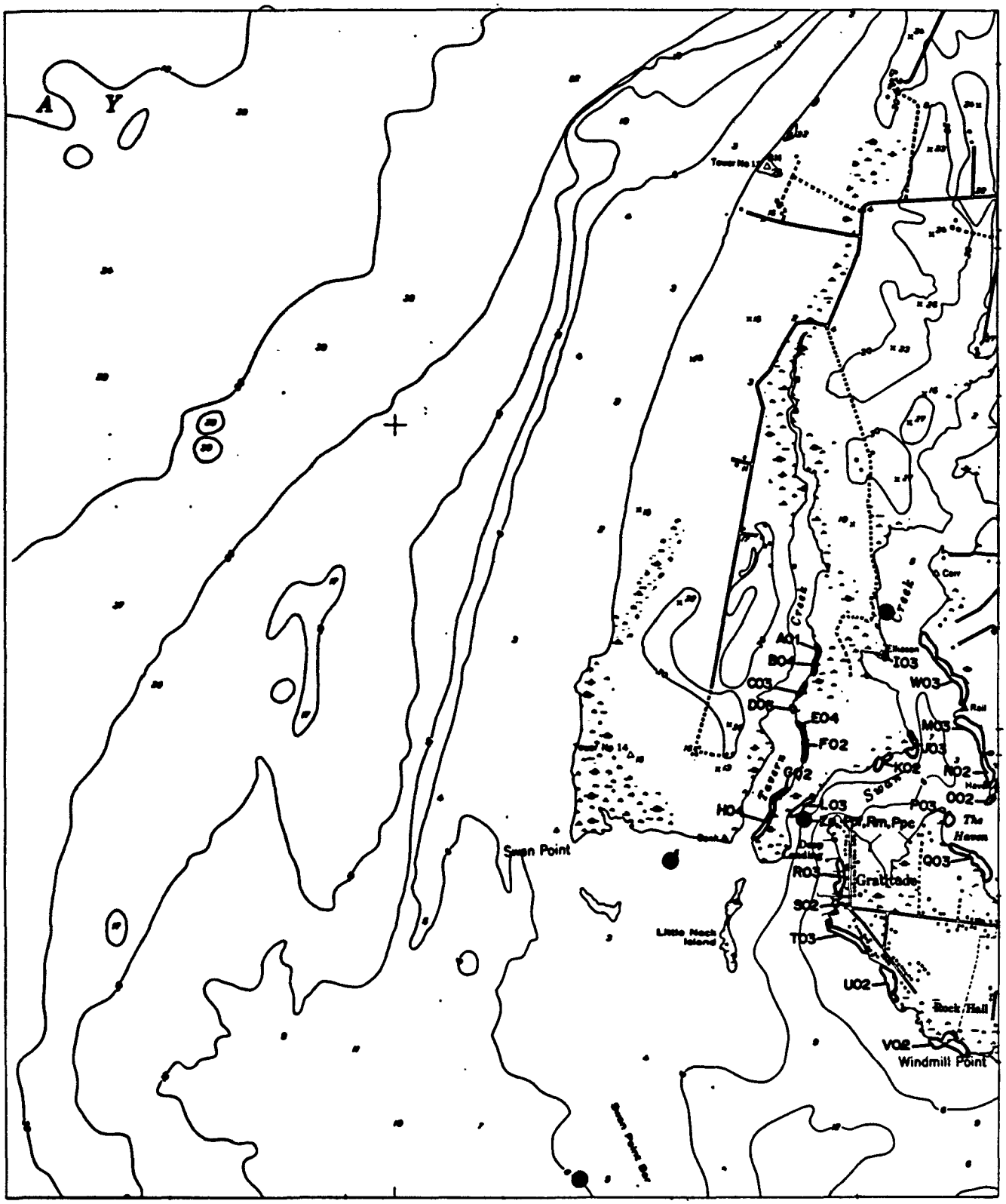
SPARROWS POINT, MD

Northeast Quarter

# 19

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186




**SPECIES**

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

SWAN POINT, MD

Southeast Quarter

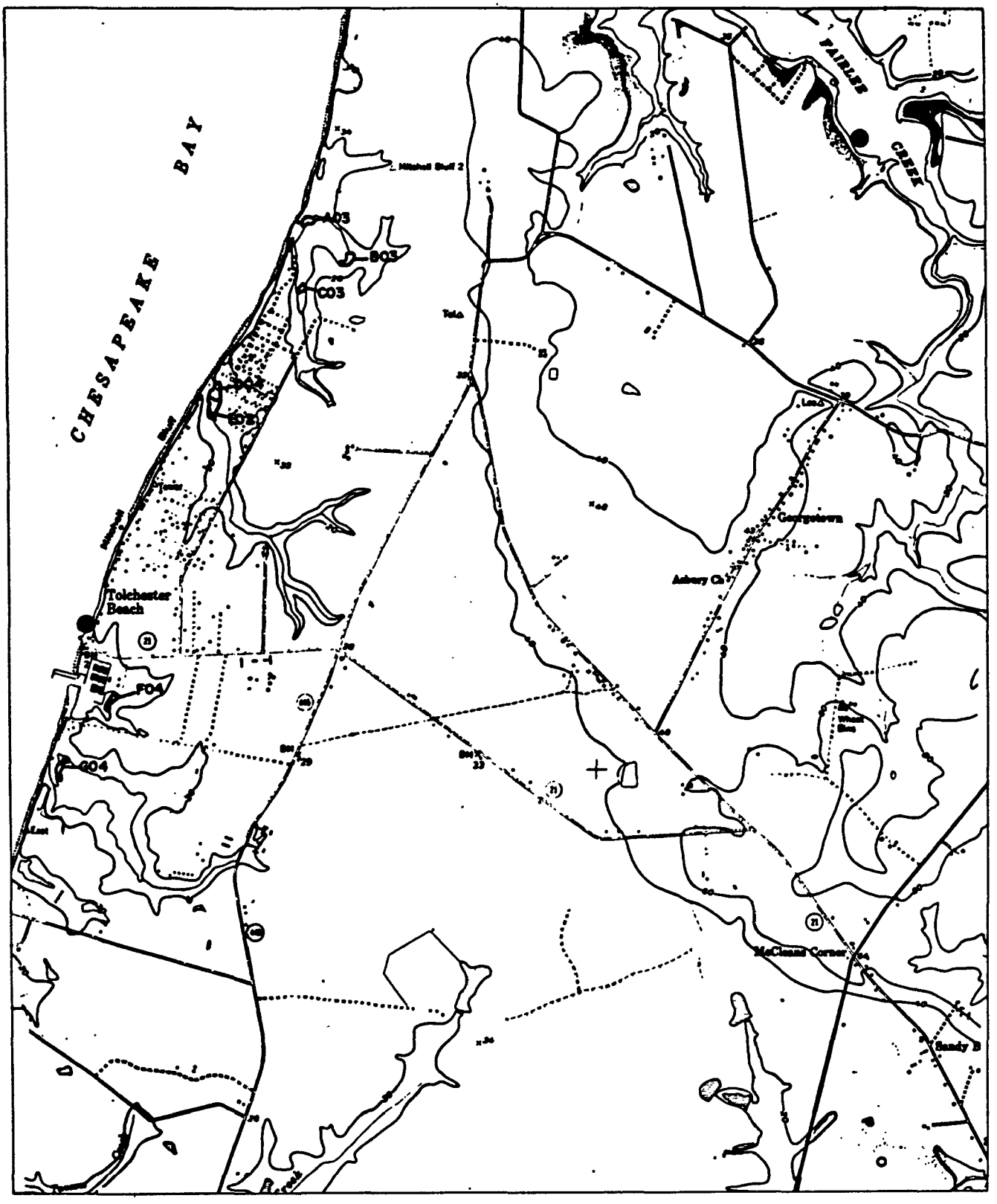
# 20



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pcf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) | | |
| Vs | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:18,000

ROCK HALL, MD

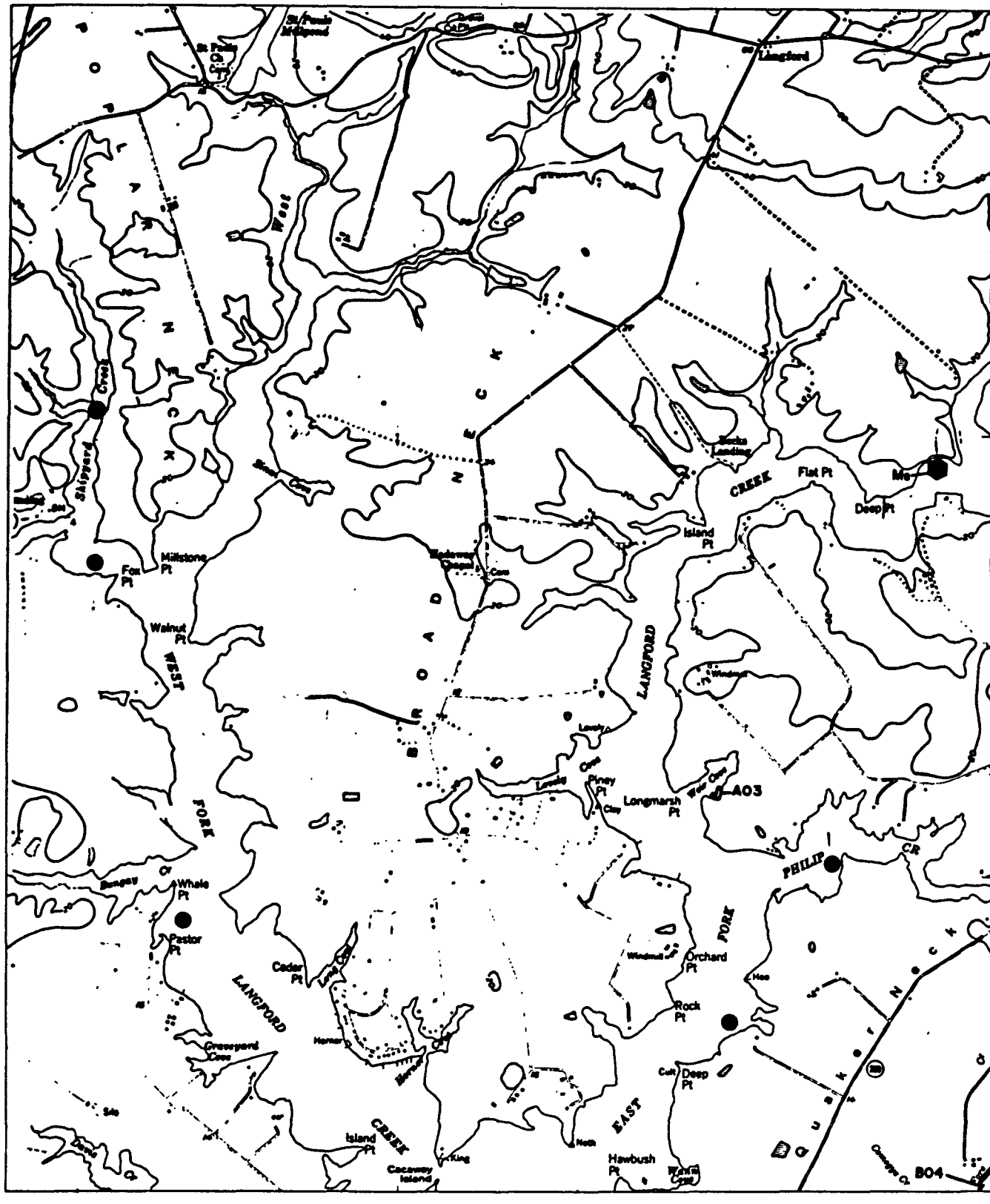
Northwest Quarter

# 21

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (muskgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

ROCK HALL, MD

Southeast Quarter

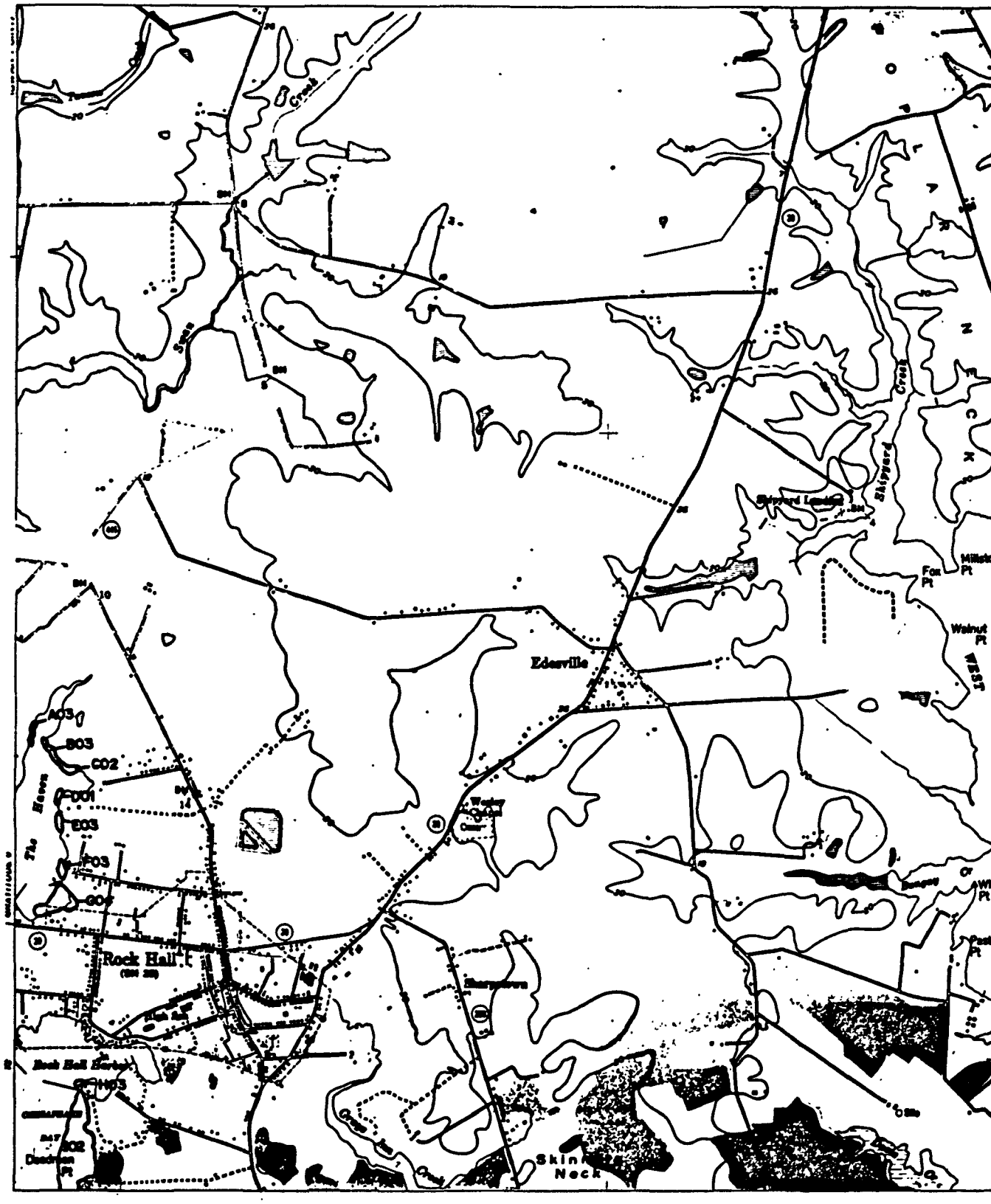
# 21



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

ROCK HALL, MD

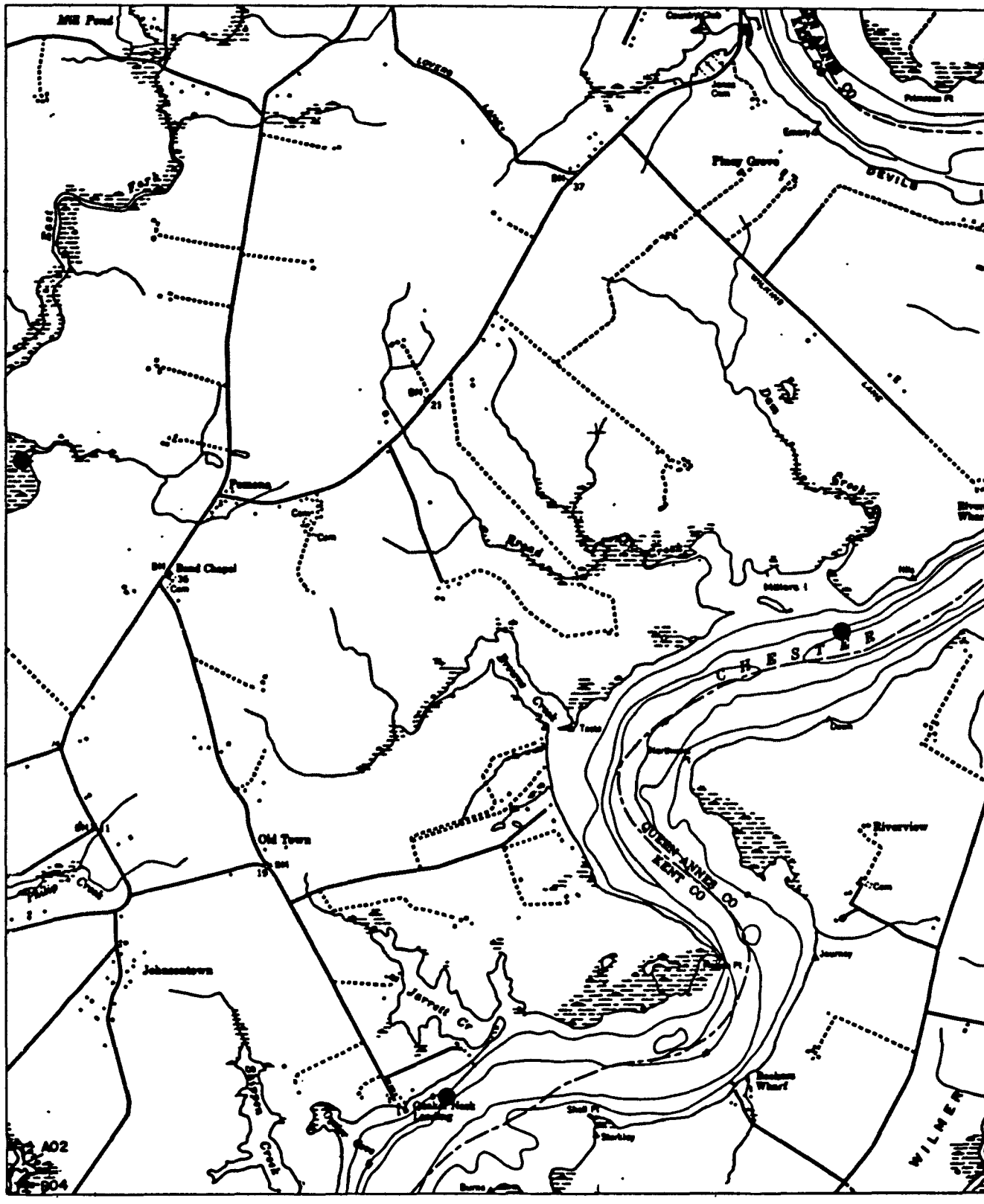
Southwest Quarter

# 21

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Psf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichelia palustris* (horned pondweed) | Hgu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (musbgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

CHESTERTOWN, MD

Southwest Quarter

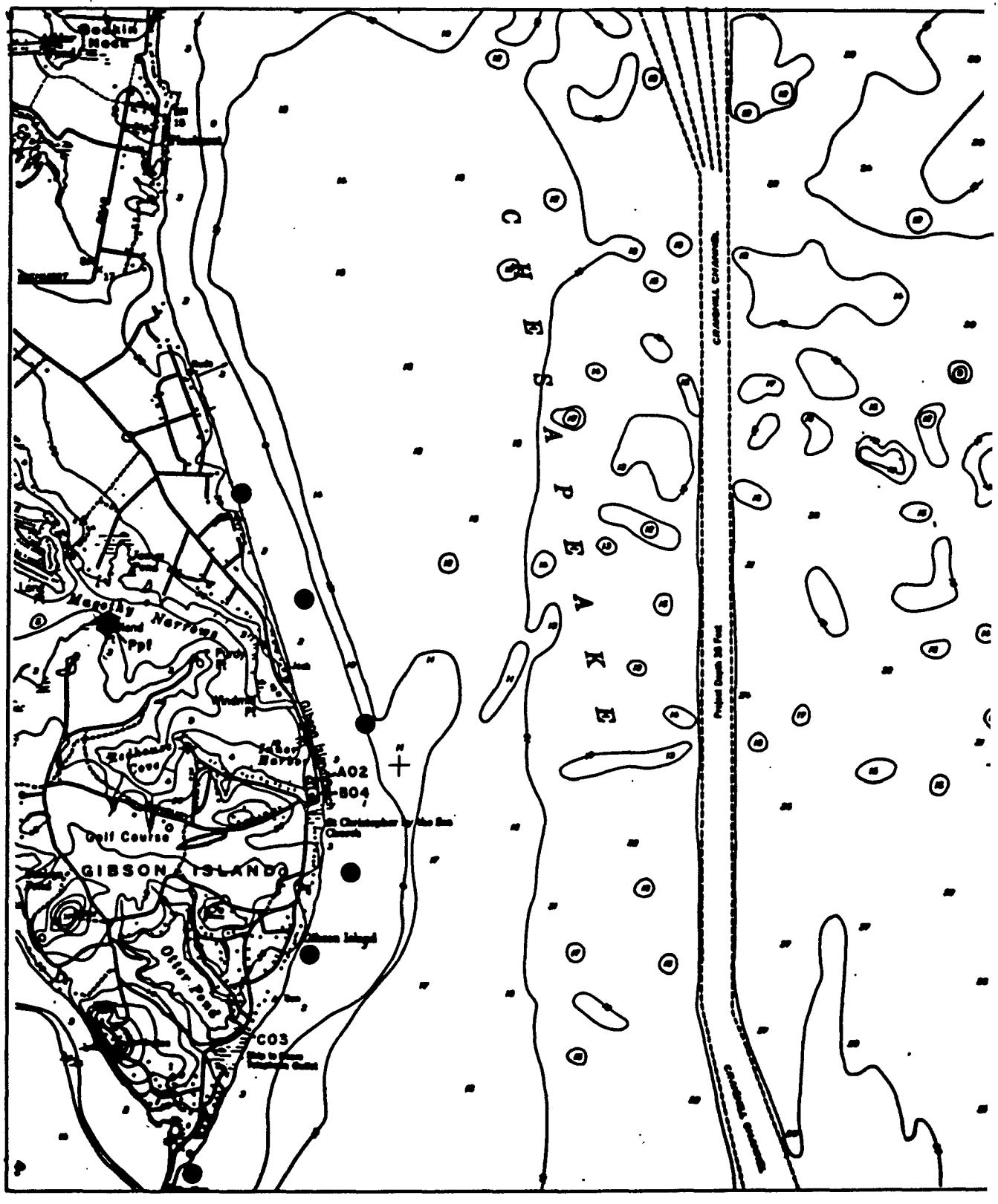
# 22



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (muskgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

GIBSON ISLAND, MD

Northeast Quarter

# 24



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985


| SPECIES | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (muskgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

GIBSON ISLAND, MD

Northwest Quarter

# 24



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985


SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pdl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp.* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (muskgrass) | | |
| Vs | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

GIBSON ISLAND, MD

Southeast Quarter

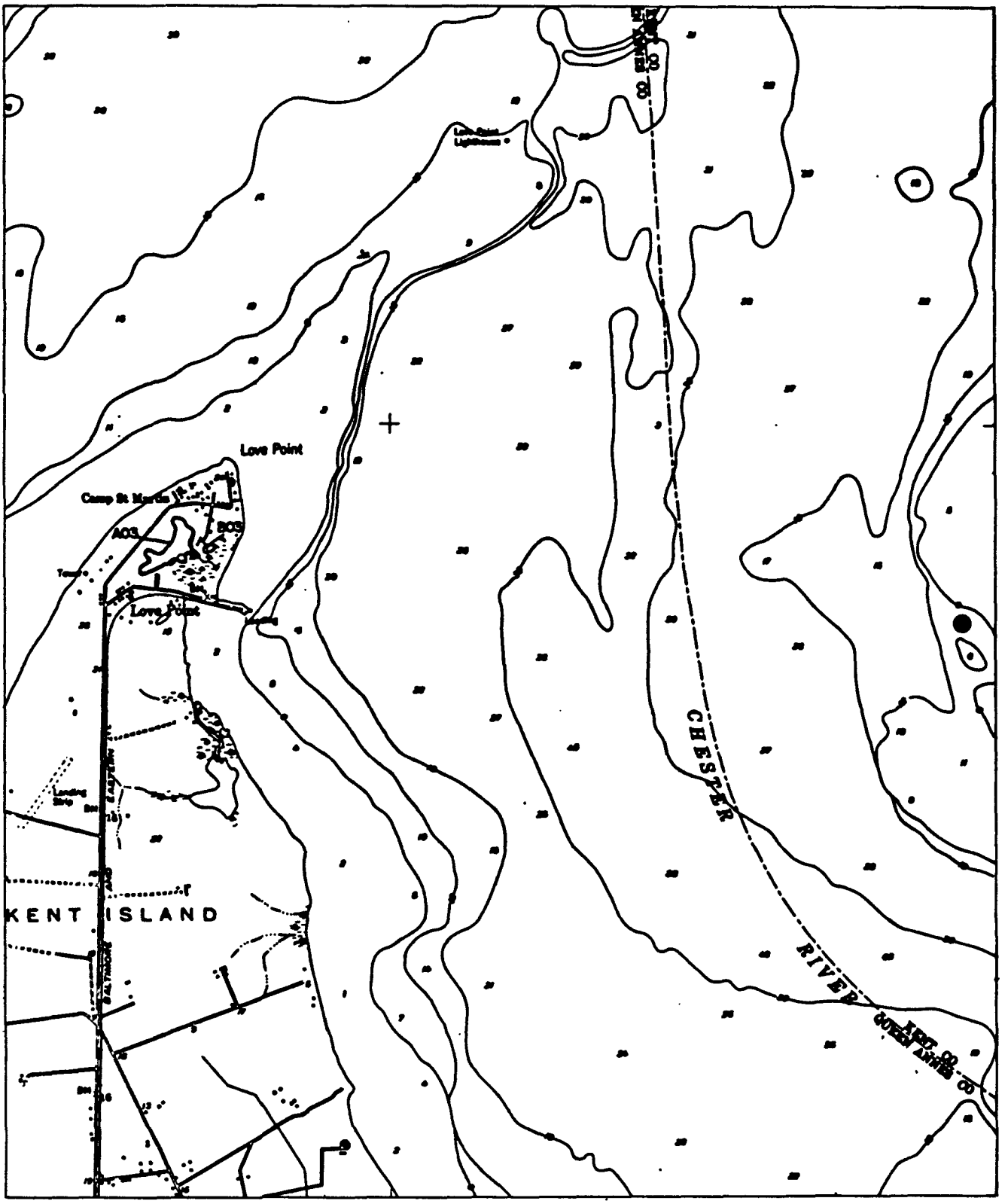
# 24



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pol | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ⬢ Citizens Field Observation
- ▲ VIMS Field Survey
- ♦ U.S.G.S.

SCALE 1:12,000

LOVE POINT, MD

Southeast Quarter

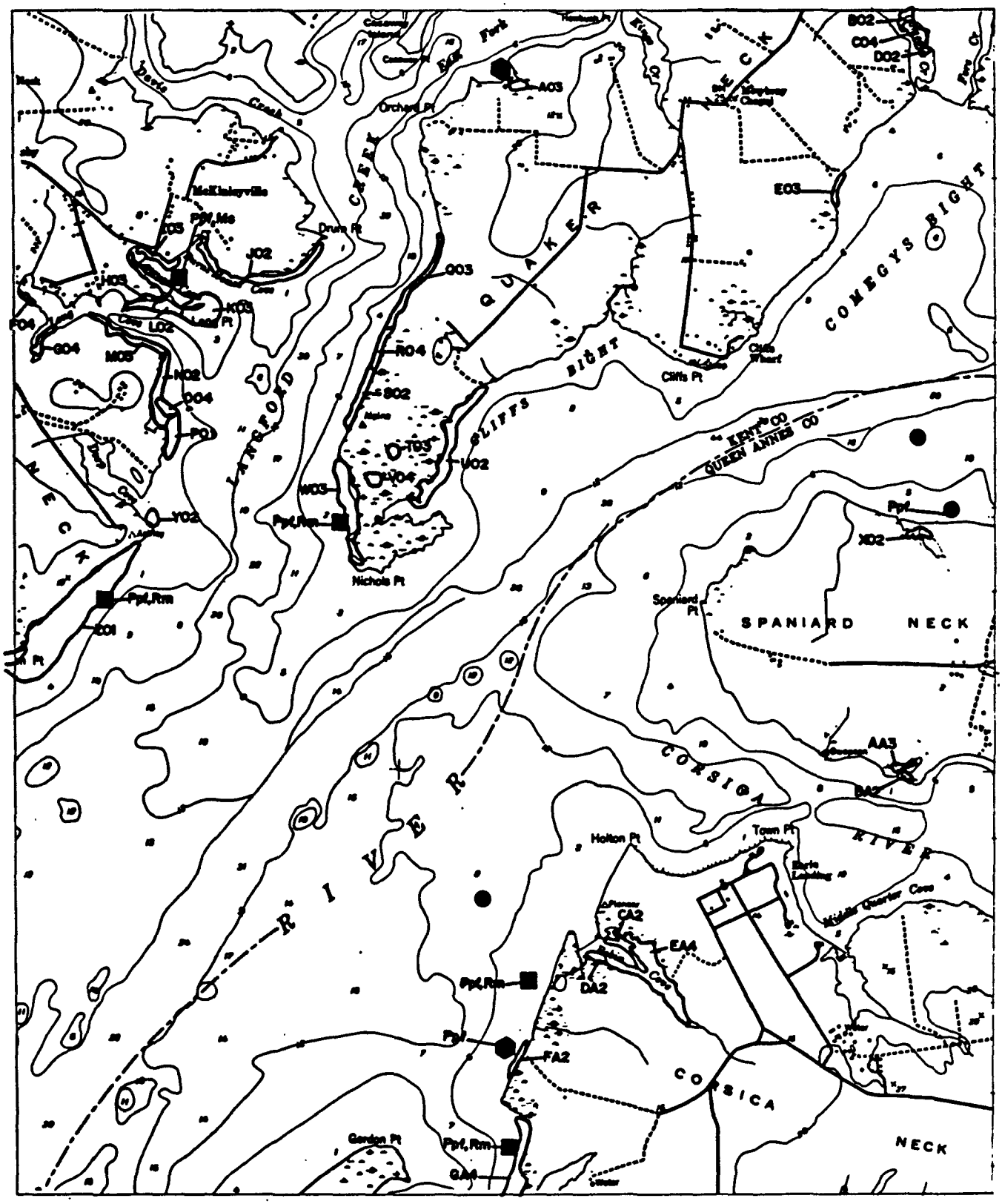
# 25



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* sp. (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) | | |
| Vs | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ● Citizens Field Observation
- ▲ YIMS Field Survey
- ♦ U.S.G.S.

SCALE 1:12,000

LANGFORD CREEK, M

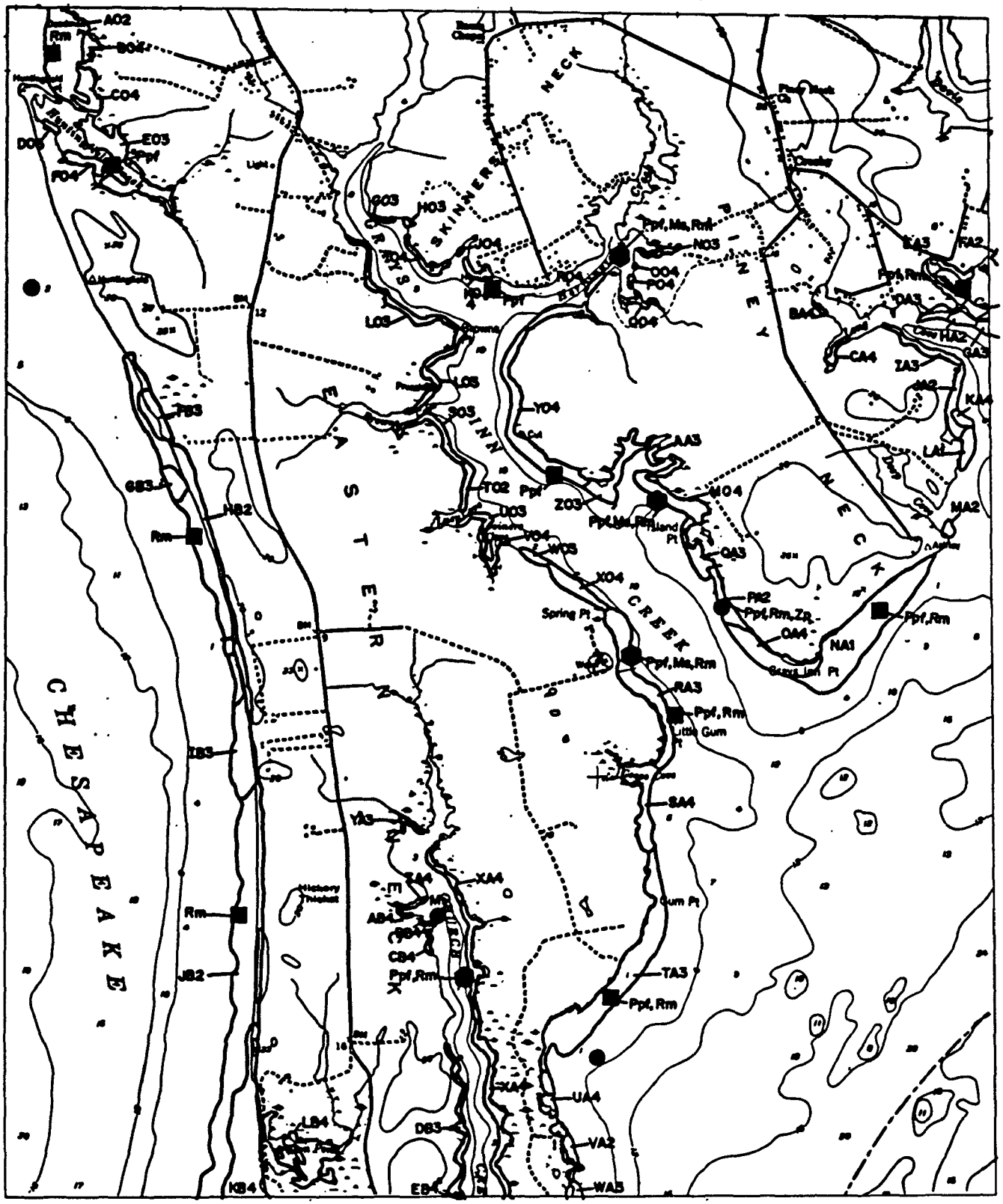
Northeast Quarter

# 26

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




LANGFORD CREEK, MD

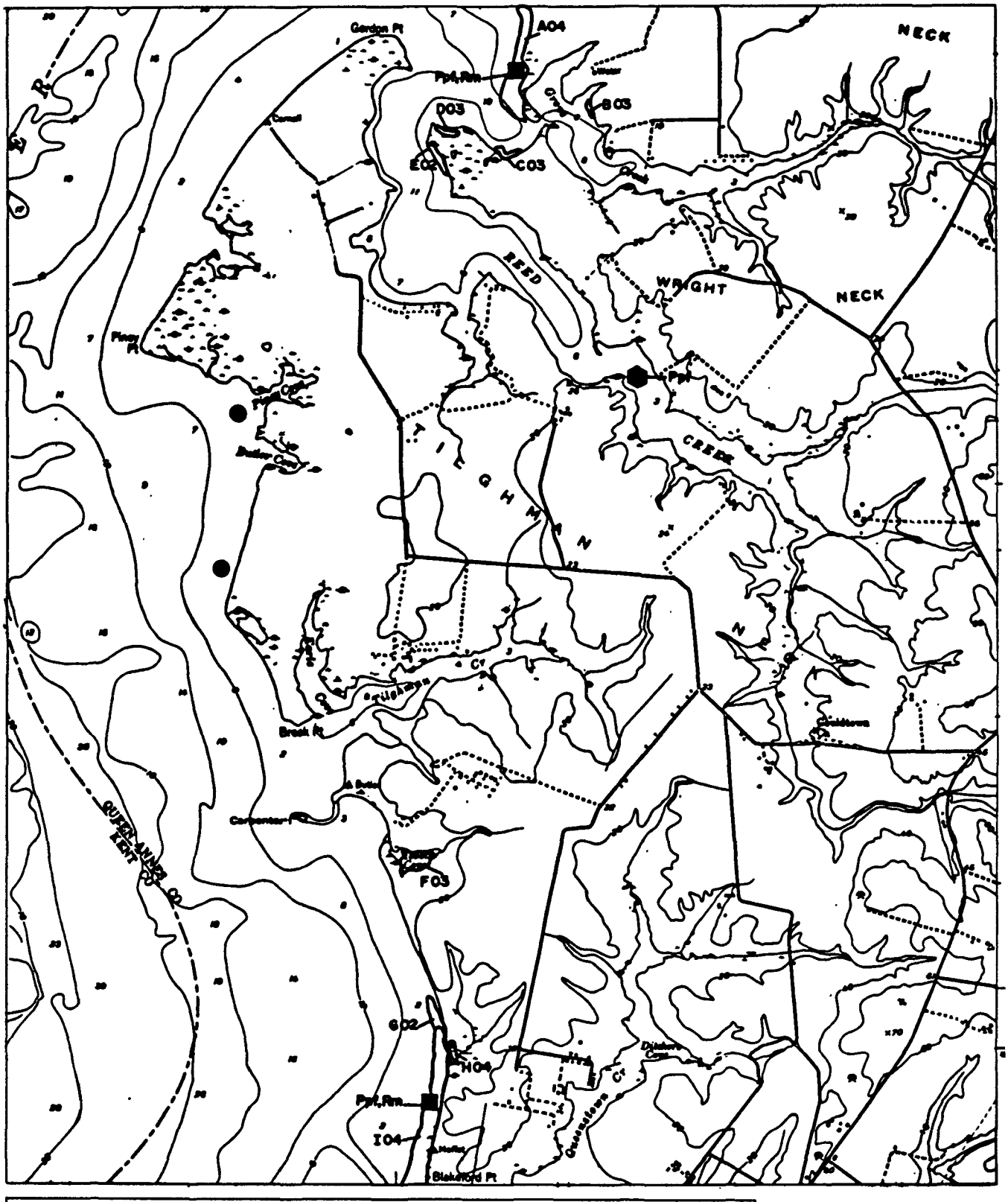
Northwest Quarter

# 26

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pcf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichelia palustris* (horned pondweed) | Ngs | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (muskgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

LANGFORD CREEK, M

Southeast Quarter

# 26

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985


SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ptf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

LANGFORD CREEK, MD

Southwest Quarter

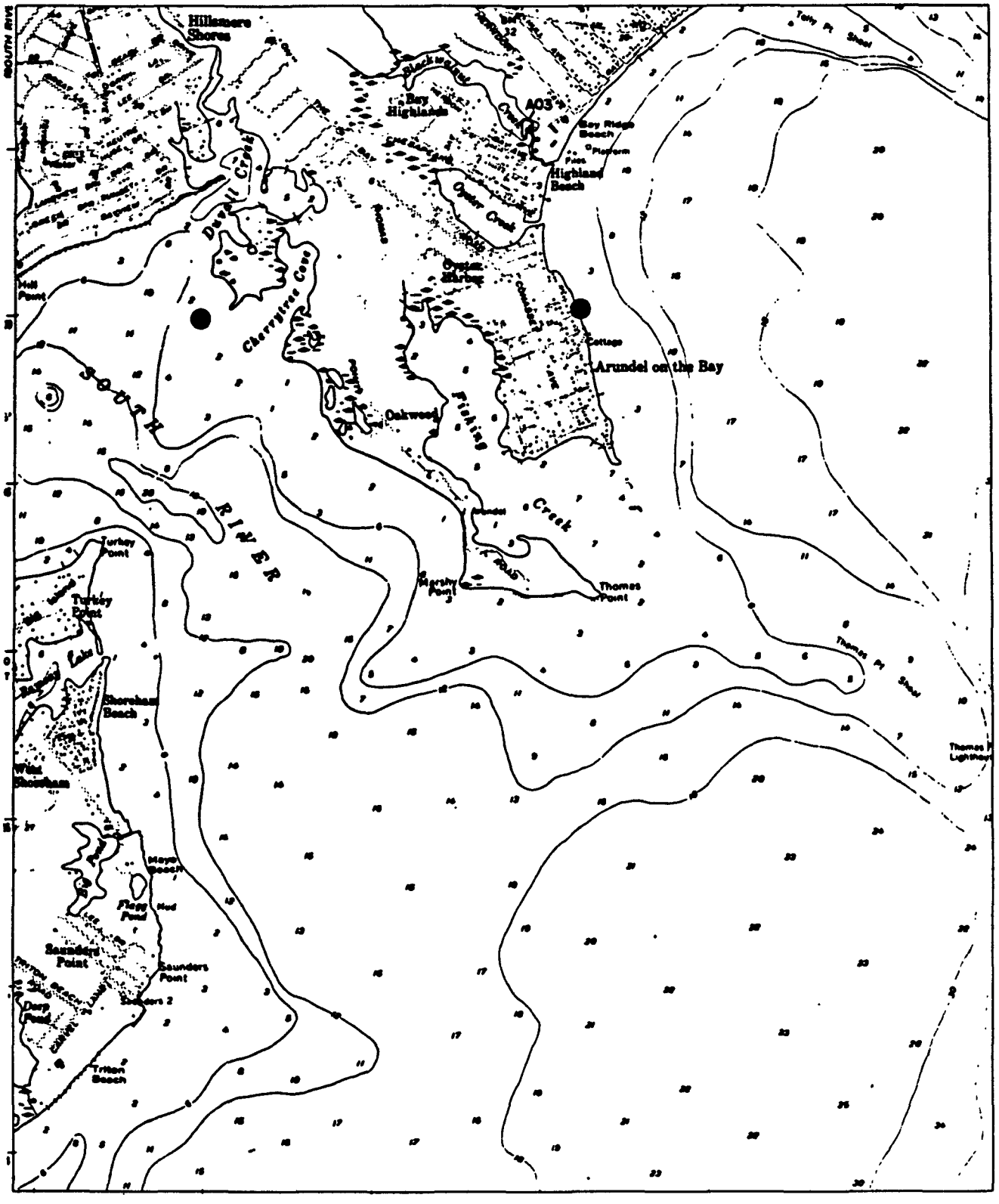
# 26



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pol | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichelia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

ANNAPOLIS, MD

Southwest Quarter

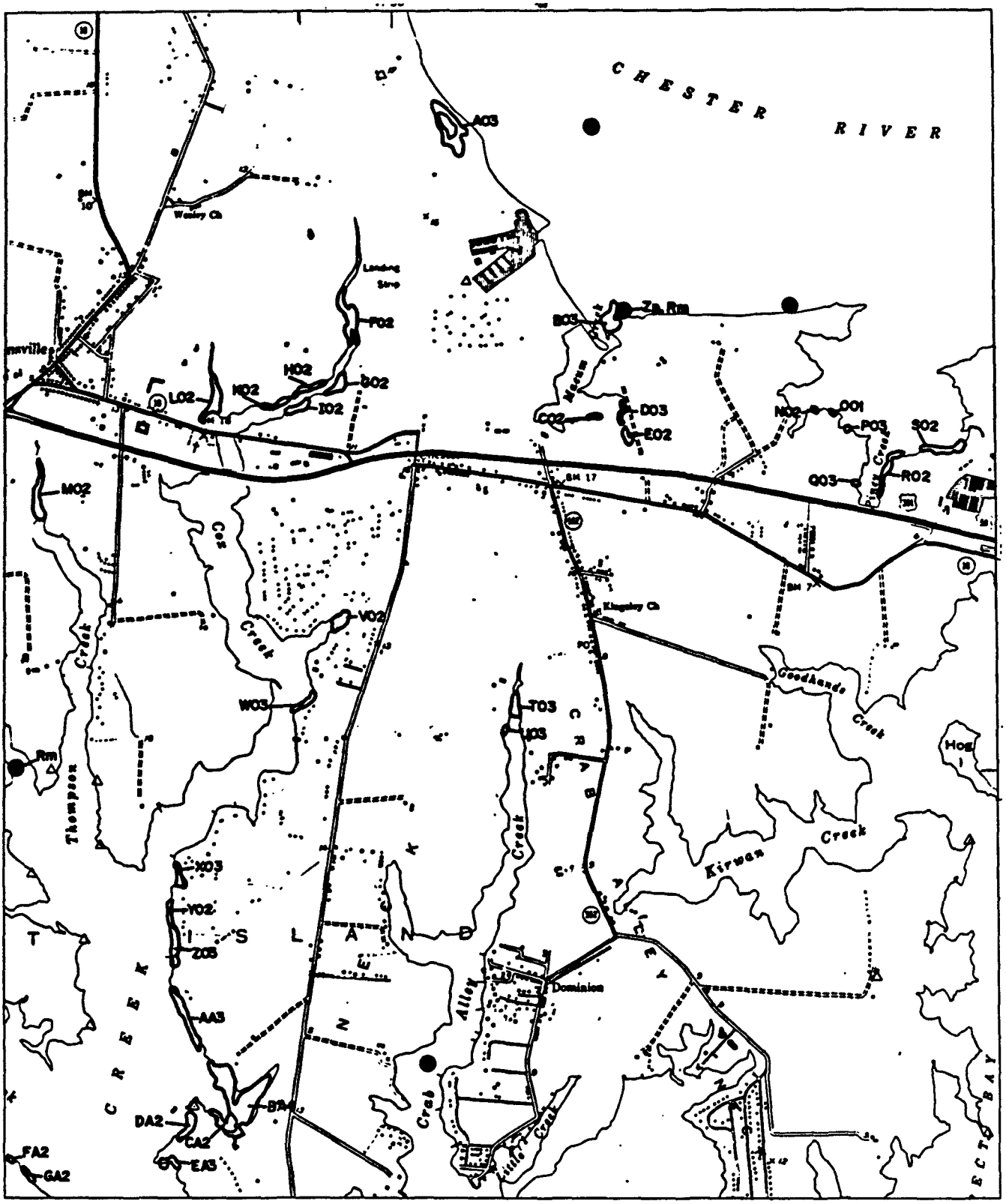
# 31



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp.* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (musksgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S

SCALE 1:12,000

KENT ISLAND, MD

Northeast Quarter

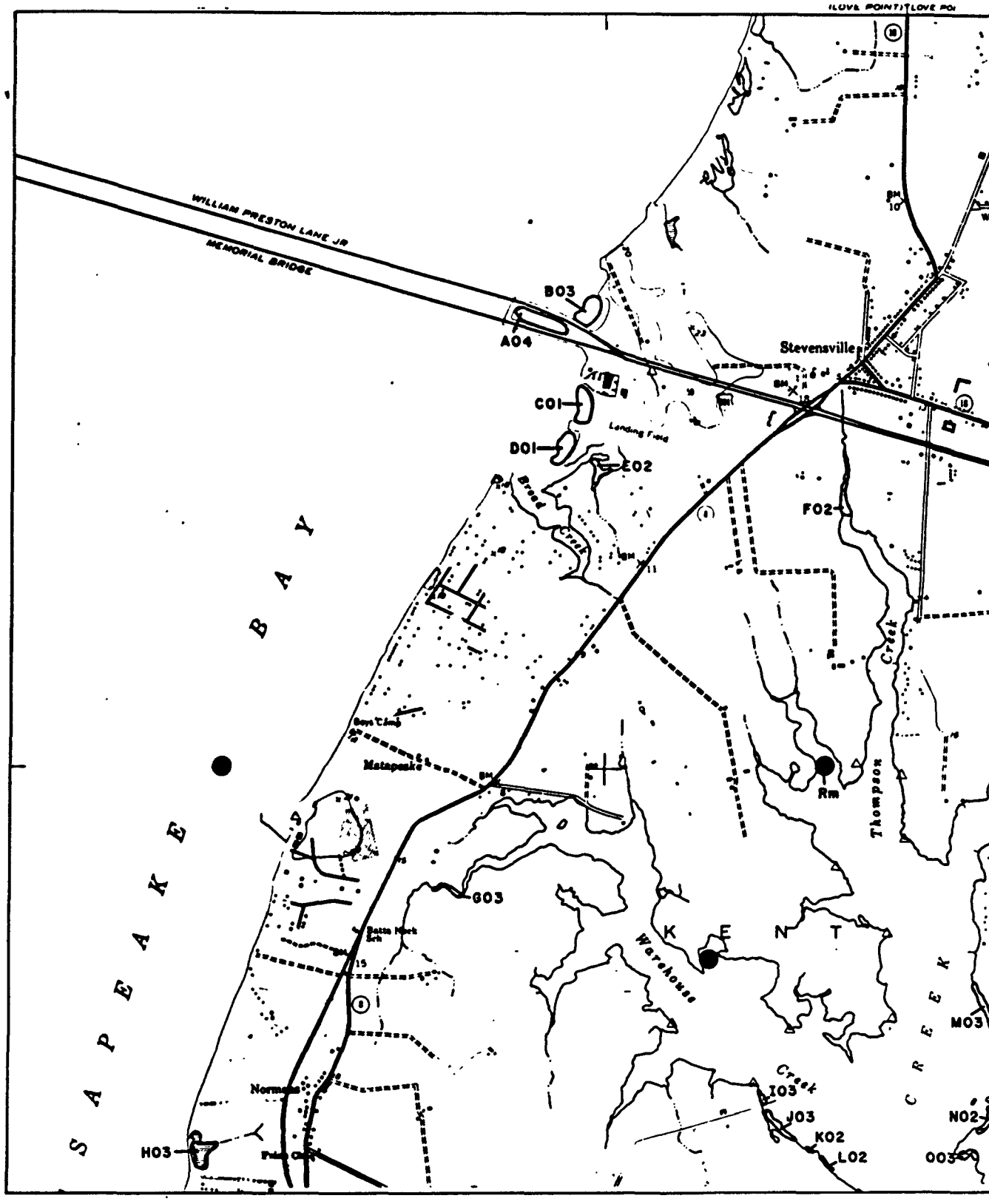
# 32



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichelia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ⬢ Citizens Field Observation
- ▲ VIMS Field Survey
- ♦ U.S.G.S

SCALE 1:12,000

KENT ISLAND, MD

Northwest Quarter

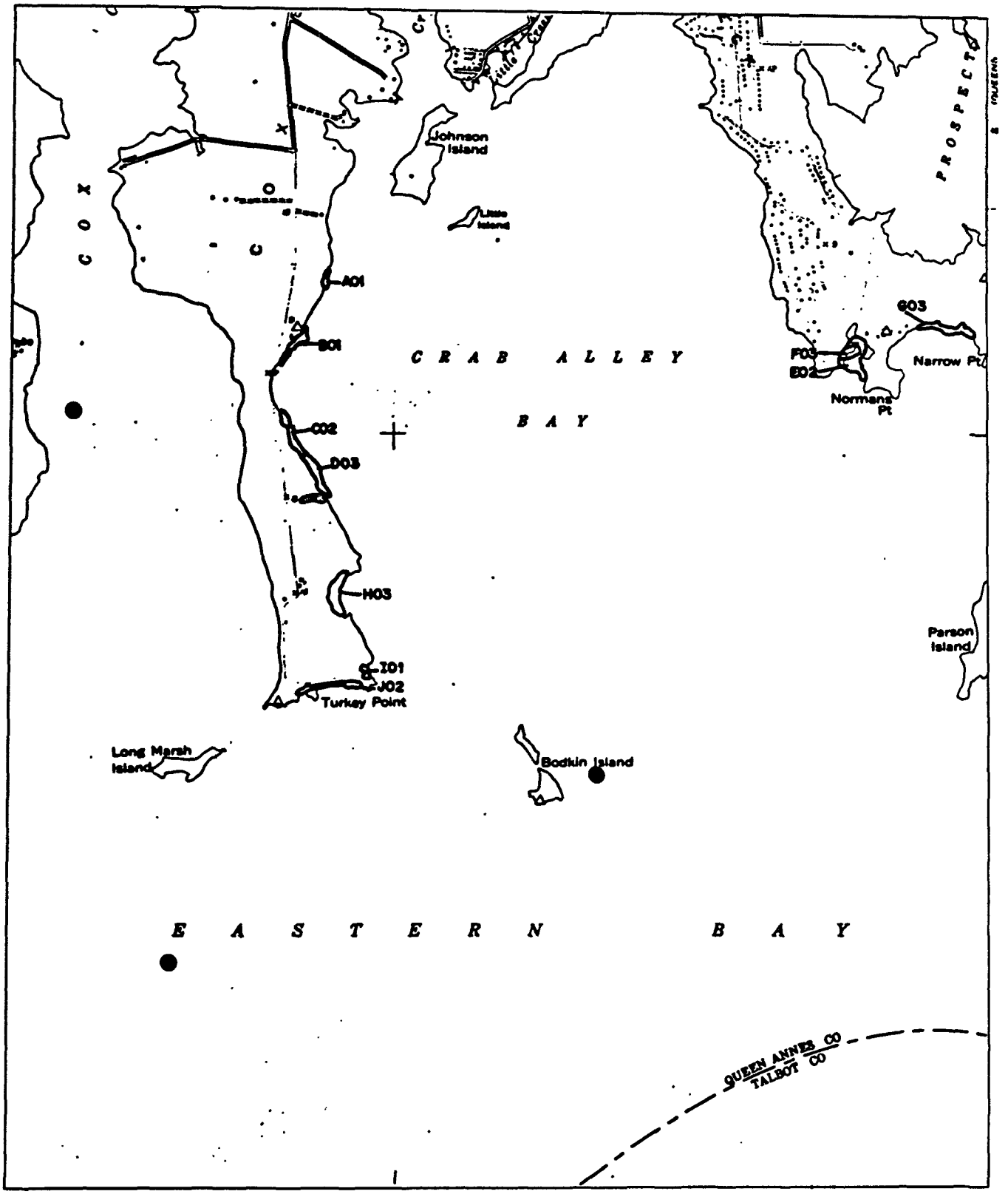
# 32



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (muskgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

KENT ISLAND, MD

Southeast Quarter

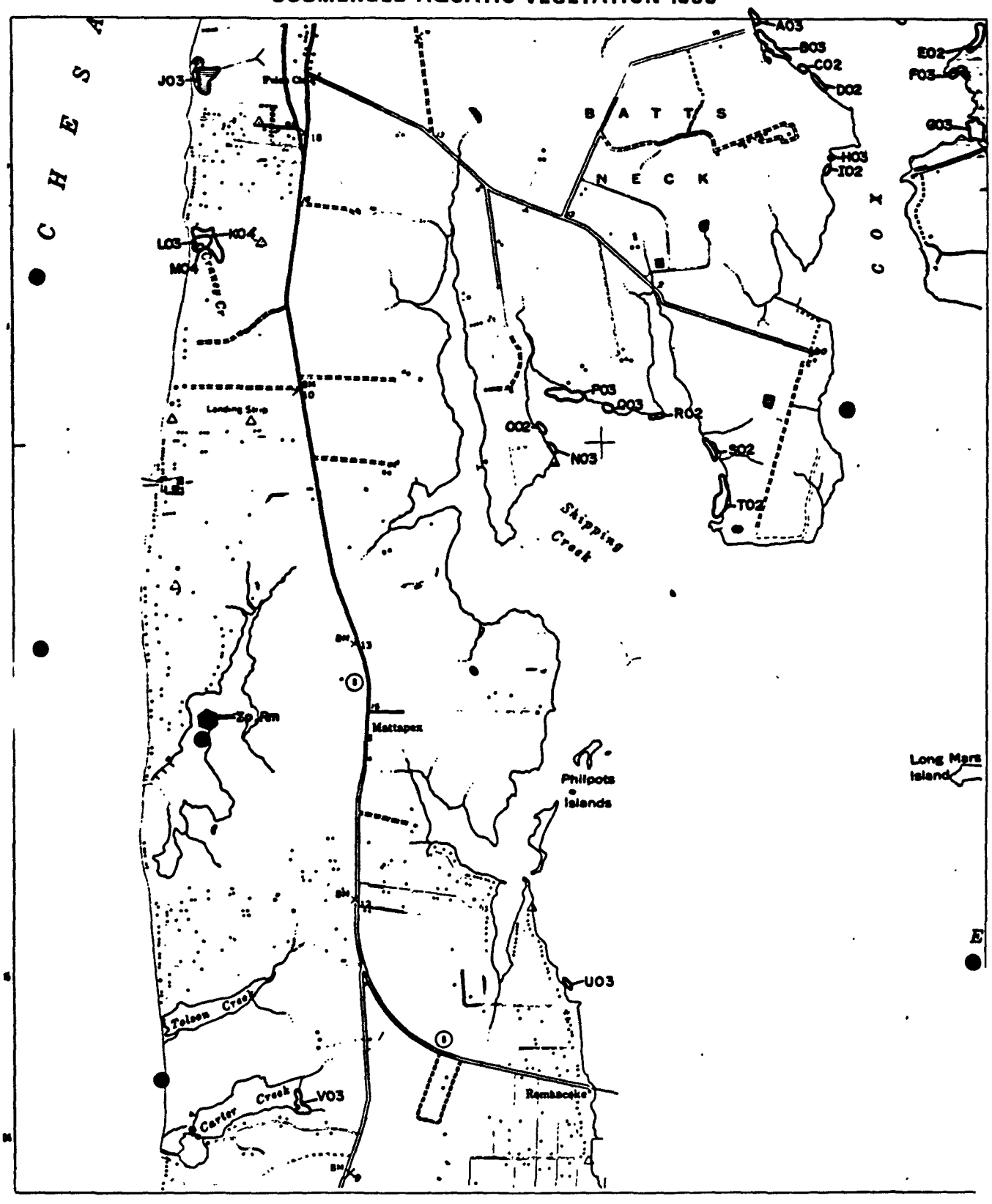
# 32



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pcf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (musksgrass) | | |
| Vs | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S

SCALE 1:12,000

KENT ISLAND, MD

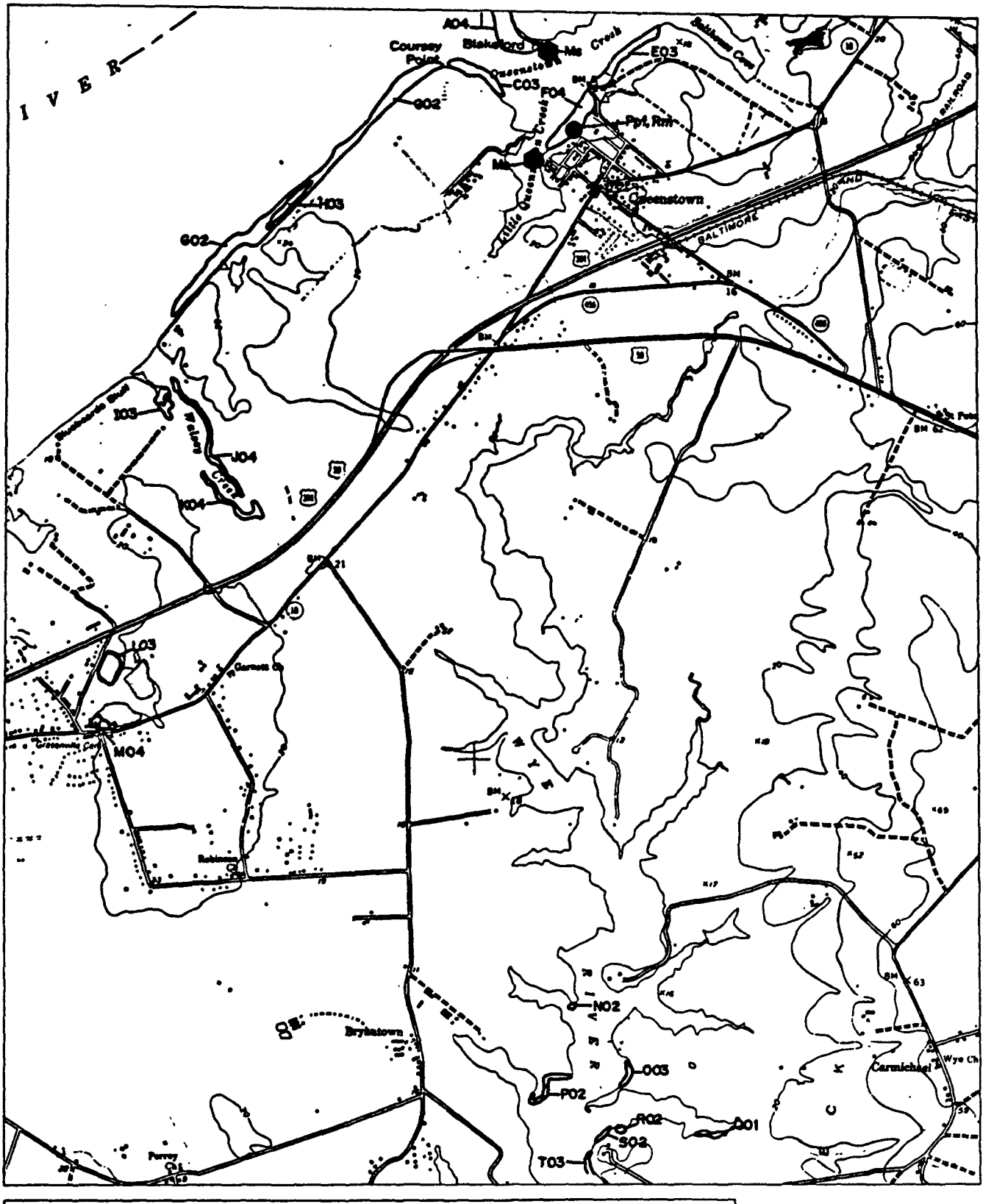
Southwest Quarter

# 32

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas* spp. (naiads) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

QUEENSTOWN, MD

Northeast Quarter

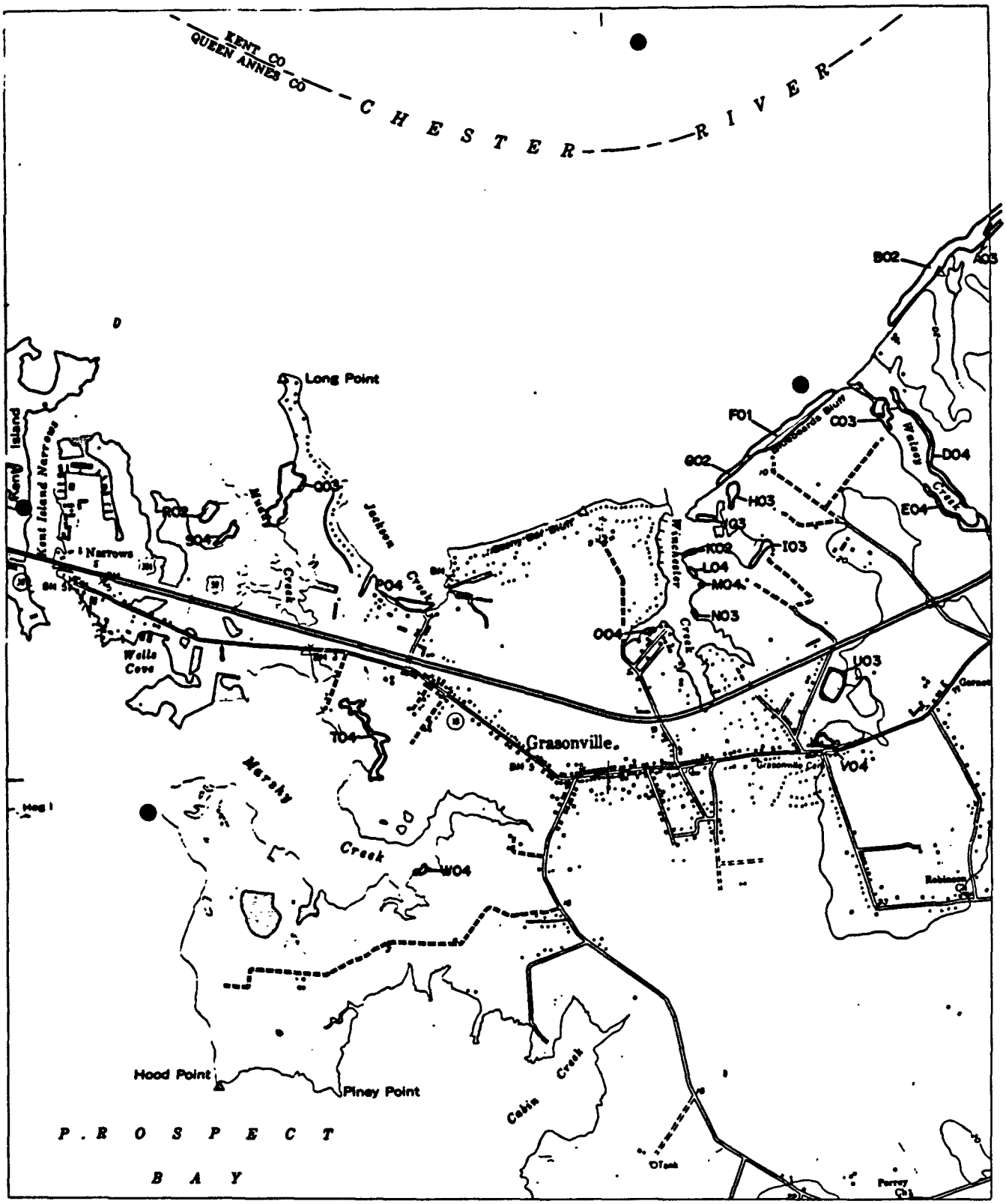
# 33



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Pol | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp.* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (musksgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

QUEENSTOWN, MD

Northwest Quarter

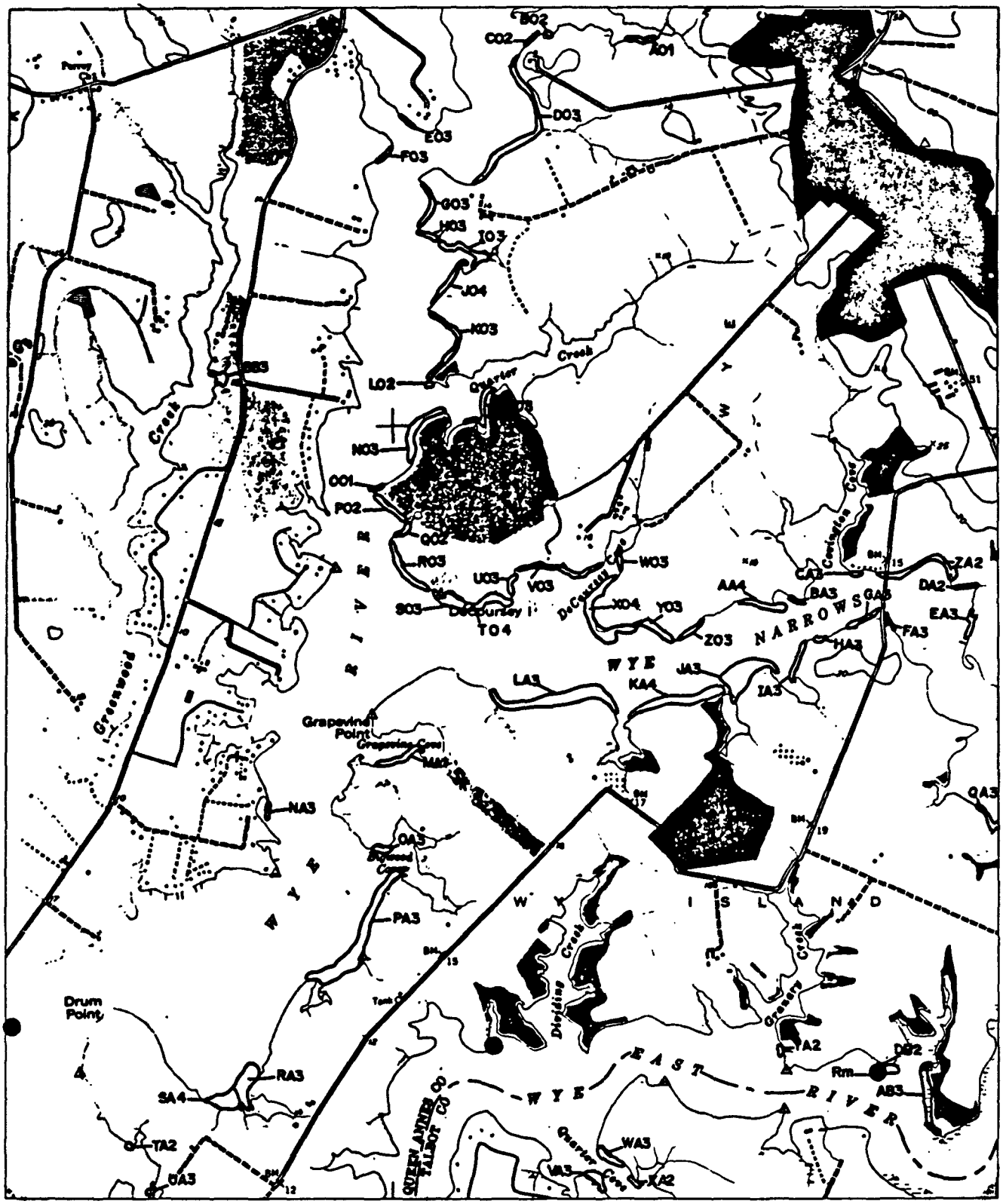
# 33



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pol | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichelia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

QUEENSTOWN, MD

Southeast Quarter

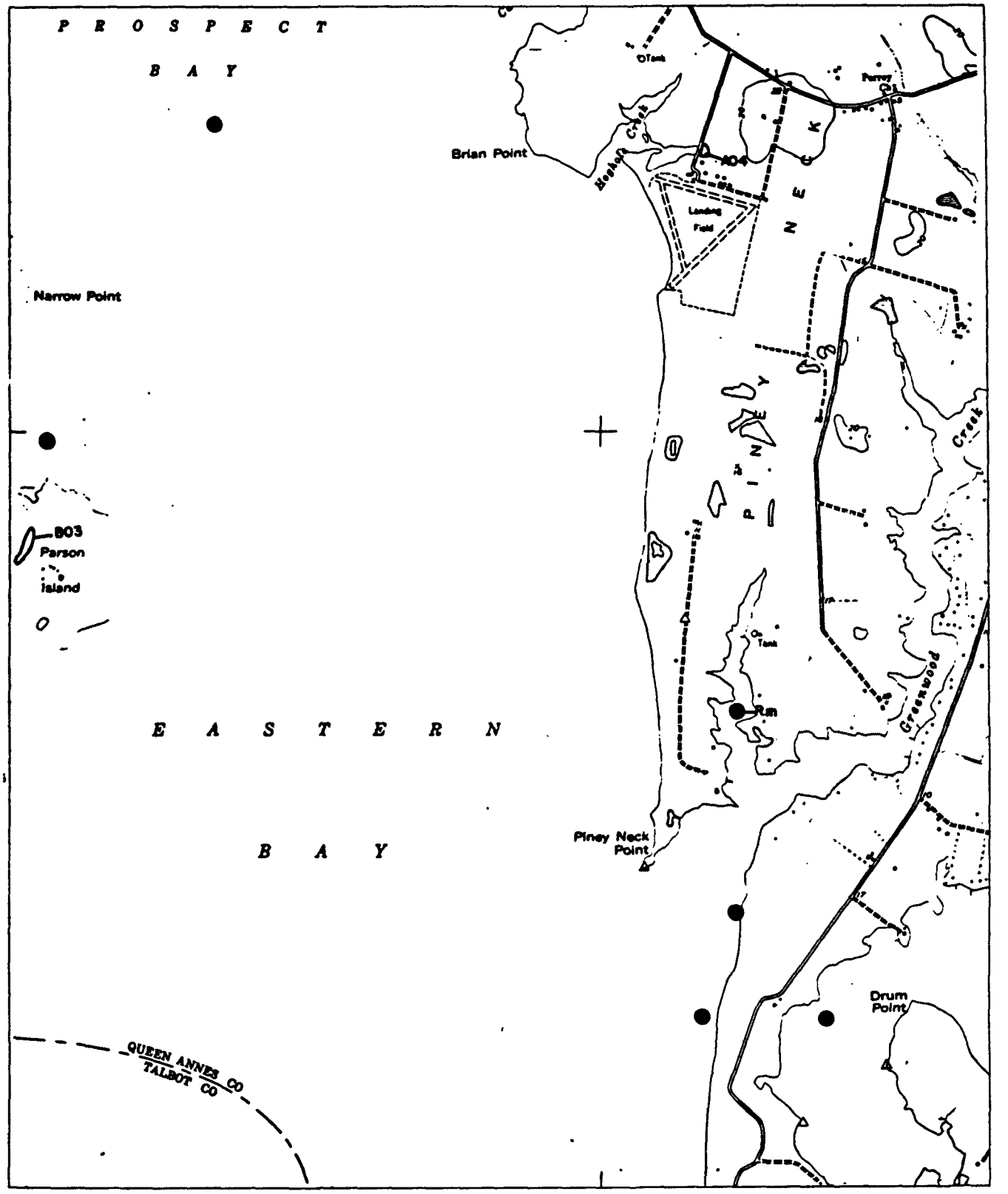
# 33



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pol | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichelia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ⬢ Citizens Field Observation
- ▲ VIMS Field Survey
- ♦ U.S.G.S.

SCALE 1:12,000

QUEENSTOWN, MD

Southwest Quarter

# 33



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985


| SPECIES | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Pcl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musskgrass) |
| Vs | *Vallisneria americana* (wild celery) | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

ALEXANDRIA, VA-DC-MD

Southeast Quarter

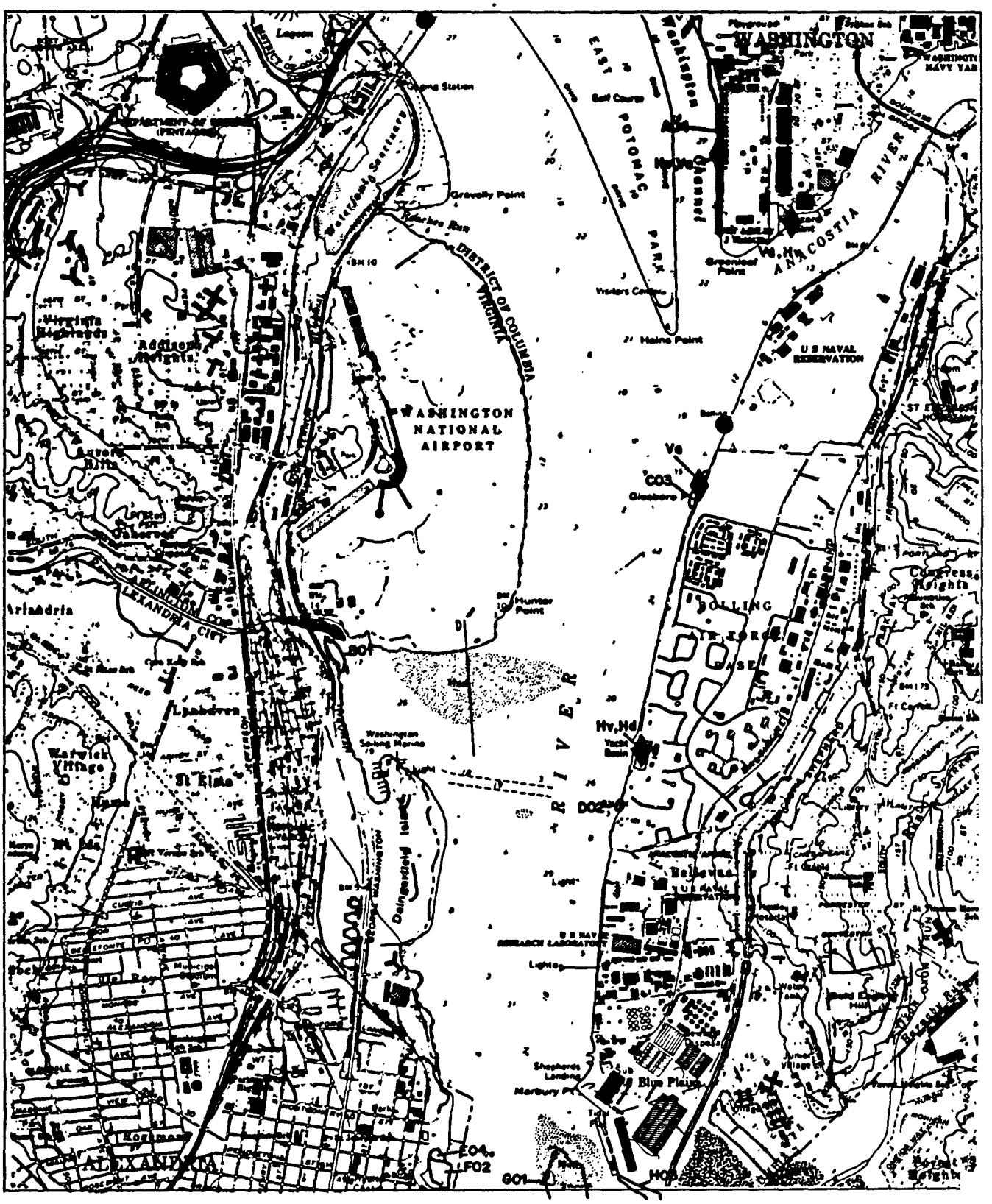
# 34



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION

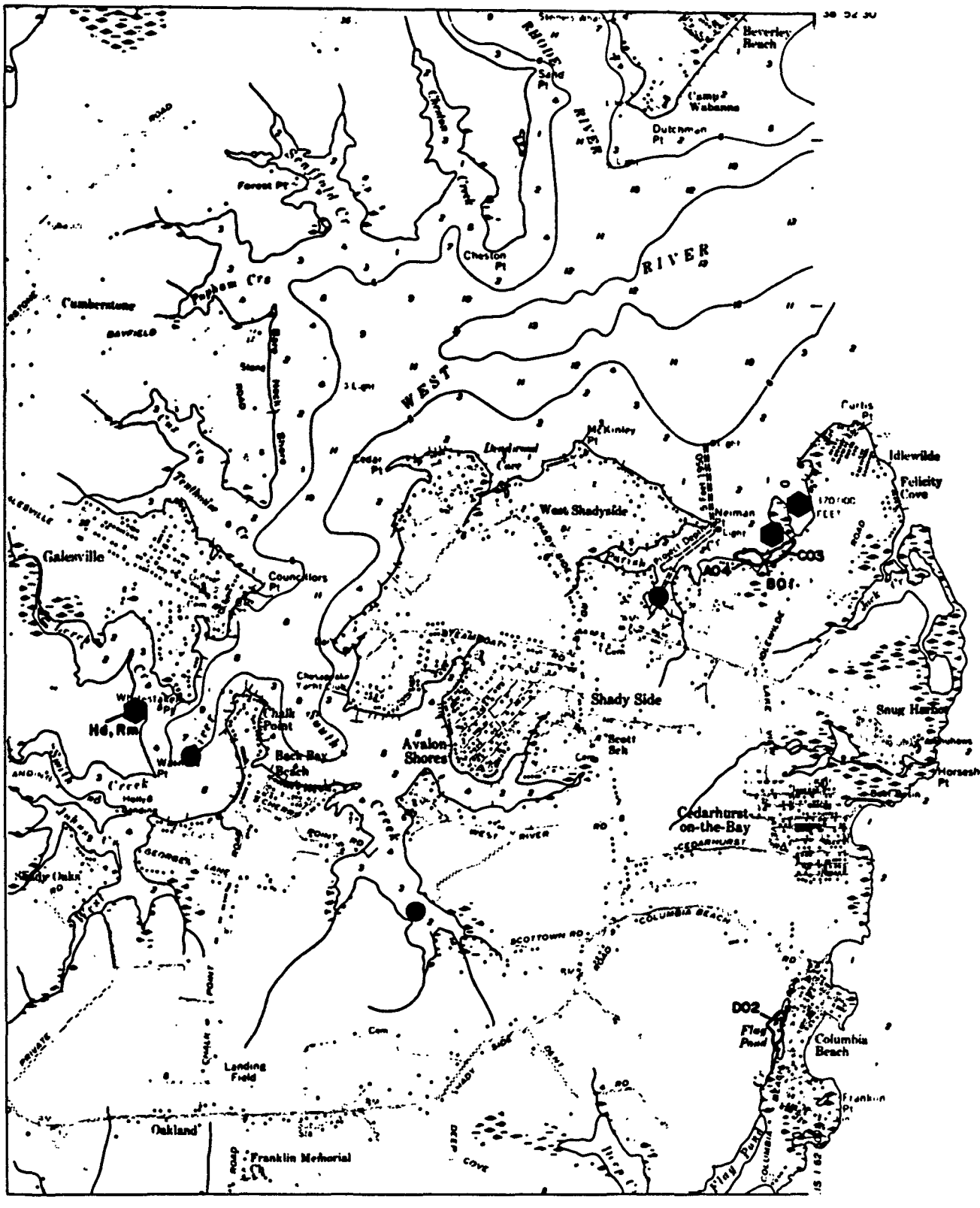





U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




| SPECIES | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Pol | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (muskgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

DEALE, MD

Northeast Quarter

-

# 35



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

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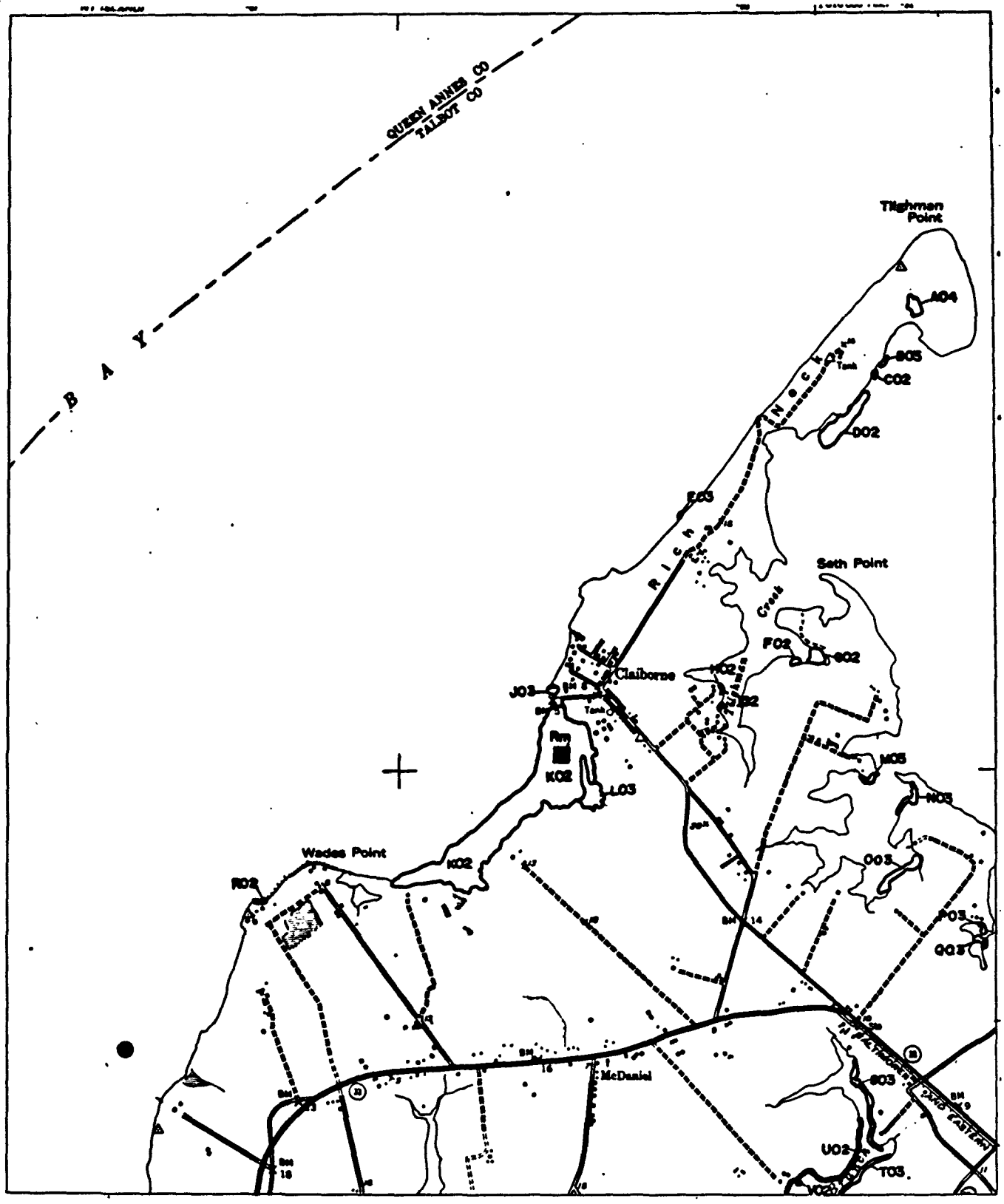



**SPECIES**

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (muskgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

CLAIBORNE, MD

Northeast Quarter

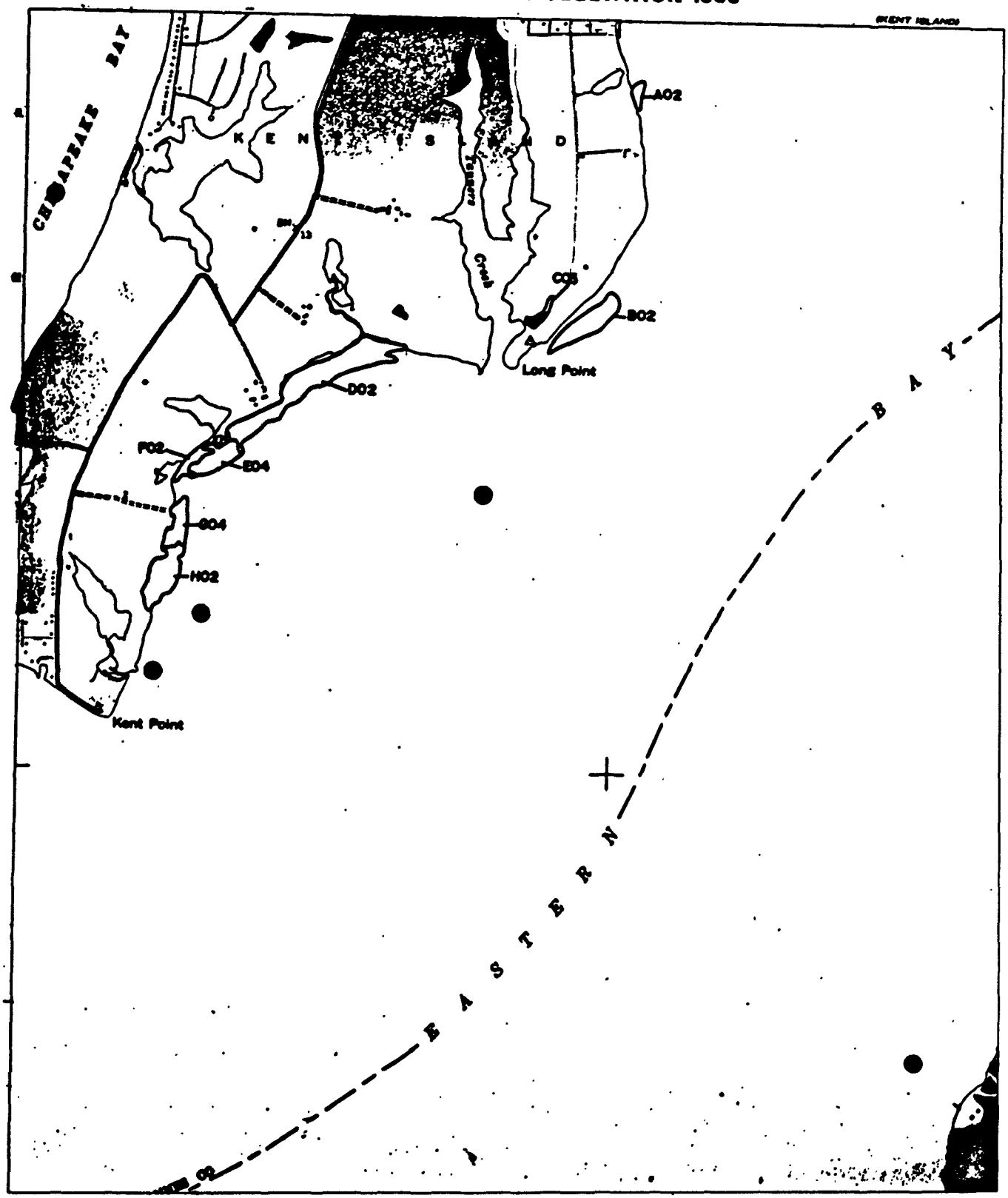
# 36



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pol | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

CLAIBORNE, MD

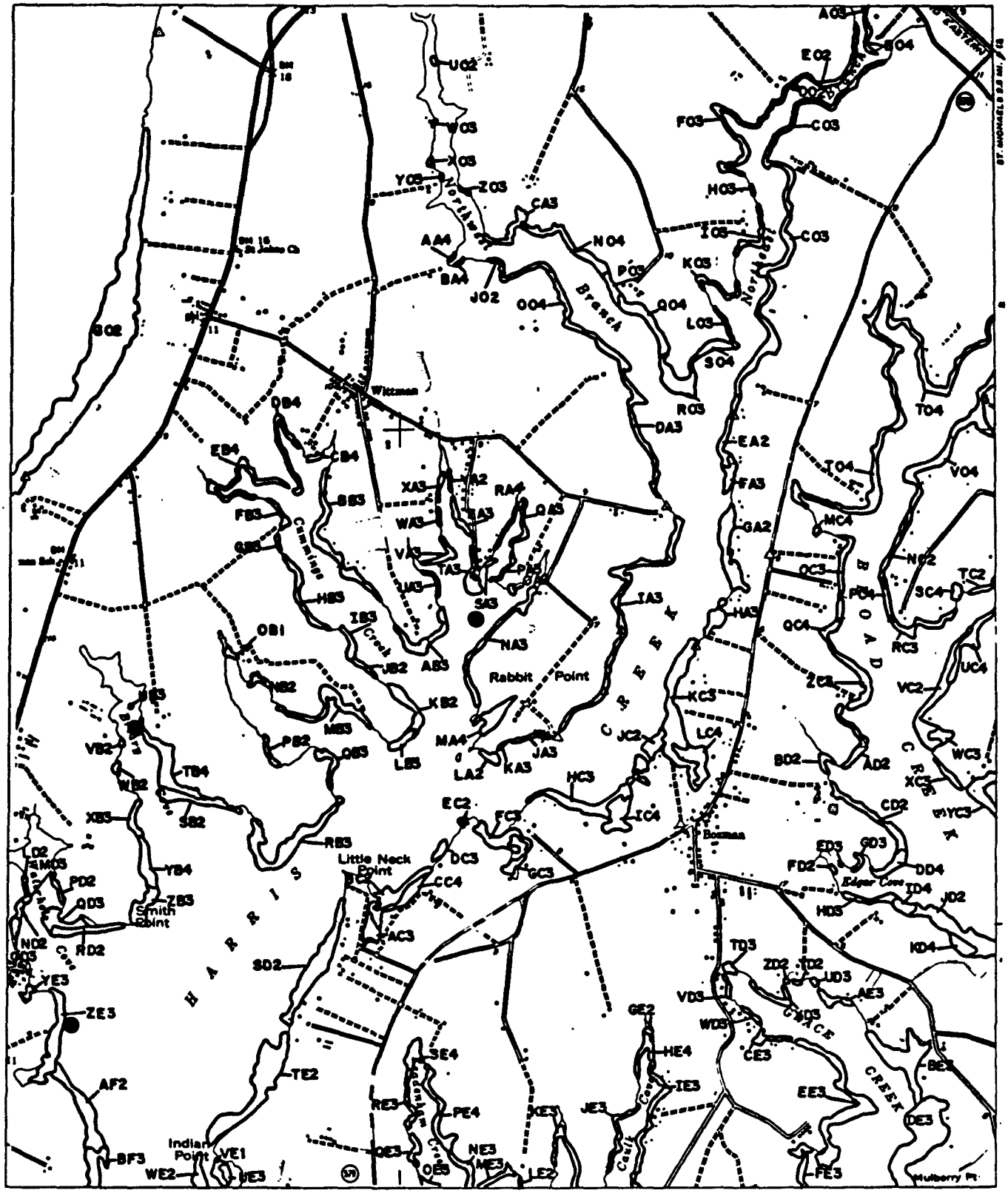
Northwest Quarter

# 36

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

CLAIBORNE, MD

Southeast Quarter

# 36



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

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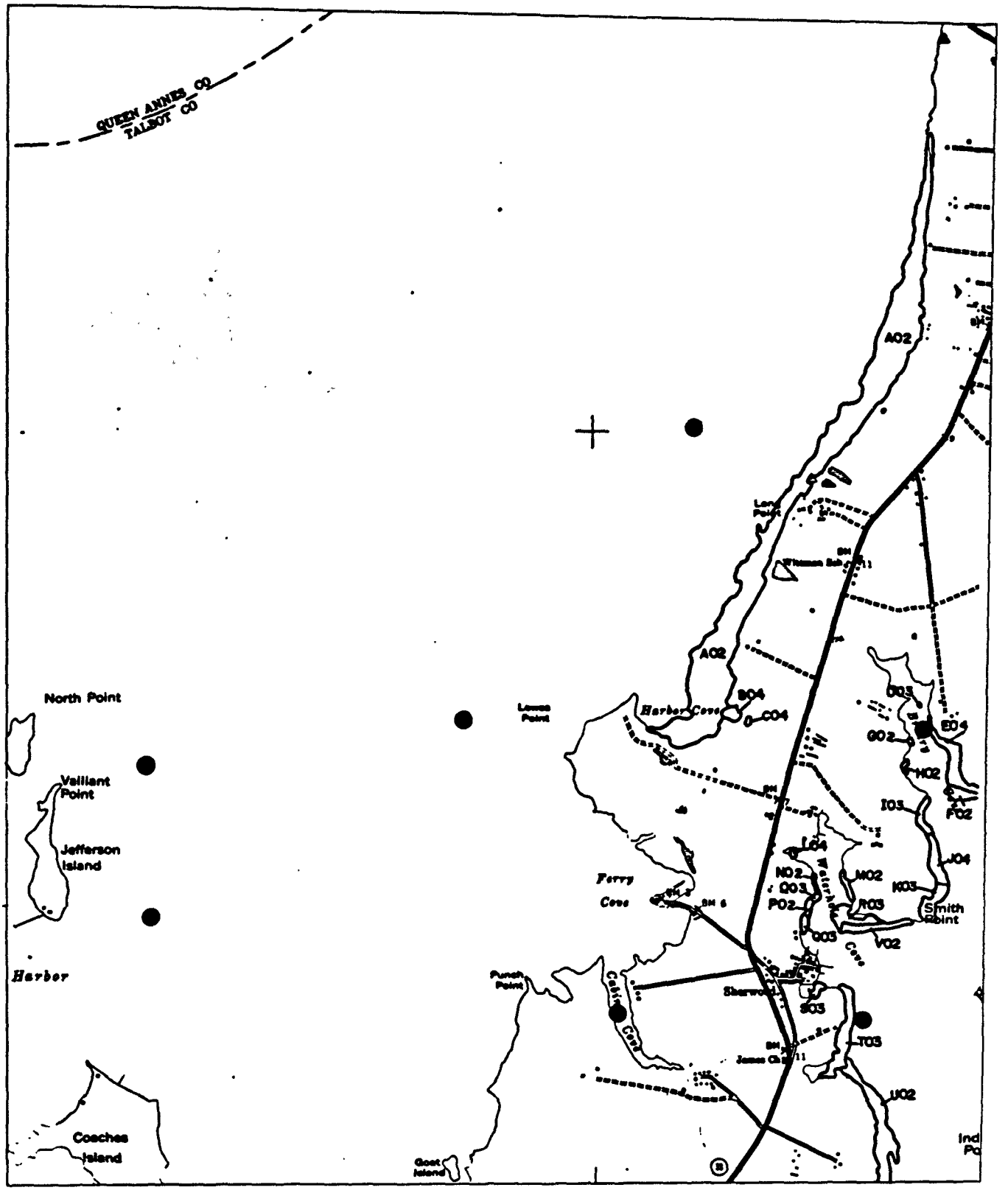



SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Mq | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pbf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Pbc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zb | *Zannichelia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ● Citizens Field Observation
- ▲ VIMS Field Survey
- ♦ U.S.G.S.

SCALE 1:12,000

CLAIBORNE, MD

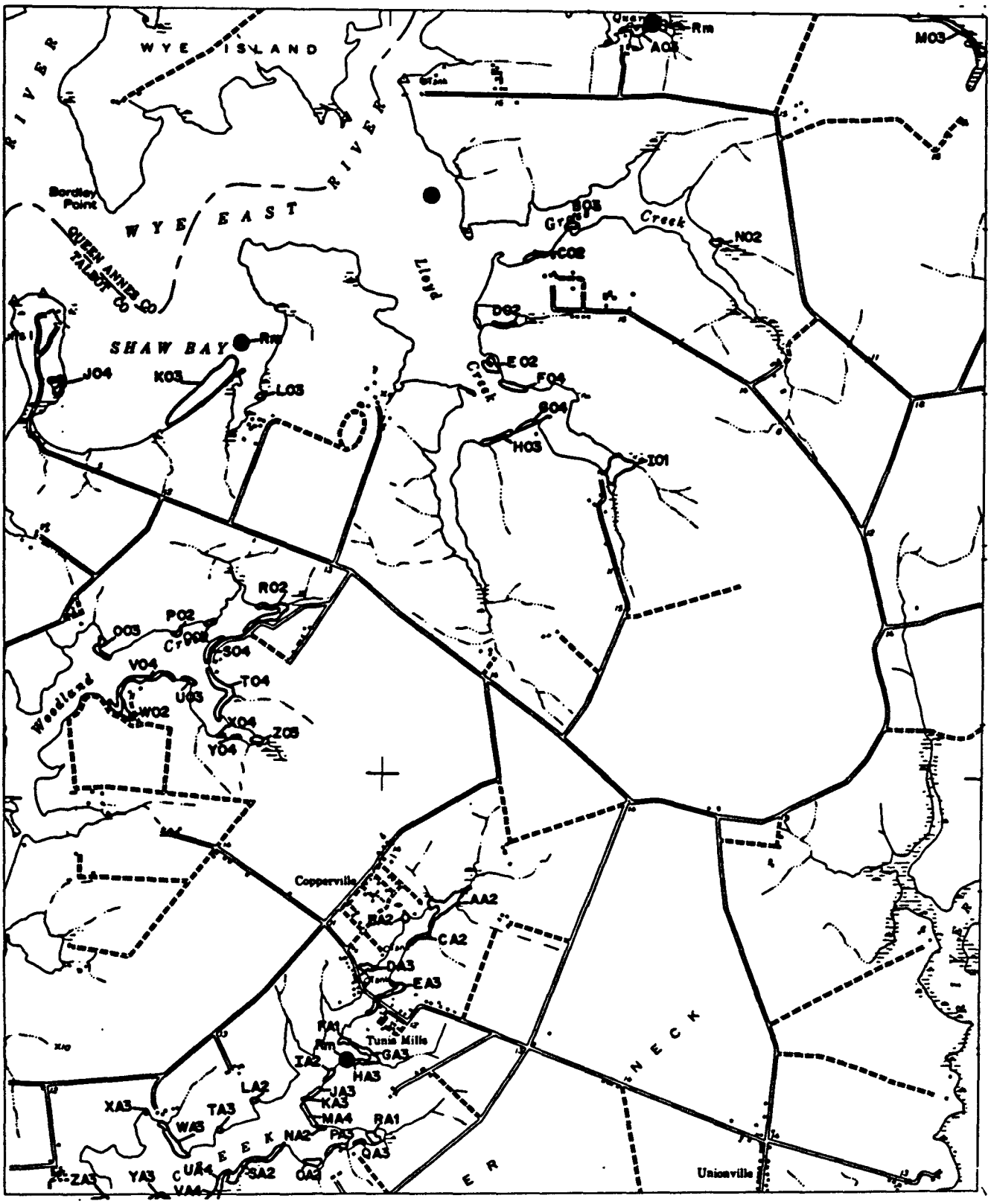
Southwest Quarter

#36

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (musksgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

**SURVEY STATIONS**

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ● Citizens Field Observation
- ▲ VIMS Field Survey
- ◆ U.S.G.S.

SCALE 1:12,000

ST MICHAELS, MD

Northeast Quarter

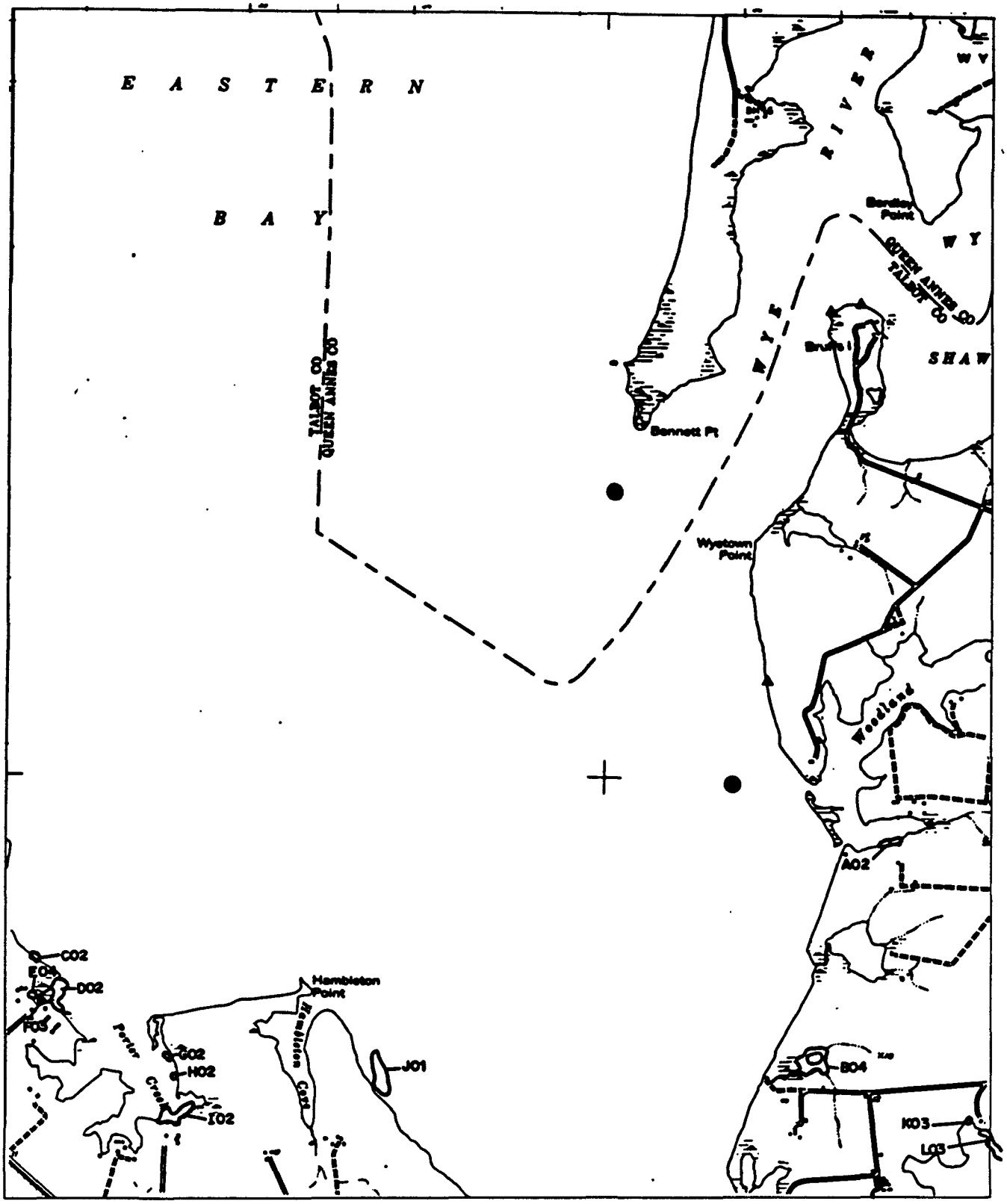
# 37



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Pcf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (musksgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

ST MICHAELS, MD

Northwest Quarter

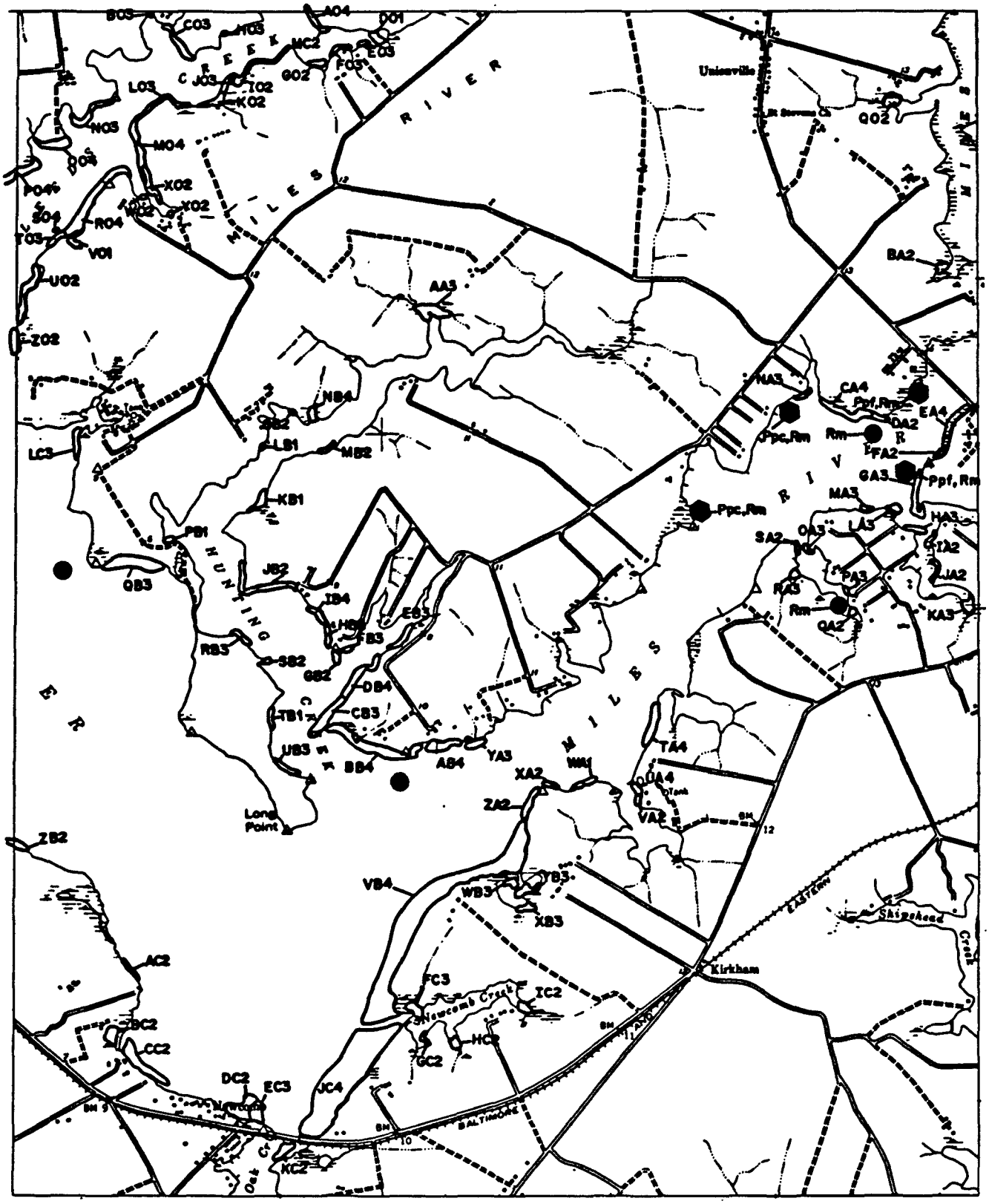
# 37



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




ST. MICHAELS, MD

Southeast Quarter

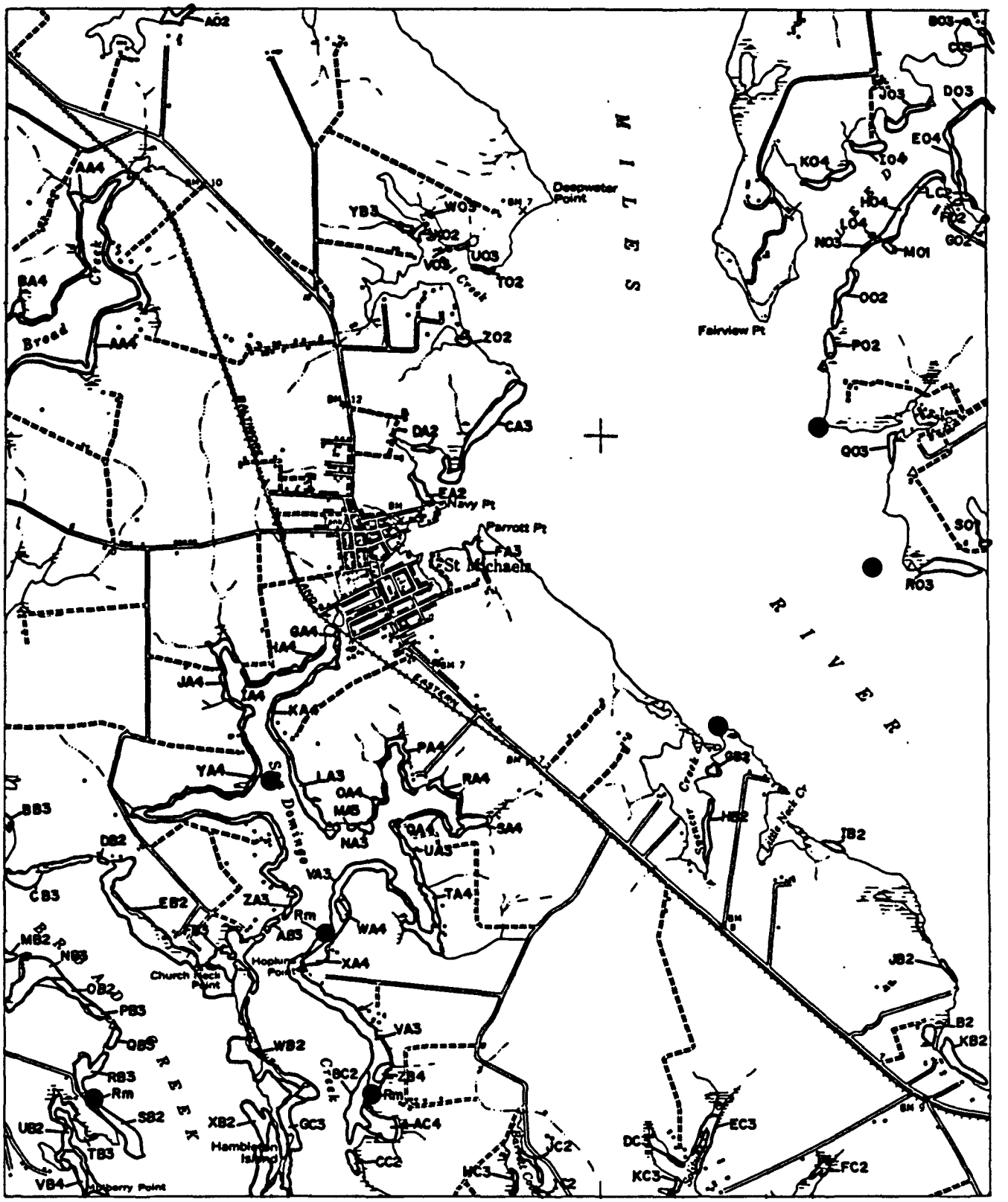
# 37



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (redgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Pcf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichelia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (musksgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

ST. MICHAELS, MD

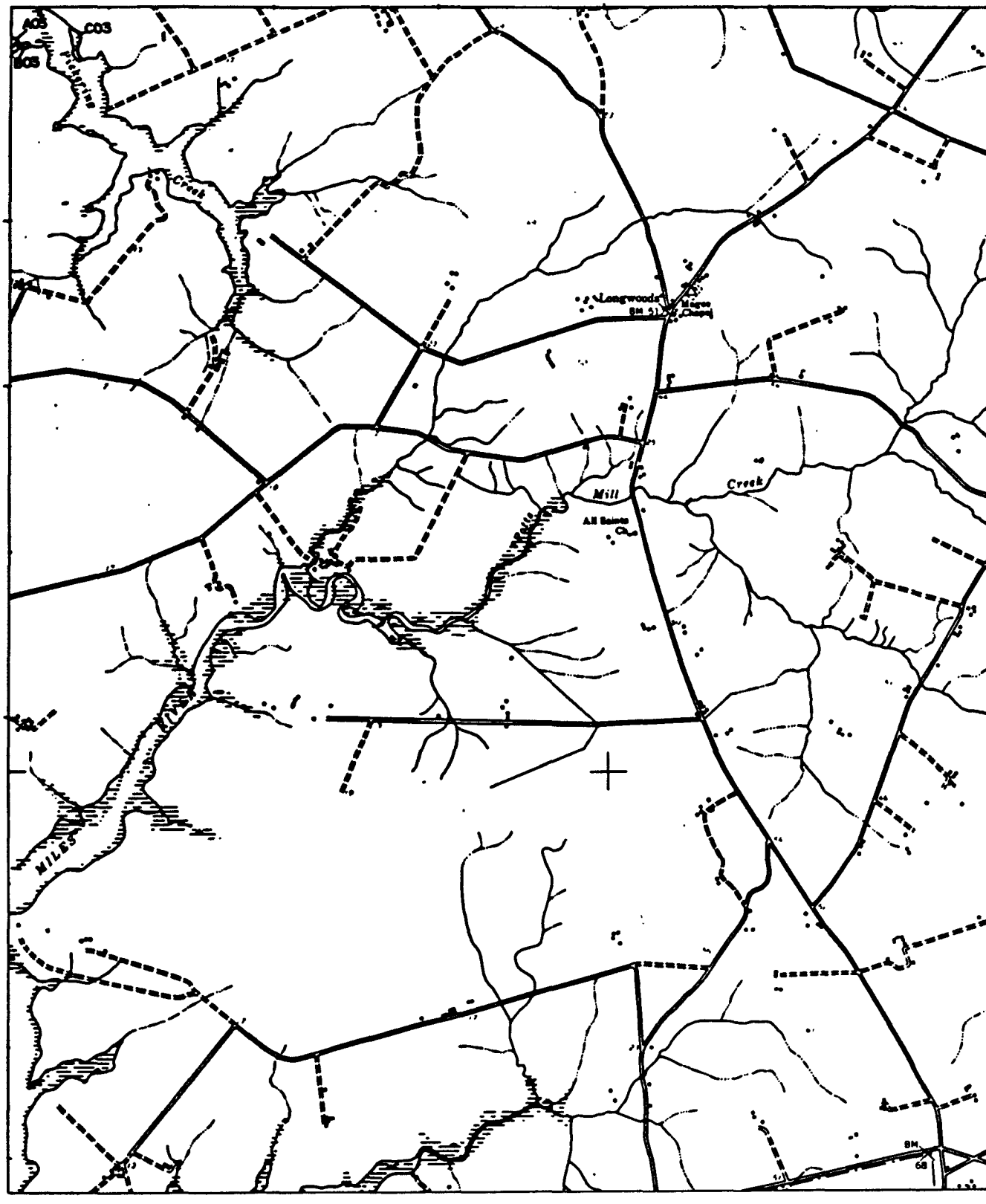
Southwest Quarter

# 37

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

EASTON, MD

Northwest Quarter

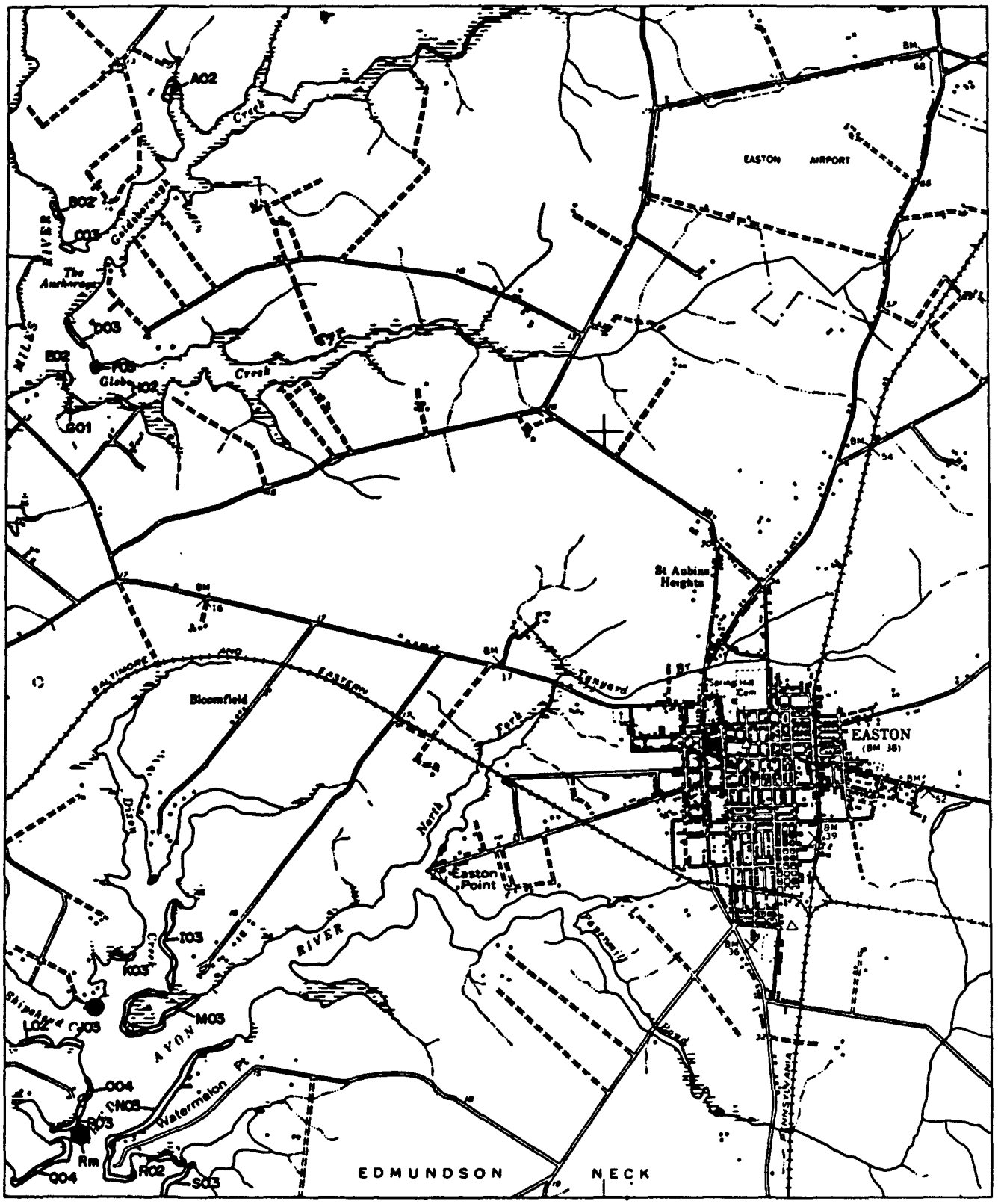
# 38



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




| SPECIES | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (musksgrass) |
| Vs | *Vallisneria americana* (wild celery) | | |

SURVEY STATIONS

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ● Citizens Field Observation
- ▲ VIMS Field Survey
- ♦ U.S.G.S.

SCALE 1:12,000

EASTON, MD

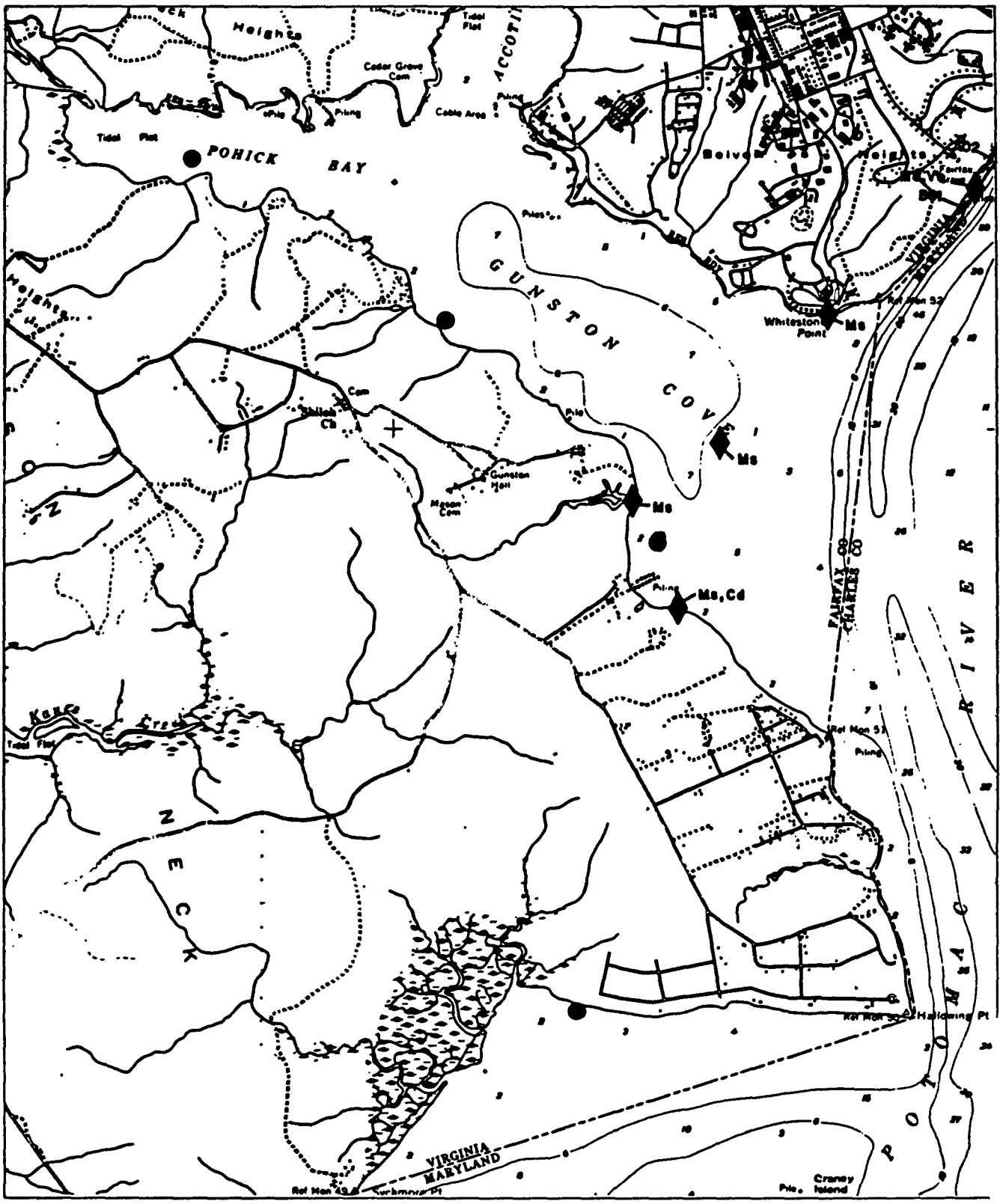
Southwest Quarter

# 38

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) | | |
| Vs | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

FORT BELVOIR, VA-M

Southeast Quarte

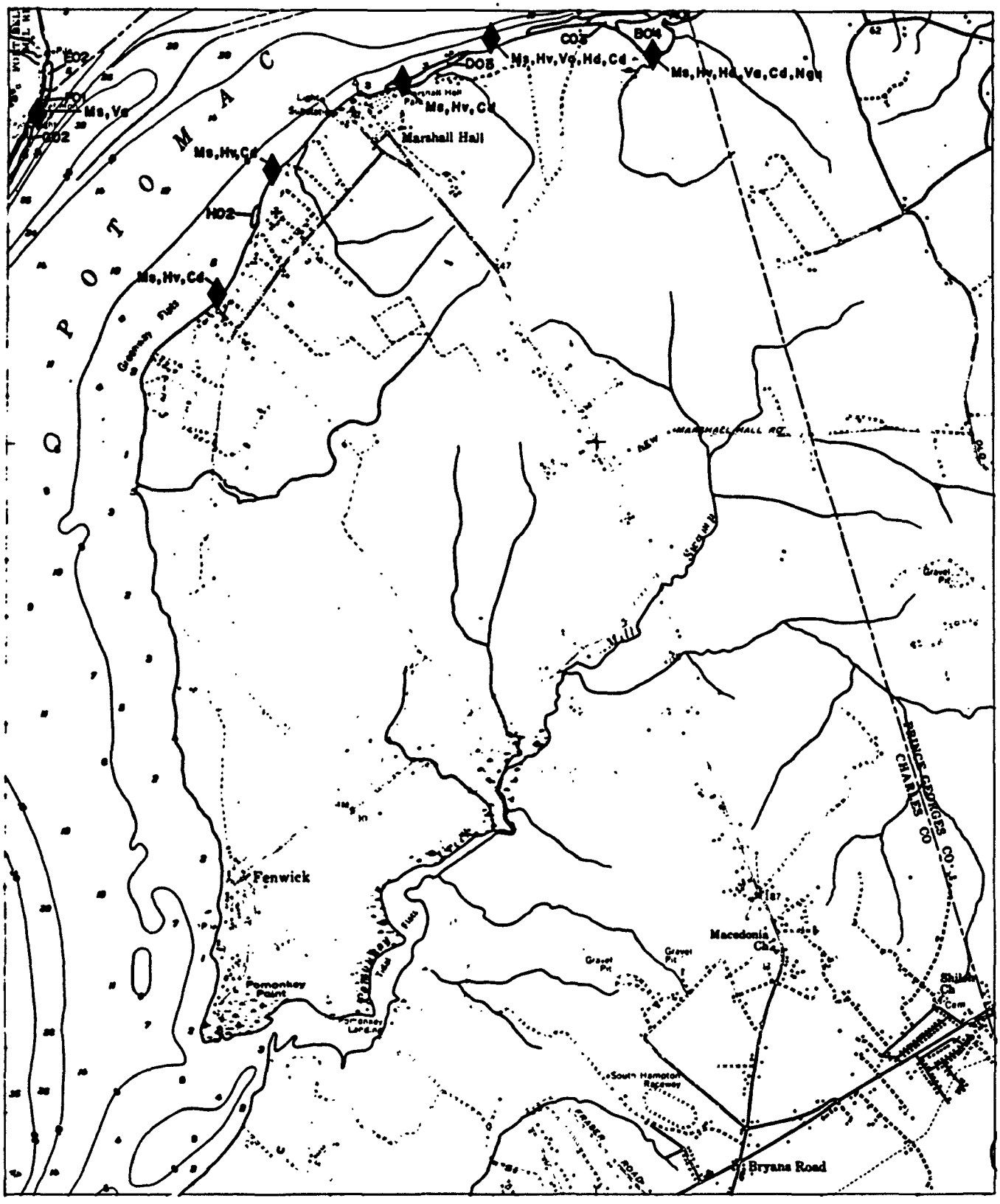
# 39



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




| SPECIES | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pol | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (muskgrass) | | |
| Vs | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

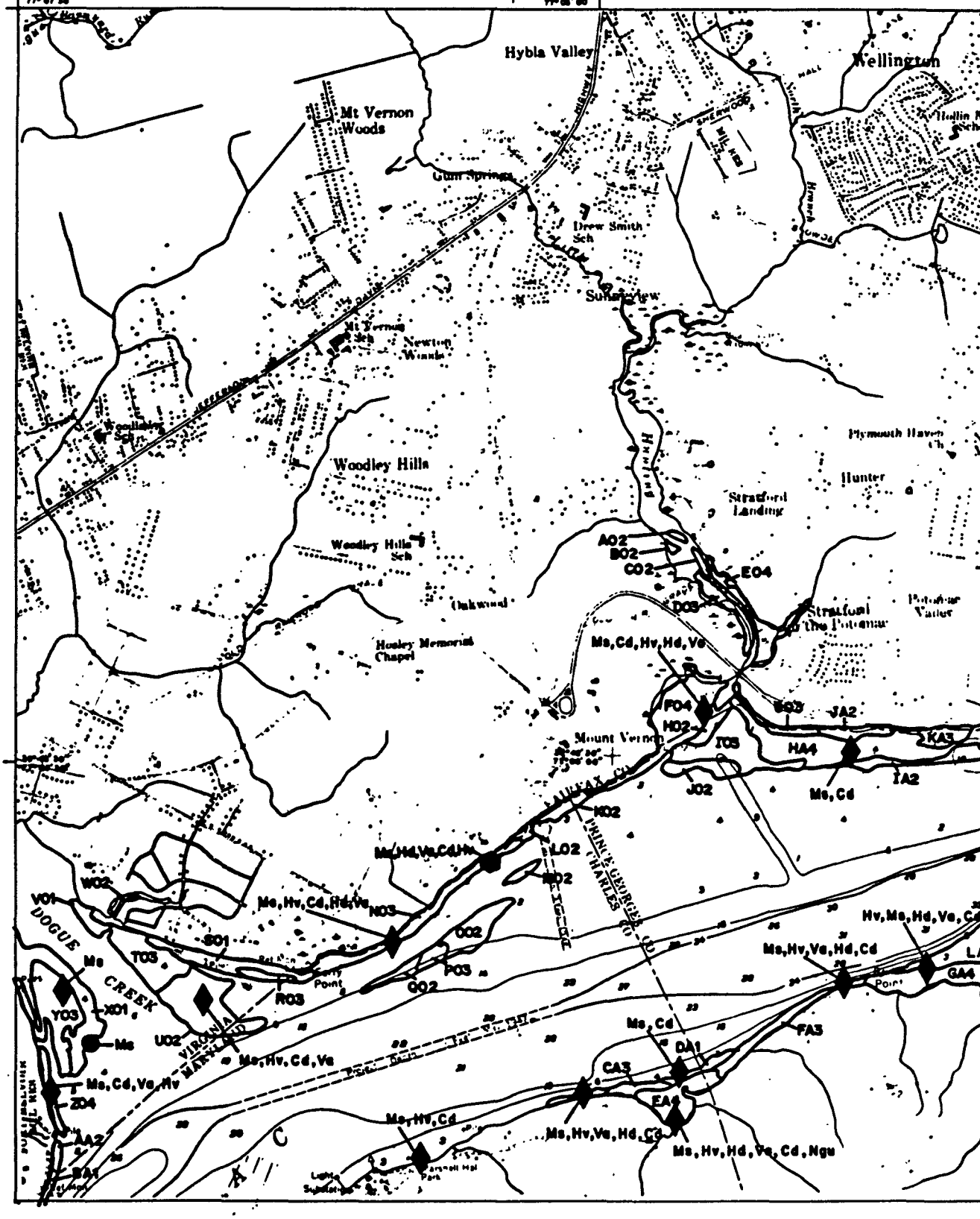
MOUNT VERNON, MD-VA

Southwest Quarter

# 40

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Psl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

MOUNT VERNON, M

Northwest Quarte

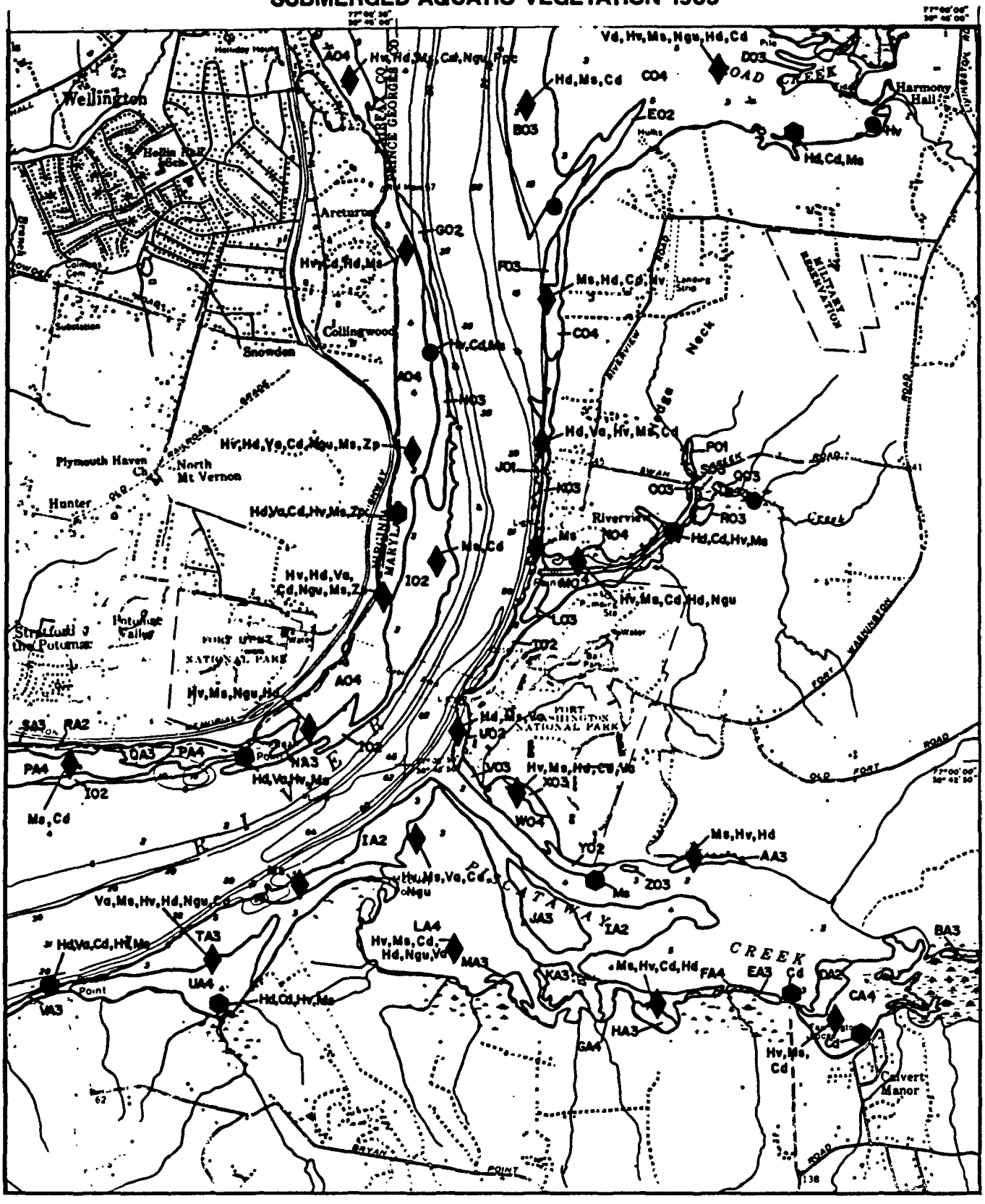
# 40



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985



| SPECIES | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (muskgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

SURVEY STATIONS

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ⬢ Citizens Field Observation
- ▲ VIMS Field Survey
- ◆ U.S.G.S.

SCALE 1:12,000

0 ½ 1 MILE

0 .5 1 KILOMETER

## MOUNT VERNON, MD-VA

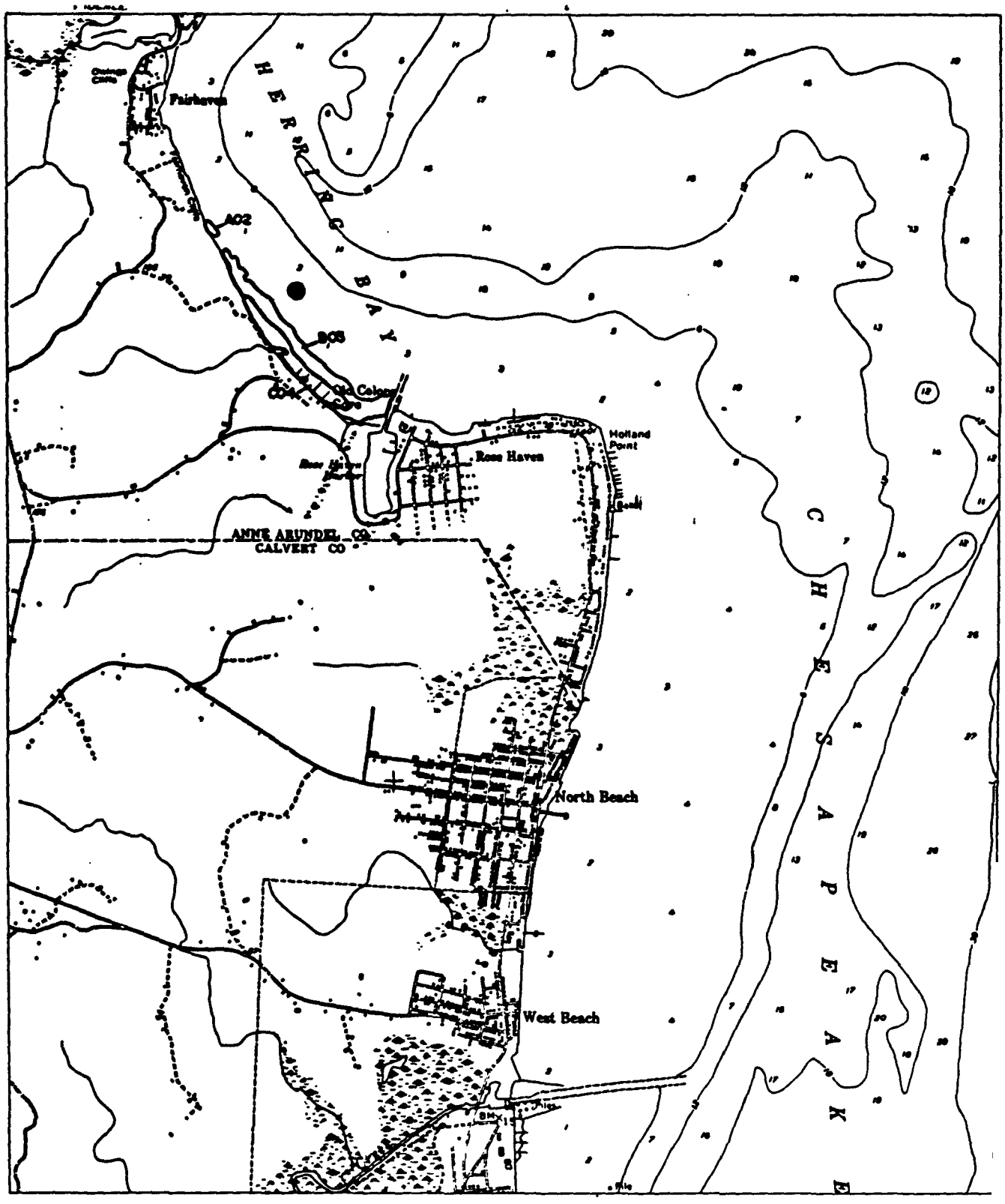
Northeast Quarter

# 40

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Pd | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas* spp. (naiad) | Ngf | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) |
| Vs | *Vallisneria americana* (wild celery) | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

NORTH BEACH, MD

Northeast Quarter

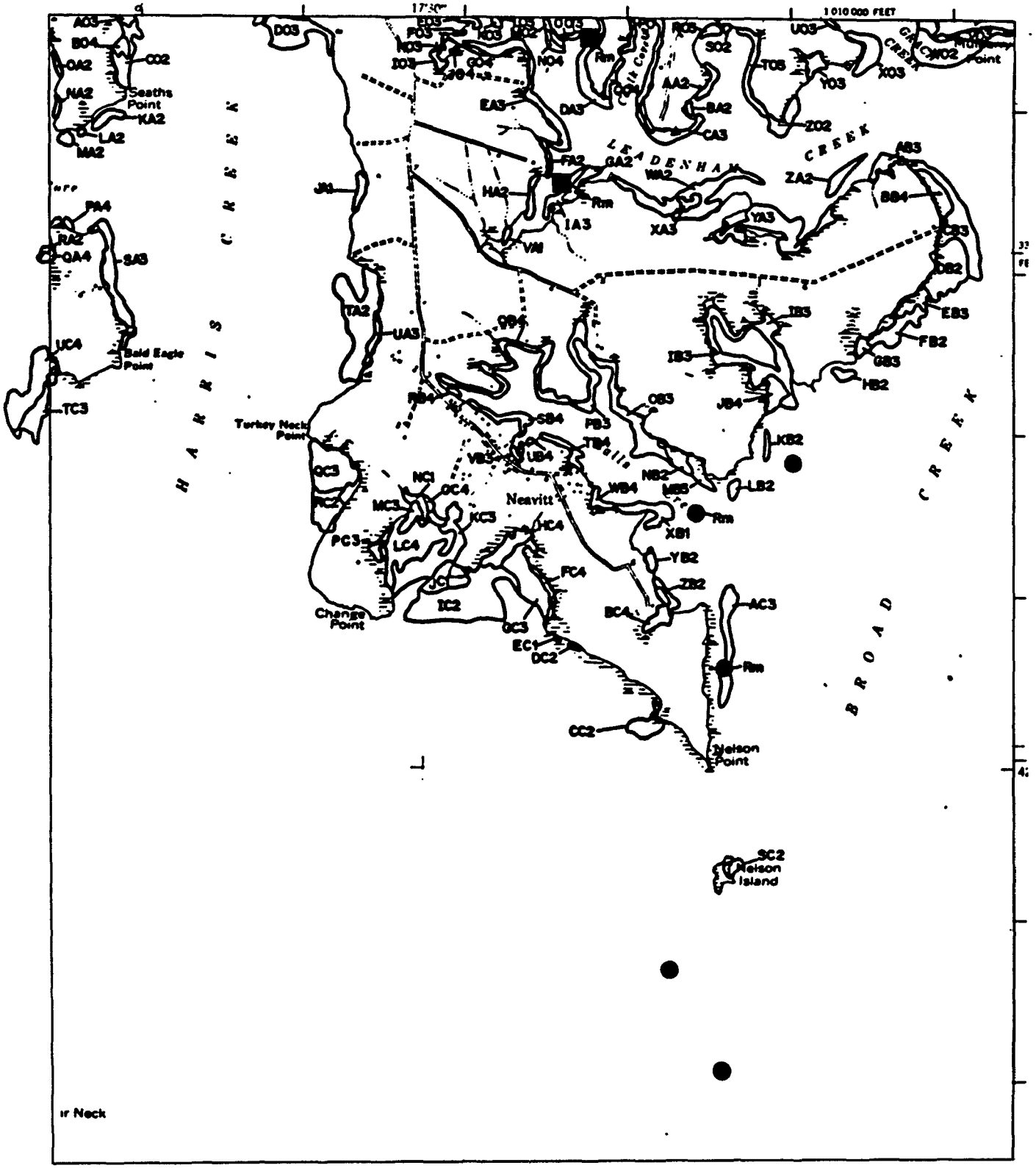
# 42



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




| SPECIES | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pbf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (muskgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS
- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

TILGHMAN, MD

Northeast Quarter

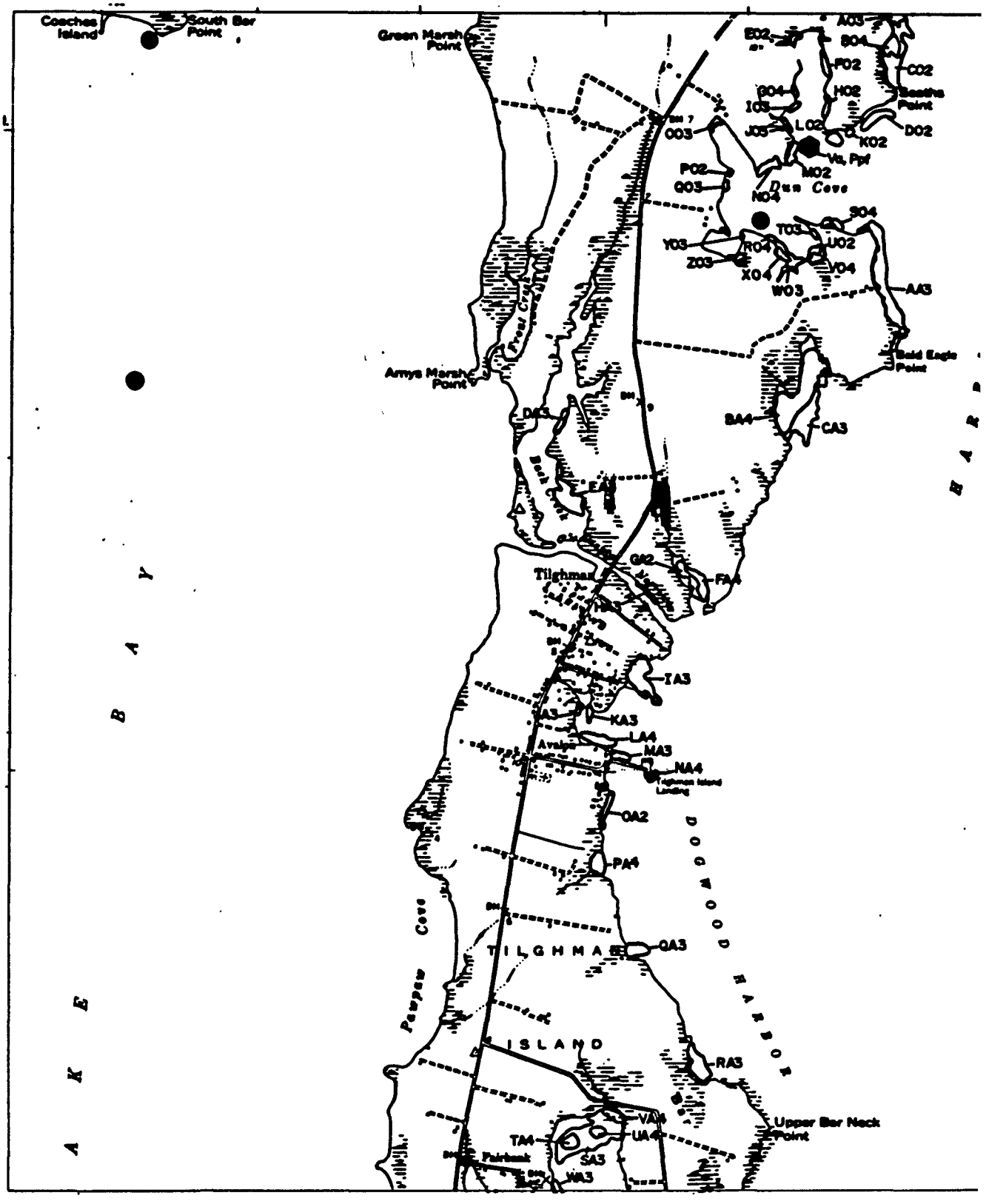
# 43



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichelia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (muskgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

TILGHMAN, MD

Northwest Quarter

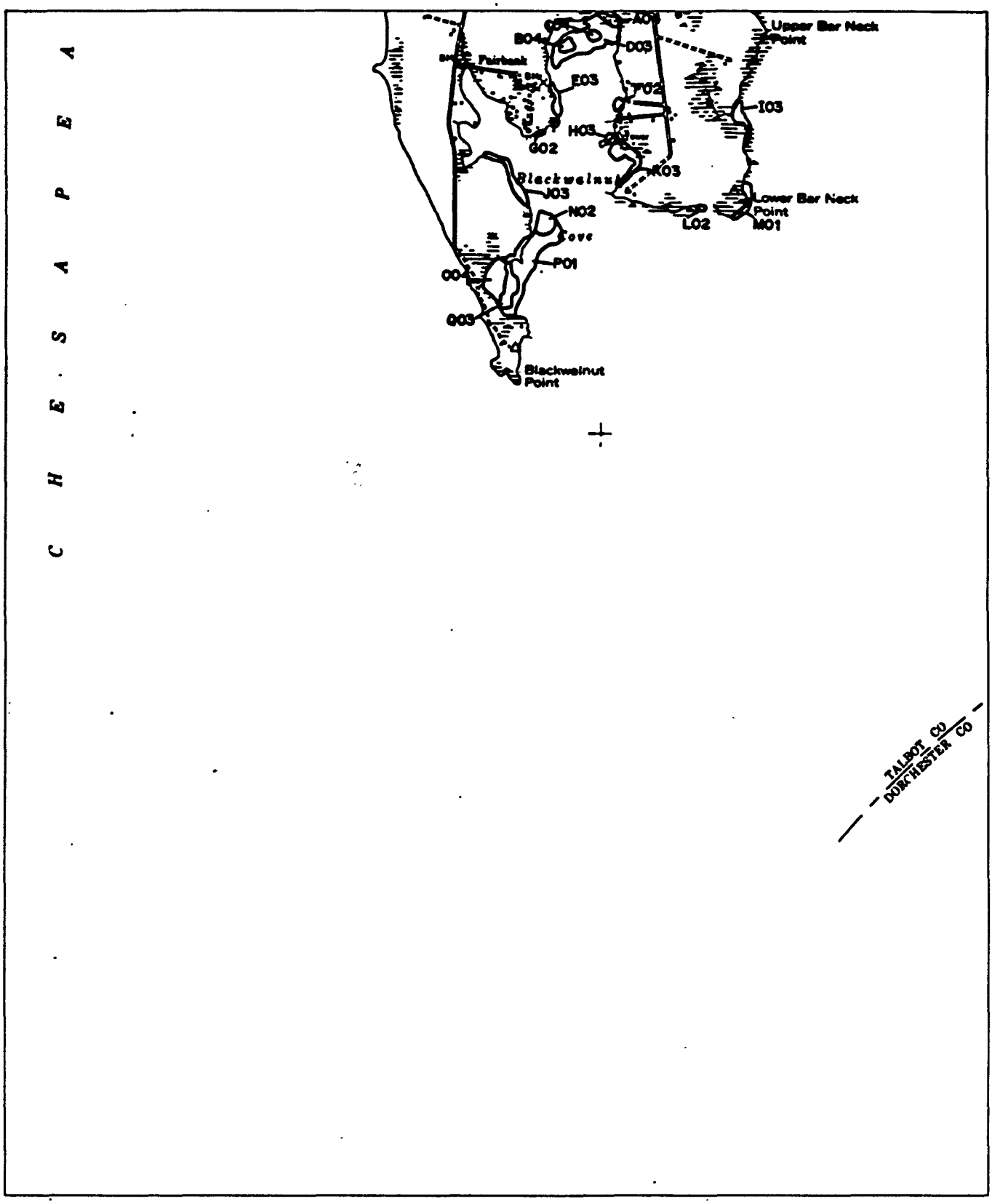
# 43



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ● Citizens Field Observation
- ▲ VIMS Field Survey
- ♦ U.S.G.S.

SCALE 1:12,000

TILGHMAN, MD

Southwest Quarter

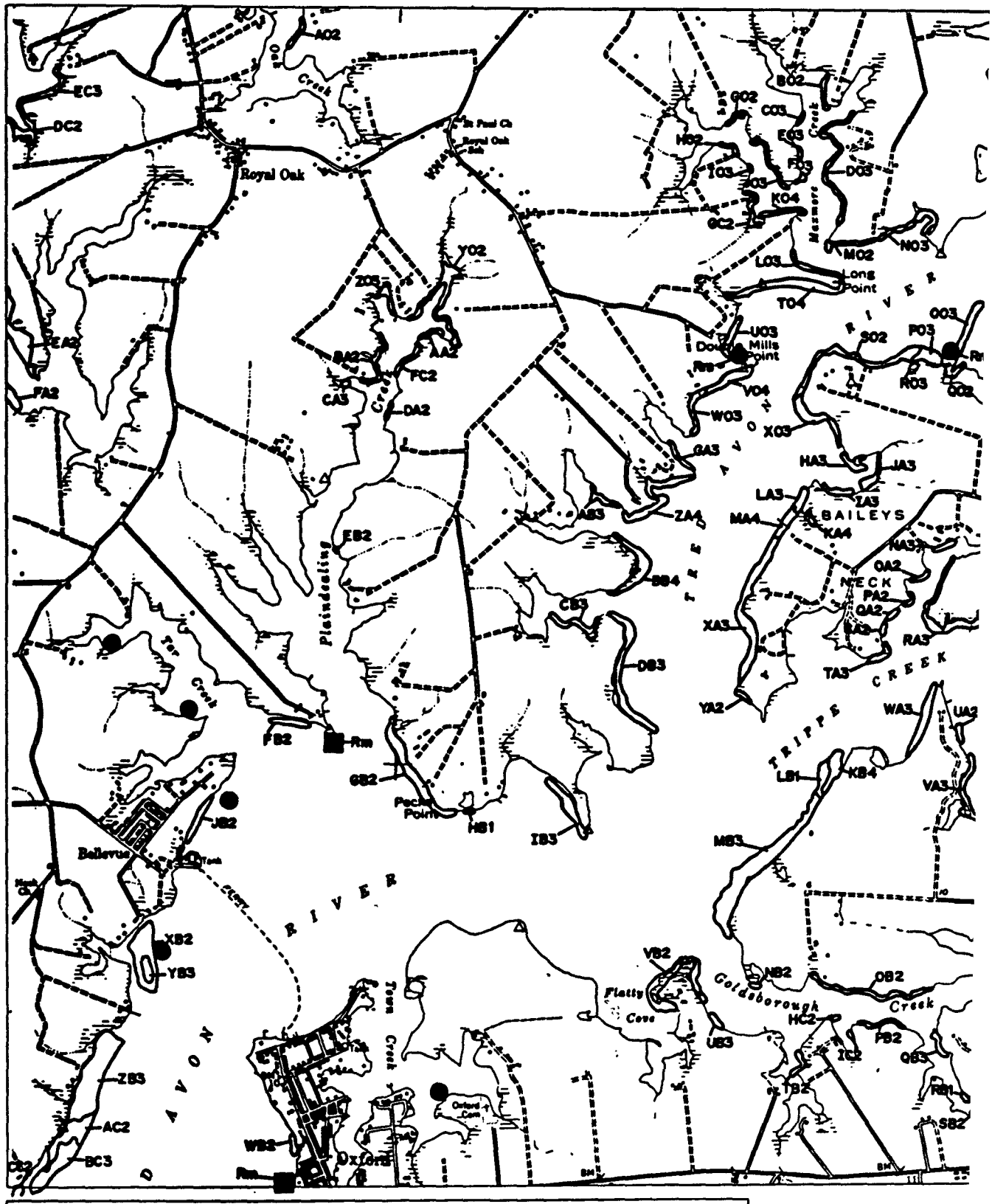
# 43



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pol | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Npi | *Najas pectinata* (southern naiad) | | |
| N | *Najas* spp. (naiad) | Ngr | *Najas guadalupensis* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

OXFORD, MD

Northeast Quarter

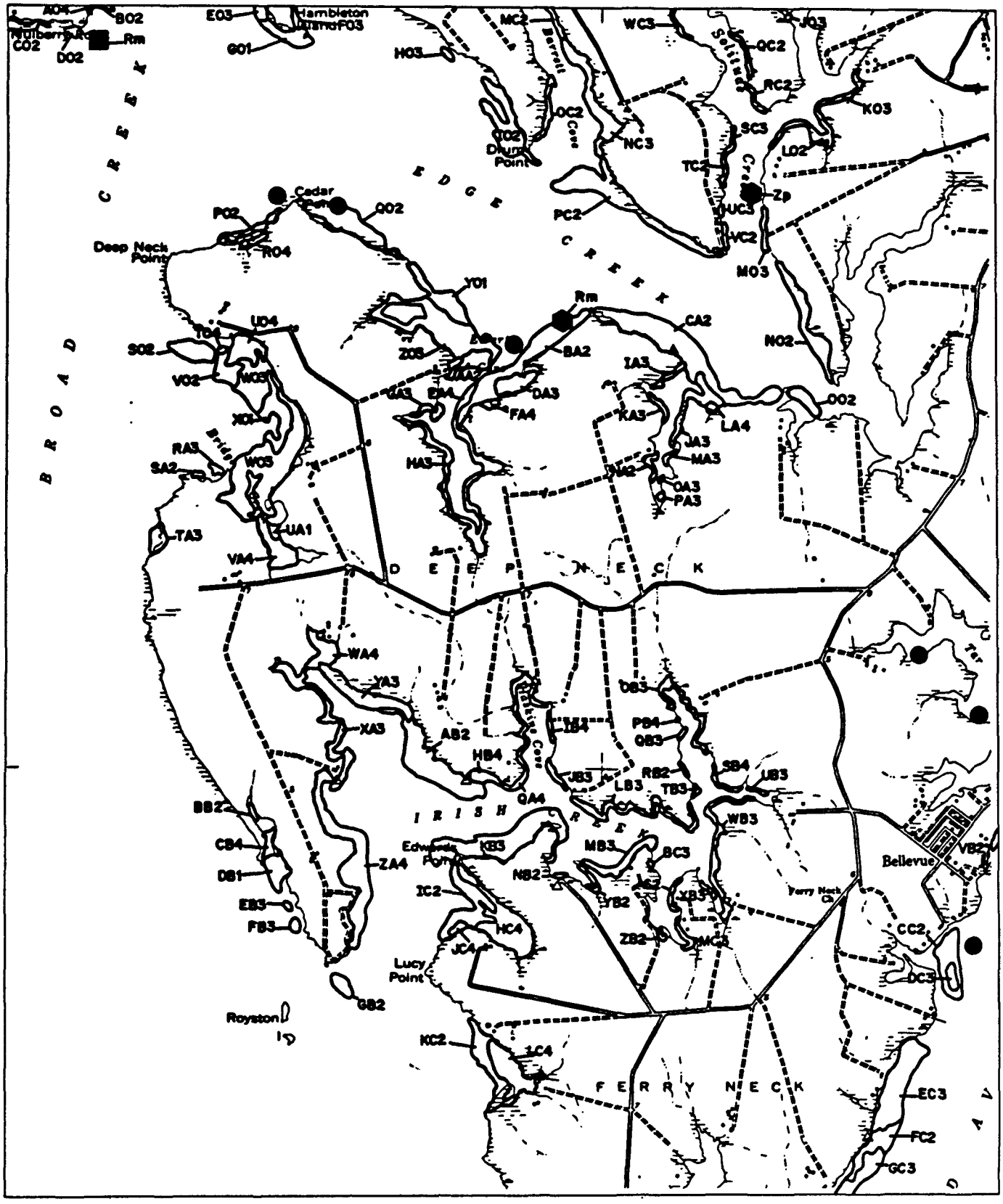
# 44



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (muskgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S. &

SCALE 1:12,000

OXFORD, MD

Northwest Quarter

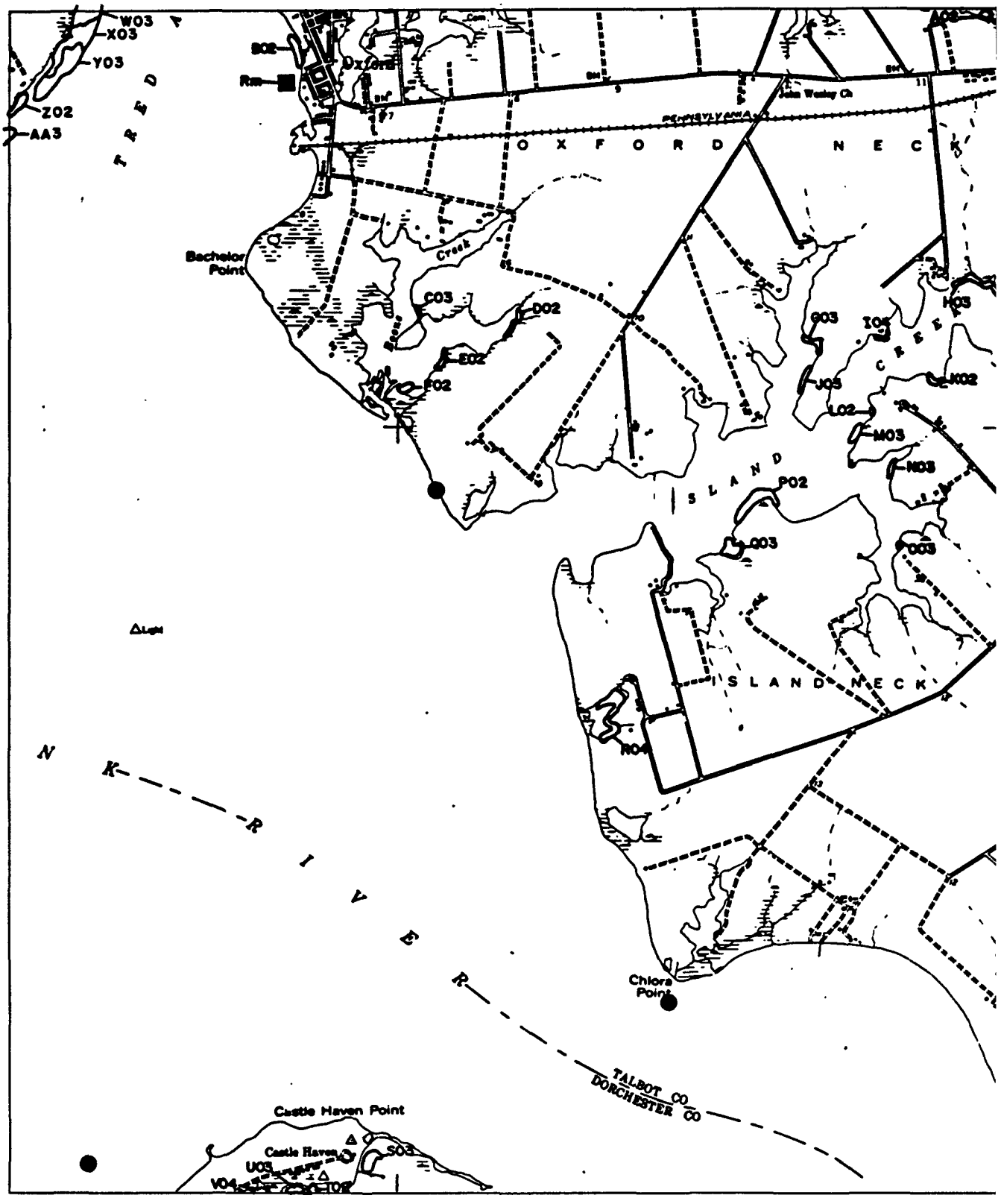
# 44



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pcf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musbgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

OXFORD, MD

Southeast Quarter

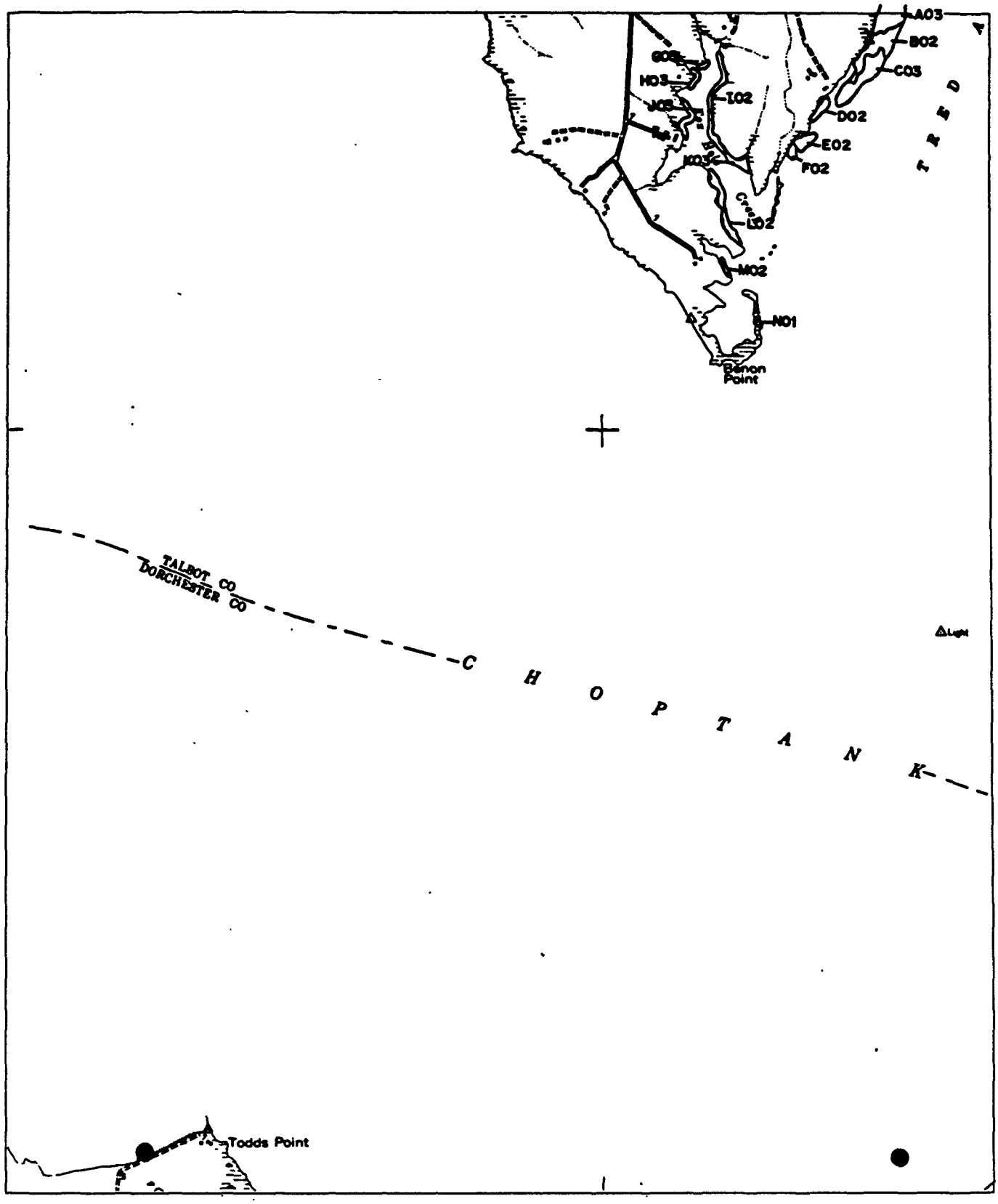
# 44



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichelia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ⬢ Citizens Field Observation
- ▲ VIMS Field Survey
- ♦ U.S.G.S.

SCALE 1:18,000

OXFORD, MD

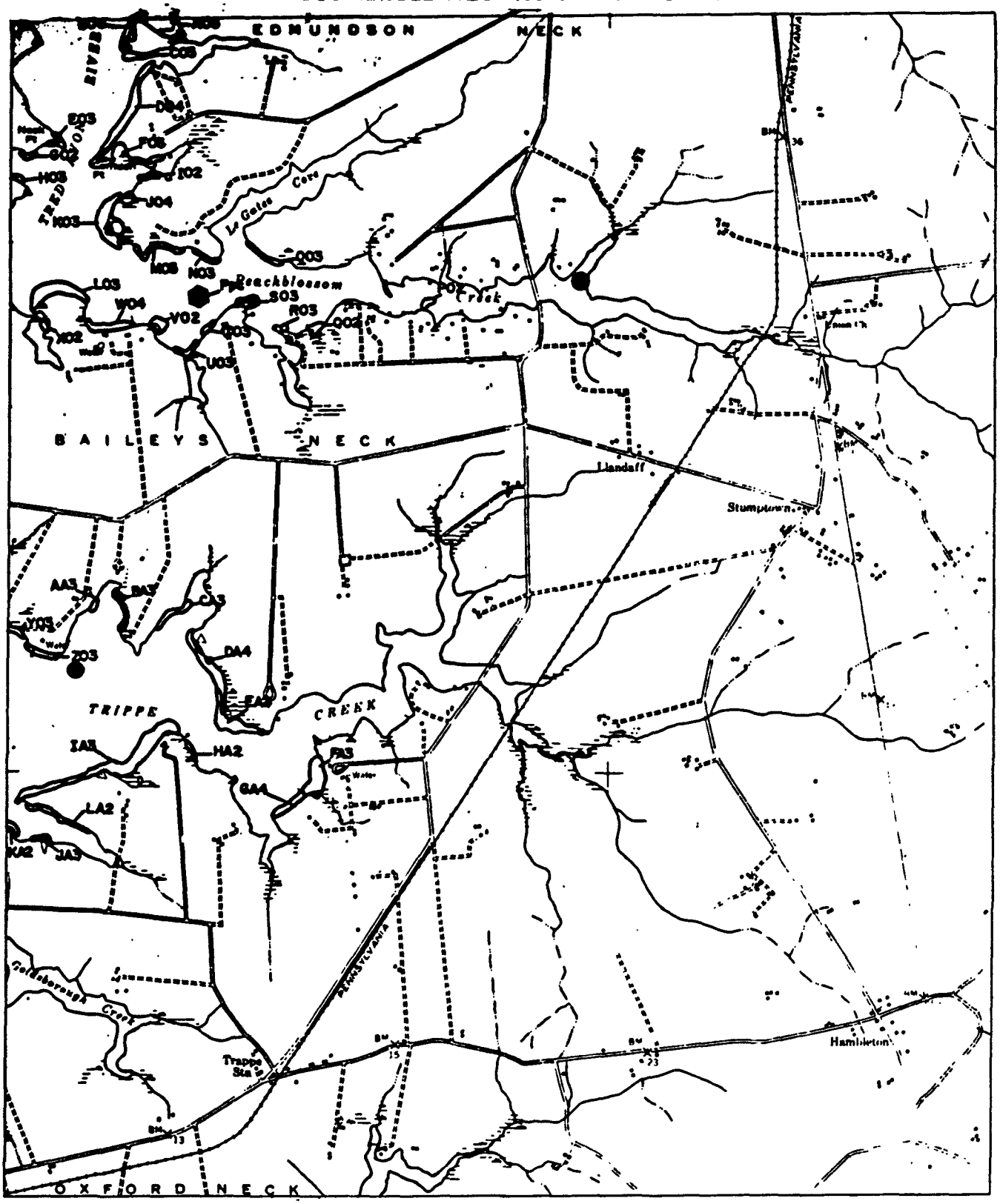
Southwest Quarter

# 44

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp (muskgrass) |
| Vs | *Vallisneria americana* (wild celery) | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S

SCALE 1:12,000

TRAPPE, MD

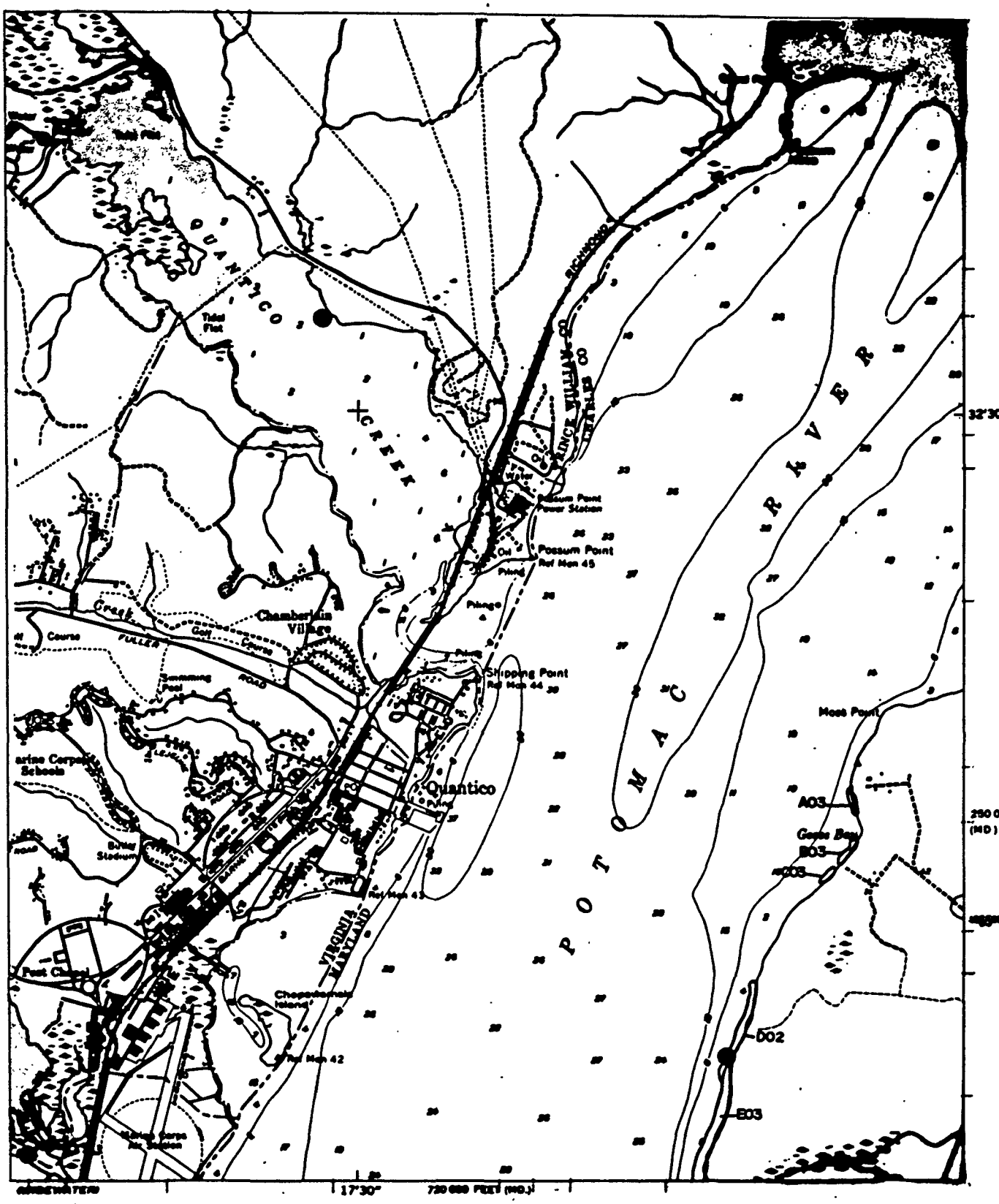
Northwest Quarter

# 45

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichelia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (muskgrass) |
| Vs | *Vallisneria americana* (wild celery) | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

QUANTICO, VA–MD

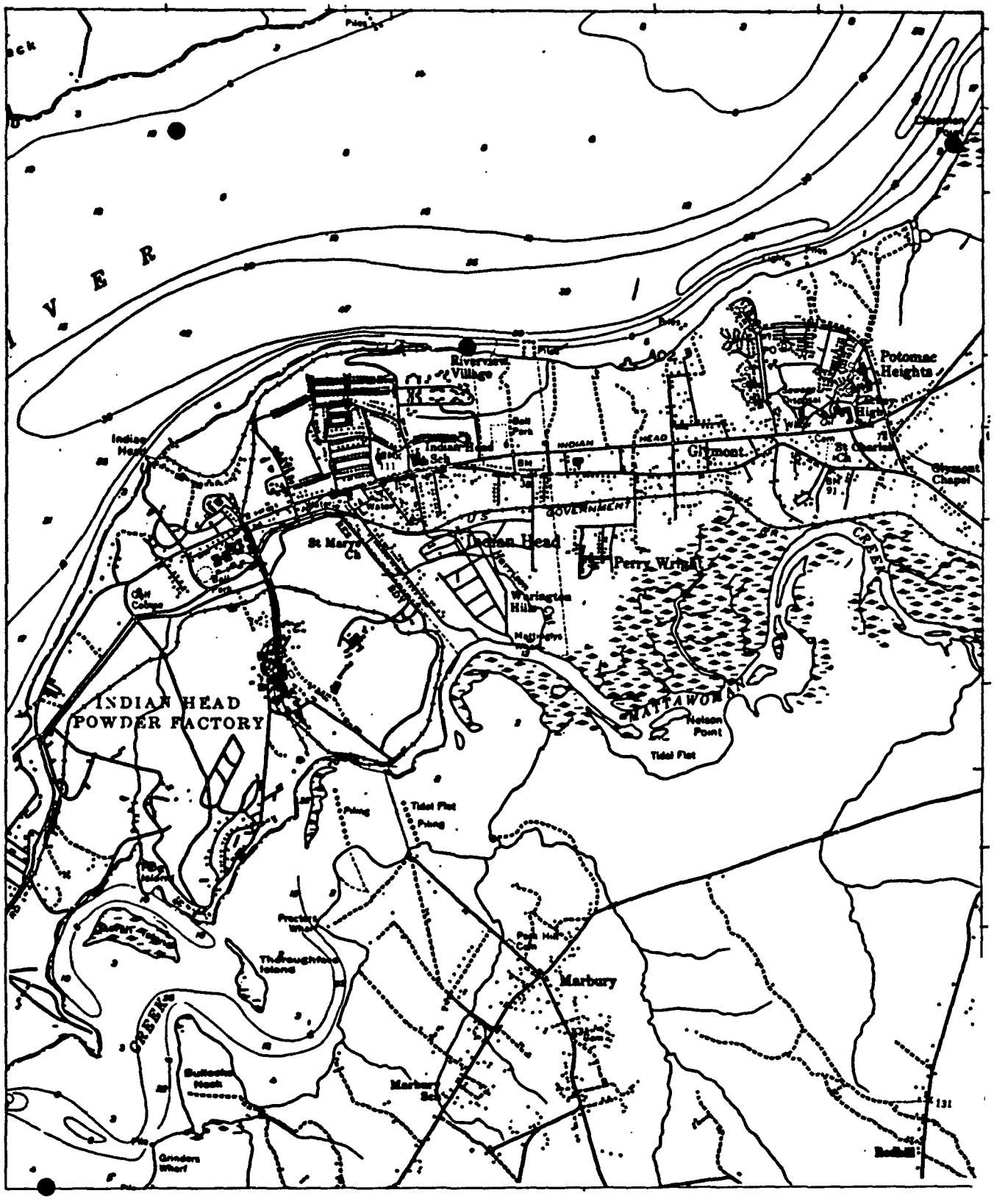
Southeast Quarter

# 47

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




| SPECIES | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* sp. (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) | | |
| Vz | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:18,000

INDIAN HEAD, MD-V/

Northeast Quarter

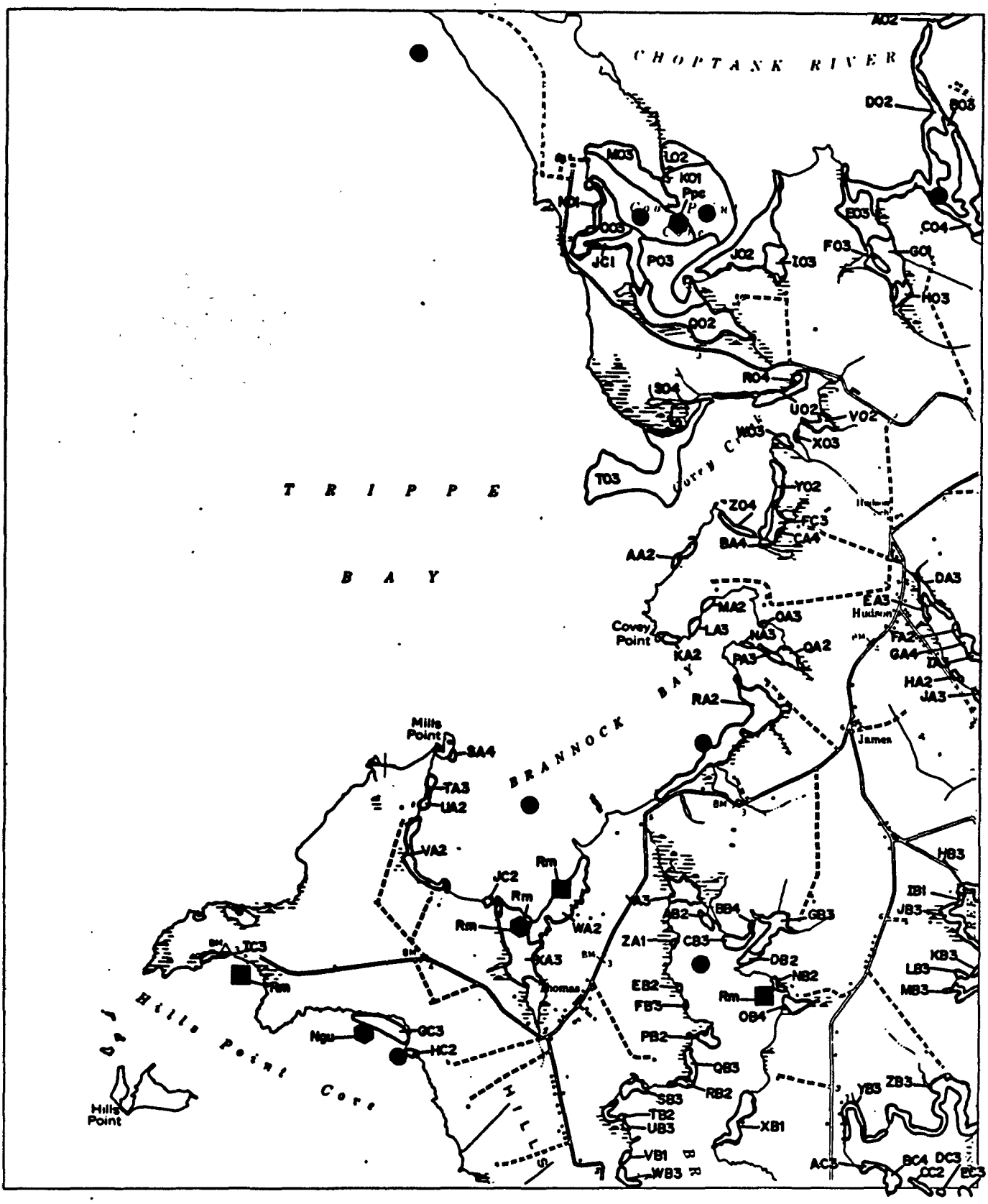
# 48



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Pdl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichelia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (muskgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

SHARPS ISLAND, MD

Northeast Quarter

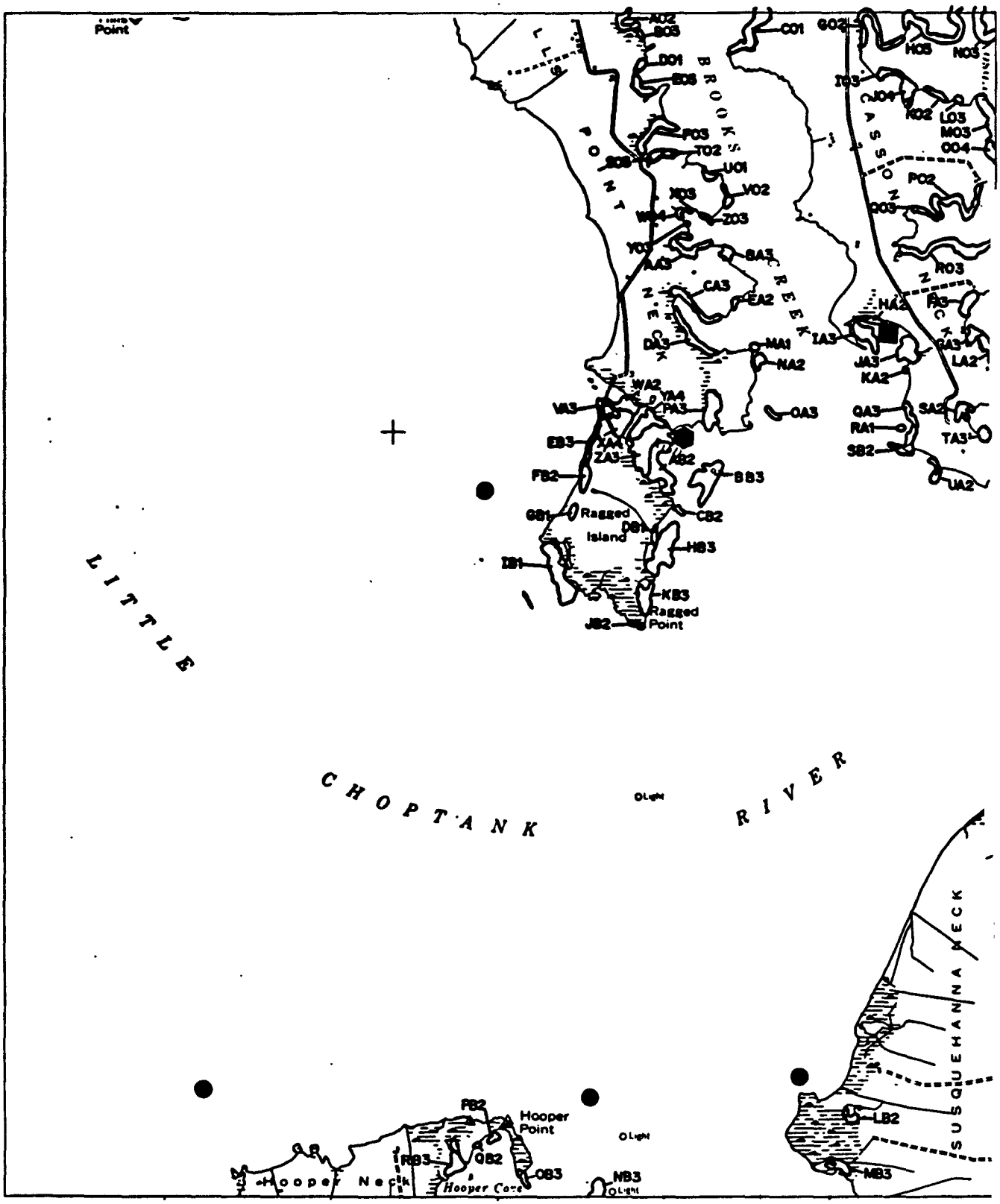
# 51



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) |
| Vs | *Vallisneria americana* (wild celery) | | |

**SURVEY STATIONS**

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ● Citizens Field Observation
- ▲ VIMS Field Survey
- ♦ U.S.G.S.

SCALE 1:12,000

SHARPS ISLAND, MD

Southeast Quarter

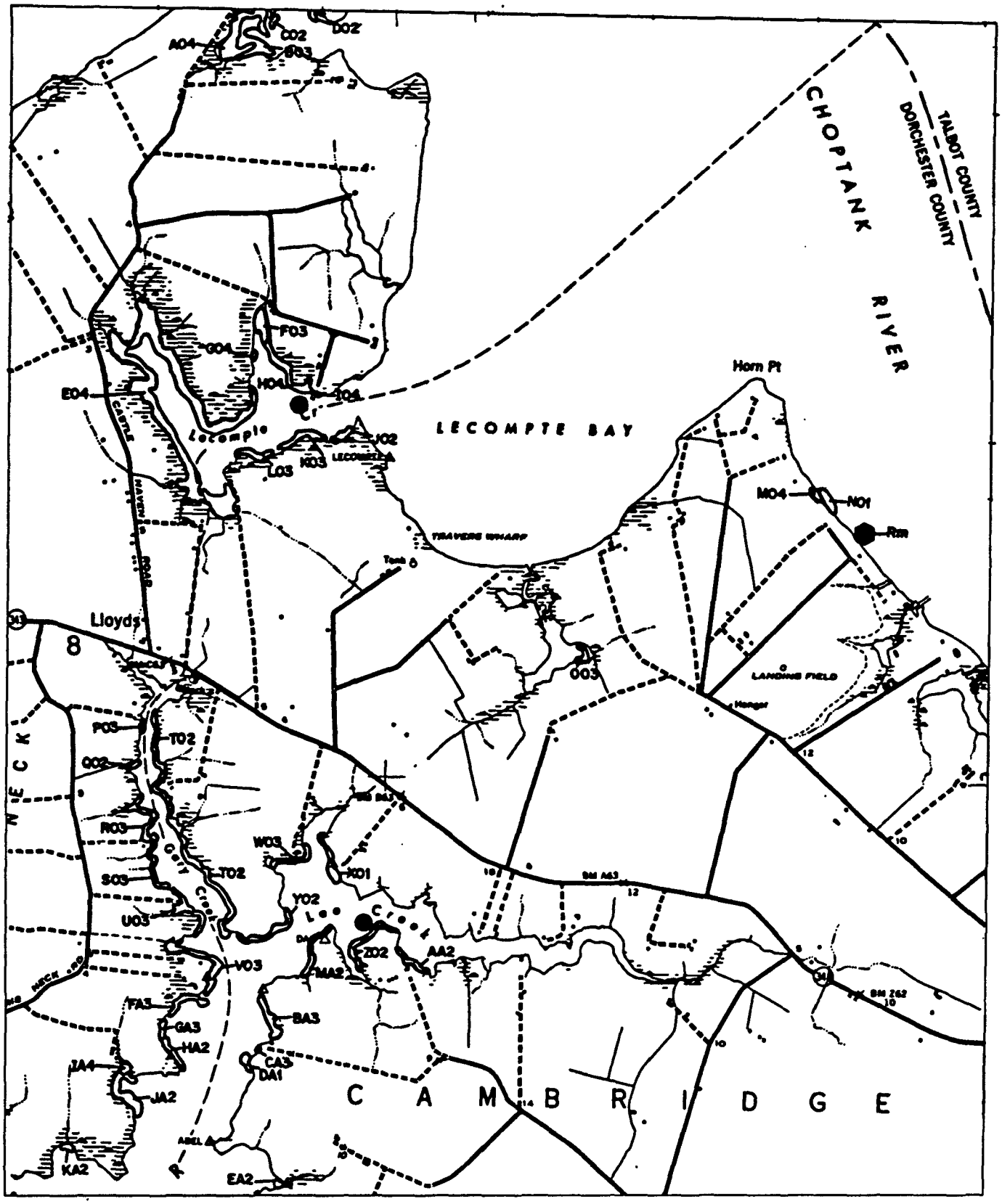
# 51



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (muskgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

CHURCH CREEK, MD

Northeast Quarter

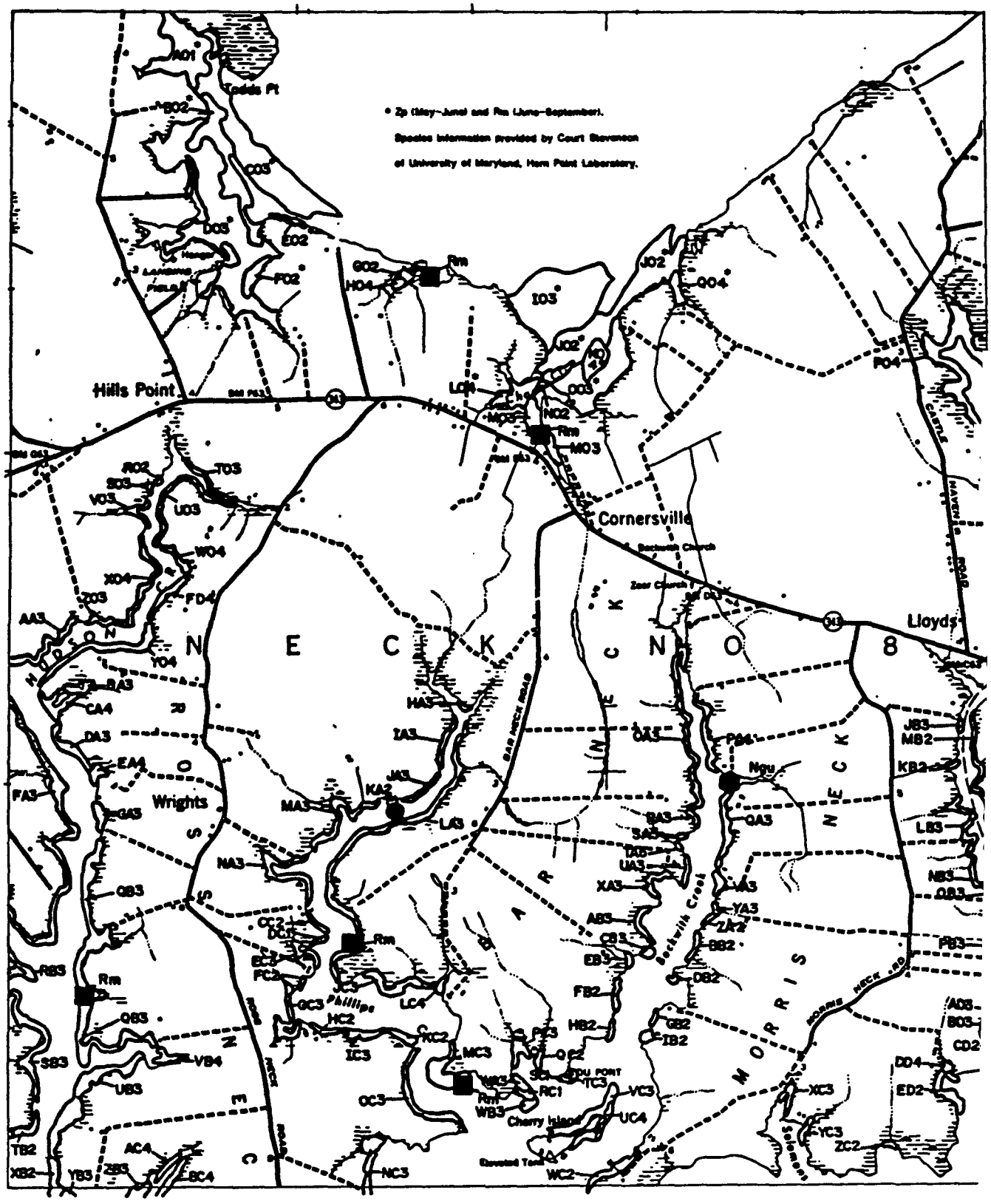
# 52



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pol | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musk grass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

CHURCH CREEK, M

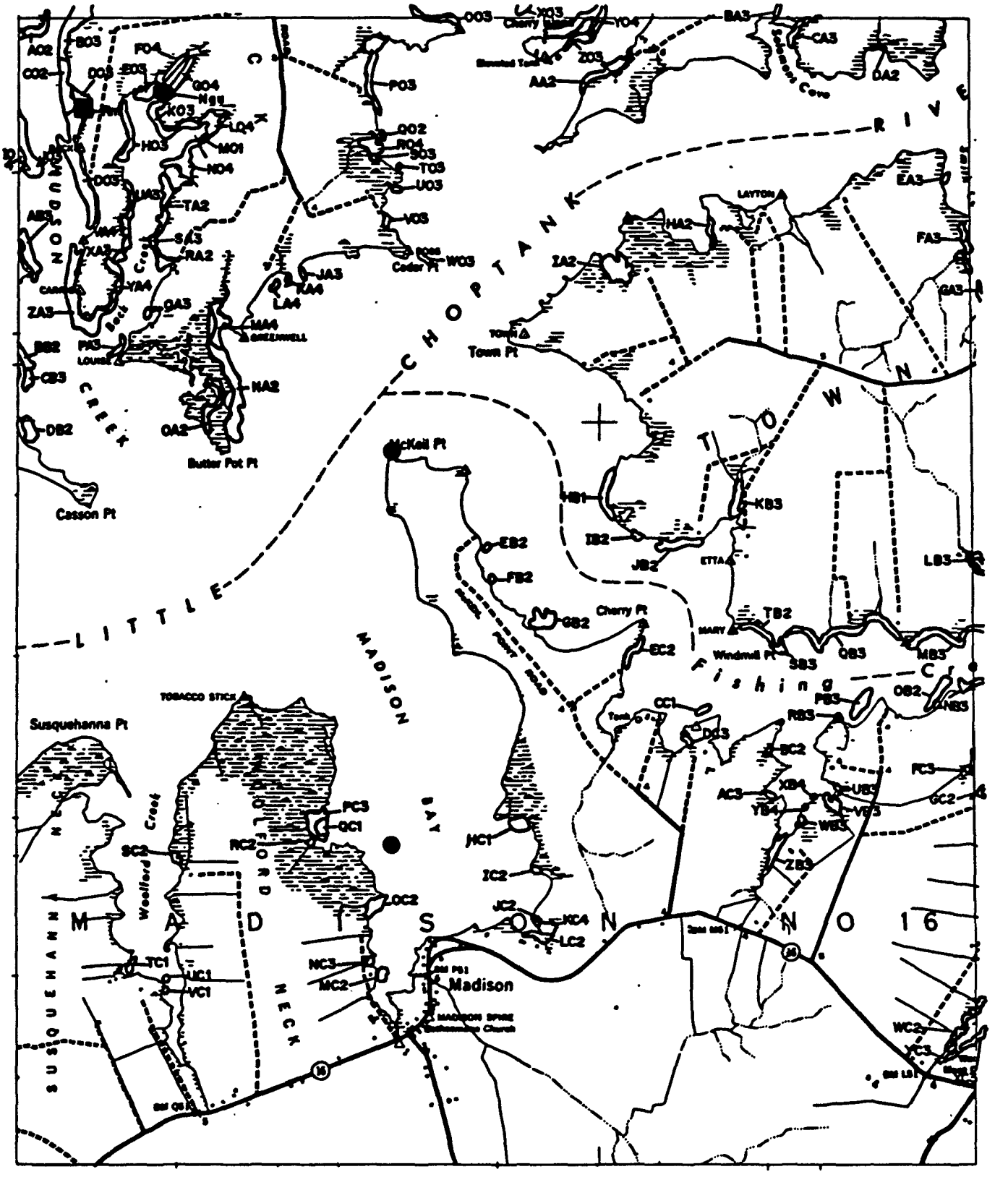
Northwest Quarte

# 52

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985



| | SPECIES | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Pef | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp.* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (muskgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

SURVEY STATIONS

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ● Citizens Field Observation
- ▲ VIMS Field Survey
- ◆ U.S.G.S.

SCALE 1:12,000

0 1/2 1 MILE

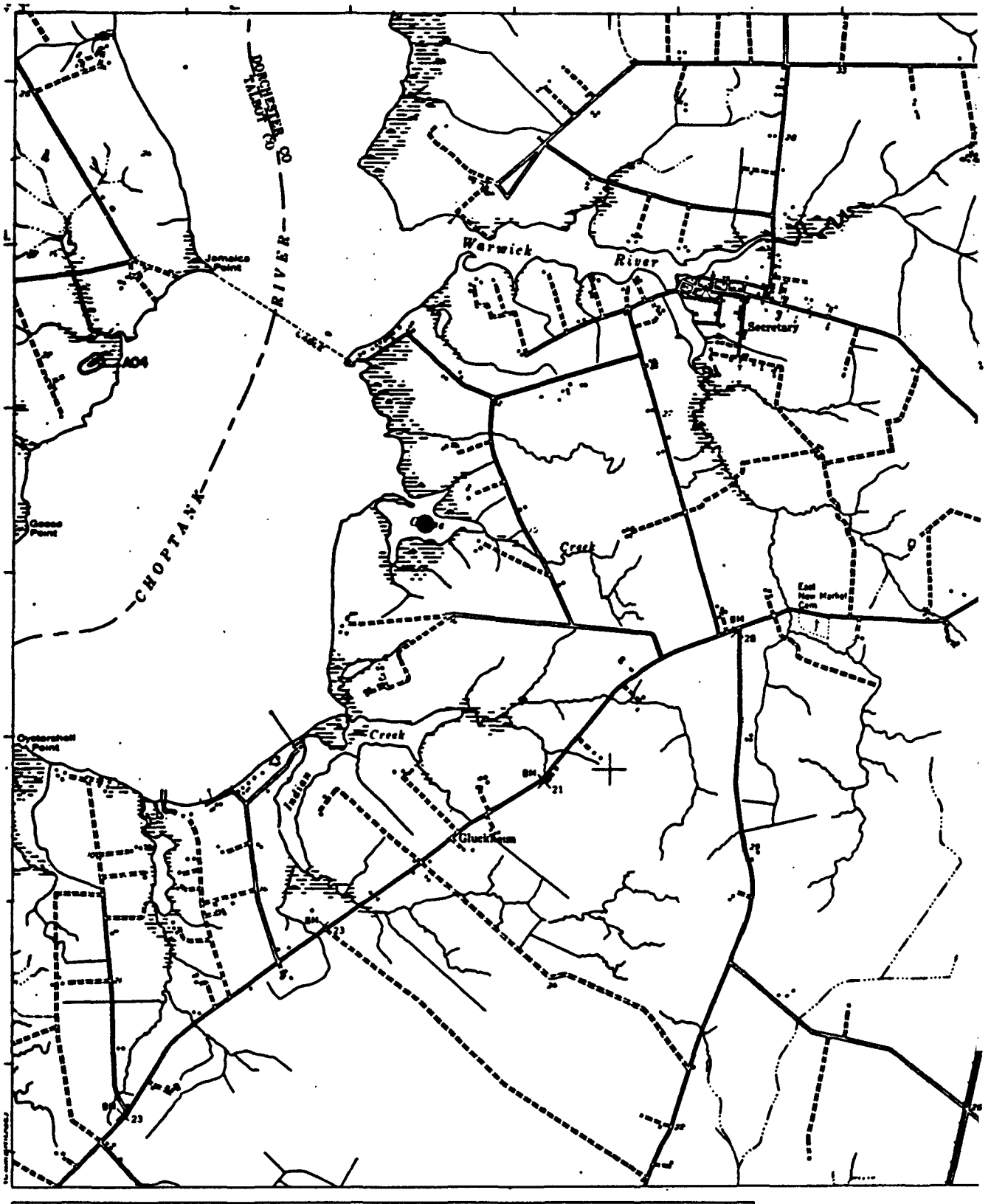
0 .5 1 KILOMETER

CHURCH CREEK, MD

Southwest Quarter

# 52

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Ppr | *Potamogeton crispus* (curly pondweed) | | |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

EAST NEW MARKET,

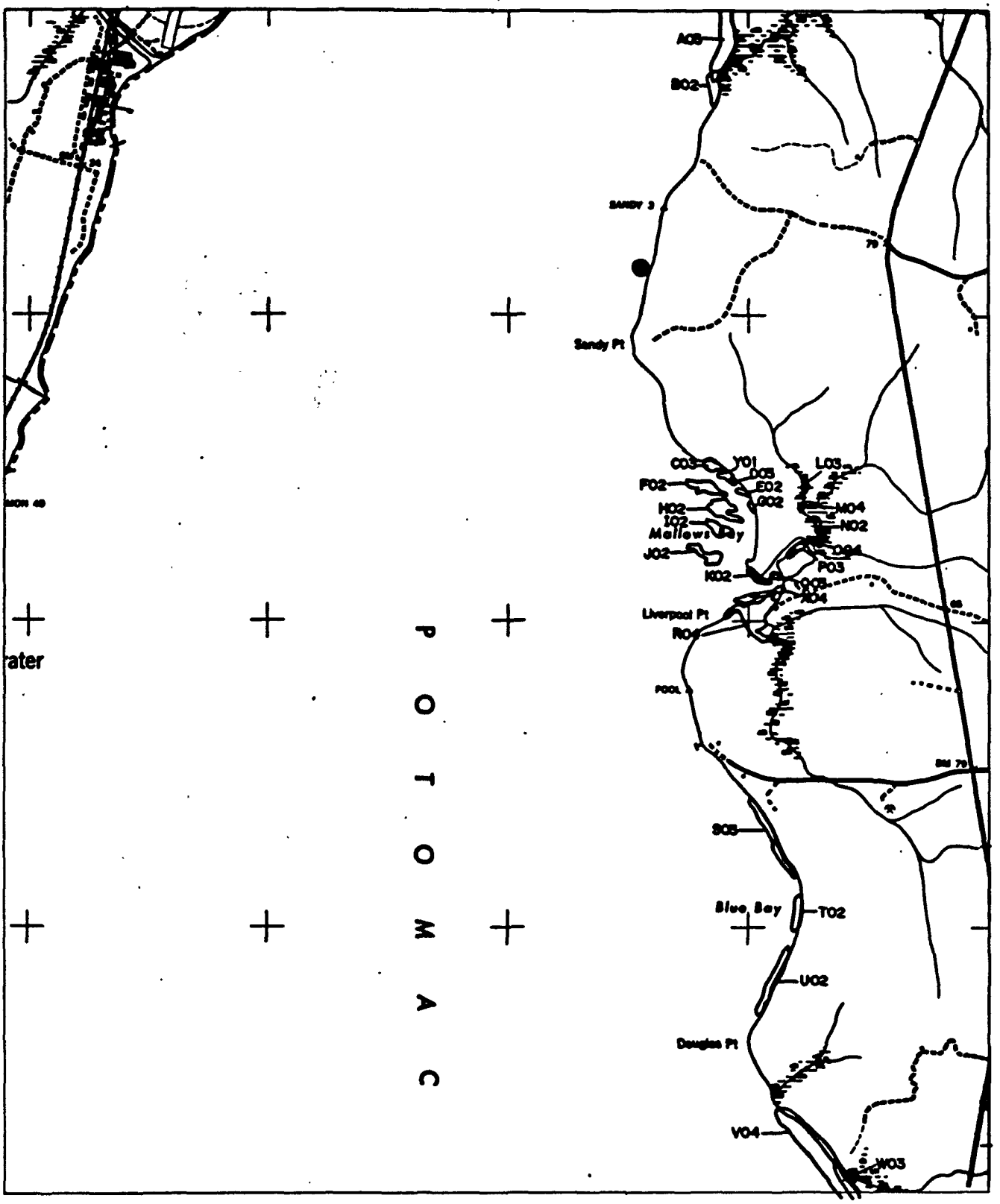
Northwest Quarter

# 54

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) | | |
| Vs | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ● Citizens Field Observation
- ▲ VIMS Field Survey
- ♦ U.S.G.S.

SCALE 1:12,000

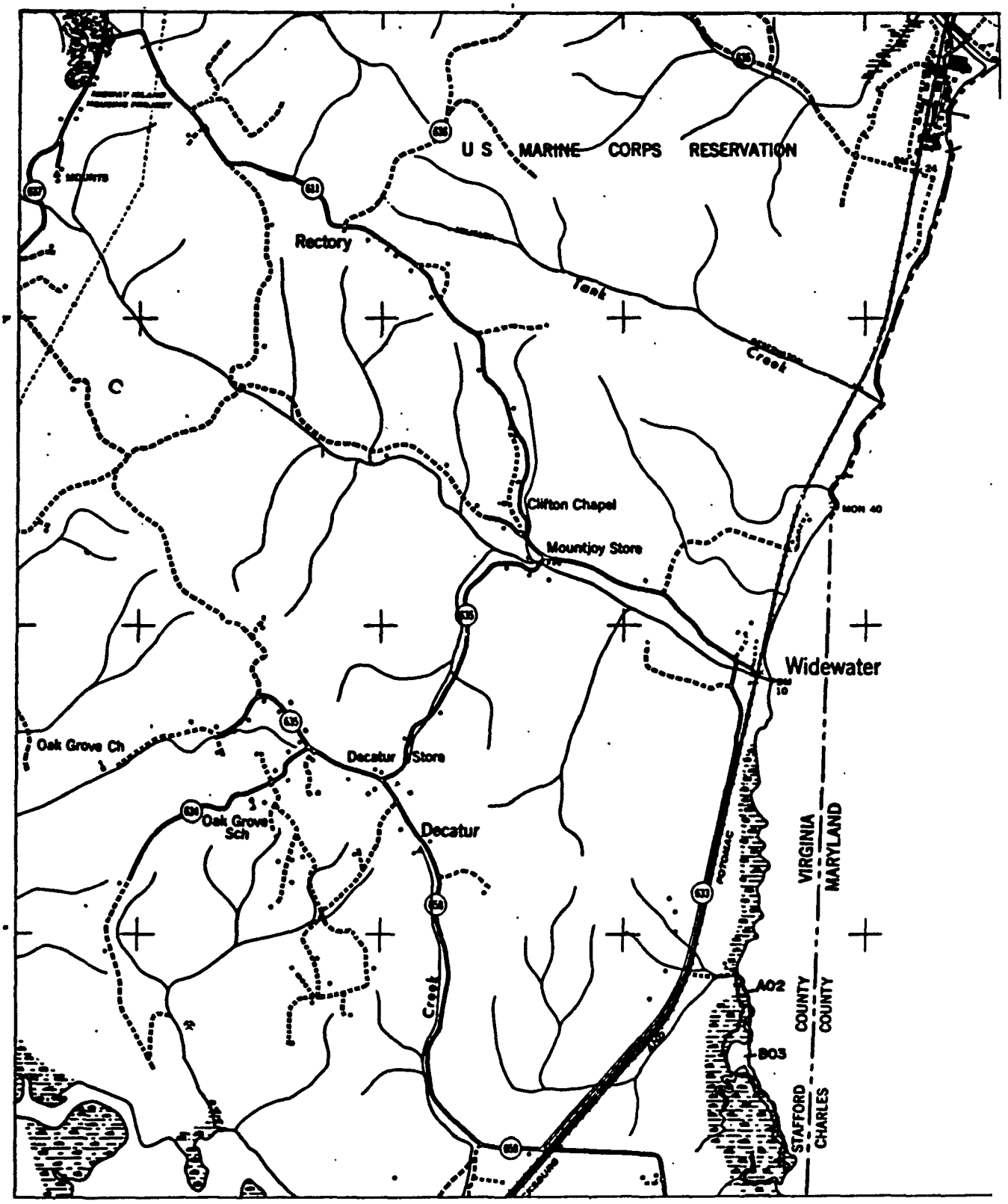
WIDEWATER, VA–MD

Northeast Quarter

# 55

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186




SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pnf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

WIDEWATER, VA-M

Northwest Quarte

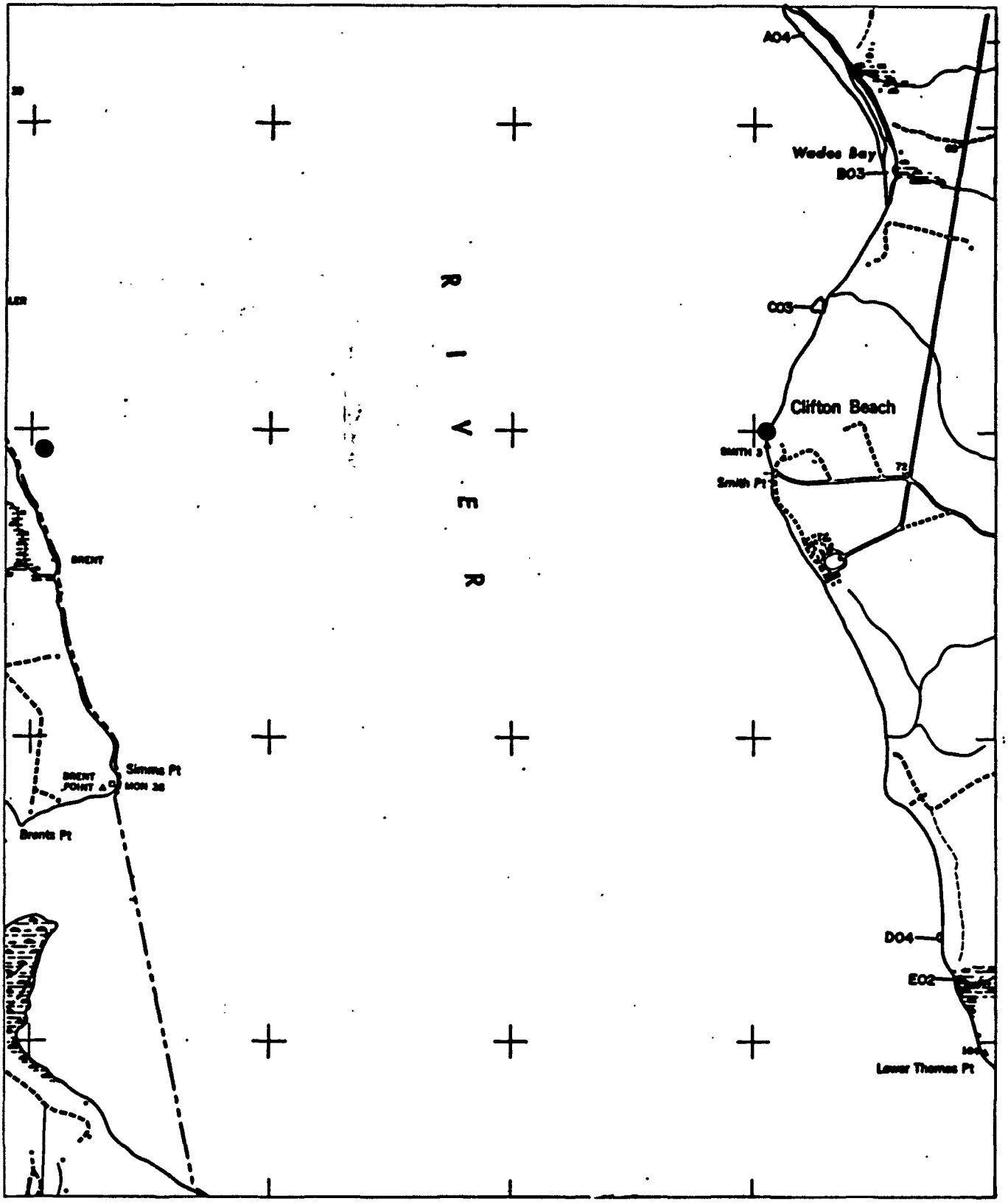
# 55



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pol | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (muskgrass) | | |
| Vs | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ⬢ Citizens Field Observation
- ▲ VIMS Field Survey
- ♦ U.S.G.S.

SCALE 1:12,000

WIDEWATER, VA-MD

Southeast Quarter

# 55



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186


**SPECIES**

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Pcl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Nga | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngp | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (musksgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

NANJEMOY, MD

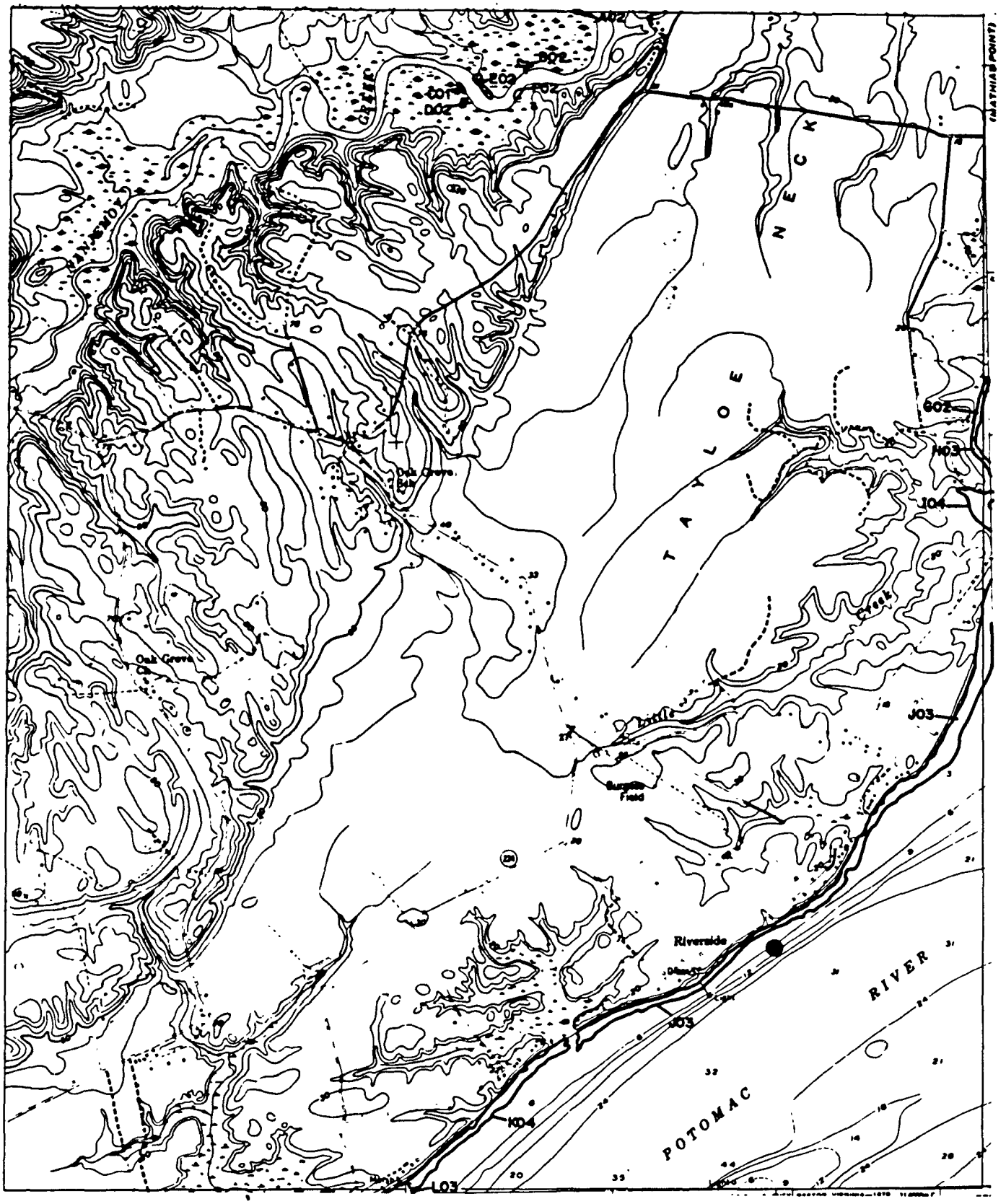
Northeast Quarter

# 56

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heterozostera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pbl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (musksgrass) | | |
| Vs | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ● Citizens Field Observation
- ▲ VIMS Field Survey
- ♦ U.S.G.S.

SCALE 1:12,000

NANJEMOY, MD

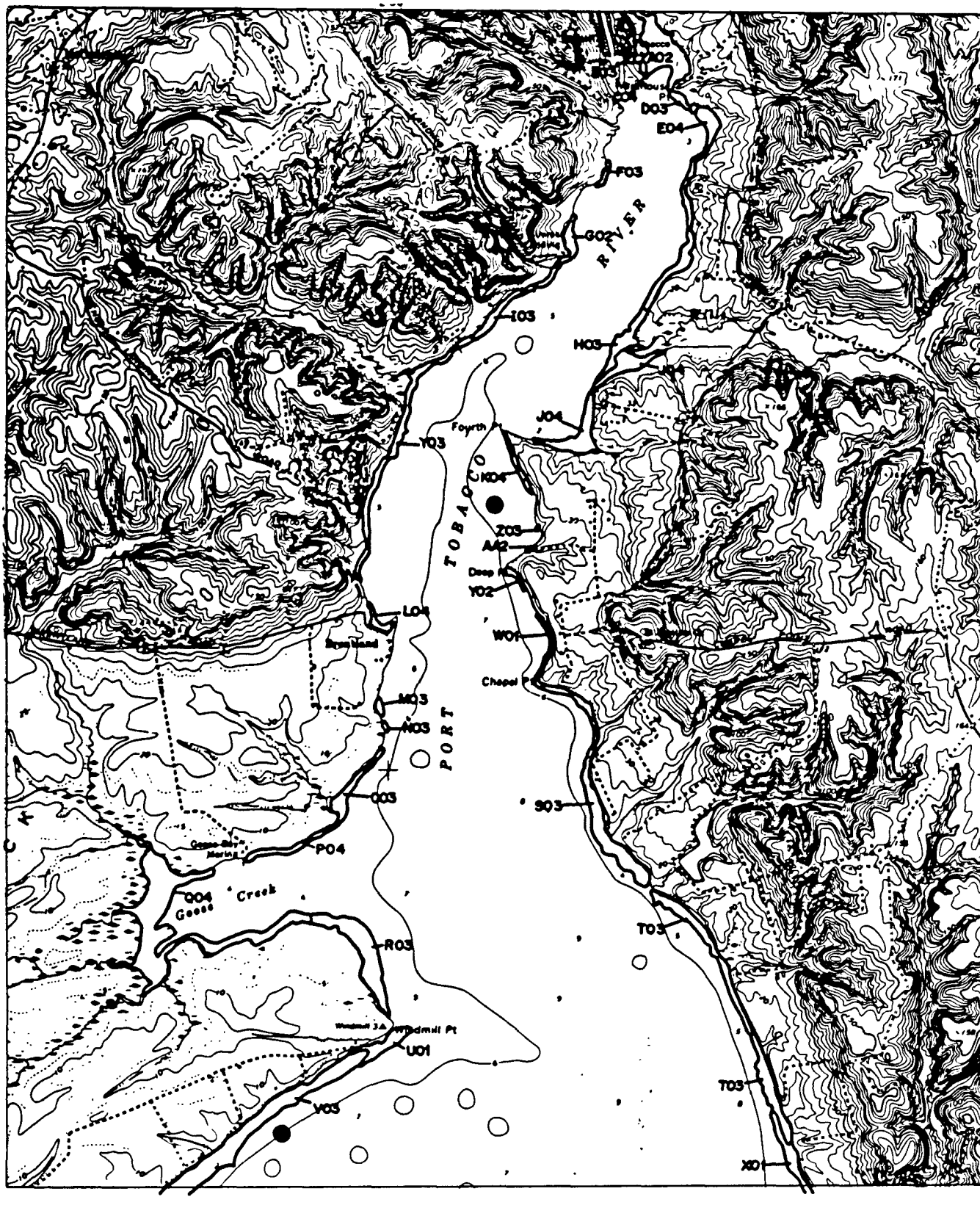
Southeast Quarter

# 56

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pcf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) | | |
| Vs | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ● Citizens Field Observation
- ▲ VIMS Field Survey
- ♦ U.S.G.S.

SCALE 1:12,000

MATHIAS POINT, MD-V

Northeast Quarter

# 57

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985


**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pol | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichelia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (muskgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S

SCALE 1:12,000

MATHIAS POINT, MD-VA

Northwest Quarter

# 57



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985


**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pcl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (muskgrass) | | |
| Vs | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ● Citizens Field Observation
- ▲ VIMS Field Survey
- ♦ U.S.G.S.

SCALE 1:12,000

MATHIAS POINT, MD-V

Southeast Quarter

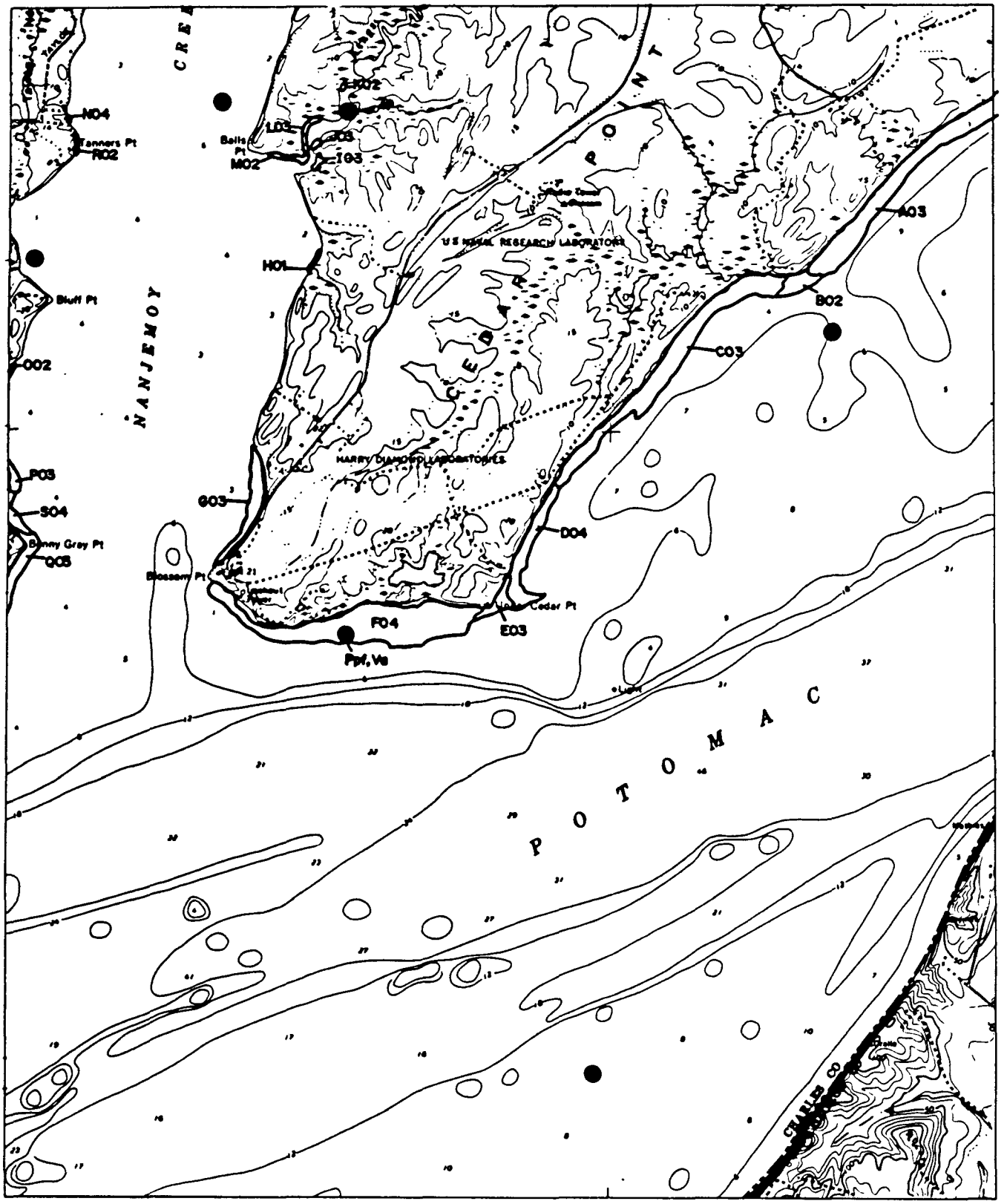
# 57



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Pcf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (muskgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

MATHIAS POINT, MD–VA

Southwest Quarter

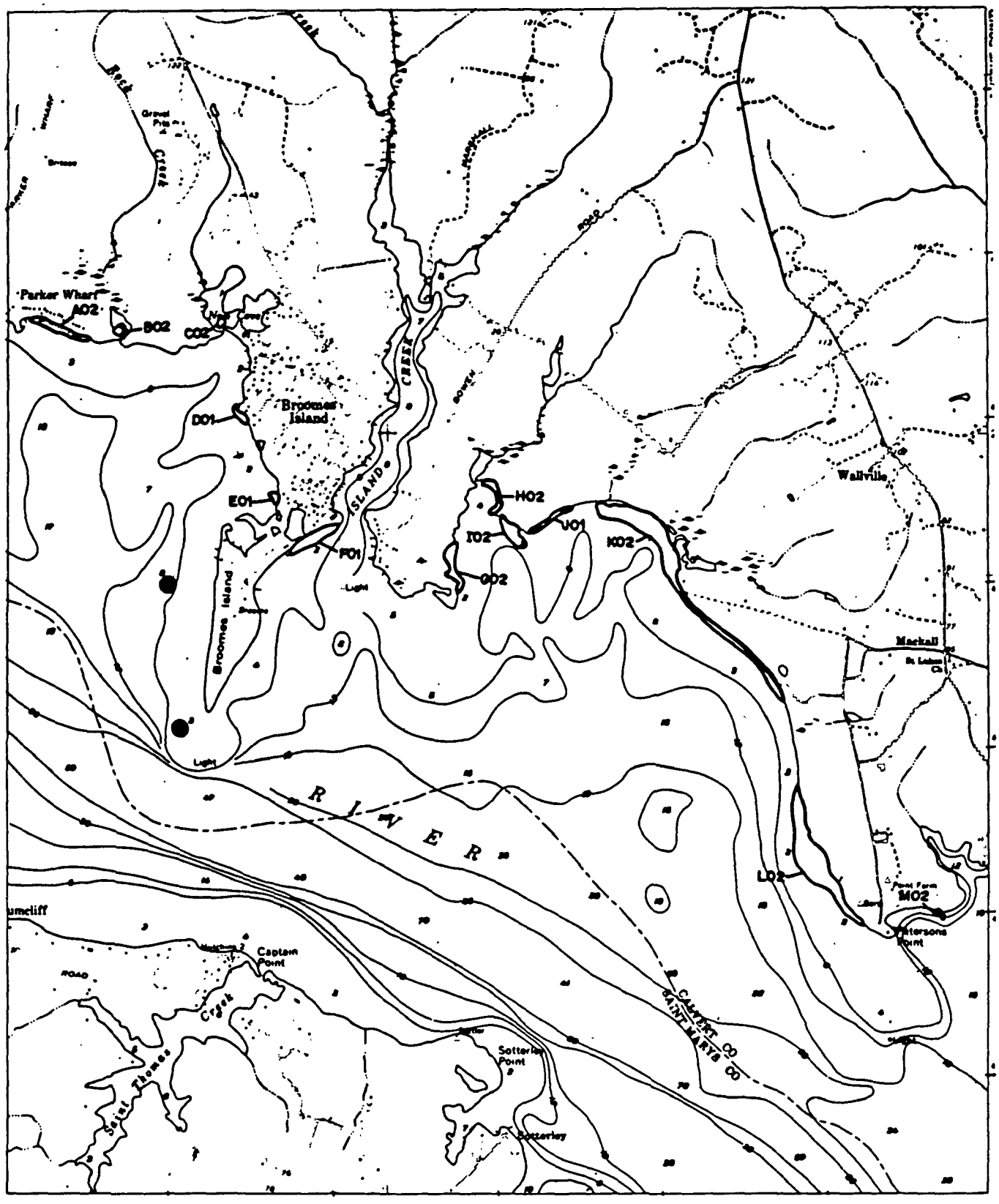
# 57



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

BROOMES ISLAND, MD

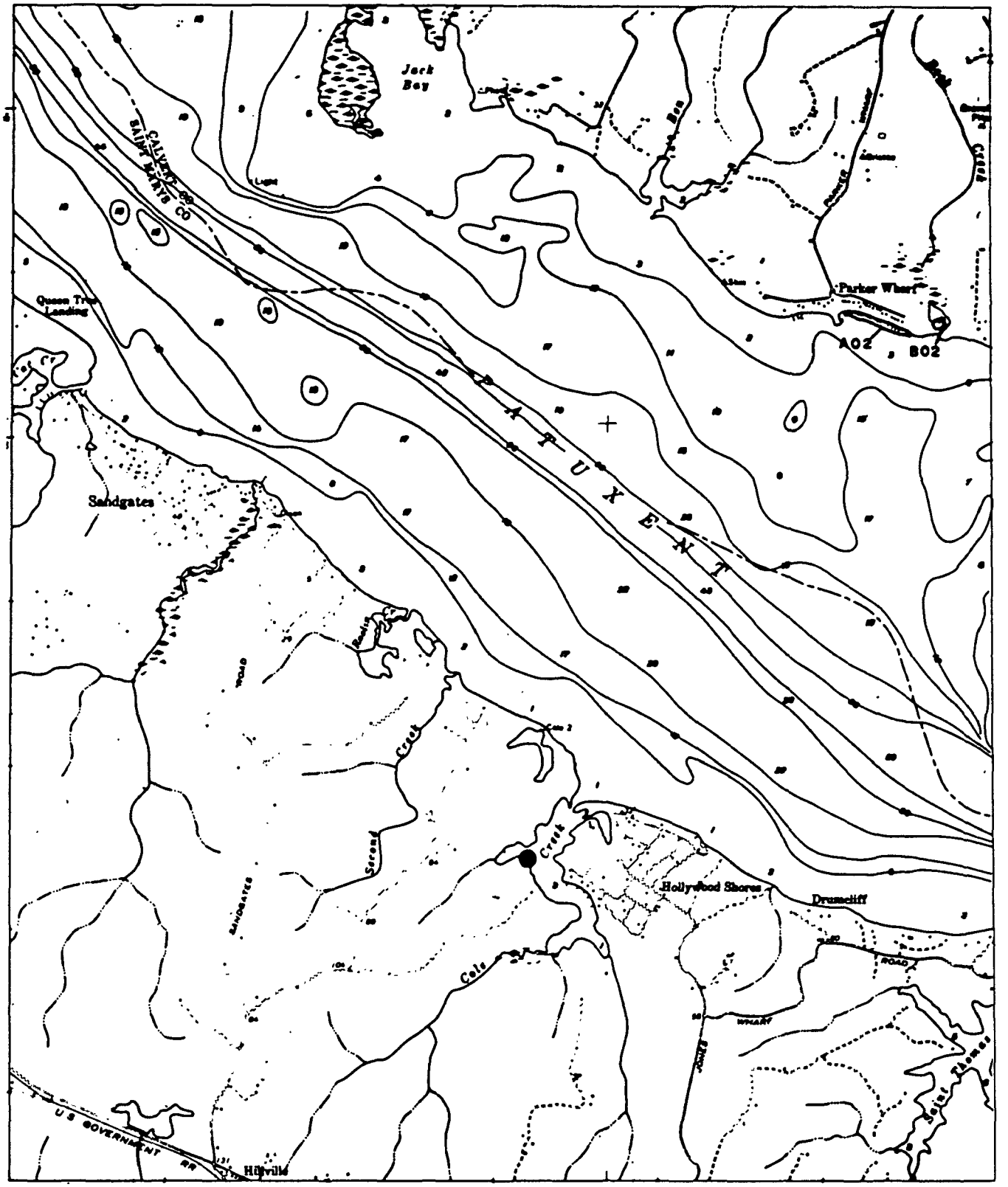
Southeast Quarter

# 60

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas* spp (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp (musksgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

**SURVEY STATIONS**

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ● Citizens Field Observation
- ▲ VIMS Field Survey
- ♦ U.S.G.S.

SCALE 1:12,000

BROOMES ISLAND, MD

Southwest Quarter

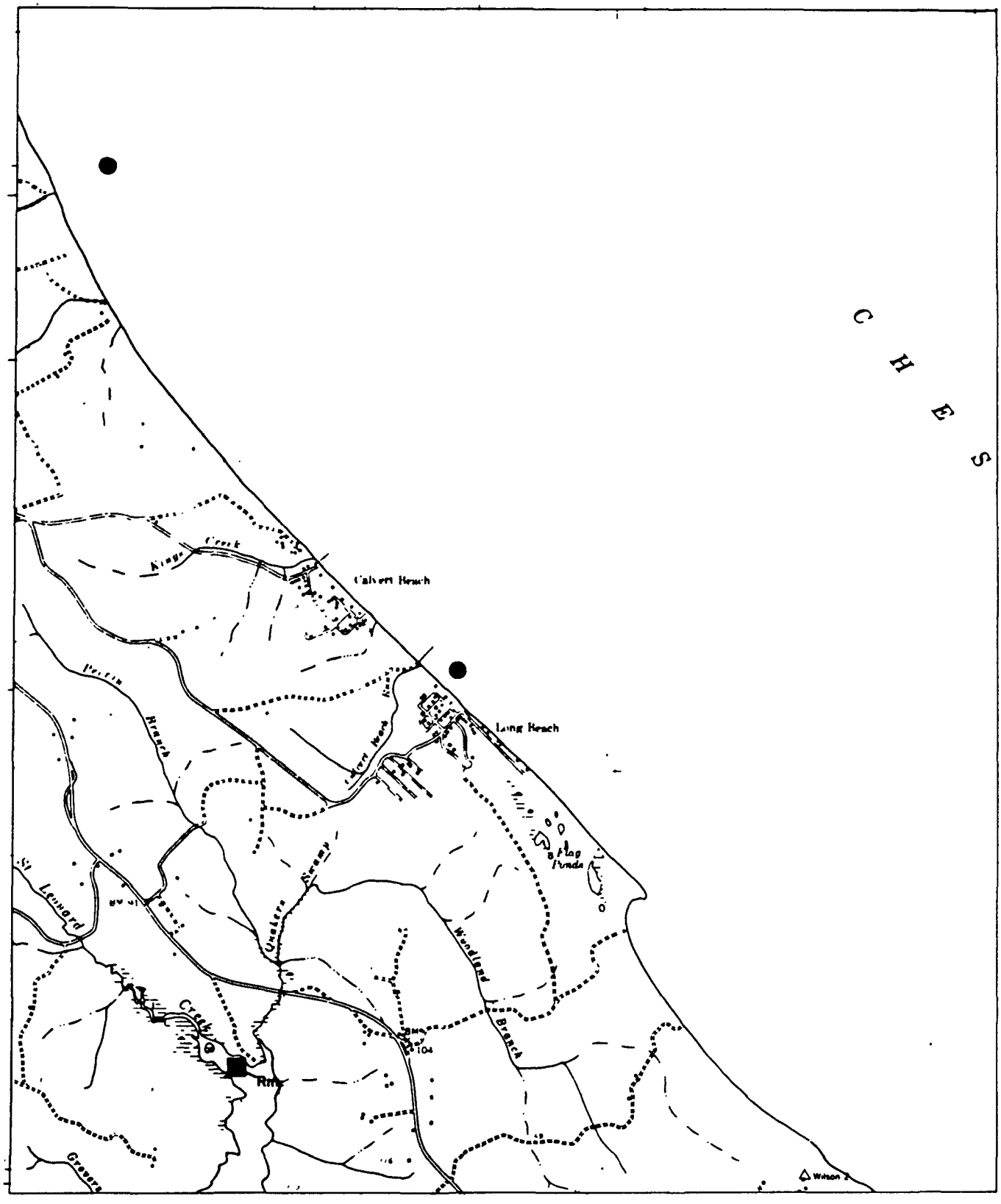
# 60



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (muskgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ● Citizens Field Observation
- ▲ VIMS Field Survey
- ♦ U.S.G.S

SCALE 1:12,000

COVE POINT, MD

Northwest Quarter

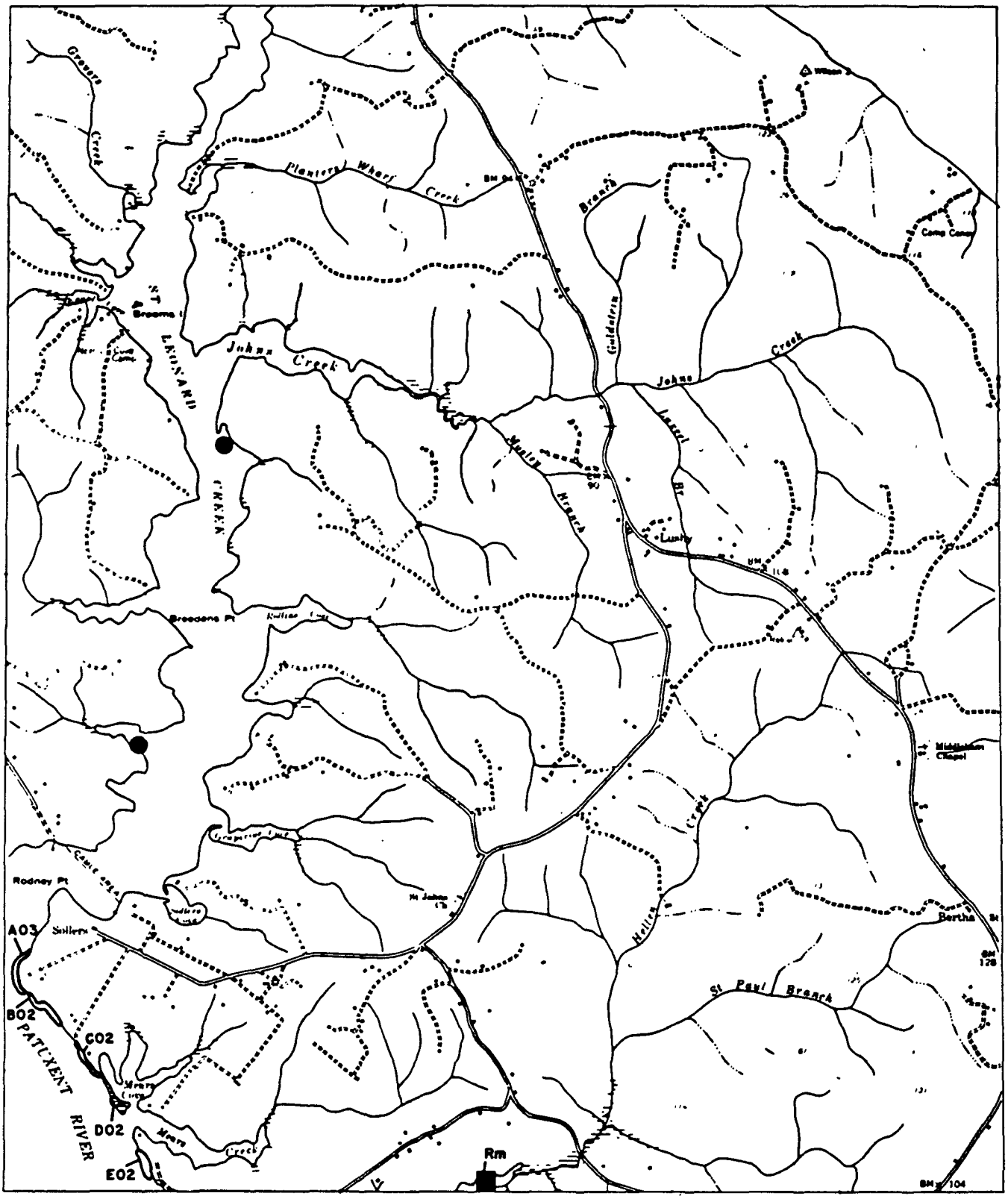
# 61



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pof | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichelia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

COVE POINT, MD

Southwest Quarter

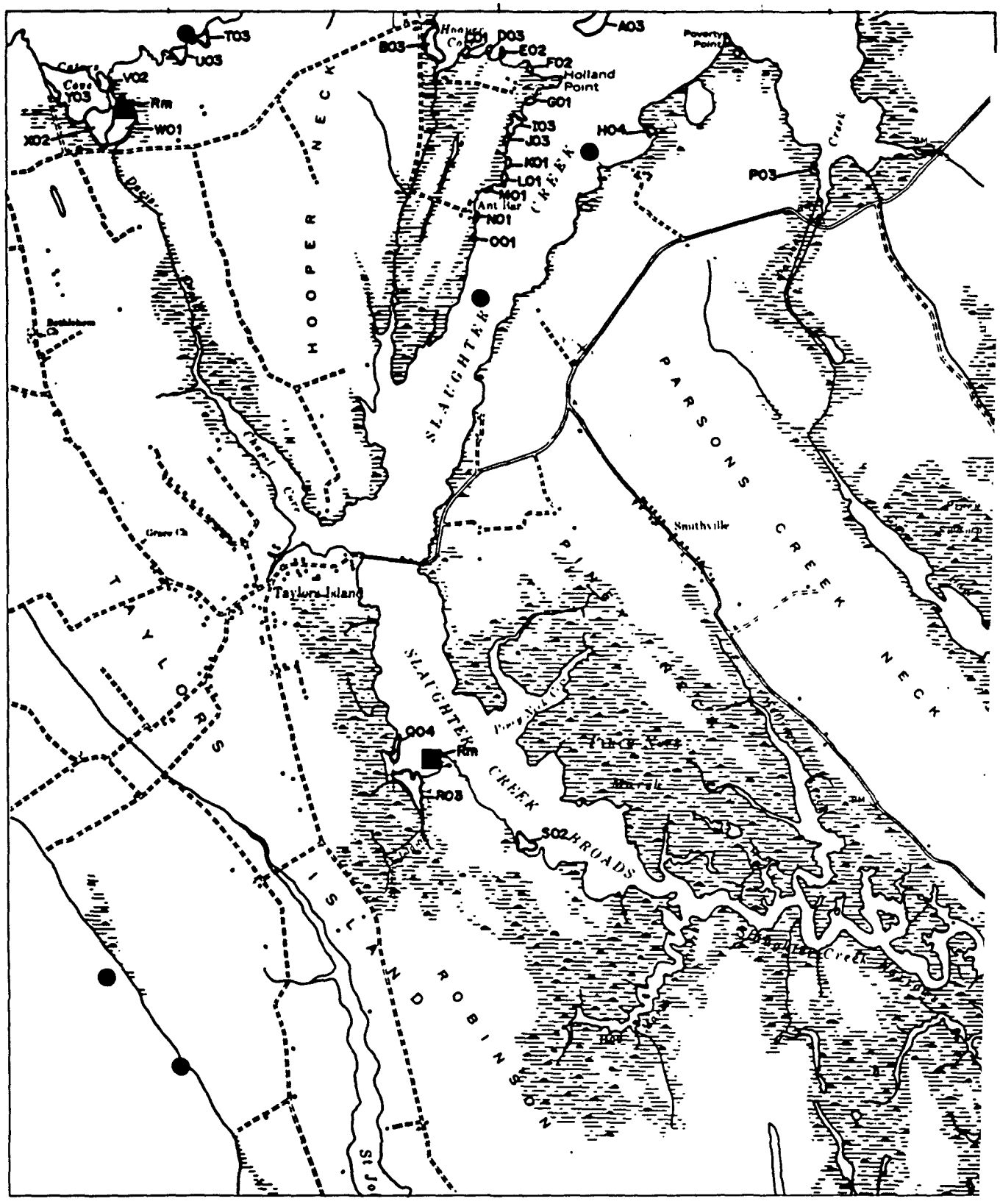
# 61



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichelia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (muskgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ⬢ Citizens Field Observation
- ▲ VIMS Field Survey
- ♦ U.S.G.S

SCALE 1:12,000

TAYLORS ISLAND, M

Northeast Quarte

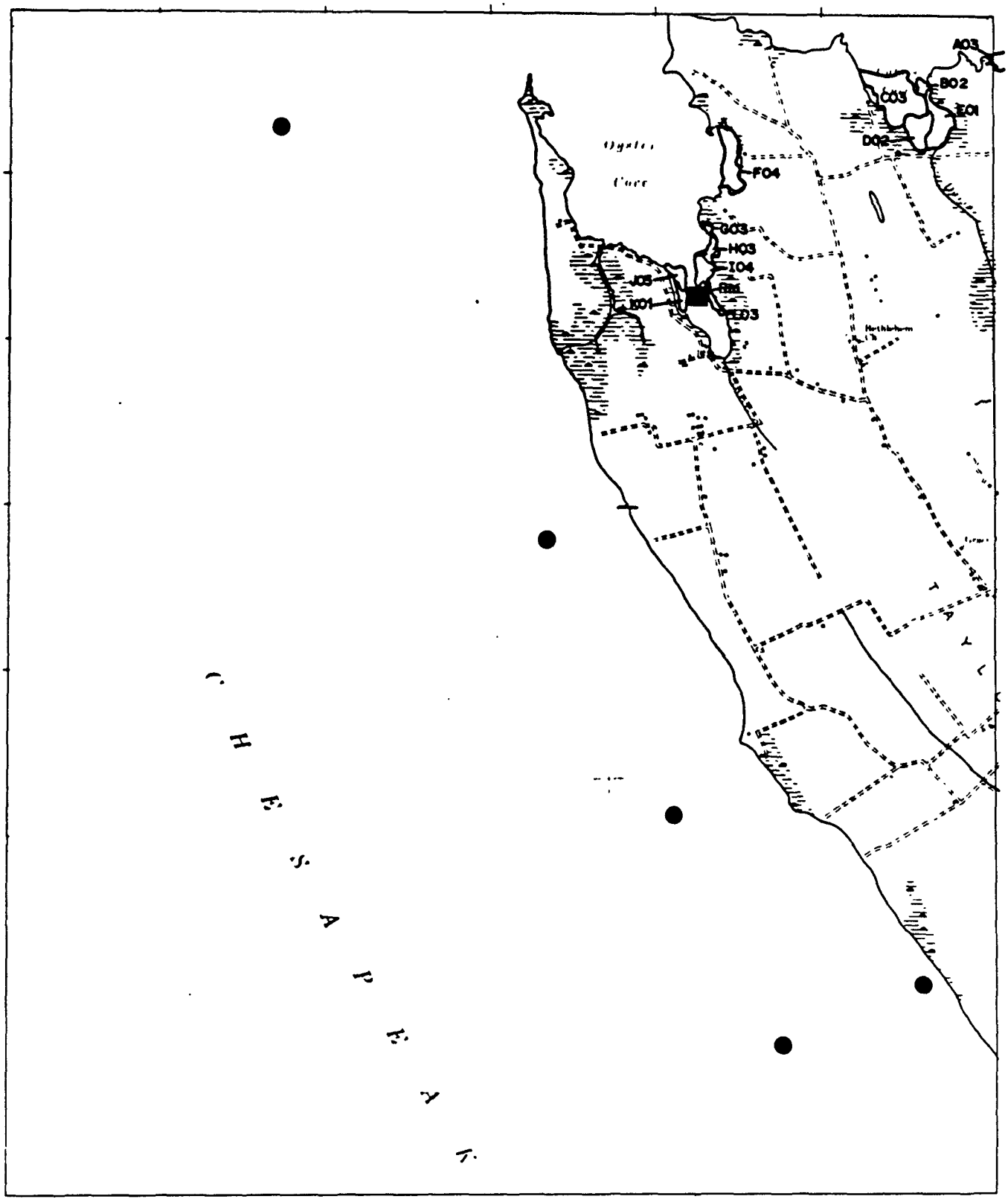
# 62



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pol | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (musk grass) | | |
| Vs | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ● Citizens Field Observation
- ▲ VIMS Field Survey
- ♦ U.S.G.S.

SCALE 1:12,000

TAYLORS ISLAND, MD

Northwest Quarter

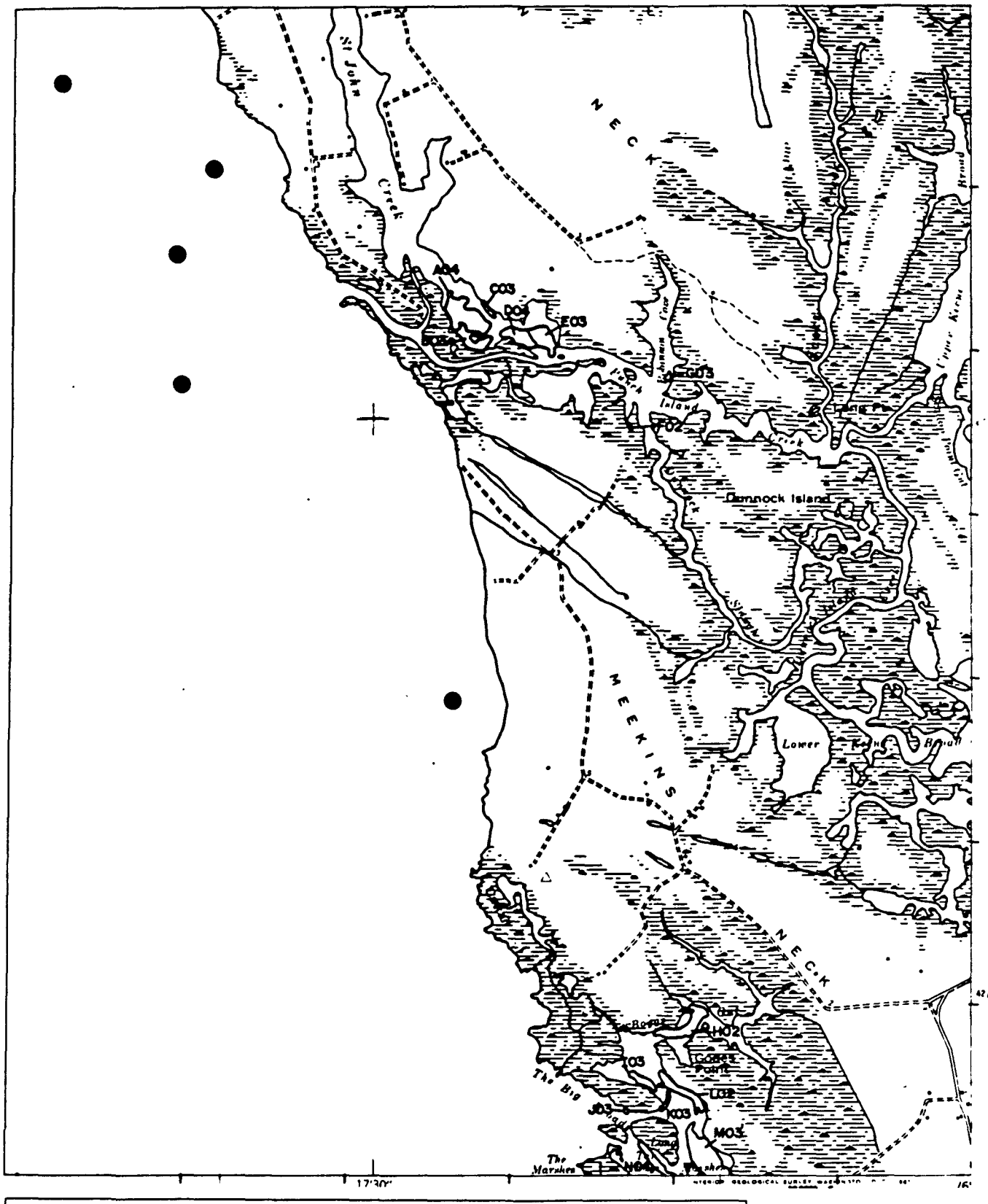
# 62



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (muskgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S

SCALE 1:12,000

TAYLORS ISLAND, MD

Southeast Quarter

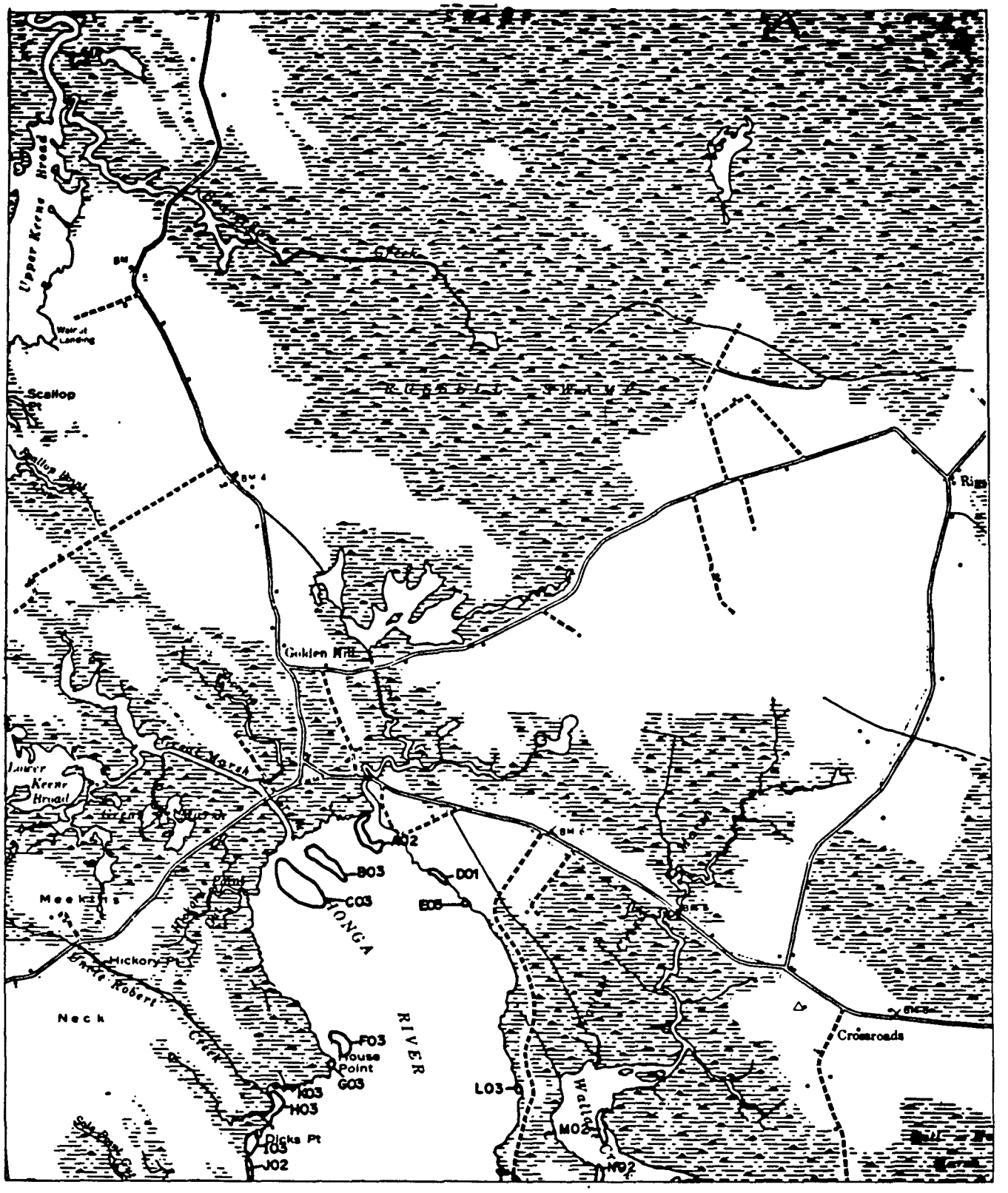
# 62



U.S ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (muskgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S

SCALE 1:12,000

GOLDEN HILL, MD

Southwest Quarter

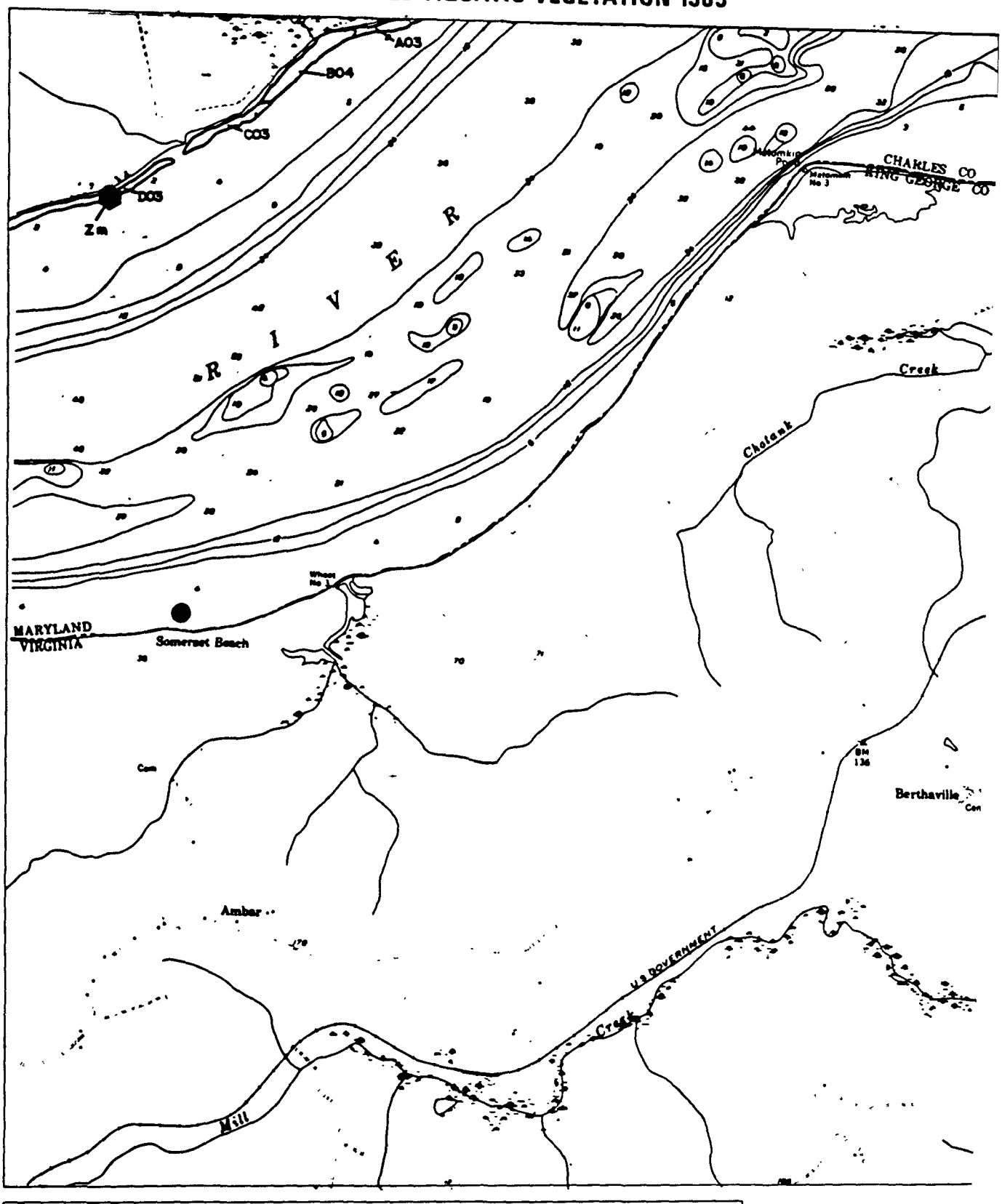
# 63



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichelia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (muskgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S

SCALE 1:12,000

KING GEORGE, VA-1

Northeast Quarter

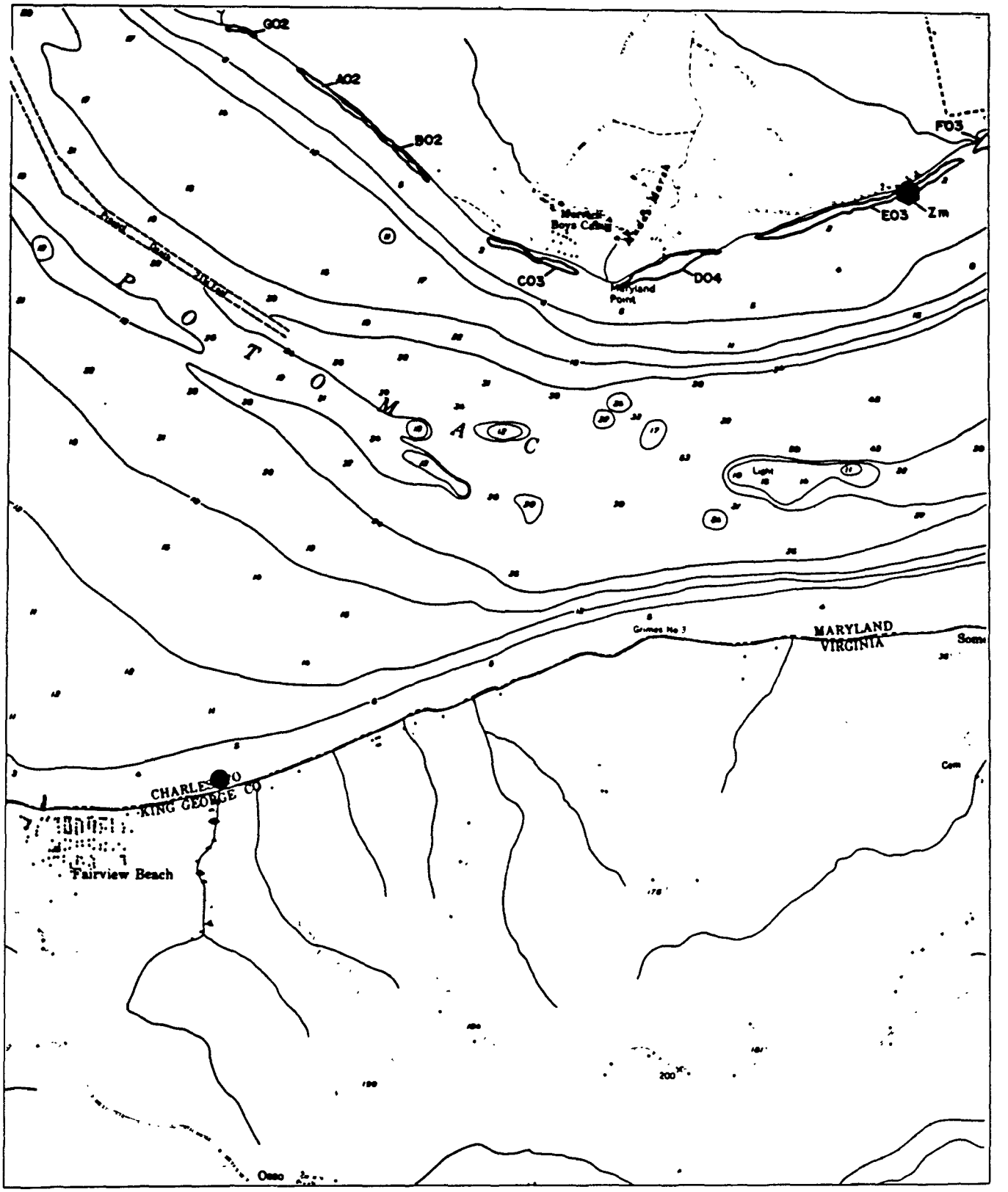
# 65



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (musksgrass) | | |
| Vz | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ⬢ Citizens Field Observation
- ▲ VIMS Field Survey
- ♦ U.S.G.S.

SCALE 1:12,000

KING GEORGE, VA-MD

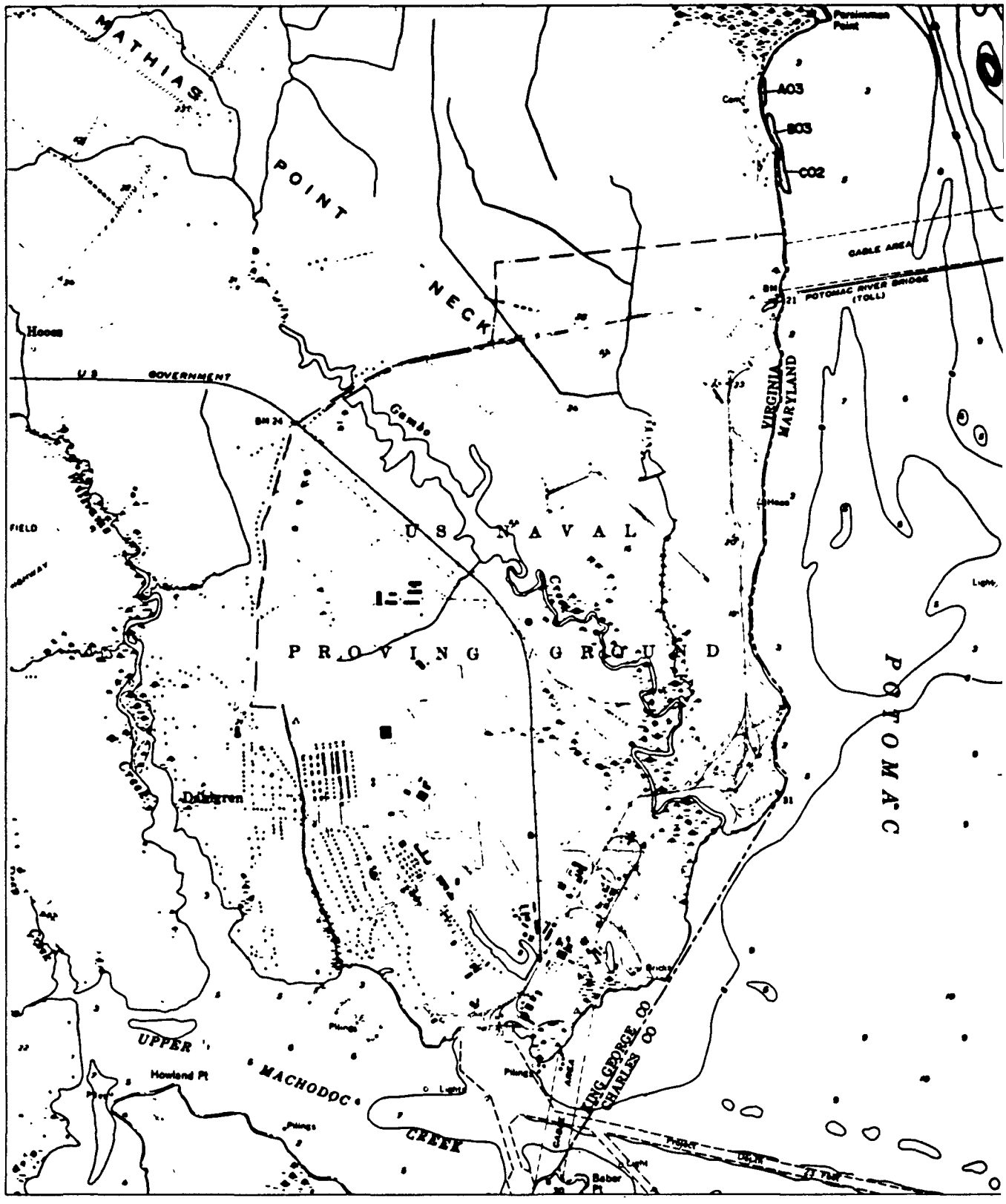
Northwest Quarter

# 65

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pol | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichelia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (muskgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ⬢ Citizens Field Observation
- ▲ VIMS Field Survey
- ◆ U.S.G.S

SCALE 1:12,000

DAHLGREN, VA

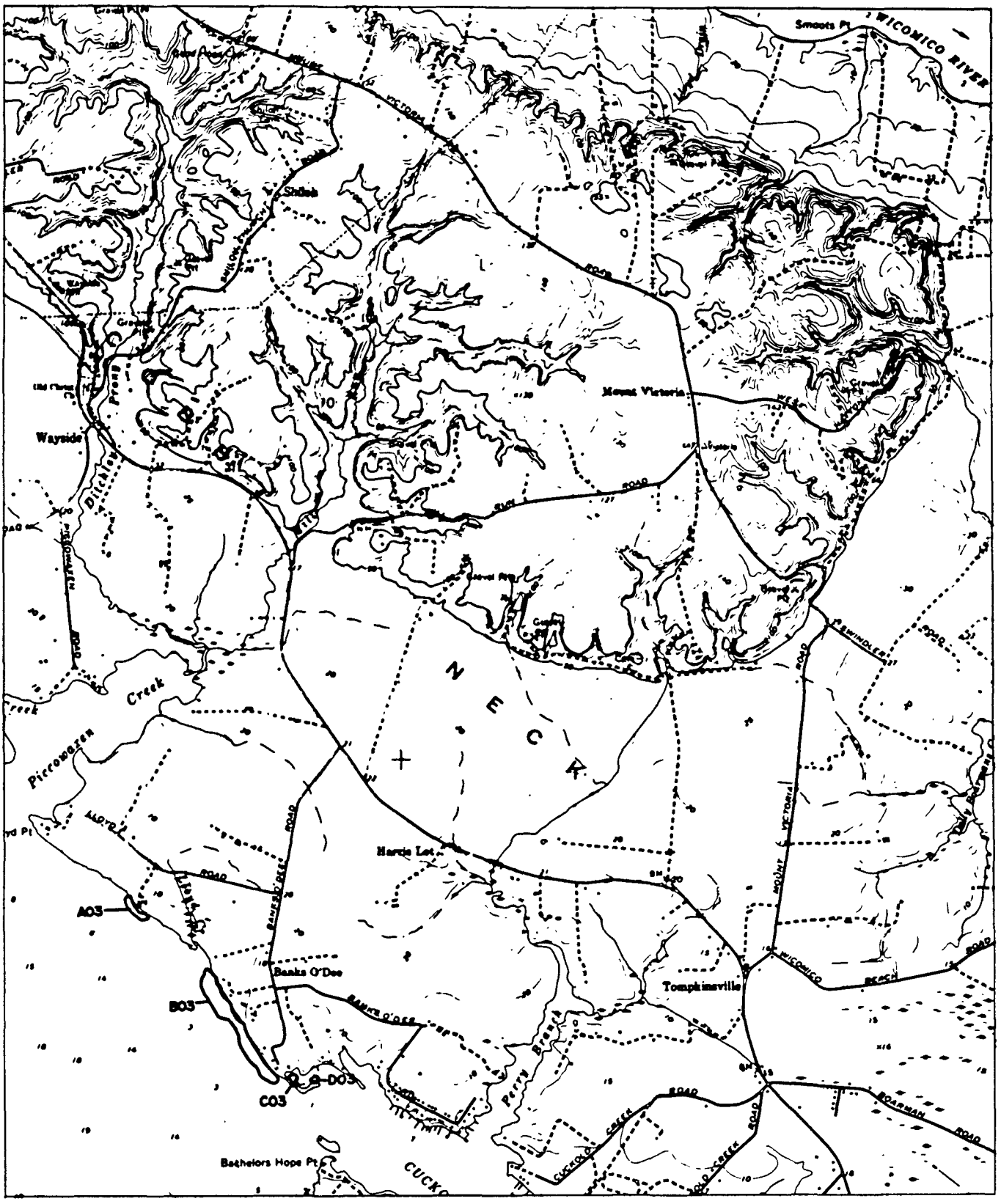
Northeast Quarter

# 66

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




| SPECIES | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichelia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (muskgrass) | | |
| Vs | *Vallisneria americana* (wild celery) | | | | |

SCALE 1:12,000

SURVEY STATIONS
- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S

COLONIAL BEACH NORTH, MD-VA

Northeast Quarter

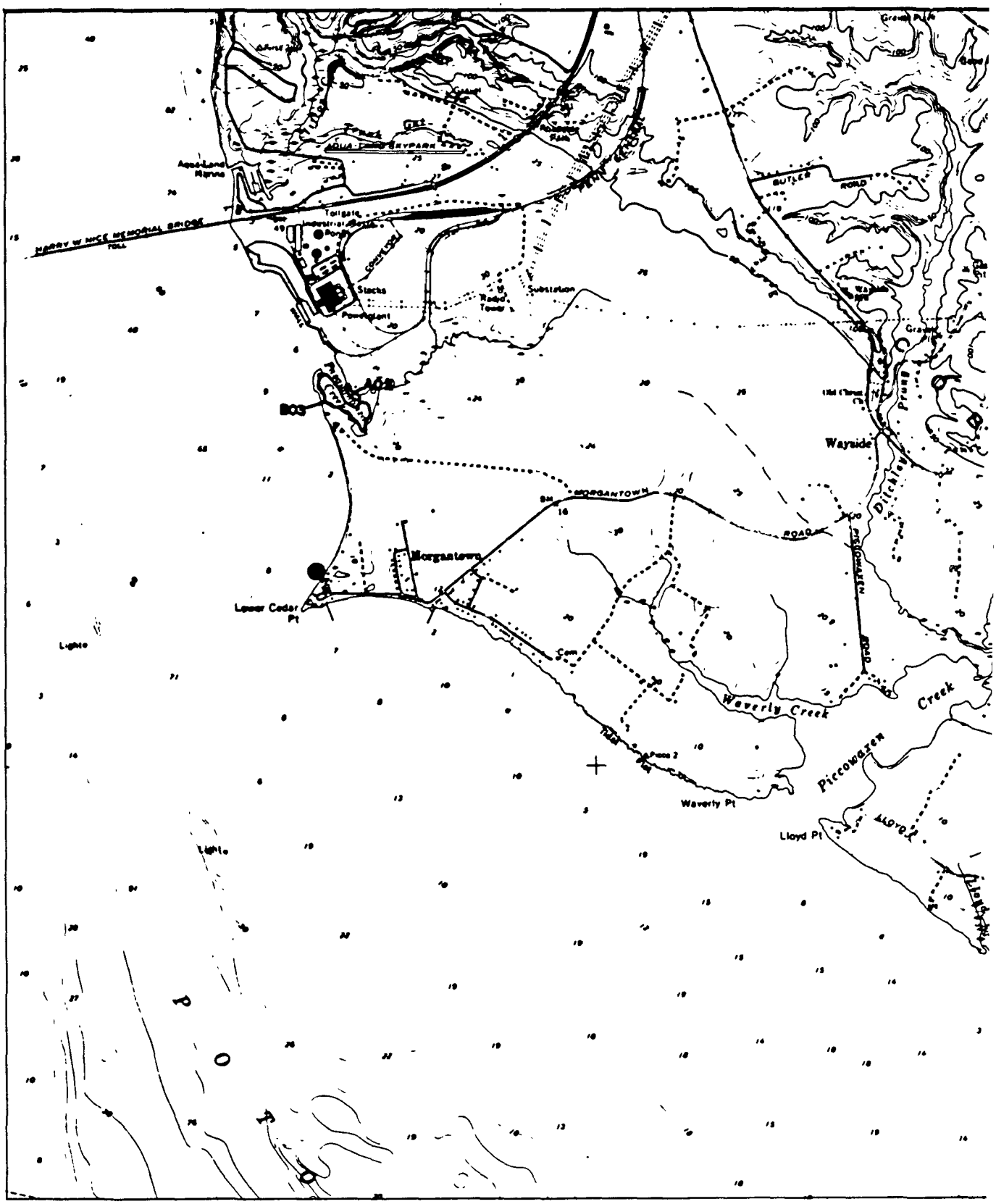
# 67



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (muskgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

**SURVEY STATIONS**

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ⬢ Citizens Field Observation
- ▲ VIMS Field Survey
- ◆ U.S.G.S.

SCALE 1:12,000

COLONIAL BEACH NORTH, MD-VA

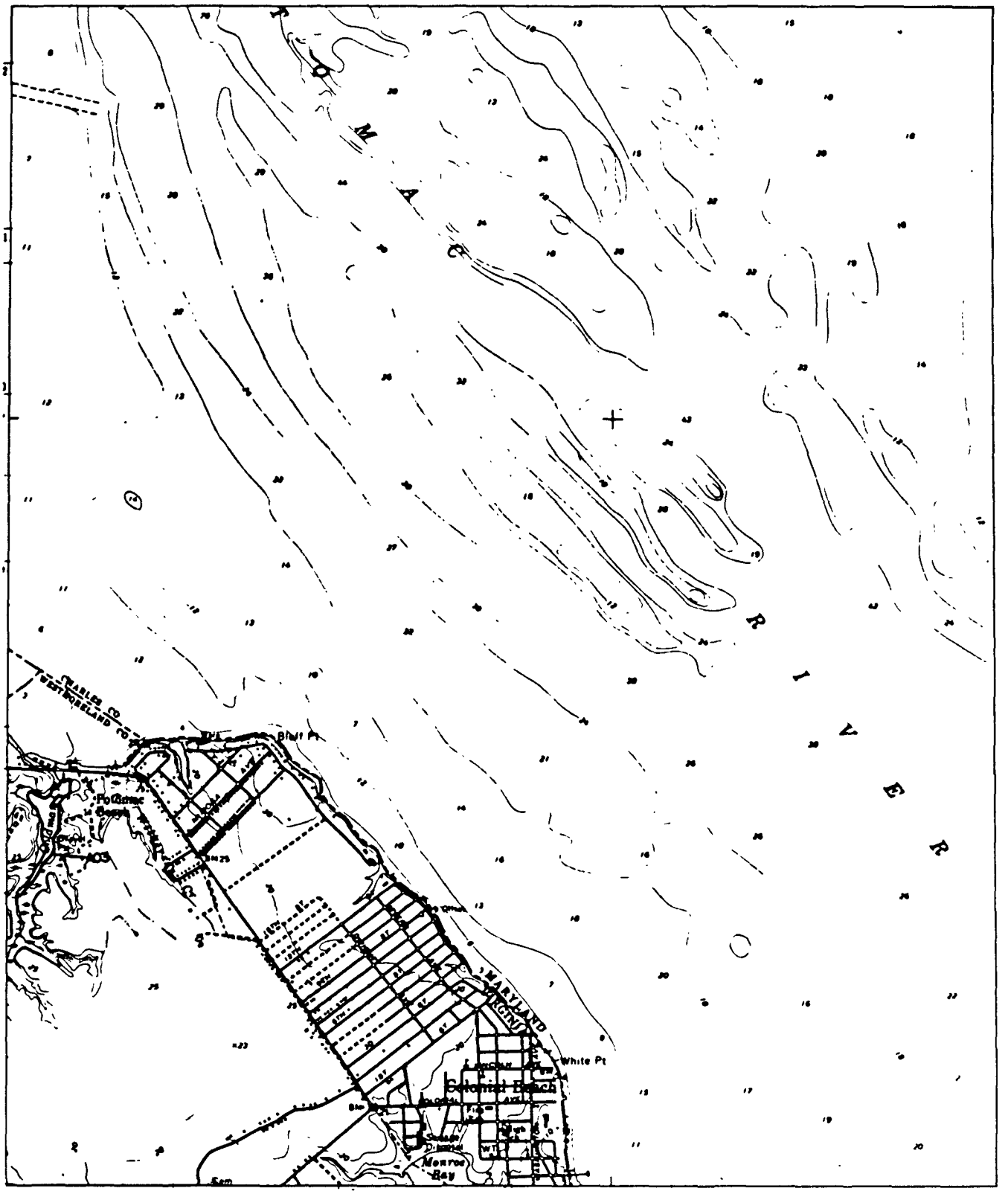
Northwest Quarter

# 67



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Pol | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas* spp (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp (musk grass) |
| Vs | *Vallisneria americana* (wild celery) | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S

SCALE 1:12,000

COLONIAL BEACH NORTH, MD-VA

Southwest Quarter

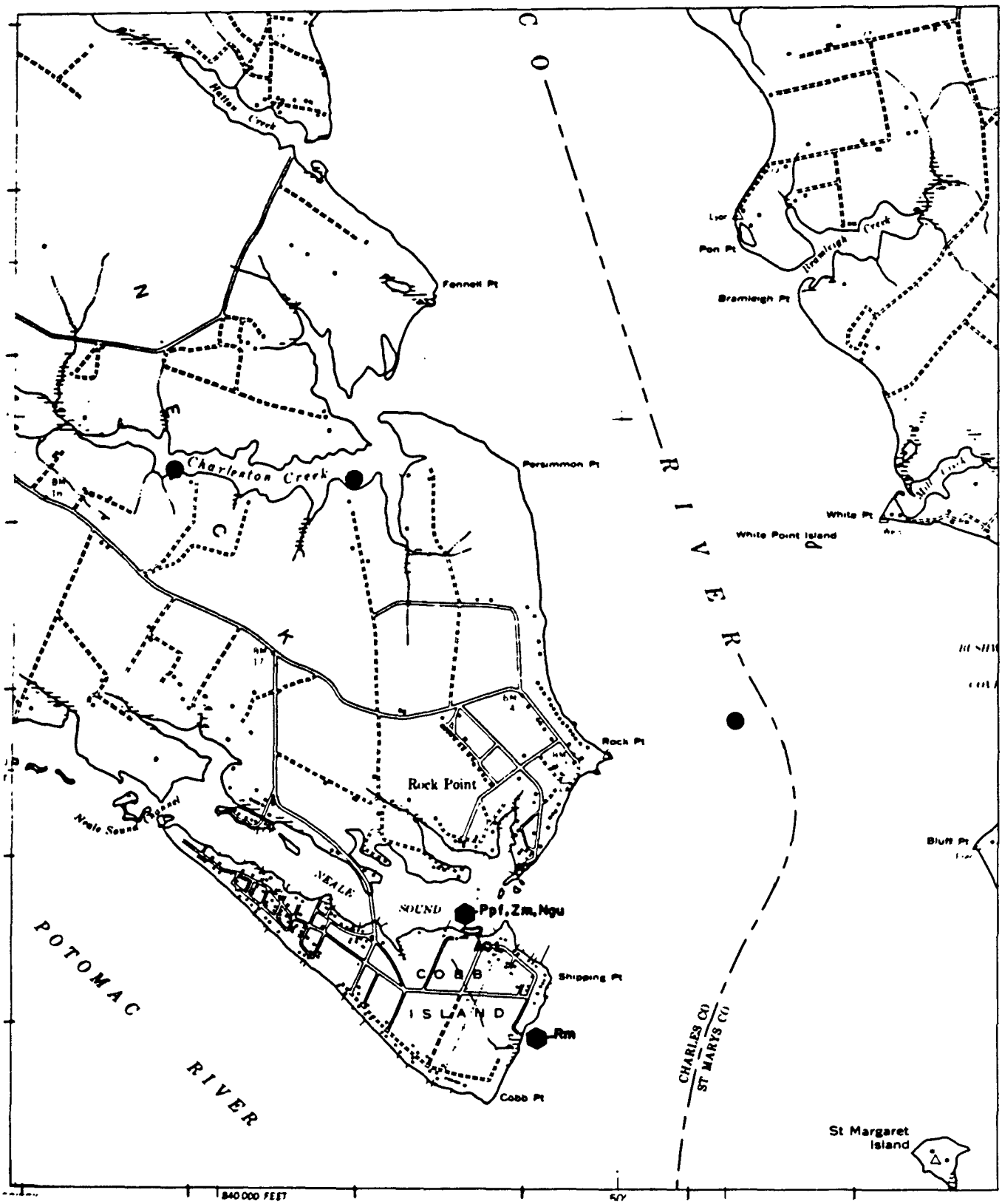
# 67



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




| SPECIES | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Pcf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (musksgrass) |
| Vs | *Vallisneria americana* (wild celery) | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

ROCK POINT, MD

Southwest Quarter

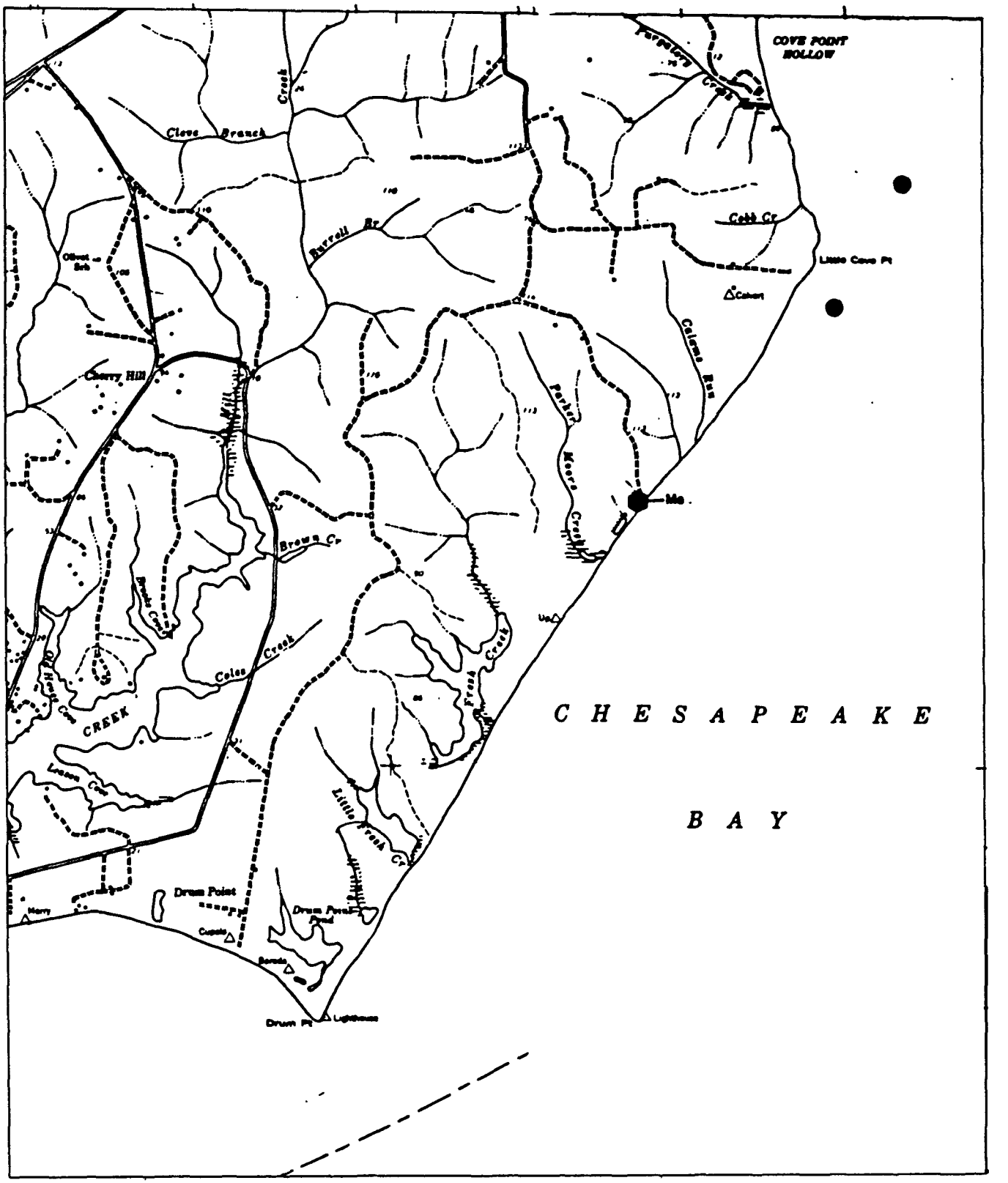
# 68



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pof | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ⬢ Citizens Field Observation
- ▲ VIMS Field Survey
- ♦ U.S.G.S.

SCALE 1:12,000

SOLOMONS ISLAND, MD

Northeast Quarter

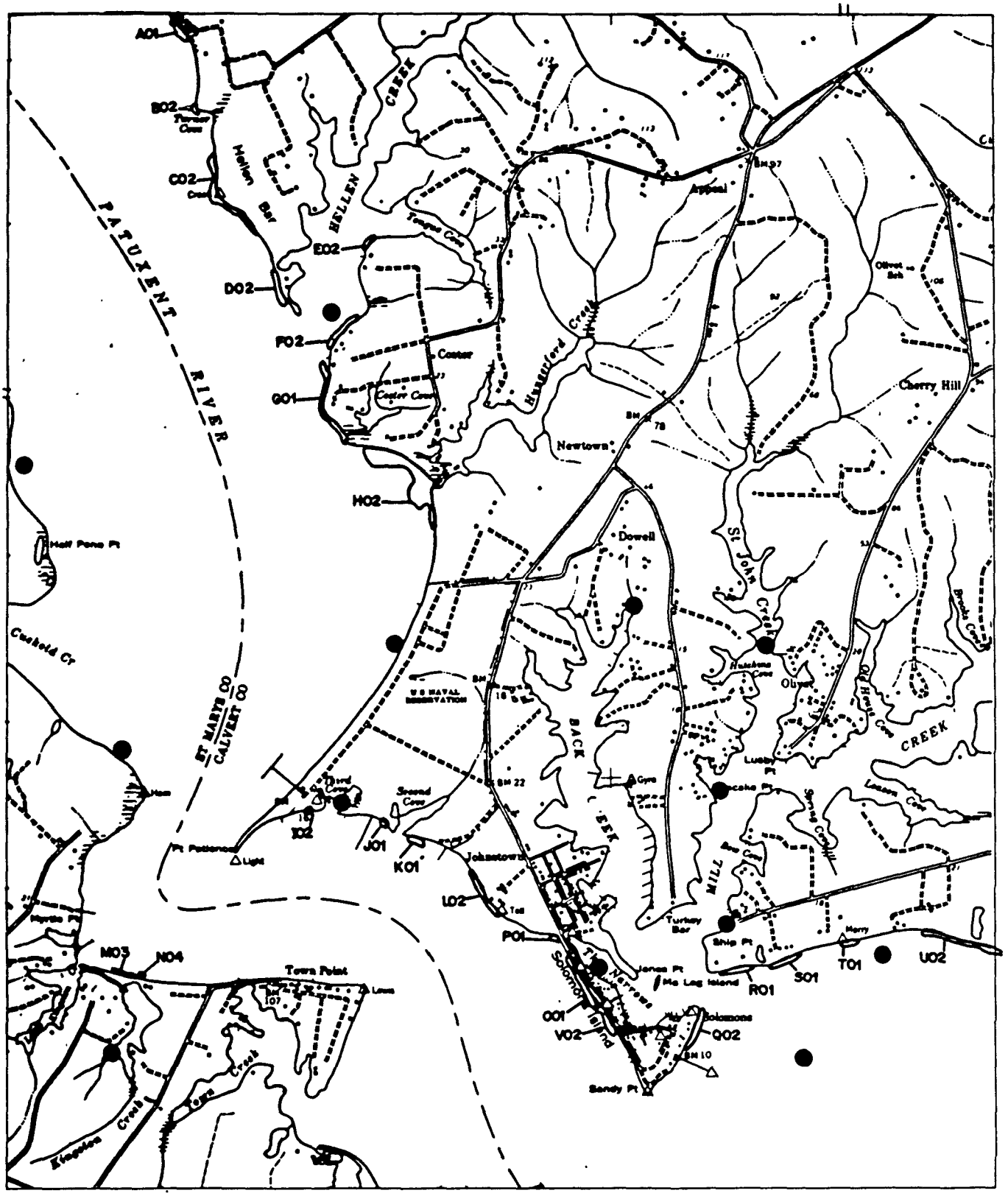
# 71



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pol | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Pdu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (muskgrass) | | |
| Vs | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S

SCALE 1:12,000

SOLOMONS ISLAND, MI

Northwest Quarter

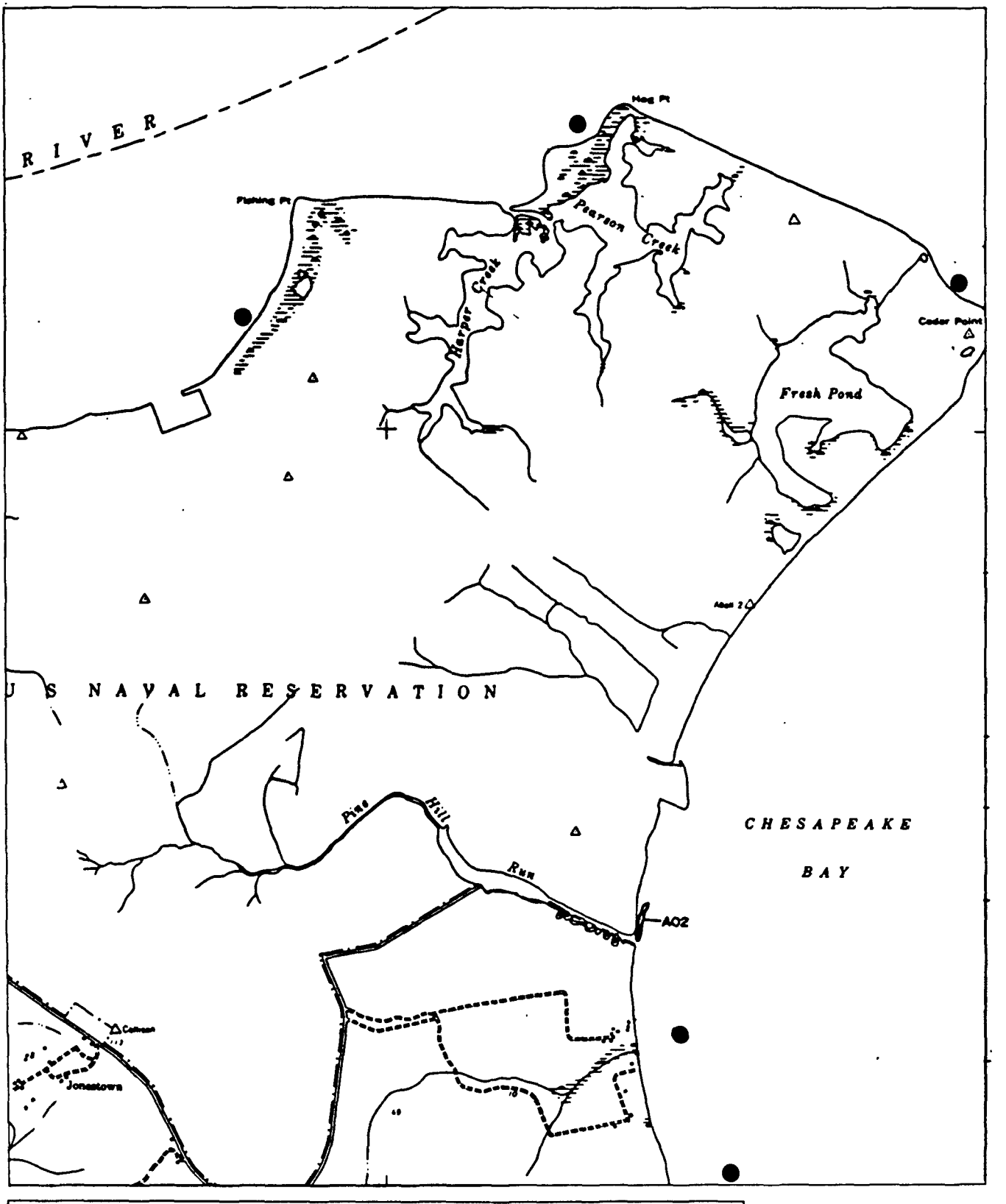
# 71



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




| SPECIES | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichelia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (muskgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S

SCALE 1:12,000

SOLOMONS ISLAND, MD

Southeast Quarter

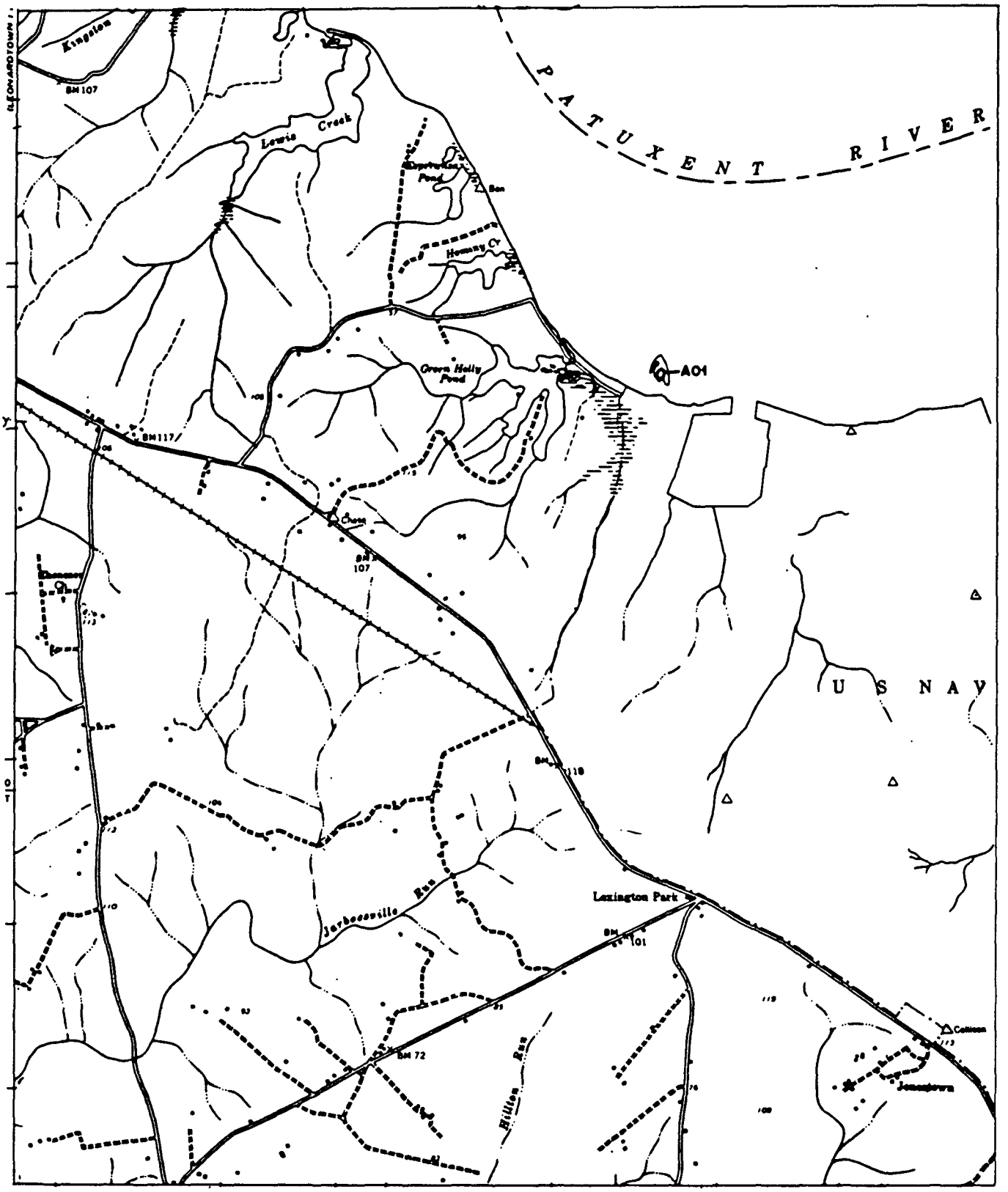
# 71



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pol | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (muskgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

SOLOMONS ISLAND, MD

Southwest Quarter

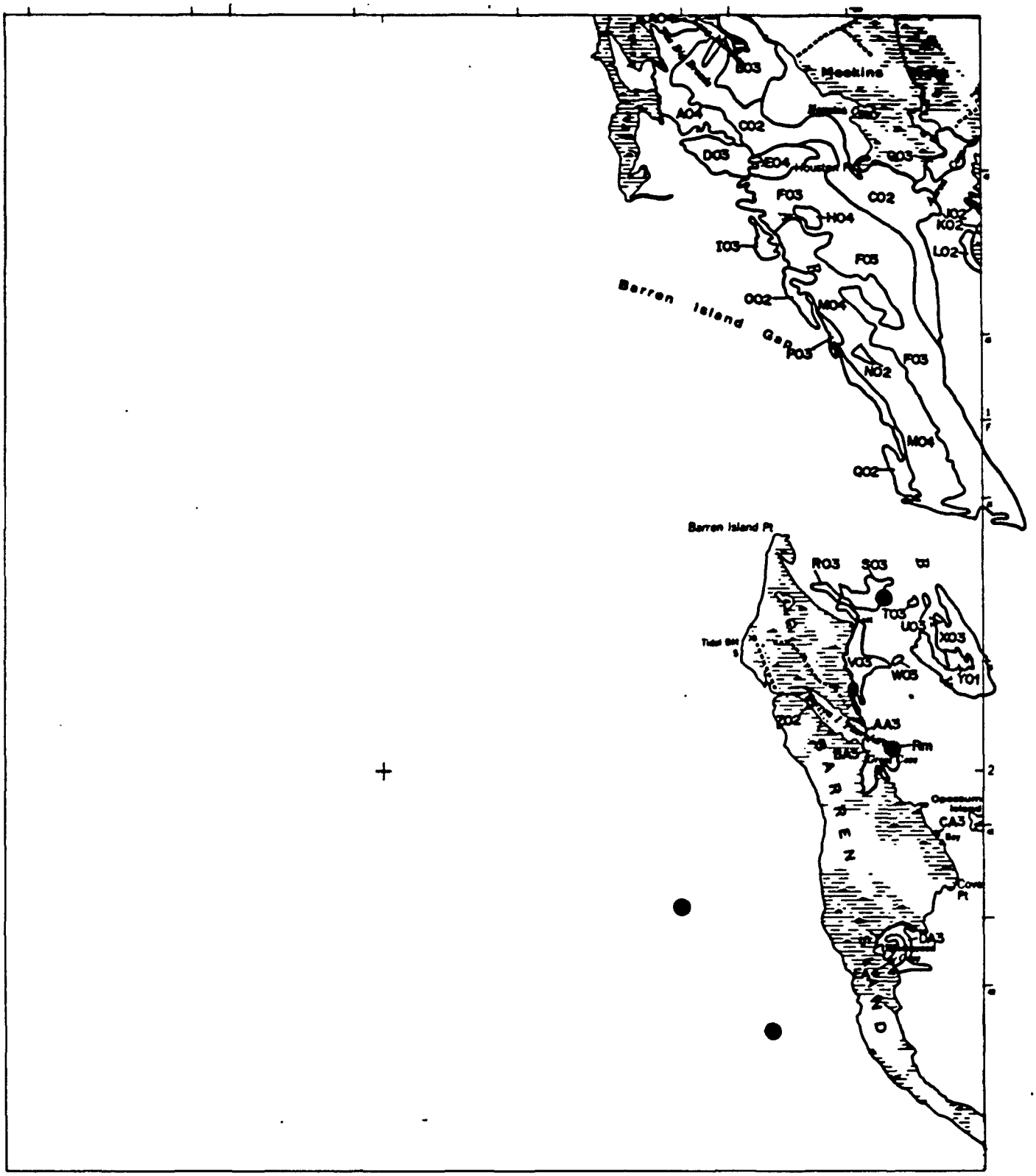
# 71



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

**SURVEY STATIONS**

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ● Citizens Field Observation
- ▲ VIMS Field Survey
- ♦ U.S.G.S.

SCALE 1:10,000

BARREN ISLAND, MD

Northeast Quarter

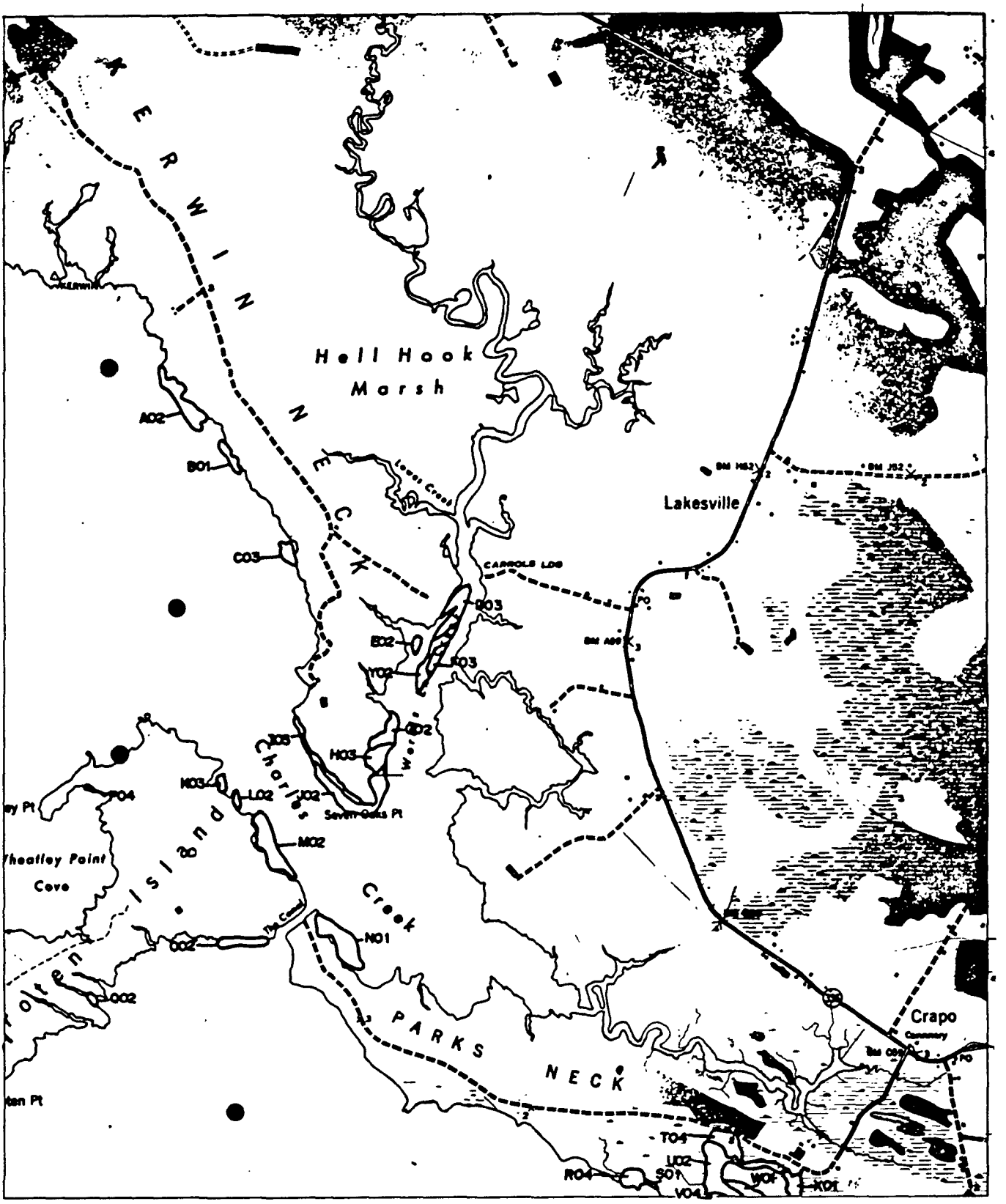
# 72



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pcf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S

SCALE 1:12,000

HONGA, MD

Northeast Quarter

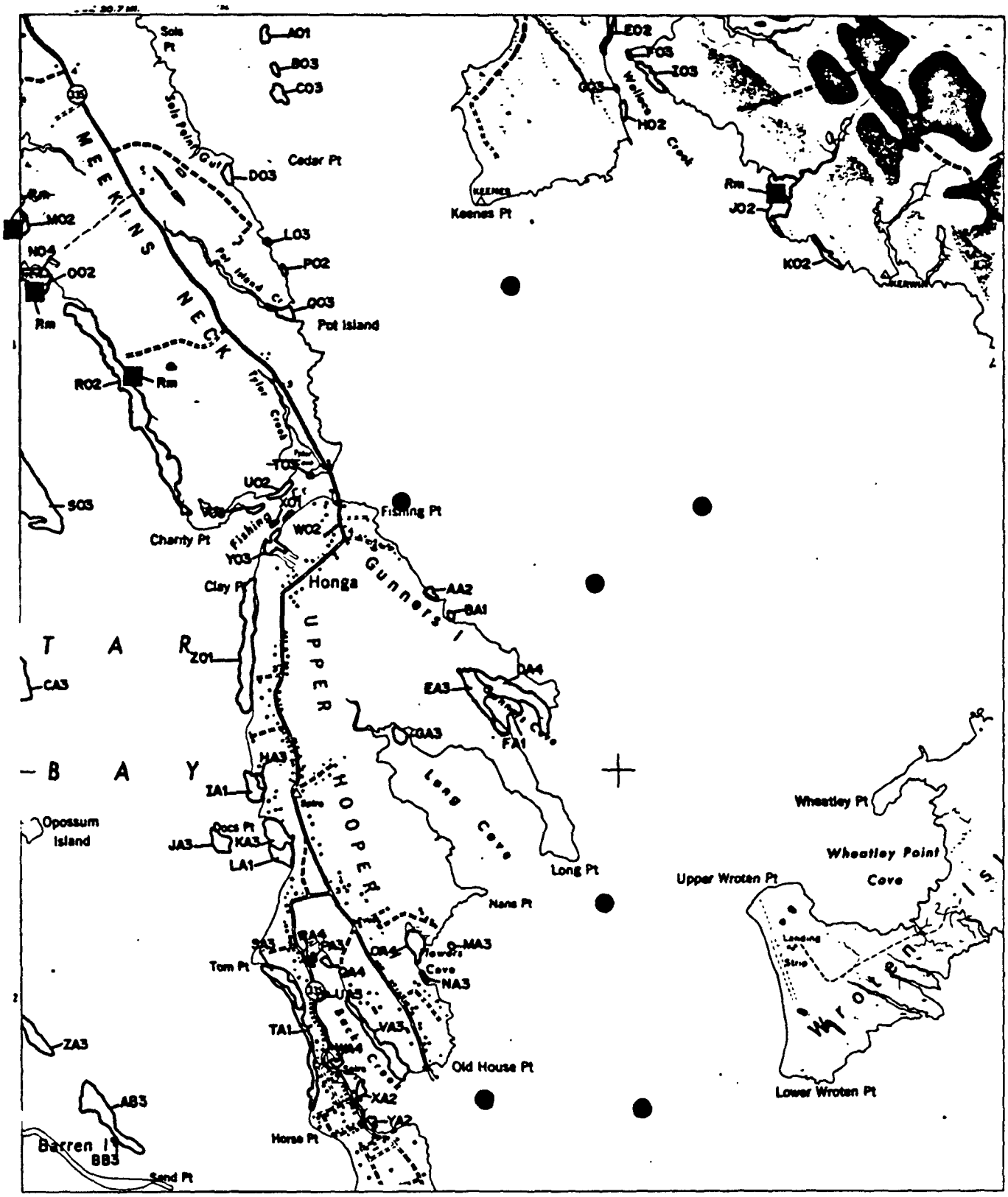
# 73



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




HONGA, MD

Northwest Quarter

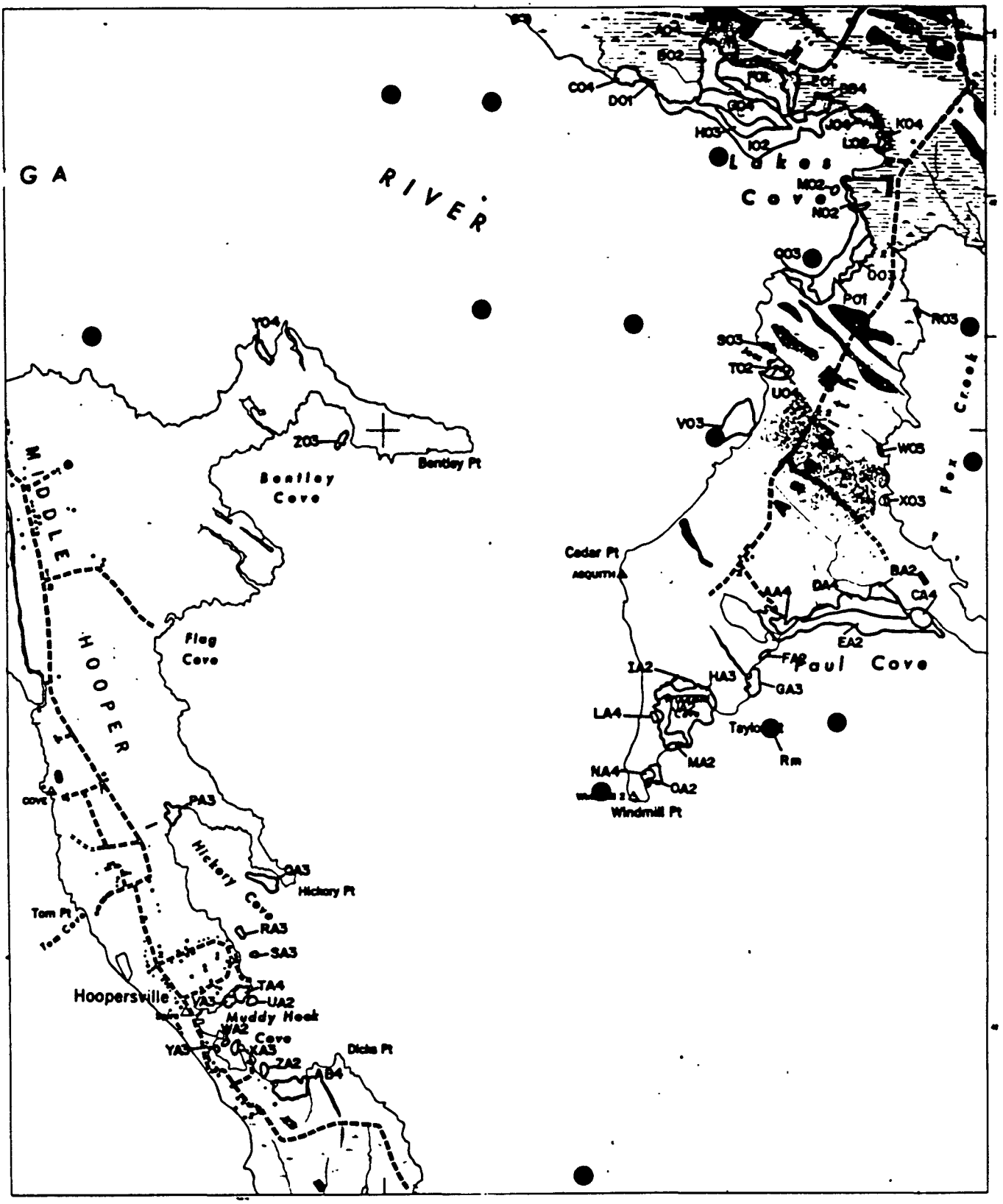
# 73



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Pdf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichelia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (muskgrass) |
| Vs | *Vallisneria americana* (wild celery) | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S

SCALE 1:12,000

HONGA, MD

Southeast Quarter

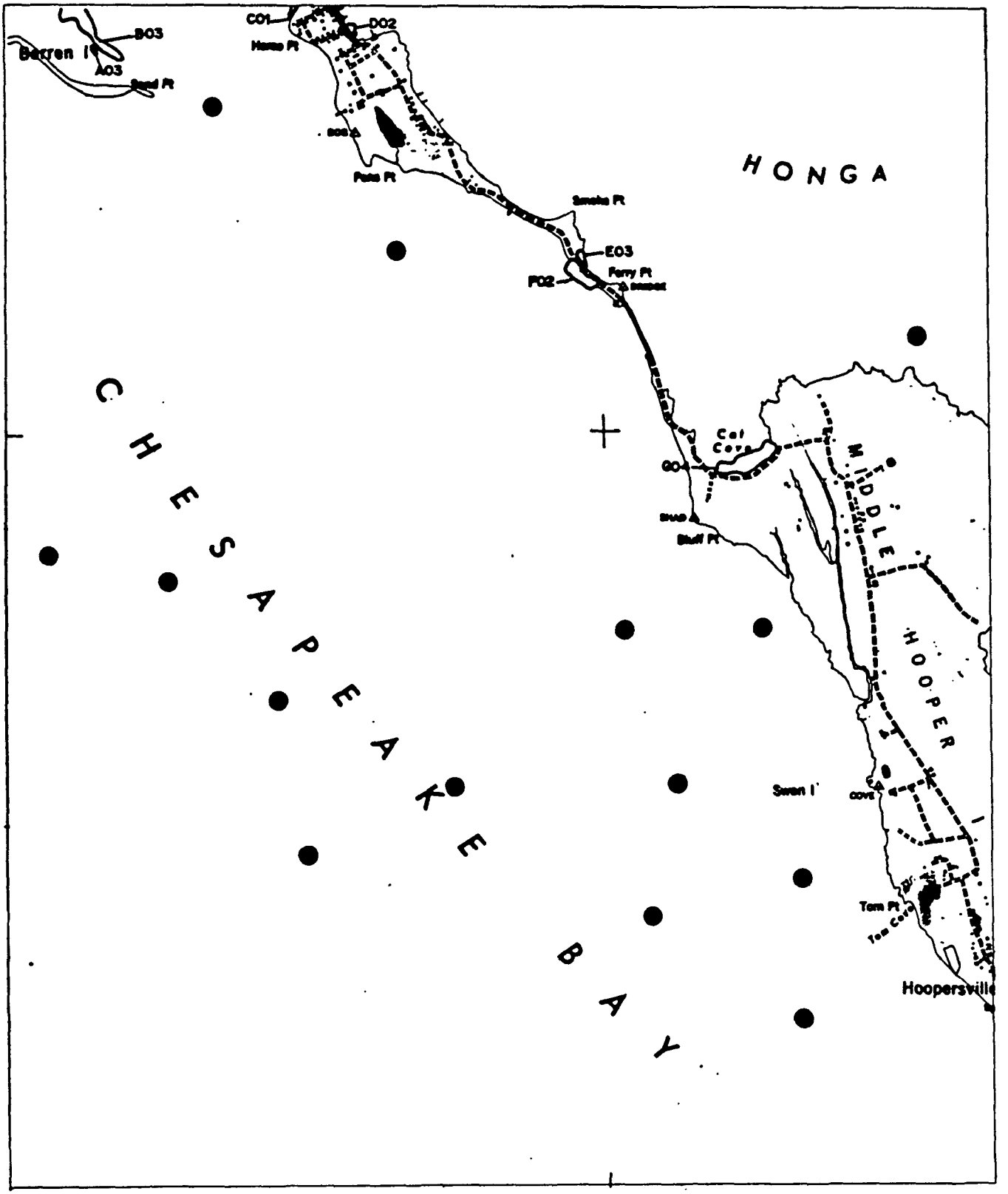
# 73



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pof | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (muskgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

HONGA, MD

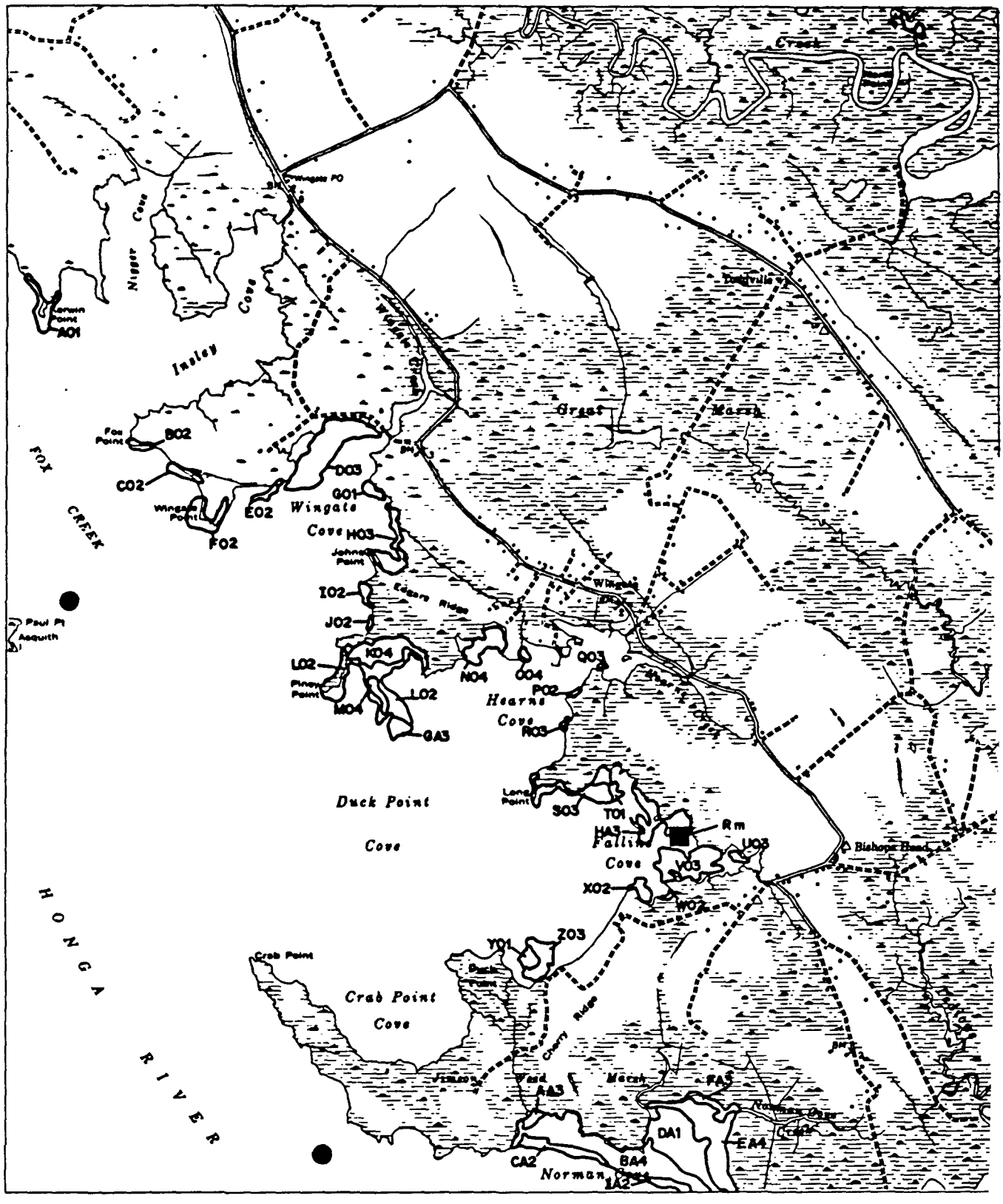
Southwest Quarter

# 73

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pol | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichelia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp (muskgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ● Citizens Field Observation
- ▲ VIMS Field Survey
- ♦ USGS

SCALE 1:12,000

WINGATE, MD

Southwest Quarter

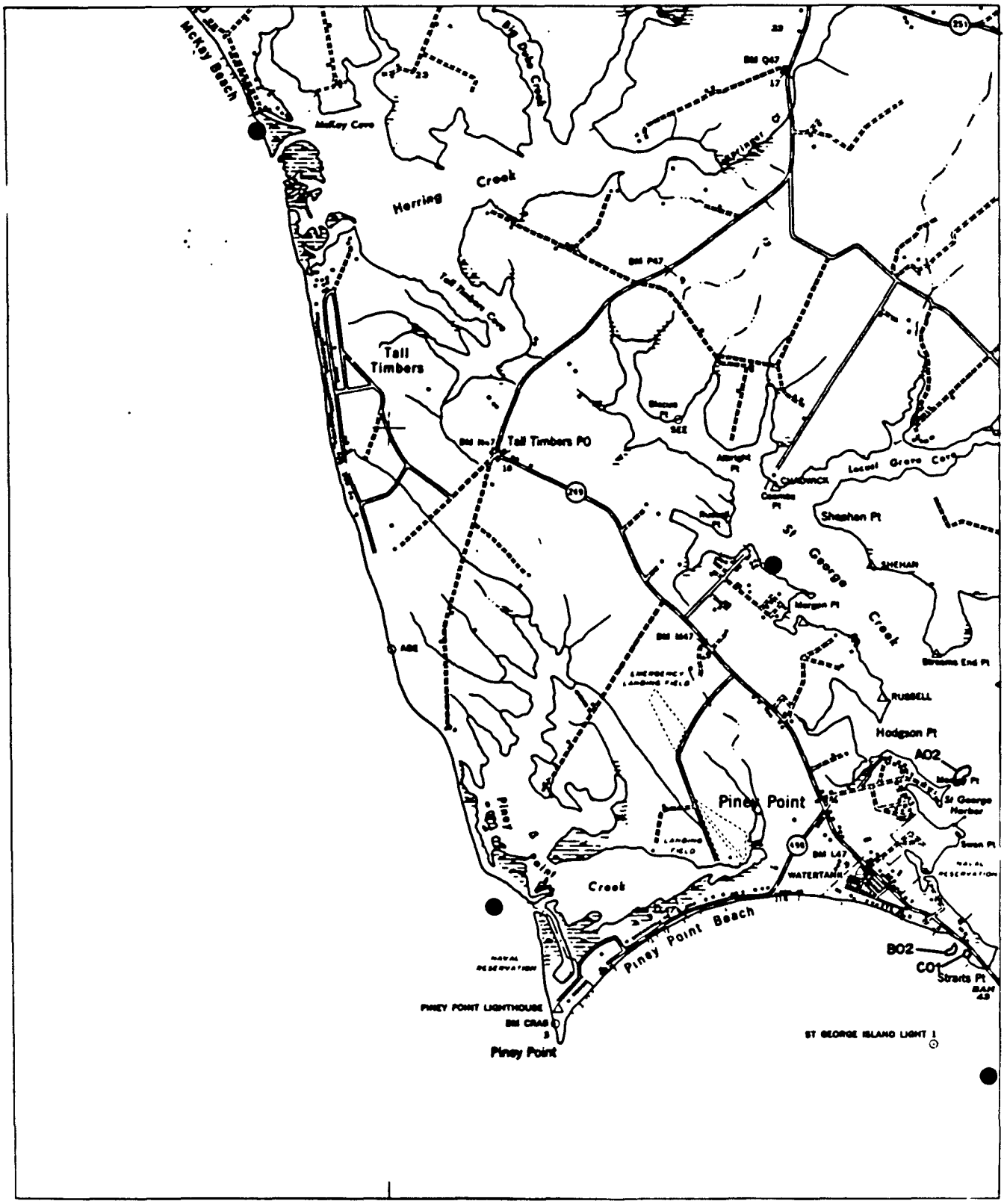
# 74



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Pdf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (muskgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

**SURVEY STATIONS**

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ● Citizens Field Observation
- ▲ VIMS Field Survey
- ♦ U.S.G.S

SCALE 1:12,000

PINEY POINT, MD–VA

Southeast Quarter

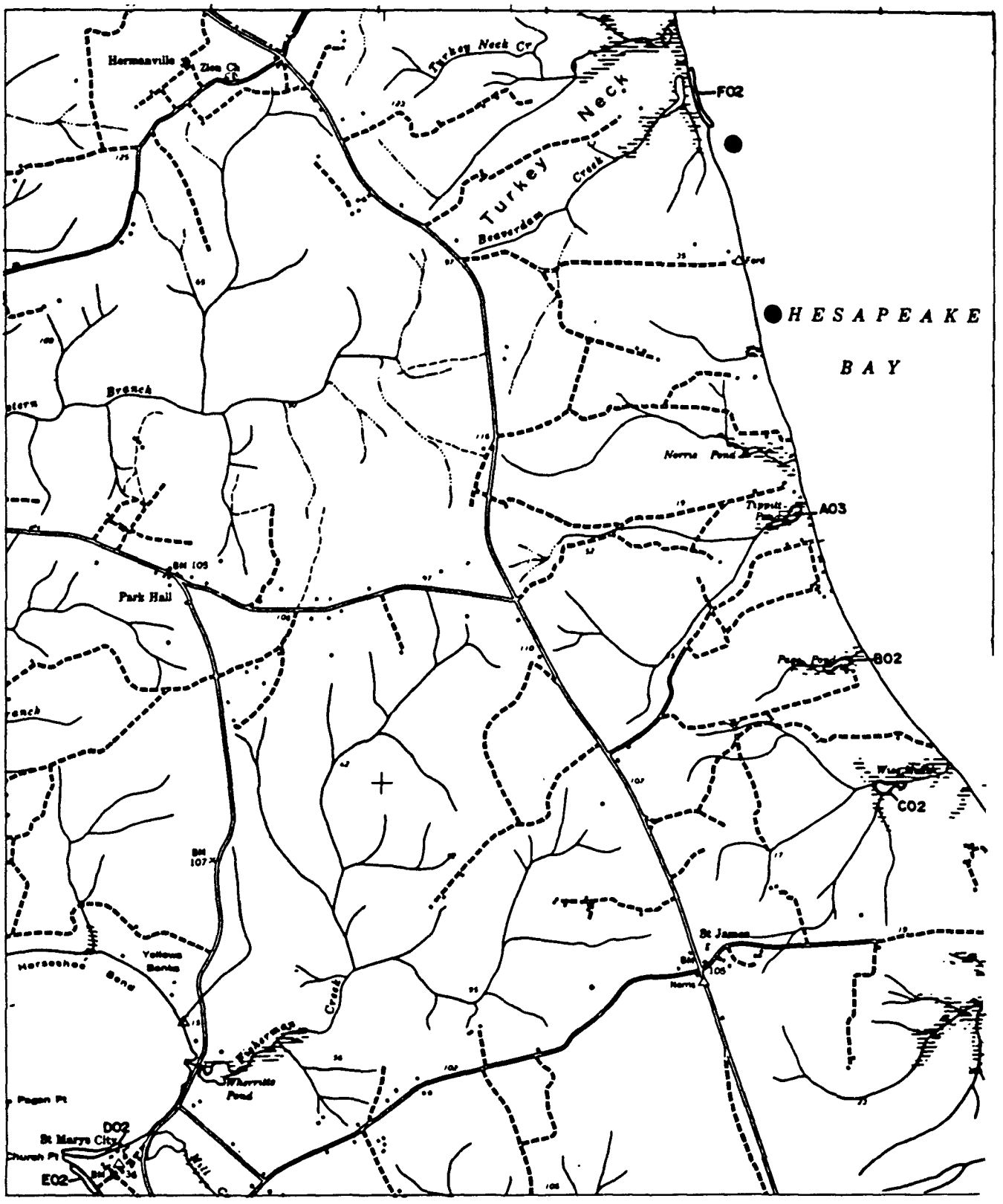
# 79



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ma | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pof | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (muskgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

ST. MARY'S CITY, MI

Northeast Quarter

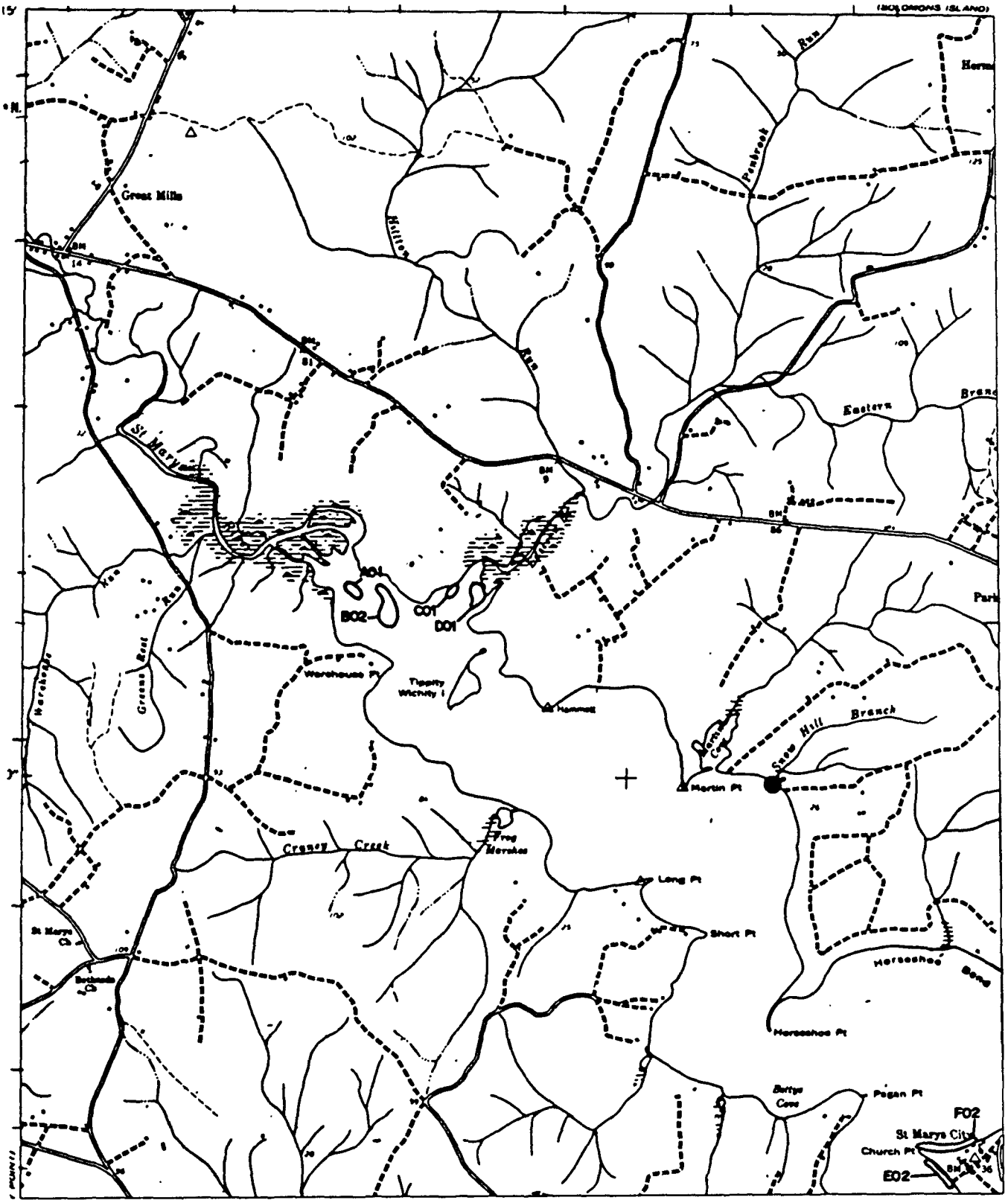
# 80



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichelia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (musksgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

**SURVEY STATIONS**

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ● Citizens Field Observation
- ▲ VIMS Field Survey
- ♦ U.S.G.S.

SCALE 1:12,000

ST. MARY'S CITY, MD

Northwest Quarter

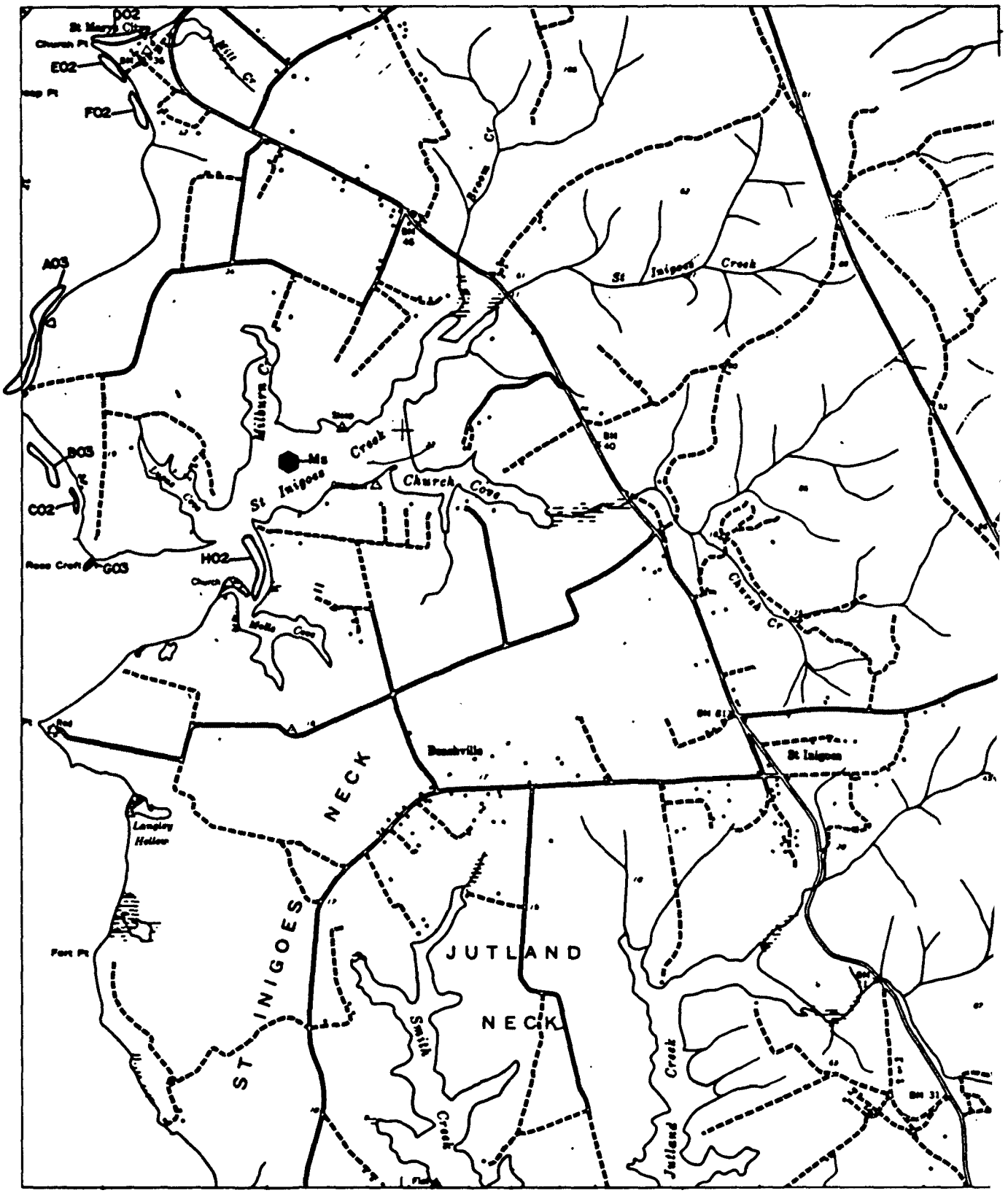
# 80



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Pof | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas* spp (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (muskgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

ST. MARY'S CITY, MD

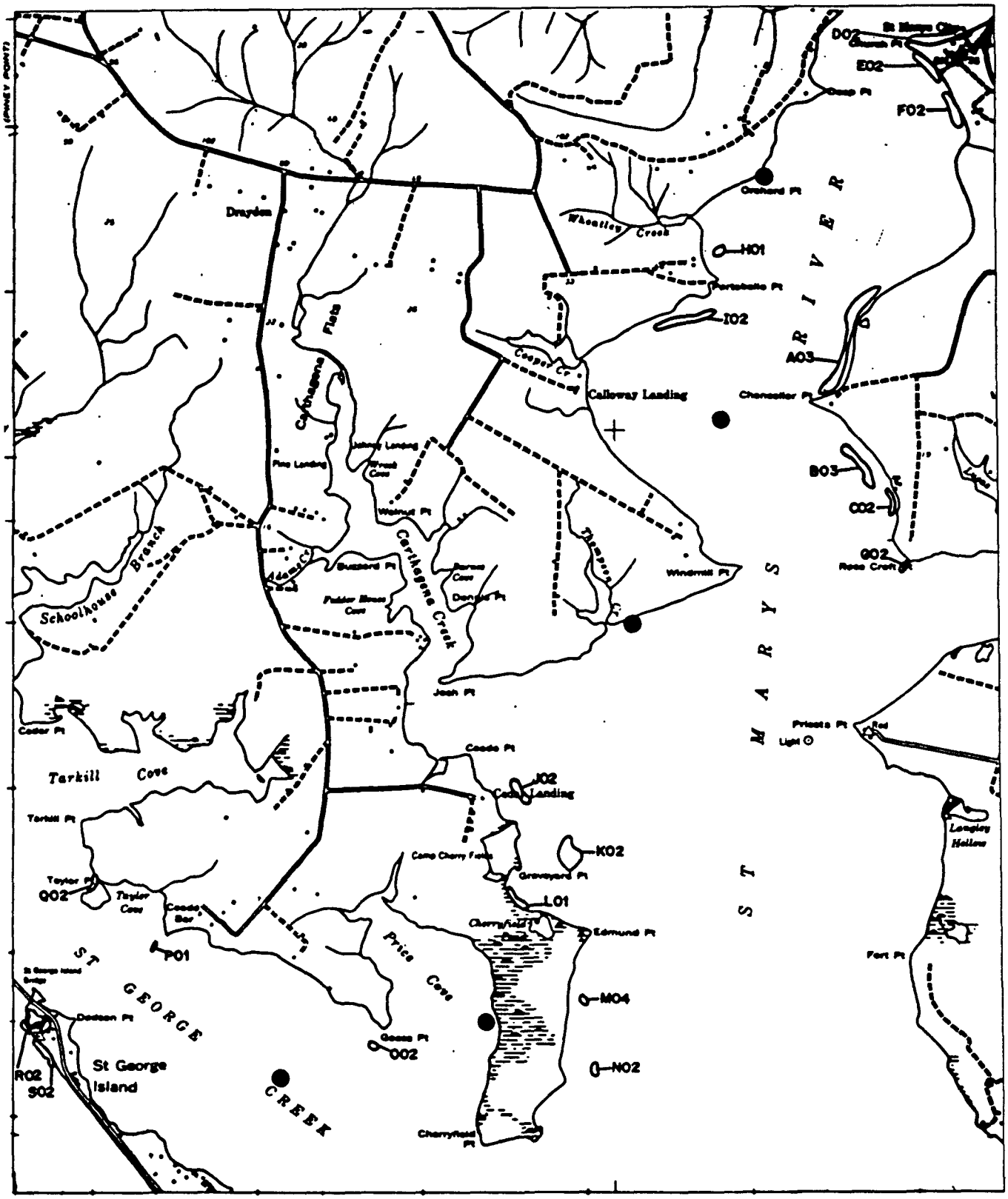
Southeast Quarter

# 80

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




ST. MARY'S CITY, MD

Southwest Quarter

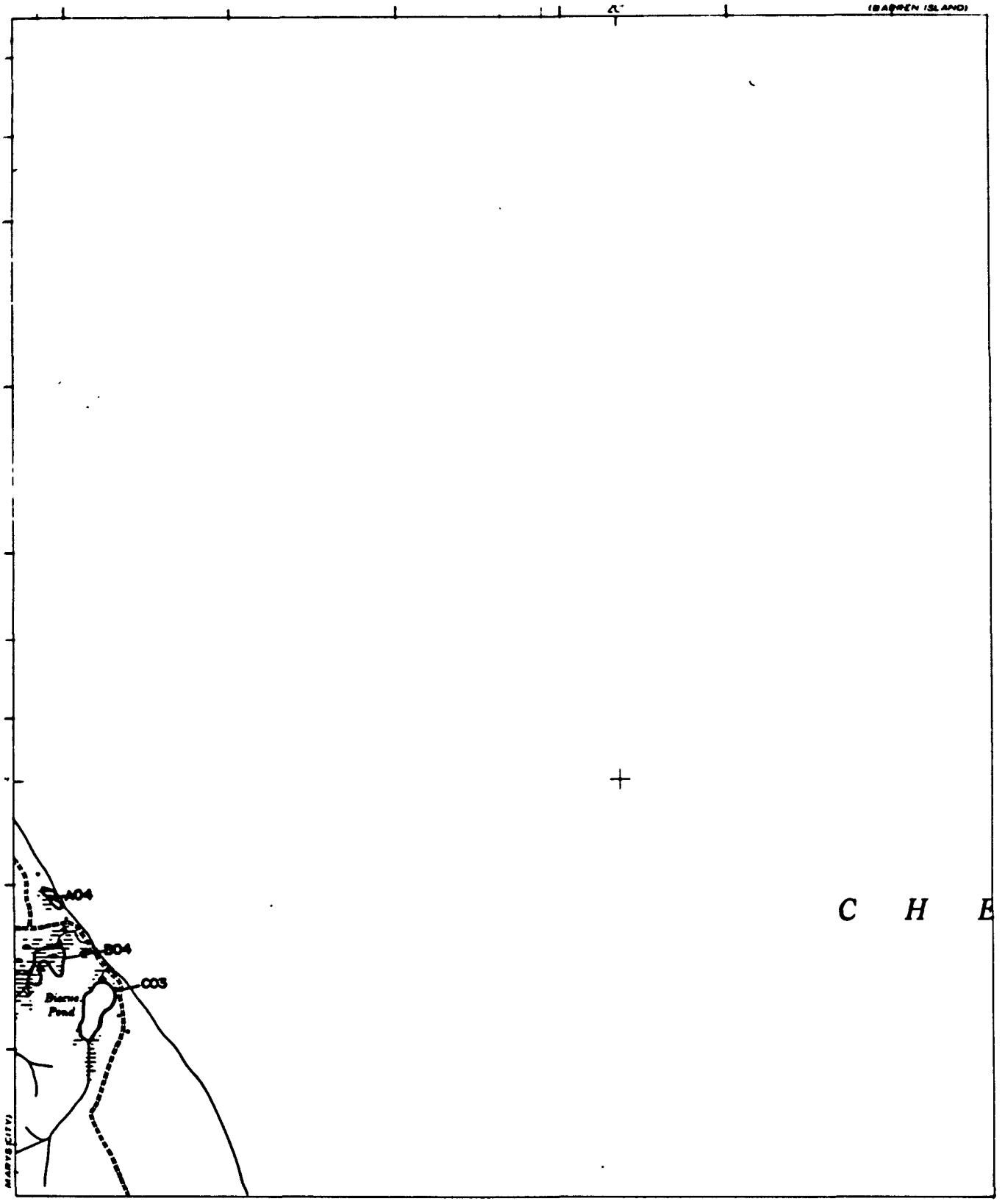
# 80



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

POINT NO POINT, MD

Northwest Quarter

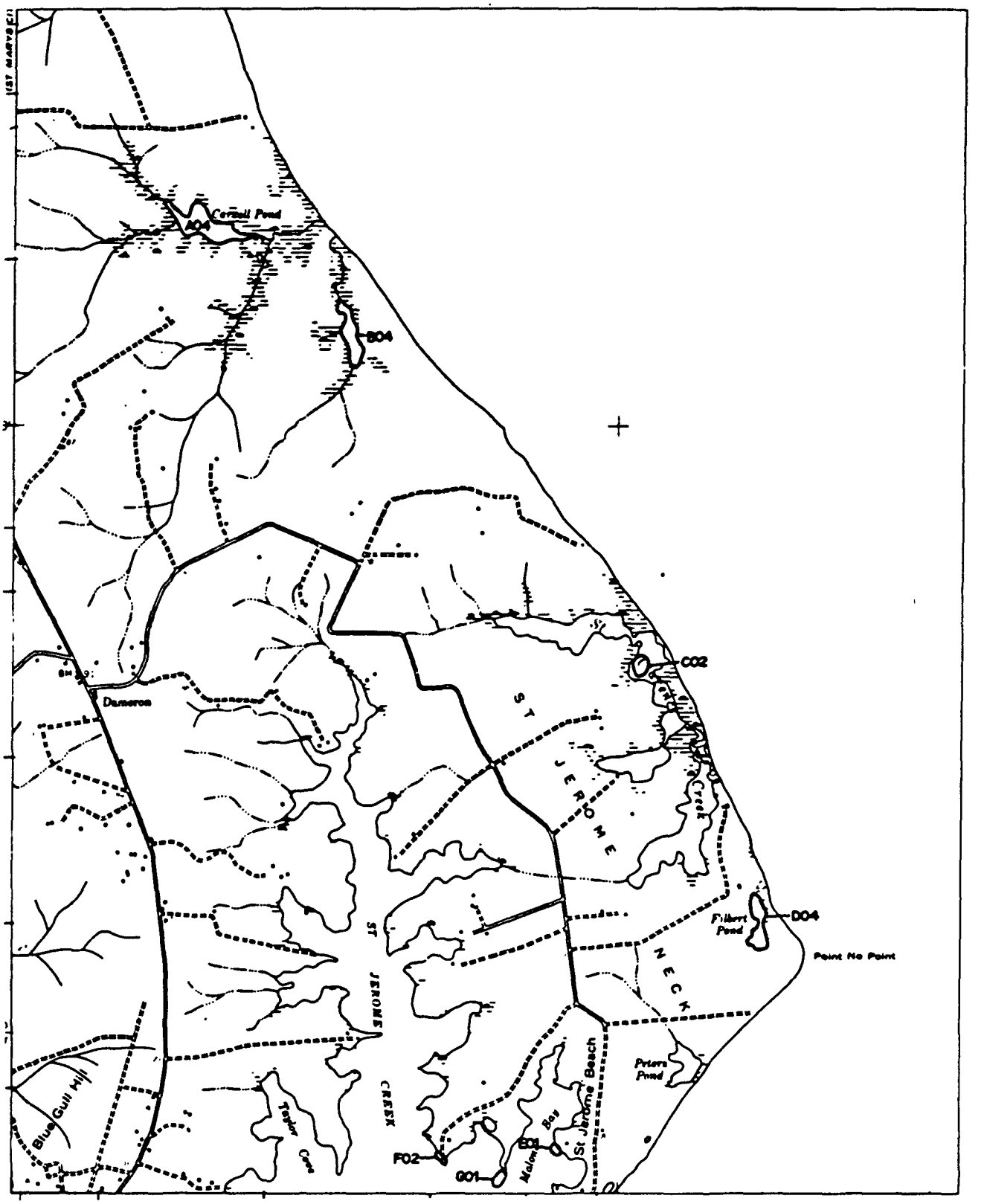
# 81



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pcf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichelia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

POINT NO POINT, MD

Southwest Quarter

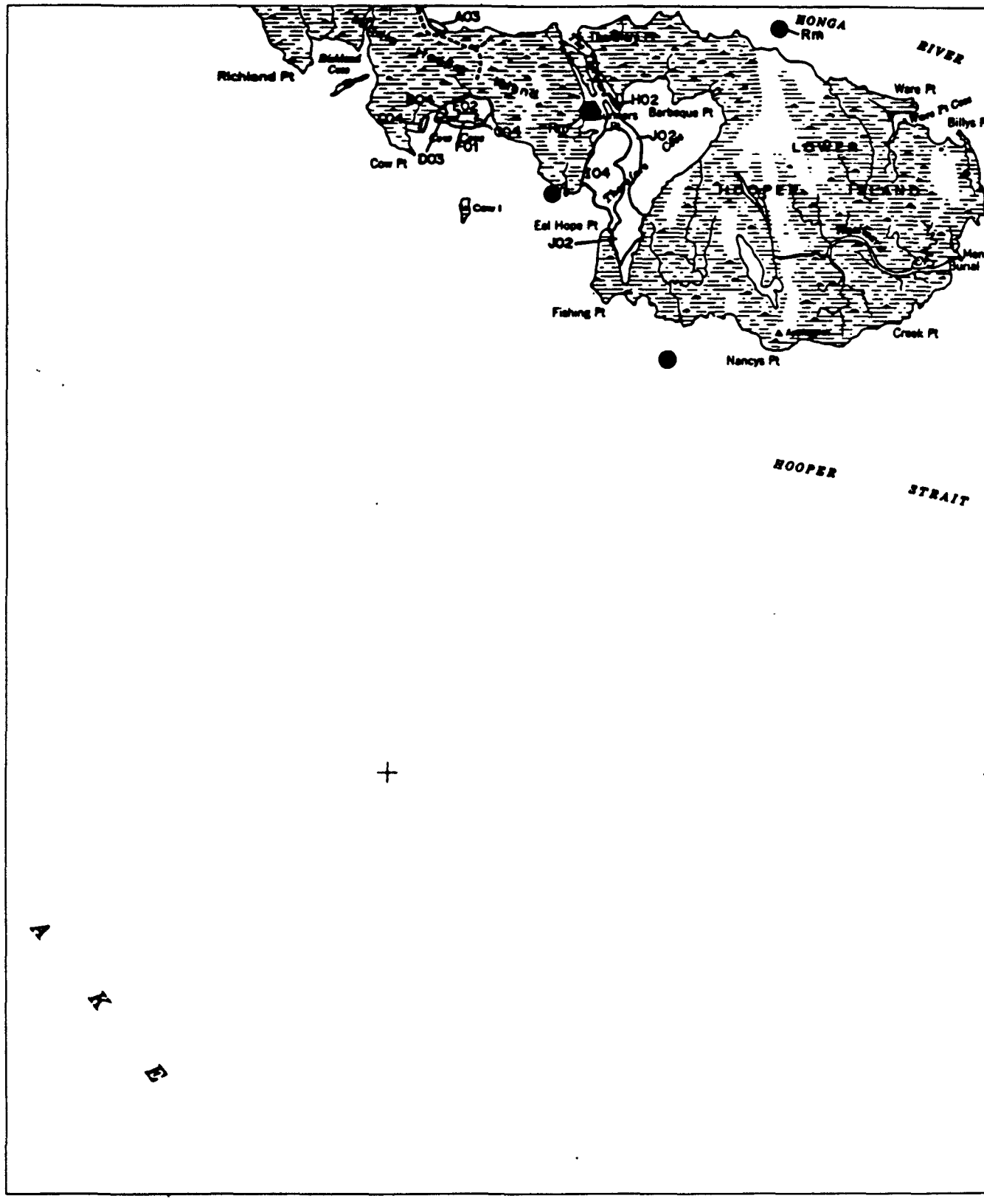
# 81



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pol | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichelia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (muskgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

RICHLAND POINT, MD

Northeast Quarter

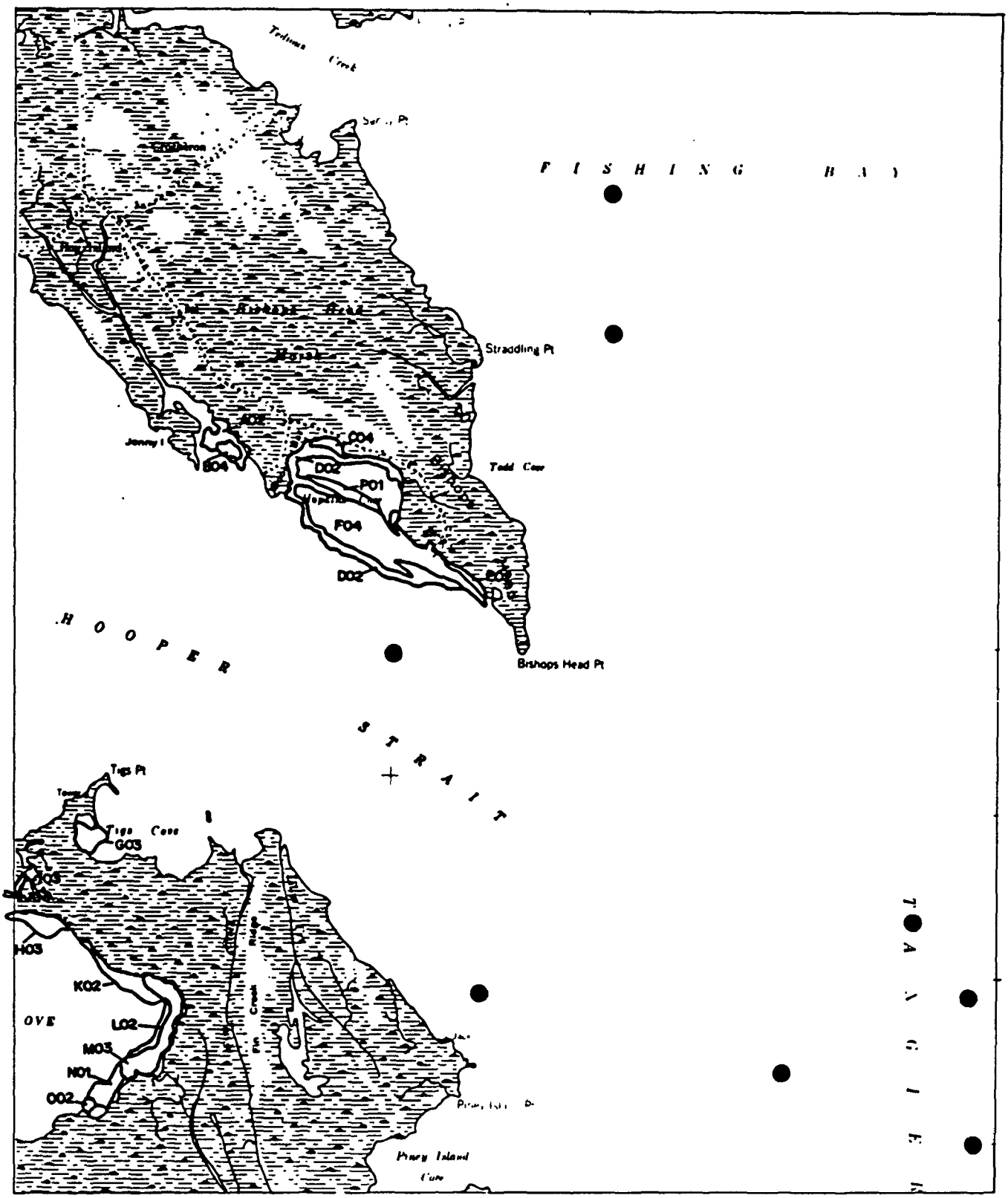
# 82



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Pcl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (musksgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

BLOODSWORTH ISLAND, MD

Northeast Quarter

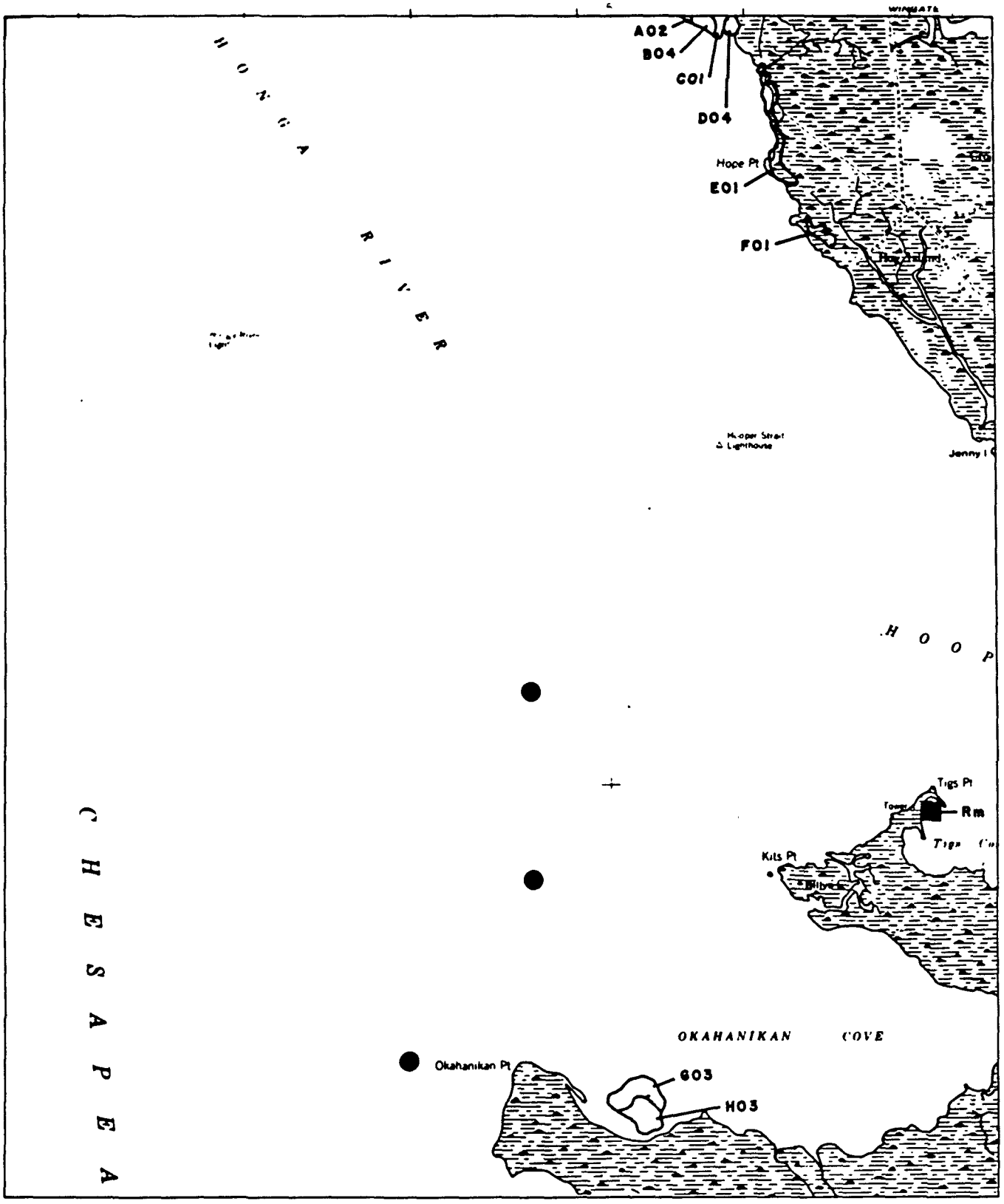
# 83



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pof | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp.* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

BLOODSWORTH ISLAND, MD

Northwest Quarter

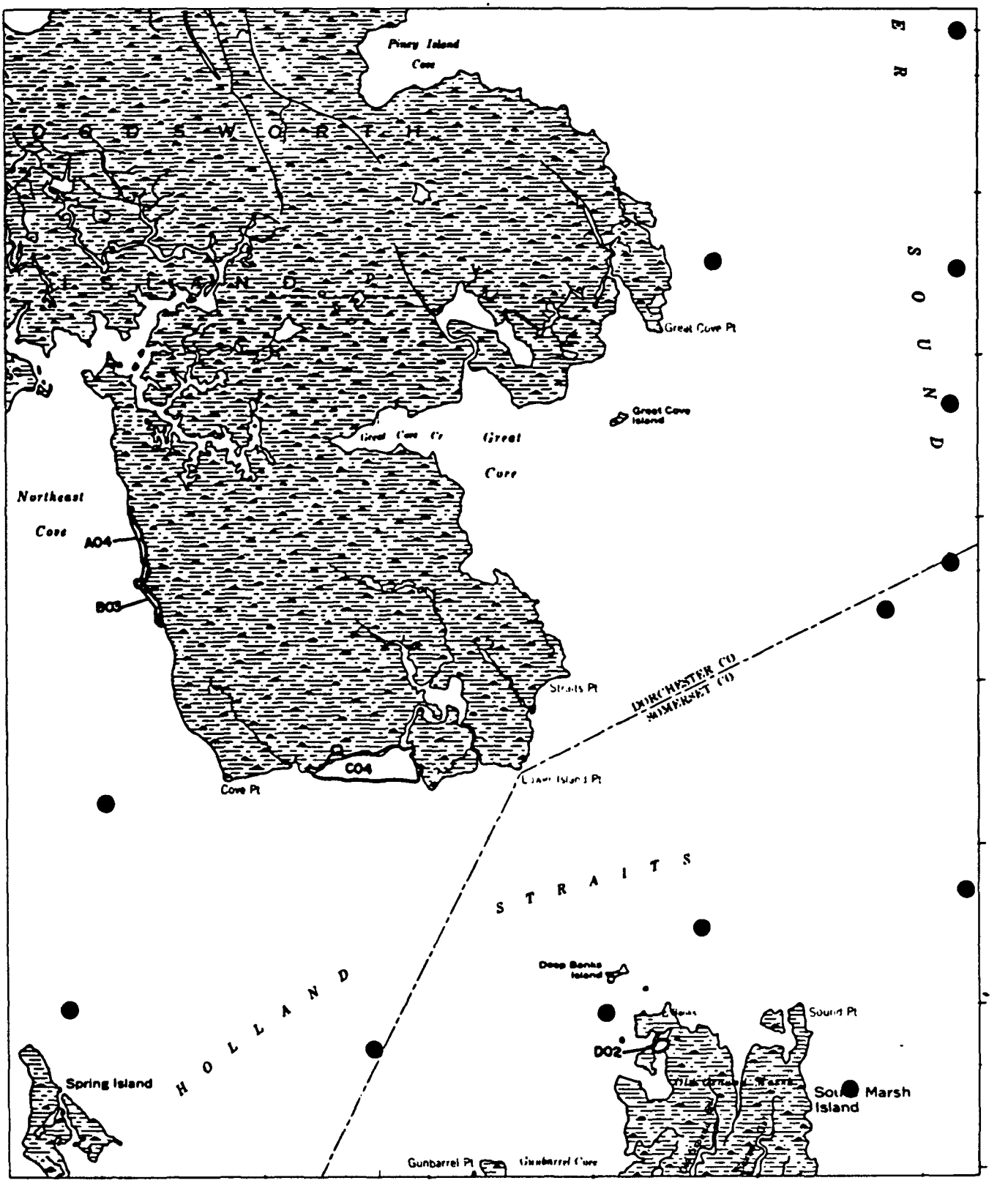
# 83



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pol | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (muskgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

BLOODSWORTH ISLAND, MD

Southeast Quarter

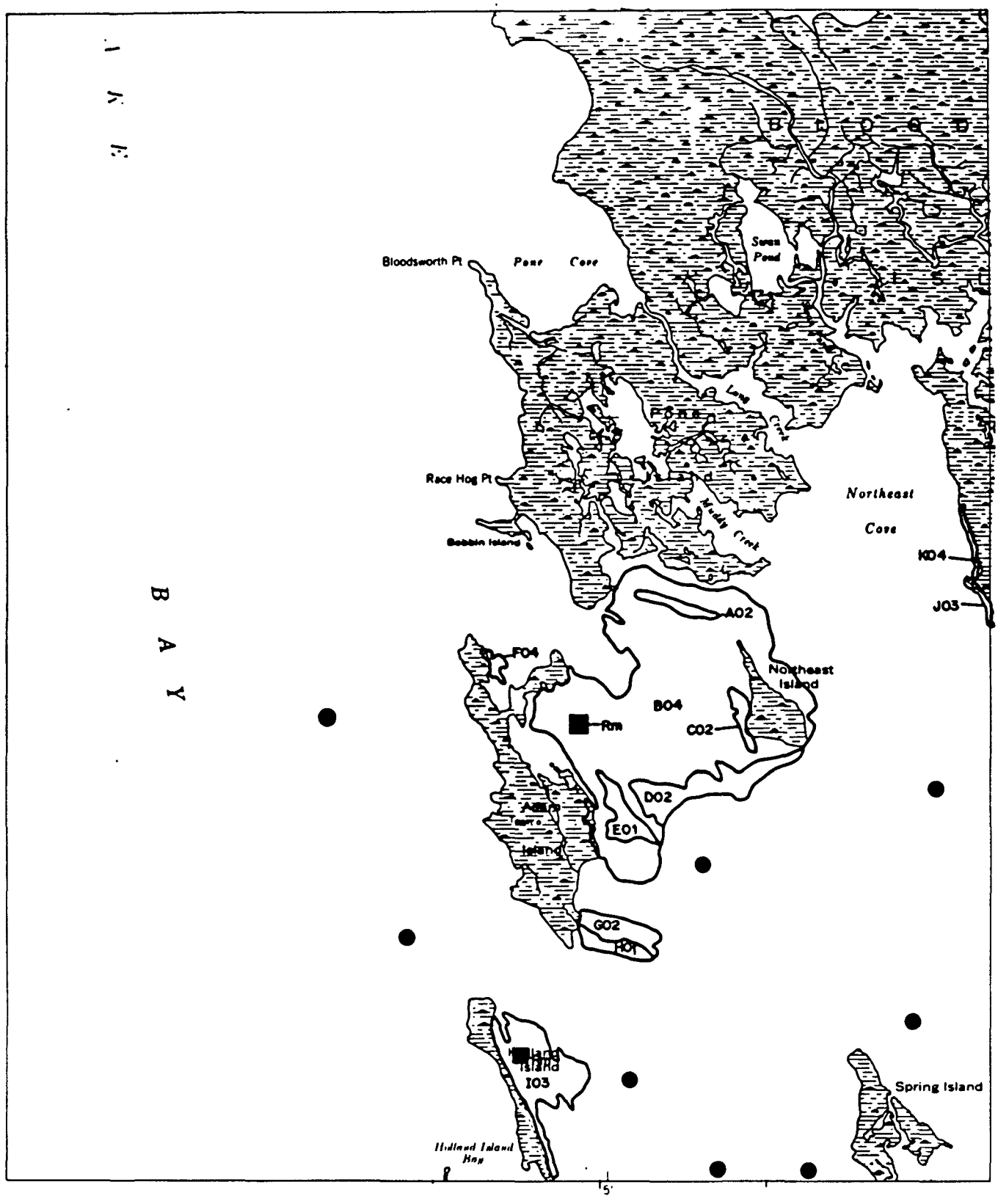
# 83



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (muskgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S

SCALE 1:12,000

BLOODSWORTH ISLAND, MD

Southwest Quarter

# 83



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985


SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

DEAL ISLAND, MD

Southeast Quarter

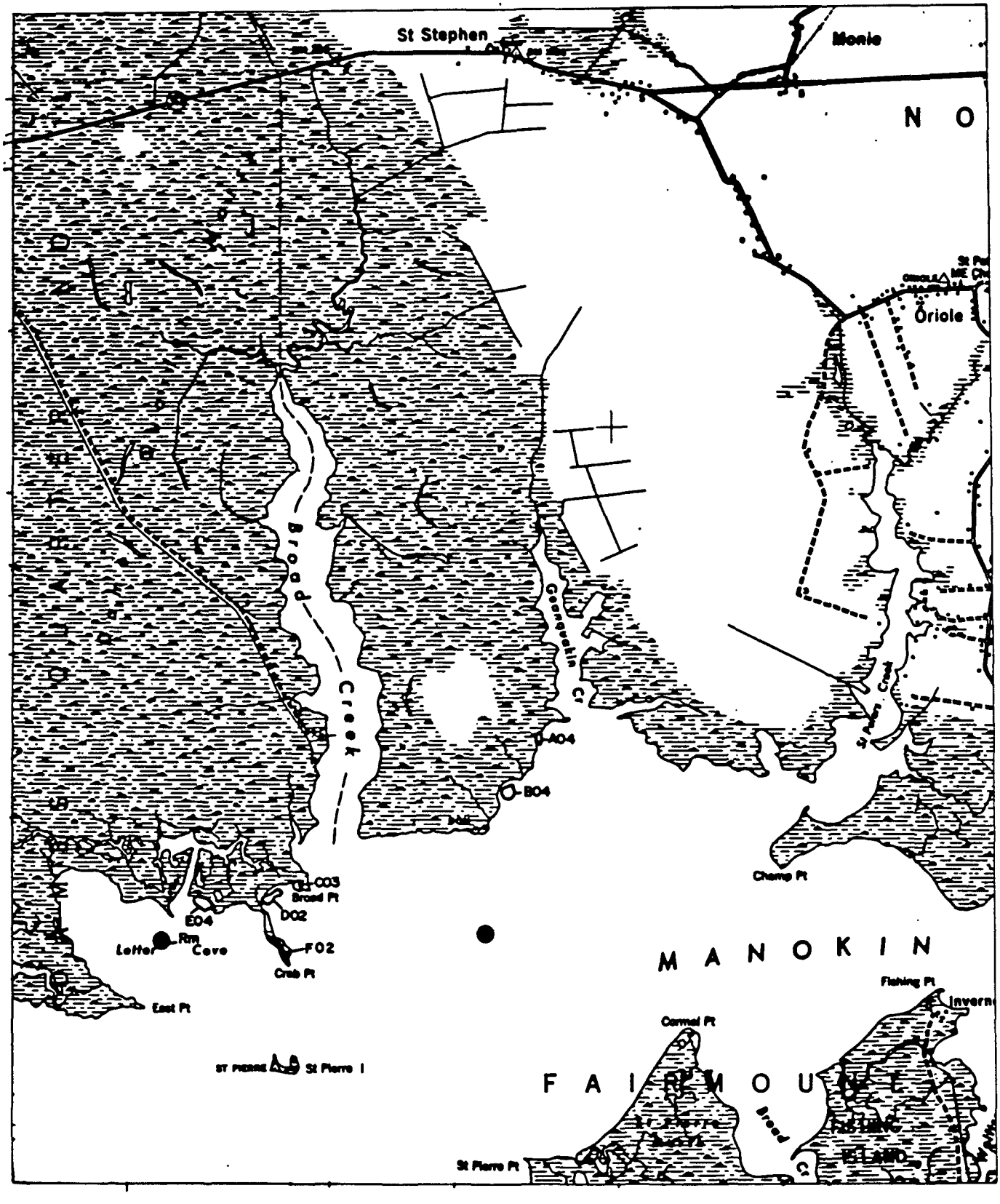
# 84



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

MONIE, MD

Southwest Quarter

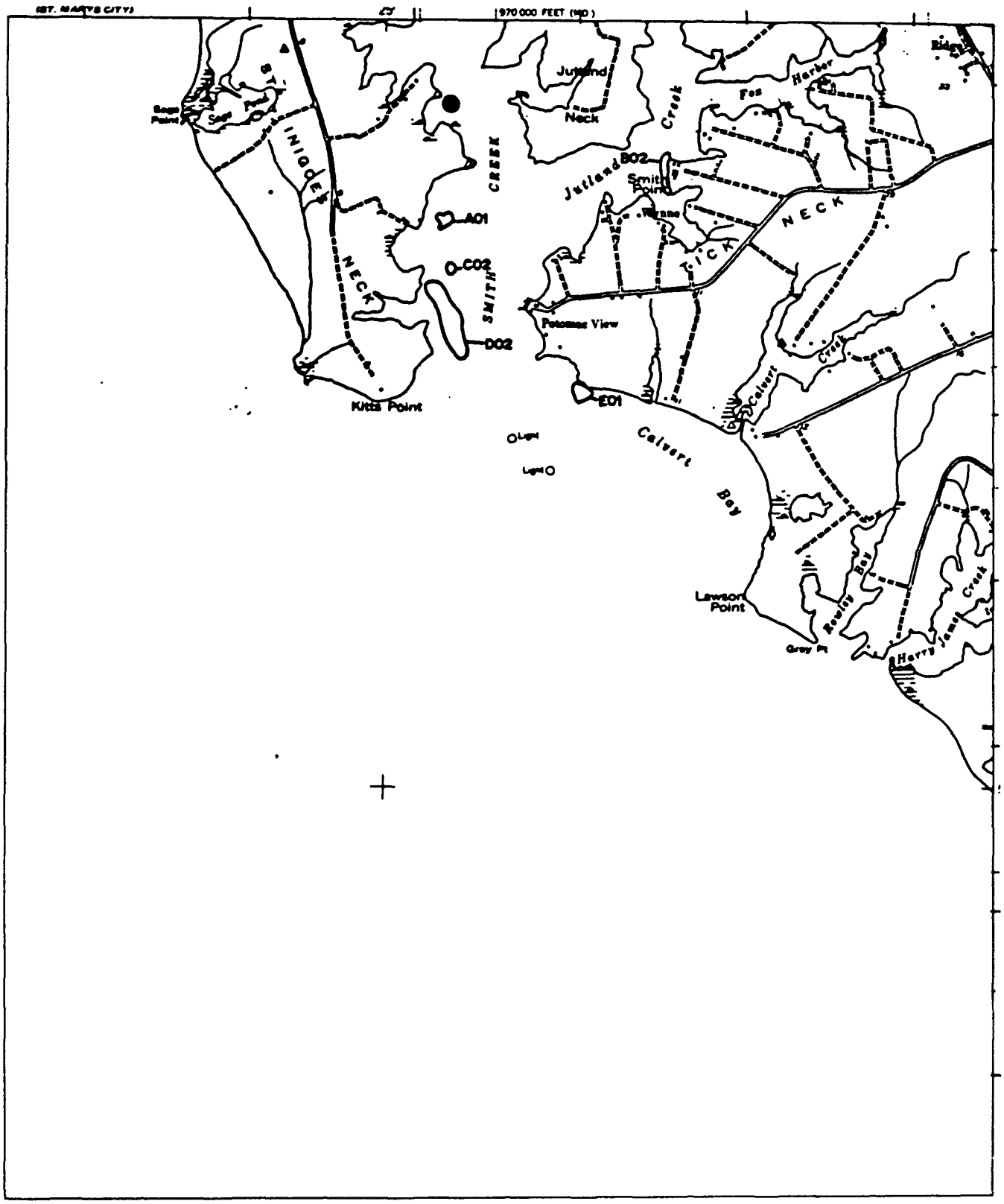
# 85



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichelia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas* spp (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp (muskgrass) |
| Vs | *Vallisneria americana* (wild celery) | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

ST GEORGE ISLAND, MD

Northeast Quarter

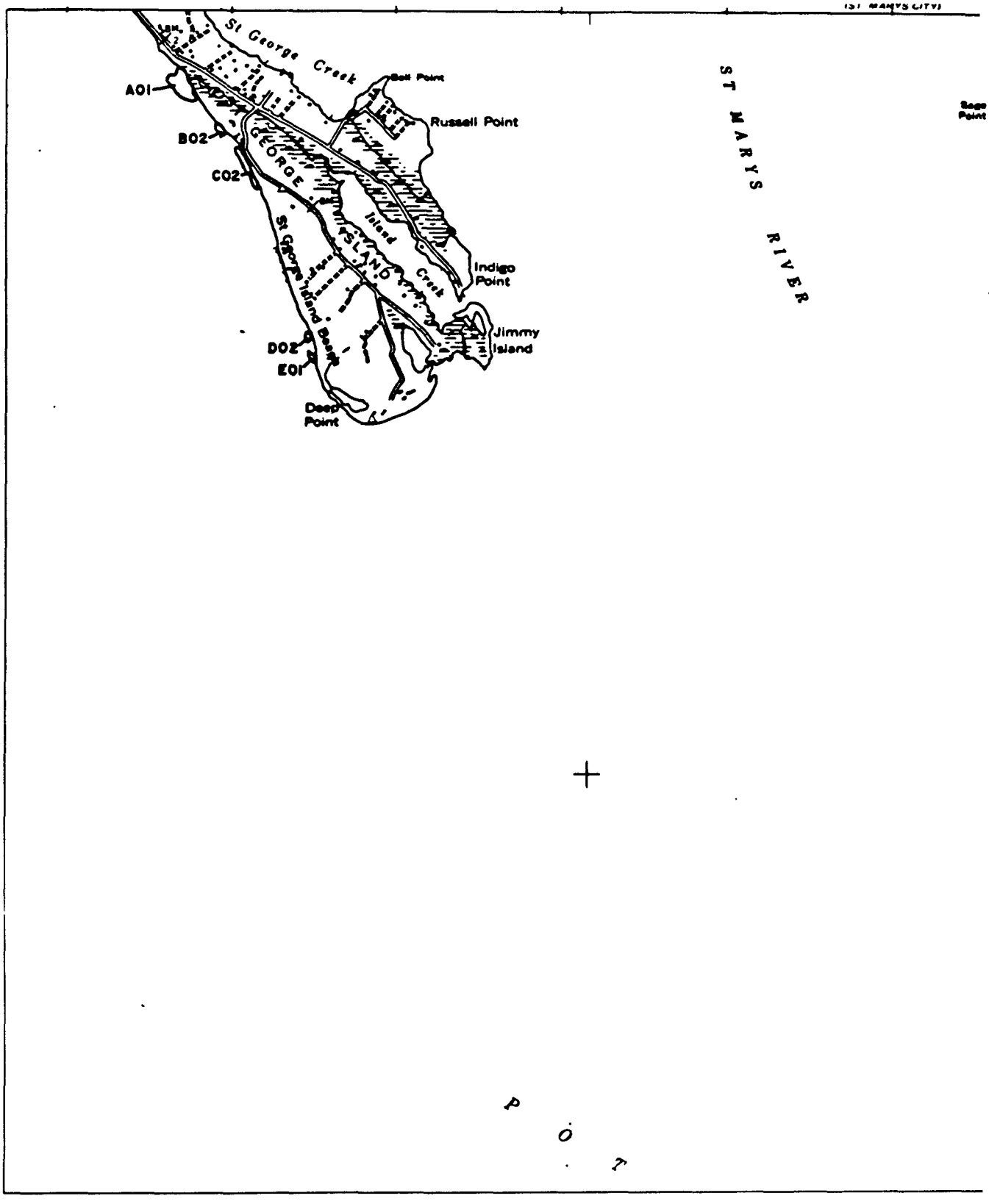
# 89



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Pol | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (musksgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

SURVEY STATIONS

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ⬢ Citizens Field Observation
- ▲ VIMS Field Survey
- ◆ U.S.G.S.

SCALE 1:12,000

ST. GEORGE ISLAND

Northwest Quarte

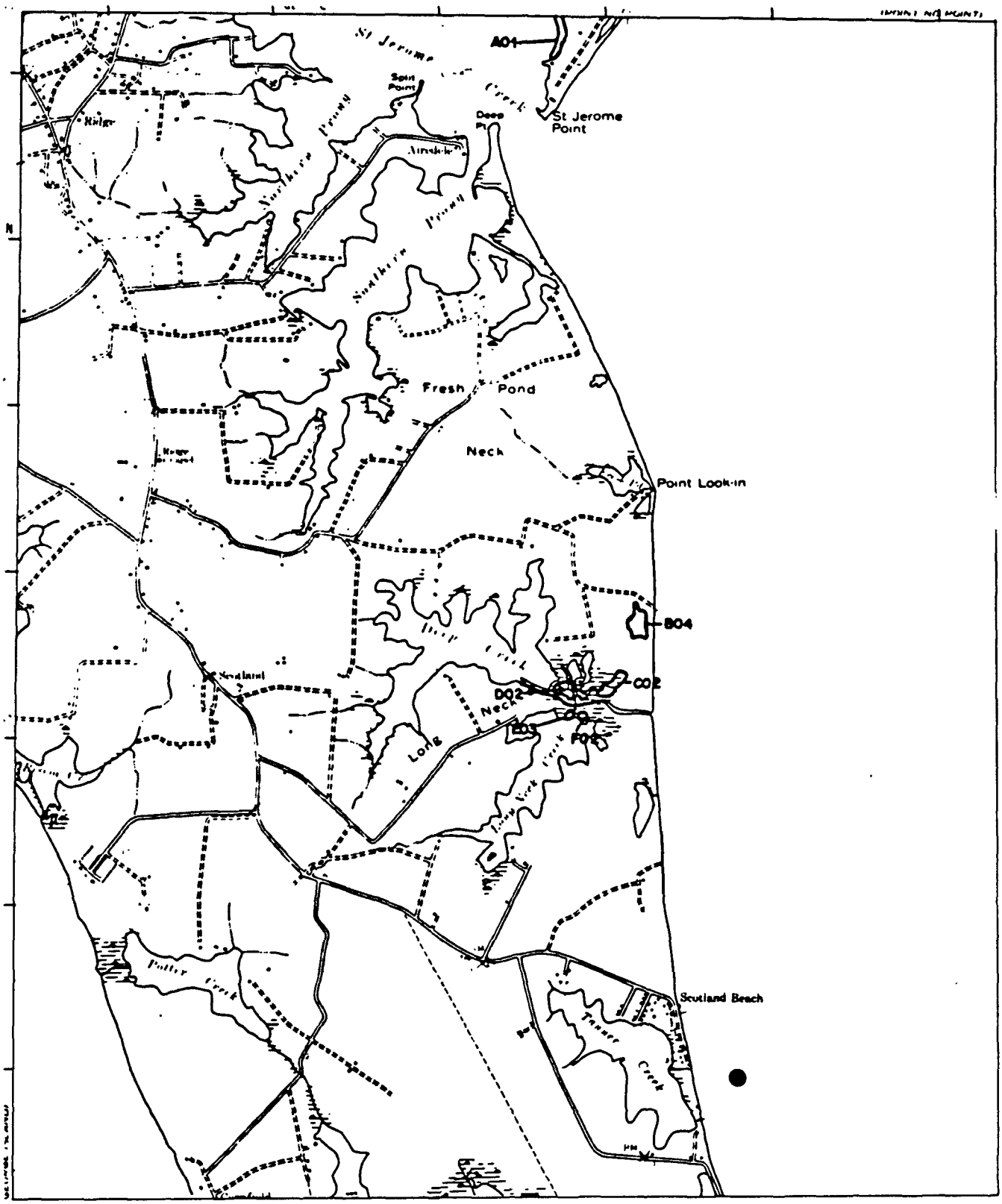
# 89



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pof | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp (muskgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

POINT LOOKOUT, MD

Northwest Quarter

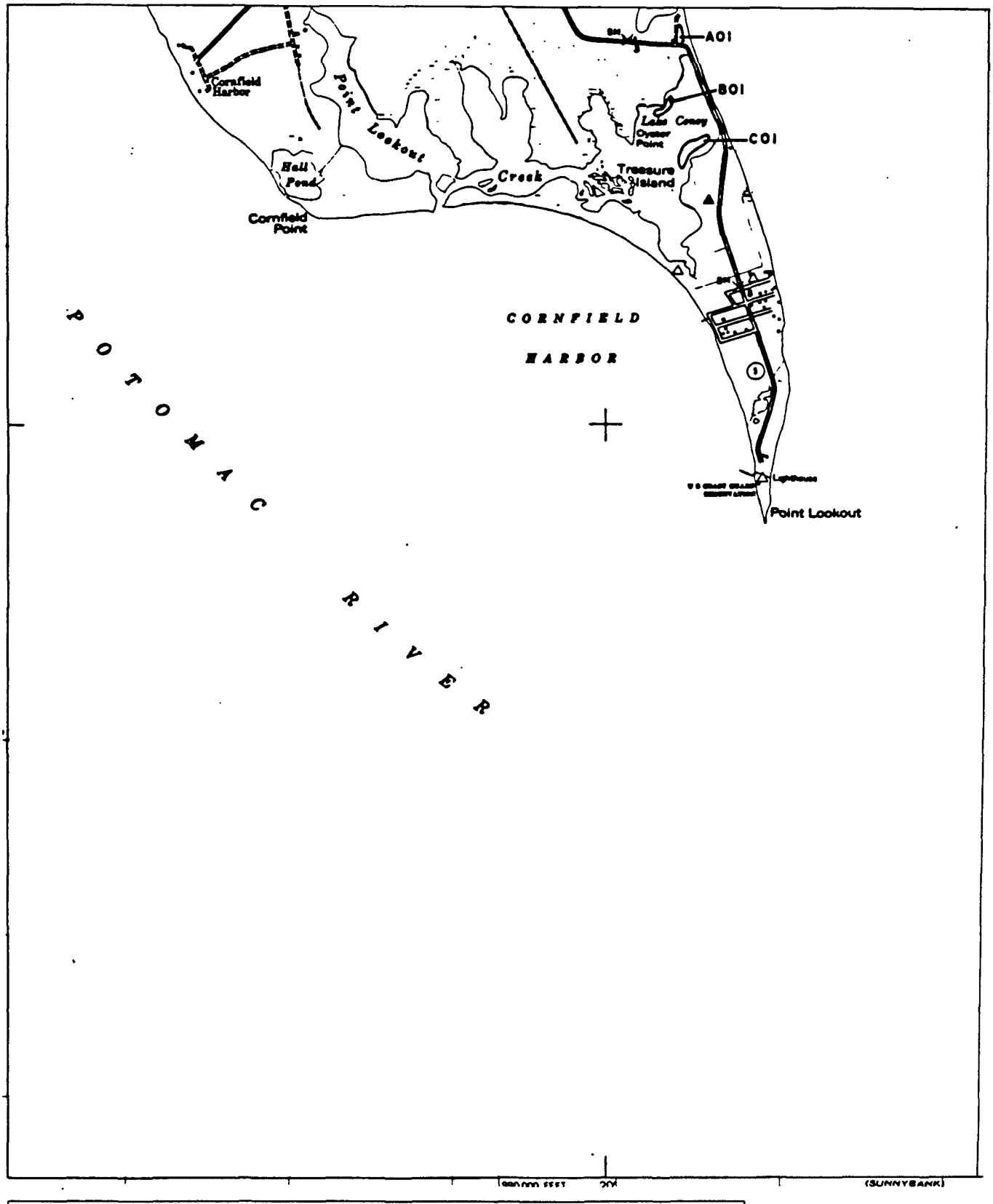
# 90



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (muskgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

POINT LOOKOUT, MD

Southwest Quarter

# 90



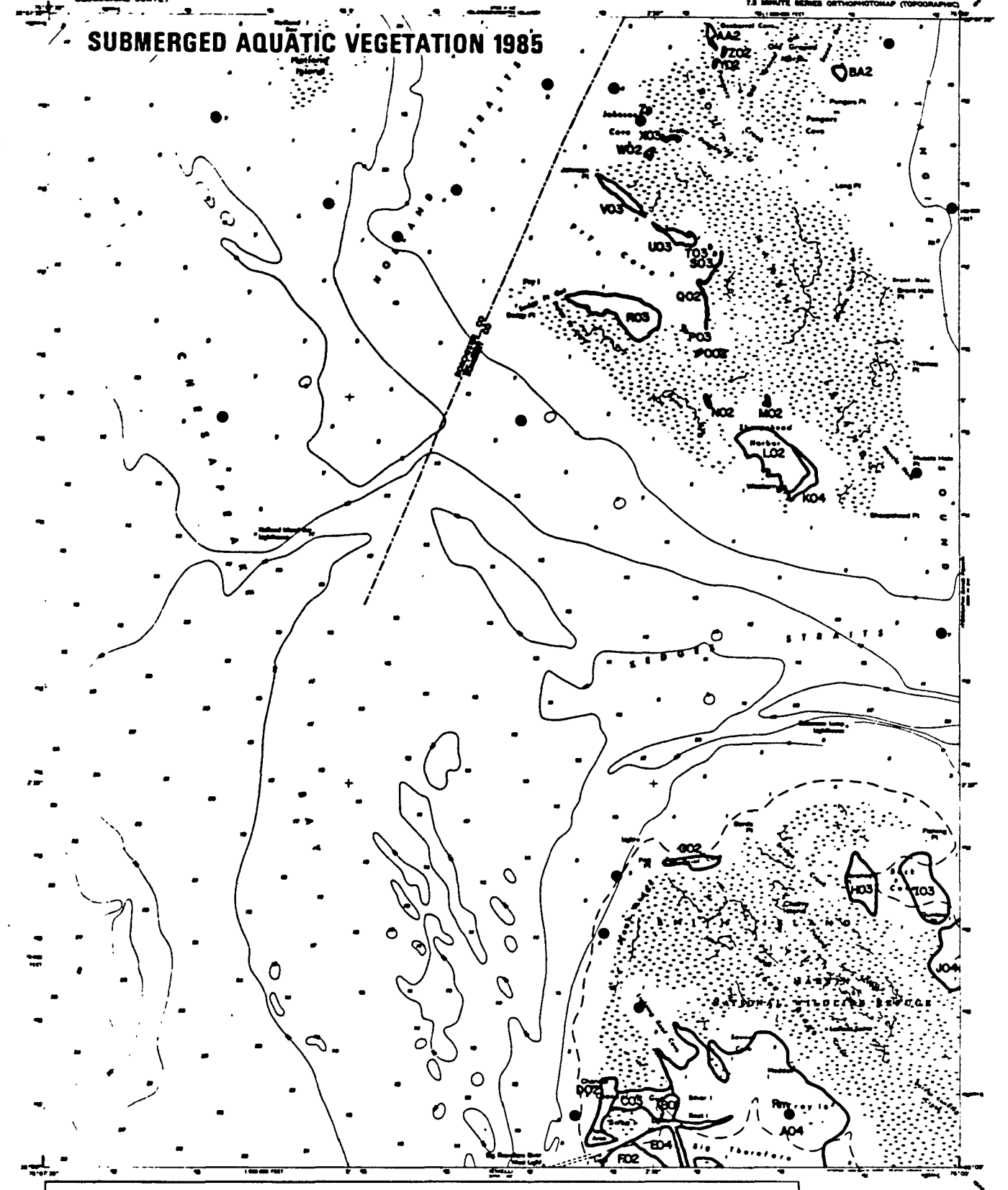
U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

KEDGES STRAITS QUADRANGLE
MARYLAND
7.5 MINUTE SERIES ORTHOPHOTOMAP (TOPOGRAPHIC)

# SUBMERGED AQUATIC VEGETATION 1985




## SPECIES

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichelia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (musksgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

## SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:24,000

VIMS

ROAD CLASSIFICATION

KEDGES STRAITS, MD.

KEDGES STRAITS, MD.

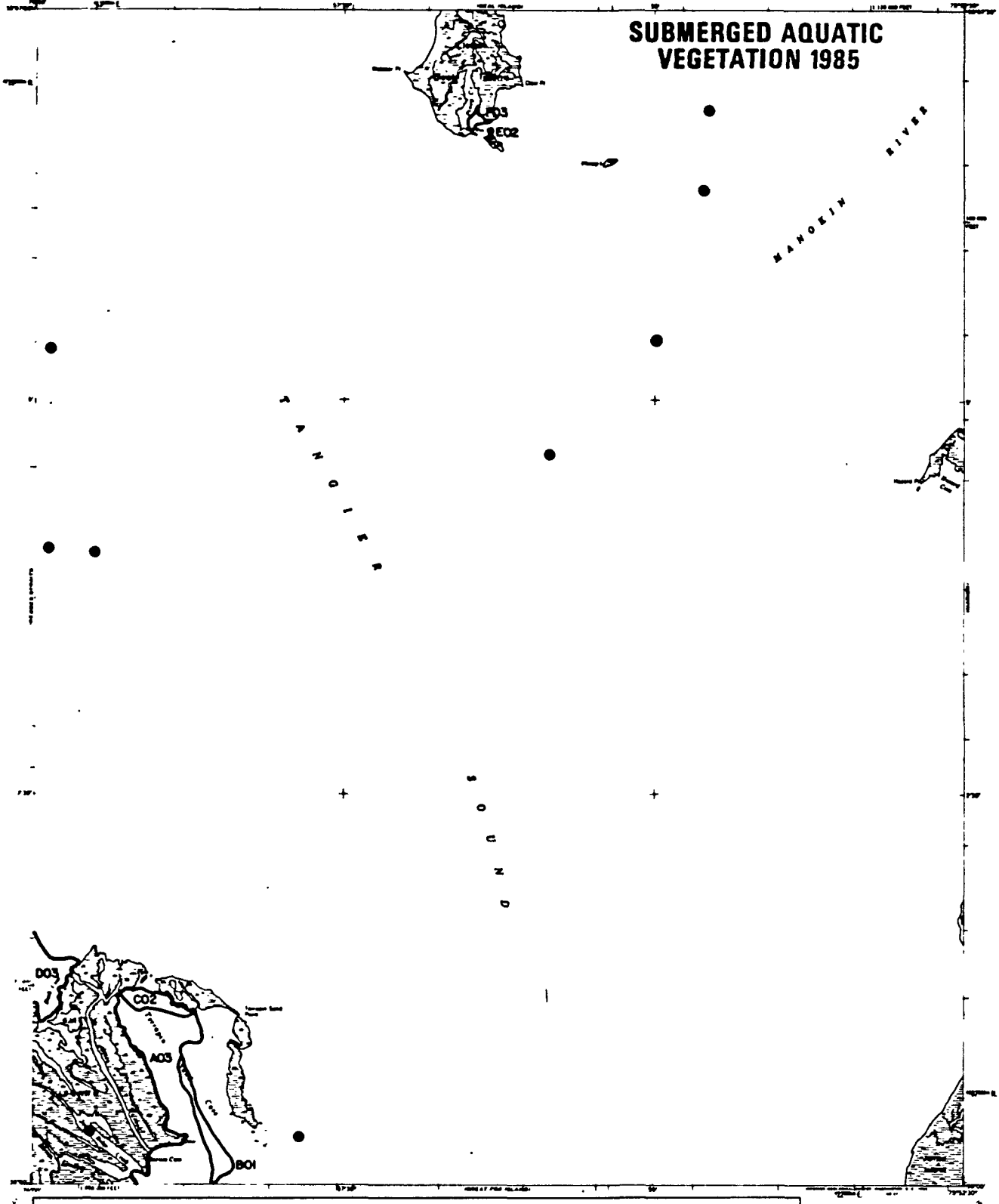
91

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

UNITED STATES
DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS

TERRAPIN SAND POINT QUADRANGLE
MARYLAND-SOMERSET CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

# SUBMERGED AQUATIC VEGETATION 1985




## SPECIES

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (musksgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

## SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S

SCALE 1:24,000

VIMS

ROAD CLASSIFICATION

TERRAPIN SAND POINT, MD.

92

# SUBMERGED AQUATIC VEGETATION 1985


SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (muskgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S

SCALE 1:12,000

MARION, MD

Northeast Quarter

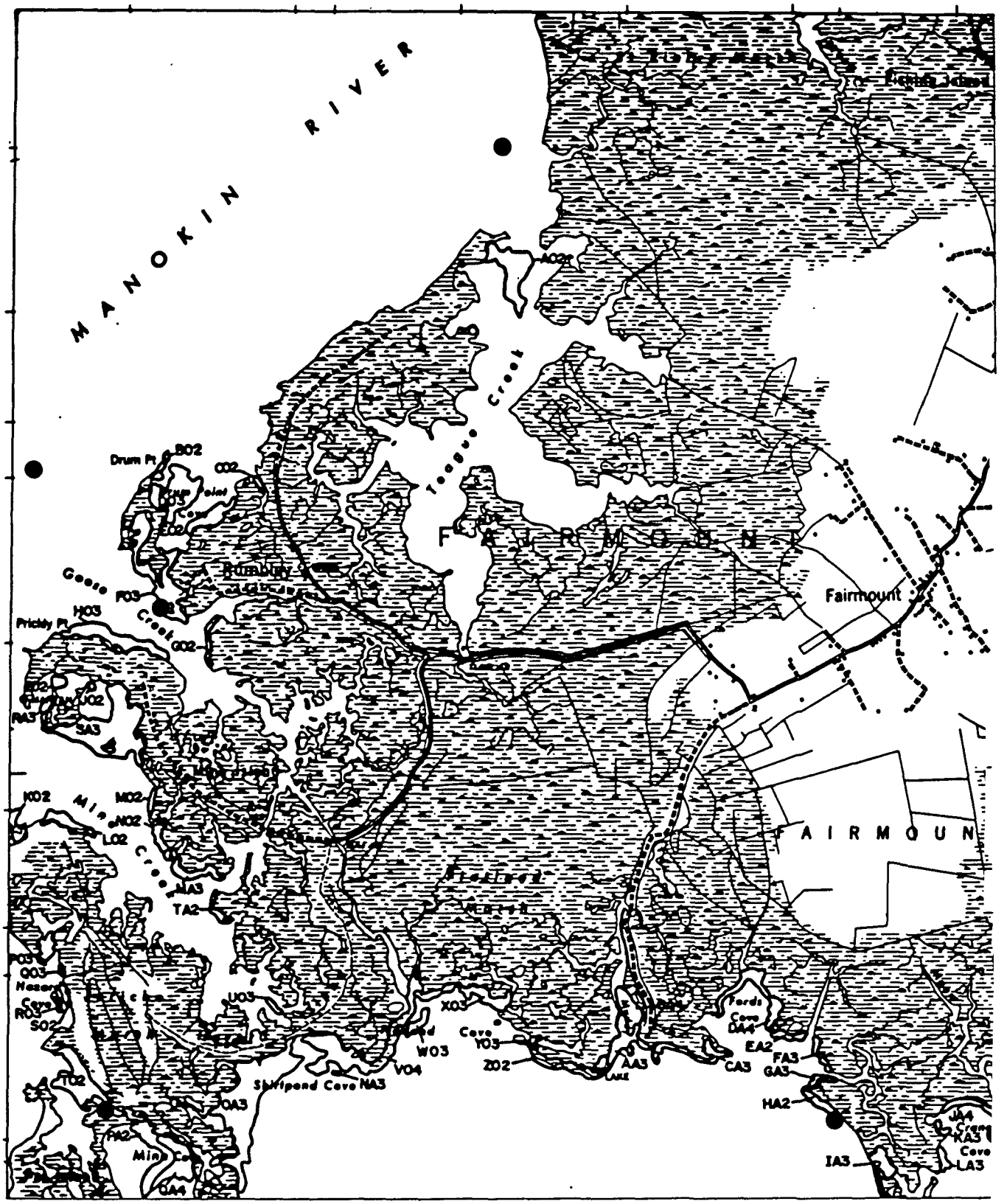
# 93



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




| SPECIES | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heterozostera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Pcl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (musksgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

MARION, MD

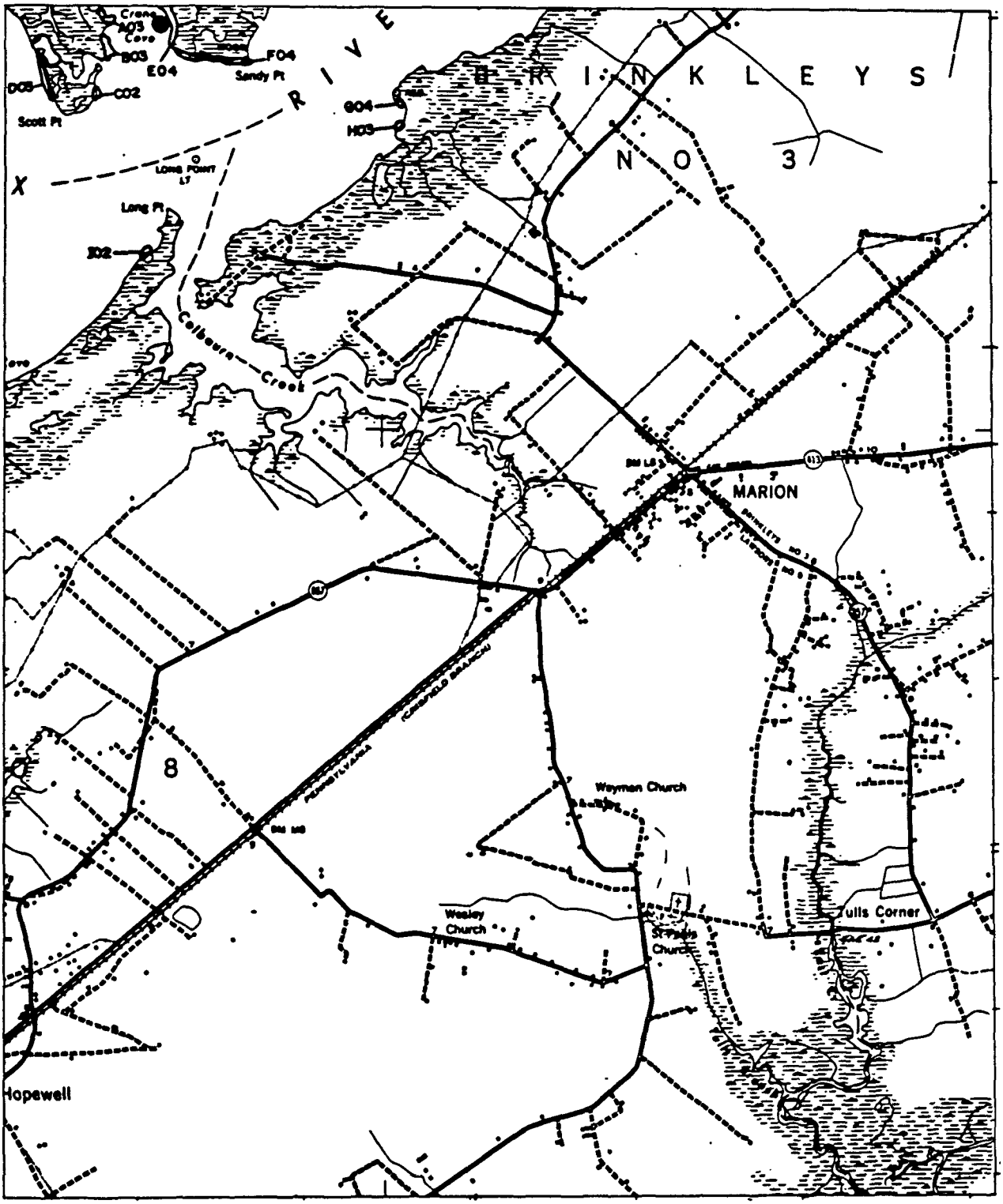
Northwest Quarter

# 93

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heterodanthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (muskgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

**SURVEY STATIONS**

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ● Citizens Field Observation
- ▲ VIMS Field Survey
- ♦ U.S.G.S.

SCALE 1:12,000

MARION, MD

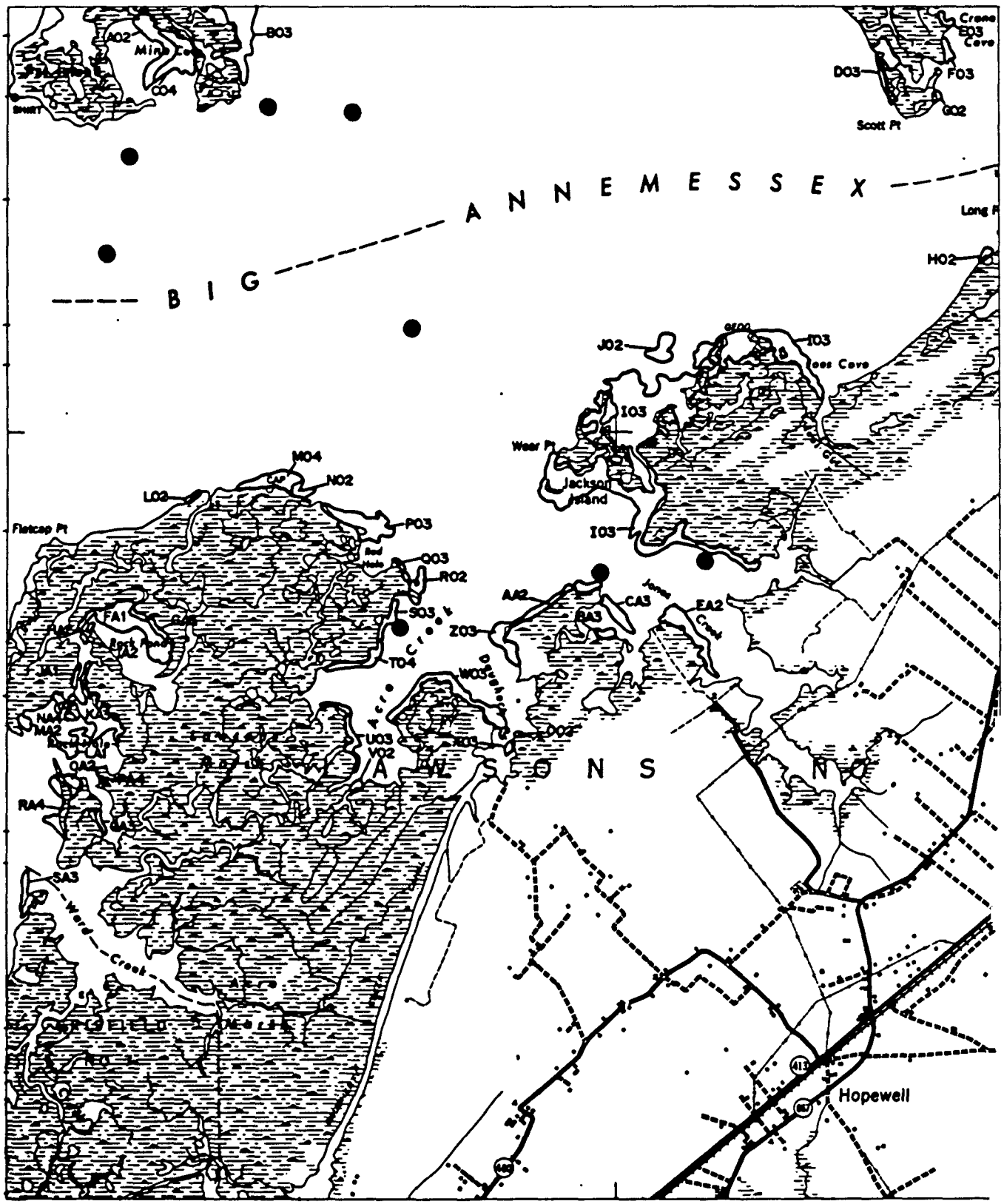
Southeast Quarter

# 93

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pcl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichelia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Cazens Field Observation
- VIMS Field Survey
- U.S.G.S

SCALE 1:12,000

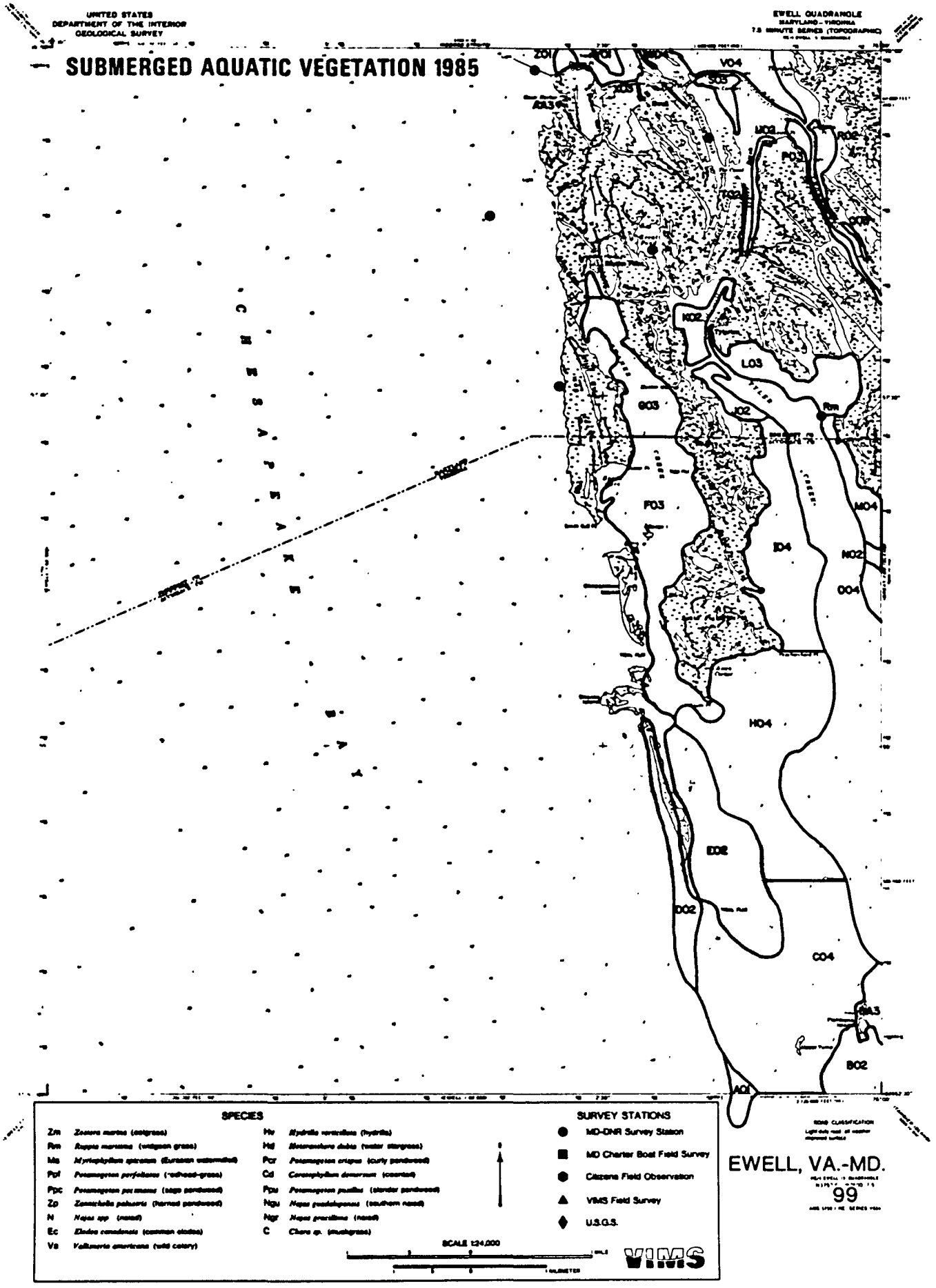
MARION, MD

Southwest Quarter

# 93

U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

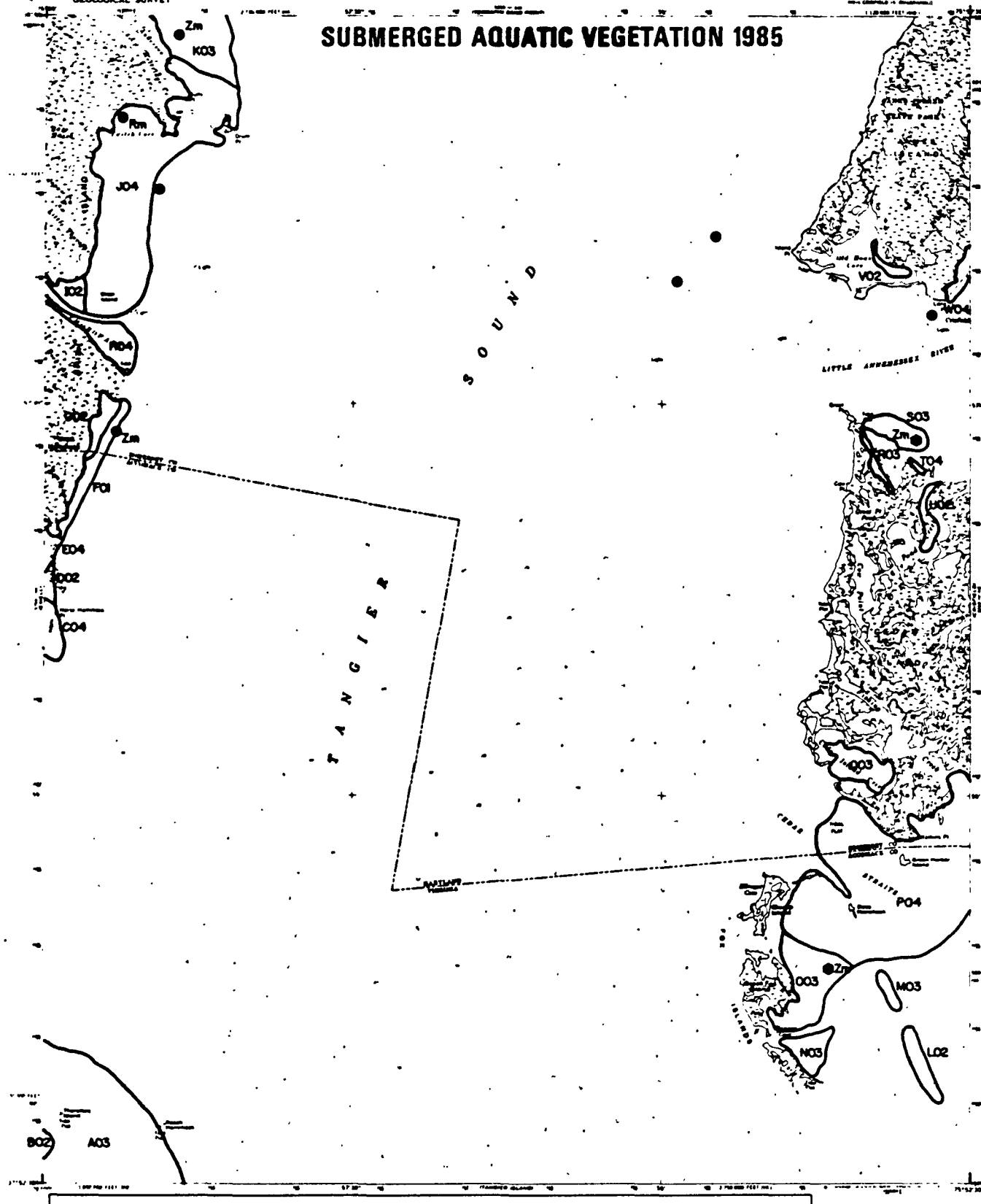
ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
EWELL QUADRANGLE
MARYLAND - VIRGINIA
7.5 MINUTE SERIES (TOPOGRAPHIC)
SUBMERGED AQUATIC VEGETATION 1985
SPECIES
Zm Zostera marina (eelgrass)
Rm Ruppia maritima (widgeon grass)
Ms Myriophyllum spicatum (Eurasian watermilfoil)
Pof Potamogeton perfoliatus (redhead-grass)
Ppc Potamogeton pectinatus (sago pondweed)
Zp Zannichellia palustris (horned pondweed)
N Najas spp (naiad)
Ec Elodea canadensis (common elodea)
Vs Vallisneria americana (wild celery)
Hv Hydrilla verticillata (hydrilla)
Hd Heteranthera dubia (water stargrass)
Pcr Potamogeton crispus (curly pondweed)
Cd Ceratophyllum demersum (coontail)
Ppu Potamogeton pusillus (slender pondweed)
Ngu Najas guadalupensis (southern naiad)
Ngr Najas gracillima (naiad)
C Chara sp. (muskgrass)
SURVEY STATIONS
MD-DNR Survey Station
MD Charter Boat Field Survey
Citizens Field Observation
VIMS Field Survey
U.S.G.S.
SCALE 1:24,000
VIMS
EWELL, VA.-MD.
99

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

MARYLAND-VIRGINIA
7.5 MINUTE SERIES (TOPOGRAPHIC)

# SUBMERGED AQUATIC VEGETATION 1985




## SPECIES

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (musksgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

## SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:24,000

ROAD CLASSIFICATION

GREAT FOX ISLAND, MD.-V.

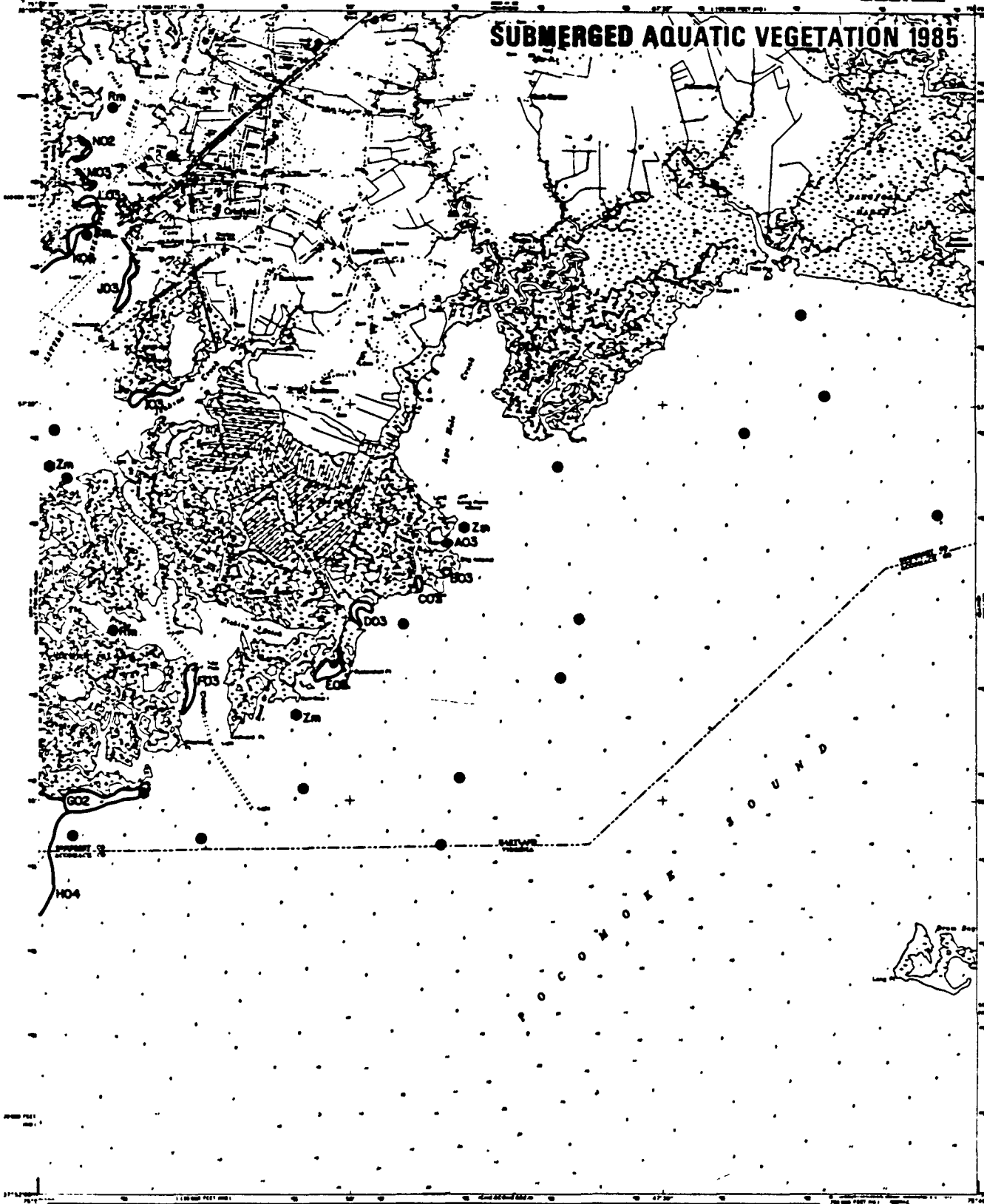
100

VIMS

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

CRISFIELD QUADRANGLE
MARYLAND - VIRGINIA
7.5 MINUTE SERIES (TOPOGRAPHIC)

# SUBMERGED AQUATIC VEGETATION 1985




## SPECIES

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Pol | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (muskgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

## SURVEY STATIONS

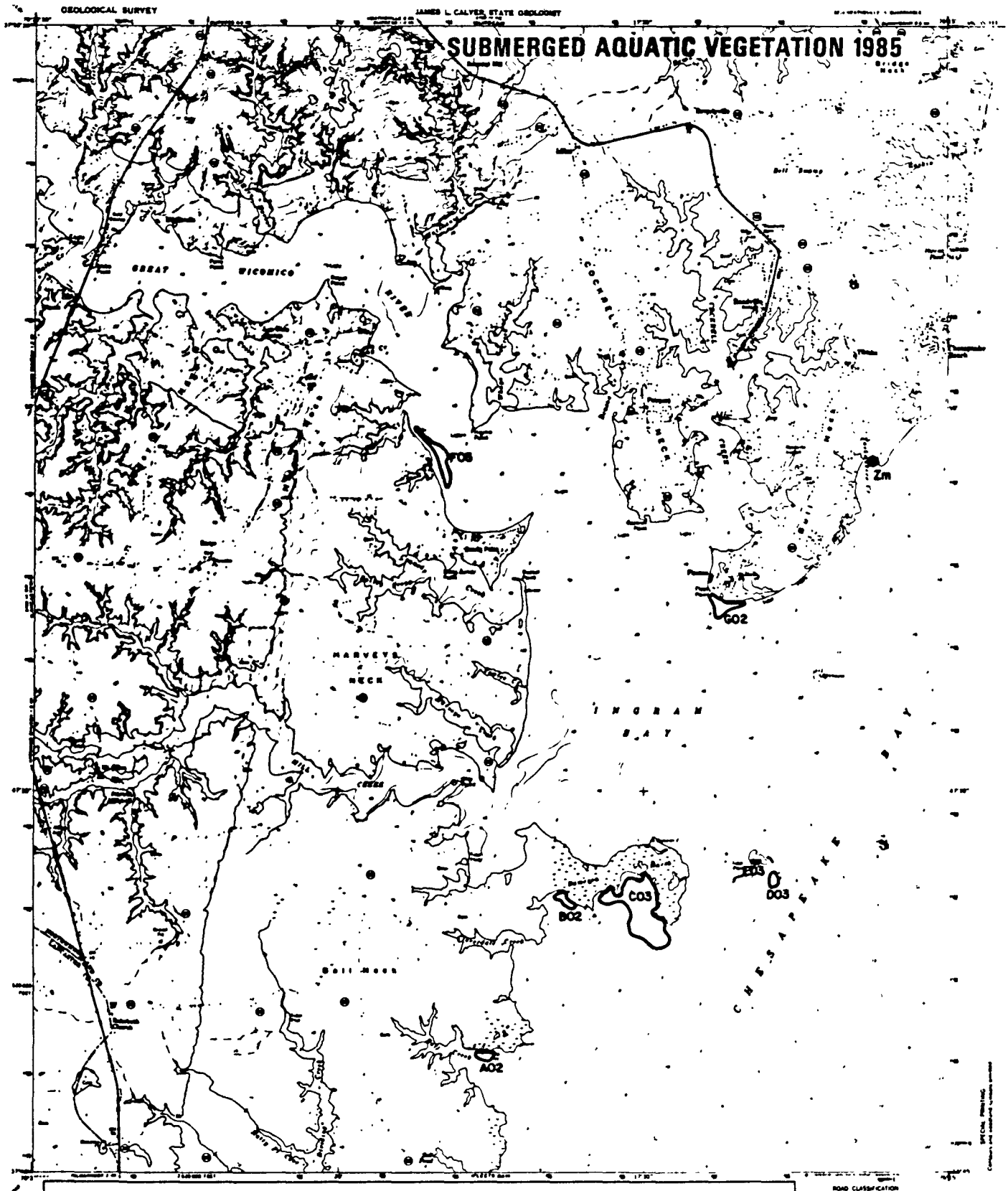
- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:24,000

VIMS

CRISFIELD,
VA.-MD.

101.




SPECIES

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (muskgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:24,000

VIMS

ROAD CLASSIFICATION

REEDVILLE, VA.

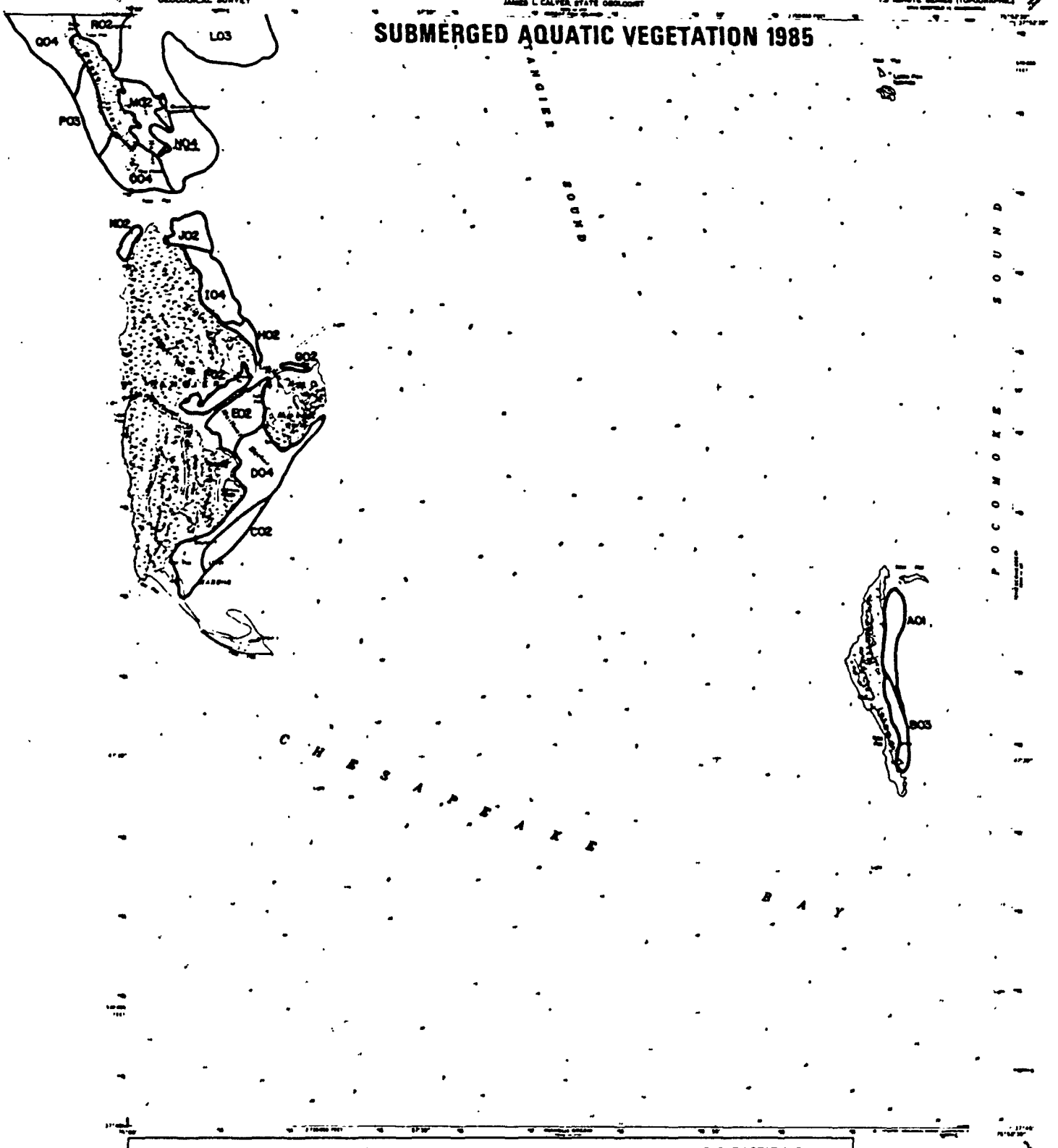
106

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

COMMONWEALTH OF VIRGINIA
DIVISION OF MINERAL RESOURCES
JAMES L. CALVER, STATE GEOLOGIST

TANGIER ISLAND QUADRANGLE
VIRGINIA - ACCOMACK CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Pol | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (musksgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:24,000

VIMS

TANGIER ISLAND, VA.

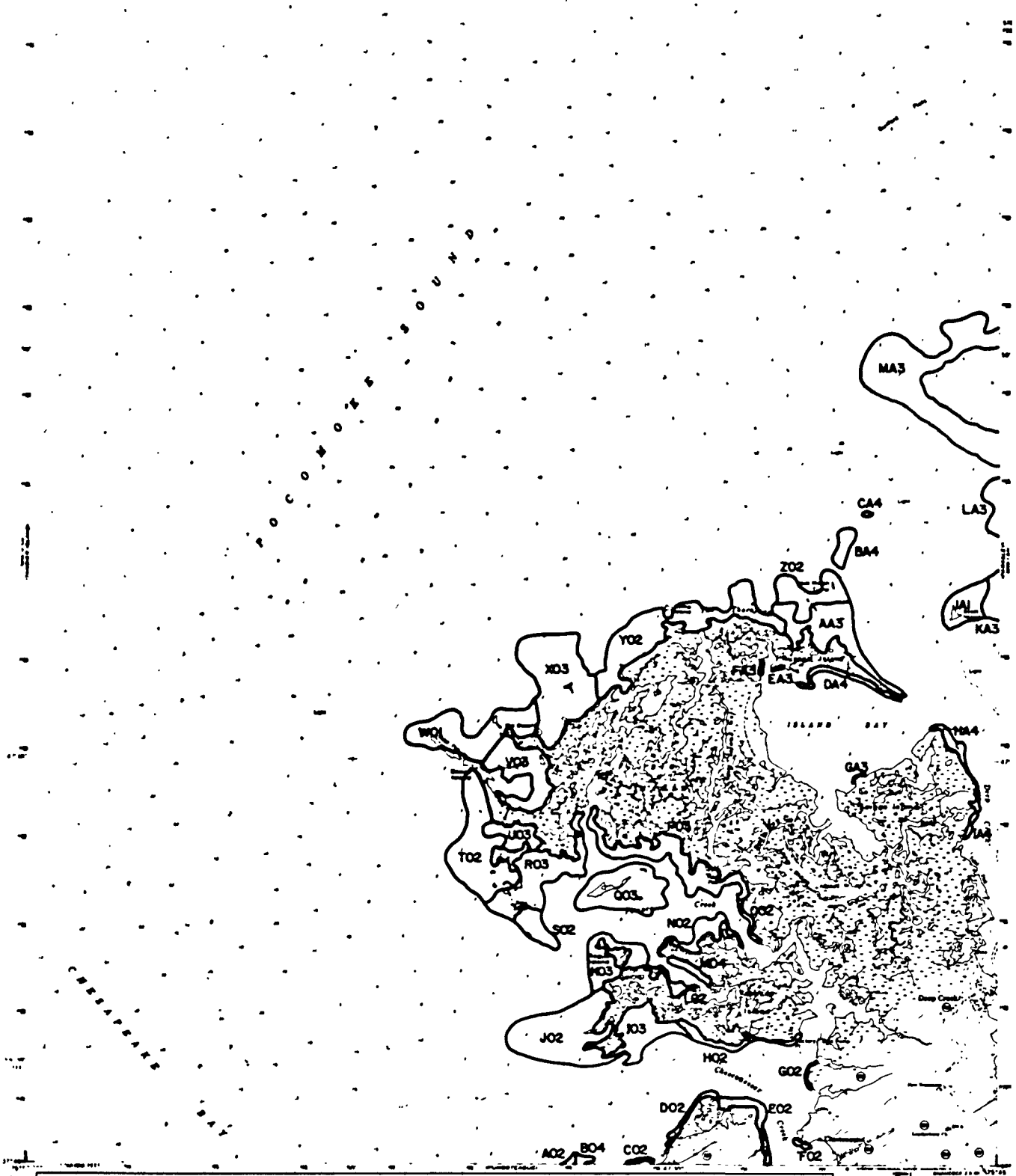
107

GEOLOGICAL SURVEY

DIVISION OF MINERAL RESOURCES
JAMES L. CALVER STATE GEOLOGIST

7.5 MINUTE SERIES (TOPOGRAPHIC)

# SUBMERGED AQUATIC VEGETATION 1985




## SPECIES

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (muskgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

## SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S

SCALE 1:24,000

VIMS

ROAD CLASSIFICATION

CHESCONESSI
VA.

CHESCONESSEX, VA.

108

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

COMMONWEALTH OF VIRGINIA
DIVISION OF MINERAL RESOURCES
JAMES L. CALVER STATE GEOLOGIST

PARKSLEY QUADRANGLE
VIRGINIA - ACCOMACK CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

# SUBMERGED AQUATIC VEGETATION 1985


## SPECIES

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Pol | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (muskgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

## SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:24,000

VIMS

PARKSLEY, VA.

PARKSLEY, VA.

109

# SUBMERGED AQUATIC VEGETATION 1985


## SPECIES

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Pol | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

## SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:24,000

VIMS

IRVINGTON, VA.

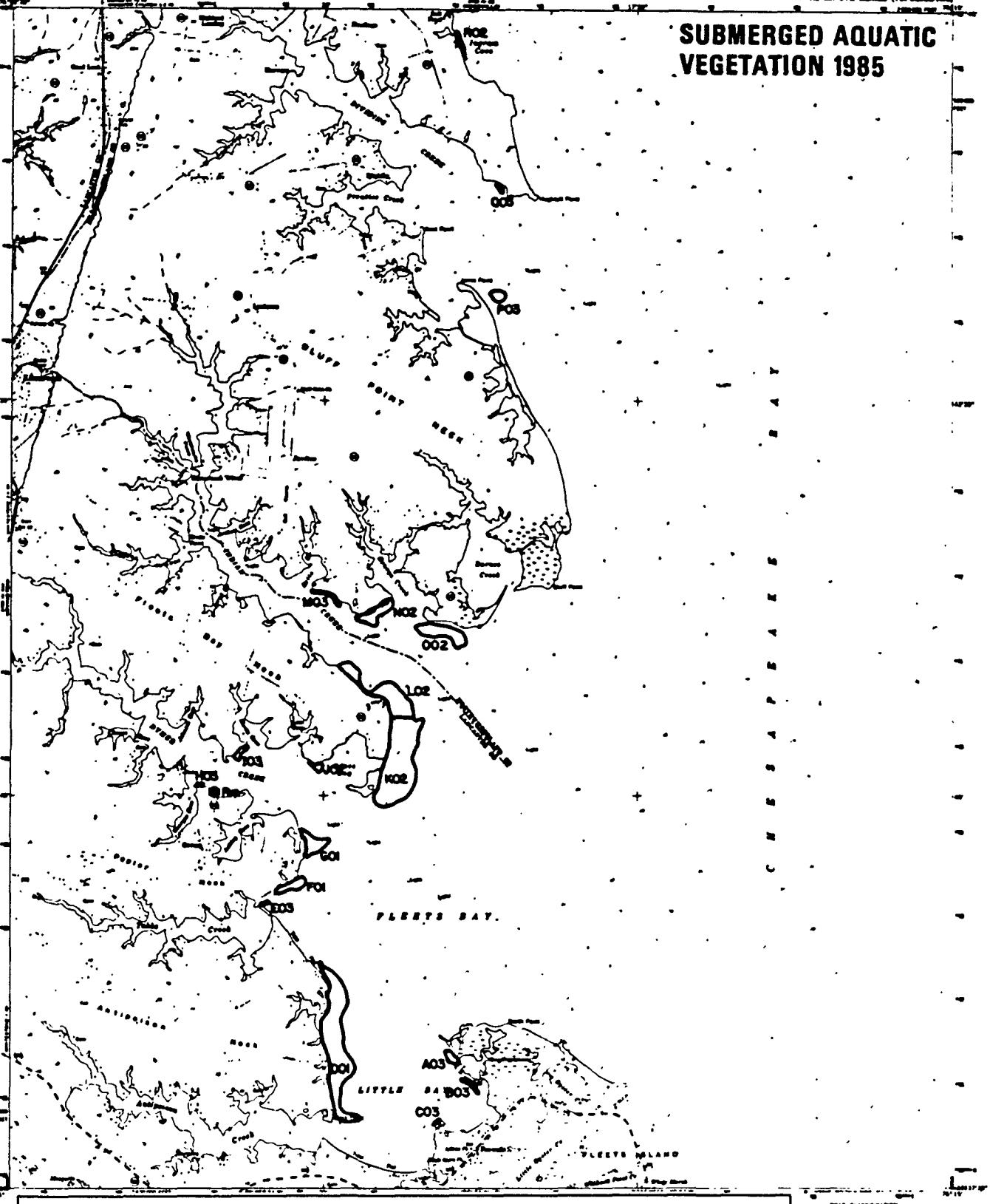
111

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

COMMONWEALTH OF VIRGINIA
DIVISION OF MINERAL RESOURCES

FLEETS BAY QUADRANGLE
VIRGINIA
7.5 MINUTE SERIES (TOPOGRAPHIC)

# SUBMERGED AQUATIC VEGETATION 1985




## SPECIES

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Pdl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

## SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:24,000

VIMS

ROAD CLASSIFICATION

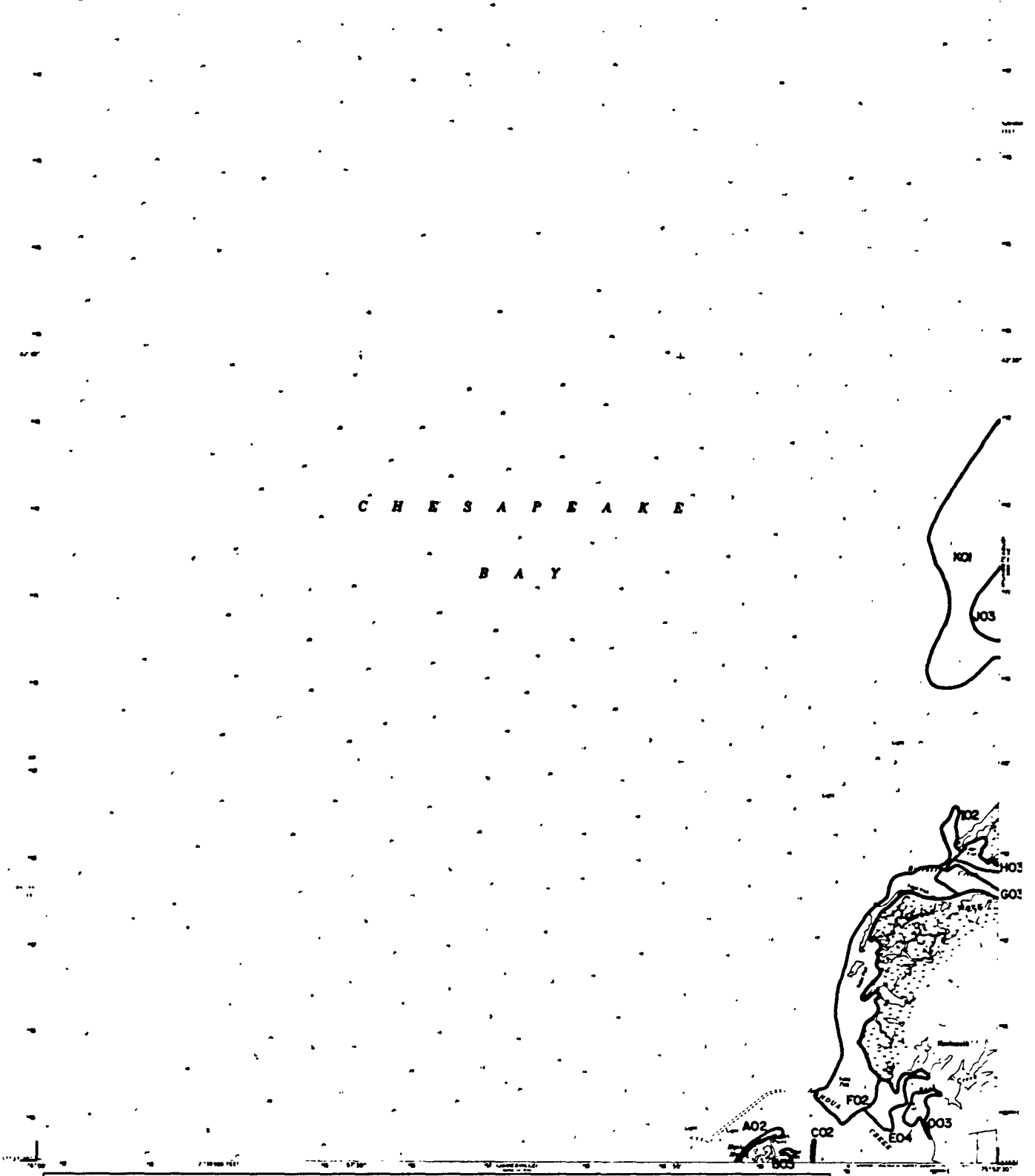
State Route

FLEETS BAY, VA.

112

222

# SUBMERGED AQUATIC VEGETATION 1985




## SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

## SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:24,000

VIMS

ROAD CLASSIFICATION

NANDUA CREEK VA.

NANDUA CREEK, VA.

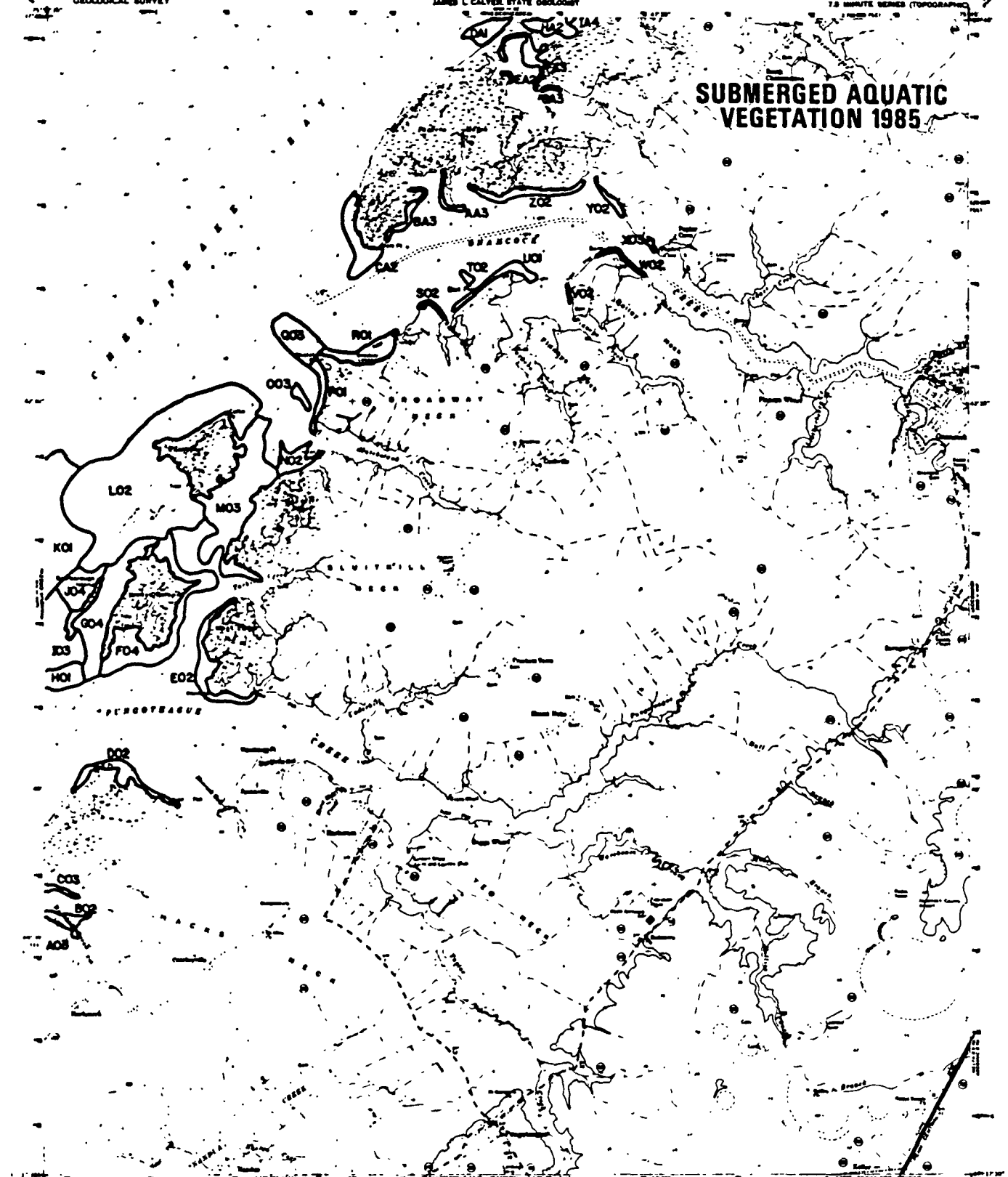
113"

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

COMMONWEALTH OF VIRGINIA
DIVISION OF MINERAL RESOURCES
JAMES L. CALVER, STATE GEOLOGIST

PUNGOTEAGUE QUADRANGLE
VIRGINIA - ACCOMACK CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

# SUBMERGED AQUATIC VEGETATION 1985




## SPECIES

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (muskgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

## SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S

SCALE 1:24,000

VIMS

PUNGOTEAGUE, VA.

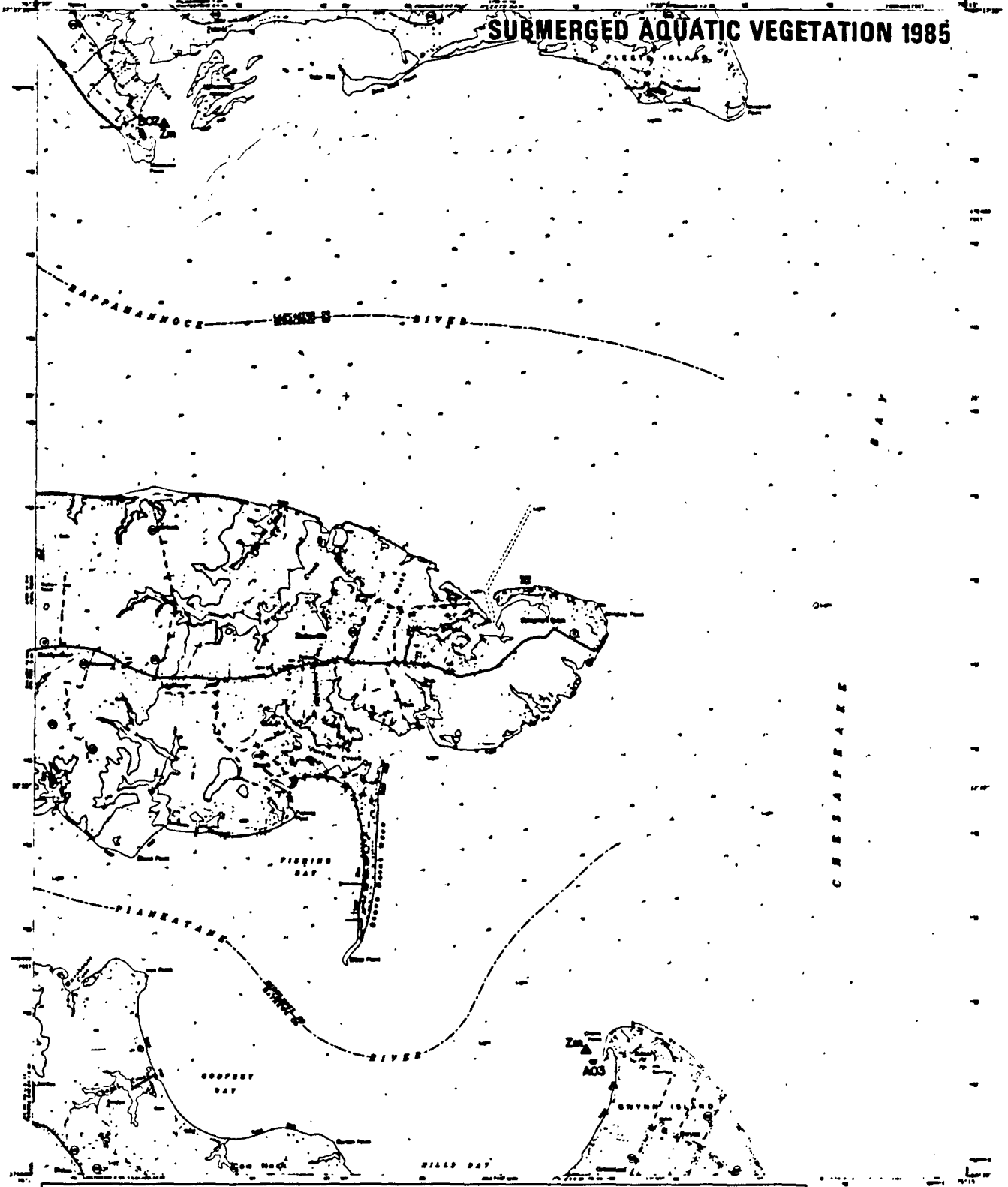
114

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

COMMONWEALTH OF VIRGINIA
DIVISION OF MINERAL RESOURCES
JAMES L. CALVER, STATE GEOLOGIST

DELTAVILLE QUADRANGLE
VIRGINIA
7.5 MINUTE SERIES (TOPOGRAPHIC)

# SUBMERGED AQUATIC VEGETATION 1985




## SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pcl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

## SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:24,000

VIMS

DELTAVILLE, VA.

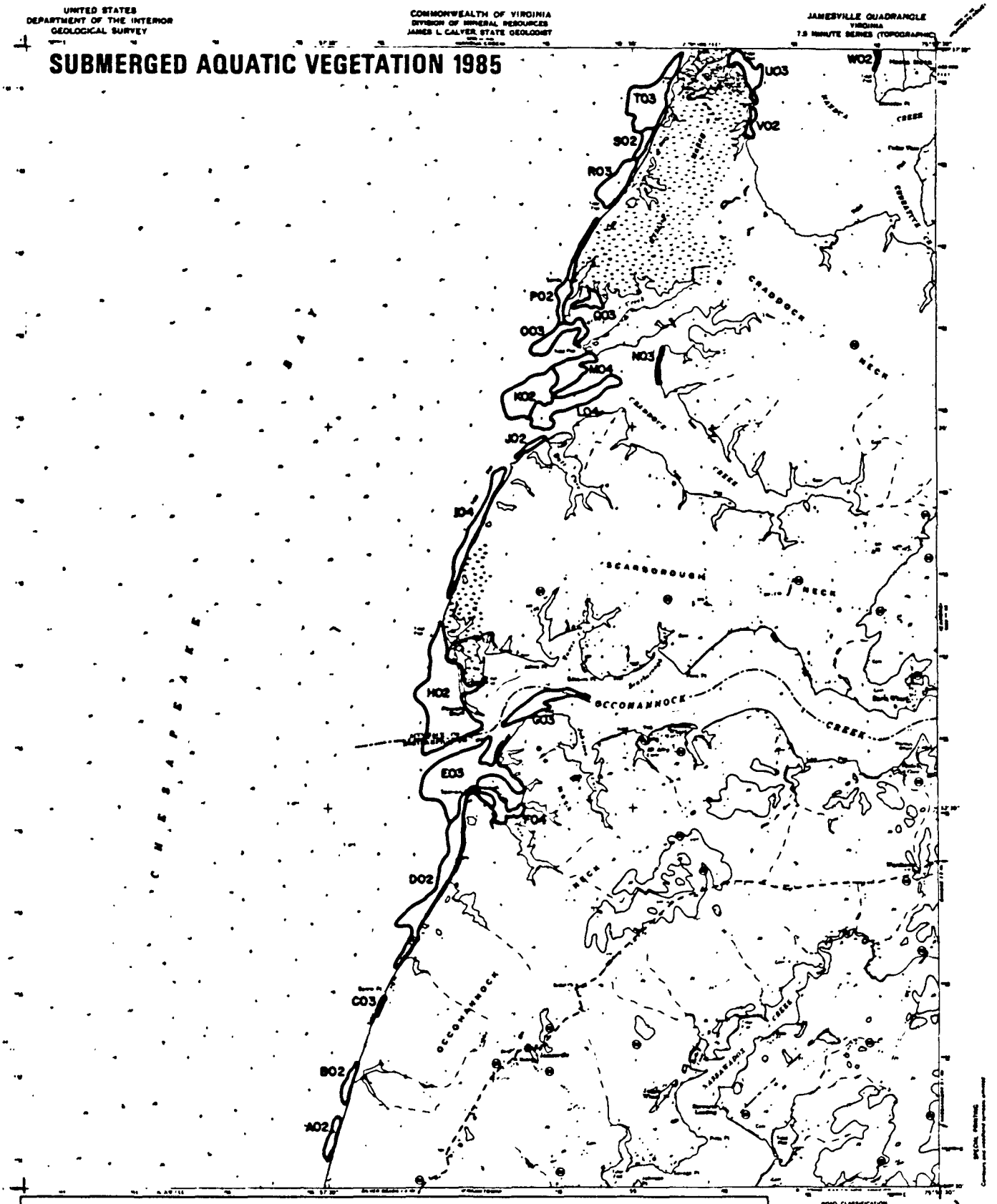
118

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

COMMONWEALTH OF VIRGINIA
DIVISION OF MINERAL RESOURCES
JAMES L. CALVER, STATE GEOLOGIST

JAMESVILLE QUADRANGLE
VIRGINIA
7.5 MINUTE SERIES (TOPOGRAPHIC)

# SUBMERGED AQUATIC VEGETATION 1985




## SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pof | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp.* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

## SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:24,000

VIMS

JAMESVILLE, VA.

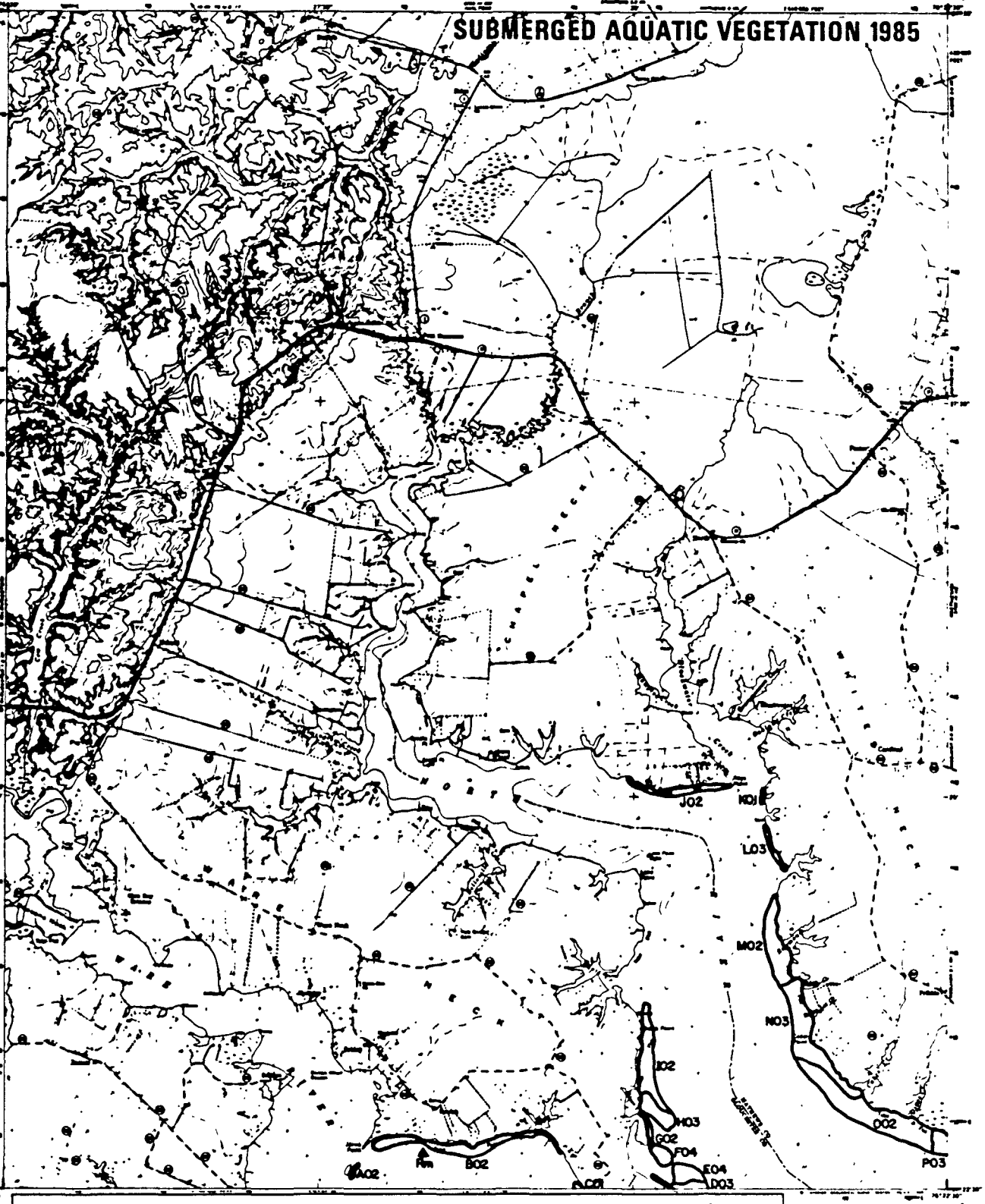
119

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

COMMONWEALTH OF VIRGINIA
DIVISION OF MINERAL RESOURCES

WARE NECK QUADRANGLE
VIRGINIA
7.5 MINUTE SERIES (TOPOGRAPHIC)

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (musksgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:24,000

VIMS

ROAD CLASSIFICATION

WARE NECK, VA.

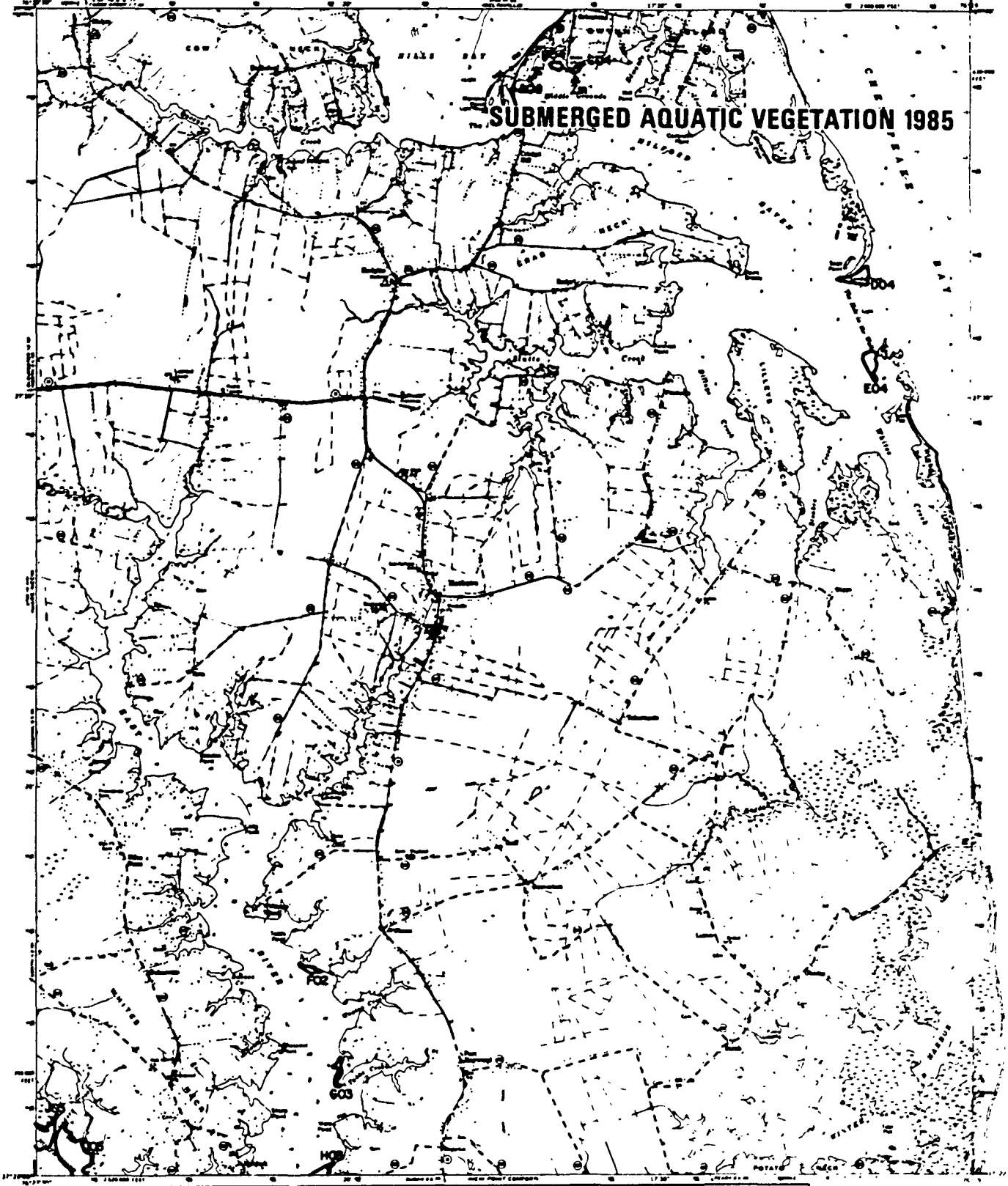
122

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

COMMONWEALTH OF VIRGINIA
DIVISION OF MINERAL RESOURCES
JAMES L. CALVERT, STATE GEOLOGIST

MATHEWS QUADRANGLE
VIRGINIA-MATHEWS CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

# SUBMERGED AQUATIC VEGETATION 1985




## SPECIES

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (muskgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

## SURVEY STATIONS

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ⬢ Citizens Field Observation
- ▲ VIMS Field Survey
- ♦ U.S.G.S

SCALE 1:24,000

VIMS

MATHEWS, VA.

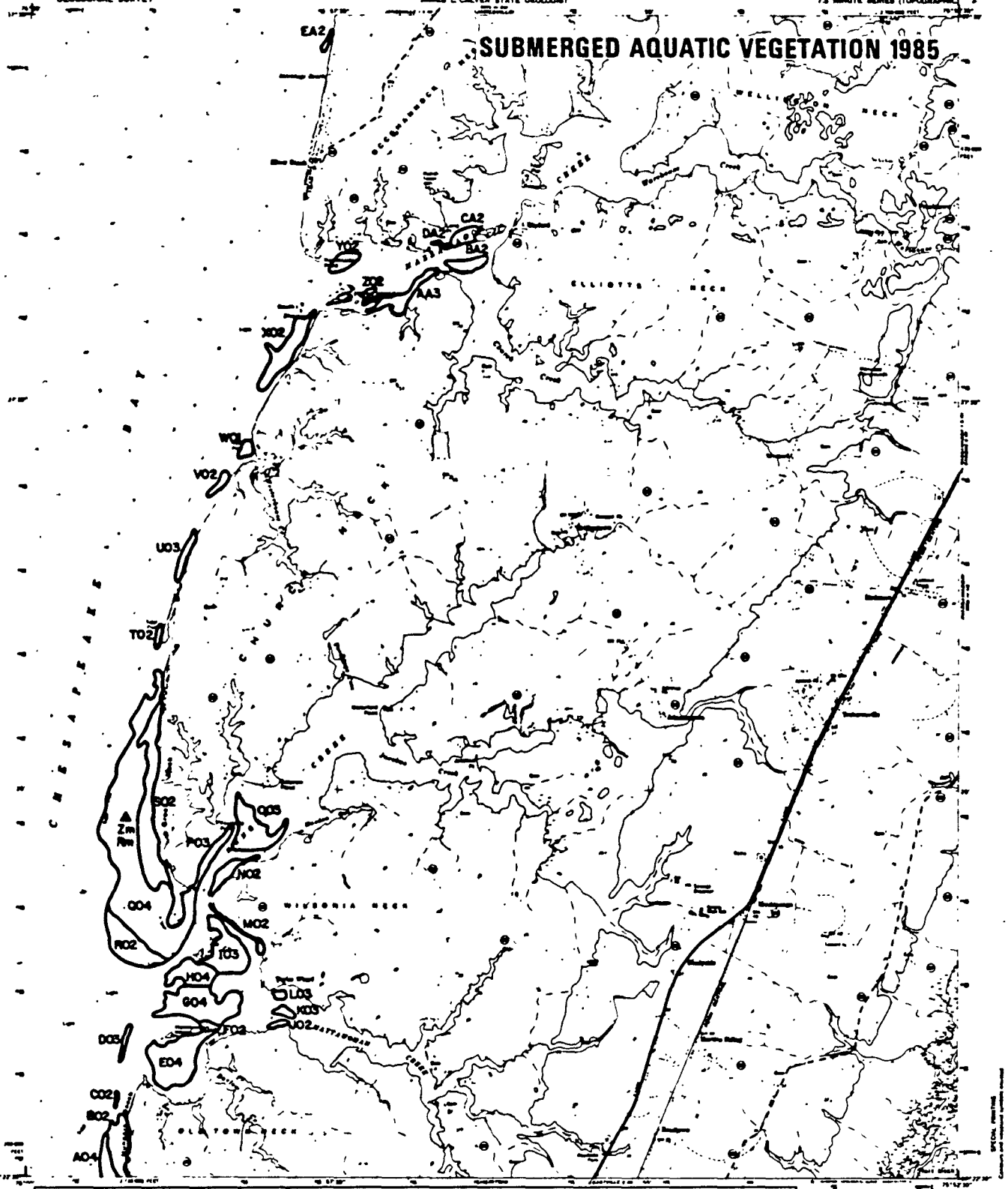
123

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

COMMONWEALTH OF VIRGINIA
DIVISION OF MINERAL RESOURCES
JAMES L. CALVER STATE GEOLOGIST

FRANKTOWN QUADRANGLE
VIRGINIA - NORTHAMPTON CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

# SUBMERGED AQUATIC VEGETATION 1985




## SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (muskgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

## SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:24,000

VIMS

FRANKTOWN, VA.

FRANKTOWN, VA.

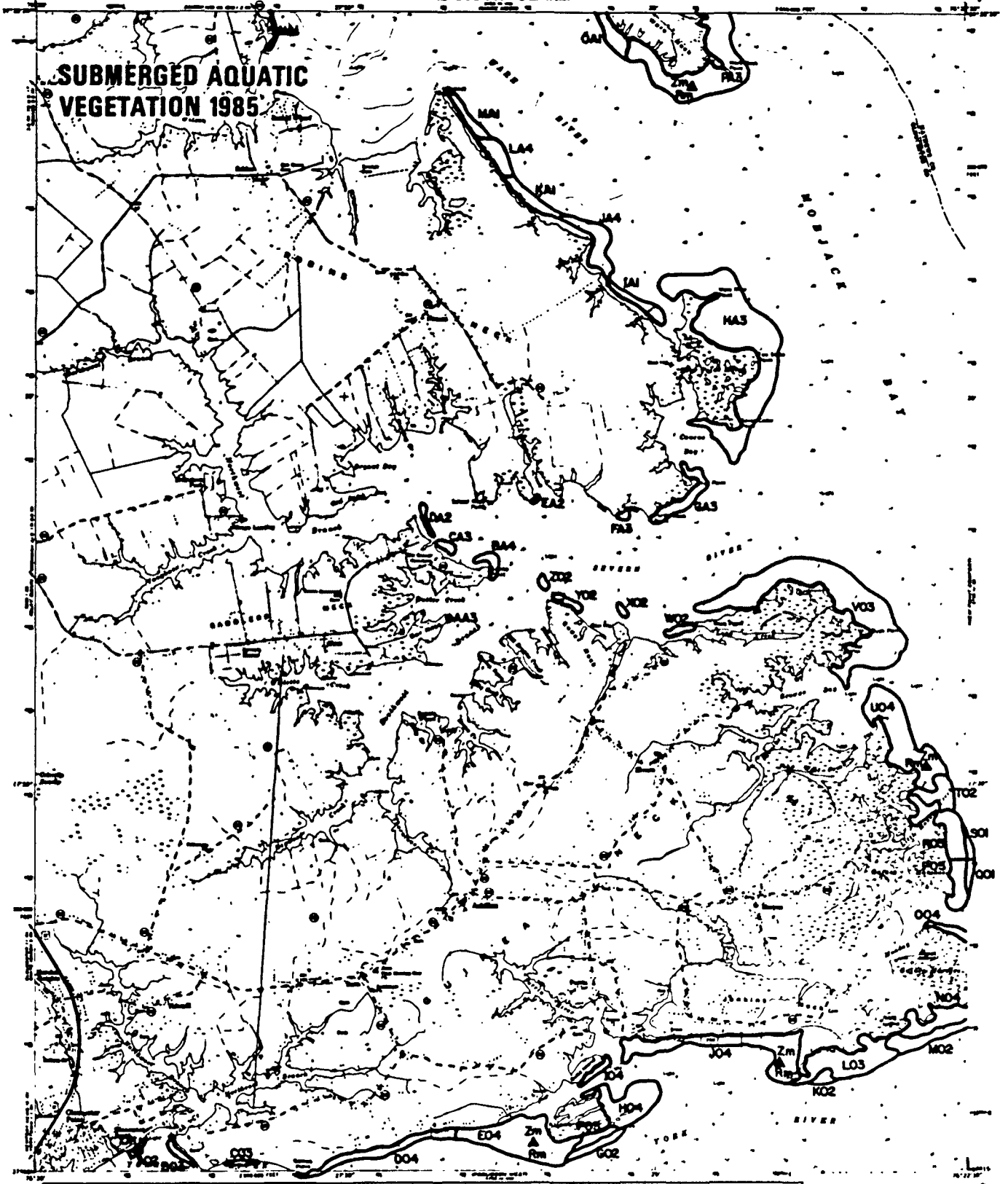
124

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

COMMONWEALTH OF VIRGINIA
DIVISION OF MINERAL RESOURCES
JAMES L. CALDER, STATE GEOLOGIST

ACHILLES QUADRANGLE
VIRGINIA
7.5 MINUTE SERIES (TOPOGRAPHIC)

# SUBMERGED AQUATIC VEGETATION 1985




## SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) | | |
| Vs | *Vallisneria americana* (wild celery) | | | | |

## SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

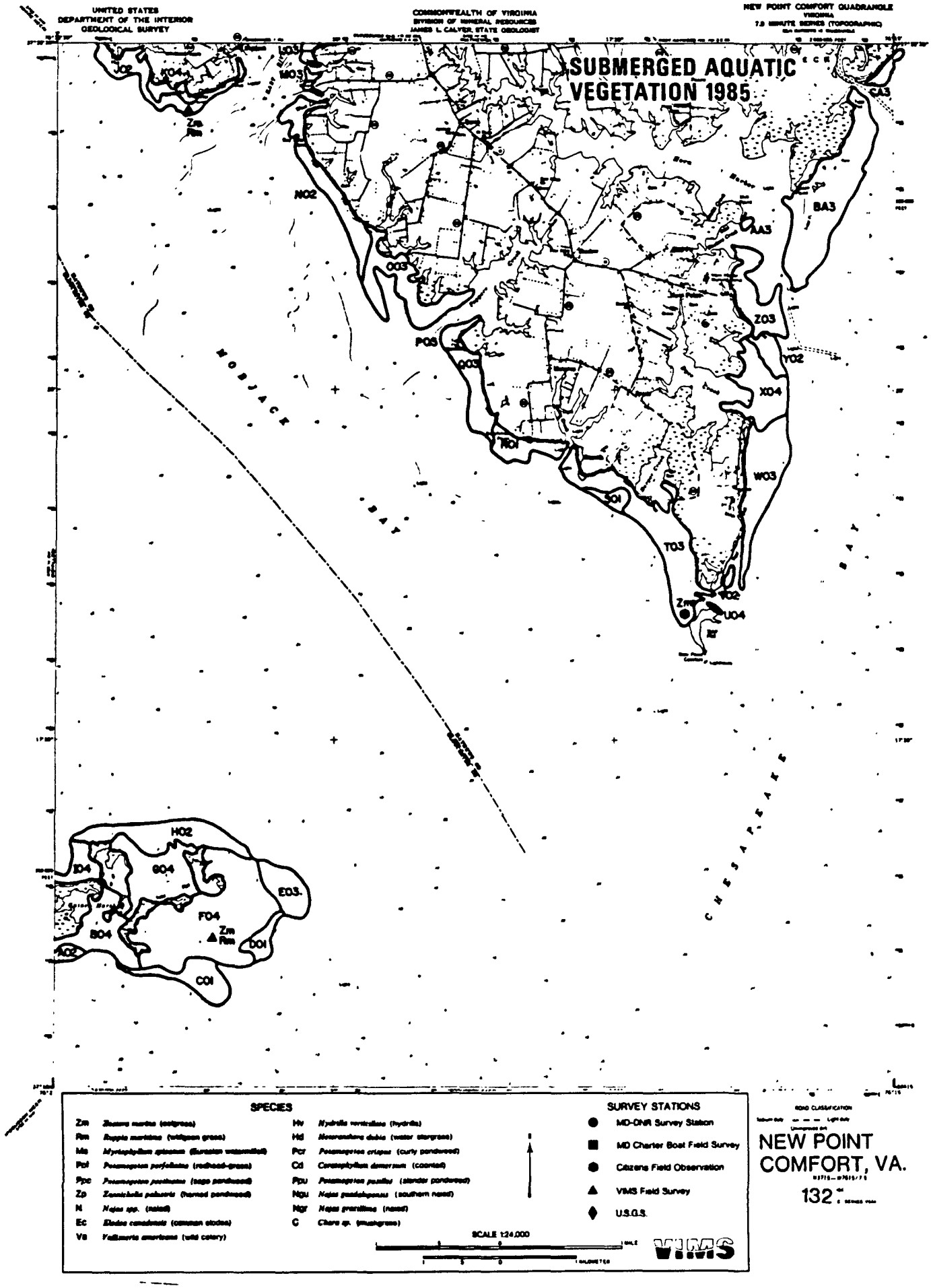
SCALE 1:24,000

ROAD CLASSIFICATION

ACHILLES, VA.

131

VIMS


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
COMMONWEALTH OF VIRGINIA
DIVISION OF MINERAL RESOURCES
JAMES L. CALVER, STATE GEOLOGIST
NEW POINT COMFORT QUADRANGLE
VIRGINIA
7.5 MINUTE SERIES (TOPOGRAPHIC)
SUBMERGED AQUATIC VEGETATION 1985
MOBJACK BAY
CHESAPEAKE BAY
SPECIES
Zm Zostera marina (eelgrass)
Rm Ruppia maritima (widgeon grass)
Ms Myriophyllum spicatum (Eurasian watermilfoil)
Pol Potamogeton perfoliatus (redhead-grass)
Ppc Potamogeton pectinatus (sago pondweed)
Zp Zannichellia palustris (horned pondweed)
N Najas spp. (naiad)
Ec Elodea canadensis (common elodea)
Vs Vallisneria americana (wild celery)
Hv Hydrilla verticillata (hydrilla)
Hd Heteranthera dubia (water stargrass)
Pcr Potamogeton crispus (curly pondweed)
Cd Ceratophyllum demersum (coontail)
Ppu Potamogeton pusillus (slender pondweed)
Ngu Najas guadalupensis (southern naiad)
Ngr Najas gracillima (naiad)
C Chara sp. (muskgrass)
SURVEY STATIONS
MD-DNR Survey Station
MD Charter Boat Field Survey
Citizens Field Observation
VIMS Field Survey
U.S.G.S.
SCALE 1:24,000
VIMS
NEW POINT COMFORT, VA.
132

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

COMMONWEALTH OF VIRGINIA
DIVISION OF MINERAL RESOURCES
JAMES L. CALVER, STATE GEOLOGIST

CAPE CHARLES QUADRANGLE
VIRGINIA—NORTHAMPTON CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

# SUBMERGED AQUATIC VEGETATION 1985


**SPECIES**

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Pol | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas* spp. (naiad) | Ngr | *Najas gravelliana* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) |
| Vs | *Vallisneria americana* (wild celery) | | |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:24,000

VIMS

CAPE CHARLES, VA.

133

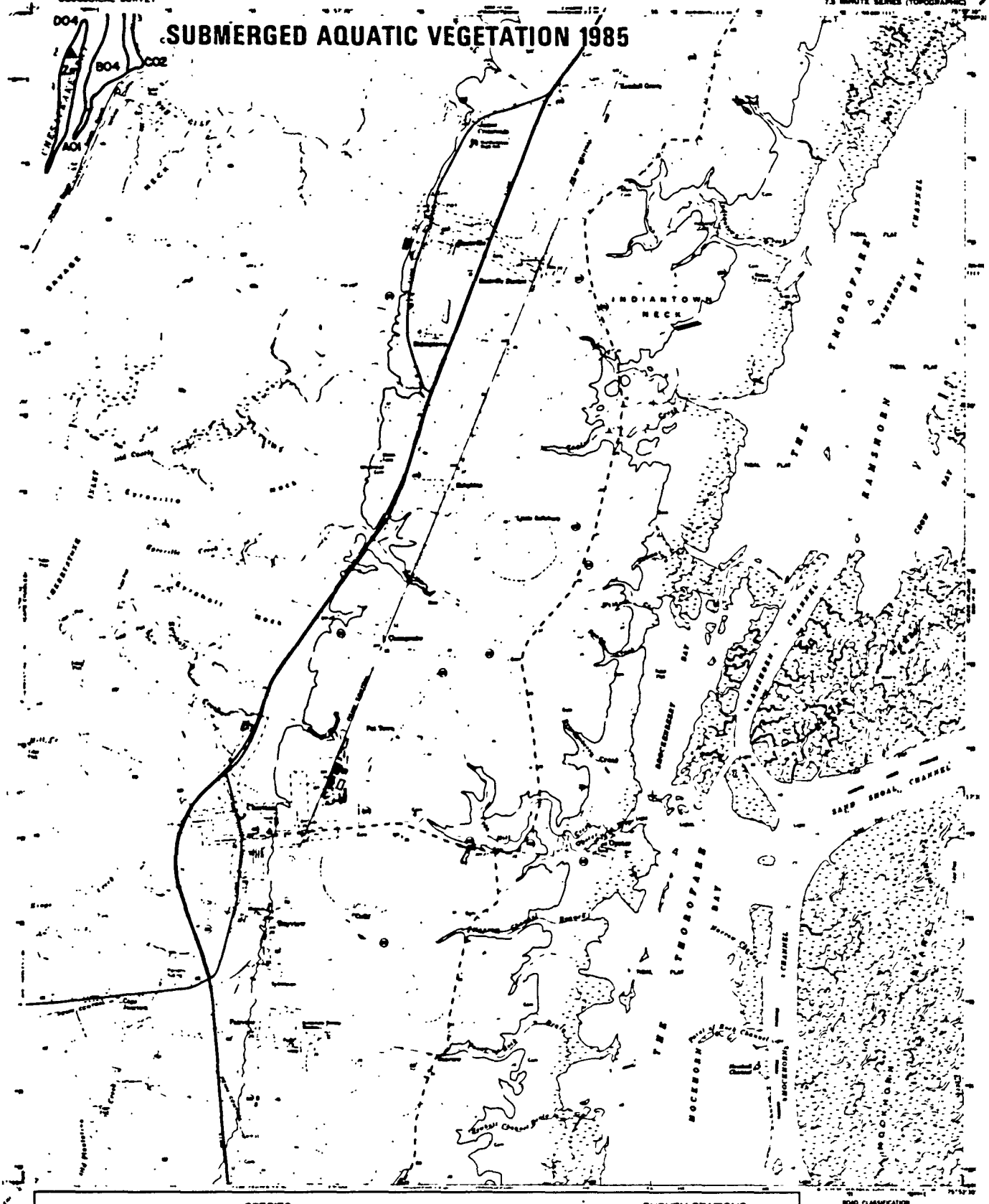
232

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

COMMONWEALTH OF VIRGINIA
DIVISION OF MINERAL RESOURCES

CHERITON QUADRANGLE
VIRGINIA - NORTHAMPTON CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

# SUBMERGED AQUATIC VEGETATION 1985




## SPECIES

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp.* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (muskgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

## SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S

SCALE 1:24,000

ROAD CLASSIFICATION

CHERITON, VA.

134

233

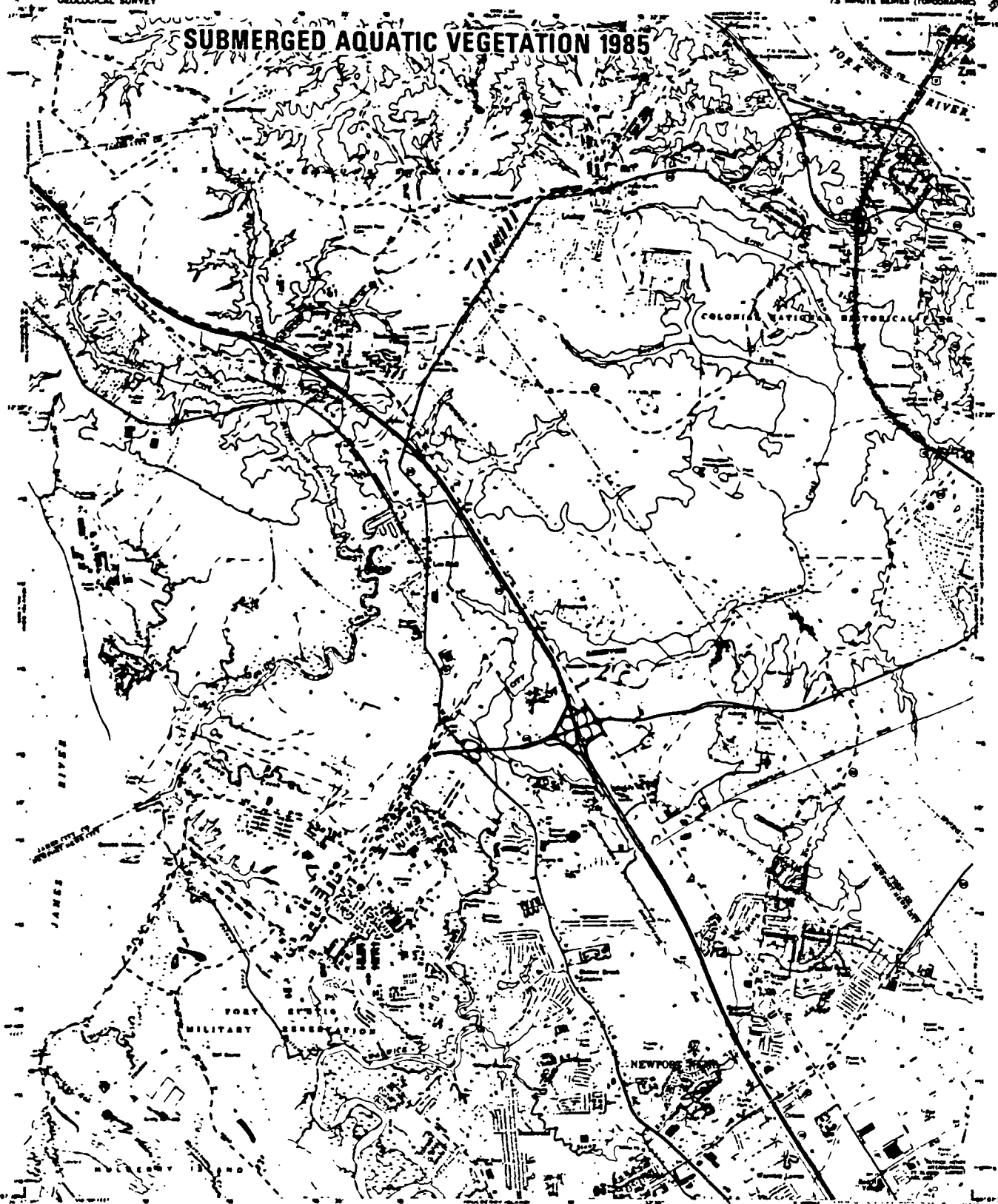
VIMS

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

COMMONWEALTH OF VIRGINIA
DIVISION OF MINERAL RESOURCES

YORKTOWN QUADRANGLE
VIRGINIA
7.5 MINUTE SERIES (TOPOGRAPHIC)

# SUBMERGED AQUATIC VEGETATION 1985




## SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pol | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (muskgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

## SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S

SCALE 1:24,000

ROAD CLASSIFICATION

YORKTOWN, VA.

139

VIMS

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

COMMONWEALTH OF VIRGINIA
DIVISION OF MINERAL RESOURCES

VIRGINIA
7.5 MINUTE SERIES (TOPOGRAPHIC)

T03

# SUBMERGED AQUATIC VEGETATION 1985


## SPECIES

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp.* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp.* (muskgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

## SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S

SCALE 1:24,000

VIMS

POQUOSON WEST, VA.

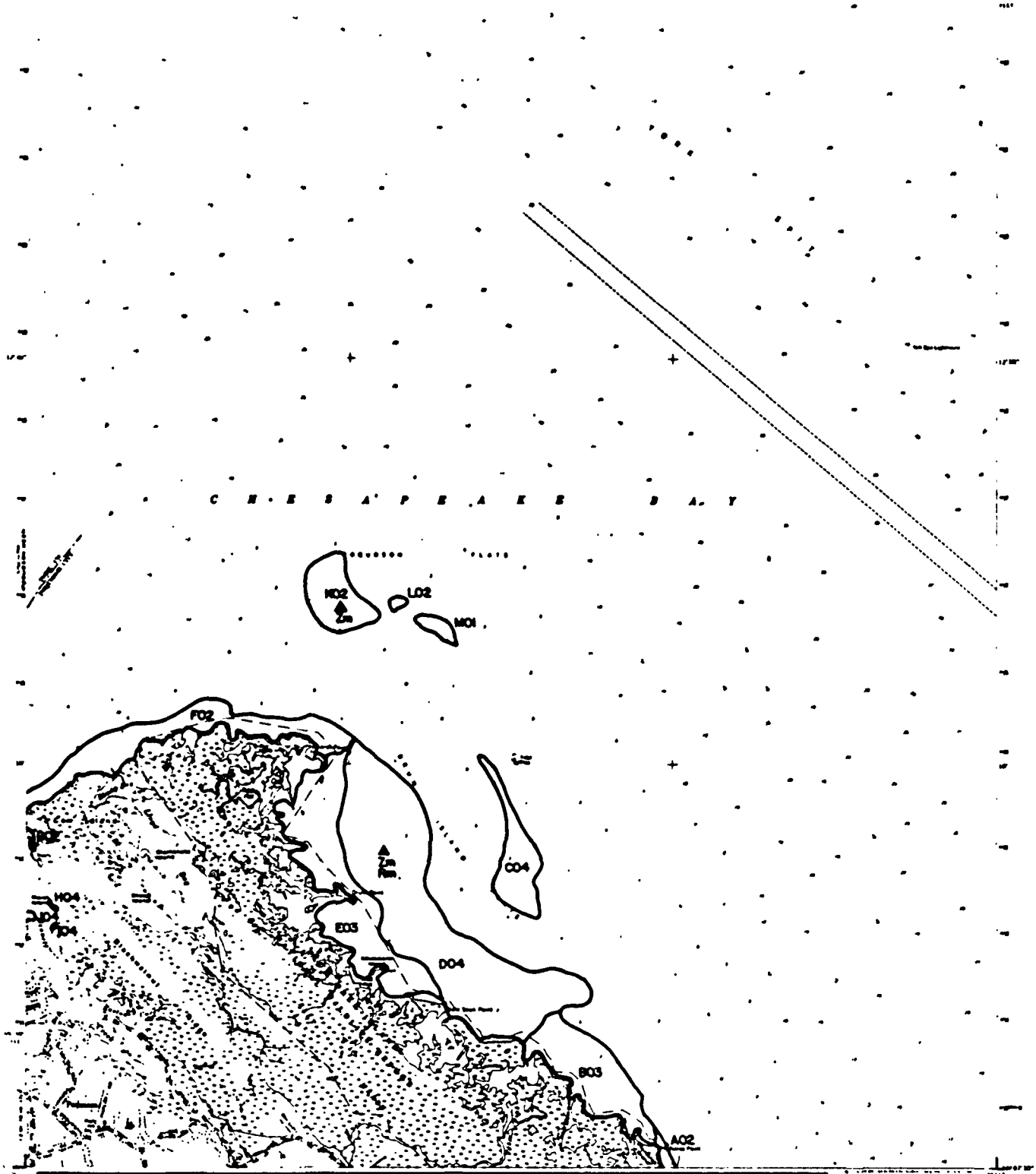
POQUOSON WEST, VA
140

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

COMMONWEALTH OF VIRGINIA
DIVISION OF MINERAL RESOURCES

POQUOSON EAST QUADRANGLE
VIRGINIA
7.5 MINUTE SERIES (TOPOGRAPHIC)

# SUBMERGED AQUATIC VEGETATION 1985




## SPECIES

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Pcf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (muskgrass) |
| Vs | *Vallisneria americana* (wild celery) | | |

## SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:24,000

VIMS

ROAD CLASSIFICATION

Hard surface — Light duty
Unimproved dirt

POQUOSON
EAST, VA.

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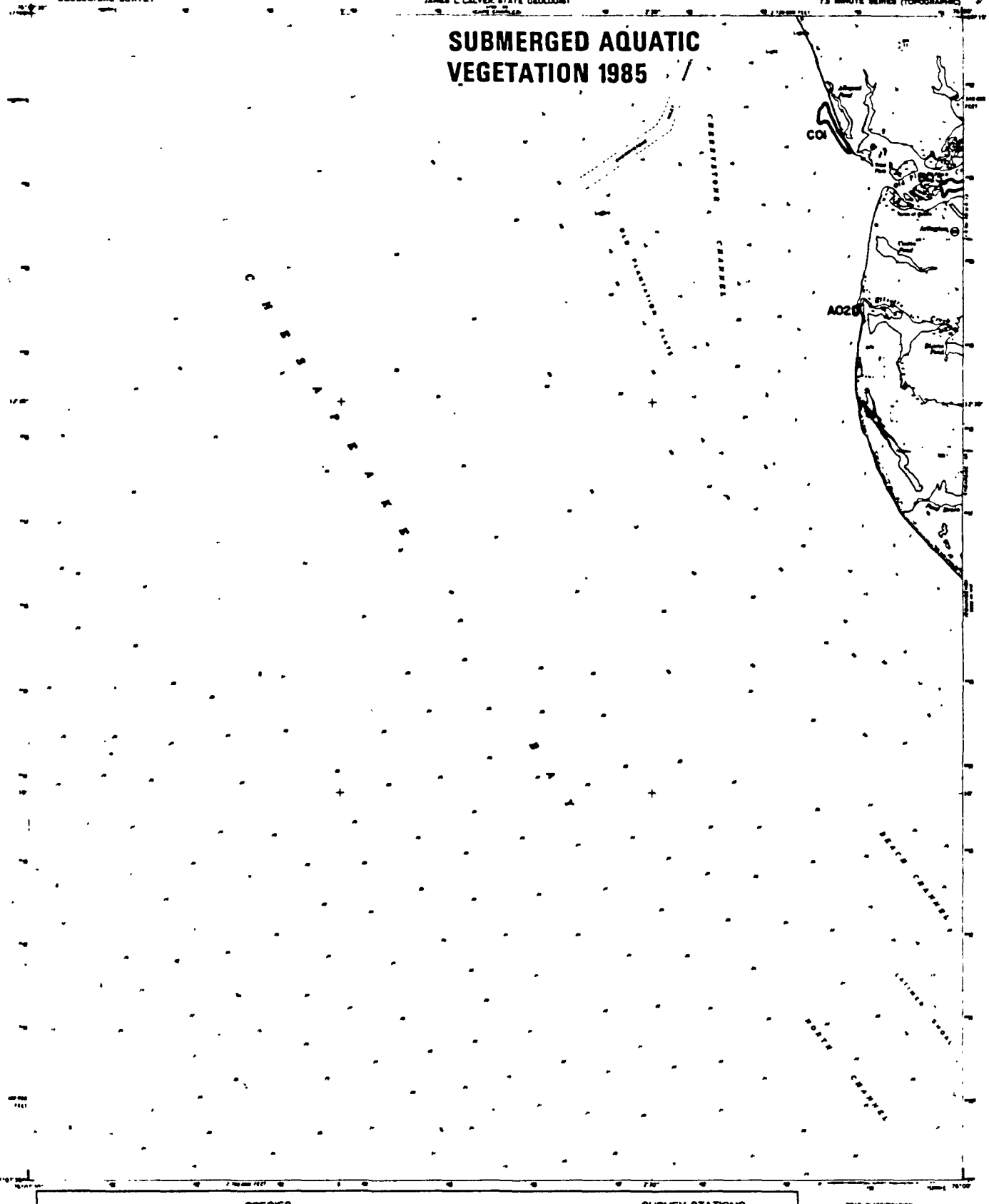
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

COMMONWEALTH OF VIRGINIA
DIVISION OF MINERAL RESOURCES
JAMES L. CALVER, STATE GEOLOGIST

ELLIOTTS CREEK QUADRANGLE
VIRGINIA - NORTHAMPTON CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

# SUBMERGED AQUATIC VEGETATION 1985




## SPECIES

| | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Pdf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichelia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

## SURVEY STATIONS

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ● Citizens Field Observation
- ▲ VIMS Field Survey
- ♦ U.S.G.S

SCALE 1:24,000

ROAD CLASSIFICATION

# ELLIOTS CREEK, VA.

ELLIOTTS CREEK, VA.

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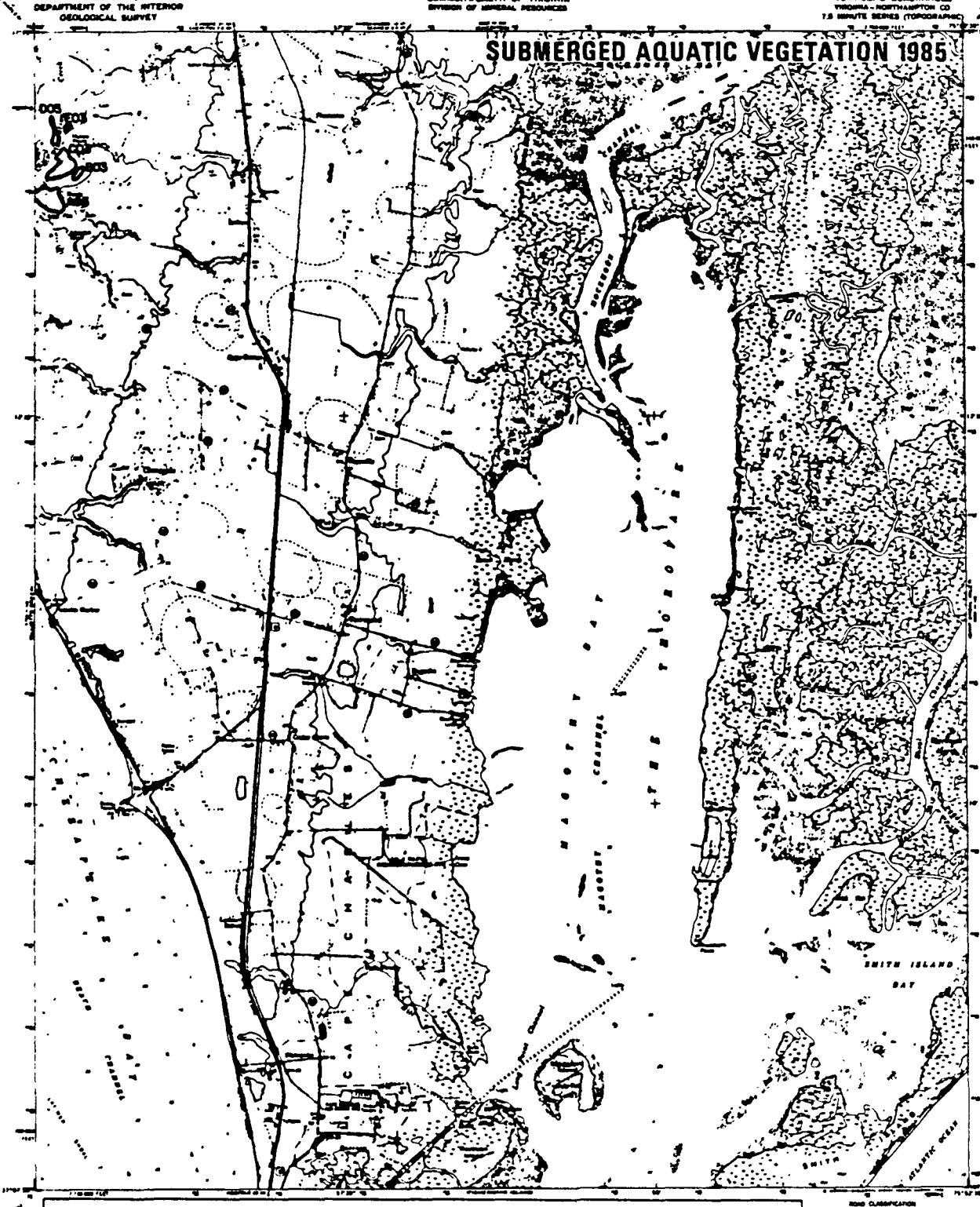
VIMS

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

COMMONWEALTH OF VIRGINIA
DIVISION OF MINERAL RESOURCES

TOWNSEND QUADRANGLE
VIRGINIA - NORTHAMPTON CO
7.5 MINUTE SERIES (TOPOGRAPHIC)

# SUBMERGED AQUATIC VEGETATION 1985




**SPECIES**

| | |
|---|---|
| Zm | *Zostera marina* (eelgrass) |
| Rm | *Ruppia maritima* (widgeon grass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) |
| Ppf | *Potamogeton perfoliatus* (redhead-grass) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) |
| N | *Najas* spp. (naiad) |
| Ec | *Elodea canadensis* (common elodea) |
| Va | *Vallisneria americana* (wild celery) |
| Hv | *Hydrilla verticillata* (hydrilla) |
| Hd | *Heteranthera dubia* (water stargrass) |
| Pcr | *Potamogeton crispus* (curly pondweed) |
| Cd | *Ceratophyllum demersum* (coontail) |
| Ppu | *Potamogeton pusillus* (slender pondweed) |
| Ngu | *Najas guadalupensis* (southern naiad) |
| Ngr | *Najas gracillima* (naiad) |
| C | *Chara* sp. (musk grass) |

**SURVEY STATIONS**

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:24,000

VIMS

ROAD CLASSIFICATION

TOWNSEND, VA.

TOWNSEND, VA

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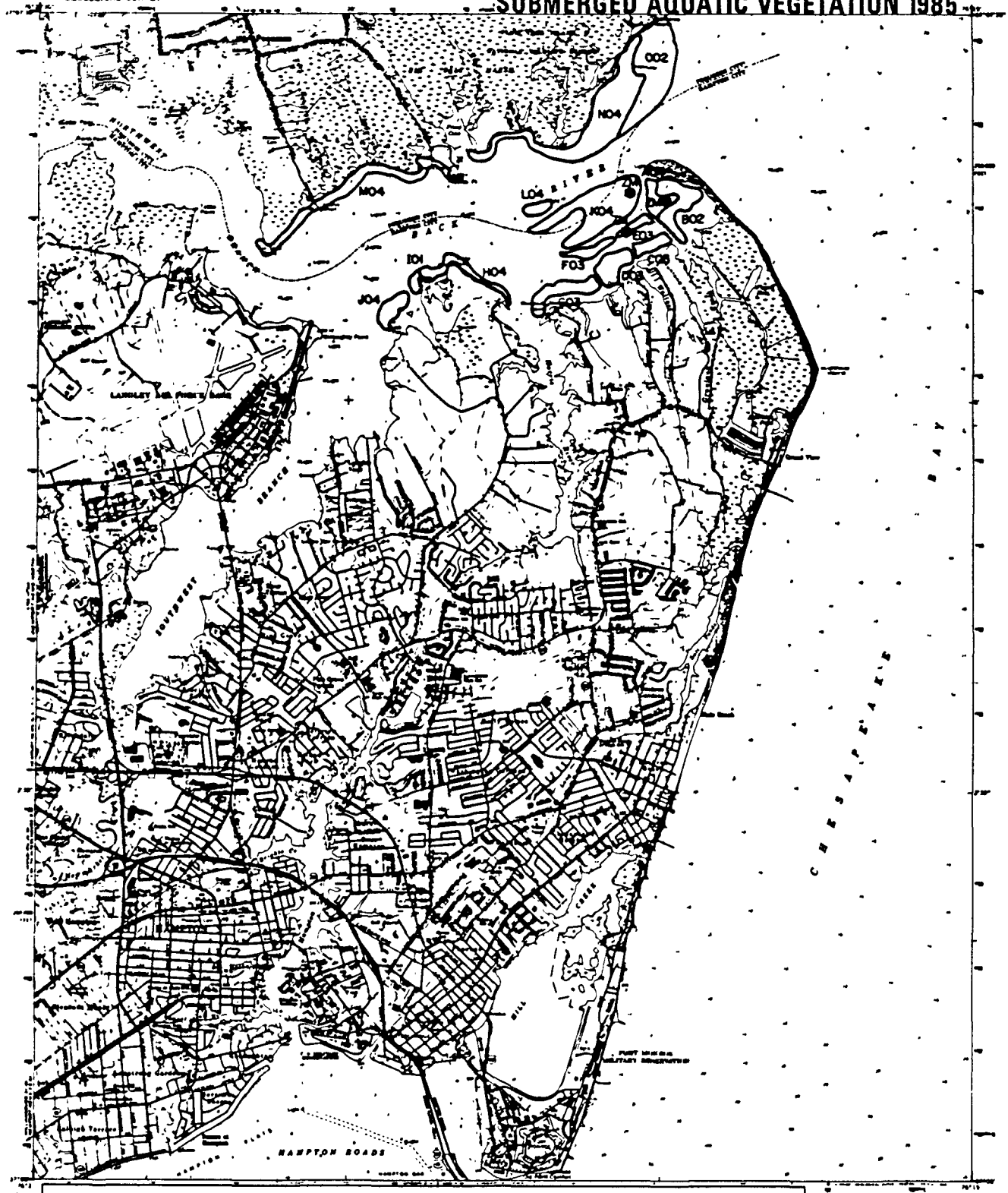
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

COMMONWEALTH OF VIRGINIA
DIVISION OF MINERAL RESOURCES

HAMPTON QUADRANGLE
VIRGINIA

# SUBMERGED AQUATIC VEGETATION 1985




## SPECIES

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (musksgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

## SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:24,000

ROAD CLASSIFICATION

HAMPTON, VA.

147

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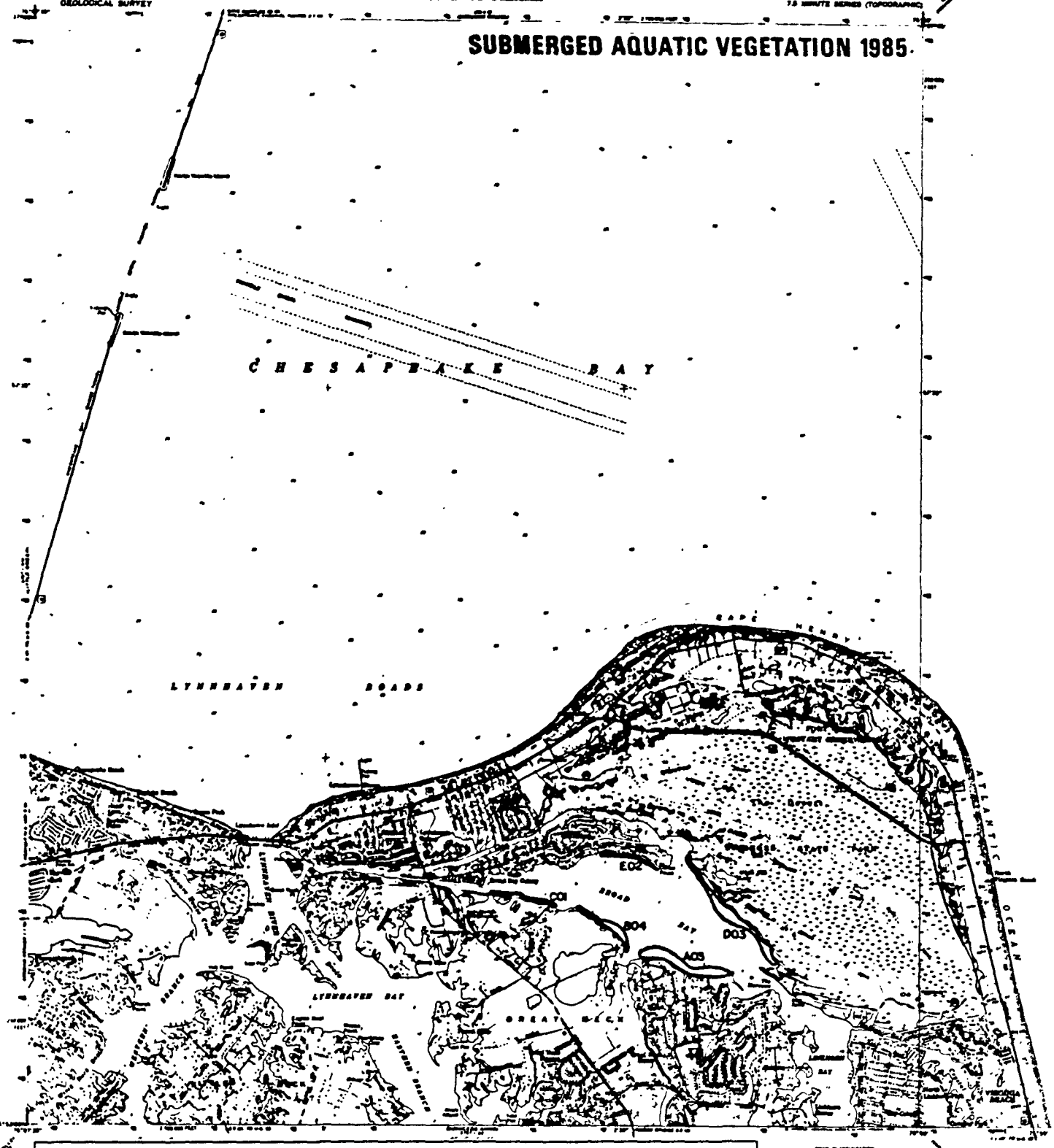
VIMS

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

COMMONWEALTH OF VIRGINIA
DIVISION OF MARINE RESOURCES

CAPE HENRY QUADRANGLE
VIRGINIA-VIRGINIA BEACH CITY
7.5 MINUTE SERIES (TOPOGRAPHIC)

# SUBMERGED AQUATIC VEGETATION 1985




## SPECIES

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heterozostera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Pof | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas* spp. (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musksgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

## SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S. [illegible]

SCALE 1:24,000

VIMS

CAPE HENRY, VA.

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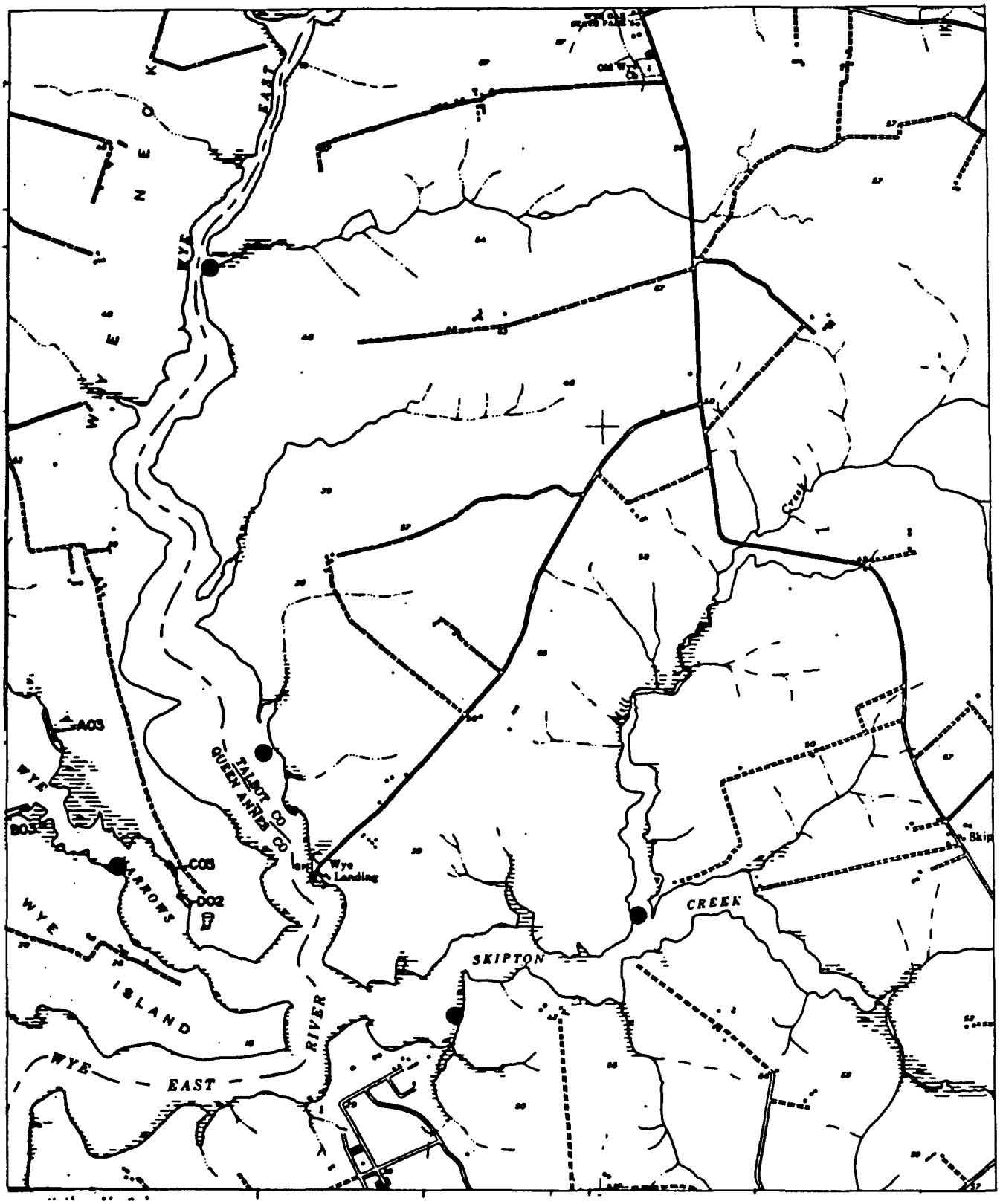



| SPECIES | | | | | |
|---|---|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) | | |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) | | |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) | | |
| Ppl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) | | |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) | | |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) | | |
| N | *Najas spp* (naiad) | Ngr | *Najas gracillima* (naiad) | | |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara sp* (musksgrass) | | |
| Va | *Vallisneria americana* (wild celery) | | | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:10,000

WYE MILLS, MD

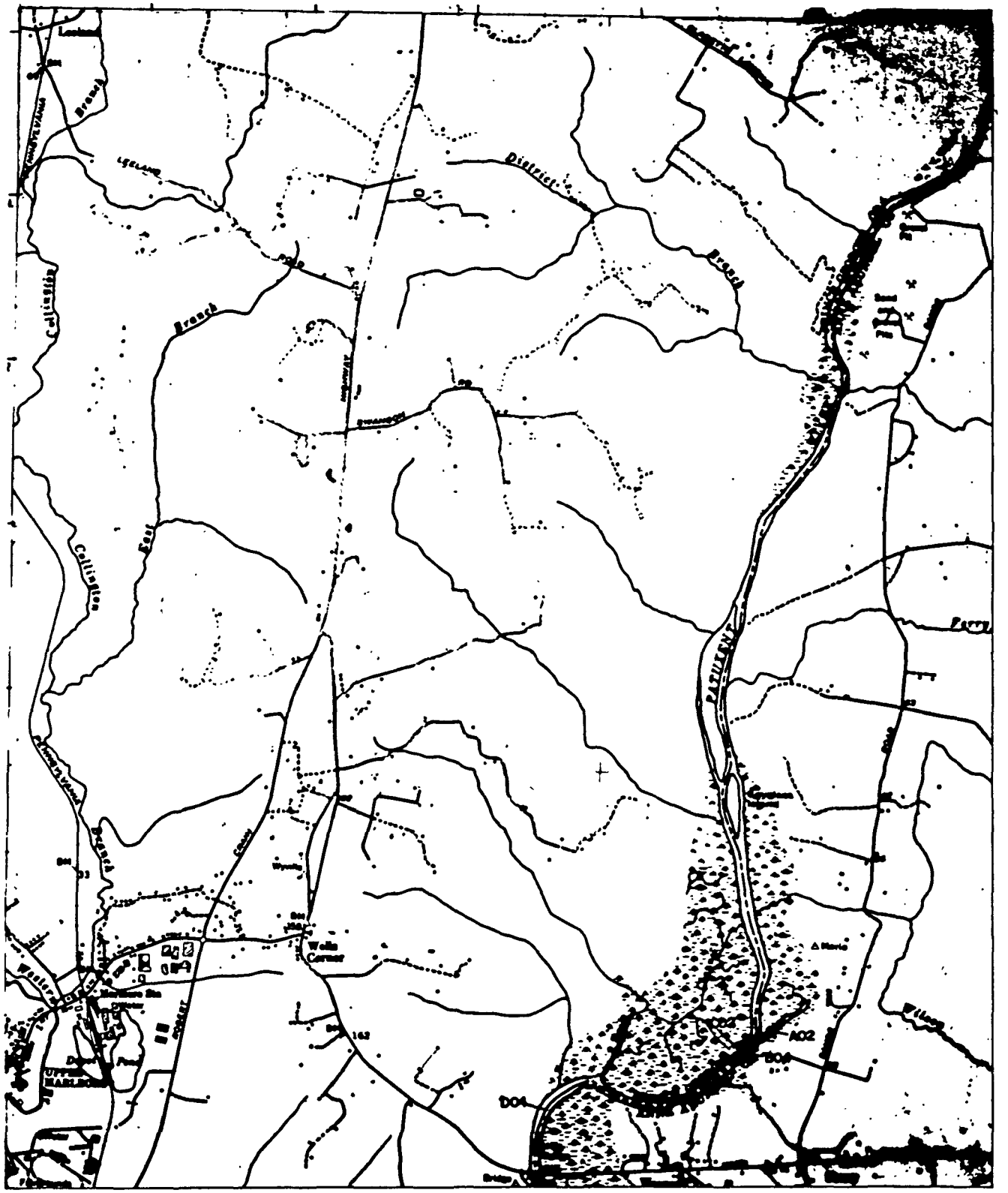
Southwest Quarter

# 158



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186




**SPECIES**

| | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Ppl | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas* spp. (naiads) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp. (musk grass) |
| Vs | *Vallisneria americana* (wild celery) | | |

**SURVEY STATIONS**

- ● MD-DNR Survey Station
- ■ MD Charter Boat Field Survey
- ● Citizens Field Observation
- ▲ VIMS Field Survey
- ♦ U.S.G.S.

SCALE 1:10,000

BRISTOL, MD

Northwest Quarter

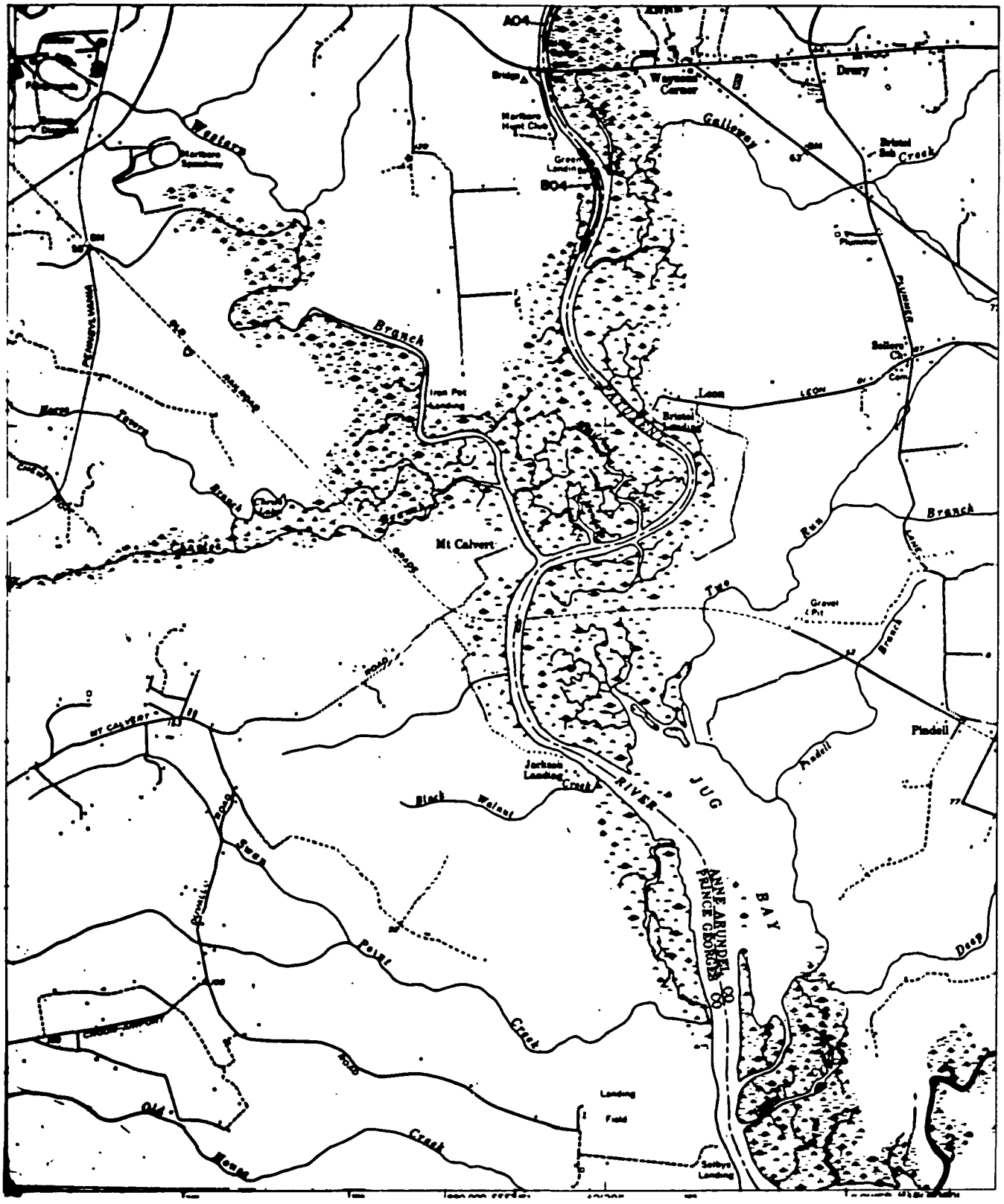
# 159



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

# SUBMERGED AQUATIC VEGETATION 1985




| SPECIES | | | |
|---|---|---|---|
| Zm | *Zostera marina* (eelgrass) | Hv | *Hydrilla verticillata* (hydrilla) |
| Rm | *Ruppia maritima* (widgeon grass) | Hd | *Heteranthera dubia* (water stargrass) |
| Ms | *Myriophyllum spicatum* (Eurasian watermilfoil) | Pcr | *Potamogeton crispus* (curly pondweed) |
| Pcf | *Potamogeton perfoliatus* (redhead-grass) | Cd | *Ceratophyllum demersum* (coontail) |
| Ppc | *Potamogeton pectinatus* (sago pondweed) | Ppu | *Potamogeton pusillus* (slender pondweed) |
| Zp | *Zannichellia palustris* (horned pondweed) | Ngu | *Najas guadalupensis* (southern naiad) |
| N | *Najas* spp (naiad) | Ngr | *Najas gracillima* (naiad) |
| Ec | *Elodea canadensis* (common elodea) | C | *Chara* sp (muskgrass) |
| Va | *Vallisneria americana* (wild celery) | | |

SURVEY STATIONS

- MD-DNR Survey Station
- MD Charter Boat Field Survey
- Citizens Field Observation
- VIMS Field Survey
- U.S.G.S.

SCALE 1:12,000

BRISTOL, MD

Southwest Quarter

# 159



U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NEVADA

ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER, WARRENTON, VIRGINIA 22186

## APPENDIX D

NUMBER OF SQUARE METERS OF SAV FOR INDIVIDUAL BEDS BY TOPOGRAPHIC QUADRANGLE OR QUARTER QUADRANGLE (SEE MAPS IN APPENDIX C FOR LOCATION OF EACH BED. QUADRANGLES ARE LISTED ALPHABETICALLY).

| ABERDEEN, MD.-NE (002) | | ACHILLES, VA. (131) | | ALEXANDRIA, VA.-DC.-NE (034) | |
|---|---|---|---|---|---|
| A04 | 923 | A02 | 19,659 | | |
| B03 | 977 | B03 | 29,300 | A04 | 22, |
| C03 | 7,443 | C03 | 22,368 | B01 | 10, |
| D03 | 22,335 | D04 | 181,840 | C03 | 6, |
| E04 | 5,771 | E04 | 467,509 | D02 | 1, |
| F04 | 1,039 | F03 | 51,043 | E04 | 4, |
| G04 | 4,128 | G02 | 69,550 | F02 | 18, |
| H04 | 739 | H04 | 275,241 | G01 | 54, |
| I04 | 4,624 | I04 | 37,017 | H03 | 10, |
| J02 | 2,335 | J04 | 443,390 | | |
| K03 | 9,597 | K02 | 39,532 | | |
| L04 | 1,026 | L03 | 333,729 | | |
| M03 | 2,492 | M02 | 138,850 | | |
| | | N04 | 155,254 | | |
| | | O04 | 38,112 | | |
| | | P03 | 111,770 | | |
| | | Q01 | 32,988 | | |
| | | R03 | 210,375 | | |
| | | S01 | 27,194 | | |
| | | T02 | 125,686 | | |
| | | U04 | 466,638 | | |
| | | V03 | 1,060,695 | | |
| | | W02 | 31,312 | | |
| | | X02 | 14,713 | | |
| | | Y02 | 36,681 | | |
| | | Z02 | 17,776 | | |
| | | AA3 | 2,551 | | |
| | | BA4 | 42,372 | | |
| | | CA3 | 23,833 | | |
| | | DA2 | 20,200 | | |
| | | EA2 | 6,753 | | |
| | | FA3 | 13,564 | | |
| | | GA3 | 132,338 | | |
| | | HA3 | 1,169,456 | | |
| | | IA1 | 85,160 | | |
| | | JA4 | 160,809 | | |
| | | KA1 | 88,691 | | |
| | | LA4 | 97,758 | | |
| | | MA1 | 75,075 | | |
| | | NA1 | 20,488 | | |
| | | OA1 | 100,819 | | |
| | | PA3 | 623,525 | | |

TOTAL AREA

| | | | |
|---|---|---|---|
| DENSITY 1 = | 0 | 430,419 | 65, |
| DENSITY 2 = | 2,335 | 520,718 | 19, |
| DENSITY 3 = | 42,844 | 3,784,554 | 17, |
| DENSITY 4 = | 18,250 | 2,365,945 | 26, |
| TOTAL = | 63,429 | 7,101,637 | 128, |

| ALEXANDRIA, VA.-DC.-MD.-SE (034) | | ANNAPOLIS, MD.-SW (031) | | BARREN IS., MD.-NE (072) | |
|---|---|---|---|---|---|
| | | | | A04 | 164,383 |
| A04 | 3,874 | A03 | 2,840 | B03 | 142,153 |
| B02 | 17,679 | | | C02 | 465,561 |
| C03 | 14,035 | | | D03 | 60,825 |
| D01 | 223,013 | | | E04 | 54,956 |
| E02 | 9,895 | | | F03 | 757,409 |
| F03 | 920 | | | G03 | 42,660 |
| G03 | 5,075 | | | H04 | 15,516 |
| H02 | 267,105 | | | I03 | 18,804 |
| I01 | 8,568 | | | J02 | 2,252 |
| J02 | 1,681 | | | K02 | 918 |
| K02 | 430 | | | L02 | 12,531 |
| L02 | 4,173 | | | M04 | 464,362 |
| M04 | 1,926 | | | N02 | 6,563 |
| N03 | 2,336 | | | O02 | 32,752 |
| O01 | 1,072 | | | P03 | 10,809 |
| P03 | 3,405 | | | Q02 | 66,742 |
| Q02 | 5,997 | | | R03 | 5,539 |
| R04 | 14,924 | | | S03 | 31,036 |
| S02 | 3,976 | | | T03 | 1,534 |
| T03 | 6,109 | | | U03 | 1,679 |
| U03 | 230,426 | | | V03 | 54,042 |
| V02 | 109,941 | | | W03 | 1,589 |
| W02 | 664 | | | X03 | 129,685 |
| X02 | 240 | | | Y01 | 14,022 |
| Y04 | 783,039 | | | Z02 | 822 |
| Z02 | 348,668 | | | AA3 | 5,814 |
| AA4 | 438,881 | | | BA3 | 41,214 |
| BA2 | 187,747 | | | CA3 | 344 |
| CA4 | 1,577,155 | | | DA3 | 30,357 |
| DA2 | 23,429 | | | EA4 | 12,981 |
| EA3 | 13,392 | | | | |
| FA3 | 9,281 | | | | |
| GA4 | 5,493 | | | | |
| HA4 | 28,192 | | | | |
| IA4 | 47,913 | | | | |
| JA4 | 1,449 | | | | |
| KA4 | 756 | | | | |
| LA4 | 49,264 | | | | |
| MA4 | 36,404 | | | | |
| NA4 | 359,148 | | | | |
| OA3 | 149,599 | | | | |
| PA4 | 28,089 | | | | |
| QA1 | 60,013 | | | | |

TOTAL AREA

| | | | |
|---|---|---|---|
| DENSITY 1 = | 292,666 | 0 | 14,022 |
| DENSITY 2 = | 981,625 | 0 | 588,141 |
| DENSITY 3 = | 434,578 | 2,840 | 1,335,493 |
| DENSITY 4 = | 3,376,507 | 0 | 712,198 |
| TOTAL = | 5,085,376 | 2,840 | 2,649,854 |

| BETTERTON, MD.-NE (016) | | BETTERTON, MD.-NW (016) | | BLOODSWORTH IS., MD.-NE (08 | |
|---|---|---|---|---|---|
| A2 | 6,890 | A2 | 32,441 | A02 | 26,773 |
| B1 | 1,511 | B3 | 17,770 | B04 | 10,134 |
| C1 | 3,007 | C3 | 13,884 | C04 | 9,608 |
| D3 | 1,130 | D1 | 16,432 | D02 | 117,330 |
| E3 | 12,433 | E3 | 5,819 | E02 | 9,124 |
| F3 | 403 | F2 | 6,447 | F04 | 213,094 |
| G3 | 1,180 | | | G03 | 23,197 |
| H3 | 438 | | | H03 | 29,062 |
| I3 | 1,712 | | | I03 | 2,050 |
| J3 | 7,412 | | | J03 | 1,398 |
| | | | | K02 | 34,596 |
| | | | | L02 | 12,701 |
| | | | | M03 | 75,894 |
| | | | | N01 | 25,199 |
| | | | | O02 | 4,403 |
| TOTAL AREA | | | | | |
| DENSITY 1 = | 4,518 | | 16,432 | | 49,382 |
| DENSITY 2 = | 6,890 | | 38,888 | | 204,927 |
| DENSITY 3 = | 24,708 | | 37,473 | | 131,601 |
| DENSITY 4 = | 0 | | 0 | | 232,836 |
| TOTAL = | 36,116 | | 92,793 | | 618,746 |

| BLOODSWORTH IS., MD.-NW (083) | | BLOODSWORTH IS., MD.-SE (083) | | BLOODSWORTH IS., MD.- | |
|---|---|---|---|---|---|
| A02 | 1,937 | A04 | 9,296 | A02 | 27,162 |
| B04 | 11,807 | B03 | 4,451 | B04 | 1,405,213 |
| C01 | 7,237 | C04 | 96,085 | C02 | 26,735 |
| D04 | 9,145 | D02 | 4,339 | D02 | 136,615 |
| E01 | 35,518 | | | E01 | 60,402 |
| F01 | 11,411 | | | F04 | 11,323 |
| G03 | 41,388 | | | G02 | 63,965 |
| H02 | 33,594 | | | H01 | 37,766 |
| | | | | I03 | 200,447 |
| | | | | J03 | 5,894 |
| | | | | K04 | 8,610 |
| TOTAL AREA | | | | | |
| DENSITY 1 = | 54,166 | | 0 | | 98,168 |
| DENSITY 2 = | 35,531 | | 4,339 | | 254,477 |
| DENSITY 3 = | 41,388 | | 4,451 | | 206,341 |
| DENSITY 4 = | 20,952 | | 105,381 | | 1,425,146 |
| TOTAL = | 152,037 | | 114,171 | | 1,984,132 |

| BRISTOL, MD.-NW (159) | | BRISTOL, MD.-SW (159) | | BROOMES IS., MD.-SE (060) | |
|---|---|---|---|---|---|
| A02 | 1,213 | A04 | 2,656 | A02 | 10,893 |
| B04 | 2,977 | B04 | 8,010 | B02 | 2,905 |
| C02 | 3,229 | | | C02 | 1,391 |
| D04 | 5,407 | | | D01 | 3,806 |
| | | | | E01 | 1,444 |
| | | | | F01 | 14,877 |
| | | | | G02 | 12,161 |
| | | | | H02 | 5,608 |
| | | | | I02 | 12,494 |
| | | | | J01 | 9,041 |
| | | | | K02 | 81,161 |
| | | | | L02 | 77,137 |
| | | | | M02 | 380 |

TOTAL AREA

| | | | |
|---|---|---|---|
| DENSITY 1 = | 0 | 0 | 29,168 |
| DENSITY 2 = | 4,442 | 0 | 204,130 |
| DENSITY 3 = | 0 | 0 | 0 |
| DENSITY 4 = | 8,384 | 10,666 | 0 |
| TOTAL = | 12,826 | 10,666 | 233,298 |

| BROOMES IS., MD.-SW (060) | | CAPE CHARLES, VA. (133) | | CAPE HENRY, VA. (152) | |
|---|---|---|---|---|---|
| A02 | 10,436 | A01 | 46,154 | A03 | 121,454 |
| B02 | 3,399 | B04 | 20,810 | B04 | 48,981 |
| | | C01 | 237,039 | C01 | 24,167 |
| | | D04 | 127,967 | D03 | 141,432 |
| | | E04 | 556,475 | E02 | 31,531 |
| | | F02 | 73,038 | | |
| | | G02 | 148,915 | | |
| | | H02 | 65,901 | | |
| | | I02 | 14,360 | | |
| | | J02 | 5,875 | | |
| | | K02 | 97,376 | | |
| | | L03 | 69,335 | | |
| | | M01 | 1,183,205 | | |
| | | N03 | 648,301 | | |

TOTAL AREA

| | | | |
|---|---|---|---|
| DENSITY 1 = | 0 | 1,466,400 | 24,167 |
| DENSITY 2 = | 13,835 | 405,467 | 31,531 |
| DENSITY 3 = | 0 | 717,638 | 262,886 |
| DENSITY 4 = | 0 | 705,254 | 48,981 |
| TOTAL = | 13,835 | 3,294,759 | 367,567 |

| CHERITON, VA. (134) | | CHESCONESSEX, VA. (108) | | CHESTERTOWN, MD.-SW (022) | |
|---|---|---|---|---|---|
| A01 | 19,711 | A02 | 13,710 | A02 | 10,181 |
| B04 | 290,120 | B04 | 18,913 | B04 | 9,012 |
| C02 | 90,081 | C02 | 11,995 | | |
| D04 | 235,900 | D02 | 43,930 | | |
| | | E02 | 96,014 | | |
| | | F02 | 11,338 | | |
| | | G02 | 11,276 | | |
| | | H02 | 92,043 | | |
| | | I03 | 266,355 | | |
| | | J02 | 655,335 | | |
| | | K03 | 233,912 | | |
| | | L02 | 46,678 | | |
| | | M04 | 41,948 | | |
| | | N02 | 121,069 | | |
| | | O02 | 21,542 | | |
| | | P03 | 395,222 | | |
| | | Q03 | 429,683 | | |
| | | R03 | 446,997 | | |
| | | S02 | 123,326 | | |
| | | T02 | 566,206 | | |
| | | U03 | 133,349 | | |
| | | V03 | 349,397 | | |
| | | W01 | 485,512 | | |
| | | X03 | 712,801 | | |
| | | Y02 | 675,536 | | |
| | | Z02 | 233,353 | | |
| | | AA3 | 413,774 | | |
| | | BA4 | 77,926 | | |
| | | CA4 | 6,095 | | |
| | | DA4 | 67,398 | | |
| | | EA3 | 4,781 | | |
| | | FA3 | 7,128 | | |
| | | GA3 | 4,544 | | |
| | | HA4 | 52,694 | | |
| | | IA4 | 41,091 | | |
| | | JA1 | 185,108 | | |
| | | KA3 | 67,902 | | |
| | | LA3 | 74,538 | | |
| | | MA3 | 1,032,340 | | |
| TOTAL AREA | | | | | |
| DENSITY 1 = | 19,711 | | 670,621 | | 0 |
| DENSITY 2 = | 90,081 | | 2,723,359 | | 10,181 |
| DENSITY 3 = | 0 | | 4,572,732 | | 0 |
| DENSITY 4 = | 526,021 | | 306,068 | | 9,012 |
| TOTAL = | 635,815 | | 8,272,778 | | 19,193 |

| CHURCH CR., MD.-NE (052) | |
|---|---|
| A04 | 31,400 |
| B03 | 25,302 |
| C02 | 1,367 |
| D02 | 1,412 |
| E04 | 169,433 |
| F03 | 10,706 |
| G04 | 986 |
| H04 | 13,086 |
| I04 | 467 |
| J02 | 4,432 |
| K03 | 8,772 |
| L03 | 8,473 |
| M04 | 1,625 |
| N01 | 6,755 |
| O03 | 3,463 |
| P03 | 901 |
| Q02 | 1,327 |
| R03 | 10,935 |
| S03 | 4,286 |
| T02 | 34,553 |
| U03 | 10,610 |
| V03 | 15,109 |
| W03 | 4,837 |
| X01 | 8,793 |
| Y02 | 7,774 |
| Z02 | 7,988 |
| AA2 | 3,422 |
| BA3 | 8,853 |
| CA3 | 445 |
| DA1 | 3,416 |
| EA2 | 2,158 |
| FA3 | 7,425 |
| GA3 | 2,520 |
| HA2 | 5,418 |
| IA4 | 2,699 |
| JA2 | 15,795 |
| KA2 | 936 |
| MA2 | 5,357 |

| CHURCH CR., MD.-NW (052) | |
|---|---|
| A01 | 86,895 |
| B02 | 86,639 |
| C03 | 189,082 |
| D03 | 302,926 |
| E02 | 2,931 |
| F02 | 16,545 |
| G02 | 5,262 |
| H04 | 3,696 |
| I03 | 189,544 |
| J02 | 162,091 |
| K04 | 24,810 |
| L04 | 36,959 |
| M03 | 30,175 |
| N02 | 2,651 |
| O03 | 100,598 |
| P04 | 93,312 |
| Q04 | 10,475 |
| R02 | 746 |
| S03 | 1,340 |
| T03 | 6,569 |
| U03 | 12,870 |
| V03 | 4,406 |
| W04 | 5,351 |
| X04 | 11,446 |
| Y04 | 27,444 |
| Z03 | 4,145 |
| AA3 | 11,540 |
| BA3 | 8,895 |
| CA4 | 14,776 |
| DA3 | 13,884 |
| EA4 | 6,032 |
| FA3 | 60,740 |
| GA3 | 8,960 |
| HA3 | 1,382 |
| IA3 | 5,015 |
| JA3 | 3,719 |
| KA2 | 968 |
| LA3 | 54,810 |
| MA3 | 18,059 |
| NA3 | 17,987 |
| OA3 | 26,778 |
| PA4 | 15,850 |
| QA3 | 20,730 |
| RA3 | 2,336 |
| SA3 | 960 |
| TA3 | 1,193 |
| UA3 | 3,027 |
| VA3 | 4,844 |
| WA3 | 5,548 |
| XA3 | 6,411 |
| YA3 | 1,299 |
| ZA2 | 1,869 |

| CHURCH CR., MD.-SW (052) | |
|---|---|
| A02 | 9,334 |
| B03 | 25,993 |
| C02 | 19,092 |
| D03 | 64,532 |
| E03 | 10,025 |
| F04 | 5,954 |
| G04 | 13,259 |
| H03 | 12,177 |
| I04 | 2,155 |
| J03 | 23,617 |
| L04 | 11,294 |
| M01 | 999 |
| N04 | 19,149 |
| O03 | 8,256 |
| P03 | 21,739 |
| Q02 | 897 |
| S03 | 1,522 |
| T03 | 384 |
| U03 | 1,082 |
| V03 | 2,278 |
| W03 | 2,236 |
| X03 | 3,145 |
| Y04 | 6,441 |
| Z03 | 29,005 |
| AA2 | 14,250 |
| BA3 | 1,431 |
| CA3 | 4,662 |
| DA2 | 1,010 |
| EA3 | 805 |
| FA3 | 7,894 |
| GA3 | 1,274 |
| HA2 | 2,792 |
| IA2 | 21,031 |
| JA3 | 859 |
| KA4 | 922 |
| LA4 | 1,537 |
| MA4 | 14,584 |
| NA2 | 44,952 |
| OA2 | 9,847 |
| PA3 | 4,135 |
| QA3 | 2,187 |
| TA2 | 14,945 |
| UA3 | 6,310 |
| VA4 | 3,851 |
| XA3 | 6,121 |
| YA4 | 11,453 |
| ZA3 | 42,348 |
| AB3 | 16,796 |
| BB2 | 6,037 |
| CB3 | 5,297 |
| DB2 | 8,967 |
| EB2 | 1,331 |

CHURCH CR., - NE (cont'd)

CHURCH CR., - NW (cont'd)

| | |
|---|---|
| AB3 | 6,929 |
| BB2 | 3,944 |
| CB3 | 3,349 |
| DB2 | 1,590 |
| EB3 | 2,714 |
| FB2 | 4,242 |
| GB2 | 1,790 |
| HB2 | 2,090 |
| IB2 | 4,311 |
| JB3 | 712 |
| KB2 | 1,367 |
| LB3 | 10,246 |
| MB2 | 13,028 |
| NB3 | 3,425 |
| OB3 | 318 |
| PB3 | 3,531 |
| QB3 | 104,531 |
| RB3 | 11,490 |
| SB3 | 29,806 |
| TB2 | 7,470 |
| UB3 | 55,162 |
| VB4 | 6,680 |
| WB3 | 4,849 |
| XB2 | 12,654 |
| YB3 | 2,091 |
| ZB3 | 6,247 |
| AC4 | 4,888 |
| BC4 | 9,524 |
| CC2 | 2,988 |
| DC1 | 1,758 |
| EC3 | 6,325 |
| FC2 | 998 |
| GC3 | 14,990 |
| HC2 | 4,026 |
| IC3 | 8,976 |
| JC3 | 17,484 |
| KC2 | 7,329 |
| LC4 | 3,175 |
| MC3 | 27,751 |
| NC3 | 18,741 |
| OC3 | 13,451 |
| PC3 | 7,973 |
| QC2 | 2,795 |
| RC1 | 5,096 |
| SC1 | 1,548 |
| TC3 | 1,773 |
| UC4 | 5,843 |
| VC3 | 33,024 |
| WC2 | 12,564 |
| XC3 | 5,356 |
| YC3 | 4,159 |

CHURCH CR., - SW (cont

| | |
|---|---|
| FB2 | 1,033 |
| GB2 | 11,362 |
| HB1 | 11,026 |
| IB2 | 1,695 |
| JB2 | 12,410 |
| LB3 | 3,595 |
| MB3 | 19,238 |
| NB3 | 4,389 |
| OB2 | 9,726 |
| PB3 | 11,203 |
| QB3 | 29,311 |
| RB3 | 631 |
| SB3 | 4,598 |
| TB2 | 5,182 |
| UB3 | 675 |
| VB3 | 5,838 |
| WB3 | 2,014 |
| XB4 | 209 |
| YB4 | 208 |
| ZB3 | 7,505 |
| AC3 | 1,321 |
| BC2 | 1,384 |
| CC1 | 2,580 |
| DC3 | 1,669 |
| EC2 | 5,545 |
| FC3 | 855 |
| GC2 | 1,330 |
| HC1 | 7,444 |
| IC2 | 1,567 |
| JC2 | 821 |
| KC4 | 6,702 |
| LC2 | 4,860 |
| MC2 | 3,826 |
| NC3 | 1,799 |
| OC2 | 9,784 |
| PC3 | 11,951 |
| QC1 | 6,201 |
| RC2 | 1,076 |
| SC2 | 1,990 |
| TC1 | 2,676 |
| UC1 | 760 |
| VC1 | 663 |
| WC2 | 10,274 |
| XC3 | 4,476 |
| YC3 | 1,279 |
| KO3 | 18,231 |
| RA2 | 6,066 |
| SA3 | 2,053 |
| KB3 | 7,898 |

| CHURCH CR., - NE (cont'd) | | CHURCH CR., - NW (cont'd) | | CHURCH CR., - SW (cont'd) | |
|---|---|---|---|---|---|
| | | AC2 | 885 | | |
| | | AD3 | 2,039 | | |
| | | BD3 | 2,325 | | |
| | | CD2 | 3,772 | | |
| | | DD4 | 2,798 | | |
| | | ED2 | 14,470 | | |
| | | FD4 | 10,652 | | |
| TOTAL AREA | | | | | |
| DENSITY 1 = | 18,964 | | 92,297 | | 32,349 |
| DENSITY 2 = | 91,939 | | 385,015 | | 244,416 |
| DENSITY 3 = | 122,637 | | 1,529,539 | | 446,639 |
| DENSITY 4 = | 219,706 | | 293,711 | | 106,682 |
| TOTAL = | 453,246 | | 2,208,265 | | 830,086 |

| CLAIBORNE, MD.-NE (036) | | CLAIBORNE, MD.-NW (036) | | CLAIBORNE, MD.-SW (036) | |
|---|---|---|---|---|---|
| A04 | 6,613 | A02 | 7,986 | A02 | 587,899 |
| B03 | 791 | B02 | 49,812 | B04 | 8,055 |
| C02 | 613 | C03 | 7,716 | C04 | 1,088 |
| D02 | 28,632 | D02 | 144,892 | D03 | 176 |
| E03 | 398 | E04 | 35,581 | E04 | 30,519 |
| F02 | 1,396 | F02 | 16,739 | F02 | 10,297 |
| G02 | 6,276 | G04 | 28,308 | G02 | 764 |
| H02 | 416 | H02 | 53,615 | H02 | 1,607 |
| I02 | 436 | | | I03 | 8,406 |
| J03 | 1,979 | | | J04 | 17,155 |
| K02 | 332,200 | | | K03 | 18,583 |
| L03 | 20,835 | | | L04 | 1,235 |
| M03 | 2,362 | | | M02 | 4,037 |
| N03 | 5,521 | | | N02 | 1,970 |
| O03 | 11,906 | | | O03 | 1,742 |
| P03 | 1,442 | | | P02 | 3,173 |
| Q03 | 1,928 | | | Q03 | 3,792 |
| R02 | 745 | | | R03 | 18,073 |
| S03 | 10,387 | | | S03 | 3,573 |
| T03 | 5,690 | | | T03 | 35,576 |
| U02 | 9,289 | | | U02 | 58,567 |
| V02 | 241 | | | V02 | 14,174 |
| TOTAL AREA | | | | | |
| DENSITY 1 = | 0 | | 0 | | 0 |
| DENSITY 2 = | 380,244 | | 273,044 | | 682,488 |
| DENSITY 3 = | 63,239 | | 7,716 | | 8,992 |
| DENSITY 4 = | 6,613 | | 63,889 | | 58,052 |
| TOTAL = | 450,096 | | 344,649 | | 749,532 |

CLAIBORNE, MD.-SE (036)

| | |
|---|---|
| AO3 | 826 |
| BO4 | 3,523 |
| CO3 | 69,585 |
| DO2 | 222 |
| EO2 | 11,168 |
| FO3 | 17,493 |
| GO2 | 313,938 |
| HO3 | 636 |
| IO3 | 4,591 |
| JO2 | 7,391 |
| KO3 | 5,711 |
| LO3 | 4,305 |
| NO4 | 22,202 |
| OO4 | 13,773 |
| PO3 | 7,506 |
| QO4 | 23,543 |
| RO3 | 28,046 |
| SO4 | 9,946 |
| TO4 | 90,755 |
| UO2 | 1,047 |
| VO4 | 49,036 |
| WO3 | 392 |
| XO3 | 939 |
| YO3 | 337 |
| ZO3 | 973 |
| AA4 | 666 |
| BA4 | 659 |
| CA3 | 11,748 |
| DA3 | 32,562 |
| EA2 | 13,114 |
| FA3 | 9,446 |
| GA2 | 33,590 |
| HA3 | 12,722 |
| IA3 | 39,724 |
| JA3 | 4,047 |
| KA3 | 920 |
| LA2 | 4,643 |
| MA4 | 17,182 |
| NA3 | 17,620 |
| OA2 | 1,317 |
| PA3 | 2,488 |
| QA3 | 5,131 |
| RA4 | 2,435 |
| SA3 | 841 |
| TA3 | 10,120 |
| UA3 | 2,203 |
| VA3 | 6,486 |
| WA3 | 1,293 |
| XA3 | 2,770 |
| YA2 | 1,424 |
| ZA3 | 6,038 |

CLAIBORNE - SE (cont'd)

| | |
|---|---|
| AB3 | 17,752 |
| BB3 | 33,919 |
| CB4 | 2,272 |
| DB4 | 10,243 |
| EB4 | 15,031 |
| FB3 | 4,467 |
| GB3 | 1,244 |
| HB3 | 13,807 |
| IB3 | 6,598 |
| JB2 | 3,005 |
| KB2 | 14,777 |
| LB3 | 7,376 |
| MB3 | 22,651 |
| NB2 | 2,774 |
| OB1 | 2,231 |
| PB2 | 3,603 |
| QB3 | 6,992 |
| RB3 | 47,522 |
| SB2 | 20,617 |
| TB4 | 31,952 |
| UB3 | 119 |
| VB2 | 693 |
| WB2 | 1,683 |
| XB3 | 8,549 |
| YB4 | 16,944 |
| ZB3 | 18,531 |
| AC3 | 10,683 |
| BC2 | 19,719 |
| CC4 | 18,560 |
| DC3 | 4,396 |
| EC2 | 919 |
| FC3 | 19,713 |
| GC3 | 5,973 |
| HC3 | 38,275 |
| IC4 | 22,642 |
| JC2 | 11,496 |
| KC3 | 70,296 |
| LC4 | 21,195 |
| MC4 | 1,110 |
| NC2 | 7,898 |
| OC3 | 14,704 |
| PC4 | 6,166 |
| QC4 | 6,583 |
| RC3 | 12,356 |
| SC4 | 3,542 |
| TC2 | 3,441 |
| UC4 | 18,457 |
| VC2 | 35,658 |
| WC3 | 7,006 |
| XC3 | 6,186 |
| YC3 | 24,149 |

CLAIBORNE - SE (cont'd)

| | |
|---|---|
| ZC3 | 18,664 |
| AD2 | 11,840 |
| BD2 | 3,352 |
| CD2 | 20,994 |
| DD4 | 11,671 |
| ED3 | 91 |
| FD2 | 892 |
| GD3 | 1,844 |
| HD3 | 7,952 |
| ID4 | 7,669 |
| JD2 | 42,346 |
| KD4 | 10,020 |
| LD2 | 1,752 |
| MD3 | 1,607 |
| ND2 | 3,101 |
| OD3 | 3,694 |
| PD2 | 4,055 |
| QD3 | 16,781 |
| RD2 | 15,066 |
| SD2 | 53,385 |
| TD3 | 2,949 |
| UD3 | 1,052 |
| VD3 | 2,542 |
| WD3 | 2,243 |
| XD3 | 7,019 |
| YD2 | 749 |
| ZD2 | 421 |
| AE3 | 6,595 |
| BE3 | 140,175 |
| CE3 | 5,130 |
| EE3 | 53,984 |
| FE3 | 10,934 |
| GE2 | 1,852 |
| HE4 | 9,544 |
| IE3 | 17,652 |
| JE3 | 7,776 |
| KE3 | 11,110 |
| LE2 | 1,421 |
| ME3 | 5,948 |
| NE3 | 10,971 |
| OE3 | 2,049 |
| PE4 | 16,426 |
| QE3 | 4,965 |
| RE3 | 5,765 |
| SE4 | 10,578 |
| TE2 | 73,211 |
| UE3 | 4,155 |
| VE1 | 8,464 |

CLAIBORNE - SE (cont'd)

| | |
|---|---|
| WE2 | 10,380 |
| YE3 | 3,404 |
| ZE3 | 34,297 |
| AF2 | 37,107 |

TOTAL AREA

| | |
|---|---|
| DENSITY 1 = | 0 |
| DENSITY 2 = | 796,061 |
| DENSITY 3 = | 1,105,634 |
| DENSITY 4 = | 470,802 |
| TOTAL = | 2,379,497 |

| COLONIAL BEACH N., MD.-VA.-NE (067) | | COLONIAL BEACH N., MD.-VA.-NW (067) | | COLONIAL BEACH N., MD. SW (067) | |
|---|---|---|---|---|---|
| A03 | 6,002 | A02 | 1,536 | A03 | 47,512 |
| B03 | 50,392 | B03 | 32,567 | | |
| C03 | 2,165 | C02 | 3,054 | | |
| D03 | 672 | D02 | 5,478 | | |
| | | E01 | 7,262 | | |
| **TOTAL AREA** | | | | | |
| DENSITY 1 = | 0 | | 7,262 | | 0 |
| DENSITY 2 = | 0 | | 10,068 | | 0 |
| DENSITY 3 = | 59,231 | | 32,567 | | 47,512 |
| DENSITY 4 = | 0 | | 0 | | 0 |
| TOTAL = | 59,231 | | 49,897 | | 47,512 |

| COVE PT., MD.-SW (061) | | CRISFIELD, MD.-VA. (101) | | DAHLGREN, VA.-MD.-NE | |
|---|---|---|---|---|---|
| | | A03 | 7,532 | A03 | 3,178 |
| A03 | 5,297 | B03 | 7,584 | B03 | 8,244 |
| B02 | 6,185 | C03 | 11,496 | C02 | 8,297 |
| C02 | 3,938 | D03 | 31,585 | | |
| D02 | 1,854 | E03 | 46,390 | | |
| E02 | 7,336 | F03 | 53,143 | | |
| | | G02 | 148,402 | | |
| | | H04 | 235,786 | | |
| | | I03 | 48,742 | | |
| | | J03 | 57,122 | | |
| | | K04 | 94,427 | | |
| | | L03 | 17,838 | | |
| | | M03 | 13,224 | | |
| | | N02 | 18,948 | | |
| **TOTAL AREA** | | | | | |
| DENSITY 1 = | 0 | | 0 | | 0 |
| DENSITY 2 = | 5,297 | | 167,351 | | 8,297 |
| DENSITY 3 = | 19,313 | | 294,661 | | 11,422 |
| DENSITY 4 = | 0 | | 330,214 | | 0 |
| TOTAL = | 24,610 | | 792,226 | | 19,719 |

| DEAL IS., MD.-SE (084) | | DEALE, MD.-NE (035) | | DELTAVILLE, VA. (118) | |
|---|---|---|---|---|---|
| A03 | 7,352 | A04 | 8,392 | A03 | 3,484 |
| B03 | 42,600 | B01 | 1,088 | B02 | 3,532 |
| C03 | 1,330 | C03 | 5,616 | | |
| D01 | 7,207 | D02 | 9,175 | | |
| E03 | 37,886 | | | | |
| F02 | 6,205 | | | | |
| G02 | 14,391 | | | | |
| H02 | 1,902 | | | | |
| I04 | 1,123 | | | | |
| J03 | 4,338 | | | | |
| K02 | 4,712 | | | | |
| L03 | 17,077 | | | | |
| M03 | 10,758 | | | | |
| N02 | 6,393 | | | | |
| O04 | 3,217 | | | | |
| TOTAL AREA | | | | | |
| DENSITY 1 = | 7,207 | | 1,088 | | 0 |
| DENSITY 2 = | 33,607 | | 9,175 | | 3,532 |
| DENSITY 3 = | 121,341 | | 5,616 | | 3,484 |
| DENSITY 4 = | 4,340 | | 8,392 | | 0 |
| TOTAL = | 166,495 | | 24,271 | | 7,017 |

| EAST NEW MARKET, MD.-NW (054) | | EASTON, MD.-NW (038) | | EASTON, MD.-SW (038) | |
|---|---|---|---|---|---|
| A04 | 7,462 | A03 | 738 | A02 | 4,342 |
| | | B03 | 808 | B02 | 2,060 |
| | | C03 | 5,853 | C03 | 1,866 |
| | | | | D03 | 3,496 |
| | | | | E02 | 2,338 |
| | | | | F03 | 1,787 |
| | | | | G01 | 5,636 |
| | | | | H02 | 2,229 |
| | | | | I03 | 14,345 |
| | | | | J03 | 3,570 |
| | | | | K03 | 1,881 |
| | | | | L02 | 4,407 |
| | | | | M03 | 20,093 |
| | | | | N03 | 35,455 |
| | | | | O04 | 5,305 |
| | | | | P03 | 3,773 |
| | | | | Q04 | 12,911 |
| | | | | R02 | 3,824 |
| | | | | S03 | 6,557 |
| TOTAL AREA | | | | | |
| DENSITY 1 = | 0 | | 0 | | 5,636 |
| DENSITY 2 = | 0 | | 0 | | 19,200 |
| DENSITY 3 = | 0 | | 7,399 | | 92,823 |
| DENSITY 4 = | 7,462 | | 0 | | 18,216 |
| TOTAL = | 7,462 | | 7,399 | | 135,875 |

| EARLEVILLE, MD.-NE (010) | | EARLEVILLE, MD.-NW (010) | | EARLEVILLE, MD.-SW (01 | |
|---|---|---|---|---|---|
| A01 | 10,131 | A01 | 24,444 | A03 | 2,198 |
| B02 | 44,134 | B02 | 5,067 | B03 | 3,075 |
| C02 | 4,203 | C03 | 4,983 | C03 | 398 |
| D02 | 4,225 | | | D02 | 10,230 |
| E02 | 2,908 | | | | |
| TOTAL AREA | | | | | |
| DENSITY 1 = | 10,131 | | 24,444 | | 0 |
| DENSITY 2 = | 55,470 | | 5,067 | | 10,230 |
| DENSITY 3 = | 0 | | 4,983 | | 5,671 |
| DENSITY 4 = | 0 | | 0 | | 0 |
| TOTAL = | 65,601 | | 34,494 | | 15,901 |

| EDGEWOOD, MD.-SW (007) | | ELLIOTS CREEK, VA. (142) | | EWELL, MD.-VA. (099) | |
|---|---|---|---|---|---|
| B03 | 1,299 | A02 | 6,411 | A01 | 203,266 |
| C02 | 1,657 | B03 | 20,880 | B02 | 567,327 |
| D03 | 4,236 | C01 | 56,840 | C04 | 4,516,964 |
| E03 | 3,178 | | | D02 | 714,527 |
| L02 | 35,861 | | | E02 | 2,104,881 |
| M01 | 1,281 | | | F03 | 2,490,956 |
| N02 | 15,624 | | | G03 | 1,004,111 |
| | | | | H04 | 3,604,417 |
| | | | | I04 | 1,893,827 |
| | | | | J02 | 235,196 |
| | | | | K02 | 319,461 |
| | | | | L03 | 871,589 |
| | | | | M04 | 455,935 |
| | | | | N02 | 59,680 |
| | | | | O04 | 150,095 |
| | | | | P03 | 226,574 |
| | | | | Q03 | 31,768 |
| | | | | R02 | 208,496 |
| | | | | S03 | 181,974 |
| | | | | T02 | 40,423 |
| | | | | U02 | 134,241 |
| | | | | V04 | 583,227 |
| | | | | W04 | 17,372 |
| | | | | X03 | 238,927 |
| | | | | Y01 | 89,333 |
| | | | | Z01 | 79,039 |
| | | | | AA3 | 4,023 |
| | | | | BA3 | 269,061 |
| TOTAL AREA | | | | | |
| DENSITY 1 = | 1,281 | | 56,840 | | 371,599 |
| DENSITY 2 = | 53,142 | | 6,411 | | 4,384,237 |
| DENSITY 3 = | 8,713 | | 20,880 | | 5,318,988 |
| DENSITY 4 = | 0 | | 0 | | 11,221,840 |
| TOTAL = | 63,136 | | 84,133 | | 21,296,660 |

FLEETS BAY, VA. (112)

| | |
|---|---|
| A03 | 15,268 |
| B03 | 9,634 |
| C03 | 2,633 |
| D01 | 352,837 |
| E03 | 2,550 |
| F01 | 34,655 |
| G01 | 49,495 |
| H03 | 3,047 |
| I03 | 11,597 |
| J02 | 9,579 |
| K02 | 367,439 |
| L02 | 156,906 |
| M03 | 12,555 |
| N02 | 59,289 |
| O02 | 86,849 |
| P03 | 20,040 |
| Q03 | 5,485 |
| R02 | 9,209 |

FRANKTOWN, VA. (124)

| | |
|---|---|
| A04 | 55,530 |
| B02 | 131,630 |
| C02 | 5,349 |
| D03 | 25,802 |
| E04 | 301,183 |
| F02 | 19,742 |
| G04 | 305,627 |
| H04 | 137,058 |
| I03 | 212,892 |
| J02 | 12,385 |
| K03 | 21,482 |
| L03 | 14,664 |
| M02 | 24,461 |
| N02 | 69,137 |
| O03 | 194,435 |
| P03 | 78,796 |
| Q04 | 1,322,067 |
| R02 | 223,739 |
| S02 | 385,679 |
| T02 | 17,804 |
| U03 | 56,973 |
| V02 | 30,187 |
| W01 | 30,987 |
| X02 | 178,926 |
| Y02 | 62,619 |
| Z02 | 23,208 |
| AA3 | 105,105 |
| BA2 | 64,223 |
| CA2 | 49,563 |
| DA2 | 11,322 |
| EA2 | 15,965 |

FT. BELVOIR, VA.-MD.-SE (039)

| | |
|---|---|
| A02 | 2,570 |
| B01 | 14,711 |

TOTAL AREA

| | |
|---|---|
| DENSITY 1 = | 14,711 |
| DENSITY 2 = | 2,570 |
| DENSITY 3 = | 0 |
| DENSITY 4 = | 0 |
| TOTAL = | 17,281 |

GALENA, MD.-NW (017)

| | |
|---|---|
| A01 | 1,435 |
| B01 | 4,637 |

TOTAL AREA

| | | | |
|---|---|---|---|
| DENSITY 1 = | 436,989 | 30,987 | 6,072 |
| DENSITY 2 = | 689,273 | 1,325,947 | 0 |
| DENSITY 3 = | 82,815 | 710,154 | 0 |
| DENSITY 4 = | 0 | 2,129,467 | 0 |
| TOTAL = | 1,209,077 | 4,196,556 | 6,072 |

| GIBSON IS., MD.-NE (024) | | GIBSON IS., MD.-NW (024) | | GIBSON IS., MD.-SE (024) | |
|---|---|---|---|---|---|
| A02 | 1,303 | A03 | 2,114 | A02 | 21,664 |
| B04 | 3,654 | B03 | 20,683 | B04 | 88,122 |
| C03 | 13,485 | | | C03 | 3,723 |
| TOTAL AREA | | | | | |
| DENSITY 1 = | 0 | | 0 | | 0 |
| DENSITY 2 = | 1,303 | | 0 | | 21,664 |
| DENSITY 3 = | 13,485 | | 22,797 | | 3,723 |
| DENSITY 4 = | 3,654 | | 0 | | 88,122 |
| TOTAL = | 18,442 | | 22,797 | | 113,509 |

| GIBSON IS., MD.-SW (024) | | GOLDEN HILL, MD.-SW (063) | | GREAT FOX ISLAND, MD-VA | |
|---|---|---|---|---|---|
| A02 | 5,922 | A02 | 11,240 | A03 | 1,883 |
| | | B03 | 14,989 | B02 | 24 |
| | | C03 | 44,701 | C04 | 125 |
| | | D01 | 2,446 | D02 | 42 |
| | | E03 | 589 | E04 | 54 |
| | | F03 | 8,491 | F01 | 222 |
| | | G03 | 1,037 | G02 | 127 |
| | | H03 | 9,771 | H04 | 270 |
| | | I03 | 5,727 | I02 | 114 |
| | | J02 | 1,362 | J04 | 2,317 |
| | | K03 | 207 | K03 | 539 |
| | | L03 | 685 | L02 | 167 |
| | | M02 | 4,998 | M03 | 64 |
| | | N02 | 2,734 | N03 | 189 |
| | | | | 003 | 564 |
| | | | | P04 | 3,253 |
| | | | | Q03 | 270 |
| | | | 2,446 | R03 | 53 |
| | | | 20,334 | S03 | 188 |
| | | | 86,197 | T04 | 13 |
| | | | 0 | U02 | 103 |
| | | | | V02 | 56 |
| | | | 108,977 | W04 | 93 |
| TOTAL AREA | | | | | |
| DENSITY 1 = | 0 | | 2,446 | | 2 |
| DENSITY 2 = | 5,922 | | 20,334 | | 6 |
| DENSITY 3 = | 0 | | 86,197 | | 3,7 |
| DENSITY 4 = | 0 | | 0 | | 6,1 |
| TOTAL = | 5,922 | | 108,977 | | 10,7 |

| GUNPOWDER NECK, MD.-NE (014) | | GUNPOWDER NECK, MD.-NW (014) | | GUNPOWDER NECK, MD.-SW (014 | |
|---|---|---|---|---|---|
| A02 | 24,316 | A02 | 68,955 | A02 | 36,820 |
| B03 | 59,802 | B01 | 9,796 | B02 | 34,093 |
| C02 | 4,752 | C01 | 657 | C02 | 99,929 |
| D01 | 10,506 | D01 | 9,621 | D02 | 55,524 |
| E01 | 5,159 | E02 | 4,870 | E02 | 38,033 |
| F03 | 26,372 | F01 | 1,663 | F01 | 439,086 |
| G03 | 3,520 | G01 | 5,172 | | |
| | | H01 | 2,383 | | |
| | | I01 | 2,865 | | |
| | | J01 | 6,631 | | |
| | | K03 | 43,651 | | |
| | | L02 | 54,543 | | |
| | | M02 | 148,907 | | |
| | | N03 | 7,276 | | |
| | | O02 | 2,117 | | |
| | | P02 | 5,150 | | |
| | | Q03 | 2,740 | | |
| | | R03 | 3,236 | | |
| | | S02 | 15,087 | | |
| | | T02 | 31,389 | | |
| | | U01 | 32,048 | | |
| | | V02 | 148,155 | | |
| | | W02 | 36,916 | | |
| TOTAL AREA | | | | | |
| DENSITY 1 = | 15,665 | | 70,836 | | 439,086 |
| DENSITY 2 = | 29,068 | | 516,089 | | 264,399 |
| DENSITY 3 = | 89,694 | | 56,903 | | 0 |
| DENSITY 4 = | 0 | | 0 | | 0 |
| TOTAL = | 134,427 | | 643,828 | | 703,485 |

| HAMPTON, VA. (147) | | HANESVILLE, MD.-NE (015) | | HANESVILLE, MD.-SW | |
|---|---|---|---|---|---|
| A04 | 91,794 | A02 | 16,347 | A03 | 2, |
| B02 | 180,763 | B03 | 52,789 | B01 | 8, |
| C03 | 65,741 | C03 | 1,161 | C03 | 4, |
| D03 | 128,655 | D02 | 1,874 | D03 | 4, |
| E03 | 36,682 | E03 | 3,388 | E02 | |
| F03 | 62,150 | F03 | 5,080 | F01 | |
| G03 | 145,747 | | | | |
| H04 | 105,102 | | | | |
| I01 | 25,673 | | | | |
| J04 | 92,667 | | | | |
| K04 | 457,980 | | | | |
| L04 | 46,227 | | | | |
| M04 | 295,863 | | | | |
| N04 | 650,671 | | | | |
| 002 | 485,278 | | | | |

TOTAL AREA

| | | | |
|---|---|---|---|
| DENSITY 1 = | 25,673 | 0 | 8, |
| DENSITY 2 = | 666,041 | 18,221 | |
| DENSITY 3 = | 438,977 | 62,418 | 10, |
| DENSITY 4 = | 1,740,308 | 0 | |
| TOTAL = | 2,871,000 | 80,639 | 20, |

| HAVRE DE GRACE, MD.-NW (003) | | HAVRE DE GRACE, MD.-SE (003) | | HAVRE DE GRACE, MD.-SW (003 | |
|---|---|---|---|---|---|
| A03 | 24,144 | A01 | 282,789 | A04 | 14,118 |
| B04 | 588 | B01 | 176,968 | B03 | 1,115 |
| C04 | 750 | C01 | 974,434 | C04 | 8,248 |
| D04 | 8,283 | D01 | 502,230 | D03 | 1,443 |
| E04 | 5,262 | E01 | 461,370 | E03 | 4,882 |
| F04 | 2,971 | F01 | 9,432,632 | F03 | 20,640 |
| G04 | 9,668 | G02 | 3,946 | G03 | 1,786 |
| H04 | 81,855 | H02 | 2,060 | H04 | 8,281 |
| I03 | 16,867 | I02 | 571 | I03 | 348 |
| J04 | 25,918 | J03 | 1,186 | J04 | 2,964 |
| K03 | 11,021 | | | K03 | 148,529 |
| L04 | 14,346 | | | L01 | 302,140 |
| M03 | 88,007 | | | M03 | 6,114 |
| N02 | 4,673 | | | N03 | 5,505 |
| O03 | 2,856 | | | O04 | 3,865 |
| P04 | 9,133 | | | P03 | 10,761 |
| Q03 | 4,493 | | | Q02 | 2,650 |
| R04 | 11,341 | | | R02 | 45,049 |
| S03 | 745 | | | S02 | 4,692 |
| T04 | 4,147 | | | T01 | 33,424 |
| | | | | U04 | 12,979 |
| | | | | V03 | 51,901 |
| | | | | W03 | 26,946 |
| | | | | X02 | 277,149 |
| | | | | Y03 | 10,587 |
| | | | | Z02 | 4,723 |
| | | | | AA3 | 9,074 |
| | | | | BA2 | 556 |
| | | | | CA1 | 2,785 |
| | | | | DA1 | 2,939 |
| | | | | EA2 | 3,058 |
| | | | | FA2 | 12,792 |
| | | | | GA1 | 749 |
| | | | | HA3 | 3,742 |
| | | | | IA1 | 7,272,167 |
| | | | | JA1 | 484 |

TOTAL AREA

| | | | |
|---|---|---|---|
| DENSITY 1 = | 0 | 11,830,423 | 7,614,688 |
| DENSITY 2 = | 4,673 | 6,577 | 350,669 |
| DENSITY 3 = | 148,133 | 1,186 | 303,373 |
| DENSITY 4 = | 174,232 | 0 | 50,455 |
| TOTAL = | 327,038 | 11,838,186 | 8,319,185 |

HONGA, MD.-NE (073)

| | |
|---|---|
| A02 | 30,785 |
| B01 | 8,258 |
| C03 | 9,173 |
| D03 | 24,106 |
| E02 | 3,517 |
| F03 | 8,423 |
| G02 | 17,464 |
| H03 | 16,735 |
| I03 | 15,369 |
| J02 | 42,875 |
| K03 | 3,736 |
| L02 | 2,656 |
| M02 | 35,958 |
| N01 | 37,796 |
| O02 | 13,082 |
| P04 | 534 |
| Q02 | 2,242 |
| R04 | 12,753 |
| S01 | 1,861 |
| T04 | 32,682 |
| U02 | 40 449 |
| V04 | 2,213 |
| W01 | 9,476 |
| X01 | 11,580 |
| Y02 | 22,001 |

HONGA, MD.-NW (073)

| | |
|---|---|
| A01 | 3,000 |
| B03 | 1,732 |
| C03 | 6,312 |
| D03 | 4,546 |
| E02 | 4,267 |
| F03 | 396 |
| G03 | 255 |
| H02 | 2,506 |
| I03 | 7,335 |
| J02 | 27,408 |
| K02 | 5,683 |
| L03 | 418 |
| M02 | 3,992 |
| N04 | 4,145 |
| O02 | 11,594 |
| P02 | 836 |
| Q03 | 5,594 |
| R02 | 95,935 |
| S03 | 60,598 |
| T03 | 476 |
| U02 | 5,061 |
| V03 | 2,325 |
| W02 | 1,023 |
| X01 | 518 |
| Y03 | 7,263 |
| Z01 | 53,541 |
| AA2 | 1,771 |
| BA1 | 1,229 |
| CA3 | 10,189 |
| DA4 | 42,056 |
| EA3 | 30,117 |
| FA1 | 23,340 |
| GA3 | 5,386 |
| HA3 | 2,722 |
| IA1 | 12,497 |
| JA3 | 10,850 |
| KA3 | 19,545 |
| LA1 | 12,437 |
| MA3 | 655 |
| NA3 | 1,386 |
| OA4 | 13,279 |
| PA3 | 867 |
| QA4 | 1,904 |
| RA4 | 1,274 |
| SA3 | 19,634 |
| TA1 | 22,757 |
| UA3 | 2,012 |
| VA3 | 26,551 |
| WA4 | 2,350 |
| XA2 | 3,533 |
| YA2 | 1,791 |

HONGA, MD.-SE (073)

| | |
|---|---|
| A04 | 29,227 |
| B02 | 41,480 |
| C04 | 11,968 |
| D01 | 1,186 |
| E01 | 15,972 |
| F01 | 18,791 |
| G04 | 56,653 |
| H03 | 22,904 |
| I02 | 94,923 |
| J04 | 10,664 |
| K04 | 4,311 |
| L02 | 3,157 |
| M02 | 911 |
| N02 | 6,452 |
| O03 | 19,934 |
| P01 | 52,394 |
| Q03 | 13,085 |
| R03 | 669 |
| S03 | 993 |
| T02 | 5,515 |
| U04 | 5,396 |
| V03 | 33,470 |
| W03 | 828 |
| X03 | 636 |
| Y04 | 4,487 |
| Z03 | 2,833 |
| AA4 | 8,564 |
| BA2 | 11,153 |
| CA4 | 10,500 |
| DA4 | 44,306 |
| EA2 | 80,033 |
| FA2 | 1,038 |
| GA3 | 10,125 |
| HA3 | 19,868 |
| IA2 | 7,344 |
| JA2 | 48,329 |
| KA4 | 23,276 |
| LA4 | 1,694 |
| MA2 | 2,969 |
| NA4 | 3,686 |
| OA2 | 5,616 |
| PA3 | 6,676 |
| QA3 | 9,026 |
| RA4 | 1,596 |
| SA3 | 504 |
| TA4 | 5,661 |
| UA2 | 1,982 |
| VA3 | 2,962 |
| WA2 | 611 |
| XA3 | 1,650 |
| YA3 | 460 |

| HONGA - NE (cont'd) | | HONGA - NW (cont'd) | | HONGA - SE (cont'd) | |
|---|---|---|---|---|---|
| | | ZA3 | 14,637 | ZA2 | 1,781 |
| | | AB3 | 37,307 | AB4 | 19,950 |
| | | BB3 | 457 | BB4 | 15,193 |
| TOTAL AREA | | | | | |
| DENSITY 1 = | 68,971 | | 129,319 | | 88,343 |
| DENSITY 2 = | 211,029 | | 165,400 | | 313,294 |
| DENSITY 3 = | 77,542 | | 279,565 | | 146,578 |
| DENSITY 4 = | 48,182 | | 65,008 | | 257,132 |
| TOTAL = | 405,724 | | 639,292 | | 805,347 |

| HONGA, MD.-SW (073) | | INDIAN HEAD, VA.-MD.-NE (048) | | IRVINGTON, VA. (111) | |
|---|---|---|---|---|---|
| A3 | 353 | A02 | 2,054 | A01 | 82,576 |
| B3 | 28,140 | | | | |
| C1 | 1,425 | | | | |
| D2 | 2,022 | | | | |
| E3 | 2,561 | | | | |
| F2 | 13,401 | | | | |
| G4 | 30,520 | | | | |
| TOTAL AREA | | | | | |
| DENSITY 1 = | 1,425 | | 0 | | 82,576 |
| DENSITY 2 = | 15,423 | | 2,054 | | 0 |
| DENSITY 3 = | 31,054 | | 0 | | 0 |
| DENSITY 4 = | 30,520 | | 0 | | 0 |
| TOTAL = | 78,422 | | 2,054 | | 82,576 |

| JAMESVILLE, VA. (119) | | KEDGES STRAITS, MD. (091) | | KENT IS., MD.-NE ( | |
|---|---|---|---|---|---|
| A02 | 44,336 | A04 | 2,404,197 | A03 | 23, |
| B02 | 40,791 | B01 | 57,419 | B03 | 11, |
| C03 | 12,935 | C03 | 150,410 | C02 | 1, |
| D02 | 351,511 | D02 | 136,237 | D03 | 1, |
| E03 | 465,695 | E04 | 164,534 | E02 | 1, |
| F04 | 81,573 | F02 | 139,740 | F02 | 15, |
| G03 | 126,140 | G02 | 68,468 | G02 | 5, |
| H02 | 598,146 | H03 | 183,360 | H02 | 3, |
| I04 | 148,113 | I03 | 296,115 | I02 | 4, |
| J02 | 23,815 | J04 | 206,034 | K02 | 2, |
| K02 | 236,011 | K04 | 71,396 | L02 | 10, |
| L04 | 197,032 | L02 | 328,933 | M02 | 10, |
| M04 | 124,841 | M02 | 6,096 | N02 | |
| N03 | 17,286 | N02 | 7,088 | O01 | |
| O03 | 109,589 | O02 | 2,875 | P03 | |
| P02 | 90,564 | P03 | 2,029 | Q03 | |
| Q03 | 40,597 | Q02 | 32,218 | R02 | 6, |
| R03 | 129,032 | R03 | 308,831 | S02 | 7, |
| S02 | 35,873 | S03 | 970 | T03 | 5, |
| T03 | 265,764 | T03 | 1,223 | U03 | |
| U03 | 95,546 | U03 | 51,957 | V02 | 6, |
| V02 | 28,270 | V03 | 66,265 | W03 | 3, |
| W02 | 8,517 | W02 | 7,289 | X03 | 4, |
| | | X03 | 8,489 | Y02 | 2, |
| | | Y02 | 3,540 | Z03 | 9, |
| | | Z02 | 4,290 | AA3 | 11, |
| | | AA2 | 19,584 | BA4 | 52, |
| | | BA2 | 19,502 | CA2 | 9, |
| | | | | DA2 | 5, |
| | | | | EA3 | 3, |
| | | | | FA2 | |
| | | | | GA2 | 1, |

TOTAL AREA

| | | | |
|---|---|---|---|
| DENSITY 1 = | 0 | 57,419 | |
| DENSITY 2 = | 1,457,837 | 775,865 | 96, |
| DENSITY 3 = | 1,262,591 | 1,069,656 | 75, |
| DENSITY 4 = | 551,560 | 2,846,162 | 52, |
| TOTAL = | 3,271,989 | 4,749,103 | 224, |

| KENT IS., MD.-NW (032) | | KENT IS., MD.-SE (032) | | KENT IS., MD.-SW (032) | |
|---|---|---|---|---|---|
| A04 | 21,538 | A01 | 2,285 | A03 | 1,944 |
| B03 | 19,051 | B01 | 6,566 | B03 | 7,127 |
| C01 | 16,926 | C02 | 9,499 | C02 | 795 |
| D01 | 15,632 | D03 | 10,927 | D02 | 1,365 |
| E02 | 6,375 | E02 | 17,517 | E02 | 5,948 |
| F02 | 9,990 | F03 | 6,786 | F03 | 3,743 |
| G03 | 2,913 | G03 | 11,148 | G03 | 8,699 |
| H03 | 13,011 | H03 | 15,201 | H03 | 270 |
| I03 | 1,924 | I01 | 2,106 | I02 | 845 |
| J03 | 7,402 | J02 | 7,393 | J03 | 13,423 |
| K02 | 787 | | | K04 | 11,127 |
| L02 | 1,302 | | | L03 | 6,207 |
| M03 | 12,723 | | | M04 | 1,459 |
| N02 | 5,902 | | | N03 | 1,025 |
| O03 | 4,052 | | | O02 | 1,446 |
| | | | | P03 | 10,328 |
| | | | | Q03 | 1,659 |
| | | | | R02 | 1,434 |
| | | | | S02 | 2,528 |
| | | | | T02 | 12,187 |
| | | | | U02 | 964 |
| | | | | V03 | 4,147 |
| TOTAL AREA | | | | | |
| DENSITY 1 = | 32,558 | | 10,957 | | 0 |
| DENSITY 2 = | 24,356 | | 34,409 | | 27,512 |
| DENSITY 3 = | 61,076 | | 44,062 | | 58,572 |
| DENSITY 4 = | 21,538 | | 0 | | 12,586 |
| TOTAL = | 139,528 | | 89,428 | | 98,670 |

| KING GEORGE, VA.-MD.-NE (065) | | KING GEORGE, VA.-MD.-NW (065) | |
|---|---|---|---|
| A03 | 18,027 | A02 | 11,866 |
| B04 | 53,526 | B02 | 7,148 |
| C03 | 26,176 | C03 | 14,319 |
| D03 | 39,303 | D04 | 35,106 |
| | | E03 | 51,838 |
| | | F03 | 4,573 |
| | | G02 | 3,504 |
| TOTAL AREA | | | |
| DENSITY 1 = | 0 | | 0 |
| DENSITY 2 = | 0 | | 22,518 |
| DENSITY 3 = | 83,506 | | 70,730 |
| DENSITY 4 = | 53,526 | | 35,106 |
| TOTAL = | 137,032 | | 128,354 |

| LANGFORD CR., MD.-NE (026) | |
|---|---|
| AO3 | 4,414 |
| BO2 | 5,459 |
| CO4 | 11,969 |
| DO2 | 2,084 |
| EO3 | 4,683 |
| FO4 | 874 |
| GO4 | 4,778 |
| HO3 | 22,993 |
| IO3 | 8,275 |
| JO2 | 33,118 |
| KO3 | 33,384 |
| LO2 | 20,865 |
| MO3 | 16,678 |
| NO2 | 24,938 |
| OO4 | 6,668 |
| PO1 | 15,539 |
| QO3 | 20,622 |
| RO4 | 9,076 |
| SO2 | 12,314 |
| TO3 | 4,013 |
| UO2 | 47,891 |
| VO4 | 5,489 |
| WO3 | 47,924 |
| XO2 | 4,760 |
| YO2 | 5,145 |
| ZO1 | 175,903 |
| AA3 | 3,034 |
| BA2 | 1,469 |
| CA2 | 11,901 |
| DA2 | 5,700 |
| EA4 | 63,911 |
| FA2 | 5,591 |
| GA4 | 34,369 |

| LANGFORD CR., MD.-NW (026) | |
|---|---|
| AO2 | 111,953 |
| BO4 | 9,884 |
| CO4 | 26,116 |
| DO3 | 3,329 |
| EO3 | 86,048 |
| FO4 | 12,471 |
| GO3 | 1,990 |
| HO3 | 1,049 |
| IO4 | 8,165 |
| JO4 | 587 |
| KO4 | 6,773 |
| LO3 | 42,257 |
| MO4 | 41,227 |
| NO3 | 3,445 |
| OO4 | 222 |
| PO4 | 729 |
| QO4 | 5,006 |
| RO4 | 4,099 |
| SO3 | 15,193 |
| TO2 | 10,272 |
| UO3 | 8,066 |
| VO4 | 12,244 |
| WO3 | 7,317 |
| XO4 | 25,934 |
| YO4 | 90,515 |
| ZO3 | 36,340 |
| AA3 | 3,591 |
| BA4 | 830 |
| CA4 | 4,347 |
| DA3 | 21,180 |
| EA3 | 7,473 |
| FA2 | 1,225 |
| GA3 | 17,576 |
| HA2 | 20,370 |
| IA3 | 14,080 |
| JA2 | 23,175 |
| KA4 | 6,763 |
| LA1 | 15,792 |
| MA2 | 5,198 |
| NA1 | 178,899 |
| OA4 | 56,749 |
| PA2 | 24,026 |
| QA3 | 21,004 |
| RA3 | 83,652 |
| SA4 | 45,017 |
| TA3 | 184,110 |
| UA4 | 16,924 |
| VA2 | 17,275 |
| WA3 | 12,648 |
| XA4 | 69,930 |
| YA3 | 2,046 |

| LANGFORD CR., MD.-SI | |
|---|---|
| AO4 | 3, |
| BO2 | 15, |
| CO3 | 82, |
| DO4 | 29, |
| EO4 | 57 |
| FO4 | 1,292, |
| GO2 | 434, |
| HO3 | 97, |
| IO4 | 48, |
| JO3 | 11, |
| KO1 | 9, |
| LO3 | 6, |
| MO2 | 14, |
| OO4 | 15, |
| PO3 | 430, |
| QO4 | 44, |
| RO3 | 19, |
| SO1 | 20, |
| TO3 | 32, |
| UO1 | 63, |
| VO4 | 104, |
| WO4 | 44, |
| XO4 | 24, |
| YO1 | 101, |
| ZO3 | 10, |
| AA3 | 39, |
| BA3 | 2, |
| CA3 | 4, |
| DA2 | 7, |
| EA2 | 7, |
| FA3 | 3, |
| GA4 | 3, |
| HA4 | 4, |
| IA3 | 2, |
| KA4 | 8, |
| LA2 | 1, |
| MA3 | 11, |
| NA3 | 5, |
| OA4 | 28, |
| PA2 | 18, |
| QA4 | 11, |
| RA2 | 6, |
| SA3 | 18, |
| TA2 | 14, |
| UA3 | 21, |
| VA3 | 74, |
| WA2 | 6, |
| XA3 | 24, |

| LANGFORD CR., - NE (cont'd) | | LANGFORD CR., - NW (cont'd) | | LANGFORD CR., - SW (cont'd) |
|---|---|---|---|---|
| | | ZA4 | 1,933 | |
| | | AB4 | 1,062 | |
| | | BB4 | 864 | |
| | | CB4 | 1,883 | |
| | | DB3 | 21,518 | |
| | | EB4 | 2,212 | |
| | | FB3 | 28,620 | |
| | | GB3 | 17,549 | |
| | | HB2 | 191,487 | |
| | | IB3 | 83,582 | |
| | | JB2 | 345,247 | |
| | | KB4 | 155,887 | |
| | | LB4 | 58,971 | |
| TOTAL AREA | | | | |
| DENSITY 1 = | 191,442 | | 194,691 | 196,552 |
| DENSITY 2 = | 181,235 | | 750,228 | 527,726 |
| DENSITY 3 = | 166,020 | | 723,663 | 898,420 |
| DENSITY 4 = | 137,134 | | 667,344 | 1,720,893 |
| TOTAL = | 675,831 | | 2,335,926 | 3,343,591 |

| LANGFORD CR., MD.-SE (026) | | LOVE PT., MD.-SE (025) | | MARION, MD.-NE (093) | |
|---|---|---|---|---|---|
| AO4 | 45,909 | AO3 | 37,300 | AO4 | 4,617 |
| BO3 | 1,296 | BO3 | 2,055 | BO3 | 17,218 |
| CO3 | 2,735 | | | CO2 | 1,971 |
| DO3 | 3,104 | | | DO4 | 24,257 |
| EO2 | 5,949 | | | EO3 | 2,504 |
| FO3 | 16,617 | | | FO3 | 5,236 |
| GO2 | 8,954 | | | GO3 | 19,972 |
| HO4 | 4,013 | | | | |
| IO4 | 79,175 | | | | |
| TOTAL AREA | | | | | |
| DENSITY 1 = | 0 | | 0 | | 0 |
| DENSITY 2 = | 14,903 | | 0 | | 1,971 |
| DENSITY 3 = | 23,752 | | 39,355 | | 44,930 |
| DENSITY 4 = | 129,097 | | 0 | | 28,874 |
| TOTAL = | 167,752 | | 39,355 | | 75,775 |

| MARION, MD.-NW (093) | | MARION, MD.-SW (093) | | MARION, MD.-SE (093) | |
|---|---|---|---|---|---|
| A02 | 47,408 | A02 | 36,738 | A03 | 3,040 |
| B02 | 4,325 | B03 | 49,029 | B03 | 5,502 |
| C02 | 1,892 | C04 | 34,513 | C02 | 1,891 |
| D03 | 53,018 | D03 | 22,349 | D03 | 22,988 |
| E02 | 19,711 | E03 | 2,133 | E04 | 7,731 |
| F03 | 69,333 | F03 | 4,938 | F04 | 8,833 |
| G02 | 4,835 | G02 | 1,843 | G04 | 1,189 |
| H03 | 40,087 | H02 | 2,346 | H03 | 1,359 |
| I02 | 4,605 | I03 | 474,356 | I02 | 2,998 |
| J02 | 1,144 | J02 | 14,920 | | |
| K02 | 9,756 | L02 | 2,373 | | |
| L02 | 16,448 | M04 | 24,204 | | |
| M02 | 3,078 | N02 | 5,629 | | |
| N02 | 9,026 | O02 | 1,061 | | |
| P03 | 10,950 | P03 | 37,660 | | |
| Q03 | 871 | Q03 | 2,941 | | |
| R03 | 2,894 | R02 | 11,613 | | |
| S02 | 3,534 | S03 | 6,913 | | |
| T02 | 49,369 | T04 | 12,807 | | |
| U03 | 3,081 | U03 | 12,011 | | |
| V04 | 85,389 | V02 | 2,115 | | |
| W03 | 7,377 | W03 | 42,047 | | |
| X03 | 29,746 | X03 | 2,074 | | |
| Y03 | 1,600 | Z03 | 19,478 | | |
| Z02 | 23,516 | AA2 | 16,559 | | |
| AA3 | 25,853 | BA3 | 3,421 | | |
| BA4 | 21,371 | CA3 | 12,717 | | |
| CA3 | 15,358 | EA2 | 29,455 | | |
| DA4 | 30,931 | FA1 | 59,925 | | |
| EA2 | 7,184 | GA3 | 7,618 | | |
| FA3 | 5,634 | HA2 | 902 | | |
| GA3 | 5,792 | IA2 | 1,042 | | |
| HA2 | 10,140 | JA1 | 2,868 | | |
| IA3 | 20,811 | KA3 | 57,893 | | |
| JA4 | 10,234 | LA1 | 8,975 | | |
| KA3 | 2,001 | MA2 | 5,217 | | |
| LA3 | 4,870 | NA4 | 2,132 | | |
| MA3 | 17,368 | OA2 | 10,498 | | |
| NA3 | 494 | PA4 | 529 | | |
| OA3 | 142,797 | QA3 | 2,495 | | |
| PA2 | 36,453 | RA4 | 21,995 | | |
| QA4 | 34,598 | SA3 | 10,231 | | |
| RA3 | 5,935 | | | | |
| SA3 | 114,868 | | | | |
| TA2 | 5,587 | | | | |

TOTAL AREA

| | | | |
|---|---|---|---|
| DENSITY 1 = | 0 | 71,768 | 0 |
| DENSITY 2 = | 258,011 | 142,311 | 4,889 |
| DENSITY 3 = | 580,738 | 770,304 | 32,889 |
| DENSITY 4 = | 182,523 | 96,180 | 17,753 |
| TOTAL = | 1,021,272 | 1,080,563 | 55,531 |

| MATHEWS, VA. (123) | | MATHIAS PT., MD.-VA.-NE (057) | | MATHIAS PT., MD.-VA.-NW (057) | |
|---|---|---|---|---|---|
| A04 | 6,695 | A02 | 68,550 | A03 | 45,906 |
| B04 | 9,523 | B03 | 11,878 | B03 | 6,810 |
| C04 | 7,833 | C04 | 2,997 | C04 | 32,783 |
| D04 | 42,072 | D03 | 7,459 | D03 | 14,849 |
| E04 | 40,411 | E04 | 52,289 | E03 | 35,411 |
| F02 | 14,186 | F03 | 3,819 | I03 | 10,026 |
| G03 | 16,678 | G02 | 20,889 | J02 | 41,395 |
| H03 | 21,857 | H03 | 28,656 | K04 | 20,577 |
| I03 | 152,022 | I03 | 14,386 | L02 | 4,489 |
| J03 | 62,632 | J04 | 60,949 | M03 | 1,083 |
| | | K04 | 7,254 | N02 | 2,852 |
| | | L04 | 6,376 | P02 | 17,606 |
| | | M03 | 3,320 | Q03 | 11,935 |
| | | N03 | 1,024 | R02 | 5,744 |
| | | O03 | 20,928 | S02 | 4,448 |
| | | P04 | 13,526 | T04 | 19,928 |
| | | Q04 | 196,974 | U01 | 13,941 |
| | | R03 | 75,871 | W03 | 1,185 |
| | | S03 | 74,343 | X03 | 8,252 |
| | | T03 | 74,675 | Y03 | 1,205 |
| | | U01 | 23,902 | Z03 | 2,066 |
| | | V03 | 122,777 | AA2 | 7,699 |
| | | W01 | 4,110 | BA2 | 708 |
| | | X01 | 23,804 | CA4 | 6,302 |
| | | Y02 | 3,388 | | |
| | | Z03 | 324 | | |

TOTAL AREA

| | | | |
|---|---|---|---|
| DENSITY 1 = | 0 | 51,818 | 13,941 |
| DENSITY 2 = | 14,186 | 93,352 | 84,941 |
| DENSITY 3 = | 253,190 | 496,491 | 138,728 |
| DENSITY 4 = | 106,536 | 340,365 | 79,590 |
| TOTAL = | 373,913 | 982,026 | 317,200 |

| MATHIAS PT., MD.-VA.-SW (057) | | MATHIAS PT., MD.-VA.-SE (057) | |
|---|---|---|---|
| A03 | 151,732 | A03 | 36,744 |
| B02 | 20,314 | C03 | 99,693 |
| C03 | 171,347 | D03 | 12,626 |
| D04 | 58,616 | E02 | 77,684 |
| E03 | 19,418 | F02 | 1,985 |
| F04 | 242,396 | G02 | 4,883 |
| G03 | 39,583 | | |
| H01 | 2,047 | | |
| I03 | 2,444 | | |
| J03 | 2,011 | | |
| K02 | 463 | | |
| L03 | 8,118 | | |
| M02 | 2,393 | | |
| N04 | 395 | | |
| O02 | 911 | | |
| P03 | 8,263 | | |
| Q03 | 28,337 | | |
| R02 | 1,791 | | |
| S04 | 12,532 | | |
| TOTAL AREA | | | |
| DENSITY 1 = | 2,047 | | 0 |
| DENSITY 2 = | 25,872 | | 84,552 |
| DENSITY 3 = | 431,253 | | 149,063 |
| DENSITY 4 = | 313,939 | | 0 |
| TOTAL = | 773,111 | | 233,615 |

| MIDDLE RIVER, MD.-NE (013) | | MIDDLE RIVER, MD.-SE (013) | | MONIE, MD.-SW (0 | |
|---|---|---|---|---|---|
| A02 | 3,633 | A03 | 68,659 | A04 | 1,1 |
| | | B02 | 36,005 | B04 | 4,9 |
| | | C02 | 43,239 | C03 | 1,6 |
| | | D01 | 15,382 | D02 | 3,8 |
| | | E01 | 53,256 | E04 | 4,8 |
| | | F01 | 17,377 | F02 | 2,7 |
| | | G01 | 49,638 | | |
| | | H02 | 26,795 | | |
| | | I01 | 206,176 | | |
| | | J02 | 17,271 | | |
| | | K01 | 210,612 | | |
| TOTAL AREA | | | | | |
| DENSITY 1 = | 0 | | 552,441 | | 0 |
| DENSITY 2 = | 3,633 | | 123,310 | | 6,6 |
| DENSITY 3 = | 0 | | 68,659 | | 1,6 |
| DENSITY 4 = | 0 | | 0 | | 10,9 |
| TOTAL = | 3,633 | | 744,410 | | 19,2 |

| MT. VERNON, MD.-VA.- NE (040) | | MT. VERNON, MD.-VA.- NW (040) | | MT. VERNON, MD.-VA. SW (040) | |
|---|---|---|---|---|---|
| A04 | 887,004 | A02 | 3,848 | A01 | 4,788 |
| B03 | 326,376 | B02 | 2,774 | B04 | 71,832 |
| C04 | 1,369,194 | C02 | 4,998 | C03 | 33,082 |
| D03 | 84,019 | D03 | 29,093 | D03 | 20,660 |
| E02 | 49,686 | E04 | 50,488 | E02 | 7,576 |
| F03 | 23,559 | F04 | 146,063 | F01 | 8,118 |
| G02 | 44,368 | G03 | 22,494 | G02 | 12,613 |
| H03 | 114,724 | H02 | 24,287 | H02 | 3,939 |
| I02 | 479,020 | I03 | 112,142 | | |
| J01 | 19,899 | J02 | 33,356 | | |
| K03 | 48,310 | K02 | 19,617 | | |
| L03 | 17,302 | L02 | 9,641 | | |
| M04 | 86,272 | M02 | 10,724 | | |
| N04 | 60,671 | N03 | 90,769 | | |
| O03 | 2,320 | O02 | 57,385 | | |
| P01 | 9,504 | P03 | 17,089 | | |
| Q03 | 4,114 | Q02 | 20,826 | | |
| R03 | 8,200 | R03 | 14,779 | | |
| S03 | 1,055 | S01 | 65,528 | | |
| T02 | 69,098 | T03 | 91,967 | | |
| U02 | 26,816 | U02 | 140,814 | | |
| V03 | 17,252 | V01 | 18,316 | | |
| W04 | 81,882 | W02 | 2,523 | | |
| X03 | 21,895 | X01 | 121,282 | | |
| Y02 | 24,654 | Y03 | 120,997 | | |
| Z03 | 2,350 | Z04 | 22,790 | | |
| AA3 | 18,102 | AA2 | 7,464 | | |
| BA3 | 7,109 | BA1 | 7,335 | | |
| CA4 | 259,637 | CA3 | 29,107 | | |
| DA2 | 47,953 | DA1 | 19,018 | | |
| EA3 | 8,617 | EA4 | 76,084 | | |
| FA4 | 1,902 | FA3 | 51,526 | | |
| GA4 | 66,754 | GA4 | 136,591 | | |
| HA3 | 27,227 | HA4 | 227,998 | | |
| IA2 | 529,574 | IA2 | 50,972 | | |
| JA3 | 129,536 | JA2 | 22,954 | | |
| KA3 | 69,690 | KA3 | 31,924 | | |
| LA4 | 842,275 | LA3 | 111,212 | | |
| MA3 | 26,385 | | | | |
| NA3 | 23,760 | | | | |
| QA3 | 31,526 | | | | |
| PA4 | 191,344 | | | | |
| RA2 | 23,268 | | | | |
| SA3 | 5,095 | | | | |
| TA3 | 310,232 | | | | |
| UA4 | 246,228 | | | | |
| VA3 | 17,126 | | | | |
| TOTAL AREA | | | | | |
| DENSITY 1 = | 29,403 | | 231,479 | | 12,906 |
| DENSITY 2 = | 1,294,437 | | 412,183 | | 24,128 |
| DENSITY 3 = | 1,345,881 | | 723,099 | | 53,742 |
| DENSITY 4 = | 4,093,163 | | 660,014 | | 71,832 |
| TOTAL = | 6,762,884 | | 2,026,775 | | 162,608 |

| NANDA CREEK, VA. (113) | | NANJEMOY, MD.-NE (056) | | NANJEMOY, MD.-SE (0 | |
|---|---|---|---|---|---|
| A02 | 34,179 | A04 | 68,105 | A02 | 805 |
| B03 | 10,843 | B03 | 16,949 | B02 | 2,052 |
| C02 | 10,951 | C03 | 28,088 | C01 | 933 |
| D03 | 85,462 | D04 | 145,300 | D02 | 973 |
| E04 | 167,927 | E03 | 75,719 | E02 | 4,168 |
| F02 | 1,119,995 | F02 | 86,528 | F02 | 1,210 |
| G03 | 134,561 | G01 | 41,576 | G02 | 8,289 |
| H03 | 89,979 | H02 | 29,343 | H03 | 6,036 |
| I02 | 74,070 | I03 | 23,443 | I04 | 27,814 |
| J03 | 197,698 | J03 | 1,030 | J03 | 225,744 |
| K01 | 1,579,470 | K03 | 444 | K04 | 57,622 |
| | | L02 | 25,644 | L03 | 6,620 |
| | | M03 | 582 | | |
| | | N03 | 256 | | |
| | | O01 | 1,369 | | |
| | | P01 | 1,123 | | |
| | | Q03 | 319 | | |
| | | R03 | 127,796 | | |
| | | S04 | 11,173 | | |
| | | T03 | 6,650 | | |
| | | U02 | 4,996 | | |
| | | V04 | 1,774 | | |
| | | W04 | 17,356 | | |
| | | X03 | 8,978 | | |

TOTAL AREA

| | | | |
|---|---|---|---|
| DENSITY 1 = | 1,579,471 | 44,068 | 933 |
| DENSITY 2 = | 1,239,197 | 146,511 | 17,497 |
| DENSITY 3 = | 518,545 | 290,254 | 238,400 |
| DENSITY 4 = | 167,928 | 243,708 | 85,436 |
| TOTAL = | 3,505,141 | 724,541 | 342,260 |

| NEW POINT COMFORT, VA. (132) | | NORTHEAST, MD.-SE (004) | | NORTH BEACH, MD.-NE (042) | |
|---|---|---|---|---|---|
| A02 | 68,623 | A02 | 98,422 | A02 | 3,470 |
| B04 | 492,868 | B02 | 16,285 | B03 | 119,530 |
| C01 | 352,375 | C02 | 16,403 | C04 | 65,828 |
| D01 | 150,637 | D02 | 54,339 | | |
| E03 | 305,273 | E01 | 4,433 | | |
| F04 | 1,785,328 | F01 | 20,219 | | |
| G04 | 657,458 | G02 | 17,402 | | |
| H02 | 634,540 | H02 | 5,770 | | |
| I04 | 193,674 | I02 | 3,188 | | |
| J02 | 425,636 | J02 | 35,131 | | |
| K04 | 102,955 | K02 | 3,068 | | |
| L03 | 59,809 | M01 | 13,711 | | |
| M03 | 45,240 | N02 | 6,180 | | |
| N02 | 535,307 | | | | |
| O03 | 617,646 | | | | |
| P03 | 106,514 | | | | |
| Q03 | 330,946 | | | | |
| R01 | 264,834 | | | | |
| S01 | 102,495 | | | | |
| T03 | 996,464 | | | | |
| U04 | 10,003 | | | | |
| V02 | 29,722 | | | | |
| W03 | 738,340 | | | | |
| X04 | 516,256 | | | | |
| Y02 | 153,068 | | | | |
| Z03 | 453,443 | | | | |
| AA3 | 20,562 | | | | |
| BA3 | 1,306,125 | | | | |
| CA3 | 89,329 | | | | |
| TOTAL AREA | | | | | |
| DENSITY 1 = | 870,343 | | 38,363 | | 0 |
| DENSITY 2 = | 1,846,898 | | 256,188 | | 3,470 |
| DENSITY 3 = | 5,069,697 | | 0 | | 119,530 |
| DENSITY 4 = | 3,758,545 | | 0 | | 65,828 |
| TOTAL = | 11,545,480 | | 294,551 | | 188,828 |

OXFORD, MD.-NE (044)

| | |
|---|---|
| A02 | 2,734 |
| B02 | 3,656 |
| C03 | 1,142 |
| D03 | 15,774 |
| E03 | 1,018 |
| F03 | 1,497 |
| G02 | 1,388 |
| H02 | 2,412 |
| I03 | 603 |
| J03 | 5,180 |
| K04 | 4,888 |
| L03 | 5,193 |
| M02 | 7,322 |
| N03 | 12,531 |
| O03 | 12,065 |
| P03 | 11,894 |
| Q02 | 9,384 |
| R03 | 2,225 |
| S02 | 28,968 |
| T04 | 29,892 |
| U03 | 7,606 |
| V04 | 13,368 |
| W03 | 8,502 |
| X03 | 17,271 |
| Y02 | 23,860 |
| Z03 | 5,148 |
| AA2 | 3,078 |
| BA2 | 7,179 |
| CA3 | 1,395 |
| DA2 | 1,345 |
| EA2 | 26,785 |
| FA2 | 6,886 |
| GA3 | 3,875 |
| HA3 | 6,321 |
| IA3 | 5,470 |
| JA3 | 7,266 |
| KA4 | 2,236 |
| LA3 | 6,453 |
| MA4 | 9,626 |
| NA3 | 3,304 |
| OA2 | 3,220 |
| PA2 | 2,099 |
| QA2 | 2,133 |
| RA3 | 22,995 |
| SA2 | 1,514 |
| TA3 | 6,453 |
| UA2 | 3,536 |
| VA3 | 14,682 |
| WA3 | 19,183 |
| XA3 | 44,883 |
| YA2 | 2,821 |

OXFORD, MD.-NW (044)

| | |
|---|---|
| A04 | 605 |
| B02 | 1,558 |
| C02 | 7,884 |
| D02 | 4,210 |
| E03 | 5,622 |
| F03 | 5,564 |
| G01 | 23,250 |
| H03 | 2,564 |
| I02 | 55,246 |
| J03 | 610 |
| K03 | 6,504 |
| L02 | 14,090 |
| M03 | 4,385 |
| N02 | 44,859 |
| O02 | 14,182 |
| P02 | 11,186 |
| Q02 | 55,163 |
| R04 | 4,938 |
| S02 | 25,813 |
| T04 | 1,813 |
| U04 | 28,909 |
| V02 | 21,857 |
| W03 | 195,350 |
| X01 | 40,127 |
| Y01 | 36,431 |
| Z03 | 98,325 |
| AA2 | 18,721 |
| BA2 | 88,026 |
| CA2 | 127,929 |
| DA3 | 21,659 |
| EA4 | 27,817 |
| FA4 | 3,516 |
| GA3 | 7,591 |
| HA3 | 46,617 |
| IA3 | 4,531 |
| JA3 | 27,324 |
| KA3 | 3,980 |
| LA4 | 2,997 |
| MA3 | 2,025 |
| NA2 | 3,650 |
| OA3 | 400 |
| PA3 | 942 |
| QA4 | 23,665 |
| RA3 | 3,275 |
| SA2 | 1,578 |
| TA3 | 11,827 |
| UA1 | 4,426 |
| VA4 | 29,966 |
| WA4 | 23,097 |
| XA3 | 31,898 |
| YA3 | 46,875 |

OXFORD, MD.-SE (044)

| | |
|---|---|
| A02 | 1,413 |
| B02 | 6,164 |
| C03 | 422 |
| D02 | 2,573 |
| E02 | 2,332 |
| F02 | 3,033 |
| G03 | 3,433 |
| H03 | 6,831 |
| I04 | 755 |
| J03 | 2,606 |
| K02 | 2,610 |
| L02 | 652 |
| M03 | 3,445 |
| N03 | 2,121 |
| O03 | 547 |
| P02 | 15,593 |
| Q03 | 6,766 |
| R04 | 15,962 |
| S03 | 8,133 |
| T02 | 2,850 |
| U03 | 2,725 |
| V04 | 2,163 |
| W03 | 17,272 |
| X02 | 30,813 |
| Y03 | 31,573 |
| Z02 | 5,980 |
| AA3 | 4,571 |

OXFORD - NE (cont'd)

| | |
|---|---|
| ZA4 | 23,498 |
| AB3 | 5,399 |
| BB4 | 23,061 |
| CB3 | 9,881 |
| DB3 | 32,797 |
| EB2 | 362 |
| FB2 | 6,469 |
| GB2 | 32,699 |
| HB1 | 1,039 |
| IB3 | 17,128 |
| JB2 | 9,505 |
| KB4 | 12,593 |
| LB1 | 9,935 |
| MB3 | 80,049 |
| NB2 | 1,973 |
| OB2 | 15,238 |
| PB2 | 5,150 |
| QB3 | 4,176 |
| RB1 | 1,072 |
| SB2 | 1,604 |
| TB2 | 4,462 |
| UB3 | 2,630 |
| VB2 | 35,337 |
| WB2 | 3,290 |
| XB3 | 37,678 |
| YB3 | 7,343 |
| ZB3 | 75,421 |
| AC2 | 30,759 |
| BC3 | 32,206 |
| CC2 | 3,057 |
| DC2 | 11,787 |
| EC3 | 7,944 |
| FC2 | 4,732 |
| GC2 | 4,860 |
| HC2 | 1,208 |
| IC2 | 966 |

OXFORD - NW (cont'd)

| | |
|---|---|
| ZA4 | 110,843 |
| AB2 | 90,636 |
| BB2 | 2,143 |
| CB4 | 8,446 |
| DB1 | 20,239 |
| EB3 | 1,428 |
| FB3 | 3,971 |
| GB2 | 10,692 |
| HB4 | 9,403 |
| IB4 | 2,953 |
| JB3 | 4,227 |
| KB3 | 110,271 |
| LB3 | 23,214 |
| MB3 | 22,184 |
| NB2 | 1,012 |
| OB3 | 14,233 |
| PB4 | 84 |
| QB3 | 1,127 |
| RB2 | 1,007 |
| SB4 | 3,757 |
| TB3 | 1,479 |
| UB3 | 1,313 |
| VB2 | 2,144 |
| WB3 | 25,724 |
| XB3 | 2,148 |
| YB2 | 3,077 |
| ZB2 | 1,516 |
| AC2 | 3,330 |
| BC3 | 304 |
| CC2 | 37,996 |
| DC3 | 6,703 |
| EC3 | 75,672 |
| FC2 | 29,522 |
| GC3 | 27,516 |
| HC4 | 65,955 |
| IC2 | 62,964 |
| JC4 | 3,948 |
| KC2 | 39,125 |
| LC4 | 45,153 |
| MC2 | 5,494 |
| NC3 | 47,639 |
| OC2 | 9,873 |
| PC2 | 89,365 |
| QC2 | 3,828 |
| RC2 | 3,535 |
| SC3 | 1,480 |
| TC2 | 4,324 |
| UC3 | 997 |

OXFORD - SE (cont'd)

| OXFORD - NE (cont'd) | | OXFORD - NW (cont'd) | | OXFORD - SE (cont'd) | |
|---|---|---|---|---|---|
| | | VC2 | 2,668 | | |
| | | WC3 | 3,847 | | |
| | | XC3 | 4,051 | | |
| TOTAL AREA | | | | | |
| DENSITY 1 = | 12,046 | | 124,473 | | 0 |
| DENSITY 2 = | 351,456 | | 900,203 | | 74,013 |
| DENSITY 3 = | 524,903 | | 907,396 | | 90,445 |
| DENSITY 4 = | 119,163 | | 397,865 | | 18,880 |
| TOTAL = | 1,007,568 | | 2,329,937 | | 183,338 |

| OXFORD, MD.-SW (044) | | PARKSLEY, VA. (109) | | PERRYMAN, MD.-SW (0C | |
|---|---|---|---|---|---|
| A03 | 24,939 | A03 | 16,792 | A02 | 1,538 |
| B02 | 29,527 | B03 | 12,828 | B02 | 1,979 |
| C03 | 32,181 | C03 | 8,279 | C02 | 8,729 |
| D02 | 5,607 | CA3 | 4,753 | D02 | 3,900 |
| E03 | 8,139 | D03 | 16,999 | E02 | 5,915 |
| F02 | 3,326 | E03 | 187,084 | F02 | 1,248 |
| G03 | 1,339 | F03 | 749,181 | G02 | 1,685 |
| H03 | 3,363 | G02 | 82,813 | H02 | 6,195 |
| I02 | 13,699 | H03 | 720,188 | I02 | 4,377 |
| J03 | 6,534 | I03 | 28,323 | J02 | 1,491 |
| K03 | 7,334 | J03 | 111,086 | K02 | 1,112 |
| L02 | 16,084 | K03 | 11,344 | L02 | 519 |
| M02 | 1,796 | L02 | 63,651 | M02 | 1,338 |
| N01 | 1,476 | M03 | 17,134 | N02 | 2,142 |
| | | N03 | 10,689 | O02 | 2,431 |
| | | O02 | 159,150 | P02 | 1,753 |
| | | P02 | 24,505 | | |
| | | Q02 | 2,895 | | |
| | | R02 | 89,258 | | |
| | | S02 | 22,961 | | |
| | | T02 | 5,087 | | |
| | | U03 | 12,751 | | |
| | | V02 | 10,163 | | |
| | | W02 | 8,749 | | |
| | | X03 | 34,945 | | |
| TOTAL AREA | | | | | |
| DENSITY 1 = | 1,476 | | 0 | | 0 |
| DENSITY 2 = | 70,039 | | 469,237 | | 46,352 |
| DENSITY 3 = | 83,829 | | 1,942,383 | | 0 |
| DENSITY 4 = | 0 | | 0 | | 0 |
| TOTAL = | 155,344 | | 2,411,62[illegible] | | 46,352 |

| PINEY PT., MD.-SE (079) | | POINT LOOKOUT, MD.-NW (090) | | POINT LOOKOUT, MD.-SW (090) | |
|---|---|---|---|---|---|
| A02 | 3,919 | A01 | 7,206 | A01 | 1,729 |
| B02 | 959 | B04 | 13,033 | B01 | 4,419 |
| C01 | 201 | C02 | 9,803 | C01 | 11,557 |
| | | D02 | 7,497 | | |
| | | E03 | 1,106 | | |
| | | F02 | 1,221 | | |
| TOTAL AREA | | | | | |
| DENSITY 1 = | 201 | | 7,206 | | 17,705 |
| DENSITY 2 = | 4,878 | | 18,521 | | 0 |
| DENSITY 3 = | 0 | | 1,106 | | 0 |
| DENSITY 4 = | 0 | | 13,033 | | 0 |
| TOTAL = | 5,079 | | 39,866 | | 17,705 |

| POINT NO PT., MD.-NW (081) | | POINT NO PT., MD.-SW (081) | | POQUOSON EAST, VA. (141) | |
|---|---|---|---|---|---|
| A04 | 4,853 | A04 | 49,634 | A02 | 48,156 |
| B04 | 26,901 | B04 | 24,850 | B03 | 902,735 |
| C03 | 20,520 | C02 | 9,139 | C04 | 492,475 |
| | | D04 | 20,746 | D04 | 3,182,763 |
| | | E01 | 1,547 | E03 | 1,568,865 |
| | | F02 | 1,727 | F02 | 1,042,996 |
| | | G01 | 5,106 | G02 | 11,976 |
| | | | | H04 | 5,164 |
| | | | | I04 | 2,737 |
| | | | | J04 | 8,398 |
| | | | | K02 | 468,641 |
| | | | | L02 | 23,659 |
| | | | | M01 | 86,749 |
| TOTAL AREA | | | | | |
| DENSITY 1 = | 0 | | 6,653 | | 86,749 |
| DENSITY 2 = | 0 | | 10,866 | | 1,595,430 |
| DENSITY 3 = | 20,520 | | 0 | | 2,471,601 |
| DENSITY 4 = | 31,754 | | 95,230 | | 3,691,541 |
| TOTAL = | 52,274 | | 112,749 | | 7,845,321 |

| POQUOSON WEST, VA. (140) | | PUNGOTEAGUE, VA. (114) | | QUANTICO, VA.-MD.-SE (0 | |
|---|---|---|---|---|---|
| A04 | 8,238 | A03 | 39,898 | A03 | 3,413 |
| B04 | 16,628 | B02 | 27,256 | B03 | 5,074 |
| C04 | 19,914 | C03 | 20,455 | C03 | 2,689 |
| D02 | 42,114 | D02 | 138,975 | D02 | 18,866 |
| E01 | 256,493 | E02 | 188,261 | E03 | 36,645 |
| F03 | 295,571 | F04 | 498,280 | | |
| G03 | 3,367 | G04 | 487,178 | | |
| H04 | 41,565 | H01 | 115,218 | | |
| I03 | 79,549 | I03 | 296,200 | | |
| J01 | 164,667 | J04 | 177,459 | | |
| K01 | 41,588 | K01 | 539,118 | | |
| L03 | 305,951 | L02 | 2,163,548 | | |
| M03 | 78,746 | M03 | 766,537 | | |
| N04 | 504,212 | N02 | 103,796 | | |
| O02 | 150,455 | O03 | 29,938 | | |
| P01 | 56,190 | P01 | 77,453 | | |
| Q02 | 151,766 | Q03 | 206,373 | | |
| R02 | 130,851 | R01 | 154,084 | | |
| S02 | 24,042 | S02 | 16,562 | | |
| T03 | 5,129 | T02 | 15,542 | | |
| | | U01 | 85,208 | | |
| | | V02 | 5,041 | | |
| | | W02 | 27,793 | | |
| | | X03 | 11,015 | | |
| | | Y02 | 30,611 | | |
| | | Z02 | 98,712 | | |
| | | AA3 | 27,753 | | |
| | | BA3 | 57,583 | | |
| | | CA2 | 196,808 | | |
| | | DA1 | 96,955 | | |
| | | EA2 | 9,356 | | |
| | | FA3 | 93,342 | | |
| | | GA3 | 9,495 | | |
| | | HA2 | 101,187 | | |
| | | IA4 | 6,406 | | |

TOTAL AREA

| | | | |
|---|---|---|---|
| DENSITY 1 = | 518,940 | 1,068,039 | 0 |
| DENSITY 2 = | 499,230 | 3,123,455 | 18,866 |
| DENSITY 3 = | 768,316 | 1,558,594 | 47,821 |
| DENSITY 4 = | 590,558 | 1,169,325 | 0 |
| TOTAL = | 2,377,044 | 6,919,414 | 66,687 |

| QUEENSTOWN, MD.-NW (033) | | QUEENSTOWN, MD.-NE (033) | | QUEENSTOWN, MD.-SW (033) | |
|---|---|---|---|---|---|
| A03 | 4,553 | A04 | 38,660 | A04 | 3,045 |
| B02 | 60,269 | C03 | 18,119 | B03 | 9,471 |
| C03 | 4,266 | E03 | 24,994 | | |
| D04 | 13,006 | F04 | 33,314 | | |
| E04 | 10,606 | G02 | 149,430 | | |
| F01 | 30,341 | H03 | 12,036 | | |
| G02 | 6,983 | I03 | 5,024 | | |
| H03 | 5,538 | J04 | 13,499 | | |
| I03 | 5,006 | K04 | 12,366 | | |
| J03 | 2,031 | L03 | 17,804 | | |
| K02 | 1,251 | M04 | 4,239 | | |
| L04 | 885 | N02 | 718 | | |
| M04 | 434 | O03 | 3,255 | | |
| N03 | 379 | P02 | 5,624 | | |
| O04 | 596 | Q01 | 3,441 | | |
| P04 | 7,938 | R02 | 1,070 | | |
| Q03 | 28,053 | S02 | 1,626 | | |
| R02 | 7,342 | T03 | 3,469 | | |
| S04 | 4,555 | | | | |
| T04 | 16,466 | | | | |
| U03 | 17,537 | | | | |
| V04 | 4,458 | | | | |
| W04 | 1,463 | | | | |

TOTAL AREA

| | | | |
|---|---|---|---|
| DENSITY 1 = | 30,341 | 3,441 | 0 |
| DENSITY 2 = | 75,845 | 158,468 | 0 |
| DENSITY 3 = | 67,424 | 84,701 | 9,471 |
| DENSITY 4 = | 60,407 | 102,078 | 3,045 |
| TOTAL = | 234,017 | 348,688 | 12,516 |

QUEENSTOWN, MD.-SE (033)

| | |
|---|---|
| AO1 | 3,512 |
| BO2 | 1,069 |
| CO2 | 1,638 |
| DO3 | 26,932 |
| EO3 | 1,636 |
| FO3 | 1,857 |
| GO3 | 6,687 |
| HO3 | 3,238 |
| IO3 | 10,929 |
| JO4 | 7,180 |
| KO3 | 11,342 |
| LO2 | 883 |
| MO3 | 6,544 |
| NO3 | 14,795 |
| OO1 | 1,179 |
| PO2 | 6,212 |
| QO2 | 2,323 |
| RO3 | 9,227 |
| SO3 | 9,698 |
| TO4 | 10,724 |
| UO3 | 2,905 |
| VO3 | 8,172 |
| WO3 | 2,208 |
| XO4 | 26,973 |
| YO3 | 8,287 |
| ZO3 | 3,585 |
| AA4 | 7,176 |
| BA3 | 1,591 |
| CA3 | 1,047 |
| DA2 | 1,924 |
| EA3 | 3,658 |
| FA3 | 1,398 |
| GA3 | 3,895 |
| HA3 | 1,125 |
| IA3 | 5,348 |
| JA3 | 33,864 |
| KA4 | 26,718 |
| LA3 | 42,272 |
| MA1 | 7,684 |
| NA3 | 1,686 |
| OA3 | 3,409 |
| PA3 | 56,249 |
| QA3 | 5,280 |
| RA3 | 19,396 |
| SA4 | 14,913 |
| TA2 | 656 |
| UA3 | 1,442 |
| VA3 | 5,973 |
| WA3 | 5,155 |
| XA2 | 1,245 |
| YA2 | 1,086 |

QUEENSTOWN - SE (cont'd)

| | |
|---|---|
| ZA2 | 13,172 |
| AB3 | 13,286 |
| BB3 | 4,909 |
| DB2 | 5,600 |

TOTAL AREA

| | |
|---|---|
| DENSITY 1 = | 12,375 |
| DENSITY 2 = | 35,808 |
| DENSITY 3 = | 339,025 |
| DENSITY 4 = | 93,684 |
| TOTAL = | 480,892 |

RICHLAND PT., MD.-NE (

| | |
|---|---|
| A3 | 3,703 |
| B4 | 1,277 |
| C4 | 1,677 |
| D3 | 2,323 |
| E2 | 30,518 |
| F1 | 5,742 |
| G4 | 7,069 |
| H2 | 2,213 |
| I4 | 97,768 |
| J2 | 90,489 |

| |
|---|
| 5,742 |
| 123,220 |
| 6,026 |
| 107,791 |
| 242,779 |

REEDVILLE, VA. (106)

| | |
|---|---|
| AO2 | 19,936 |
| BO2 | 24,484 |
| CO3 | 335,759 |
| DO3 | 18,019 |
| EO3 | 4,339 |
| FO3 | 59,878 |
| GO2 | 49,290 |

TOTAL AREA

| | |
|---|---|
| DENSITY 1 = | 0 |
| DENSITY 2 = | 93,711 |
| DENSITY 3 = | 417,966 |
| DENSITY 4 = | 0 |
| TOTAL = | 511,707 |

| ROCK HALL, MD.-NW (021) | | ROCK HALL, MD.-SE (021) | | ROCK HALL, MD.-SW (021) | |
|---|---|---|---|---|---|
| A03 | 1,917 | A03 | 1,298 | A03 | 1,999 |
| B03 | 2,507 | B04 | 2,414 | B03 | 3,373 |
| C03 | 1,083 | | | C02 | 2,989 |
| D04 | 4,262 | | | D01 | 1,929 |
| E02 | 4,815 | | | E03 | 2,585 |
| F04 | 2,079 | | | F03 | 3,199 |
| G04 | 2,512 | | | G04 | 23,425 |
| | | | | H03 | 498 |
| | | | | I02 | 84,194 |
| TOTAL AREA | | | | | |
| DENSITY 1 = | 0 | | 0 | | 1,929 |
| DENSITY 2 = | 4,815 | | 0 | | 87,183 |
| DENSITY 3 = | 5,507 | | 1,298 | | 11,654 |
| DENSITY 4 = | 8,853 | | 2,414 | | 23,425 |
| TOTAL = | 19,175 | | 3,712 | | 124,191 |

| ROCK PT., MD.-SW (068) | | ST GEORGES IS., VA.-MD. -NE (089) | | ST. GEORGE IS., VA.-MD.-NW (089) | |
|---|---|---|---|---|---|
| A01 | 2,709 | A01 | 5,126 | A01 | 15,752 |
| | | B02 | 5,826 | B02 | 1,502 |
| | | C02 | 1,613 | C02 | 4,934 |
| | | D02 | 44,463 | D02 | 854 |
| | | E01 | 7,161 | E01 | 951 |
| TOTAL AREA | | | | | |
| DENSITY 1 = | 2,709 | | 12,287 | | 16,703 |
| DENSITY 2 = | 0 | | 51,902 | | 7,290 |
| DENSITY 3 = | 0 | | 0 | | 0 |
| DENSITY 4 = | 0 | | 0 | | 0 |
| TOTAL = | 2,709 | | 64,189 | | 23,993 |

| ST. MARY'S CITY, MD.-NE (080) | | ST. MARY'S CITY, MD.-NW (080) | |
|---|---|---|---|
| A03 | 8,200 | A01 | 5,514 |
| B02 | 3,336 | B02 | 18,413 |
| C02 | 4,408 | C01 | 2,435 |
| D02 | 9,966 | D01 | 7,706 |
| E02 | 5,989 | E02 | 5,936 |
| F02 | 5,715 | F02 | 10,345 |
| | 0 | | 15,655 |
| | 29,414 | | 34,694 |
| | 8,200 | | 0 |
| | 0 | | 0 |
| | 37,614 | | 50,349 |

| ST. MARY'S CITY, MD.-SE (080) | | ST. MARY'S CITY, MD.-SW (080) | |
|---|---|---|---|
| A03 | 27,706 | A03 | 29,199 |
| B03 | 10,750 | B03 | 11,532 |
| C02 | 2,172 | C02 | 2,036 |
| D02 | 9,088 | D02 | 9,468 |
| E02 | 7,811 | E02 | 7,020 |
| F02 | 8,367 | F02 | 8,302 |
| G02 | 1,047 | G02 | 1,341 |
| H02 | 15,309 | H01 | 1,666 |
| | | I02 | 11,830 |
| | | J02 | 5,311 |
| | | K02 | 17,207 |
| | | L01 | 3,487 |
| | | M04 | 1,154 |
| | | N02 | 1,698 |
| | | O02 | 1,303 |
| | | P01 | 661 |
| | | Q02 | 1,430 |
| | | R02 | 998 |
| | | S02 | 3,432 |

TOTAL AREA

| | | |
|---|---|---|
| DENSITY 1 = | 0 | 5,814 |
| DENSITY 2 = | 43,794 | 71,376 |
| DENSITY 3 = | 38,456 | 40,731 |
| DENSITY 4 = | 0 | 1,154 |
| TOTAL = | 82,250 | 119,075 |

| ST. MICHAELS, MD.-NW (037) | |
|---|---|
| A02 | 2,464 |
| B04 | 16,071 |
| C02 | 1,481 |
| D02 | 10,291 |
| E04 | 1,145 |
| F03 | 5,156 |
| G02 | 886 |
| H02 | 472 |
| I02 | 8,722 |
| J01 | 16,600 |
| K03 | 359 |
| L03 | 5,655 |

| ST. MICHAELS, MD.-SE (037) | |
|---|---|
| A04 | 3,459 |
| B03 | 291 |
| C03 | 8,359 |
| D01 | 3,381 |
| E03 | 1,196 |
| F03 | 2,412 |
| G02 | 2,829 |
| H03 | 378 |
| I02 | 9,178 |
| J03 | 3,614 |
| K02 | 4,879 |
| L03 | 6,436 |
| M04 | 12,180 |
| N03 | 8,599 |
| O04 | 8,751 |
| P04 | 10,140 |
| Q02 | 4,941 |
| R04 | 27,293 |
| S04 | 328 |
| T03 | 3,340 |
| U02 | 12,555 |
| V01 | 3,641 |
| W02 | 396 |
| X02 | 5,605 |
| Y02 | 519 |
| Z02 | 6,248 |
| AA3 | 11,178 |
| BA2 | 3,170 |
| CA4 | 11,428 |
| DA2 | 2,432 |
| EA4 | 10,861 |
| FA2 | 2,350 |
| GA3 | 9,828 |
| HA3 | 3,079 |
| IA2 | 2,355 |
| JA2 | 2,475 |
| KA3 | 4,814 |
| LA3 | 3,475 |
| MA3 | 1,844 |
| NA3 | 2,497 |
| OA3 | 1,293 |
| PA3 | 547 |
| QA2 | 1,607 |
| RA3 | 2,067 |
| SA2 | 937 |
| TA4 | 11,275 |
| UA4 | 2,294 |
| VA2 | 1,477 |
| WA1 | 2,790 |
| XA2 | 1,829 |
| YA3 | 4,013 |

| ST. MICHAELS, MD.-SW (037) | |
|---|---|
| A02 | 8,883 |
| B03 | 329 |
| C03 | 2,699 |
| D03 | 5,609 |
| E04 | 9,677 |
| F02 | 466 |
| G02 | 538 |
| H04 | 23,327 |
| I04 | 9,136 |
| J03 | 9,684 |
| K04 | 12,616 |
| L04 | 379 |
| M01 | 3,878 |
| N03 | 3,701 |
| O02 | 12,472 |
| P02 | 6,231 |
| Q03 | 5,233 |
| R03 | 21,468 |
| S01 | 1,181 |
| T02 | 2,288 |
| U03 | 1,402 |
| V03 | 353 |
| W03 | 603 |
| X02 | 3,113 |
| Y03 | 2,226 |
| Z02 | 2,252 |
| AA4 | 93,437 |
| BA4 | 10,806 |
| CA3 | 50,574 |
| DA2 | 3,242 |
| EA2 | 7,745 |
| FA3 | 11,673 |
| GA4 | 1,550 |
| HA4 | 4,582 |
| IA4 | 4,308 |
| JA4 | 24,364 |
| KA4 | 21,051 |
| LA3 | 27,216 |
| MA3 | 975 |
| NA3 | 4,117 |
| OA4 | 4,124 |
| PA4 | 13,240 |
| QA4 | 6,423 |
| RA4 | 7,960 |
| SA4 | 11,436 |
| TA4 | 39,231 |
| UA3 | 7,448 |
| VA3 | 115,986 |
| WA4 | 6,235 |
| XA4 | 12,049 |
| YA4 | 58,954 |

| ST. MICHAELS - NW (cont'd) | | ST. MICHAELS - SE (cont'd) | | ST. MICHAELS - SW (con | |
|---|---|---|---|---|---|
| | | ZA2 | 7,033 | ZA3 | 6,437 |
| | | AB4 | 8,443 | AB3 | 2,967 |
| | | BB4 | 28,526 | BB3 | 2,128 |
| | | CB3 | 13,418 | CB3 | 27,072 |
| | | DB4 | 12,098 | DB2 | 942 |
| | | EB3 | 4,597 | EB2 | 109,898 |
| | | FB3 | 1,381 | FB3 | 40,651 |
| | | GB2 | 2,232 | GB2 | 2,492 |
| | | HB3 | 3,501 | HB2 | 8,807 |
| | | IB4 | 4,023 | IB2 | 4,684 |
| | | JB2 | 12,158 | JB2 | 2,631 |
| | | KB1 | 4,608 | KB2 | 17,383 |
| | | LB1 | 681 | LB2 | 5,954 |
| | | MB2 | 1,445 | MB2 | 2,983 |
| | | NB4 | 3,255 | NB3 | 43,967 |
| | | OB2 | 458 | OB2 | 12,687 |
| | | PB1 | 1,313 | PB3 | 5,972 |
| | | QB3 | 22,821 | QB3 | 4,496 |
| | | RB3 | 3,330 | RB3 | 26,120 |
| | | SB2 | 1,077 | SB2 | 25,798 |
| | | TB1 | 2,842 | TB3 | 8,073 |
| | | UB3 | 4,333 | UB2 | 37,391 |
| | | VB4 | 169,651 | VB4 | 15,967 |
| | | WB3 | 2,823 | WB2 | 64,123 |
| | | XB3 | 2,774 | XB2 | 41,542 |
| | | YB3 | 5,000 | YB3 | 2,583 |
| | | ZB2 | 4,704 | ZB4 | 6,854 |
| | | AC2 | 2,488 | AC4 | 24,555 |
| | | BC2 | 5,877 | BC2 | 29,843 |
| | | CC2 | 17,607 | CC2 | 4,925 |
| | | DC2 | 13,652 | DC3 | 1,526 |
| | | EC3 | 8,179 | EC3 | 12,212 |
| | | FC3 | 6,100 | FC2 | 4,254 |
| | | GC2 | 1,243 | GC3 | 61,962 |
| | | HC2 | 2,724 | IC2 | 1,590 |
| | | IC2 | 3,300 | JC2 | 3,951 |
| | | JC4 | 138,944 | KC3 | 2,697 |
| | | KC2 | 5,618 | LC2 | 6,711 |
| | | LC3 | 4,520 | | |
| | | MC2 | 1,157 | | |
| **TOTAL AREA** | | | | | |
| DENSITY 1 = | 16,600 | | 19,256 | | 5,059 |
| DENSITY 2 = | 24,316 | | 148,555 | | 435,819 |
| DENSITY 3 = | 11,170 | | 162,037 | | 520,159 |
| DENSITY 4 = | 17,216 | | 462,949 | | 422,261 |
| TOTAL = | 69,302 | | 792,797 | | 1,383,298 |

| ST. MICHAELS, MD.-NE (037) | | SHARPS IS., MD.-NE (051) | | SHARPS IS., MD.-SE (051) | |
|---|---|---|---|---|---|
| A03 | 10,503 | A02 | 6,411 | A02 | 5,610 |
| B03 | 1,727 | B03 | 63,204 | B03 | 909 |
| C02 | 2,088 | C04 | 63,066 | C01 | 20,270 |
| D02 | 1,523 | D02 | 98,134 | D01 | 1,829 |
| E02 | 3,932 | E03 | 55,019 | E03 | 6,453 |
| F04 | 4,278 | F03 | 5,233 | F03 | 11,350 |
| G04 | 2,221 | G01 | 43,647 | G02 | 12,179 |
| H03 | 3,304 | H03 | 9,272 | H03 | 22,331 |
| I01 | 13,802 | I03 | 20,584 | I03 | 5,342 |
| J04 | 3,442 | J02 | 89,584 | J04 | 8,714 |
| K03 | 44,421 | K01 | 142,140 | K02 | 3,959 |
| L03 | 635 | L02 | 32,498 | L03 | 1,149 |
| M03 | 8,273 | M03 | 67,481 | M03 | 13,761 |
| N02 | 1,390 | N01 | 12,805 | N03 | 12,748 |
| O03 | 3,027 | O03 | 51,928 | O04 | 5,612 |
| P02 | 973 | P03 | 125,986 | P02 | 14,715 |
| Q02 | 769 | Q02 | 84,713 | Q03 | 3,967 |
| R02 | 9,064 | R04 | 2,472 | R03 | 24,691 |
| S04 | 2,755 | S04 | 19,295 | S03 | 3,049 |
| T04 | 9,874 | T03 | 157,385 | T02 | 2,341 |
| U03 | 803 | U02 | 24,389 | U01 | 3,141 |
| V04 | 10,956 | V02 | 9,141 | V02 | 3,333 |
| W02 | 2,714 | W03 | 3,361 | W04 | 1,525 |
| X04 | 360 | X03 | 674 | X03 | 270 |
| Y04 | 578 | Y02 | 18,303 | Y03 | 329 |
| Z03 | 1,648 | Z04 | 4,380 | Z03 | 1,290 |
| AA2 | 12,862 | AA2 | 6,212 | AA3 | 8,827 |
| BA2 | 1,137 | BA4 | 2,058 | BA3 | 3,926 |
| CA2 | 1,665 | CA4 | 2,045 | CA3 | 8,614 |
| DA3 | 1,598 | DA3 | 9,039 | DA3 | 10,248 |
| EA3 | 5,618 | EA3 | 1,520 | EA2 | 1,291 |
| FA1 | 1,515 | FA2 | 2,006 | FA3 | 7,617 |
| GA3 | 4,573 | GA4 | 6,108 | GA3 | 4,234 |
| HA3 | 1,845 | HA2 | 1,618 | HA2 | 3,631 |
| IA2 | 1,433 | IA3 | 2,799 | IA3 | 15,374 |
| JA3 | 1,450 | JA3 | 1,972 | JA3 | 14,878 |
| KA3 | 370 | KA2 | 5,335 | KA2 | 255 |
| LA2 | 635 | LA3 | 3,979 | LA2 | 6,865 |
| MA4 | 3,210 | MA2 | 3,541 | MA1 | 1,497 |
| NA2 | 693 | NA3 | 1,083 | NA2 | 4,006 |
| OA2 | 2,667 | OA3 | 988 | OA3 | 1,685 |
| PA3 | 2,088 | PA3 | 4,508 | PA3 | 16,015 |
| QA3 | 921 | QA2 | 9,327 | QA3 | 3,682 |
| RA1 | 3,014 | RA2 | 87,820 | RA1 | 1,308 |
| SA2 | 8,583 | SA4 | 1,089 | SA2 | 6,334 |
| TA3 | 214 | TA3 | 1,875 | TA3 | 4,851 |
| UA4 | 2,881 | UA2 | 2,250 | UA2 | 4,535 |
| VA2 | 2,406 | VA2 | 17,284 | VA3 | 2,345 |
| | | WA2 | 57,302 | WA2 | 11,916 |
| | | XA3 | 75,622 | XA4 | 15,741 |
| | | YA3 | 18,805 | YA4 | 15,188 |

| ST. MICHAELS, - NE (cont'd) | | SHARPS IS., - NE (cont'd) | | SHARPS IS., - SE (con | |
|---|---|---|---|---|---|
| WA3 | 7,188 | ZA1 | 732 | ZA3 | 36,825 |
| XA3 | 200 | AB2 | 3,219 | AB2 | 26,648 |
| YA3 | 1,993 | BB4 | 675 | BB3 | 22,175 |
| ZA3 | 1,395 | CB3 | 9,918 | CB2 | 1,901 |
| | | DB2 | 5,127 | DB1 | 2,643 |
| | | EB2 | 671 | EB3 | 6,010 |
| | | FB3 | 365 | FB2 | 6,216 |
| | | GB3 | 22,115 | GB1 | 2,390 |
| | | HB3 | 5,274 | HB3 | 29,663 |
| | | IB1 | 3,156 | IB1 | 31,580 |
| | | JB3 | 14,730 | JB2 | 1,638 |
| | | KB3 | 1,081 | KB3 | 11,263 |
| | | LB3 | 1,673 | LB2 | 2,839 |
| | | MB3 | 7,297 | MB3 | 6,055 |
| | | NB2 | 1,846 | NB3 | 6,800 |
| | | OB4 | 8,407 | OB3 | 2,239 |
| | | PB2 | 7,852 | PB2 | 2,056 |
| | | QB3 | 7,270 | QB2 | 480 |
| | | RB2 | 3,816 | RB3 | 8,285 |
| | | SB3 | 7,992 | SB2 | 9,625 |
| | | TB2 | 5,226 | | |
| | | UB3 | 835 | | |
| | | VB1 | 1,745 | | |
| | | WB3 | 6,132 | | |
| | | XB1 | 22,918 | | |
| | | YB2 | 12,254 | | |
| | | ZB3 | 50,852 | | |
| | | AC3 | 5,343 | | |
| | | BC4 | 8,844 | | |
| | | CC2 | 4,372 | | |
| | | DC3 | 1,021 | | |
| | | EC3 | 2,149 | | |
| | | GC3 | 28,668 | | |
| | | HC2 | 2,015 | | |
| | | IC3 | 3,364 | | |
| | | JC2 | 1,330 | | |

TOTAL AREA

| | | | |
|---|---|---|---|
| DENSITY 1 = | 18,331 | 227,143 | 64,659 |
| DENSITY 2 = | 54,534 | 603,596 | 130,373 |
| DENSITY 3 = | 103,794 | 870,504 | 339,250 |
| DENSITY 4 = | 40,159 | 118,439 | 46,780 |
| TOTAL = | 216,818 | 1,819,682 | 581,062 |

| SOLOMONS IS., MD.-NW (071) | | SOLOMONS IS., MD.-SW (071) | | SOLOMONS IS., MD.-SE (071) | |
|---|---|---|---|---|---|
| A01 | 4,023 | A01 | 1,385 | A02 | 2,873 |
| B02 | 1,296 | | | | |
| C02 | 13,000 | | | | |
| D02 | 5,166 | | | | |
| E02 | 2,004 | | | | |
| F02 | 5,951 | | | | |
| G01 | 10,159 | | | | |
| H02 | 51,947 | | | | |
| I02 | 1,156 | | | | |
| J01 | 1,397 | | | | |
| K01 | 3,134 | | | | |
| L02 | 5,139 | | | | |
| M03 | 2,559 | | | | |
| N04 | 779 | | | | |
| O01 | 7,541 | | | | |
| P01 | 973 | | | | |
| Q02 | 6,807 | | | | |
| R01 | 4,201 | | | | |
| S01 | 4,217 | | | | |
| T01 | 2,132 | | | | |
| U02 | 10,936 | | | | |
| V02 | 6,334 | | | | |
| TOTAL AREA | | | | | |
| DENSITY 1 = | 37,780 | | 1,385 | | 0 |
| DENSITY 2 = | 109,786 | | 0 | | 2,873 |
| DENSITY 3 = | 2,559 | | 0 | | 0 |
| DENSITY 4 = | 779 | | 0 | | 0 |
| TOTAL = | 150,904 | | 1,385 | | 2,873 |

| SPARROWS PT., MD.-NE (019) | |
|---|---|
| A01 | 47,755 |
| B01 | 4,484 |
| C02 | 2,017 |
| D02 | 1,306 |
| TOTAL AREA | |
| DENSITY 1 = | 52,239 |
| DENSITY 2 = | 3,323 |
| DENSITY 3 = | 0 |
| DENSITY 4 = | 0 |
| TOTAL = | 55,562 |

| SPESUTIE, MD.-NW (009) | | SPESUTIE, MD.-NE (009) | |
|---|---|---|---|
| A01 | 2,851,976 | A01 | 2,970,679 |
| B02 | 3,145 | | |
| C02 | 5,701 | | |
| D02 | 5,807 | | |
| E02 | 1,356 | | |
| F02 | 2,118 | | |
| TOTAL AREA | | | |
| DENSITY 1 = | 2,851,976 | | 2,970,679 |
| DENSITY 2 = | 18,127 | | 0 |
| DENSITY 3 = | 0 | | 0 |
| DENSITY 4 = | 0 | | 0 |
| TOTAL = | 2,870,103 | | 2,970,679 |

| SPESUTIE, MD.-SE (009) | | SPESUTIE, MD.-SW (009) | |
|---|---|---|---|
| A02 | 3,290 | A02 | 12,040 |
| B01 | 2,704 | B02 | 1,584 |
| C03 | 918 | | |
| D04 | 1,210 | | |
| E02 | 5,048 | | |
| F02 | 5,253 | | |
| G02 | 4,815 | | |
| H01 | 71,142 | | |
| I03 | 4,735 | | |
| J02 | 74,461 | | |
| K02 | 41,300 | | |
| L03 | 42,102 | | |
| M02 | 11,068 | | |
| N04 | 114,754 | | |
| TOTAL AREA | | | |
| DENSITY 1 = | 73,846 | | 0 |
| DENSITY 2 = | 145,235 | | 13,624 |
| DENSITY 3 = | 47,755 | | 0 |
| DENSITY 4 = | 115,964 | | 0 |
| TOTAL = | 382,800 | | 13,624 |

| SWAN PT., MD.-SE (020) | | TANGIER ISLAND, VA. (107) | | TERRAPIN SAND POINT, MD. (092) | |
|---|---|---|---|---|---|
| A01 | 883 | A01 | 233,722 | A03 | 1,162,251 |
| B04 | 966 | B03 | 161,040 | B01 | 182,442 |
| C03 | 1,017 | C02 | 193,930 | C02 | 146,412 |
| D03 | 553 | D04 | 797,851 | D02 | 280,543 |
| E04 | 879 | E02 | 350,184 | E02 | 4,202 |
| F02 | 1,962 | F02 | 160,400 | F03 | 28,946 |
| G02 | 1,296 | G02 | 24,150 | | |
| H04 | 3,844 | H02 | 84,937 | | |
| I03 | 566 | I04 | 329,233 | | |
| J03 | 4,842 | J02 | 192,173 | | |
| K02 | 2,856 | K02 | 62,084 | | |
| L03 | 3,629 | L03 | 1,313,208 | | |
| M03 | 10,915 | M02 | 305,408 | | |
| N02 | 5,205 | N04 | 496,371 | | |
| O02 | 1,743 | O04 | 395,050 | | |
| P03 | 2,407 | P03 | 256,787 | | |
| Q03 | 10,686 | Q04 | 506,736 | | |
| R03 | 5,292 | R02 | 272,211 | | |
| S02 | 760 | | | | |
| T03 | 7,612 | | | | |
| U02 | 7,881 | | | | |
| V02 | 12,747 | | | | |
| W03 | 13,921 | | | | |
| <u>TOTAL AREA</u> | | | | | |
| DENSITY 1 = | 883 | | 233,722 | | 182,442 |
| DENSITY 2 = | 34,450 | | 1,645,481 | | 431,159 |
| DENSITY 3 = | 61,430 | | 1,731,035 | | 1,191,198 |
| DENSITY 4 = | 5,689 | | 2,525,242 | | 0 |
| TOTAL = | 102,452 | | 6,135,481 | | 1,804,799 |

| TAYLORS IS. MD.-NE (062) | | TAYLORS IS., MD.-NW (062) | | TAYLORS IS., MD.-SE (0 | |
|---|---|---|---|---|---|
| A03 | 15,363 | A3 | 5,484 | A04 | 35,106 |
| B03 | 11,715 | B2 | 5,817 | B03 | 15,295 |
| C01 | 935 | C3 | 76,155 | C03 | 1,721 |
| D03 | 531 | D2 | 25,920 | D04 | 14,211 |
| E02 | 835 | E1 | 32,067 | E03 | 16,756 |
| F02 | 300 | F4 | 33,967 | F02 | 555 |
| G01 | 909 | G3 | 1,492 | G03 | 1,138 |
| H04 | 1,205 | H3 | 7,667 | H02 | 21,963 |
| I02 | 3,377 | I4 | 15,225 | I03 | 6,099 |
| J03 | 662 | J3 | 9,728 | J03 | 331 |
| K01 | 931 | K1 | 6,109 | K03 | 1,836 |
| L01 | 1,541 | L3 | 3,816 | L02 | 14,649 |
| M01 | 570 | | | M03 | 39,219 |
| N01 | 1,102 | | | N04 | 9,627 |
| O01 | 484 | | | | |
| P03 | 1,142 | | | | |
| Q04 | 3,382 | | | | |
| R03 | 16,807 | | | | |
| S02 | 6,497 | | | | |
| T03 | 3,485 | | | | |
| U03 | 6,306 | | | | |
| V02 | 5,799 | | | | |
| W01 | 33,202 | | | | |
| X02 | 26,211 | | | | |
| Y03 | 75,507 | | | | |
| TOTAL AREA | | | | | |
| DENSITY 1 = | 39,674 | | 38,176 | | 0 |
| DENSITY 2 = | 43,019 | | 31,737 | | 37,167 |
| DENSITY 3 = | 131,518 | | 104,342 | | 82,395 |
| DENSITY 4 = | 4,587 | | 49,192 | | 58,944 |
| TOTAL = | 218,798 | | 223,447 | | 178,506 |

TILGHMAN, MD.-SW (043)

| | |
|---|---|
| A04 | 5,382 |
| B04 | 5,042 |
| C04 | 3,236 |
| D03 | 59,353 |
| E03 | 6,164 |
| F02 | 2,572 |
| G02 | 409 |
| H03 | 1,015 |
| I03 | 7,932 |
| J03 | 10,616 |
| K03 | 14,599 |
| L02 | 1,106 |
| M01 | 7,422 |
| N02 | 10,934 |
| O04 | 23,183 |
| P01 | 51,921 |
| Q03 | 16,851 |

TILGHMAN, MD.-NW (043)

| | |
|---|---|
| A03 | 4,428 |
| B04 | 9,435 |
| C02 | 28,824 |
| D02 | 9,927 |
| E02 | 1,444 |
| F02 | 2,234 |
| G04 | 634 |
| H02 | 1,740 |
| I03 | 1,162 |
| J03 | 1,046 |
| K02 | 1,021 |
| L02 | 5,032 |
| M02 | 4,586 |
| N04 | 5,904 |
| O03 | 2,089 |
| P02 | 716 |
| Q03 | 1,082 |
| R04 | 771 |
| S04 | 2,134 |
| T03 | 1,000 |
| U02 | 2,899 |
| V04 | 4,478 |
| W03 | 6,173 |
| X04 | 3,404 |
| Y03 | 468 |
| Z03 | 1,397 |
| AA3 | 49,303 |
| BA4 | 58,427 |
| CA3 | 33,584 |
| DA3 | 2,513 |
| EA3 | 21,147 |
| FA4 | 9,052 |
| GA2 | 9,209 |
| HA3 | 1,711 |
| IA3 | 21,921 |
| JA3 | 1,367 |
| KA3 | 1,577 |
| LA4 | 9,366 |
| MA3 | 4,101 |
| NA4 | 960 |
| OA2 | 3,674 |
| PA4 | 8,913 |
| QA3 | 7,938 |
| RA3 | 15,489 |
| SA3 | 50,156 |
| TA4 | 5,495 |
| UA4 | 3,378 |
| VA4 | 5,235 |
| WA3 | 3,138 |

TILGHMAN, MD.-NE (043)

| | |
|---|---|
| A03 | 4,274 |
| B04 | 8,615 |
| C02 | 31,143 |
| D03 | 53,145 |
| E03 | 5,193 |
| F03 | 827 |
| G04 | 639 |
| H03 | 137 |
| I03 | 4,526 |
| J04 | 927 |
| K03 | 2,604 |
| L03 | 479 |
| M02 | 4,872 |
| N04 | 4,433 |
| O03 | 2,130 |
| P03 | 4,951 |
| Q04 | 5,719 |
| R03 | 5,562 |
| S02 | 1,836 |
| T03 | 18,305 |
| U03 | 1,826 |
| V03 | 31,344 |
| W02 | 70,956 |
| X03 | 25,014 |
| Y03 | 11,345 |
| Z02 | 19,998 |
| AA2 | 7,102 |
| BA2 | 1,472 |
| CA3 | 35,697 |
| DA3 | 28,973 |
| EA3 | 40,123 |
| FA2 | 4,806 |
| GA2 | 14,511 |
| HA2 | 7,771 |
| IA3 | 13,209 |
| JA1 | 9,630 |
| KA2 | 9,315 |
| LA2 | 878 |
| MA2 | 4,569 |
| NA2 | 1,826 |
| OA2 | 1,739 |
| PA4 | 2,213 |
| QA4 | 4,551 |
| RA2 | 2,849 |
| SA3 | 49,368 |
| TA2 | 100,587 |
| UA3 | 9,718 |
| VA1 | 2,681 |
| WA2 | 75,666 |
| XA3 | 5,852 |
| YA3 | 73,942 |

| TILGHMAN - SW (cont'd) | | TILGHMAN - NW (cont'd) | TILGHMAN - NE (cont'd) |
|---|---|---|---|
| | | | ZA2 12,934 |
| | | | AB3 13,901 |
| | | | BB4 25,344 |
| | | | CB3 72,942 |
| | | | DB2 63,598 |
| | | | EB3 17,198 |
| | | | FB2 29,899 |
| | | | GB3 7,019 |
| | | | HB2 6,518 |
| | | | IB3 86,810 |
| | | | JB4 19,068 |
| | | | KB2 3,006 |
| | | | LB2 5,377 |
| | | | MB3 15,327 |
| | | | NB2 14,927 |
| | | | OB3 51,414 |
| | | | PB3 28,743 |
| | | | QB4 46,132 |
| | | | RB4 1,464 |
| | | | SB4 14,731 |
| | | | TB4 10,873 |
| | | | UB4 737 |
| | | | VB3 3,365 |
| | | | WB4 7,798 |
| | | | XB1 25,386 |
| | | | YB2 4,800 |
| | | | ZB2 7,447 |
| | | | AC3 38,432 |
| | | | BC4 15,980 |
| | | | CC2 19,854 |
| | | | DC2 680 |
| | | | EC1 212 |
| | | | FC4 9,589 |
| | | | GC3 57,229 |
| | | | HC4 25,259 |
| | | | IC2 135,507 |
| | | | JC1 31,911 |
| | | | KC3 72,025 |
| | | | LC4 83,374 |
| | | | MC3 12,522 |
| | | | NC1 10,754 |
| | | | OC4 3,410 |
| | | | PC3 8,326 |
| | | | QC3 61,046 |
| | | | RC2 37,561 |
| | | | SC2 7,669 |
| | | | TC3 33,743 |
| | | | UC4 57,603 |
| TOTAL AREA | | | |
| DENSITY 1 = | 59,343 | 0 | 80,511 |
| DENSITY 2 = | 15,021 | 71,306 | 711,673 |
| DENSITY 3 = | 116,530 | 232,790 | 1,009,086 |
| DENSITY 4 = | 36,843 | 127,586 | 348,459 |
| TOTAL = | 227,737 | 431,682 | 2,149,729 |

| TOWNSEND, VA. (143) | | TRAPPE, MD.-NW (045) | | WARE NECK, VA. (122) | |
|---|---|---|---|---|---|
| A03 | 74,924 | A03 | 6,731 | A02 | 9,141 |
| B03 | 12,497 | B03 | 5,747 | B02 | 186,472 |
| C03 | 68,182 | C03 | 5,086 | C01 | 6,587 |
| D03 | 15,423 | D04 | 26,280 | D03 | 43,708 |
| E03 | 6,172 | E03 | 3,002 | E04 | 63,839 |
| | | F03 | 23,627 | F04 | 42,802 |
| | | G02 | 2,206 | G02 | 20,057 |
| | | H03 | 1,503 | H03 | 84,180 |
| | | I02 | 1,708 | I02 | 180,176 |
| | | J04 | 2,359 | J02 | 75,556 |
| | | K03 | 28,265 | K01 | 7,575 |
| | | L03 | 20,741 | L03 | 27,626 |
| | | M03 | 6,409 | M02 | 188,357 |
| | | N03 | 3,508 | N03 | 313,652 |
| | | O03 | 4,446 | O02 | 420,412 |
| | | P02 | 2,449 | P03 | 48,910 |
| | | Q02 | 4,530 | | |
| | | R03 | 696 | | |
| | | S03 | 2,138 | | |
| | | T03 | 1,336 | | |
| | | U03 | 3,537 | | |
| | | V02 | 6,559 | | |
| | | W04 | 9,271 | | |
| | | X02 | 1,828 | | |
| | | Y03 | 2,692 | | |
| | | Z03 | 5,082 | | |
| | | AA3 | 1,253 | | |
| | | BA3 | 4,669 | | |
| | | CA3 | 5,335 | | |
| | | DA4 | 20,027 | | |
| | | EA2 | 21,197 | | |
| | | FA3 | 18,749 | | |
| | | GA3 | 8,238 | | |
| | | HA2 | 2,380 | | |
| | | IA3 | 58,847 | | |
| | | JA3 | 1,933 | | |
| | | KA2 | 2,398 | | |
| | | LA2 | 4,864 | | |

TOTAL AREA

| | | | |
|---|---|---|---|
| DENSITY 1 = | 0 | 0 | 14,162 |
| DENSITY 2 = | 0 | 50,119 | 1,080,175 |
| DENSITY 3 = | 177,200 | 223,570 | 518,078 |
| DENSITY 4 = | 0 | 57,937 | 106,642 |
| TOTAL = | 177,200 | 331,626 | 1,719,058 |

| WIDEWATER, VA.-MD.-NW (055) | | WIDEWATER, VA.-MD.-SE (055) | | WIDEWATER, VA.-MD.-NE | |
|---|---|---|---|---|---|
| A02 | 10,716 | A04 | 67,891 | A03 | 28,833 |
| B03 | 51,193 | B03 | 28,644 | B02 | 7,362 |
| | | C03 | 5,503 | C03 | 3,719 |
| | | D04 | 245 | D03 | 884 |
| | | E02 | 1,741 | E02 | 1,507 |
| | | | | F02 | 10,497 |
| | | | | G02 | 871 |
| | | | | H02 | 13,029 |
| | | | | I02 | 6,222 |
| | | | | J02 | 7,694 |
| | | | | K02 | 4,531 |
| | | | | L03 | 974 |
| | | | | M04 | 329 |
| | | | | N02 | 3,793 |
| | | | | O04 | 1,598 |
| | | | | P03 | 1,902 |
| | | | | Q03 | 912 |
| | | | | R04 | 34,538 |
| | | | | S03 | 12,457 |
| | | | | T02 | 6,596 |
| | | | | U02 | 13,645 |
| | | | | V04 | 49,763 |
| | | | | W03 | 5,082 |
| | | | | X04 | 1,397 |
| | | | | Y01 | 3,076 |

TOTAL AREA

| | | | |
|---|---|---|---|
| DENSITY 1 = | 0 | 0 | 3,076 |
| DENSITY 2 = | 10,716 | 1,741 | 75,747 |
| DENSITY 3 = | 51,193 | 34,147 | 54,763 |
| DENSITY 4 = | 0 | 68,136 | 87,625 |
| TOTAL = | 61,909 | 104,024 | 221,211 |

| WINGATE, MD.-SW (074) | | WYE MILLS, MD.-SW (158) | | YORKTOWN, VA. (139) | |
|---|---|---|---|---|---|
| A01 | 20,278 | A03 | 3,748 | A01 | 2,134 |
| B02 | 5,692 | B03 | 3,109 | | |
| C02 | 10,380 | C03 | 898 | | |
| D03 | 86,112 | D02 | 1,224 | | |
| E02 | 5,885 | E01 | 2,040 | | |
| F02 | 25,057 | | | | |
| G01 | 6,252 | | | | |
| H03 | 26,952 | | | | |
| I02 | 5,618 | | | | |
| J02 | 992 | | | | |
| K04 | 48,968 | | | | |
| L02 | 78,969 | | | | |
| M04 | 10,327 | | | | |
| N04 | 27,529 | | | | |
| O04 | 2,347 | | | | |
| P02 | 1,106 | | | | |
| Q03 | 565 | | | | |
| R03 | 1,506 | | | | |
| S03 | 30,021 | | | | |
| T01 | 13,153 | | | | |
| U03 | 3,945 | | | | |
| V03 | 58,859 | | | | |
| W02 | 1,624 | | | | |
| X02 | 10,277 | | | | |
| Y01 | 9,841 | | | | |
| Z03 | 26,193 | | | | |
| AA3 | 7,295 | | | | |
| BA4 | 150,865 | | | | |
| CA2 | 24,364 | | | | |
| DA1 | 103,510 | | | | |
| EA4 | 90,382 | | | | |
| FA3 | 15,860 | | | | |
| GA3 | 11,119 | | | | |
| HA3 | 44,334 | | | | |
| IA2 | 13,702 | | | | |

TOTAL AREA

| | | | |
|---|---|---|---|
| DENSITY 1 = | 153,034 | 2,040 | 2,134 |
| DENSITY 2 = | 183,666 | 1,224 | 0 |
| DENSITY 3 = | 312,761 | 7,755 | 0 |
| DENSITY 4 = | 330,418 | 0 | 0 |
| TOTAL = | 979,879 | 11,019 | 2,134 |