

**1985-1987
MARYLAND WATER QUALITY INVENTORY**

**VOLUME II
APPENDICES**

**1988 Report to the U.S. Environmental Protection Agency
According to Section 305(b) of the Clean Water Act (P.L. 100-4)**

**Maryland Department of the Environment
Baltimore, Maryland**

APRIL 15, 1988

TABLE OF CONTENTS

APPENDIX	TITLE	PAGES
A	Ambient water quality monitoring stations	A1-11
B	Methodology for assessing water quality	B1-14
C	Watershed segment evaluation	C1-73
D	Maryland lake water quality assessment	D1-63
E	Water quality trend analysis	E1-17
F	Waterbody lists	F1-33

Appendix A

Ambient Water Quality Monitoring Stations

The following table provides information about the location of the State's ambient water quality monitoring stations. Not all of the State's monitoring programs are represented on this list. Only routine water quality-specific programs are listed and include the CORE, Trend, benthic macroinvertebrate, fish tissue, river intensives (Potomac and Patuxent), and the Chesapeake Bay Program mainstem and tributary network stations. A grid is provided with symbols marking the various sampling programs that each station serves. For more detailed information about each monitoring program, the reader should consult the Monitoring Programs section of this report or contact the Department of the Environment's Water Management Administration.

Maryland Water Quality Monitoring Stations

CORE	Trend	Fish tissue	Benthic - Surber sampler	Benthic - Multiplate sampler	Chesapeake Bay - Mainstem	Chesapeake Bay - Tributary	Patuxent intensive	Potomac intensive
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Basin

Station Description

Ocean/Coastal Area (02-13-01)

- BIH0009 Birch Branch at U.S. 113
- BOB0001 Bottle Branch at Harrison Road
- BSH0030 Bishopville Prong below Community Pond
- SBR0022 South Branch at U.S. 113
- TRC0059 Trappe Creek at MD Route 376

Pocomoke River (02-13-02)

- DIV0013 Dividing Creek at road west of Whitesburg
- MEE3.1 Northern Tangier Sound, NW of Haines Pt., 100 yards north of buoy R"16"
- MEE3.2 Southern Tangier Sound, east of Smith Is., 500 yards NNW buoy R"8"
- MEE3.3 Pocomoke Sound, midchannel near buoy W"A"
- MNK0176 Manokin River at MD Route 363
- NAS0073 Nassawango Creek at MD Route 12 (USGS gage)
- POK0170 Pocomoke River at Alternate U.S. 13 (Bay Program alias MET10.1)
- POK0312 Pocomoke River at downstream boundry of Byrd Park (Snow Hill)
- POK0527 Pocomoke River at U.S. 50 (USGS gage)
- XBJ3312 Big Annemessex River, NW of Long Pt., 250 yards east of day beacon G"5"
(Bay Program alias MET9.1)
- XBJ8215 Manokin River, buoy R"8" (Bay Program alias MET8.1)

Nanticoke/Wicomico River (02-13-03)

- MEE3.0 Fishing Bay at daymark "3", west of Roasting Ear Pt.
- MET6.2 Lower Nanticoke River, midchannel near Fl G"11"
- NAN0032 Upper Nanticoke River, near MD Route 313 bridge at Sharpstown
(Bay Program alias MET6.1)
- WIW0050 Lower Wicomico River at Whitehaven off of Ferry Rd. (Bay Program alias MET7.1)
- WIW0241 Wicomico River at Naylors Mill Road

Maryland Water Quality Monitoring Stations

CORE	Trend	Fish tissue	Benthic - Surber sampler	Benthic - Multiplate sampler	Chesapeake Bay - Mainstem	Chesapeake Bay - Tributary	Patuxent intensive	Potomac intensive

Basin

Station Description

Choptank River (02-13-04)

CHO0429	Upper Choptank River at Ganey Wharf (Bay Program alias MET5.1)
CHO0518	Choptank River at MD Route 404
CHO0626	Choptank River at Red Bridges Road (USGS gage)
MAS0015	Mason Branch at Mason Branch Road
TUK0133	Tuckahoe Creek at MD Route 404
XEG1617	Little Choptank River, west of Ragged Pt., west of FLG"3" (Bay Program alias MEE2.2)
XEG9652	Choptank embayment between Todds Pt. and Nelson between BWN"63"B and R"12" (Bay Program alias MEE2.1)
XEH4766	Choptank River at U.S. 50 drawspan (Bay Program alias MET5.2)

Chester River (02-13-05)

CHE0367	Chester River at MD Route 290 (Bay Program alias MET4.1)
XFF9178	Eastern Bay between Tilghman Pt. and Parsons Island north of buoy R"4" (Bay Program alias MEE1.1)
XGG8251	Kent Island Narrows at U.S. 50
XGG9572	Lower Chester River south of Estern Neck Island at buoy Fl G"9" (Bay Program alias MET4.2)

Elk River (02-13-06)

BEL0043	Big Elk Creek at MD Route 281
LEL0024	Little Elk Creek at MD Route 279
MET1.1	Northeast River at buoy Fl R"12" north of Hance Pt.
MET2.1	Back Creek near MD Route 213 bridge at Chesapeake City
MET2.2	Bohemia River off Old Hack Pt. at buoy Fl R"4"
MET2.3	Elk River SE of Oldfield Pt. at buoy B "15", midchannel
MIC0012	Mill Creek below Perryville municipal discharge
MIC0014	Mill Creek above Perryville municipal discharge
NOC0009	Northeast Creek at MD Route 272
XJI1970	Sassafras River near MD Route 213 bridge (Bay Program alias MET3.1)

Maryland Water Quality Monitoring Stations

CORE	Trend	Fish tissue	Benthic - Surber sampler	Benthic - Multiplate sampler	Chesapeake Bay - Mainstem	Chesapeake Bay - Tributary	Patuxent intensive	Potomac intensive

Basin

Station	Description
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Conewago Creek (02-05-03)

NONE

Lower Susquehanna River (02-12-02)

- BRD0052 Broad Creek at MD Route 136
- DER0015 Deer Creek at Stafford Bridge
- DER0124 Deer Creek at U.S. 1
- DER0231 Deer Creek at Rocks
- DER0399 Deer Creek at Green Road
- EBA0001 Ebaughs Creek at Harris Mill Road
- OCT0035 Octoraro Creek at Porter Bridge
- SUS0109 Susquehanna River at Conowingo Dam

Bush River (02-13-07)

- BSR0068 Bush River, east of Gum Pt. at Fl G Lt (Bay Program alias MWT1.1)
- BYN0007 Bynum Run at MD Route 7
- JAM0014 James Run at MD Route 7
- SWA0048 Swan Creek at U.S. 40
- WIN0030 Winters Run at MD Route 7

Gunpowder River (02-13-08)

- GUN0036 Gunpowder Falls at MD Route 7
- GUN0125 Gunpowder Falls at Cromwell Bridge Road
- GUN0258 Gunpowder Falls at Lower Glencoe Road
- GUN0476 Gunpowder Falls at Gunpowder Road
- LGU0024 Little Gunpowder Falls at MD Route 7
- WGP0050 Western Run at Western Run Road (USGS gage)
- XIF7768 Middle River, east of Wilson Pt. at channel junction daymark (Bay Program alias MWT3.1)
- XJF2499 Gunpowder River, 200 yards east of Oliver Pt. at buoy G"15" (Bay Program alias MWT2.1)

Maryland Water Quality Monitoring Stations

CORE	Trend	Fish tissue	Benthic - Surber sampler	Benthic - Multiplate sampler	Chesapeake Bay - Mainstem	Chesapeake Bay - Tributary	Patuxent intensive	Potomac intensive
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Basin

Station Description

Patuxent River (02-13-11) - continued

PXT0494	Patuxent River, midchannel at MD Route 4 bridge near Wayson's Corner
PXT0603	Patuxent River at U.S. 50
PXT0630	Patuxent River at MD Route 3
PXT0808	Patuxent River below 9th Street crossing (Laurel)
PXT0809	Patuxent River at gaging station below Rocky Gorge Dam
PXT0939	Patuxent River at Mink Hollow Road
PXT0972	Patuxent River at MD Route 97
WXT0045	Western Branch Patuxent River, midchannel at Water Street in Upper Marlboro
XCF8747	Patuxent River, midchannel between Drum Pt. and Fishing Pt.
XCF9328	Patuxent River at mouth of Mill Creek (Solomons)
XCF9575	Patuxent River, midchannel between Cedar Pt. and Cove Pt.
XDE2792	Patuxent River, midchannel 1.6 km SW of Petersons Pt.
XDE5339	Patuxent River, midchannel SSW of Jack Bay sandspit, NE of Sandgates
XDE9401	Patuxent River, midchannel 0.5 km ENE of Long Pt.
XDF0407	Patuxent River, midchannel 1200 m north of Point Patience
XED4892	Patuxent River, midchannel 115' transect from Jack's Creek
XED9490	Patuxent River, midchannel of the Wharf at Lower Marlboro

Chesapeake Bay (02-13-99)

MCB2.1	Chesapeake Bay, SW of Turkey Pt.
MCB3.3W	Chesapeake Bay, NW of Bay Bridge, western shore
MCB3.3E	Chesapeake Bay, NE of Bay Bridge, eastern shore
MCB4.1W	Chesapeake Bay, SE of Horseshoe Pt., western shore
MCB4.1C	Chesapeake Bay, midchannel, SW of Kent Pt.
MCB4.1E	Chesapeake Bay, south of Kent Pt., eastern shore
MCB4.2W	Chesapeake Bay, NW of Plum Pt., western shore
MCB4.2C	Chesapeake Bay, midchannel, SW of Tilghman Island near buoy CR
MCB4.2E	Chesapeake Bay, SW of Tilghman Island, eastern shore

Maryland Water Quality Monitoring Stations

CORE	Trend	Fish tissue	Benthic - Surber sampler	Benthic - Multiplate sampler	Chesapeake Bay - Mainstem	Chesapeake Bay - Tributary	Patuxent intensive	Potomac intensive
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Basin

Station Description

- Lower Potomac River (02-14-01) - continued**
- XEA1840 Potomac River at buoy "44" between Possum Pt. and Moss Pt.
- XEA6596 Potomac River at buoy "N54" off Indianhead
- XFB1433 Potomac River at buoy "67" off mouth of Dogue Creek
- XFB2470 Potomac River at buoy FL"77" of mouth of Piscataway Creek
- ZEK0054 Zekiah Swamp at MD Route 6

- Potomac River - Washington Metro Area (02-14-02)**
- ANA0082 Anacostia River at Bladensburg Road
- CJB0005 Cabin John Branch at McArthur Boulevard
- NEB0016 Northeast Branch Anacostia River at Riverdale Road below USGS gage
- PIS0033 Piscataway Creek at MD Route 210
- POT1183 Potomac River below Little Falls
- POT1184 Potomac River above Little Falls (USGS gage)
- POT1471 Potomac River at Whites Ferry (Maryland side)
- POT1472 Potomac River at Whites Ferry (Virginia side)
- RCM0111 Rock Creek at MD Route 410
- SEN0008 Seneca Creek at MD Route 112
- XFB1433 Potomac River at buoy "67" off Dogue Creek
- XFB1986 Piscataway Creek midchannel 2000 yards above mouth
- XFB2470 Potomac River at buoy FL"67" off Piscataway Creek

- Middle Potomac River (02-14-03)**
- BPC0035 Big Pipe Creek at MD Route 194 (USGS gage)
- CAC0031 Catoctin Creek at MD Route 464
- CAC0148 Catoctin Creek at MD Route 17 (USGS gage)
- DPC0013 Double Pipe Creek at MD Route 77
- MON0020 Monocacy River at MD Route 28
- MON0155 Monocacy River at Reich's Ford Road (USGS gage)

Maryland Water Quality Monitoring Stations

Basin

Station Description

CORE	Trend	Fish tissue	Benthic - Surber sampler	Benthic - Multiplate sampler	Chesapeake Bay - Mainstem	Chesapeake Bay - Tributary	Patuxent intensive	Potomac intensive
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Middle Potomac River (02-14-03) - continued

MON0269 Monocacy River at Biggs Ford Road
MON0528 Monocacy River at MD Route 140 (USGS gage)
POT1595 Potomac River at Point of Rocks (USGS gage - Maryland side)
POT1596 Potomac River at Point of Rocks (Virginia side)

Upper Potomac River (02-14-05)

ANT0044 Antietam Creek at Burnside Bridge (USGS gage)
ANT0203 Antietam Creek at Poffenberger Road
ANT0229 Antietam Creek at Alternate U.S. Rte. 40, Funkstown
ANT0366 Antietam Creek at Rocky Forge
CON0005 Conococheague Creek at MD Route 68
CON0180 Conococheague Creek at Fairview Road (USGS gage)
FIF0004 Fifteenmile Creek at Fairview Road (USGS gage)
LCC0001 Little Conococheague Creek at Dam #5 Road
LIC0004 Licking Creek at U.S.40
LTW0001 Mouth of Little Tonoloway Creek
MSH0016 Marsh Run at Spreacher Road (USGS gage)
POT1830 Potomac River at Shepherdstown (USGS gage)
POT2386 Potomac River at Hancock (USGS gage)
POT2766 Potomac River at PawPaw (USGS gage)
SID0015 Sideling Hill Creek at Ziegler Road (USGS gage)
TOC0004 Tonoloway Creek below I-70
TOW0013 Town Creek at MD Route 51
TOW0030 Town Creek at Oldtown Road (USGS gage)

Maryland Water Quality Monitoring Stations

CORE	Trend	Fish tissue	Benthic - Surber sampler	Benthic - Multiple sampler	Chesapeake Bay - Mainstem	Chesapeake Bay - Tributary	Patuxent intensive	Potomac intensive
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Basin

Station	Description
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North Branch Potomac River (02-14-10)

BDK0000	Mouth of Braddock Run
EVI0017	Evitts Creek at Williams Road
GEO0009	Georges Creek at (USGS gage)
NBP0023	North Branch Potomac River at Oldtown
NBP0103	North Branch Potomac River at Blue Spring
NBP0326	North Branch Potomac River at Pinto (USGS gage)
NBP0461	North Branch Potomac River at U.S. 220
NBP0534	North Branch Potomac River at Bloomington
NBP0689	North Branch Potomac River at Kitzmiller
SAV0000	Savage River at MD Route 135
SAV0011	Savage River at Savage River Road
WIL0013	Wills Creek one half mile above USGS gage

Youghiogheny River (05-02-02)

CAS0479	Casselman River at River Road (USGS gage)
CCR0001	Cherry Creek at Meadow Mountain Run Road
LYO0004	Little Youghiogheny River at foot bridge
NBC0000	Mouth of North Branch Casselman River
SCA0000	Mouth of South Branch Casselman River
YOU0918	Youghiogheny River at Friendsville
YOU0925	Youghiogheny River at Friendsville 0.7 miles upstream from MD Route 42 (USGS gage)
YOU1069	Youghiogheny River at Swallow Falls
YOU1139	Youghiogheny River north of MD Route 20
YOU1184	Youghiogheny River at MD Route 39

Appendix B

Methodology for assessing water quality

In past water quality inventory reports, assessing water quality conditions in each watershed required an evaluation of historical and current water quality data and related information, and best professional judgement to describe water quality impacts during the past two years. Beginning with the water quality inventory report due in 1988, however, the U.S. Environmental Protection Agency (EPA) has required that each State provide a detailed, quantitative assessment of each waterbody area affected by specific water quality problems by the source of the problem (e.g. 10 stream miles impacted by excess nutrients from urban surface runoff). A separate assessment is required for each waterbody type (e.g. rivers, ocean, lake). In addition, the areas "monitored" by ambient monitoring programs and areas "evaluated" by other programs (e.g. fish kill data, non-ambient data) were to be recorded for each waterbody type.

This data will be entered into a computerized national "Waterbody System" being established by EPA which will permit the agency to assess water quality problems nationwide and track progress toward meeting the goals of the Clean Water Act. The following information documents procedures the State used in trying to fulfill this data requirement.

DATA COLLECTION

The first step was to collect recent State-wide water quality information including ambient and intensive data (1982-1987), benthic macroinvertebrate data (1983-1986), algal bloom information (1983-1987), fish kill data (1984-1987), restricted shellfish harvesting areas (through 1987), NPDES surface and State groundwater discharge permit data (1987), municipal compliance data (1987), land use data (1985), watershed mileage data, local health department water quality questionnaire data, lake inventory data, fish advisory ban information, Cumulative Hydrologic Impact Assessment data (acid mine drainage) (1984-1986), agricultural water pollution complaint data (1983-

1987). septic tank failure information from county Water and Sewer Plans, and any other pertinent water quality data.

This information was entered on worksheets (Appendix Table B-1) and, where appropriate, drawn on watershed maps (Appendix Figure B-1). According to guidelines established by EPA, areas affected by specific water quality problems were to be determined by the source of the problem (e.g. 10 stream miles impacted by excess nutrients from agricultural runoff). A separate assessment was required for each waterbody type which included rivers, ocean, lake, estuary, wetlands and ground water. In addition, the areas "monitored" by ambient monitoring programs and areas "evaluated" by other programs (e.g. fish kill data, non-ambient data) were to be recorded for each waterbody type. "Rules of assessment" were established to permit an unbiased and uniform water quality assessment in all 139 watersheds in the State. These "rules" and their justification are described below:

Waterbody selection: The smallest waterbody to be used in this assessment is a segment from the State's watershed classification scheme established by the Department of Natural Resources in the 1970's. This segmentation is used in a number of reports and is a key variable in many State databases. Its use in this assessment simplifies data collection and provides a measure of continuity with past water quality inventory reports.

Waterbody designated use: Using watershed maps, the State's water use classes (COMAR 10.50.01) were drawn to simplify describing use classes and to assist in comparing ambient data to specific water quality standards.

Waterbody sizes: Stream miles described in previous water quality inventory reports were used as base miles in this assessment. For rivers (including tidal rivers and embayments above the confluence with Chesapeake Bay or the Atlantic Ocean), mileages presented are mainstem miles to the upstream monitoring station. Thus, tributary portions of rivers are not properly accounted for in the "stream mile" figure.

Lake acreages are provided from a list of lakes and ponds compiled for the Lake Assessment portion of this water quality inventory report (see

**1985-1987 Maryland Water Quality Inventory
Water Quality Assessment Summary**

Basin: _____ Name: _____
 Class: _____ Priority: _____

River (mi)	Monitored: _____	Evaluated: _____	Total: _____
Estuary (mi)	Monitored: _____	Evaluated: _____	Total: _____
Lake (ac)	Monitored: _____	Evaluated: _____	Total: _____
Coast (mi)	Monitored: _____	Evaluated: _____	Total: _____
Wetland (ac)	Monitored: _____	Evaluated: _____	Total: _____
Groundwater	Monitored: _____	Evaluated: _____	Total: _____

Land Use:
 Urban: _____ Agricultural: _____ Forest: _____ Wetland: _____ Mines: _____

Monitored

		<i>State WQ Standards</i>				<i>Subjective</i>			
<u>Station</u>	<u>WB Type</u>	<u>Temp</u>	<u>DO</u>	<u>pH</u>	<u>Turb</u>	<u>Bact</u>	<u>N</u>	<u>P</u>	<u>Chla</u>

<u>STP</u>	<u>WB Type</u>	<u>Compliance</u>	<u>MGD</u>	<u>Pretreat</u>
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<u>Industry</u>	<u>WB Type</u>	<u>Compliance</u>	<u>MGD</u>	<u>Pretreat</u>
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<u>CSO/Stormwater</u>	<u>WB Type</u>	<u>Compliance</u>	<u>MGD</u>	<u>Pretreat</u>
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**1985-1987 Maryland Water Quality Inventory
Water Quality Assessment Summary**

Basin: _____ Name: _____

Evaluated

Swimming ban

<u>Area</u>	<u>WB Type</u>	<u>Source</u>	<u>Cause</u>
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Fish kill

<u>Area</u>	<u>WB Type</u>	<u>Source</u>	<u>Cause</u>
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Shellfish closures/conditional areas

<u>Permanent</u>	<u>Source</u>	<u>Cause</u>
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<u>Conditional</u>	<u>Source</u>	<u>Cause</u>
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Fish advisory

<u>Area</u>	<u>WB Type</u>	<u>Source</u>	<u>Cause</u>
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Algae bloom

<u>Area</u>	<u>WB Type</u>	<u>Source</u>	<u>Cause</u>
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Agricultural water pollution complaints

<u>Area</u>	<u>WB Type</u>	<u>Source</u>	<u>Cause</u>
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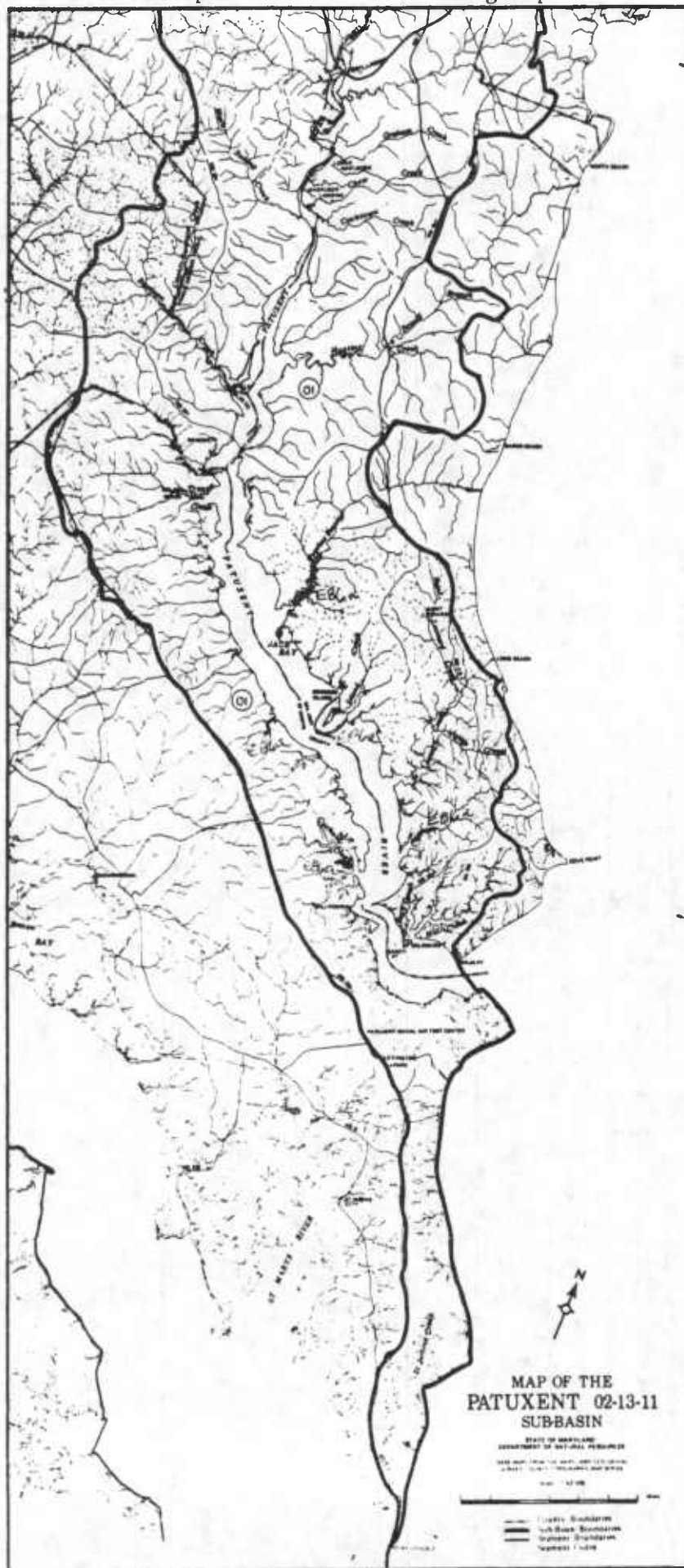
Mine impact

<u>Area</u>	<u>WB Type</u>	<u>Source</u>
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B3

APPENDIX TABLE B-1. Example of watershed worksheet for water quality assessment.

APPENDIX FIGURE B-1. Example of watershed working map



Appendix D). These figures are taken from a catalog of ponds and lakes reported by the Department of Natural Resources' (DNR) Power Plant Research Program (Weisberg, et al., 1985) and from a freshwater sportfishing guide (Tidewater Administration, 1987).

Estuary size figures were reported for the mainstem Chesapeake Bay only. As previous water quality inventory reports described the Bay in terms of mainstem miles (linear) rather than square miles (area), an approximation of estuarine areas for each of the three segments was determined as a proportion of the total mainstem length (118 miles) multiplied by the total estuary area (1981 square miles).

Two other waterbody types were included for the first time in a quantitative assessment section; wetlands and ground water. Wetlands areas were determined from 1985 land use figures (Department of State Planning, 1987). These estimates are low, however, the use of watershed delineations required the use of a database which identified wetlands areas by individual watersheds. Ground water was not included in this assessment; it is recommended that EPA provide further guidance on how to report ground water impacts both in terms of units (e.g. acre-feet, square or cubic kilometers) and impact assessment

Ambient data: Historical water quality data (1983-1986) from both ambient and special water quality studies were printed out by watershed and station locations were plotted on watershed maps. Ambient data were compared to appropriate water quality standards (temperature, pH, turbidity, dissolved oxygen, fecal coliform bacteria) and to subjective standards (e.g. nutrients, chlorophyll levels, alkalinity). For each constituent, the severity of water quality impacts were assessed based on the percentage of samples which exceeded an established water quality standard (established in State regulations or by professional judgement). This information is included in Appendix Table B-2.

Appendix Table B-2. Criteria for evaluating designated use support

Support of Designated Use	Chemical Information	Biological Information	Direct Observation/ Professional Judgement
Waters support designated uses	Standard is exceeded in less than 11% of the analysis and the mean measured value does not meet the standard.	Data show that the waterbody is fully supporting the designated aquatic life community.	Direct observation shows that the designated use is or professional judgement indicates that there is no reason for the use not to be supported.
Pollution severity: NONE			
Waters partially support designated uses	Standard is exceeded in 11-25% of the analyses and the mean measured value is less than the standard; or the standard is exceeded in less than 11% of analyses and mean measured value does not meet the standard	There is uncertainty as to whether or not a balanced aquatic community is fully supported.	Direct observation shows that the use exists in the waterbody, but professional judgement suggests that the use is not supported to a maximum level.
Pollution severity: MINOR			
Waters do not support designated uses	Standard is exceeded in more than 25% of the analyses and the mean measured value does not meet the standard; or the standard is exceeded in 11-24% of the analyses and the mean measured value exceeds the standard.	Data show that the waterbody does not support the designated aquatic community.	Direct observations show that overt signs of obvious use impairment (e.g. frequent fish kills), or provide no evidence that the use exists. Professional judgement suggests that the use cannot be supported due to known or suspected water quality problems.
Pollution severity: MAJOR			
Unknown	No representative data are available for assessment.	Limited or no data available.	Limited or no observations.
Pollution severity: UNKNOWN			

Shellfish data: "Restricted" and "conditionally approved" shellfish closures also were mapped out on watershed maps. Acreages provided for Chesapeake Bay closures (estuary) and approximate mainstem mileages for tributary closures (rivers) were recorded. In the Ocean/Coastal basin, open ocean closures were recorded as ocean; embayment and tributary closures were recorded as rivers. Reasons for shellfish area closures were associated with the area/distance and recorded on appropriate forms for each sub-basin segment. In areas where "non-point source pollution" was described as the reason for closure, a percentage runoff source was assigned to major land use percentages in each basin (e.g. urban runoff, agricultural runoff, forest/marsh runoff) using 1985 MAGI data (Department of State Planning, 1987), except where professional judgement was used.

Fish kills: Data from the Water Quality Monitoring Division on locations and approximate sizes of reported fish kills in the State between 1984 and 1987 were mapped out on watershed maps. Fish kills attributed to natural conditions or diseases not necessarily related to water quality (e.g. spawning kills or menhaden virus) or man-induced "non-kills" (e.g. fishery discards, explosions) were not included in this assessment. Unknown reasons for fish kills were also not included unless the investigating biologist suspected some water quality-related cause; all other causes and sources were defined.

Numerous fish kills were recorded in small, private ponds so, unless the size of the lake or pond is known or the size of the fish kill is reported to be very large, these ponds were assigned a minimum size of one (1) acre. The impoundment acreage for small, private ponds with reported fish kills were not added to the basin lake acreage already identified (impoundments greater than 5 acres with public access).

Fish advisories: Information about fish consumption advisories and fishing bans were compiled from the files of the Water Management Administration and summarized on watershed information sheets.

Bathing beach closures: Data on the cause and severity (impact area, time) of bathing beach closures was summarized from the results of questionnaires which had been sent to all local Environmental Health Directors or local Departments

of Environmental Protection. This information was plotted onto watershed maps and entered onto watershed sheets.

Algae blooms: Data from the Water Quality Monitoring Division's monthly phytoplankton reports was used to identify smaller areas where algal blooms were reported. Annual algal blooms in the estuarine areas were located on maps by a biologist in the Water Quality Monitoring Division. The source of nutrients was identified, if possible, and information was summarized on the watershed sheets.

Mine impacts: Data on acid mine drainage from abandoned mines were summarized from the State's ambient monitoring program and the State Bureau of Mines CHIA reports and entered on watershed maps of Western Maryland. The degree of impact (e.g. major, moderate) was determined based on the degree of departure of pH and alkalinity values from "normal" values (pH of 6.0 or more, total alkalinity of 20 mg/l as CaCO_3 or more), and on the degree of trace metal concentrations.

ASSESSMENT CRITERIA AND METHODOLOGY

For each watershed, information collected was subjected to "rules of assessment" which are described below in detail. For each waterbody type (e.g. rivers, estuary, ocean), these results were summarized in terms of major and moderate/minor water quality impacts by both cause and source of pollution (Appendix Table B-3). In addition, the waterbody sizes not supporting designated uses were summarized (Appendix Table B-4) as were waterbody sizes not supporting the goals of the Clean Water Act (Appendix Table B-5). This information was used to generate summary tables in the Surface Water Quality section of the main report as well as the various waterbody lists provided in Appendix F.

Sizes of chronic water quality-related fish kills (rivers and impoundments) were described as not supporting the "fishable" goals of the Clean Water Act and not supporting designated uses. All fish kills are evaluated rather than monitored as they are sporadic in nature. It should be recognized that there are few chronic water quality related fish kills in the

**Total Sizes of Waters Not Fully Supporting Uses
by Cause and Source**

Basin: _____

Name: _____

Type of Waterbody: _____

Cause Category	Major Impact	Moderate/Minor Impact
Organic enrichment/DO		
Nutrients		
pH		
Sediments		
Bacteria		
Other inorganics		
Thermal modification		
Flow alteration		
Habitat modification		
Ammonia		
Chlorine		
Metals		
Priority organics		
Nonpriority organics		
Pesticides		
Radiation		
Oil and grease		

Source Category	Major Impact	Moderate/Minor Impact
POINT SOURCES		
Industrial		
Municipal		
CSO		
Storm Sewers		
NON-POINT SOURCES		
Agriculture		
Silviculture		
Construction		
Urban Runoff		
Mining		
Land Disposal		
Natural		
Other Runoff		
Hydrologic mod.		
Other		




APPENDIX TABLE B-3. Water quality assessment worksheet.

Designated Use Support




Basin: _____

Name: _____




Type of Waterbody: _____

Degree of Use Support	Evaluated	Monitored	Total Assessed
Size Fully Supporting			
Threatened			
Size Partially Supporting			
Size Not Supporting			

Type of Waterbody: _____

Degree of Use Support	Evaluated	Monitored	Total Assessed
Size Fully Supporting			
Threatened			
Size Partially Supporting			
Size Not Supporting			

Type of Waterbody: _____

Degree of Use Support	Evaluated	Monitored	Total Assessed
Size Fully Supporting			
Threatened			
Size Partially Supporting			
Size Not Supporting			

APPENDIX TABLE B-4. Example of designated use support worksheet.

Attainment of Clean Water Act (CWA) Goals

Basin: _____

Name: _____

Type of Waterbody: _____

	Fishable Goal	Swimmable Goal
Size Meeting CWA Goals		
Size Not Meeting CWA Goals		
Size CWA Goals Not Attainable		

Type of Waterbody: _____

	Fishable Goal	Swimmable Goal
Size Meeting CWA Goals		
Size Not Meeting CWA Goals		
Size CWA Goals Not Attainable		

Type of Waterbody: _____

	Fishable Goal	Swimmable Goal
Size Meeting CWA Goals		
Size Not Meeting CWA Goals		
Size CWA Goals Not Attainable		

APPENDIX TABLE B-5. Example of Clean Water Act attainment worksheet.

State. Many fish kills occur due to some combination of meteorological/hydrological/biological events. While such events may occur seasonally, fish kills may or may not occur with such regularity. Other fish kills occur as a result of a man-induced incident (manure or highway spills, pumping station failures) which occur at unpredictable intervals.

Shellfish closure areas were described as evaluated rather than monitored. In the shellfish monitoring program, only fecal coliform, temperature and weather data are regularly collected. At select stations, salinity is also recorded. No other water quality information is available through this program.

"Restricted" shellfish closures represent either a chronic bacterial contamination problem or a "safety" zone around point source discharge sites. Although the State's Shellfish Sanitation Program describes acreage closed around most discharges, in some areas no distinction is made between areas closed for point source discharges and areas closed for other reasons. As the water quality status around point source discharges cannot be determined without an extensive analysis, and as such closed areas are relatively small, they are not described as a subset of the "restricted" shellfish closures.

All "restricted" shellfish closures are described as not supporting designated uses and are described as "major impact". While this description is not entirely true (areas closed to shellfish harvesting because of high bacterial levels may still support other commercial/recreational fisheries and water contact activities), past water quality assessments were described in this fashion and this represents an effort to remain consistent with past assessments.

"Conditionally approved" shellfish harvesting areas represent pure nonpoint source pollution impacts. As these areas are closed only after a certain intensity of precipitation, all "conditionally approved" shellfish closures are described as partially supporting designated uses. These areas are described as "moderate impact".

All shellfish closure areas ("restricted", safety zone or "conditionally approved") are considered as not supporting the "fishable" goals of the Clean Water Act.

Chronic algal blooms are described as "partially supporting" designated uses. These areas are described as "major impact". As with shellfish closures, the source of excessive nutrients is divided as a percentage between the known point sources (municipal or industrial discharges) and probable nonpoint sources (runoff from various land use types, upriver sources, internal sources); this division is based on 1985 MAGI data, compliance data and best professional judgement.

Areas affected by acid mine drainage in Western Maryland were drawn on watershed maps and the affected areas determined as major impact (low alkalinity, low pH, high sulphate, elevated metals) and moderate impact (elevated alkalinity, low to moderate pH, low elevated sulphate, low metals). Sources were determined as abandoned surface or underground coal mines. Areas of major acid mine impact were described as not supporting designated uses or "fishable" goals of the Clean Water Act. Unless specific water contact restrictions were established, these areas were designated as supporting the "swimmable" goal of the Clean Water Act. These areas are described as "major impact". Areas impacted by moderate acid mine drainage effects were described as "partially supporting" designated uses and fully supporting the "fishable" and "swimmable" goals of the Clean Water Act. These areas are described as "moderate impact".

Other areas of surface mine impact were identified from MAGI land use data and from prior knowledge of certain areas of the State. Unless definite impacts are identified (e.g. Anacostia River), surface mine impacts were not noted.

Areas closed to bathing by local health departments are drawn on watershed maps and the size of the closed swimming area and the source of excessive bacteria is determined. These areas are described as not supporting designated uses and not supporting the "swimmable" goals of the Clean Water Act. These areas are described as "major impact". As with shellfish and

algal blooms, known point and probable nonpoint sources of excessive bacteria are distributed as a percentage among appropriate land uses in the affected watershed.

Surface industrial and municipal dischargers were identified as major (greater than one million gallons per day - MGD) or minor dischargers (less than one MGD). Compliance problems with municipal dischargers were reviewed (Department of the Environment, Municipal Compliance Section), however, no severe water quality impacts were noted. If the segment experienced no known point source problem, yet surface dischargers were present, the appropriate point source category was noted for possible water quality impacts and described as "moderate impact".

REFERENCES

- COMAR. 1985. Water quality and pollution control. Code of Maryland Regulations (10.50.01). Dept. Environment, Baltimore. 73p.
- Department of State Planning. 1987. Primary land use data: 1985 (Maryland Automated Geographic Information System). Planning Data Office, Baltimore, MD.
- Tidewater Administration. 1987. Maryland freshwater sportfishing guide. Dept. Natl. Resour., Annapolis. 48p. + app.
- Weisberg, Stephen B., Kenneth A. Rose, Brian S. Clevenger, and Jeffrey O. Smith. 1985. Inventory of Maryland dams and assessment of hydropower resources. Power Plant Siting Program, MD Dept. Natl. Resour., Annapolis.

Appendix C

Watershed Segment Evaluation

The following tables provide specific information about water quality impairments in each of the State's 138 watersheds. Procedures used to assess water quality in each watershed are discussed in Appendix B. The reader seeking more descriptive information about each watershed should consult the State's 1986 water quality inventory report. The contents of this Appendix are summarized by watershed as follows:

APPENDIX TABLE	BASIN CODE	BASIN NAME
C-1	020503	Conewago Creek
C-2	021202	Lower Susquehanna River
C-3	021301	Ocean/Coastal Area
C-4	021302	Pocomoke River
C-5	021303	Nanticoke/Wicomico River
C-6	021304	Choptank River
C-7	021305	Chester River
C-8	021306	Elk River
C-9	021307	Bush River
C-10	021308	Gunpowder River
C-11	021309	Patapsco River
C-12	021310	West Chesapeake Area
C-13	021311	Patuxent River
C-14	021399	Chesapeake Bay
C-15	021401	Lower Potomac River
C-16	021402	Potomac River - Washington Metro Area
C-17	021403	Middle Potomac River
C-18	021405	Upper Potomac River
C-19	021410	North Branch Potomac River
C-20	050202	Youghiogheny River

APPENDIX TABLE C-1

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

CONEWAGO CREEK (BASIN CODE: 02-05-03)

STATE SEGMENT NUMBER: -01

SEGMENT NAME: Conewago Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	3.0	0.0	0.0	0.0	0.0
TOTAL:	3.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: No data available.

APPENDIX TABLE C-2

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

LOWER SUSQUEHANNA RIVER (BASIN CODE: 02-12-02)

STATE SEGMENT NUMBER: -01 SEGMENT NAME: Lower Susquehanna River Area

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	11.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	0.0	0.0
TOTAL:	11.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: Low dissolved oxygen, bacteria.

SOURCE OF IMPAIRMENT: Municipal discharge, hydrologic modification (dam operation).

WATER QUALITY TREND: SUS0109 Dissolved oxygen - no trend
 Total suspended solids - no trend
 Total phosphorus - no trend
 Total nitrogen - Increasing trend, significant
 Fecal coliform bacteria - Decreasing trend, not significant

COMMENTS: Utility which owns Conowingo Dam (Philadelphia Electric Co.) intends to meet State water quality standards and provide permanent fish passage facilities for anadromous fish.

STATE SEGMENT NUMBER: -02 SEGMENT NAME: Deer Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	40.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	0.0	0.0
TOTAL:	40.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class III - Natural trout
 Class IV - Recreational trout

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: DER0015 Total suspended solids - Decreasing trend, not significant
 Total phosphorus - no trend
 Total nitrogen - Increasing trend, significant

COMMENTS: Segment is designated as a State Scenic River. Portion of watershed designated as "critical habitat" by the U.S. Fish and Wildlife Service for endangered Maryland darter.

APPENDIX TABLE C-2 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

LOWER SUSQUEHANNA RIVER (BASIN CODE: 02-12-02)

STATE SEGMENT NUMBER: -03

SEGMENT NAME: Octoraro Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	9.0	0.0	0.0	0.0	0.0
TOTAL:	9.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class III - Natural trout
Class IV - Recreational trout

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

STATE SEGMENT NUMBER: -04

SEGMENT NAME: Conowingo Dam - Susquehanna Run

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	6.0	0.0	0.0	0.0	0.0
TOTAL:	6.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Conowingo Reservoir is not designated as a public lake due to flow characteristics which State biologists describe as being more riverine in nature. Impoundment is described as a run-of-the-river lake and is not included in the lake inventory.

APPENDIX TABLE C-2 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

LOWER SUSQUEHANNA RIVER (BASIN CODE: 02-12-02)

STATE SEGMENT NUMBER: -05

SEGMENT NAME: Broad Creek

	RIVER (mf)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	17.0	0.0	0.0	0.0	0.0
TOTAL:	17.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

APPENDIX TABLE C-3

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

OCEAN/COASTAL AREA (BASIN CODE: 02-13-01)

STATE SEGMENT NUMBER: -01

SEGMENT NAME: Atlantic Ocean

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	92.0	32.0
TOTAL:	0.0	0.0	0.0	92.0	32.0

USE CLASSIFICATION: Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

STATE SEGMENT NUMBER: -02

SEGMENT NAME: Assawoman Bay

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	4.0	0.0	0.0	1377.0	0.0
TOTAL:	4.0	0.0	0.0	1377.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Water quality degraded in restricted waterways and dredge holes due to poor flushing characteristics.

APPENDIX TABLE C-3 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

OCEAN/COASTAL AREA (BASIN CODE: 02-13-01)

STATE SEGMENT NUMBER: -03

SEGMENT NAME: Isle of Wight Bay

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	11.0	5.7	0.0	2203.0	0.0
TOTAL:	11.0	5.7	0.0	2203.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Municipal discharge, agricultural runoff.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Water quality degraded in restricted waterways due to poor flushing characteristics. Bishopville Pond (5.7 acres) does not have a balanced fish population and does not support the fishable uses due to agricultural runoff, upstream sources, and point source discharges (municipal discharges and past industrial discharges). Shellfish harvesting areas in St. Martin River and in Herring and Turville Creeks are restricted.

STATE SEGMENT NUMBER: -04

SEGMENT NAME: Sinepuxent Bay Area

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	10.0	0.0	0.0	1652.0	0.0
TOTAL:	10.0	0.0	0.0	1652.0	0.0

USE CLASSIFICATION: Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

APPENDIX TABLE C-3 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

OCEAN/COASTAL AREA (BASIN CODE: 02-13-01)

STATE SEGMENT NUMBER: -05 SEGMENT NAME: Newport Bay

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	10.0	0.0	0.0	3764.0	0.0
TOTAL:	10.0	0.0	0.0	3764.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Organic enrichment.

SOURCE OF IMPAIRMENT: Municipal discharge.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Water quality in open, tidal waters is excellent, however, in upper tidal and freshwater areas, water quality is degraded.

STATE SEGMENT NUMBER: -06 SEGMENT NAME: Chincoteague Bay

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	14.0	60.2	0.0	11291.0	0.0
TOTAL:	14.0	60.2	0.0	11291.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Agricultural and natural runoff.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Shellfish harvesting areas in portion of Johnson Bay are restricted.

APPENDIX TABLE C-4

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

POCOMOKE RIVER (BASIN CODE: 02-13-02)

STATE SEGMENT NUMBER: -01

SEGMENT NAME: Pocomoke Sound

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	7.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	10924.0	0.0
TOTAL:	7.0	0.0	0.0	10924.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Agricultural and natural runoff.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Shellfish harvesting areas in portions of segment are restricted or conditionally approved.

STATE SEGMENT NUMBER: -02

SEGMENT NAME: Lower Pocomoke River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	10.0	0.0	0.0	0.0	0.0
EVALUATED:	27.0	0.0	0.0	1652.0	0.0
TOTAL:	37.0	0.0	0.0	1652.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Portion of segment is designated as a State Scenic River.

APPENDIX TABLE C-4 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

POCOMOKE RIVER (BASIN CODE: 02-13-02)

STATE SEGMENT NUMBER: -03 SEGMENT NAME: Upper Pocomoke River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	18.0	0.0	0.0	0.0	0.0
TOTAL:	18.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Portion of segment is designated as a State Scenic River.

STATE SEGMENT NUMBER: -04 SEGMENT NAME: Dividing Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	19.0	0.0	0.0	275.0	0.0
TOTAL:	19.0	0.0	0.0	275.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

APPENDIX TABLE C-4 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

POCOMOKE RIVER (BASIN CODE: 02-13-02)

STATE SEGMENT NUMBER: -05

SEGMENT NAME: Nassawango Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	19.0	0.0	0.0	92.0	0.0
TOTAL:	19.0	0.0	0.0	92.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

STATE SEGMENT NUMBER: -06

SEGMENT NAME: Tangier Sound

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	24.0	0.0	0.0	13036.0	0.0
TOTAL:	24.0	0.0	0.0	13036.0	0.0

USE CLASSIFICATION: Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Agricultural and natural runoff.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Shellfish harvesting areas in portions of segment are restricted or conditionally approved.

APPENDIX TABLE C-4 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

POCOMOKE RIVER (BASIN CODE: 02-13-02)

STATE SEGMENT NUMBER: -07

SEGMENT NAME: Big Annesmessex River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	16.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	6334.0	0.0
TOTAL:	16.0	0.0	0.0	6334.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Agricultural and natural runoff.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Shellfish harvesting areas in portions of segment are restricted or conditionally approved.

STATE SEGMENT NUMBER: -08

SEGMENT NAME: Manokin River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	19.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	13043.0	0.0
TOTAL:	19.0	0.0	0.0	13043.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Agricultural and natural runoff.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Shellfish harvesting areas in portions of segment are restricted or conditionally approved.

APPENDIX TABLE C-5

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

NANTICOKE/WICOMICO RIVER (BASIN CODE: 02-13-03)

STATE SEGMENT NUMBER: -01

SEGMENT NAME: Lower Wicomico River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	7.0	0.0	0.0	0.0	0.0
EVALUATED:	15.0	171.0	0.0	7987.0	0.0
TOTAL:	22.0	171.0	0.0	7987.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Organic enrichment, nutrients, bacteria.

SOURCE OF IMPAIRMENT: Agriculture, urban and natural runoff.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Shellfish harvesting areas in lower portion of segment are conditionally approved while in the upper portion, these areas are restricted.

STATE SEGMENT NUMBER: -02

SEGMENT NAME: Monie Bay

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	15.0	0.0	0.0	6426.0	0.0
TOTAL:	15.0	0.0	0.0	6426.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Agriculture, natural runoff.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Portion of this watershed is a National Estuarine Sanctuary area and is administered by the State and U.S. Department of Interior. Shellfish harvesting areas are conditionally approved.

APPENDIX TABLE C-5 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

NANTICOKE/WICOMICO RIVER (BASIN CODE: 02-13-03)

STATE SEGMENT NUMBER: -03 SEGMENT NAME: Wicomico Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	13.0	35.8	0.0	551.0	0.0
TOTAL:	13.0	35.8	0.0	551.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

STATE SEGMENT NUMBER: -04 SEGMENT NAME: Wicomico River Headwaters

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	10.0	149.9	0.0	0.0	0.0
TOTAL:	10.0	149.9	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Urban runoff.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Bathing area of Johnson Pond closed to swimming (approximately 1.5 acres) due to elevated bacterial levels.

APPENDIX TABLE C-5 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

NANTICOKE/WICOMICO RIVER (BASIN CODE: 02-13-03)

STATE SEGMENT NUMBER: -05

SEGMENT NAME: Nanticoke River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	33.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	56.3	0.0	20839.0	0.0
TOTAL:	33.0	56.3	0.0	20839.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Agriculture, natural runoff.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Shellfish harvesting areas in lower portion of segment are conditionally approved.

STATE SEGMENT NUMBER: -06

SEGMENT NAME: Marshyhope Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	26.0	49.4	0.0	3029.0	0.0
TOTAL:	26.0	49.4	0.0	3029.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

APPENDIX TABLE C-5 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

NANTICOKE/WICOMICO RIVER (BASIN CODE: 02-13-03)

STATE SEGMENT NUMBER: -07 SEGMENT NAME: Fishing Bay

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	11.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	44615.0	0.0
TOTAL:	11.0	0.0	0.0	44615.0	0.0

USE CLASSIFICATION: Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

STATE SEGMENT NUMBER: -08 SEGMENT NAME: Transquaking River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	26.0	0.0	0.0	13586.0	0.0
TOTAL:	26.0	0.0	0.0	13586.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

APPENDIX TABLE C-6

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

CHOPTANK RIVER (BASIN CODE: 02-13-04)

STATE SEGMENT NUMBER: -01

SEGMENT NAME: Honga River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	17.0	0.0	0.0	14045.0	0.0
TOTAL:	17.0	0.0	0.0	14045.0	0.0

USE CLASSIFICATION: Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Land disposal.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Shellfish harvesting areas are restricted.

STATE SEGMENT NUMBER: -02

SEGMENT NAME: Little Choptank River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	13.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	5141.0	0.0
TOTAL:	13.0	0.0	0.0	5141.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Agriculture, natural runoff, land disposal.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Shellfish harvesting areas in tributary portions are restricted (Church Creek) or conditionally approved.

APPENDIX TABLE C-6 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

CHOPTANK RIVER (BASIN CODE: 02-13-04)

STATE SEGMENT NUMBER: -03

SEGMENT NAME: Lower Choptank River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	19.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	1561.0	0.0
TOTAL:	19.0	0.0	0.0	1561.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Bacteria, nutrients.

SOURCE OF IMPAIRMENT: Municipal discharge, combined sewer overflow, agriculture, natural runoff, land disposal.

WATER QUALITY TREND: Estuarine trend analysis not available in this report.

COMMENTS: Shellfish harvesting areas in numerous tributaries and in the upstream portion of the mainstem river above Cambridge are restricted; other tributary areas are conditionally approved.

STATE SEGMENT NUMBER: -04

SEGMENT NAME: Upper Choptank River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	41.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	5416.0	0.0
TOTAL:	41.0	0.0	0.0	5416.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: CH00626 Total phosphorus - no trend
Total nitrogen - no trend

APPENDIX TABLE C-6 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

CHOPTANK RIVER (BASIN CODE: 02-13-04)

STATE SEGMENT NUMBER: -05

SEGMENT NAME: Tuckahoe Creek

	RIVER (mf)	LAKE (ac)	ESTUARY (mf ²)	WETLAND (ac)	OCEAN (mf)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	21.0	86.0	0.0	734.0	0.0
TOTAL:	21.0	86.0	0.0	734.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

APPENDIX TABLE C-7

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

CHESTER RIVER (BASIN CODE: 02-13-05)

STATE SEGMENT NUMBER: -01 SEGMENT NAME: Eastern Bay

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	12.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	92.0	0.0
TOTAL:	12.0	0.0	0.0	92.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Agricultural, urban and natural runoff.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Shellfish harvesting areas in tributaries are restricted or are conditionally approved.

STATE SEGMENT NUMBER: -02 SEGMENT NAME: Miles River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	16.0	0.0	0.0	0.0	0.0
TOTAL:	16.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Agricultural and natural runoff, land disposal.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Shellfish harvesting areas in the upper mainstem and tributaries are restricted.

APPENDIX TABLE C-7 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

CHESTER RIVER (BASIN CODE: 02-13-05)

STATE SEGMENT NUMBER: -03

SEGMENT NAME: Wye River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	13.0	61.5	0.0	0.0	0.0
TOTAL:	13.0	61.5	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Agricultural and natural runoff, land disposal.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Shellfish harvesting areas in the upper reaches of the segment are conditionally approved. One small area is restricted near County Wharf.

STATE SEGMENT NUMBER: -04

SEGMENT NAME: Kent Narrows/Prospect Bay

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	6.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	918.0	0.0
TOTAL:	6.0	0.0	0.0	918.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Agricultural and natural runoff, land disposal.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Shellfish harvesting areas in portions of the segment are restricted or conditionally approved.

APPENDIX TABLE C-7 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

CHESTER RIVER (BASIN CODE: 02-13-05)

STATE SEGMENT NUMBER: -05 SEGMENT NAME: Lower Chester River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	24.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	3029.0	0.0
TOTAL:	24.0	0.0	0.0	3029.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Agricultural and natural runoff.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Shellfish harvesting areas in some tributaries and in the upper mainstem portions of the segment are restricted or conditionally approved.

STATE SEGMENT NUMBER: -06 SEGMENT NAME: Langford Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	10.0	0.0	0.0	0.0	0.0
TOTAL:	10.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Agricultural and natural runoff.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Shellfish harvesting areas in the upper reaches of the segment are conditionally approved.

APPENDIX TABLE C-7 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

CHESTER RIVER (BASIN CODE: 02-13-05)

STATE SEGMENT NUMBER: -07

SEGMENT NAME: Corsica River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	13.0	0.0	0.0	0.0	0.0
TOTAL:	13.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

STATE SEGMENT NUMBER: -08

SEGMENT NAME: Southeast Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	14.0	0.0	0.0	367.0	0.0
TOTAL:	14.0	0.0	0.0	367.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Agricultural and natural runoff.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Shellfish harvesting areas in this segment are conditionally approved.

APPENDIX TABLE C-7 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

CHESTER RIVER (BASIN CODE: 02-13-05)

STATE SEGMENT NUMBER: -09 SEGMENT NAME: Middle Chester River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	13.0	35.0	0.0	551.0	0.0
TOTAL:	13.0	35.0	0.0	551.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

STATE SEGMENT NUMBER: -10 SEGMENT NAME: Upper Chester River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	19.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	48.0	0.0	275.0	0.0
TOTAL:	19.0	48.0	0.0	275.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

APPENDIX TABLE C-7 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

CHESTER RIVER (BASIN CODE: 02-13-05)

STATE SEGMENT NUMBER: -11

SEGMENT NAME: Kent Island/Bay Area

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	22.0	0.0	0.0	367.0	0.0
TOTAL:	22.0	0.0	0.0	367.0	0.0

USE CLASSIFICATION: Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

APPENDIX TABLE C-8

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

ELK RIVER (BASIN CODE: 02-13-06)

STATE SEGMENT NUMBER: -01 SEGMENT NAME: Lower Elk River Mainstem

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	9.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	734.0	0.0
TOTAL:	9.0	0.0	0.0	734.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Municipal discharge.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Swimming area closed after a discharge of sewage from a pumping station until the situation was corrected.

STATE SEGMENT NUMBER: -02 SEGMENT NAME: Bohemia River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	16.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	28.7	0.0	275.0	0.0
TOTAL:	16.0	28.7	0.0	275.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

APPENDIX TABLE C-8 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

ELK RIVER (BASIN CODE: 02-13-06)

STATE SEGMENT NUMBER: -03

SEGMENT NAME: Upper Elk River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	10.0	0.0	0.0	643.0	0.0
TOTAL:	10.0	0.0	0.0	643.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

STATE SEGMENT NUMBER: -04

SEGMENT NAME: Back Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	6.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	92.0	0.0
TOTAL:	6.0	0.0	0.0	92.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

APPENDIX TABLE C-8 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

ELK RIVER (BASIN CODE: 02-13-06)

STATE SEGMENT NUMBER: -05

SEGMENT NAME: Little Elk Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	13.0	0.0	0.0	0.0	0.0
TOTAL:	13.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

STATE SEGMENT NUMBER: -06

SEGMENT NAME: Big Elk Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	11.0	0.0	0.0	0.0	0.0
TOTAL:	11.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

APPENDIX TABLE C-8 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

ELK RIVER (BASIN CODE: 02-13-06)

STATE SEGMENT NUMBER: -07

SEGMENT NAME: Christina River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	4.0	0.0	0.0	0.0	0.0
TOTAL:	4.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: This watershed is actually part of the Delaware River drainage.

STATE SEGMENT NUMBER: -08

SEGMENT NAME: Northeast River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	14.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	0.0	0.0
TOTAL:	14.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

APPENDIX TABLE C-8 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

ELK RIVER (BASIN CODE: 02-13-06)

STATE SEGMENT NUMBER: -09 SEGMENT NAME: Furnace Bay

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	13.0	0.0	0.0	0.0	0.0
TOTAL:	13.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting
Class III - Natural trout

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

STATE SEGMENT NUMBER: -10 SEGMENT NAME: Sassafras River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	19.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	459.0	0.0
TOTAL:	19.0	0.0	0.0	459.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

APPENDIX TABLE C-8 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

ELK RIVER (BASIN CODE: 02-13-06)

STATE SEGMENT NUMBER: -11

SEGMENT NAME: Still Pond - Fairlee Area

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	22.0	0.0	0.0	551.0	0.0
TOTAL:	22.0	0.0	0.0	551.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

APPENDIX TABLE C-9

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

BUSH RIVER (BASIN CODE: 02-13-07)

STATE SEGMENT NUMBER: -01 SEGMENT NAME: Bush River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	11.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	826.0	0.0
TOTAL:	11.0	0.0	0.0	826.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Urban runoff, land disposal.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Two miles of the mainstem river are closed to swimming due to elevated bacterial levels.

STATE SEGMENT NUMBER: -02 SEGMENT NAME: Lower Winters Run

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	6.0	7.2	0.0	92.0	0.0
TOTAL:	6.0	7.2	0.0	92.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

APPENDIX TABLE C-9 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

BUSH RIVER (BASIN CODE: 02-13-07)

STATE SEGMENT NUMBER: -03

SEGMENT NAME: Atkisson Reservoir

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	14.0	0.0	0.0	0.0	0.0
TOTAL:	14.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class IV - Recreational trout

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Reservoir serves as water supply storage for U.S. Army-Aberdeen Proving Grounds. Useable volume has been dramatically reduced due to sedimentation from urbanizing Bel Air area above reservoir. Impoundment is not included in the State's lake inventory as it does not provide public access.

STATE SEGMENT NUMBER: -04

SEGMENT NAME: Bynum Run

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	14.0	0.0	0.0	0.0	0.0
TOTAL:	14.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class III - Natural trout

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

APPENDIX TABLE C-9 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

BUSH RIVER (BASIN CODE: 02-13-07)

STATE SEGMENT NUMBER: -05 SEGMENT NAME: Aberdeen Proving Grounds

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	13.0	0.0	0.0	4498.0	0.0
TOTAL:	13.0	0.0	0.0	4498.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

STATE SEGMENT NUMBER: -06 SEGMENT NAME: Swan Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	11.0	0.0	0.0	0.0	0.0
TOTAL:	11.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Portion of watershed designated as "critical habitat" by the U.S. Fish and Wildlife Service for endangered Maryland darter.

APPENDIX TABLE C-10

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

GUNPOWDER RIVER (BASIN CODE: 02-13-08)

STATE SEGMENT NUMBER: -01

SEGMENT NAME: Gunpowder River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	8.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	1561.0	0.0
TOTAL:	8.0	0.0	0.0	1561.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

STATE SEGMENT NUMBER: -02

SEGMENT NAME: Lower Gunpowder Falls

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	14.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	275.0	0.0
TOTAL:	14.0	0.0	0.0	275.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class III - Natural trout

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: GUN0125 Total suspended solids - no trend
Total phosphorus - no trend
Total nitrogen - no trend
Fecal coliform bacteria - no trend

APPENDIX TABLE C-10 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

GUNPOWDER RIVER (BASIN CODE: 02-13-08)

STATE SEGMENT NUMBER: -03

SEGMENT NAME: Bird River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	12.0	0.0	0.0	184.0	0.0
TOTAL:	12.0	0.0	0.0	184.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class IV - Recreational trout

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

STATE SEGMENT NUMBER: -04

SEGMENT NAME: Little Gunpowder Falls

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	25.0	0.0	0.0	275.0	0.0
TOTAL:	25.0	0.0	0.0	275.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class III - Natural trout

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

APPENDIX TABLE C-10 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

GUNPOWDER RIVER (BASIN CODE: 02-13-08)

STATE SEGMENT NUMBER: -05

SEGMENT NAME: Loch Raven Reservoir

	RIVER (mf)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	26.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	2400.0	0.0	0.0	0.0
TOTAL:	26.0	2400.0	0.0	0.0	0.0

USE CLASSIFICATION: Class III - Natural trout

CAUSE OF IMPAIRMENT: Nutrients.

SOURCE OF IMPAIRMENT: Agricultural, urban and natural runoff.

WATER QUALITY TREND: GUN0237 Total phosphorus - no trend
Total nitrogen - increasing trend, not significant
Fecal coliform bacteria - no trend

GUN0258 Total phosphorus - no trend
Total nitrogen - increasing trend, significant
Fecal coliform bacteria - no trend

COMMENTS: Reservoir (about 2400 acres) is part of municipal water supply system for Baltimore area. Excessive nutrients from upstream sources cause algal blooms and impact water supplies.

STATE SEGMENT NUMBER: -06

SEGMENT NAME: Prettyboy Reservoir

	RIVER (mf)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	13.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	1500.0	0.0	0.0	0.0
TOTAL:	13.0	1500.0	0.0	0.0	0.0

USE CLASSIFICATION: Class III - Natural trout

CAUSE OF IMPAIRMENT: Nutrients.

SOURCE OF IMPAIRMENT: Agricultural, urban and natural runoff.

WATER QUALITY TREND: GUN0476 Total phosphorus - no trend
Total nitrogen - increasing trend, significant

COMMENTS: Reservoir (about 3106 acres) is part of municipal water supply system for Baltimore area.

APPENDIX TABLE C-10 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

GUNPOWDER RIVER (BASIN CODE: 02-13-08)

STATE SEGMENT NUMBER: -07

SEGMENT NAME: Middle River/Browns Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	4.0	0.0	0.0	0.0	0.0
TOTAL:	4.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

APPENDIX TABLE C-11

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

PATAPSCO RIVER (BASIN CODE: 02-13-09)

STATE SEGMENT NUMBER: -01

SEGMENT NAME: Back River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	9.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	551.0	0.0
TOTAL:	9.0	0.0	0.0	551.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class IV - Recreational trout

CAUSE OF IMPAIRMENT: Organic enrichment, pesticides.

SOURCE OF IMPAIRMENT: Municipal discharge, urban and natural runoff.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Tidal portion receives about 80 MGD discharge from Back River Wastewater Treatment Plant. Certain fish species in Back River have been identified as having elevated levels of the pesticide chlordane in their tissues and the tidal portion is listed in a broad fish consumption advisory.

STATE SEGMENT NUMBER: -02

SEGMENT NAME: Bodkin Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	5.0	0.0	0.0	0.0	0.0
TOTAL:	5.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: Organic enrichment.

SOURCE OF IMPAIRMENT: Urban runoff.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Chronic algal blooms and fish kills occur in Bodkin Creek.

APPENDIX TABLE C-11 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

PATAPSCO RIVER (BASIN CODE: 02-13-09)

STATE SEGMENT NUMBER: -03

SEGMENT NAME: Baltimore Harbor

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	11.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	459.0	0.0
TOTAL:	11.0	0.0	0.0	459.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: Organic enrichment, nutrients, bacteria, pesticides.

SOURCE OF IMPAIRMENT: Urban runoff.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Certain fish species in Baltimore Harbor have been identified as having elevated levels of the pesticide chlordane in their tissues and the mainstem harbor area is listed in a broad fish consumption advisory. A number of creeks in the southern portion of the Harbor area are closed to swimming due to elevated bacterial levels from urban runoff.

APPENDIX TABLE C-11 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

PATAPSCO RIVER (BASIN CODE: 02-13-09)

STATE SEGMENT NUMBER: -04

SEGMENT NAME: Jones Falls

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	18.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	100.0	0.0	0.0	0.0
TOTAL:	18.0	100.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class III - Natural trout
Class IV - Recreational trout

CAUSE OF IMPAIRMENT: Bacteria, pesticide.

SOURCE OF IMPAIRMENT: Urban runoff.

WATER QUALITY TREND: JON0023 Total suspended solids - decreasing trend, not significant
Fecal coliform bacteria - decreasing trend, significant

JON0034 Total suspended solids - decreasing trend, not significant
Fecal coliform bacteria - decreasing trend, significant

JON0074 Total suspended solids - no trend
Fecal coliform bacteria - no trend

JON0184 Total suspended solids - no trend
Total phosphorus - no trend
Total nitrogen- increasing trend, significant
Fecal coliform bacteria - no trend

COMMENTS: Certain fish species in Lake Roland have been identified as having elevated levels of the pesticide chlordane in their tissues and the lake is listed in a broad fish consumption advisory (about 100 acres).

APPENDIX TABLE C-11 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

PATAPSCO RIVER (BASIN CODE: 02-13-09)

STATE SEGMENT NUMBER: -05

SEGMENT NAME: Gwynns Falls

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	24.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	0.0	0.0
TOTAL:	24.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class III - Natural trout
Class IV - Recreational trout

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Urban runoff.

WATER QUALITY TREND: GWN0022 Total suspended solids - decreasing trend, not significant
Fecal coliform bacteria - decreasing trend, significant

GWN0054 Total suspended solids - no trend
Fecal coliform bacteria - no trend

GWN0075 Total suspended solids - no trend
Fecal coliform bacteria - no trend

GWN0115 Total suspended solids - no trend
Total phosphorus - no trend
Total nitrogen- increasing trend, significant
Fecal coliform bacteria - no trend

COMMENTS: Baltimore City and citizens group (Save Our Streams) are involved in a restoration effort in the lower portion of the watershed.

APPENDIX TABLE C-11 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

PATAPSCO RIVER (BASIN CODE: 02-13-09)

STATE SEGMENT NUMBER: -06

SEGMENT NAME: Mainstem and Lower North Branch Patapsco River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	29.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	643.0	0.0
TOTAL:	29.0	0.0	0.0	643.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class III - Natural trout

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: PAT0176 Total suspended solids - no trend
Total phosphorus - no trend
Total nitrogen- increasing trend, significant
Fecal coliform bacteria - increasing trend, not significant

PAT0285 Total suspended solids - no trend
Total phosphorus - increasing trend, significant
Total nitrogen- increasing trend, significant
Fecal coliform bacteria - no trend

APPENDIX TABLE C-11 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

PATAPSCO RIVER (BASIN CODE: 02-13-09)

STATE SEGMENT NUMBER: -07 SEGMENT NAME: Liberty Reservoir

	RIVER (m1)	LAKE (ac)	ESTUARY (m1 ²)	WETLAND (ac)	OCEAN (m1)
MONITORED:	17.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	3106.0	0.0	0.0	0.0
TOTAL:	17.0	3106.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class III - Natural trout
Class IV - Recreational trout

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: NPA0165 Total suspended solids - decreasing trend, not significant
Total phosphorus - no trend
Total nitrogen- increasing trend, significant
Fecal coliform bacteria - decreasing trend, significant

COMMENTS: The reservoir is part of the municipal water supply system for the Baltimore area.

STATE SEGMENT NUMBER: -08 SEGMENT NAME: South Branch Patapsco River

	RIVER (m1)	LAKE (ac)	ESTUARY (m1 ²)	WETLAND (ac)	OCEAN (m1)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	19.0	298.0	0.0	0.0	0.0
TOTAL:	19.0	298.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class IV - Recreational trout

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: A water quality study is being conducted in the Piney Run Reservoir by the City of Baltimore.

APPENDIX TABLE C-12

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

WEST CHESAPEAKE (BASIN CODE: 02-13-10)

STATE SEGMENT NUMBER: -01

SEGMENT NAME: Magothy River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	11.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	12.0	0.0	0.0	0.0
TOTAL:	11.0	12.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Nutrients, bacteria.

SOURCE OF IMPAIRMENT: Urban and natural runoff.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Chronic dinoflagellate bloom during summer ("mahogany tide"). Shellfish harvesting areas in some tributaries and in the upper mainstem river are restricted.

STATE SEGMENT NUMBER: -02

SEGMENT NAME: Severn River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	22.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	92.0	0.0
TOTAL:	22.0	0.0	0.0	92.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting
Class III - Natural trout
Class IV - Recreational trout

CAUSE OF IMPAIRMENT: Nutrients, bacteria.

SOURCE OF IMPAIRMENT: Urban and natural runoff.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: The river is classified as one of the State's Scenic Rivers. Chronic dinoflagellate bloom during summer ("mahogany tide"). Shellfish harvesting areas in the upper and in the lower mainstem river and tributaries are restricted. River is designated as a State Scenic River.

APPENDIX TABLE C-12 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

WEST CHESAPEAKE (BASIN CODE: 02-13-10)

STATE SEGMENT NUMBER: -03

SEGMENT NAME: South River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	16.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	0.0	0.0
TOTAL:	16.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Nutrients, bacteria.

SOURCE OF IMPAIRMENT: Agricultural, urban and natural runoff.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Chronic dinoflagellate bloom during summer ("mahogany tide"). Shellfish harvesting areas in the upper mainstem river and some tributaries are restricted. Areas in the middle portion of the segment are conditionally approved.

STATE SEGMENT NUMBER: -04

SEGMENT NAME: West River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	6.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	187.0	0.0
TOTAL:	6.0	0.0	0.0	187.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Nutrients, bacteria.

SOURCE OF IMPAIRMENT: Agricultural and natural runoff, land disposal.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Chronic dinoflagellate bloom during summer ("mahogany tide"). Shellfish harvesting areas in the upper mainstem river and tributaries are restricted. Areas in the open West and Rhode Rivers are conditionally approved.

APPENDIX TABLE C-12 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

WEST CHESAPEAKE (BASIN CODE: 02-13-10)

STATE SEGMENT NUMBER: -05

SEGMENT NAME: Other West Chesapeake Bay Drainage

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	42.0	0.0	0.0	1928.0	0.0
TOTAL:	42.0	0.0	0.0	1928.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Municipal discharge, agricultural and natural runoff.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Swimming area closed in Herring Bay due to elevated bacterial levels. Shellfish harvesting areas in the restricted tributaries (Tracy and Rockhold Creeks) are restricted.

APPENDIX TABLE C-13

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

PATUXENT RIVER (BASIN CODE: 02-13-11)

STATE SEGMENT NUMBER: -01 SEGMENT NAME: Patuxent River Mainstem - Mouth to Ferry Landing

	RIVER (m1)	LAKE (ac)	ESTUARY (m12)	WETLAND (ac)	OCEAN (m1)
MONITORED:	39.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	4774.0	0.0
TOTAL:	39.0	0.0	0.0	4774.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Organic enrichment, nutrients, bacteria.

SOURCE OF IMPAIRMENT: Municipal discharge, agricultural, urban and natural runoff, land disposal.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Chronic algal blooms and low dissolved oxygen areas in upper tidal mainstem area are due to elevated nutrient loads from upstream municipal discharges. Shellfish harvesting areas in several tributaries are restricted or conditionally approved. Areas in the middle portion of the mainstem river are conditionally approved; the upper portion is restricted. Swimming is not advised in several areas near marinas in the Benedict area due to elevated bacterial levels.

STATE SEGMENT NUMBER: -02 SEGMENT NAME: Patuxent River Mainstem - Ferry Landing to Route 214

	RIVER (m1)	LAKE (ac)	ESTUARY (m1 ²)	WETLAND (ac)	OCEAN (m1)
MONITORED:	18.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	2570.0	0.0
TOTAL:	18.0	0.0	0.0	2570.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

APPENDIX TABLE C-13 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

PATUXENT RIVER (BASIN CODE: 02-13-11)

STATE SEGMENT NUMBER: -03

SEGMENT NAME: Western Branch

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	16.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	9.5	0.0	275.0	0.0
TOTAL:	16.0	9.5	0.0	275.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: Nutrients, sediments.

SOURCE OF IMPAIRMENT: Municipal discharge, agricultural and urban runoff.

WATER QUALITY TREND: Insufficient data available for trend analysis.

STATE SEGMENT NUMBER: -04

SEGMENT NAME: Patuxent River Mainstem - Route 214 to Rocky Gorge Dam

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	24.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	7.2	0.0	0.0	0.0
TOTAL:	24.0	7.2	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: Nutrients.

SOURCE OF IMPAIRMENT: Municipal discharge, agricultural runoff.

WATER QUALITY TREND: PXT0603 Total suspended solids - decreasing trend, not significant
Fecal coliform bacteria - increasing trend, significant

PXT0809 Total suspended solids - no trend
Fecal coliform bacteria - increasing trend, not significant

APPENDIX TABLE C-13 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

PATUXENT RIVER (BASIN CODE: 02-13-11)

STATE SEGMENT NUMBER: -05 SEGMENT NAME: Little Patuxent River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	35.0	50.0	0.0	0.0	0.0
TOTAL:	35.0	50.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: Nutrients.

SOURCE OF IMPAIRMENT: Municipal discharge, agricultural runoff.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Municipal discharges constitute a significant portion of the total streamflow in this segment.

STATE SEGMENT NUMBER: -06 SEGMENT NAME: Middle Patuxent River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	24.0	179.0	0.0	0.0	0.0
TOTAL:	24.0	179.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

APPENDIX TABLE C-13 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

PATUXENT RIVER (BASIN CODE: 02-13-11)

STATE SEGMENT NUMBER: -07

SEGMENT NAME: Rocky Gorge Reservoir

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	14.0	773.0	0.0	0.0	0.0
TOTAL:	14.0	773.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class IV - Recreational trout

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: The T. Howard Duckett Reservoir in the lower portion of this segment is part of the Washington suburban water supply system. The State is participating in a study of artificial destratification in the reservoir with the Washington Suburban Sanitary Commission.

STATE SEGMENT NUMBER: -08

SEGMENT NAME: Patuxent River above Brighton Dam

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	17.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	800.0	0.0	92.0	0.0
TOTAL:	17.0	800.0	0.0	92.0	0.0

USE CLASSIFICATION: Class III - Natural trout
Class IV - Recreational trout

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: PXT0972 Total phosphorus - increasing trend, significant
Total nitrogen - increasing trend, significant
Fecal coliform bacteria - increasing trend, not significant

COMMENTS: The Tridelphia Reservoir in the lower portion of this segment is part of the Washington suburban water supply system.

APPENDIX TABLE C-14

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

CHESAPEAKE BAY (BASIN CODE: 02-13-99)

STATE SEGMENT NUMBER: -96

SEGMENT NAME: Upper Chesapeake Bay

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	385.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	184.0	0.0
TOTAL:	0.0	0.0	385.0	184.0	0.0

USE CLASSIFICATION: Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Organic enrichment, nutrients, bacteria.

SOURCE OF IMPAIRMENT: Municipal discharge, agricultural, urban and natural runoff, land disposal.

WATER QUALITY TREND: Estuarine trend analysis not available in this report.

COMMENTS: The entire segment is restricted to shellfish harvesting, however, the closure is not based on poor water quality. This technical harvesting restriction is based on a lack of a harvestable resource which, as a consequence, does not justify a routine shellfish monitoring program that is required for approving shellfish harvesting areas.

STATE SEGMENT NUMBER: -97

SEGMENT NAME: Middle Chesapeake Bay

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	403.0	0.0	0.0
TOTAL:	0.0	0.0	403.0	0.0	0.0

USE CLASSIFICATION: Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Organic enrichment, nutrients, bacteria.

SOURCE OF IMPAIRMENT: Municipal discharge, agricultural, urban and natural runoff, land disposal.

WATER QUALITY TREND: Estuarine trend analysis not available in this report.

COMMENTS: Entrance to Baltimore Harbor (Patapsco River) is restricted to shellfish harvesting. Seasonal algal blooms and menhaden kills are reported, neither of which directly affect water quality. Seasonally low dissolved oxygen conditions occur in deeper portions of the segment.

APPENDIX TABLE C-14 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

CHESAPEAKE BAY (BASIN CODE: 02-13-99)

STATE SEGMENT NUMBER: -98

SEGMENT NAME: Lower Chesapeake Bay

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	1192.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	184.0	0.0
TOTAL:	0.0	0.0	1192.0	184.0	0.0

USE CLASSIFICATION: Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Organic enrichment, nutrients, bacteria.

SOURCE OF IMPAIRMENT: Municipal discharge, agricultural, urban and natural runoff, land disposal.

WATER QUALITY TREND: Estuarine trend analysis not available in this report.

COMMENTS: Seasonally low dissolved oxygen conditions occur in deeper portions of the Bay during summer as a result of organic enrichment. Swimming off Herring Bay is restricted due to elevated bacterial levels.

APPENDIX TABLE C-15

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

LOWER POTOMAC RIVER (BASIN CODE: 02-14-01)

STATE SEGMENT NUMBER: -01 SEGMENT NAME: Potomac River - Smith Point to Mouth

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	66.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	1193.0	0.0
TOTAL:	66.0	0.0	0.0	1193.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Agricultural, urban and natural runoff, land disposal.

WATER QUALITY TREND: Estuarine trend analysis not available in this report.

COMMENTS: Shellfish harvesting areas in several restricted tributaries of this segment are restricted.
Swimming is not advised along several beach areas in this segment due to elevated bacterial levels.

STATE SEGMENT NUMBER: -02 SEGMENT NAME: Potomac River - Marshall Hall to Smith Point

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	24.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	551.0	0.0
TOTAL:	24.0	0.0	0.0	551.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Land disposal.

WATER QUALITY TREND: Estuarine trend analysis not available in this report.

COMMENTS: Hydrilla growth in lower portion of segment has improved water clarity and provided aquatic habitat for sportfish. Swimming is not advised in several areas in the mainstem river due to elevated bacterial levels.

APPENDIX TABLE C-15 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

LOWER POTOMAC RIVER (BASIN CODE: 02-14-01)

STATE SEGMENT NUMBER: -03

SEGMENT NAME: St. Mary's River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	18.0	250.0	0.0	184.0	0.0
TOTAL:	18.0	250.0	0.0	184.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Agricultural, urban and natural runoff.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Shellfish harvesting areas in some tributaries and in the upper mainstem river in this segment are conditionally approved. Swimming is not advised along several beach areas in this segment due to elevated bacterial levels.

STATE SEGMENT NUMBER: -04

SEGMENT NAME: Breton Bay

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	15.0	0.0	0.0	0.0	0.0
TOTAL:	15.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Agricultural and natural runoff.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Shellfish harvesting areas in the upper 2/3 of the mainstem area are restricted or conditionally approved.

APPENDIX TABLE C-15 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

LOWER POTOMAC RIVER (BASIN CODE: 02-14-01)

STATE SEGMENT NUMBER: -05

SEGMENT NAME: St. Clements Bay

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	15.0	0.0	0.0	184.0	0.0
TOTAL:	15.0	0.0	0.0	184.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Agricultural and natural runoff.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Shellfish harvesting areas in some tributaries and in the upper mainstem portion are conditionally approved.

STATE SEGMENT NUMBER: -06

SEGMENT NAME: Wiconico River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	15.0	0.0	0.0	2570.0	0.0
TOTAL:	15.0	0.0	0.0	2570.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Agricultural and natural runoff.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Shellfish harvesting areas in some tributaries are restricted; the upper mainstem portion is conditionally approved.

APPENDIX TABLE C-15 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

LOWER POTOMAC RIVER (BASIN CODE: 02-14-01)

STATE SEGMENT NUMBER: -07

SEGMENT NAME: Gilbert Swamp

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	12.0	59.0	0.0	0.0	0.0
TOTAL:	12.0	59.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

STATE SEGMENT NUMBER: -08

SEGMENT NAME: Zekiah Swamp

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	22.0	0.0	0.0	92.0	0.0
TOTAL:	22.0	0.0	0.0	92.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Watershed is designated as a State Scenic River.

APPENDIX TABLE C-15 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

LOWER POTOMAC RIVER (BASIN CODE: 02-14-01)

STATE SEGMENT NUMBER: -09 SEGMENT NAME: Port Tobacco River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	13.0	0.0	0.0	367.0	0.0
TOTAL:	13.0	0.0	0.0	367.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Land disposal.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Swimming is not advised in one area due to elevated bacterial levels near a marina.

STATE SEGMENT NUMBER: -10 SEGMENT NAME: Nanjemoy Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	19.0	0.0	0.0	1928.0	0.0
TOTAL:	19.0	0.0	0.0	1928.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class II - Shellfish harvesting

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Land disposal.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Swimming is not advised in one area due to elevated bacterial levels near a marina.

APPENDIX TABLE C-15 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

LOWER POTOMAC RIVER (BASIN CODE: 02-14-01)

STATE SEGMENT NUMBER: -11

SEGMENT NAME: Mattawoman Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	30.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	23.0	0.0	643.0	0.0
TOTAL:	30.0	23.0	0.0	643.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Land disposal.

WATER QUALITY TREND: MAT0078 Total suspended solids - increasing trend, significant
Total phosphorus - no trend
Total nitrogen- increasing trend, significant

COMMENTS: Swimming not advised in several areas due to elevated bacterial levels near marinas.

APPENDIX TABLE C-16

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

POTOMAC RIVER - WASHINGTON METROPOLITAN AREA (BASIN CODE: 02-14-01)

STATE SEGMENT NUMBER: -01

SEGMENT NAME: Potomac River - Marshall Hall to Chain Bridge (not including District of Columbia waters)

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	10.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	0.0	0.0
TOTAL:	10.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: Nutrients.

SOURCE OF IMPAIRMENT: Municipal discharges, combined sewer overflows, urban runoff (all upstream).

WATER QUALITY TREND: Estuarine trend analysis not available in this report.

COMMENTS: Hydrilla growth in lower portion of segment has improved water clarity and provided aquatic habitat (improved sportfishing). State phosphorus ban has decreased operating costs in treating State sewage at the Blue Plains Wastewater Treatment Plant which discharges more than 300 MGD into the portion of the river under the jurisdiction of the District of Columbia. Most of this segment lies within the District of Columbia and the mileage was changed from 34 to 10 miles to reflect this.

APPENDIX TABLE C-16 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

POTOMAC RIVER - WASHINGTON METROPOLITAN AREA (BASIN CODE: 02-14-01)

STATE SEGMENT NUMBER: -02

SEGMENT NAME: Potomac River - Monocacy River to Chain Bridge

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	38.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	0.0	0.0
TOTAL:	38.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: Sediments.

SOURCE OF IMPAIRMENT: Agricultural, urban and natural runoff.

WATER QUALITY TREND: POT1184 Total suspended solids - decreasing trend, not significant
Total phosphorus - increasing trend, significant
Total nitrogen - increasing trend, significant

POT1471 Total suspended solids - increasing trend, not significant
Total phosphorus - increasing trend, significant
Total nitrogen - increasing trend, significant

COMMENTS: Variation in suspended sediment trend results may be due to sample station location. Little Falls station (POT1184) is located at the shore upstream of wing dam. White's Ferry station (POT1471) is located in free-flowing portion of river one-third of the distance across (sample collected from ferry). Portion of this segment is designated as a State Scenic River.

APPENDIX TABLE C-16 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

POTOMAC RIVER - WASHINGTON METROPOLITAN AREA (BASIN CODE: 02-14-01)

STATE SEGMENT NUMBER: -03

SEGMENT NAME: Piscataway Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	17.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	11.0	0.0	0.0	0.0
TOTAL:	17.0	11.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: PIS0033 Total suspended solids - decreasing trend, significant
Total phosphorus - no trend
Total nitrogen - increasing trend, not significant

STATE SEGMENT NUMBER: -04

SEGMENT NAME: Oxon Run

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	9.0	0.0	0.0	92.0	0.0
TOTAL:	9.0	0.0	0.0	92.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: No data available.

APPENDIX TABLE C-16 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

POTOMAC RIVER - WASHINGTON METROPOLITAN AREA (BASIN CODE: 02-14-01)

STATE SEGMENT NUMBER: -05 SEGMENT NAME: Anacostia River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	8.0	0.0	0.0	0.0	0.0
EVALUATED:	20.0	33.1	0.0	184.0	0.0
TOTAL:	28.0	33.1	0.0	184.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class III - Natural trout
Class IV - Recreational trout

CAUSE OF IMPAIRMENT: Sediments.

SOURCE OF IMPAIRMENT: Urban runoff, mining.

WATER QUALITY TREND: ANA0082 Total suspended solids - decreasing trend, not significant
Fecal coliform bacteria - no trend

COMMENTS: Continuing efforts by the District of Columbia and Maryland to curb combined sewer overflow and siltation due to erosion, construction activities and abandoned mining sites.

NOTE: * (Partially in District of Columbia)

STATE SEGMENT NUMBER: -06 SEGMENT NAME: Rock Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	17.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	130.0	0.0	0.0	0.0
TOTAL:	17.0	130.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class III - Natural trout
Class IV - Recreational trout

CAUSE OF IMPAIRMENT: Sediments.

SOURCE OF IMPAIRMENT: Urban and natural runoff, land disposal.

WATER QUALITY TREND: RCM0111 Total suspended solids - decreasing trend, significant
Fecal coliform bacteria - decreasing trend, significant

APPENDIX TABLE C-16 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

POTOMAC RIVER - WASHINGTON METROPOLITAN AREA (BASIN CODE: 02-14-01)

STATE SEGMENT NUMBER: -07 SEGMENT NAME: Cabin John Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	11.0	0.0	0.0	0.0	0.0
TOTAL:	11.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: CJB0005 Total suspended solids - decreasing trend, not significant
Fecal coliform bacteria - no trend

STATE SEGMENT NUMBER: -08 SEGMENT NAME: Seneca Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	11.0	595.0	0.0	0.0	0.0
TOTAL:	11.0	595.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class IV - Recreational trout

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: SEN0008 Total suspended solids - decreasing trend, significant
Fecal coliform bacteria - decreasing trend, significant

APPENDIX TABLE C-17

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

MIDDLE POTOMAC RIVER (BASIN CODE: 02-14-03)

STATE SEGMENT NUMBER: -01

SEGMENT NAME: Potomac River - Shenandoah River to Monocacy River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	19.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	0.0	0.0
TOTAL:	19.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: POT1595 Total suspended solids - decreasing trend, significant
 Total phosphorus - increasing trend, significant
 Total nitrogen - increasing trend, significant
 Fecal coliform bacteria - no trend

POT1596 Total suspended solids - no trend
 Total phosphorus - no trend
 Total nitrogen - no trend
 Fecal coliform bacteria - no trend

COMMENTS: The trend results above show significant differences in water quality on each side of the Potomac River. Station POT1595 is near the Maryland shore of the Potomac River between the Catoctin and Monocacy Rivers. Station POT1596 is near the Virginia shore of the Potomac River and is located significantly downstream of any major river discharges. Portion of river is designated as a State Scenic River.

APPENDIX TABLE C-17 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

MIDDLE POTOMAC RIVER (BASIN CODE: 02-14-03)

STATE SEGMENT NUMBER: -02

SEGMENT NAME: Lower Monocacy River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	24.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	0.0	0.0
TOTAL:	24.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class III - Natural trout
Class IV - Recreational trout

CAUSE OF IMPAIRMENT: Nutrients, sediments.

SOURCE OF IMPAIRMENT: Agricultural runoff.

WATER QUALITY TREND: MON0020 Dissolved oxygen - no trend
Total suspended solids - no trend
Total phosphorus - no trend
Total nitrogen - increasing trend, significant
Fecal coliform bacteria - no trend

MON0155 Dissolved oxygen - no trend
Total suspended solids - no trend
Total phosphorus - no trend
Total nitrogen - no trend
Fecal coliform bacteria - no trend

COMMENTS: River is designated as a State Scenic River.

APPENDIX TABLE C-17 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

MIDDLE POTOMAC RIVER (BASIN CODE: 02-14-03)

STATE SEGMENT NUMBER: -03

SEGMENT NAME: Upper Monocacy River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	34.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	46.0	0.0	0.0	0.0
TOTAL:	34.0	46.0	0.0	0.0	0.0

USE CLASSIFICATION: Class III - Natural trout
Class IV - Recreational trout

CAUSE OF IMPAIRMENT: Nutrients, sediments.

SOURCE OF IMPAIRMENT: Agricultural and urban runoff.

WATER QUALITY TREND: MON0269 Dissolved oxygen - decreasing trend, significant
Total suspended solids - decreasing trend, not significant
Total phosphorus - no trend
Total nitrogen - no trend
Fecal coliform bacteria - no trend

MON0528 Dissolved oxygen - decreasing trend, not significant
Total suspended solids - no trend
Total phosphorus - no trend
Total nitrogen - no trend
Fecal coliform bacteria - no trend

COMMENTS: River is designated as a State Scenic River.

APPENDIX TABLE C-17 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

MIDDLE POTOMAC RIVER (BASIN CODE: 02-14-03)

STATE SEGMENT NUMBER: -04

SEGMENT NAME: Double Pipe Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	30.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	0.0	0.0
TOTAL:	30.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class IV - Recreational trout

CAUSE OF IMPAIRMENT: Nutrients, sediments.

SOURCE OF IMPAIRMENT: Agricultural runoff.

WATER QUALITY TREND: BPC0035 Total suspended solids - decreasing trend, significant
 Total phosphorus - no trend
 Total nitrogen - increasing trend, not significant
 Fecal coliform bacteria - no trend

COMMENTS: State is continuing to monitor water quality at selected stations in the watershed before and after implementation of Best Management Practices as part of the Rural Clean Water Program.

APPENDIX TABLE C-17 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

MIDDLE POTOMAC RIVER (BASIN CODE: 02-14-03)

STATE SEGMENT NUMBER: -05

SEGMENT NAME: Catoctin Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	29.0	0.0	0.0	0.0	0.0
TOTAL:	29.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class III - Natural trout
Class IV - Recreational trout

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: CAC0031 Temperature - no trend
pH - decreasing trend, not significant
Total suspended solids - no trend
Total phosphorus - no trend
Total nitrogen - increasing trend, significant
Fecal coliform bacteria - no trend

CAC0148 Temperature - no trend
pH - decreasing trend, not significant
Total suspended solids - decreasing trend, significant
Total phosphorus - no trend
Total nitrogen - increasing trend, significant
Fecal coliform bacteria - no trend

APPENDIX TABLE C-18

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

UPPER POTOMAC RIVER (BASIN CODE: 02-14-05)

STATE SEGMENT NUMBER: -01 SEGMENT NAME: Potomac River - Hancock to South Branch

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	67.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	0.0	0.0
TOTAL:	67.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class III - Natural trout

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Agricultural runoff.

WATER QUALITY TREND: POT1830 Total phosphorus - increasing trend, significant
Total nitrogen - increasing trend, significant
Fecal coliform bacteria - decreasing trend, significant

COMMENTS: Portion of river closed to swimming near Williamsport due to elevated bacterial levels.

STATE SEGMENT NUMBER: -02 SEGMENT NAME: Antietam Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	36.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	32.2	0.0	0.0	0.0
TOTAL:	36.0	32.2	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class III - Natural trout
Class IV - Recreational trout

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: ANT0044 Total phosphorus - increasing trend, significant
Total nitrogen - increasing trend, significant
Fecal coliform bacteria - no trend

ANT0203 Total phosphorus - increasing trend, significant
Total nitrogen - increasing trend, significant
Fecal coliform bacteria - increasing trend, significant

ANT0366 Total phosphorus - increasing trend, significant
Total nitrogen - increasing trend, significant
Fecal coliform bacteria - no trend

APPENDIX TABLE C-18 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

UPPER POTOMAC RIVER (BASIN CODE: 02-14-05)

STATE SEGMENT NUMBER: -03

SEGMENT NAME: Marsh Run

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	10.0	0.0	0.0	0.0	0.0
TOTAL:	10.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

STATE SEGMENT NUMBER: -04

SEGMENT NAME: Conococheague Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	21.0	0.0	0.0	0.0	0.0
TOTAL:	21.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class IV - Recreational trout

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Agricultural runoff.

WATER QUALITY TREND: CON0005 pH - decreasing trend, not significant
 Total phosphorus - increasing trend, significant
 Total nitrogen - increasing trend, significant
 Fecal coliform bacteria - no trend

CON0180 pH - no trend
 Total phosphorus - no trend
 Total nitrogen - increasing trend, significant
 Fecal coliform bacteria - no trend

COMMENTS: Portion of creek closed to swimming near Williamsport due to elevated bacterial levels.

APPENDIX TABLE C-18 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

UPPER POTOMAC RIVER (BASIN CODE: 02-14-05)

STATE SEGMENT NUMBER: -05 SEGMENT NAME: Little Conococheague Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	11.0	0.0	0.0	0.0	0.0
TOTAL:	11.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

STATE SEGMENT NUMBER: -06 SEGMENT NAME: Licking Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	10.0	0.0	0.0	0.0	0.0
TOTAL:	10.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class IV - Recreational trout

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

APPENDIX TABLE C-18 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

UPPER POTOMAC RIVER (BASIN CODE: 02-14-05)

STATE SEGMENT NUMBER: -07

SEGMENT NAME: Tonołoway Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	3.0	0.0	0.0	0.0	0.0
TOTAL:	3.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class IV - Recreational trout

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

STATE SEGMENT NUMBER: -08

SEGMENT NAME: Potomac River - Allegany County Drainage

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	47.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	32.2	0.0	0.0	0.0
TOTAL:	47.0	32.2	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: POT2766 Total suspended solids - decreasing trend, not significant
Fecal coliform bacteria - no trend

APPENDIX TABLE C-10 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

UPPER POTOMAC RIVER (BASIN CODE: 02-14-05)

STATE SEGMENT NUMBER: -09

SEGMENT NAME: Little Tonoloway Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	9.0	0.0	0.0	0.0	0.0
TOTAL:	9.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

STATE SEGMENT NUMBER: -10

SEGMENT NAME: Sideling Hill Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	14.0	0.0	0.0	0.0	0.0
TOTAL:	14.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class IV - Recreational trout

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

APPENDIX TABLE C-18 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

UPPER POTOMAC RIVER (BASIN CODE: 02-14-05)

STATE SEGMENT NUMBER: -11

SEGMENT NAME: Fifteen Mile Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	14.0	0.0	0.0	0.0	0.0
TOTAL:	14.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class IV - Recreational trout

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

STATE SEGMENT NUMBER: -12

SEGMENT NAME: Town Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	28.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	0.0	0.0
TOTAL:	28.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class III - Natural trout
Class IV - Recreational trout

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

APPENDIX TABLE C-19

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

NORTH BRANCH POTOMAC RIVER (BASIN CODE: 02-14-10)

STATE SEGMENT NUMBER: -01 SEGMENT NAME: Lower North Branch Potomac River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	52.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	0.0	0.0
TOTAL:	52.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class III - Natural trout

CAUSE OF IMPAIRMENT: pH.

SOURCE OF IMPAIRMENT: Mining activities.

WATER QUALITY TREND: NBP0023 pH - no trend
Total phosphorus - no trend
Fecal coliform bacteria - no trend

NBP0103 Total phosphorus - no trend

NBP0196 pH - increasing trend, significant
Total phosphorus - no trend

NBP0217 pH - increasing trend, significant
Total phosphorus - no trend

NBP0326 pH - increasing trend, significant
Total phosphorus - no trend
Fecal coliform bacteria - no trend

NBP0461 pH - increasing trend, significant
Total phosphorus - no trend
Fecal coliform bacteria - increasing trend, significant

APPENDIX TABLE C-19 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

NORTH BRANCH POTOMAC RIVER (BASIN CODE: 02-14-10)

STATE SEGMENT NUMBER: -02

SEGMENT NAME: Evitts Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	0.0	0.0	0.0	0.0	0.0
EVALUATED:	12.0	208.5	0.0	0.0	0.0
TOTAL:	12.0	208.5	0.0	0.0	0.0

USE CLASSIFICATION: Class III - Natural trout
Class IV - Recreational trout

CAUSE OF IMPAIRMENT: None.

SOURCE OF IMPAIRMENT: None.

WATER QUALITY TREND: Insufficient data available for trend analysis.

STATE SEGMENT NUMBER: -03

SEGMENT NAME: Wills Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	27.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	0.0	0.0
TOTAL:	27.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class III - Natural trout
Class IV - Recreational trout

CAUSE OF IMPAIRMENT: pH.

SOURCE OF IMPAIRMENT: Mining activities.

WATER QUALITY TREND: 8DK0000 Fecal coliform bacteria - no trend

WIL0013 pH - no trend

Total alkalinity- increasing trend, significant

Fecal coliform bacteria - decreasing trend, significant

COMMENTS: Water quality severely impacted in Braddock Run watershed due to abandoned coal mine drainage.

APPENDIX TABLE C-19 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

NORTH BRANCH POTOMAC RIVER (BASIN CODE: 02-14-10)

STATE SEGMENT NUMBER: -04

SEGMENT NAME: Georges Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	17.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	0.0	0.0
TOTAL:	17.0	0.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class III - Natural trout

CAUSE OF IMPAIRMENT: pH, bacteria, streamflow.

SOURCE OF IMPAIRMENT: Mining activities.

WATER QUALITY TREND: GE00009 pH - increasing trend, significant
Total alkalinity- increasing trend, significant
Fecal coliform bacteria - no trend

COMMENTS: Water quality impacted in upper portion of watershed due to losses through streambeds to deep, abandoned coal mines. Water quality in lower portion of watershed severely impacted by discharges and springs/seeps polluted by abandoned coal mines. Bacterial levels projected to improve due to recent (1984) connection to central sewerage system throughout much of the watershed.

APPENDIX TABLE C-19 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

NORTH BRANCH POTOMAC RIVER (BASIN CODE: 02-14-10)

STATE SEGMENT NUMBER: -05

SEGMENT NAME: Upper North Branch Potomac Rive

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	27.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	952.0	0.0	0.0	0.0
TOTAL:	27.0	952.0	0.0	0.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class III - Natural trout

CAUSE OF IMPAIRMENT: pH.

SOURCE OF IMPAIRMENT: Mining activities.

WATER QUALITY TREND: NBP0514 pH - increasing trend, significant
Total alkalinity- increasing trend, significant

NBP0534 pH - increasing trend, significant
Total alkalinity- increasing trend, significant
Fecal coliform bacteria - no trend

NBP0597 pH - increasing trend, significant
Total alkalinity- increasing trend, significant

NBP0689 pH - increasing trend, significant
Total alkalinity- increasing trend, significant
Total suspended solids- decreasing trend, not significant
Fecal coliform bacteria - increasing trend, not significant

COMMENTS: pH and total alkalinity levels are observed to rise throughout the mainstem river both above and below the Bloomington Reservoir.

APPENDIX TABLE C-19 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

NORTH BRANCH POTOMAC RIVER (BASIN CODE: 02-14-10)

STATE SEGMENT NUMBER: -06

SEGMENT NAME: Savage River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	5.0	0.0	0.0	0.0	0.0
EVALUATED:	20.0	373.0	0.0	367.0	0.0
TOTAL:	25.0	373.0	0.0	367.0	0.0

USE CLASSIFICATION: Class III - Natural trout

CAUSE OF IMPAIRMENT: pH.

SOURCE OF IMPAIRMENT: Mining activities.

WATER QUALITY TREND: AAR0000 Temperature - no trend
pH - increasing trend, significant
Total alkalinity - decreasing trend, significant

SAV0000 Temperature - no trend
pH - no trend
Total alkalinity - increasing trend, significant
Fecal coliform bacteria - increasing trend, significant

SAV0037 Temperature - no trend
pH - increasing trend, significant
Total alkalinity - increasing trend, significant

COMMENTS: In spite of its relatively remote and undeveloped location, Savage River below the reservoir will be the site of the 1989 World Whitewater Competition. The State is developing plans to minimize any permanent development and intends to return the area to its former condition.

APPENDIX TABLE C-20

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

YOUGHIOGHENY RIVER (BASIN CODE: 05-02-02)

STATE SEGMENT NUMBER: -01 SEGMENT NAME: Youghiogheny River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	40.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	41.5	0.0	92.0	0.0
TOTAL:	40.0	41.5	0.0	92.0	0.0

USE CLASSIFICATION: Class III - Natural trout

CAUSE OF IMPAIRMENT: pH, bacteria.

SOURCE OF IMPAIRMENT: Mining activities, land disposal.

WATER QUALITY TREND: YOU0925 pH - decreasing trend, significant
 Total suspended solids - no trend
 Total phosphorus - no trend
 Fecal coliform bacteria - increasing trend, significant

YOU1139 pH - decreasing trend, not significant
 Total suspended solids - decreasing trend, significant
 Total phosphorus - no trend
 Fecal coliform bacteria - decreasing trend, not significant

COMMENTS: Elevated bacterial levels due to raw sewage input from Oakland is projected to decrease after a central sewerage system is connected to a new sewage treatment facility. Portion of river is designated as a State Scenic River. Portion is also designated as the State's only Wild River.

STATE SEGMENT NUMBER: -02 SEGMENT NAME: Little Youghiogheny River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	10.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	138.0	0.0	92.0	0.0
TOTAL:	10.0	138.0	0.0	92.0	0.0

USE CLASSIFICATION: Class III - Natural trout

CAUSE OF IMPAIRMENT: Bacteria.

SOURCE OF IMPAIRMENT: Land disposal.

WATER QUALITY TREND: LY00004 Total suspended solids - decreasing trend, significant
 Total phosphorus - decreasing trend, significant
 Fecal coliform bacteria - decreasing trend, significant

APPENDIX TABLE C-20 - continued

1985-1987 MARYLAND WATER QUALITY INVENTORY REPORT
WATERSHED SUMMARY

YOUGHIOGHENY RIVER (BASIN CODE: 05-02-02)

STATE SEGMENT NUMBER: -03

SEGMENT NAME: Deep Creek

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	6.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	4500.0	0.0	459.0	0.0
TOTAL:	14.0	4500.0	0.0	459.0	0.0

USE CLASSIFICATION: Class III - Natural trout

CAUSE OF IMPAIRMENT: pH.

SOURCE OF IMPAIRMENT: Mining activities.

WATER QUALITY TREND: Insufficient data available for trend analysis.

COMMENTS: Water quality problems limited to portion of Cherry Creek (tributary of Deep Creek Lake) impacted from abandoned coal mine drainage.

STATE SEGMENT NUMBER: -04

SEGMENT NAME: Casselman River

	RIVER (mi)	LAKE (ac)	ESTUARY (mi ²)	WETLAND (ac)	OCEAN (mi)
MONITORED:	30.0	0.0	0.0	0.0	0.0
EVALUATED:	0.0	0.0	0.0	367.0	0.0
TOTAL:	30.0	0.0	0.0	367.0	0.0

USE CLASSIFICATION: Class I - Water contact recreation and aquatic life
Class III - Natural trout
Class IV - Recreational trout

CAUSE OF IMPAIRMENT: pH, bacteria.

SOURCE OF IMPAIRMENT: Mining activities, land disposal.

WATER QUALITY TREND: CAS0479 Fecal coliform bacteria - increasing trend, significant

D

Appendix D

MARYLAND LAKE WATER QUALITY ASSESSMENT

MARYLAND LAKE WATER QUALITY ASSESSMENT

The following lake identification and classification Survey information was compiled by the Maryland Department of the Environment from information gathered from various available sources. It addresses publically-owned lakes of over five(5) acres that provide some important use to the public.

Much of the information concerning the physical characteristics of the lakes and their watersheds were obtained from a publication entitled "Inventory of Maryland Dams and Assessment of Hydropower Resources" prepared for the Power Plant Siting Program of the Maryland Department of Natural Resources by the Martin Marietta Environmental Systems (1985).

The land use characteristics of the drainage basins were obtained from 1987 information received from the State Department of Planning. Land use characteristics are given at the watershed level. In some cases, these characteristics are not totally representative of the very small drainage areas feeding lakes within a watershed, however, in most cases the information does give a reasonably accurate picture of land use.

The topography and soil types were determined by using the General Soil Map of Maryland produced by the Maryland Agricultural Experiment Station at the University of Maryland and the Soil Conservation Service. Point source and nonpoint source information was generated by Department records and information.

The water quality summary information was made on water quality data collected and recorded in the State's ambient water monitoring system. Additional water quality data was obtained, in some cases, from reports of lake studies conducted by other organizations. It should be noted that in many cases water quality data was not found. In those cases, water quality status was determined by information provided by personnel of the Fisheries Division of the Maryland Department of Natural Resources. In addition to trophic status, they also provided aquatic resource information, as well as providing verification of physical characteristics.

The trophic status of lakes in the State are considered to be a measure of eutrophication or nutrient richness. Oligotrophic lakes have low nutrient levels and are considered to have better water quality than eutrophic lakes which are rich in nutrients and may experience algal blooms and heavy growths of aquatic vegetation. Mesotrophic lakes are intermediate in terms of their nutrient status. It is important to note that trophic status may not have any affect on designated use support. State biologists who helped in this classification survey indicated that many eutrophic lakes served their intended recreational uses and provided aquatic habitat to gamefish such as large-and smallmouth bass.

The data sheets for the 59 lakes surveyed in this report follow and are listed alphabetically by lake name.

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Adkins Pond

Owner Maryland State Highway Administration

Location

County: Wicomico

Latitude: 3819.9

Longitude: 7522.4

Basin Number: 02130305

River/Stream: Adkins Race

Lake Characteristics

Mean Depth (ft): 4.5

Purpose: Water Supply, Recreation

Surface Area (acres): 17.2

Normal Spillway Depth (ft): 4.5

Stratification: No

Trophic Condition: Eutrophic

Volume (acre-feet): 77

Watershed Characteristics

Land Use: Developed 2%
Agriculture 38%
Forest 42%
Wetland 18%
Mining %
Barren %

Drainage Area (mi²): 32

Topography: Coastal Plain Province

Major Soil Types: Fallsington-Woodstown-Othello-Pocomoke Association

Point Sources: None

Nonpoint Sources: Agricultural Runoff

Current Water Quality Summary: Limited water quality data exists. Periodic low dissolved O₂ levels. Dense aquatic vegetative growth.

Impaired or Threatened Uses: None

Comments: Trophic condition and water quality summary based on personal observations and limited water quality assessment of Maryland Fisheries Administration staff.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Allen Pond

Owner City of Bowie

Location

County: Prince George's

Latitude: 3856.0

Longitude: 7644.6

Basin Number: 02131103

River/Stream: Collington Branch Tributary

Lake Characteristics

Mean Depth (ft): 3.7

Purpose: Recreation

Surface Area (acres): 9.5

Normal Spillway Depth (ft): 7.4

Stratification: No

Trophic Condition: Eutrophic

Volume (acre-feet): 35

Watershed Characteristics

Land Use: Developed 20 %
Agriculture 30 %
Forest 50 %
Wetland _____ %
Mining _____ %
Barren _____ %

Drainage Area (mi²): 0.21

Topography: Coastal Plain Province

Major Soil Types: Christiana-Sunnyside-Sassafras Association

Point Sources: None

Nonpoint Sources: Urban and Agricultural runoff.

Current Water Quality Summary: No information found.

Impaired or Threatened Uses: None

Comments: SAV's abundant
Has been stocked with Largemouth Bass in the past. Trophic conditions and comments provided by personal observations of Maryland Fisheries staff.
Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Allen Pond

Owner Wicomico/Somerset Counties

Location

County: Wicomico/Somerset

Latitude: 3817.0

Longitude: 7541.3

Basin Number: 02130303

River/Stream: Passerdyke Creek

Lake Characteristics

Mean Depth (ft): 2.7

Purpose: Recreation

Surface Area (acres): 35.8

Normal Spillway Depth (ft): 6.7

Stratification: No

Trophic Condition: Eutrophic

Volume (acre-feet): 96

Watershed Characteristics

Land Use: Developed 2%
Agriculture 45%
Forest 50%
Wetland 3%
Mining
Barren

Drainage Area (mi²): 12.7

Topography: Coastal Plain Province

Major Soil Types: Lakeland-Galestown-Rumford Association

Point Sources: None

Nonpoint Sources: Agricultural Runoff

Current Water Quality Summary: No water quality data found. Dense aquatic vegetation.

Impaired or Threatened Uses: None

Comments: Trophic condition and aquatic vegetation status based on personal observation of Maryland Fisheries Administration staff.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Barren Pond

Owner Wicomico County

Location

County: Wicomico

Latitude: 3827.7

Longitude: 7544.1

Basin Number: 02130305

River/Stream: Barren Creek

Lake Characteristics

Mean Depth (ft): 2.2

Purpose: Recreation

Surface Area (acres): 14.7

Normal Spillway Depth (ft): 5.5

Stratification: No

Trophic Condition: Eutrophic

Volume (acre-feet): 32

Watershed Characteristics

Land Use: Developed 2 %
Agriculture 38 %
Forest 42 %
Wetland 18 %
Mining _____ %
Barren _____ %

Drainage Area (mi²): 19.6

Topography: Coastal Plain Province

Major Soil Types: Lakeland-Galestown-Rumford Association

Point Sources: None

Nonpoint Sources: Agricultural Runoff

Current Water Quality Summary: Excessive aquatic vegetation

Impaired or Threatened Uses: None

Comments: Trophic condition and water quality status provided by personal observations of Maryland Fisheries Administration staff.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Lake Bernard Frank Owner Maryland National Capital Park and Planning Comm.

Location

County: Montgomery Latitude: 3906.2 Longitude: 7707.1
Basin Number: 02140206 River/Stream: North Branch Rock Creek Tributary

Lake Characteristics

Mean Depth (ft): 14.0 Purpose: Flood Control, Recreation Surface Area (acres): 56
Normal Spillway Depth (ft): 25.5
Stratification: Yes Trophic Condition: Eutrophic Volume (acre-feet): 785

Watershed Characteristics

Land Use: Developed 65 % Drainage Area (mi²): 12.2
Agriculture 14 %
Forest 20 % Topography: Piedmont Province
Wetland %
Mining % Major Soil Types: Manor-Glenelg-Chester Association
Barren 1 %

Point Sources: None

Nonpoint Sources: Urban runoff

Current Water Quality Summary: No water quality data found. Trophic condition and comments provided by personal observations of Maryland Fisheries staff.

Impaired or Threatened Uses: None

Comments: Stocked with Largemouth Bass.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Blairs Valley Lake

Owner Maryland Department of Natural Resources

Location

County: Washington

Latitude: 3941.7

Longitude: 7756.5

Basin Number: 02140508

River/Stream: Little Conocoheague Creek

Lake Characteristics

Mean Depth (ft): 15.1

Purpose: Recreation

Surface Area (acres): 32.2

Normal Spillway Depth (ft): 25

Stratification: Yes

Trophic Condition: Eutrophic

Volume (acre-feet): 486

Watershed Characteristics

Land Use: Developed _____ %
Agriculture 11 %
Forest 89 %
Wetland _____ %
Mining _____ %
Barren _____ %

Drainage Area (mi²): 3.4

Topography: Valley and Ridge Province

Major Soil Types: Dekalb-Gilpin-Ernest Association

Point Sources: None

Nonpoint Sources: Agricultural Run-off

Current Water Quality Summary: No water quality data found. Trophic condition and comments provided by personal observations of Maryland Fisheries Administration staff.

Impaired or Threatened Uses: None

Comments: Receives significant public fishing use. Has a moderate abundance of spiny naiad. (SAV)

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Bloomington Lake

Owner U.S. Army Corps of Engineers

Location

County: Garrett

Latitude: 3924.1

Longitude: 7852.5

Basin Number: 02141005

River/Stream: North Branch of Potomac River

Lake Characteristics

Mean Depth (ft): 99.5

Purpose: Water Quality Low Flow
Augmentation Water Supply and
Recreation

Surface Area (acres): 952

Normal Spillway Depth (ft): 282

Stratification: Yes

Trophic Condition: Oligotrophic

Volume (acre-feet): 94,700

Watershed Characteristics

Land Use: Developed 1 %
Agriculture 16 %
Forest 79 %
Wetland %
Mining 4 %
Barren %

Drainage Area (mi²): 287

Topography: Appalachian Plateau Province

Major Soil Types: Dekalb-Gilpin-Ernest Association

Point Sources: Multiple active treated mine discharges

Nonpoint Sources: Multiple abandoned mine drainages

Current Water Quality Summary: Limited water quality data found. Trophic conditions based on personal observations of Maryland Fisheries Administration staff. pH averages between 5.5 and 6.0

Impaired or Threatened Uses: None

Comments: "Stocked with Bass and Walleye".

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Big Millpond Owner Worcester County

Location

County: Worcester Latitude: 3800.9 Longitude: 7527.4
Basin Number: 02130106 River/Stream: Little Mill Run

Lake Characteristics

Mean Depth (ft): 1.2 Purpose: Recreation Surface Area (acres): 60.2
Normal Spillway Depth (ft): 3
Stratification: No Trophic Condition: Eutrophic Volume (acre-feet): 72

Watershed Characteristics

Land Use: Developed _____ % Drainage Area (mi²): 8.2
Agriculture 32 %
Forest 41 % Topography: Coastal Plain Province
Wetland 26 %
Mining _____ % Major Soil Types: Fallsington-Woodstown-Othello-Pocomoke Association
Barren 1 %

Point Sources: None

Nonpoint Sources: Agricultural Runoff

Current Water Quality Summary: No water quality data found.

Impaired or Threatened Uses: None

Comments: Trophic condition based on personal observations of Maryland Fisheries Administration staff.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Bishopville Pond **Owner** Worcester County

Location

County: Worcester **Latitude:** 3826.5 **Longitude:** 7711.8
Basin Number: 02130103 **River/Stream:** Bunting Branch

Lake Characteristics

Mean Depth (ft): 2.6 **Purpose:** Recreation **Surface Area (acres):** 5.7
Normal Spillway Depth (ft): 5
Stratification: No **Trophic Condition:** Eutrophic **Volume (acre-feet):** 15

Watershed Characteristics

Land Use:	Developed <u>10%</u>	Drainage Area (mi²): 13.3
	Agriculture <u>45%</u>	Topography: Coastal Plain Province
	Forest <u>38%</u>	Major Soil Types: Fallsington-Woodstown-Othello-Pocomoke Association
	Wetland <u>7%</u>	
	Mining <u>%</u>	
	Barren <u>%</u>	

Point Sources: Selbyville WWT (Delaware)

Nonpoint Sources: Agricultural Runoff, Septic Systems.

Current Water Quality Summary: Excessively high Chlorophyll "a" (Mean > 10 ug/l) and phosphorus (Mean > 40 ug/l). Low DO, elevated Fecal Coliform.

Impaired or Threatened Uses: Sport Fishery threatened by low DO. Bullheads may be only inhabitants.

Comments: Trophic condition assessment made by Maryland Department of the Environment and supported by the Maryland Fisheries Administration. Assessment of impaired or threatened uses provided by Maryland Fisheries Administration.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Bohemia Mills

Owner Cecil County

Location

County: Cecil

Latitude: 3927.9

Longitude: 7546.4

Basin Number: 02130602

River/Stream: Great Bohemia Creek

Lake Characteristics

Mean Depth (ft): 1.8

Purpose: Recreation

Surface Area (acres): 28.7

Normal Spillway Depth (ft): 8.5

Stratification: No

Trophic Condition: Eutrophic

Volume (acre-feet): 51

Watershed Characteristics

Land Use: Developed 1 %
Agriculture 83 %
Forest 15 %
Wetland 1 %
Mining _____ %
Barren _____ %

Drainage Area (mi²): 4.6

Topography: Coastal Plain Province

Major Soil Types: Matapeake-Mattapex-Butlertown Association

Point Sources: None

Nonpoint Sources: Agricultural runoff

Current Water Quality Summary: No water quality data found. Light algae infestations.

Impaired or Threatened Uses: None

Comments: Trophic condition and aquatic vegetation status provided by personal observations of Maryland Fisheries Administration staff.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Centennial Park

Owner Howard County Department of Public Works

Location

County: Howard

Latitude: 3914.5

Longitude: 7651.2

Basin Number: 02131105

River/Stream: Little Patuxent River Tributary

Lake Characteristics

Mean Depth (ft): 10.2

Purpose: Recreation, Flood Control

Surface Area (acres): 50

Normal Spillway Depth (ft): 24

Stratification: Yes

Trophic Condition: Eutrophic

Volume (acre-feet): 510

Watershed Characteristics

Land Use: Developed 36 %
Agriculture 18 %
Forest 44 %
Wetland 0 %
Mining 1 %
Barren 1 %

Drainage Area (mi²): 3.47

Topography: Piedmont Province

Major Soil Types: Manor-Glenelg-Chester Association

Point Sources: None

Nonpoint Sources: Urban and agricultural runoff

Current Water Quality Summary: No water quality data found. Trophic condition and comments provided by personal observations of Maryland Fisheries staff.

Impaired or Threatened Uses: None

Comments: SAV problems (Hydrilla)

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Chambers Lake

Owner Town of Federalsburg

Location

County: Caroline

Latitude: 3841.8

Longitude: 7545.9

Basin Number: 02130306

River/Stream: Tanyard Branch

Lake Characteristics

Mean Depth (ft): 2.3

Purpose: Recreation

Surface Area (acres): 9.4

Normal Spillway Depth (ft): 4

Stratification: No

Trophic Condition: Eutrophic

Volume (acre-feet): 22

Watershed Characteristics

Land Use: Developed 2%
Agriculture 59%
Forest 35%
Wetland 4%
Mining %
Barren %

Drainage Area (mi²): 5.3

Topography: Coastal Plain

Major Soil Types: Lakeland-Galestown-Rumford Association

Point Sources: Md. Plastics

Nonpoint Sources: Agricultural runoff.

Current Water Quality Summary: No water quality data found. Periodic algae infestations.

Impaired or Threatened Uses: None

Comments: Trophic condition and water quality summary based on personal observations of Maryland Fisheries Administration staff.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Clopper Lake (Seneca State Park)

Owner Maryland Department of Natural Resources

Location

County: Montgomery

Latitude: 3908.6

Longitude: 7715.3

Basin Number: 02140208

River/Stream: Long Draught Branch

Lake Characteristics

Mean Depth (ft): 18

Purpose: Recreation, Flood Control

Surface Area (acres): 90

Normal Spillway Depth (ft): 53

Stratification: Yes

Trophic Condition: Eutrophic

Volume (acre-feet): 1,592

Watershed Characteristics

Land Use: Developed 15 %
Agriculture 55 %
Forest 28 %
Wetland %
Mining %
Barren 2 %

Drainage Area (mi²): 2.86

Topography: Piedmont Province

Major Soil Types: Manor-Glenelg-Chester Association

Point Sources: None

Nonpoint Sources: Agricultural and Urban runoff.

Current Water Quality Summary: Limited water quality data exists. Trophic condition and comments based on personal observations and limited water quality data assessment of Maryland Fisheries Administration staff.

Impaired or Threatened Uses: Increasing threat due to stormwater run-off causing excessive turbidity.

Comments: Good fishing for Largemouth Bass.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Cosca Lake (Clinton Regional Park) **Owner** Maryland National Capital Park and Planning Comm.

Location

County: Prince George's **Latitude:** 3844.0 **Longitude:** 7655.0
Basin Number: 02140203 **River/Stream:** Butler Branch

Lake Characteristics

Mean Depth (ft): 6.9 **Purpose:** Recreation **Surface Area (acres):** 11
Normal Spillway Depth (ft): 14
Stratification: Yes **Trophic Condition:** Eutrophic **Volume (acre-feet):** 76

Watershed Characteristics

Land Use: Developed 23 % **Drainage Area (mi²):** 2.47
Agriculture 15 %
Forest 61 % **Topography:** Coastal Plain Province
Wetland _____ %
Mining _____ % **Major Soil Types:** Beltsville-Chillum-Croom Association
Barren 1 %

Point Sources: None

Nonpoint Sources: Urban and agricultural runoff

Current Water Quality Summary: No information found.

Impaired or Threatened Uses: None

Comments: Lake stocked with Largemouth Bass and Trout. Trophic conditions and comments provided by personal observations of Maryland Fisheries staff.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Coulbourn Pond

Owner Wicomico County

Location

County: Wicomico

Latitude: 3819.8

Longitude: 7535.9

Basin Number: 02130301

River/Stream: Tonytank Creek

Lake Characteristics

Mean Depth (ft): 2.4

Purpose: Recreation, Irrigation

Surface Area (acres): 8.6

Normal Spillway Depth (ft): 6.3

Stratification: No

Trophic Condition: Eutrophic

Volume (acre-feet): 21

Watershed Characteristics

Land Use: Developed 11 %
Agriculture 35 %
Forest 42 %
Wetland 11 %
Mining %
Barren 1 %

Drainage Area (mi²): 5.5

Topography: Coastal Plain Province

Major Soil Types: Lakeland-Galestown-Rumford Association

Point Sources: None

Nonpoint Sources: Agricultural and Urban runoff.

Current Water Quality Summary: No data found.

Impaired or Threatened Uses: None

Comments: Trophic condition based on personal observations of Maryland Fisheries Administration staff.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Deep Creek Lake

Owner Pennsylvania Electric Company

Location

County: Garrett

Latitude: 3930.5

Longitude: 7923.5

Basin Number: 05020203

River/Stream: Deep Creek

Lake Characteristics

Mean Depth (ft): 20.7

Purpose: Hydropower, Recreation

Surface Area (acres): 4500

Normal Spillway Depth (ft): 50

Stratification: Yes

Trophic Condition: Mesotrophic

Volume (acre-feet): 93,000

Watershed Characteristics

Land Use: Developed 4%
Agriculture 23%
Forest 71%
Wetland 1%
Mining 1%
Barren %

Drainage Area (mi²): 64.7

Topography: Appalachian Plateau Province

Major Soil Types: DeKalb-Gilpin-Ernest Association
Lehew-Calvin Association

Point Sources: Several active treated mine discharges

Nonpoint Sources: Several abandoned Acid Mine Drainages

Current Water Quality Summary: Mean of Total P = 13 ug/l; Mean of Secchi Depth = 3M; Mean of chlorophyll "a" = 6.2 ug/l

Impaired or Threatened Uses: None

Comments: Lake was part of EPA's National Eutrophication Survey - 1975.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Edgewater Village Owner Harford County

Location

County: Harford Latitude: 3926.0 Longitude: 7618.5
Basin Number: 02130702 River/Stream: Otter Point Creek Tributary

Lake Characteristics

Mean Depth (ft): 9.6 Purpose: Recreation Surface Area (acres): 7.2
Normal Spillway Depth (ft): 14.5
Stratification: Yes Trophic Condition: Eutrophic Volume (acre-feet): 69

Watershed Characteristics

Land Use: Developed 23 % Drainage Area (mi²): 0.3
Agriculture 26 %
Forest 50 % Topography: Coastal Plain Province
Wetland 1 %
Mining % Major Soil Types: Sassafras-Matapeake-Woodstown Association
Barren %

Point Sources: None

Nonpoint Sources: Agricultural and Urban runoff.

Current Water Quality Summary: Sediment problems observed. Trophic condition and comments provided by personal observations of Maryland Fisheries staff.

Impaired or Threatened Uses: None

Comments: Carp and other pollution tolerant species prevalent.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Lake Elkhorn

Owner Columbia Association

Location

County: Howard

Latitude: 3911.0

Longitude: 7650.8

Basin Number: 02131106

River/Stream: Little Patuxent River Tributary

Lake Characteristics

Mean Depth (ft): 4.6

Purpose: Recreation, Flood Control

Surface Area (acres): 49

Normal Spillway Depth (ft): 18

Stratification:

Trophic Condition: Eutrophic

Volume (acre-feet): 225

Watershed Characteristics

Land Use: Developed 18 %
Agriculture 46 %
Forest 36 %
Wetland _____ %
Mining _____ %
Barren _____ %

Drainage Area (mi²): 3.6

Topography: Piedmont Province

Major Soil Types: Manor-Glenelg-Chester Association

Point Sources: None

Nonpoint Sources: Urban and Agricultural runoff.

Current Water Quality Summary: No water quality data found. Trophic condition and comments provided by personal observations of Maryland Fisheries staff.

Impaired or Threatened Uses: None

Comments: Clean Lakes Program, Algae & SAV prevalent. Stocked with Largemouth Bass and Rainbow Trout (put and take)

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Gilbert Run Watershed Site #2

Owner Gilbert Run Watershed Association

Location

County: Charles

Latitude: 3829.2

Longitude: 7651.4

Basin Number: 02140107

River/Stream: Wheatley Run

Lake Characteristics

Mean Depth (ft): 9.8

Purpose: Flood Control, Recreation

Surface Area (acres): 59

Normal Spillway Depth (ft): 21

Stratification: Yes

Trophic Condition: Eutrophic

Volume (acre-feet): 579

Watershed Characteristics

Land Use: Developed 4 %
Agriculture 37 %
Forest 59 %
Wetland _____ %
Mining _____ %
Barren _____ %

Drainage Area (mi²): 2.7

Topography: Coastal Plain Province

Major Soil Types: Westphalia-Marr-Sassafras-Evesboro Association

Point Sources: None

Nonpoint Sources: Agricultural Runoff

Current Water Quality Summary: Shoreline survey indicates elevated fecal coliform bacteria.

Impaired or Threatened Uses: None

Comments: Largemouth Bass, Bluegills, Sunfish, Catfish and Hybrid Stripped Bass available. Trophic condition and comments provided by personal observations of MD. Fisheries staff.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Greenbelt Lake

Owner City of Greenbelt

Location

County: Prince George's

Latitude: 3900.2

Longitude: 7653.5

Basin Number: 02140205

River/Stream: Indian Creek Tributary

Lake Characteristics

Mean Depth (ft): 9.6

Purpose: Recreation

Surface Area (acres): 21.5

Normal Spillway Depth (ft): 17

Stratification: Yes

Trophic Condition: Eutrophic

Volume (acre-feet): 206

Watershed Characteristics

Land Use: Developed 57%
Agriculture 9%
Forest 31%
Wetland %
Mining 2%
Barren 1%

Drainage Area (mi²): 0.80

Topography: Coastal Plain Province

Major Soil Types: Christiana-Sunnyside-Sassafras Association

Point Sources: None

Nonpoint Sources: Urban Runoff

Current Water Quality Summary: No information found.

Impaired or Threatened Uses: None

Comments: Lake stocked with Largemouth Bass and Hybrid Stripped Bass
SAV's abundant. Trophic conditions and comments provided by personal observations of Maryland Fisheries
staff.
Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Greenbrier Lake

Owner Maryland Department of Natural Resources

Location

County: Washington

Latitude: 3932.3

Longitude: 7737.3

Basin Number: 02140502

River/Stream: Little Beaver Creek Tributary

Lake Characteristics

Mean Depth (ft): 15.3

Purpose: Recreation

Surface Area (acres): 27

Normal Spillway Depth (ft): 50.5

Stratification: Yes

Trophic Condition: Mesotrophic

Volume (acre-feet): 414

Watershed Characteristics *

Land Use: Developed 9%
Agriculture 64%
Forest 27%
Wetland %
Mining %
Barren %

Drainage Area (mi²): 0.8

Topography: Blue Ridge Province

Major Soil Types: Braddock-Thurmont Association

Point Sources: None

Nonpoint Sources: None

Current Water Quality Summary: Limited water quality data exists. Trophic conditions & comments based on limited water quality of both Fisheries Administration and the Dept. of the Environment.

Impaired or Threatened Uses: None

Comments: Good fishery for Largemouth Bass & Pan Fish. Spring put & take trout fishery. Trending toward Eutrophic. *Watershed characteristics are for Basin area and are generally correct for impoundment identified; however, for this case, the immediate watershed of this impoundment is judged to be approximately 80% forest & 20% agricultural. Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Hagerstown City Park Lake

Owner City of Hagerstown

Location

County: Washington

Latitude: 3938.2

Longitude: 7743.8

Basin Number: 02140502

River/Stream: Antietam Creek Tributary

Lake Characteristics

Mean Depth (ft): 9.6

Purpose: Recreation

Surface Area (acres): 5.2

Normal Spillway Depth (ft): 3

Stratification: No

Trophic Condition: Eutrophic

Volume (acre-feet): 50

Watershed Characteristics *

Land Use: Developed 9 %
Agriculture 64 %
Forest 27 %
Wetland _____ %
Mining _____ %
Barren _____ %

Drainage Area (mi²): 1.6

Topography: Valley and Ridge Province

Major Soil Types: Hagerstown-Duffield Association

Point Sources: None

Nonpoint Sources: Urban run-off

Current Water Quality Summary: No recent water quality found. Trophic condition based on personal observations of Maryland Fisheries staff.

Impaired or Threatened Uses: None

Comments: *Although the watershed characteristics are correct for this Basin, the unique setting of this lake in an urban environment causes its encompassing area to be highly developed.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Herrington Lake

Owner Maryland Department of Natural Resources

Location

County: Garrett

Latitude: 3927.5

Longitude: 7927.2

Basin Number: 05020201

River/Stream: Herrington Run

Lake Characteristics

Mean Depth (ft): 5.2

Purpose: Recreation, Wildlife
Conservation

Surface Area (acres): 41.5

Normal Spillway Depth (ft): 13.2

Stratification: No

Trophic Condition: Mesotrophic

Volume (acre-feet): 216

Watershed Characteristics

Land Use: Developed _____ %
Agriculture 28 %
Forest 71 %
Wetland _____ %
Mining 1 %
Barren _____ %

Drainage Area (mi²): 5.8

Topography: Appalachian Plateau Province

Major Soil Types: Cookport-Gilpin Association

Point Sources: None

Nonpoint Sources: Agricultural runoff

Current Water Quality Summary:

No water quality data found except for conductivity. Trophic conditions and comments provided by personal observations of Md. Fisheries staff.

Impaired or Threatened Uses: None

Comments: Heavy rooted aquatic growth on bottom (Milfoil). Treated yearly.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Hunting Creek Lake (Cunningham Falls Reservoir) Owner Maryland Department of Natural Resources

Location

County: Frederick

Latitude: 3937.7

Longitude: 7727.6

Basin Number: 02140303

River/Stream: Hunting Creek

Lake Characteristics

Mean Depth (ft): 16.8

Purpose: Recreation, Water Supply

Surface Area (acres): 46

Normal Spillway Depth (ft): 60

Stratification: Yes

Trophic Condition: Mesotrophic

Volume (acre-feet): 771

Watershed Characteristics *

Land Use: Developed 2 %
Agriculture 63 %
Forest 35 %
Wetland %
Mining %
Barren %

Drainage Area (mi²): 6.8

Topography: Blue Ridge Province

Major Soil Types: Edgemont-Chandler-Dekalb Association
Braddock-Thurmont Association

Point Sources: None

Nonpoint Sources: None

Current Water Quality Summary: Limited water quality data exists. Trophic condition and comments based on personal observations and limited water quality data assessment of Maryland Fisheries Administration staff.

Impaired or Threatened Uses: None

Comments: Moderate amount of Spiny Naiad (SAV). *Watershed characteristics are for Basin area and are generally correct for impoundment identified; however, for this case, the immediate watershed of this impoundment is judged to be approximately 90% forest.
Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Johnson Pond

Owner City of Salisbury

Location

County: Wicomico

Latitude: 3822.4

Longitude: 7536.1

Basin Number: 02130304

River/Stream: North Prong of Wicomico River

Lake Characteristics

Mean Depth (ft): 8.6

Purpose: Recreation

Surface Area (acres): 104

Normal Spillway Depth (ft): 8.6

Stratification: No

Trophic Condition: Eutrophic

Volume (acre-feet): 900

Watershed Characteristics

Land Use: Developed 12 %
Agriculture 42 %
Forest 45 %
Wetland _____ %
Mining _____ %
Barren 01 %

Drainage Area (mi²): 42

Topography: Coastal Plain Province

Major Soil Types: Lakeland-Galestown-Rumford Association

Point Sources: Del Mar STP upstream of Lakes.

Nonpoint Sources: Agricultural and urban runoff.

Current Water Quality Summary: The condition of eutrophication exists and is supported by field observation and chemical and biological data. The most recent data indicates: Average algal chlorophyll "a", ug/l = 56.1; Average Secchi Depth, Meters = .37; Average Total Phosphorus concentration, ug/l = 197.5.

Impaired or Threatened Uses: Lake is closed to swimming due to elevated bacterial levels (1.5 Acres).

Comments: Lake was part of EPA's National Eutrophication Survey (1975). This survey concluded lake was eutrophic and that phosphorus was the limiting nutrient.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Lake Kittamaqundi

Owner Columbia Association

Location

County: Howard

Latitude: 3912.7

Longitude: 7651.4

Basin Number: 02131106

River/Stream: Little Patuxent River

Lake Characteristics

Mean Depth (ft): 1.4

Purpose: Recreation

Surface Area (acres): 107

Normal Spillway Depth (ft): 5

Stratification: No

Trophic Condition: Eutrophic

Volume (acre-feet): 146

Watershed Characteristics

Land Use: Developed 18 %
Agriculture 46 %
Forest 36 %
Wetland _____ %
Mining _____ %
Barren _____ %

Drainage Area (mi²): 27.5

Topography: Piedmont Province

Major Soil Types: Manor-Glenelg-Chester Association

Point Sources: None

Nonpoint Sources: Urban and Agricultural Runoff

Current Water Quality Summary: No water quality data found. Trophic condition and comments provided by personal observations of Maryland Fisheries staff.

Impaired or Threatened Uses: None

Comments: Clean Lakes Program, Stocked with Largemouth Bass and Rainbow Trout (put and take)

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Laurel Lake

Owner City of Laurel

Location

County: Prince George's

Latitude: 3905.4

Longitude: 7651.6

Basin Number: 02131104

River/Stream: Bear Branch

Lake Characteristics

Mean Depth (ft): 10

Purpose: Recreating (Boating)

Surface Area (acres): 18

Normal Spillway Depth (ft): 12

Stratification: No

Trophic Condition: Mesotrophic/
Eutrophic

Volume (acre-feet): 180

Watershed Characteristics

Land Use: Developed 23%
Agriculture 18%
Forest 56%
Wetland %
Mining 2%
Barren 1%

Drainage Area (mi²): 2.0

Topography: Coastal Plain Province

Major Soil Types: Beltsville-Chillum-Croom Association

Point Sources: None

Nonpoint Sources: Urban and Agricultural runoff

Current Water Quality Summary: No water quality data found. Catfish predominant at this time.

Impaired or Threatened Uses: None

Comments: Lake rebuilt in 1986. Includes sediment pond ahead of main lake. Information provided by the City of Laurel.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Leonard Pond

Owner Wicomico County

Location

County: Wicomico

Latitude: 3825.4

Longitude: 7534.0

Basin Number: 02130304

River/Stream: Leonard Pond Run

Lake Characteristics

Mean Depth (ft): 2.9

Purpose: Recreation

Surface Area (acres): 45.9

Normal Spillway Depth (ft): 7.3

Stratification: No

Trophic Condition: Eutrophic

Volume (acre-feet): 133

Watershed Characteristics

Land Use: Developed 12 %
Agriculture 42 %
Forest 45 %
Wetland _____ %
Mining _____ %
Barren 1 %

Drainage Area (mi²): 13.8

Topography: Coastal Plain Province

Major Soil Types: Sassafras-Matapeake-Woodstown Association

Point Sources: None

Nonpoint Sources: Agricultural runoff

Current Water Quality Summary:
pesticides.

No water quality data found. Dense aquatic vegetative growth controlled by

Impaired or Threatened Uses: None

Comments: Trophic condition and water quality summary based on personal observations of Maryland Fisheries Administration staff.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Liberty Reservoir Owner Baltimore City

Location

County: Baltimore Latitude: 3922.6 Longitude: 7653.5
Basin Number: 02130907 River/Stream: North Branch of Patapsco River

Lake Characteristics

Mean Depth (ft): 42.5 Purpose: Water Supply, Recreation Surface Area (acres): 3106
Normal Spillway Depth (ft): 133
Stratification: Yes Trophic Condition: Mesotrophic/Eutrophic Volume (acre-feet): 132,000

Watershed Characteristics

Land Use: Developed 13% Agriculture 56% Forest 31% Wetland % Mining % Barren %
Drainage Area (mi^2): 164
Topography: Piedmont Province
Major Soil Types: Manor-Glenelg-Chester Association

Point Sources: Municipals - Finksburg A.T.&T, Montrose Girls School, Industrial: Black & Decker #2
Congoleum Industries, Inc.

Nonpoint Sources: Agricultural Runoff, septic systems

Current Water Quality Summary: Mean Total P = 13 ug/l. Mean Secchi Depth 3M; Mean Chlorophyll "a" ug/l = 6.15. Occasional low DO.

Impaired or Threatened Uses: Water for drinking purposes may not be fully supported in the future because of anticipated changes in land use.

Comments: Stratification with respect to dissolved oxygen during the summer. Lake was part of EPA's National Eutrophication Survey - 1975. Good Fishery Resource
Md. Dept. of Environment (1/88).

D33

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Little Seneca Lake Owner Washington Suburban Sanitary Commission

Location

County: Montgomery Latitude: 3911.1 Longitude: 7718.0
Basin Number: 02140208 River/Stream: Little Seneca Creek

Lake Characteristics

Mean Depth (ft): 25.8 Purpose: Water Supply, Recreation Surface Area (acres): 505
Normal Spillway Depth (ft): 45
Stratification: Yes Trophic Condition: Eutrophic Volume (acre-feet): 13,050

Watershed Characteristics

Land Use: Developed 15 % Drainage Area (mi²): 20.8
Agriculture 55 %
Forest 28 % Topography: Piedmont Province
Wetland %
Mining % Major Soil Types: Manor-Glenelg-Chester Association
Barren 2 %

Point Sources: None

Nonpoint Sources: Agricultural and urban runoff

Current Water Quality Summary: Limited water quality data. Trophic Condition and Comments based on personal observations and limited water quality data assessment of Maryland Fisheries Administration staff.

Impaired or Threatened Uses: Hydrilla may impair recreational use of lake in future.

Comments: Trying to develop a trophy largemouth bass fishery.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Little Youghiogheny River Site #6
(Broadford Lake)

Owner Town of Oakland

Location

County: Garrett

Latitude: 3925.0

Longitude: 7920.5

Basin Number: 05020202

River/Stream: Broad Ford Run

Lake Characteristics

Mean Depth (ft): 10.2

Purpose: Flood Control, Water Supply
and Recreation

Surface Area (acres): 138

Normal Spillway Depth (ft): 28.5

Stratification: Yes

Trophic Condition: Mesotrophic

Volume (acre-feet): 1,410

Watershed Characteristics

Land Use: Developed 8 %
Agriculture 50 %
Forest 42 %
Wetland _____ %
Mining _____ %
Barren _____ %

Drainage Area (mi²): 6.8

Topography: Appalachian Plateau Province

Major Soil Types: Cookport-Gilpin Association

Point Sources: None

Nonpoint Sources: Agricultural

Current Water Quality Summary: Mean Total P = 23 ug/l; Chlorophyll "a" - onetime reading = 8.0 ug/l

Impaired or Threatened Uses: None

Comments: System shows trend toward Eutrophication. Excellent sport fishery. (Comments provided by Maryland Fisheries staff).

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Loch Raven Reservoir

Owner Baltimore City Department of Public Works

Location

County: Baltimore

Latitude: 3925.8

Longitude: 7632.6

Basin Number: 02130805

River/Stream: Gunpowder River

Lake Characteristics

Mean Depth (ft): 30.3

Purpose: Water Supply, Recreation

Surface Area (acres): 2400

Normal Spillway Depth (ft): 76

Stratification: Yes

Trophic Condition: Eutrophic

Volume (acre-feet): 72,700

Watershed Characteristics

Land Use: Developed 14 %
Agriculture 46 %
Forest 39 %
Wetland _____ %
Mining _____ %
Barren 1 %

Drainage Area (mi²): 303

Topography: Piedmont Province

Major Soil Types: Manor-Glenelg-Chester Association
Baltimore-Manor Association

Point Sources: Hampstead WWTP; Minor industrial discharges

Nonpoint Sources: Agricultural Runoff

Current Water Quality Summary: Total P at most stations 40 ug/l; Mean Secchi Depth = 1.8M;
Mean Chlorophyll "a" = 7.1 ug/l.

Impaired or Threatened Uses: Taste and odor problems in drinking water during warm months

Comments: Lake was part of EPA's National Eutrophication Survey - 1975.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Mitchell Pond #1

Owner Maryland State Highway Administration

Location

County: Wicomico

Latitude: 3822.2

Longitude: 7537.0

Basin Number: 02130301

River/Stream: Owens Branch and unnamed tributary

Lake Characteristics

Mean Depth (ft): 1.6

Purpose: Recreation

Surface Area (acres): 10.1

Normal Spillway Depth (ft): 4.1

Stratification: No

Trophic Condition: Eutrophic

Volume (acre-feet): 16

Watershed Characteristics

Land Use: Developed 11%
Agriculture 35%
Forest 42%
Wetland 11%
Mining 1%
Barren 1%

Drainage Area (mi²): 3.2

Topography: Coastal Plain Province

Major Soil Types: Lakeland-Galestown-Rumford Association

Point Sources: None

Nonpoint Sources: Urban and agricultural runoff

Current Water Quality Summary: No data found

Impaired or Threatened Uses: None

Comments: Trophic condition based on personal observations of Maryland Fisheries Administration staff.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Mitchell Pond #2

Owner City of Salisbury

Location

County: Wicomico

Latitude: 3822.0

Longitude: 7736.7

Basin Number: 02130301

River/Stream: Owens Branch

Lake Characteristics

Mean Depth (ft): 2.6

Purpose: Recreation

Surface Area (acres): 8.6

Normal Spillway Depth (ft): 6.4

Stratification: No

Trophic Condition: Eutrophic

Volume (acre-feet): 22

Watershed Characteristics

Land Use: Developed 11 %
Agriculture 35 %
Forest 42 %
Wetland 11 %
Mining %
Barren 1 %

Drainage Area (mi²): 3.3

Topography: Coastal Plain Province

Major Soil Types: Lakeland-Galestown-Rumford Association

Point Sources: None

Nonpoint Sources: Urban and agricultural runoff

Current Water Quality Summary: No data found.

Impaired or Threatened Uses: None

Comments: Trophic condition based on personal observations of Maryland Fisheries Administration staff.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Mitchell Pond #3

Owner City of Salisbury

Location

County: Wicomico

Latitude: 3821.8

Longitude: 7736.7

Basin Number: 02130301

River/Stream: Owens Branch and Coty Cox Branch

Lake Characteristics

Mean Depth (ft): 3.8

Purpose: Recreation

Surface Area (acres): 5.8

Normal Spillway Depth (ft): 7.5

Stratification: No

Trophic Condition: Eutrophic

Volume (acre-feet): 22

Watershed Characteristics

Land Use: Developed 11 %
Agriculture 35 %
Forest 47 %
Wetland 11 %
Mining 1 %
Barren 1 %

Drainage Area (mi²): 5.9

Topography: Coastal Plain Province

Major Soil Types: Lakeland-Galestown-Rumford Association

Point Sources: None

Nonpoint Sources: Urban and agricultural runoff

Current Water Quality Summary: No data found.

Impaired or Threatened Uses: None

Comments: Trophic condition based on personal observations of Maryland Fisheries Administration staff.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Morris Mill Pond

Owner Wicomico County

Location

County: Wicomico

Latitude: 3819.5

Longitude: 7536.2

Basin Number: 02130301

River/Stream: Slab Bridge Creek

Lake Characteristics

Mean Depth (ft): 3.2

Purpose: Recreation, Water Supply
and Irrigation

Surface Area (acres): 6.0

Normal Spillway Depth (ft): 7.8

Stratification: No

Trophic Condition: Eutrophic

Volume (acre-feet): 19

Watershed Characteristics

Land Use: Developed 11 %
Agriculture 35 %
Forest 42 %
Wetland 11 %
Mining %
Barren 1 %

Drainage Area (mi²): 5.1

Topography: Coastal Plain Province

Major Soil Types: Lakeland-Galestown-Rumford Association

Point Sources: None

Nonpoint Sources: Urban and Agricultural Runoff

Current Water Quality Summary: No data found

Impaired or Threatened Uses: None

Comments: Trophic condition based on personal observations of Maryland Fisheries Administration staff.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Myrtle Grove Lake

Owner Maryland Department of Natural Resources

Location

County: Charles

Latitude: 3833.9

Longitude: 7704.9

Basin Number: 02140111

River/Stream: Mattawoman Creek Tributary

Lake Characteristics

Mean Depth (ft): 3.8

Purpose: Recreation, Wildlife
Management

Surface Area (acres): 23

Normal Spillway Depth (ft): 8.5

Stratification: Yes

Trophic Condition: Eutrophic

Volume (acre-feet): 88

Watershed Characteristics

Land Use: Developed 13 %
Agriculture 12 %
Forest 74 %
Wetland 1 %
Mining _____ %
Barren _____ %

Drainage Area (mi²): 2.3

Topography: Coastal Plain Province

Major Soil Types: Beltsville-Sassafras Association

Point Sources: None

Nonpoint Sources: Urban and Agricultural runoff

Current Water Quality Summary: Shoreline survey indicates elevated fecal coliform bacteria.

Impaired or Threatened Uses: None

Comments: Largemouth Bass and Bluegills are predominant. Trophic condition and comments provided by personal observations of MD. Fisheries staff.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Lake Needwood

Owner Maryland National Capital Park and Planning Comm.

Location

County: Montgomery

Latitude: 3906.9

Longitude: 7707.8

Basin Number: 02140206

River/Stream: Rock Creek

Lake Characteristics

Mean Depth (ft): 8.1

Purpose: Flood Control, Recreation

Surface Area (acres): 74

Normal Spillway Depth (ft): 20.5

Stratification: No

Trophic Condition: Eutrophic

Volume (acre-feet): 600

Watershed Characteristics

Land Use: Developed 65 %
Agriculture 14 %
Forest 20 %
Wetland _____ %
Mining _____ %
Barren 1 %

Drainage Area (mi²): 12.8

Topography: Piedmont Province

Major Soil Types: Manor-Glenelg-Chester Association

Point Sources: None

Nonpoint Sources: Urban runoff

Current Water Quality Summary: No water quality data found. Trophic condition and comments provided by personal observations of Maryland Fisheries staff.

Impaired or Threatened Uses:

Comments: Good fishery - stocked with Rainbow Trout and Largemouth Bass. Hydrilla present.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name New Germany Lake

Owner Maryland Department of Natural Resources

Location

County: Garrett

Latitude: 3938.0

Longitude: 7907.3

Basin Number: 02141006

River/Stream: Poplar Lick Run

Lake Characteristics

Mean Depth (ft): 4

Purpose: Recreation

Surface Area (acres): 13

Normal Spillway Depth (ft): 8.5

Stratification: No

Trophic Condition: Mesotrophic

Volume (acre-feet): 52

Watershed Characteristics

Land Use: Developed _____ %
Agriculture 12 %
Forest 87 %
Wetland _____ %
Mining 1 %
Barren _____ %

Drainage Area (mi²): 1.8

Topography: Appalachian Plateau Province

Major Soil Types: Lebew-Calvin-Association

Point Sources: None

Nonpoint Sources: None

Current Water Quality Summary: No water quality data found. Trophic condition and comments provided by personal observations of Md. Fisheries staff.

Impaired or Threatened Uses: None

Comments: Excellent sport fishery.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Pine Lake

Owner Maryland National Capital Park and Planning Comm.

Location

County: Montgomery

Latitude: 3903.3

Longitude: 7702.4

Basin Number: 02140205

River/Stream: Northwest Branch Tributary

Lake Characteristics

Mean Depth (ft): 7.0

Purpose: Recreation

Surface Area (acres): 5

Normal Spillway Depth (ft): 4.5

Stratification: No

Trophic Condition: Eutrophic

Volume (acre-feet): 35

Watershed Characteristics

Land Use: Developed 57 %
Agriculture 10 %
Forest 30 %
Wetland %
Mining 2 %
Barren 1 %

Drainage Area (mi²): 0.3

Topography: Piedmont Province

Major Soil Types: Manor-Glenelg-Chester Association

Point Sources: None

Nonpoint Sources: Urban runoff

Current Water Quality Summary: No water quality data found. Trophic condition and comments provided by personal observations of Maryland Fisheries staff.

Impaired or Threatened Uses: None

Comments: Trout stocked (put and take)

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Piney Run Lake Reservoir

Owner Carroll County Commissioners

Location

County: Carroll

Latitude: 3923.0

Longitude: 7659.0

Basin Number: 02130908

River/Stream: Piney Run

Lake Characteristics

Mean Depth (ft): 20.3

Purpose: Flood Control, Water Supply
and Recreation

Surface Area (acres): 298

Normal Spillway Depth (ft): 54.5

Stratification: Yes

Trophic Condition: Mesotrophic

Volume (acre-feet): 6,036

Watershed Characteristics

Land Use: Developed 11%
Agriculture 57%
Forest 32%
Wetland %
Mining %
Barren %

Drainage Area (mi²): 10.4

Topography: Piedmont Province

Major Soil Types: Manor-Glenelg-Chester Association

Point Sources: None

Nonpoint Sources: Agricultural runoff

Current Water Quality Summary: Limited water quality exists. Trophic condition and comments based on personal observations and limited water quality data assessment of Maryland Fisheries Administration staff.

Impaired or Threatened Uses: None

Comments: Trending toward Eutrophic. High abundance of spiny naiad (SAV). Good Largemouth Bass, Pan Fish and Channel Catfish fishery.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Prettyboy Reservoir

Owner Baltimore City Department of Public Works

Location

County: Baltimore

Latitude: 3937.2

Longitude: 7642.5

Basin Number: 02130806

River/Stream: Gunpowder Falls

Lake Characteristics

Mean Depth (ft): 40.1

Purpose: Water Supply, Recreation

Surface Area (acres): 1500

Normal Spillway Depth (ft): 98.5

Stratification: Yes

Trophic Condition: Mesotrophic/
Eutrophic

Volume (acre-feet): 60,100

Watershed Characteristics

Land Use: Developed 7 %
Agriculture 60 %
Forest 33 %
Wetland %
Mining %
Barren %

Drainage Area (mi²): 80

Topography: Piedmont Province

Major Soil Types: Mt. Airy-Glenelg-Linganore Association

Point Sources: Manchester WWTP.

Nonpoint Sources: Agricultural runoff.

Current Water Quality Summary: Mean of Total P = 32 ug/l; Mean Secchi Depth 3.1M; Mean Chlorophyll "a" 3.9 ug/l.

Impaired or Threatened Uses: Water for drinking purposes may not be fully supported in the future because of anticipated changes in land use.

Comments:

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Rewastico Pond

Owner Wicomico County

Location

County: Wicomico

Latitude: 3824.7

Longitude: 7545.2

Basin Number: 02130305

River/Stream: Rewastico Creek

Lake Characteristics

Mean Depth (ft): 1.9

Purpose: Recreation

Surface Area (acres): 24.4

Normal Spillway Depth (ft): 4.8

Stratification: No

Trophic Condition: Eutrophic

Volume (acre-feet): 47

Watershed Characteristics

Land Use: Developed 2 %
Agriculture 38 %
Forest 42 %
Wetland 18 %
Mining _____ %
Barren _____ %

Drainage Area (mi²): 11.0

Topography: Coastal Plain Province

Major Soil Types: Fallsington-Woodstown-Othello-Pocomoke Association

Point Sources: None

Nonpoint Sources: Agricultural Runoff

Current Water Quality Summary: No water quality data found. Dense aquatic vegetative growth.

Impaired or Threatened Uses: None

Comments: Trophic condition and water quality summary based on personal observations of Maryland Fisheries Administration staff.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Rocky Gap Reservoir (Lake Habeeb)

Owner Maryland Department of Natural Resources

Location

County: Allegany

Latitude: 3942.1

Longitude: 7839.7

Basin Number: 02141002

River/Stream: Rocky Gap Run

Lake Characteristics

Mean Depth (ft): 25.8

Purpose: Recreation

Surface Area (acres): 208.5

Normal Spillway Depth (ft): 82

Stratification: Yes

Trophic Condition: Mesotrophic

Volume (acre-feet): 5,381

Watershed Characteristics

Land Use: Developed 10 %

Agriculture 18 %

Forest 72 %

Wetland _____ %

Mining _____ %

Barren _____ %

Drainage Area (mi²): 8.8

Topography: Valley and Ridge Province

Major Soil Types: Elliber-Corydon-DeKalb Association

Point Sources: None

Nonpoint Sources: Agricultural runoff.

Current Water Quality Summary: Low DO conditions exist in the reservoir during the summer.

Impaired or Threatened Uses: None

Comments: Excellent sport fishery. (Comments provided by Maryland Fisheries staff).

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Lake Roland

Owner Baltimore City

Location

County: Baltimore

Latitude: 3922.7

Longitude: 7638.6

Basin Number: 02130904

River/Stream: Jones Falls

Lake Characteristics

Mean Depth (ft): 10

Purpose: Recreation

Surface Area (acres): 100

Normal Spillway Depth (ft): 25

Stratification: Yes

Trophic Condition: Eutrophic

Volume (acre-feet): 1000

Watershed Characteristics

Land Use: Developed 66 %
Agriculture 11 %
Forest 23 %
Wetland _____ %
Mining _____ %
Barren _____ %

Drainage Area (mi²): 36.8

Topography: Piedmont Province

Major Soil Types: Manor-Glenelg-Chester Association

Point Sources: None

Nonpoint Sources: Urban Runoff

Current Water Quality Summary: Heavy siltation occurs in reservoir. Elevated Fecal Coliform bacteria and Nutrients. Mean Total P exceeds 40 ug/l; Chlorophyll "a" often above 10 ug/l.

Impaired or Threatened Uses: An advisory has been issued notifying individuals to limit consumption of carp and black crappie from Lake Roland. These fish should not be used as a substantial part of the daily diet due to elevated concentrations of Chlordane.

Comments: None

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name St. Mary's River Watershed Site #1 Owner Maryland Department of Natural Resources

Location

County: St. Mary's Latitude: 3815.1 Longitude: 7632.1
Basin Number: 02140103 River/Stream: West Branch St. Mary's River

Lake Characteristics

Mean Depth (ft): 12.8 Purpose: Flood Control, Recreation, Surface Area (acres): 250
Normal Spillway Depth (ft): 21 Fish and Wildlife
Stratification: Yes Trophic Condition: Eutrophic Volume (acre-feet): 3,200

Watershed Characteristics

Land Use: Developed 7 % Drainage Area (mi²): 8.75
Agriculture 27 %
Forest 65 % Topography: Coastal Plain Province
Wetland 1 %
Mining _____ % Major Soil Types: Beltsville-Sassafras Association
Barren _____ %

Point Sources: None

Nonpoint Sources: Agricultural runoff

Current Water Quality Summary: pH = 6 due to natural marsh drainage

Impaired or Threatened Uses: None

Comments: Excellent Largemouth Bass population. Trophic conditions and comments provided by personal observations of Maryland Fisheries staff.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Smithville Lake

Owner Maryland Department of Natural Resources

Location

County: Caroline

Latitude: 3846.4

Longitude: 7543.8

Basin Number: 02130306

River/Stream: Smithville Ditch

Lake Characteristics

Mean Depth (ft): 3.5

Purpose: Recreation, Crop Irrigation

Surface Area (acres): 40

Normal Spillway Depth (ft): 7.5

Stratification: No

Trophic Condition: Eutrophic

Volume (acre-feet): 140

Watershed Characteristics

Land Use:

Developed	2 %
Agriculture	59 %
Forest	35 %
Wetland	4 %
Mining	_____ %
Barren	_____ %

Drainage Area (mi²): 10

Topography: Coastal Plain Province

Major Soil Types: Fallsington-Woodstown-Othello-Pocomoke Association

Point Sources: None

Nonpoint Sources: Agricultural Runoff

Current Water Quality Summary: Extensive rooted and aquatic vegetation and some floating vegetation.
Periodic partial fish kills-several species.

Impaired or Threatened Uses: None

Comments: Trophic condition and water quality summary provided by personal observations of Maryland Fisheries Administration staff.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Savage River Reservoir

Owner Upper Potomac River Commission

Location

County: Garrett

Latitude: 3930.4

Longitude: 7907.9

Basin Number: 02141006

River/Stream: Savage River

Lake Characteristics

Mean Depth (ft): 55.6

Purpose: Flood Control, Recreation and
Low Flow Augmentation

Surface Area (acres): 360

Normal Spillway Depth (ft): 151.3

Stratification: Yes

Trophic Condition: Oligotrophic

Volume (acre-feet): 20,000

Watershed Characteristics

Land Use: Developed _____ %
Agriculture 12 %
Forest 87 %
Wetland _____ %
Mining 1 %
Barren _____ %

Drainage Area (mi²): 105

Topography: Appalachian Plateau Province

Major Soil Types: Dekalb-Gilpin-Ernest Association

Point Sources: None

Nonpoint Sources: None

Current Water Quality Summary: Trophic condition assessment provided by personal observations of Maryland Fisheries staff.

Impaired or Threatened Uses: None

Comments:

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Schumaker Pond

Owner City of Salisbury

Location

County: Wicomico

Latitude: 3821.2

Longitude: 7534.4

Basin Number: 02130301

River/Stream: Beaver Dam Creek

Lake Characteristics

Mean Depth (ft): 4.1

Purpose: Recreation

Surface Area (acres): 48.6

Normal Spillway Depth (ft): 10.2

Stratification: No

Trophic Condition: Eutrophic

Volume (acre-feet): 200

Watershed Characteristics

Land Use: Developed 12 %
Agriculture 35 %
Forest 42 %
Wetland 11 %
Mining _____ %
Barren _____ %

Drainage Area (mi²): 19.5

Topography: Coastal Plain Province

Major Soil Types: Lakeland-Galestown-Rumford Association

Point Sources: None

Nonpoint Sources: Agricultural and Urban runoff

Current Water Quality Summary: Excessive filamentous algae infestations. Dense rooted vegetation. Periodic partial fish population die-off.

Impaired or Threatened Uses: None

Comments: Trophic condition and water quality status provided by personal observations of Maryland Fisheries Administration staff.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name T. Howard Duckett Reservoir (Rocky Gorge) Owner Washington Suburban Sanitary Comm.

Location

County: Prince George's Latitude: 3907.0 Longitude: 7652.6
Basin Number: 02131107 River/Stream: Patuxent River

Lake Characteristics

Mean Depth (ft): 22 Purpose: Water Supply, Recreation Surface Area (acres): 773
Normal Spillway Depth (ft): 74
Stratification: Yes Trophic Condition: Mesotrophic/Eutrophic Volume (acre-feet): 17,000

Watershed Characteristics

Land Use: Developed 15% Drainage Area (mi²): 132
Agriculture 46%
Forest 38% Topography: Piedmont Province
Wetland % Major Soil Types: Manor-Glenelg-Chester Association
Mining %
Barren 1%

Point Sources: None

Nonpoint Sources: Agricultural runoff

Current Water Quality Summary: Mean Total P >40ug/l; mean chlorophyll "a" >10 ug/l.

Impaired or Threatened Uses: None

Comments: Excellent fishery - Largemouth Bass, Hybrid Stripped Bass, Walleye, Northern Pike, Smallmouth Bass, Catfish and Yellow Perch available.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Tonytank Lake

Owner Maryland State Highway Administration

Location

County: Wicomico

Latitude: 3820.1

Longitude: 7536.8

Basin Number: 02130301

River/Stream: Tonytank Creek

Lake Characteristics

Mean Depth (ft): 2.4

Purpose: Recreation

Surface Area (acres): 42

Normal Spillway Depth (ft): 6.1

Stratification: No

Trophic Condition: Eutrophic

Volume (acre-feet): 100

Watershed Characteristics

Land Use: Developed 11 %
Agriculture 35 %
Forest 42 %
Wetland 11 %
Mining _____ %
Barren 1 %

Drainage Area (mi²): 11.5

Topography: Coastal Plain Province

Major Soil Types: Lakeland-Galestown-Rumford Association

Point Sources: Dresser Industries

Nonpoint Sources: Agricultural and Urban runoff

Current Water Quality Summary: Limited water quality data exists. Excessive Total P (Mean > 40 ug/l)

Impaired or Threatened Uses: None

Comments: Trophic condition based on limited water quality data of the Maryland Department of the Environment and on personal observations of Maryland Fisheries Administration staff.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Tonytank Pond

Owner Wicomico County

Location

County: Wicomico

Latitude: 3820.5

Longitude: 7537.6

Basin Number: 02130301

River/Stream: Tonytank Creek

Lake Characteristics

Mean Depth (ft): 2.3

Purpose: Recreation

Surface Area (acres): 41.3

Normal Spillway Depth (ft): 6

Stratification: No

Trophic Condition: Eutrophic

Volume (acre-feet): 96

Watershed Characteristics

Land Use: Developed 11 %
Agriculture 35 %
Forest 42 %
Wetland 11 %
Mining _____ %
Barren 1 %

Drainage Area (mi²): 11.6

Topography: Coastal Plain Province

Major Soil Types: Lakeland-Galestown-Rumford Association

Point Sources: None

Nonpoint Sources: Agricultural and Urban Runoff.

Current Water Quality Summary: Limited water quality data exists. Excessive Total P (Mean > 40 ug/l).

Impaired or Threatened Uses: None

Comments: Trophic condition based on limited water quality data of the Maryland Department of the Environment and on personal observations of Maryland Fisheries Administration staff.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Triadelphia Reservoir

Owner Washington Suburban Sanitary Commission

Location

County: Montgomery

Latitude: 3911.6

Longitude: 7700.3

Basin Number: 02131108

River/Stream: Patuxent River

Lake Characteristics

Mean Depth (ft): 23.8

Purpose: Water Supply, Recreation

Surface Area (acres): 800

Normal Spillway Depth (ft): 52

Stratification: Yes

Trophic Condition: Mesotrophic

Volume (acre-feet): 19,000

Watershed Characteristics

Land Use: Developed 6 %
Agriculture 63 %
Forest 31 %
Wetland %
Mining %
Barren %

Drainage Area (mi²): 77.3

Topography: Piedmont Province

Major Soil Types: Manor-Glenelg-Chester Association

Point Sources: None

Nonpoint Sources: Agricultural runoff

Current Water Quality Summary: Limited water quality data found. Trophic Condition and Comments based on personal observations and limited water quality data assessment of Maryland Fisheries Administration staff.

Impaired or Threatened Uses: None

Comments: Good Fishery for variety of warm water fish. A tree farm program is conducted on buffer areas owned by WSSC around reservoir in cooperation with MD. DNR.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Tuckahoe State Park (Recreation Lake No. 1) Owner Maryland Department of Natural Resources

Location

County: Caroline Latitude: 3858.0 Longitude: 7556.6
Basin Number: 02130405 River/Stream: Tuckahoe Creek

Lake Characteristics

Mean Depth (ft): 0.30 Purpose: Recreation Surface Area (acres): 86
Normal Spillway Depth (ft): 9
Stratification: No Trophic Condition: Eutrophic Volume (acre-feet): 26

Watershed Characteristics

Land Use: Developed 1%
Agriculture 73%
Forest 25%
Wetland 1%
Mining %
Barren %
Drainage Area (mi²): 99.8
Topography: Coastal Plain Province
Major Soil Types: Lakeland-Galestown-Rumford Association

Point Sources: None

Nonpoint Sources: Agricultural runoff

Current Water Quality Summary: (1) Limited water quality data exists. (2) Periodic low dissolved O₂ levels.
(3) Excessive filamentous algae infestation.

Impaired or Threatened Uses: None

Comments: Trophic condition and water quality summary based on personal observation and limited water quality data assessment of Maryland Fisheries Administration staff.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Unicorn Mill Pond

Owner Maryland Department of Natural Resources

Location

County: Queen Anne's

Latitude: 3914.8

Longitude: 7551.6

Basin Number: 02130510

River/Stream: Unicorn Branch

Lake Characteristics

Mean Depth (ft): 2.4

Purpose: Recreation

Surface Area (acres): 48

Normal Spillway Depth (ft): 7

Stratification: No

Trophic Condition: Eutrophic

Volume (acre-feet): 116

Watershed Characteristics

Land Use: Developed 1 %
Agriculture 67 %
Forest 31 %
Wetland 1 %
Mining %
Barren %

Drainage Area (mi²): 22.3

Topography: Coastal Plain Province

Major Soil Types: Matapeake-Mattapex-Butlertown Association

Point Sources: None

Nonpoint Sources: Agricultural runoff

Current Water Quality Summary: No water quality data found. Excessive filamentous algae and floating vegetative infestation.

Impaired or Threatened Uses: None

Comments: Trophic condition and aquatic vegetation status based on personal observations of Maryland Fisheries Administration staff.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Uriveville Community Lake Owner Maryland Department of Natural Resources

Location

County: Kent Latitude: 3916.5 Longitude: 7601.1
Basin Number: 02130509 River/Stream: Morgan Creek Tributary

Lake Characteristics

Mean Depth (ft): 3.8 Purpose: Recreation, Agricultural Surface Area (acres): 35
Normal Spillway Depth (ft): 9.6 water supply
Stratification: No Trophic Condition: Eutrophic Volume (acre-feet): 134

Watershed Characteristics

Land Use: Developed 5% Drainage Area (mi²): 8.5
Agriculture 85%
Forest 8% Topography: Coastal Plain Province
Wetland 2%
Mining % Major Soil Types: Matapeake-Mattapex-Butlertown Association
Barren %

Point Sources: None

Nonpoint Sources: Agricultural Runoff

Current Water Quality Summary: Excession filamentous algae and rooted plant communities. Periodic low dissolved oxygen levels. Periodic partial fish population die-off.

Impaired or Threatened Uses: None

Comments: Trophic condition and water quality summary based on personal observations and limited water quality measurements of Maryland Fisheries Administration staff.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Lake Waterford

Owner Anne Arundel County

Location

County: Anne Arundel

Latitude: 3906.8

Longitude: 7633.3

Basin Number: 02131001

River/Stream: Magothy River

Lake Characteristics

Mean Depth (ft): 5.5

Purpose: Recreation

Surface Area (acres): 12

Normal Spillway Depth (ft): 11

Stratification: Yes

Trophic Condition: Eutrophic

Volume (acre-feet): 66

Watershed Characteristics

Land Use: Developed 83 %

Agriculture 2 %

Forest 12 %

Wetland 2 %

Mining %

Barren 1 %

Drainage Area (mi²): 5.1

Topography: Coastal Plain Province

Major Soil Types: Lakeland-Galestown-Runford Association

Point Sources: None

Nonpoint Sources: Urban Runoff

Current Water Quality Summary: No recent data available

Impaired or Threatened Uses: None

Comments: Lake stocked with Trout and Largemouth Bass.
SAV and algae abundant. Trophic conditions and comments provided by personal observations of Maryland Fisheries staff.

Md. Dept. of Environment (1/88).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Wilde Lake

Owner Columbia Association

Location

County: Howard

Latitude: 3913.4

Longitude: 7651.6

Basin Number: 02131106

River/Stream: Little Patuxent River Tributary

Lake Characteristics

Mean Depth (ft): 8.8

Purpose: Recreation

Surface Area (acres): 23

Normal Spillway Depth (ft): 20

Stratification:

Trophic Condition: Eutrophic

Volume (acre-feet): 202

Watershed Characteristics

Land Use: Developed 18 %
Agriculture 46 %
Forest 36 %
Wetland %
Mining %
Barren %

Drainage Area (mi²): 3.6

Topography: Piedmont Province

Major Soil Types: Manor-Glenelg-Chester Association

Point Sources: None

Nonpoint Sources: Urban and Agricultural runoff

Current Water Quality Summary: No water quality data found. Trophic condition and comments provided by personal observations of Maryland Fisheries staff.

Impaired or Threatened Uses:

Comments: Stocked with Largemouth Bass and Rainbow Trout (put and take), Clean Lakes Program .

Md. Dept. of Environment (1/B8).

MARYLAND LAKE IDENTIFICATION AND CLASSIFICATION SURVEY

Name Wye Mills Community Lake

Owner Maryland Department of Natural Resources

Location

County: Queen Anne's

Latitude: 3856.5

Longitude: 7604.9

Basin Number: 02130503

River/Stream: Wye East River

Lake Characteristics

Mean Depth (ft): 4.9

Purpose: Recreation

Surface Area (acres): 61.5

Normal Spillway Depth (ft): 12.3

Stratification: No

Trophic Condition: Eutrophic

Volume (acre-feet): 302

Watershed Characteristics

Land Use: Developed 2 %
 Agriculture 78 %
 Forest 20 %
 Wetland _____ %
 Mining _____ %
 Barren _____ %

Drainage Area (mi²): 10.2

Topography: Coastal Plain Province

Major Soil Types: Sassafras-Metapeake-Woodstown Association

Point Sources: Friel Food Processors (cooling water)

Nonpoint Sources: Agricultural runoff

Current Water Quality Summary: Excessive filamentous algae infestation. Periodic low dissolved oxygen levels. Periodic odors from vegetation.

Impaired or Threatened Uses: None

Comments: Periodic partial fish population die-off - bass and bluegill. Trophic condition, water quality status, and comments provided by Maryland Fisheries Administration staff.

Md. Dept. of Environment (1/88).

APPENDIX E

Water Quality Trend Analysis

Methods for determining trends in water quality parameters vary from simple qualitative observations of the data to testing for changes in a mathematical index of water quality to highly rigorous and powerful statistical tests on water quality data. Obvious trends in water quality can frequently be observed as a graph of the data plotted as a time series (Appendix Figure E-1).

The ability to detect small, but significant changes in water quality requires some mathematical analysis of the data. Usually, these statistical tests are parametric tests (e.g. linear regression techniques, analysis of variance, multivariate analysis) which assume that the data are sampled from a "normal" distribution of data. Most water quality parameters collected at random, however, do not display a normal frequency distribution. They may exhibit a season or streamflow dependence, be skewed, peaked, or even multimodal. Mathematical transformation of the data may or may not result in a normal distribution. In many instances, parametric statistic tests are executed on selected water quality data sets with no information provided about the underlying distribution of data; normality is assumed. Such an assumption regarding the underlying distribution, however, is a fatal flaw in these studies. In addition, methods of dealing with missing data and data outside of laboratory detection limits are usually not described.

The technique chosen for determination of trends in water quality parameters for the 1985-7 Maryland Water Quality Inventory is a non-parametric test (seasonal Kendall's tau) developed by Hirsch, et al. (1982), which addresses many of the faults that the more commonly used parametric tests ignore. This non-parametric test is a modification of Kendall's test for correlation to test for randomness against trend. Seasonal dependence is removed by comparing similar seasons. Streamflow

PH
STATION NBP0597
1978 - 1985

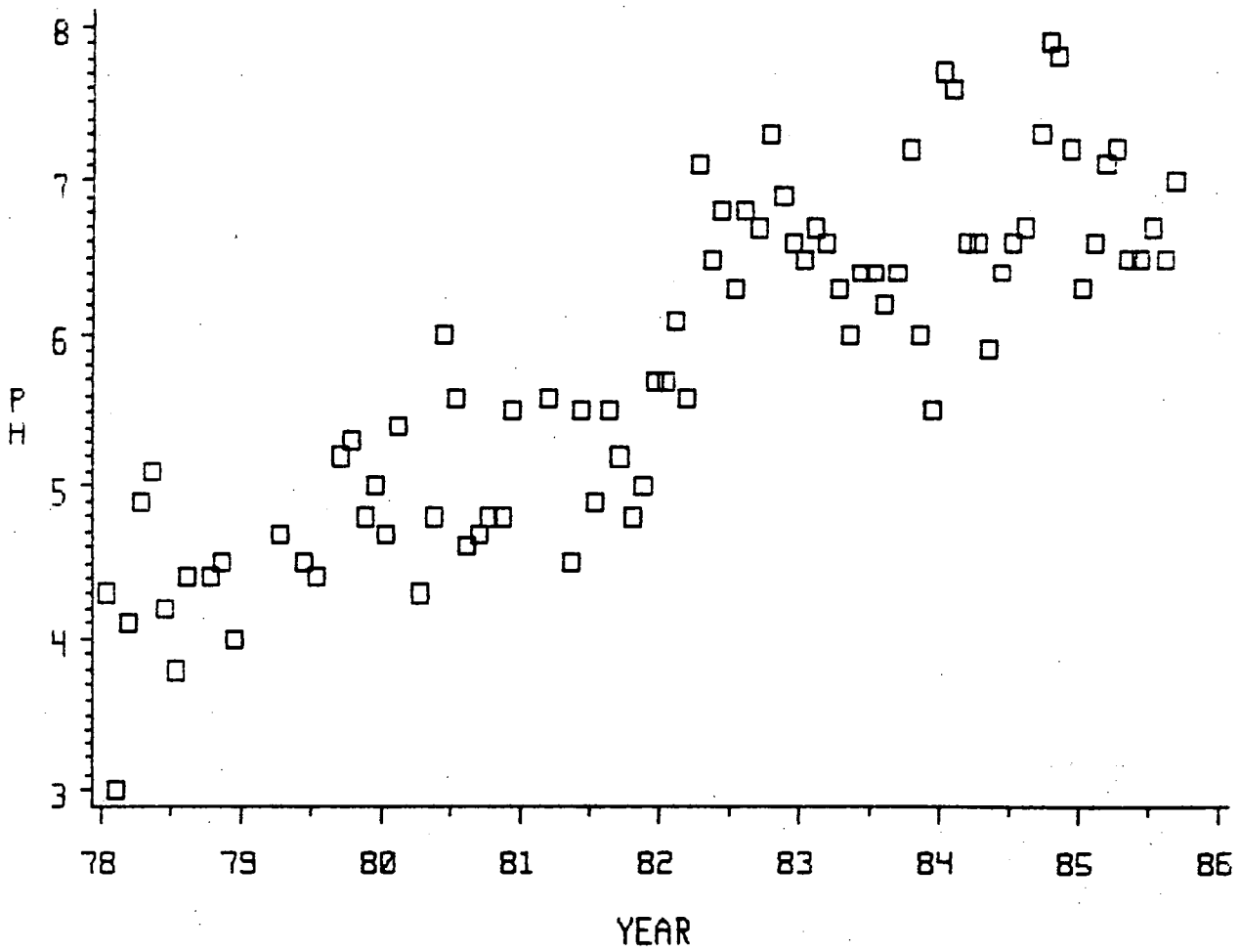


FIGURE 1. Example of water quality time series (pH in the North Branch Potomac River) showing increasing trend.

dependance is removed using a linear regression technique to determine any relationship between the parameter to be tested and measured streamflow. If the relationship is significant, the regression residuals are used as flow corrected concentrations. Missing values may constitute up to 50% of the observations, data values outside of laboratory detection limits can be handled and even "outlying" data may be included without significantly affecting the power of this test procedure. As with other non-parametric tests, the seasonal Kendall's tau test is distribution-free; that is, knowing what the underlying distribution of sampled data is is not necessary.

For each month, data in early years are compared to later years and the sum of higher, lower and tied values determined. Any data below the laboratory detection limit is assigned a value below the lowest measured value. In a data set with random values, the number of higher values in later years would be the same, or close to the same number of lower values. Higher values in later years would indicate an increasing trend while lower values in later years would indicate a decreasing trend. Summarizing these seasonal (monthly) high, low and tied values provides information about the overall trend.

As described in Hirsch, et al. (1982), when the number of data points is as low as 10, the distribution of the differences between the plus and minus values approximates the normal distribution. Therefore, the standard normal distribution (Z) can be used to determine significance of the trend (H_0 - there is no trend in the data; H_1 - there is a trend in the data).

METHODOLOGY

According to Hirsch and Slack (1982), the seasonal Kendall's tau procedure requires only two years of monthly data to determine trend (24 data points, one comparison per month). The 1986 305(b) report guidance from the U.S. Environmental

Protection Agency (1985) requested examination of a six year trend period. For this analysis, however, a 10-year period was selected as the maximum range to analyze for water quality trends. As the State's water quality data base was being transferred to a new system, only data through 1985 could be considered complete. A 10-year trend period would then starting as early as 1976. This 10-year period includes a period of continuous water quality sampling (samples collected for EPA's CORE program in Maryland since 1974) and laboratory protocol. In addition, significant changes in water quality could be expected due to point source control measures enacted under provisions of the federal Clean Water Act.

STATION SELECTION

For the 10-year period between 1975 and 1986, water quality samples were collected from more than 2,100 stations located throughout the State (Appendix Figure E-2a). Many of these stations represent intensive sampling efforts and have been sampled infrequently during the past 10-year period. To properly utilize the seasonal Kendall's tau test, however, water quality data should be collected on a routine basis (weekly, monthly, seasonally) for a number of years. After analysis of sampling frequency (at least six years of monthly data, no more than two continuous years of missing data, sampling records of at least 10 months), 95 stations were selected for analysis (Appendix Figure E-2b).

Uncertainty about the suitability of this trend analysis procedure for tidal station data (e.g. multiple depths, stratification, tide direction) resulted in the deletion of 15 stations from consideration of trend analysis. In addition, further examination of the sources and record of data and the relative value of any trend results, permitted deletion of 13 additional stations from consideration of trend analysis. Out of

MARYLAND

WATER QUALITY MONITORING STATIONS 1976 - 1986

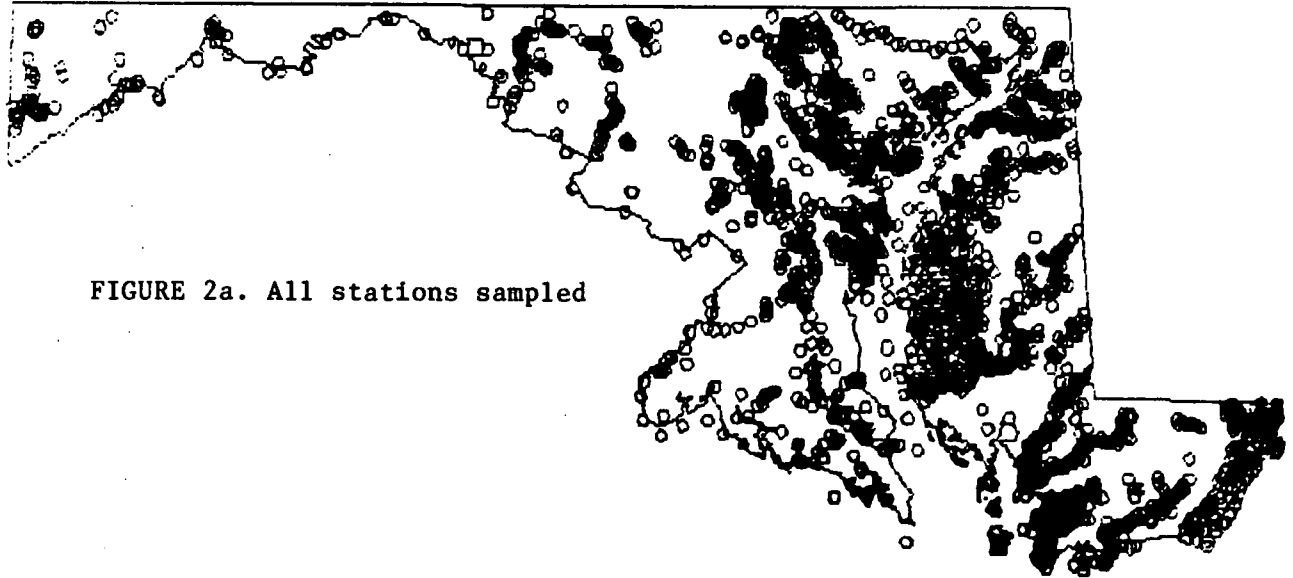


FIGURE 2a. All stations sampled

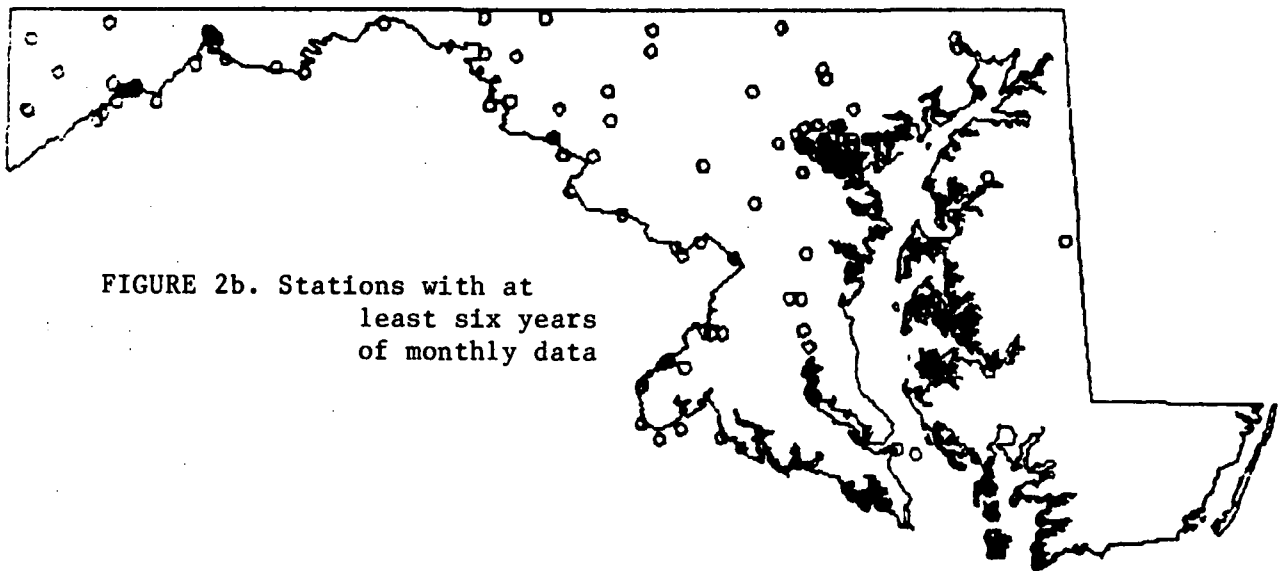


FIGURE 2b. Stations with at
least six years
of monthly data

FIGURE 2. Location of surface water quality monitoring stations in Maryland, 1976-1985.

a pool of 95 stations with a sufficient data record, 67 stations were used to determine water quality trends.

PARAMETER SELECTION

The selection of water quality parameters to be analyzed for trends is as important as selecting stations. More than 100 parameters are provided for in the State's Water Quality File with 23 parameters routinely tested in the State's CORE program. Rather than examine the possibilities of analyzing up to 100 parameters for each station, a list of "critical water quality parameters" was created that might directly affect fishing and swimming uses (e.g. nutrients, suspended solids, bacteria, pH, temperature, and dissolved oxygen). Nutrients examined included only total phosphorus and total nitrogen; determining total nutrient levels permits analysis without becoming concerned about seasonal biological processes that might affect certain nutrient species such as orthophosphate and ammonia (Baeck, 1985). Water quality problems in each watershed were identified from past State Water Quality Reports. For the selected trend analysis stations, only "critical water quality parameters" were identified for analysis (Appendix Table E-1).

RESULTS

Results of seasonal Kendall's tau test procedures for "critical" water quality parameters at selected stations in the State are summarized in Appendix Table E-2. The dates provided encompass data collected during a calendar year (January through December). The "flow adjusted" column (Yes or No) indicates whether a significant streamflow-concentration relationship (linear, log-linear, log-log, inverse, hyperbolic, or quadratic) was revealed using linear regression techniques. The "Kendall's t (tau)" column provides the calculated statistic. The "trend" column describes whether an increasing trend (+), no trend (●), or a declining trend (-) is present, and the "significant" column

TABLE 1
1985-7 Maryland Water Quality Inventory Report
Trend Stations by Watershed

<i>BASIN</i> <i>STATION (segment)</i>	<i>Nutr</i>	<i>Suss</i>	<i>Bact</i>	<i>DO</i>	<i>pH</i>	<i>Temp</i>
<u>Ocean/Coastal (02-13-01)</u>						
None						
<u>Pocomoke River (02-13-02)</u>						
None						
<u>Wicomico River (02-13-03)</u>						
None						
<u>Choptank River (02-13-04)</u>						
CH00626 (04)	*					
<u>Chester River (02-13-05)</u>						
None						
<u>Elk River(02-13-06)</u>						
None						
<u>Susquehanna River (02-12-02)</u>						
SUS0109 (01)	*			*		
DER0015 (02)	*	*	*			
<u>Conewago Creek (02-12-05)</u>						
None						
<u>Bush River (02-13-07)</u>						
None						
<u>Gunpowder River (02-13-08)</u>						
GUN0125 (02)	*	*	*			
GUN0237 (05)	*		*			
GUN0258 (05)	*		*			
GUN0476 (06)	*					
<u>Patapsco River (02-13-09)</u>						
JON0023 (04)	*	*	*			
JON0034 (04)	*	*	*			
JON0074 (04)	*	*	*			
JON0184 (04)	*	*	*			
GWN0022 (05)	*	*	*			

LEGEND: Nutr - nutrients Bact - bacteria pH - pH/alkalinity
 Suss - suspended solids DO - oxygen Temp - temperature

TABLE 1
 1985-7 Maryland Water Quality Inventory Report
 Trend Stations by Watershed
 - continued -

BASIN STATION (segment)	Nutr	Suss	Bact	DO	pH	Temp
<u>Patapsco River (02-13-09) - continued</u>						
GWN0054 (05)	*	*	*			
GWN0075 (05)	*	*	*			
GWN0115 (05)	*	*	*			
PAT0176 (06)	*	*	*			
PAT0285 (06)	*	*	*			
NPA0165 (07)	*	*	*			
<u>West Chesapeake (02-13-10)</u>						
None						
<u>Patuxent River (02-13-11)</u>						
PXT0603 (04)		*	*			
PXT0809 (04)		*	*			
PXT0972 (08)	*		*			
<u>Chesapeake Bay (02-13-99)</u>						
None						
<u>Lower Potomac River (02-14-01)</u>						
MAT0078 (11)	*	*	*		*	
<u>Potomac - Metropolitan Washington (02-14-02)</u>						
POT1184 (02)	*	*	*			
POT1471 (02)	*	*	*			
PIS0033 (03)	*	*	*			
ANA0082 (05)		*	*			
RCM0111 (06)		*	*			
CJB0005 (07)		*	*			
SEN0008 (08)		*	*			
<u>Middle Potomac River (02-14-03)</u>						
POT1595 (01)		*	*			
POT1596 (01)		*	*			
MON0020 (02)	*	*	*	*		
MON0155 (02)	*	*	*	*		
MON0269 (03)	*	*	*	*		*
MON0528 (03)	*	*	*	*		*
BPC0035 (04)	*	*	*			*
CAC0031 (05)	*	*	*		*	*
CAC0148 (05)	*	*	*		*	*

LEGEND: Nutr - nutrients Bact - bacteria pH - pH/alkalinity
 Suss - suspended solids DO - oxygen Temp - temperature

TABLE 1
 1985-7 Maryland Water Quality Inventory Report
 Trend Stations by Watershed
 - continued -

BASIN STATION (segment)	Nutr	Suss	Bact	DO	pH	Temp
<u>Upper Potomac River (02-14-05)</u>						
POT1830 (01)	*		*			
POT2386 (01)	*		*			
ANT0044 (02)	*		*			
ANT0203 (02)	*		*			
ANT0366 (02)	*		*			
CON0005 (04)	*		*		*	
CON0180 (04)	*		*		*	
POT2766 (08)		*	*			
<u>North Branch Potomac River (02-14-10)</u>						
NBP0023 (01)	*		*		*	
NBP0103 (01)	*		*		*	
NBP0196 (01)	*		*		*	
NBP0217 (01)	*		*		*	
NBP0326 (01)	*		*		*	
NBP0461 (01)	*		*		*	
BDK0000 (03)			*		*	
WIL0013 (03)			*		*	
GEO0009 (04)			*		*	
NBP0514 (05)		*	*		*	
NBP0534 (05)		*	*		*	
NBP0597 (05)		*	*		*	
NBP0689 (05)		*	*		*	
AAR0000 (06)			*		*	*
SAV0000 (06)			*		*	*
SAV0037 (06)			*		*	*
<u>Youghiogheny River (05-02-02)</u>						
YOU0925 (01)	*	*	*		*	
YOU1139 (01)	*	*	*		*	
LY00004 (02)	*	*	*		*	
CCR0001 (03)			*		*	
CAS0479 (04)			*		*	

LEGEND: Nutr - nutrients Bact - bacteria pH - pH/alkalinity
 Suss - suspended solids DO - oxygen Temp - temperature

TABLE 2
MARYLAND SURFACE WATER QUALITY TREND SUMMARY

Station	Variable	Dates	Flow Adjusted	Kendall's t	Trend	Significant
CHOPTANK RIVER (SUB-BASIN 02-13-04)						
CH00626	Total phosphorus	1976-85	N	-0.00310	●	
	Total nitrogen	1976-85	N	0.05282	●	
	Fecal coliform bacteria	insufficient data				
SUSQUEHANNA RIVER AREA (SUB-BASIN 02-12-02)						
SUS0109	Dissolved oxygen	1976-85	N	-0.03604	●	
	Total suspended solids	1976-85	Y	-0.04950	●	
	Total phosphorus	1976-85	N	-0.02011	●	
	Total nitrogen	1976-85	N	0.35625	+	Y
	Fecal coliform bacteria	1976-85	N	-0.17277	-	N
DER0015	Total suspended solids	1976-85	N	-0.14973	-	N
	Total phosphorus	1976-85	N	-0.04878	●	
	Total nitrogen	1976-85	N	0.42132	+	Y
	Fecal coliform bacteria	insufficient data				
GUNPOWDER RIVER (SUB-BASIN 02-13-08)						
GUN0125	Total suspended solids	1976-85	N	-0.05516	●	
	Total phosphorus	1976-85	N	0.05613	●	
	Total nitrogen	1976-83	Y	0.03896	●	
	Fecal coliform bacteria	1976-85	N	0.06751	●	
GUN0237	Total phosphorus	1976-82	N	0.06748	●	
	Total nitrogen	1976-82	N	0.21186	+	N
	Fecal coliform bacteria	1976-82	N	-0.13131	●	
GUN0258	Total phosphorus	1980-85	N	0.00885	●	
	Total nitrogen	1980-85	N	0.25253	+	Y
	Fecal coliform bacteria	1980-85	N	-0.14433	●	
GUN0476	Total phosphorus	1976-85	N	0.07317	●	
	Total nitrogen	1976-85	N	0.20833	+	Y
PATAPSCO RIVER (SUB-BASIN 02-13-09)						
JON0023	Total suspended solids	1976-84	N	-0.17526	-	N
	Total phosphorus	insufficient data				
	Total nitrogen	insufficient data				
	Fecal coliform bacteria	1976-84	N	-0.21893	-	Y
JON0034	Total suspended solids	1976-84	N	-0.14368	-	N
	Total phosphorus	insufficient data				
	Total nitrogen	insufficient data				
	Fecal coliform bacteria	1976-84	N	-0.30769	-	Y
JON0074	Total suspended solids	1976-84	N	0.01840	●	
	Total phosphorus	insufficient data				
	Total nitrogen	insufficient data				
	Fecal coliform bacteria	1976-84	N	0.06509	●	

TABLE 2
MARYLAND SURFACE WATER QUALITY TREND SUMMARY
 - continued -

Station	Variable	Dates	Flow Adjusted	Kendall's t	Trend	Significant
PATAPSCO RIVER (SUB-BASIN 02-13-09) - continued						
JON0184	Total suspended solids	1976-85	N	-0.05250	●	
	Total phosphorus	1976-85	N	-0.03069	●	
	Total nitrogen	1976-85	Y	0.24571	+	Y
	Fecal coliform bacteria	1976-85	N	0.02049	●	
GWN0022	Total suspended solids	1976-85	N	-0.14085	-	N
	Total phosphorus	insufficient data				
	Total nitrogen	insufficient data				
	Fecal coliform bacteria	1976-85	N	-0.25095	-	Y
GWN0054	Total suspended solids	1976-85	N	0.01408	●	
	Total phosphorus	insufficient data				
	Total nitrogen	insufficient data				
	Fecal coliform bacteria	1976-85	N	0.07224	●	
GWN0075	Total suspended solids	1976-85	N	0.01172	●	
	Total phosphorus	insufficient data				
	Total nitrogen	insufficient data				
	Fecal coliform bacteria	1976-85	N	-0.03802	●	
GWN0115	Total suspended solids	1976-85	N	-0.05371	●	
	Total phosphorus	1976-85	N	0.06500	●	
	Total nitrogen	1976-85	Y	0.15733	+	Y
	Fecal coliform bacteria	1976-85	N	-0.03404	●	
PAT0176	Total suspended solids	1976-85	N	-0.09339	●	
	Total phosphorus	1976-85	N	0.08250	●	
	Total nitrogen	1976-85	Y	0.21925	+	Y
	Fecal coliform bacteria	1976-85	N	-0.12500	-	N
PAT0285	Total suspended solids	1976-85	N	-0.06148	●	
	Total phosphorus	1976-85	N	0.19679	+	Y
	Total nitrogen	1976-85	Y	0.34211	+	Y
	Fecal coliform bacteria	1976-85	N	0.07586	●	
NPA0165	Total suspended solids	1976-85	N	-0.13089	-	N
	Total phosphorus	1976-85	N	0.01253	●	
	Total nitrogen	1976-85	Y	0.34969	+	Y
	Fecal coliform bacteria	1976-85	N	-0.21990	-	Y
PATUXENT RIVER (SUB-BASIN 02-13-11)						
PXT0603	Total suspended solids	1976-85	Y	-0.12963	-	N
	Fecal coliform bacteria	1977-85	N	0.25463	+	Y
PXT0809	Total suspended solids	1977-85	N	-0.02546	●	
	Fecal coliform bacteria	1977-85	N	0.09954	+	N
PXT0972	Total phosphorus	1976-85	N	0.15556	+	Y
	Total nitrogen	1976-85	N	0.32037	+	Y
	Fecal coliform bacteria	1976-85	N	0.09815	+	N

TABLE 2
MARYLAND SURFACE WATER QUALITY TREND SUMMARY
 - continued -

Station	Variable	Dates	Flow Adjusted	Kendall's t	Trend	Significant
LOWER POTOMAC RIVER (SUB-BASIN 02-14-01)						
MAT0078	Total suspended solids	1976-85	N	0.14074	+	Y
	Total phosphorus	1976-85	N	0.22963	●	
	Total nitrogen	1976-85	N	0.08519	+	Y
POTOMAC RIVER - WASHINGTON METRO AREA (SUB-BASIN 02-14-02)						
POT1184	Total suspended solids	1976-84	Y	-0.09954	-	N
	Total phosphorus	1976-85	N	0.20926	+	Y
	Total nitrogen	1976-84	Y	0.46065	+	Y
POT1471	Total suspended solids	1977-85	N	0.10880	+	N
	Total phosphorus	1977-85	N	0.28105	+	Y
	Total nitrogen	1976-85	N	0.32692	+	Y
PIS0033	Total suspended solids	1977-85	N	-0.26103	-	Y
	Total phosphorus	1977-85	N	0.01365	●	
	Total nitrogen	1977-85	N	0.13971	+	N
ANA0082	Total suspended solids	1977-85	N	-0.15016	-	N
	Fecal coliform bacteria	1977-85	N	0.05285	●	
RCM0111	Total suspended solids	1977-85	N	-0.18545	-	Y
	Fecal coliform bacteria	1977-85	N	-0.19651	-	Y
CJB0005	Total suspended solids	1977-85	N	-0.12230	-	N
	Fecal coliform bacteria	1977-85	N	-0.08696	●	
SEN0008	Total suspended solids	1977-85	N	-0.21967	-	Y
	Fecal coliform bacteria	1977-85	N	-0.19831	-	Y
MIDDLE POTOMAC RIVER (SUB-BASIN 02-14-03)						
POT1595	Total suspended solids	1976-85	N	-0.20743	-	Y
	Total phosphorus	1976-85	N	0.23529	+	Y
	Total nitrogen	1976-85	N	0.38276	+	Y
	Fecal coliform bacteria	1976-85	N	0.00405	●	
POT1596	Total suspended solids	1979-85	N	-0.11696	●	
	Total phosphorus	1979-85	N	0.08475	●	
	Total nitrogen	1979-85	N	0.08242	●	
	Fecal coliform bacteria	1979-85	N	-0.05298	●	
MON0020	Dissolved oxygen	1977-85	N	0.03427	●	
	Total suspended solids	1977-85	N	-0.05611	●	
	Total phosphorus	1977-85	N	0.11254	●	
	Total nitrogen	1977-85	N	0.20415	+	Y
	Fecal coliform bacteria	1977-85	N	-0.04762	●	

TABLE 2
MARYLAND SURFACE WATER QUALITY TREND SUMMARY
- continued -

Station	Variable	Dates	Flow Adjusted	Kendall's t	Trend	Significant
MIDDLE POTOMAC RIVER (SUB-BASIN 02-14-03) - continued						
MON0155	Dissolved oxygen	1979-85	N	-0.11538	●	
	Total suspended solids	1979-85	Y	0.10606	●	
	Total phosphorus	1979-85	N	0.15426	+	N
	Total nitrogen	1979-85	N	0.05319	●	
	Fecal coliform bacteria	1979-85	N	0.23387	+	Y
MON0269	Dissolved oxygen	1978-85	N	-0.29167	-	Y
	Total suspended solids	1978-85	N	-0.15789	-	N
	Total phosphorus	1978-85	N	-0.01709	●	
	Total nitrogen	1978-85	N	-0.01449	●	
	Fecal coliform bacteria	1978-85	N	0.03550	●	
MON0528	Dissolved oxygen	1977-85	N	-0.16498	-	N
	Total suspended solids	1977-85	N	-0.02759	●	
	Total phosphorus	1977-85	N	-0.03030	●	
	Total nitrogen	1977-85	Y	0.07179	●	
	Fecal coliform bacteria	1977-85	N	-0.04286	●	
BPC0035	Total suspended solids	1978-85	Y	-0.26667	-	Y
	Total phosphorus	1978-85	N	-0.01395	●	
	Total nitrogen	1978-85	N	0.18033	+	N
	Fecal coliform bacteria	1978-85	N	0.01258	●	
CAC0031	Temperature	1977-85	N	-0.08276	●	
	pH	1977-85	N	-0.17293	-	N
	Total suspended solids	1977-85	N	-0.07971	●	
	Total phosphorus	1977-85	N	0.04348	●	
	Total nitrogen	1977-85	N	0.25703	+	Y
	Fecal coliform bacteria	1977-85	N	-0.11707	●	
CAC0148	Temperature	1977-85	N	-0.05654		
	pH	1977-85	N	-0.15326	-	N
	Total suspended solids	1977-85	Y	-0.20648	-	Y
	Total phosphorus	1977-85	N	-0.02120	●	
	Total nitrogen	1977-85	Y	0.28358	+	Y
	Fecal coliform bacteria	1977-85	N	0.06667	●	
UPPER POTOMAC RIVER (SUB-BASIN 02-14-05)						
POT1830	Total phosphorus	1976-85	N	0.17158	+	Y
	Total nitrogen	1976-85	N	0.30435	+	Y
	Fecal coliform bacteria	1976-85	N	-0.23630	-	Y
POT2386	Total phosphorus	insufficient data				
	Total nitrogen	insufficient data				
	Fecal coliform bacteria	insufficient data				
ANT0044	Total phosphorus	1976-85	Y	0.39576	+	Y
	Total nitrogen	1977-85	N	0.60526	+	Y
	Fecal coliform bacteria	1976-85	N	-0.09160	●	

TABLE 2
 MARYLAND SURFACE WATER QUALITY TREND SUMMARY
 - continued -

Station	Variable	Dates	Flow Adjusted	Kendall's t	Trend	Significant
UPPER POTOMAC RIVER (SUB-BASIN 02-14-05) - continued						
ANT0203	Total phosphorus	1976-85	N	0.28972	+	Y
	Total nitrogen	1977-85	N	0.39516	+	Y
	Fecal coliform bacteria	1976-85	N	0.18367	+	Y
ANT0366	Total phosphorus	1976-85	Y	0.48352	+	Y
	Total nitrogen	1977-85	N	0.33937	+	Y
	Fecal coliform bacteria	1976-85	N	-0.03982	●	
CON0005	pH	1977-85	N	-0.18254	-	N
	Total phosphorus	1976-85	N	0.16871	+	Y
	Total nitrogen	1977-85	N	0.42241	+	Y
	Fecal coliform bacteria	1976-85	N	-0.00397	●	
CON0180	pH	1977-85	N	-0.04741	●	
	Total phosphorus	1977-85	Y	0.11111	●	
	Total nitrogen	1977-85	N	0.47706	+	Y
	Fecal coliform bacteria	1977-85	N	0.06931	●	
POT2766	Total suspended solids	1977-85	Y	-0.21212	-	N
	Fecal coliform bacteria	1977-85	Y	-0.12865	●	
NORTH BRANCH POTOMAC RIVER (SUB-BASIN 02-14-10)						
NBPO023	pH	1977-85	N	0.00625	●	
	Total phosphorus	1977-85	N	0.03448	●	
	Total nitrogen	insufficient data				
	Fecal coliform bacteria	1977-85	N	-0.04467	●	
NBPO103	pH	insufficient data				
	Total phosphorus	1976-85	N	0.07246	●	
	Total nitrogen	insufficient data				
	Fecal coliform bacteria	insufficient data				
NBPO196	pH	1978-85	N	0.21687	+	Y
	Total phosphorus	1978-85	N	0.00680	●	
	Total nitrogen	insufficient data				
	Fecal coliform bacteria	insufficient data				
NBPO217	pH	1977-85	N	0.34505	+	Y
	Total phosphorus	1977-85	N	0.05491	●	
	Total nitrogen	insufficient data				
	Fecal coliform bacteria	insufficient data				
NBPO326	pH	1976-85	N	0.13864	+	N
	Total phosphorus	1976-85	N	0.00686	●	
	Total nitrogen	insufficient data				
	Fecal coliform bacteria	1976-85	N	0.09146	●	
NBPO461	pH	1977-85	N	0.19643	+	Y
	Total phosphorus	1977-85	N	-0.01299	●	
	Total nitrogen	insufficient data				
	Fecal coliform bacteria	1977-85	N	0.21854	+	Y

TABLE 2
MARYLAND SURFACE WATER QUALITY TREND SUMMARY
 - continued -

Station	Variable	Dates	Flow Adjusted	Kendall's t	Trend	Significant
NORTH BRANCH POTOMAC RIVER (SUB-BASIN 02-14-10) - continued						
BDK0000	pH	insufficient data				
	Fecal coliform bacteria	1976-85	N	-0.06051	●	
WIL0013	pH	1977-85	N	0.05325	●	
	Total alkalinity	1977-85	Y	0.30464	+	Y
	Fecal coliform bacteria	1976-85	N	-0.18627	-	Y
GEO0009	pH	1977-85	N	0.39441	+	Y
	Total alkalinity	1977-85	N	0.29730	+	Y
	Fecal coliform bacteria	1976-85	N	0.08257	●	
NBP0514	pH	1977-85	N	0.54313	+	Y
	Total alkalinity	1977-85	N	0.44880	+	Y
	Total suspended solids	insufficient data				
	Fecal coliform bacteria	insufficient data				
NBP0534	pH	1978-85	N	0.66667	+	Y
	Total alkalinity	1978-85	N	0.52174	+	Y
	Total suspended solids	insufficient data				
	Fecal coliform bacteria	1978-85	N	0.03409	●	
NBP0597	pH	1978-85	N	0.70161	+	Y
	Total alkalinity	1978-85	N	0.62835	+	Y
	Total suspended solids	insufficient data				
	Fecal coliform bacteria	insufficient data				
NBP0689	pH	1977-85	N	0.57440	+	Y
	Total alkalinity	1977-85	N	0.54085	+	Y
	Total suspended solids	1977-85	N	-0.12741	-	N
	Fecal coliform bacteria	1977-85	N	0.13383	+	N
AAR0000	Temperature	1977-85	N	0.06471	●	
	pH	1977-85	N	0.29063	+	Y
	Total alkalinity	1977-85	N	-0.16814	-	Y
	Fecal coliform bacteria	insufficient data				
SAV0000	Temperature	1976-85	N	-0.05109	●	
	pH	1977-85	N	0.04154	●	
	Total alkalinity	1977-85	N	0.27224	+	Y
	Fecal coliform bacteria	1976-85	N	0.20697	+	Y
SAV0037	Temperature	1978-85	N	0.01042	●	
	pH	1978-85	N	0.28731	+	Y
	Total alkalinity	1978-85	N	0.22857	+	Y
	Fecal coliform bacteria	insufficient data				

TABLE 2
 MARYLAND SURFACE WATER QUALITY TREND SUMMARY
 - continued -

Station	Variable	Dates	Flow Adjusted	Kendall's t	Trend	Significant
• YOUGHIOGHENY RIVER (SUB-BASIN 05-02-02)						
YOU0925	pH	1979-85	N	-0.35938	-	Y
	Total suspended solids	1978-85	Y	0.16854	●	
	Total phosphorus	1978-85	N	0.06615	●	
	Total nitrogen	insufficient data				
	Fecal coliform bacteria	1978-85	N	0.11742	+	Y
YOU1139	pH	1979-85	N	-0.16031	-	N
	Total suspended solids	1978-85	Y	-0.30233	-	Y
	Total phosphorus	1978-85	N	0.09444	●	
	Total nitrogen	insufficient data				
	Fecal coliform bacteria	1978-85	N	-0.14894	-	N
LY00004	Total suspended solids	1976-85	N	-0.23625	-	Y
	Total phosphorus	1976-85	N	-0.30892	-	Y
	Total nitrogen	insufficient data				
	Fecal coliform bacteria	1976-85	N	-0.24164	-	Y
CCR0001	pH	insufficient data				
CAS0479	pH	insufficient data				
	Fecal coliform bacteria	1976-85	N	0.17747	+	Y

describes whether the trend is significant ($p < 0.05$) or not (Yes or No). In this table, increasing and decreasing trends are noted up to a probability level of 0.2; trends identified in this range ($0.05 < p < 0.2$) are described as in(de)creasing, but not significant.

More detailed information about surface water quality trend analysis methods and results are available in the report, Surface water quality trend analysis in Maryland, 1976-1985 (Garrison, 1988).

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- Garrison, J. Shermer. 1988. Surface water quality trends in Maryland, 1976-1985 (DRAFT). Watershed Nonpoint Source Div., MD Dept. Environment, Baltimore. Tech. Rep.
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Appendix F
Waterbody lists

Development of waterbody lists

The 1987 amendments to the federal Clean Water Act require more detailed water quality assessments concerning nonpoint source pollution (Section 319), lake water quality (Section 314) and contamination by toxic substances (Section 304(1)). In response to these new requirements, the U.S. Environmental Protection Agency's (EPA) Office of Water established assessment guidelines and expanded the reporting requirements of the biennial State water quality inventory report required by Section 305(b) of the Clean Water Act. These requirements include waterbody lists under various categories. These lists are presented in this appendix and include:

Table	Description
F-1	- Waterbodies not meeting designated uses due to toxic, conventional and non-conventional pollutants (Section 304(1)(1)(A)(ii)).
F-2	- Waterbodies not meeting goals of the Clean Water Act.
F-3	- Waterbodies not meeting designated uses due to nonpoint source pollution (Section 319(a)(1)(A)).
F-4	- Waterbodies with water quality impacts (measured or probable) due to nonpoint source pollution.
F-5	- Public lakes and their trophic status (Section 314).
F-6	- Public lakes not meeting designated uses (Section 314), and
F-7	- Public lakes not meeting designated uses due to high acidity (Section 314).

Originally, these waterbody lists were to have been generated using a computerized database management system developed by EPA to track water quality nationwide. It became apparent in mid-1987, however, that the development of this "Waterbody System" would not be completed in time to permit the State to test the system before the April 1 deadline of this report. As a result, the State's waterbody lists presented in this appendix were established using available water quality assessment information, State water quality standards, professional judgement, and guidelines established by EPA.

Development of individual waterbody lists for different categories frequently required adjustments and interpretation in the EPA-established guidelines. The methodology for developing each list is provided as documentation along with each waterbody list. None of these waterbody lists are presented in a priority ordering; they are provided only in terms of order by watershed code.

While many of these waterbody lists have not been defined as part of future biennial State water quality inventory reports, the reader is advised to not compare any future lists as a simple "trend" analysis. For example, a watershed featured on a present waterbody list and not on a future list may not indicate an improving trend in water quality. Underlying assumptions used in the development of various lists are subject to change (e.g. State water quality "standards" may be amended, additional water quality data may become available, and procedures to develop waterbody lists may change). In addition, creating a simple watershed list ignores the complexity and variability of the natural environment. The reader interested in water quality in particular watersheds is advised to consult the more descriptive portions of this report as well as past water quality inventory reports.

Appendix Table F-1. Waterbodies not meeting designated uses due to toxic, conventional and non-conventional pollutants.

To generate this list as required under Section 304(1)(1)(A)(ii) of the Clean Water Act of 1987 (Appendix Table F-1), portions of watersheds that do not meet designated uses were identified using the water quality assessment procedures described in Appendix B. Water quality problems were identified by waterbody type (e.g. river, lake, estuary) for each watershed and assessed as to whether they met the State's designated or intended uses. Watershed lengths or areas that do not support designated or intended uses were summarized and used to create a table of waterbody types which do not meet designated uses (Volume I; Table 11). Except for chlordane contamination identified in the Baltimore Harbor area, areas impaired by toxics were identified using compliance and ambient monitoring data, scientific studies, published and unpublished data, personal communication and professional judgement.

The following listing of watersheds that do not meet designated uses was created from this summary process. It is important to note that, in most cases, only portions of watersheds are impaired; the entire watershed may not experience water quality impacts that impair designated use (e.g. shellfish harvesting). An asterik is provided in the appropriate source category (conventional and/or toxic pollutant). No non-conventional pollutants were identified in the assesment process and there is no column provided in this table. Conventional pollutants include water quality constituents normally monitored by the ambient monitoring programs (Volume I; Table 6). These include dissolved oxygen, nutrients, total suspended solids, coliform bacteria, pH and temperature.

The toxics column includes defined use impairment (aquatic or human risk) documented in the draft Section 304(1)(1)(a)(ii) list. This column encompasses 126 priority pollutants identified in the Clean Water Act. The lists which describe toxics impairment due to point sources with their identification (304(1)(1)(A)(i), 304(1)(1)(B), and 304(1)(1)(C)), are due to EPA in February, 1989. For information about the waterbodies listed in the 304(1) lists, the reader is requested to contact the Department of the Environment's Water Management Administration.

As with all other waterbody lists presented in this appendix section, this list is not presented by priority; watersheds are "ranked" only in terms of their basin code.

APPENDIX TABLE F-1

Maryland watersheds with portions not meeting designated uses due to conventional and toxic pollutants, 1985-1987

BASIN	WATERSHED NAME	CONVENTIONAL	TOXIC
<u>OCEAN</u>			
None			
<u>RIVER/STREAM</u>			
02120101	Lower Susquehanna River	*	
02130103	Isle of Wight Bay Area	*	
02130105	Newport Bay Area	*	
02130106	Chincoteague Bay	*	
02130201	Pocomoke Sound	*	
02130206	Tangier Sound	*	
02130207	Big Annessex River	*	
02130208	Manokin River	*	
02130301	Lower Wicomico River	*	
02130302	Monie Bay	*	
02130305	Nanticoke River	*	*
02130401	Honga River	*	
02130402	Little Choptank River	*	
02130403	Lower Choptank River	*	
02130404	Upper Choptank River		*
02130501	Eastern Bay	*	
02130502	Miles River	*	
02130503	Wye River	*	
02130504	Kent Narrows/Prospect Bay	*	
02130505	Lower Chester River	*	
02130506	Langford Creek	*	
02130508	Southeast Creek	*	
02130509	Middle Chester River	*	
02130601	Lower Elk River	*	
02130604	Back Creek		*
02130605	Little Elk Creek		*

APPENDIX TABLE F-1

Maryland watersheds with portions not meeting designated uses due to
conventional and toxic pollutants, 1985-1987
- continued -

BASIN	WATERSHED NAME	CONVENTIONAL	TOXIC
<u>RIVER/STREAM</u> - continued			
02130701	Bush River	*	*
02130705	Aberdeen Proving Ground		*
02130807	Middle River/Browns Creek		*
02130901	Back River	*	*
02130902	Bodkin Creek	*	
02130903	Baltimore Harbor	*	*
02130904	Jones Falls	*	*
02130907	Liberty Reservoir		*
02130905	Gwynns Falls	*	
02131001	Magothy River	*	
02131002	Severn River	*	*
02131003	South River	*	
02131004	West River	*	
02131005	Other West Chesapeake Area	*	
02131101	Patuxent - Mouth to Ferry Ldg.	*	*
02131102	Patuxent - Ferry Ldg. to Rt. 214	*	
02131103	Western Branch	*	
02131104	Patuxent - Rt 214 to Rocky Gorge Dam	*	
02131105	Little Patuxent River	*	
02140101	Potomac - Mouth to Smith Pt.	*	
02140102	Potomac - Smith Pt. to Marshall Hall	*	*
02140103	St. Mary's River	*	
02140104	Breton Bay	*	
02140105	St. Clements Bay	*	
02140106	Wicomico River	*	
02140108	Zekiah Swamp		*
02140109	Port Tobacco River	*	
02140110	Nanjemoy Creek	*	

APPENDIX TABLE F-1

Maryland watersheds with portions not meeting designated uses due to conventional and toxic pollutants, 1985-1987

- continued -

BASIN	WATERSHED NAME	CONVENTIONAL	TOXIC
<u>RIVER/STREAM</u> - continued			
02140111	Mattawoman Creek	*	
02140201	Potomac - Marshall Hall to Chain Br.	*	
02140202	Potomac - Chain Br. to Monocacy River	*	
02140205	Anacostia River	*	*
02140206	Rock Creek	*	
02140301	Potomac River - Shenandoah to Monocacy		*
02140302	Lower Monocacy River	*	
02140303	Upper Monocacy River	*	
02140304	Double Pipe Creek	*	
02140501	Potomac - Washington County	*	
02140504	Conococheague Creek	*	
02141001	Lower North Branch Potomac River	*	*
02141003	Wills Creek	*	*
02141004	Georges Creek	*	
02141005	Upper North Branch Potomac River	*	*
02141006	Savage River	*	*
05020201	Youghiogheny River	*	
05020202	Little Youghiogheny River	*	*
05020203	Deep Creek	*	
05020204	Casselman River	*	*

PUBLIC LAKES/PONDS

02130103	Isle of Wight Bay (Bishopville Pond)	*	
02130304	Wicomico River Headwaters (Johnson Pond)	*	
02130804	Loch Raven Reservoir	*	
02130904	Jones Falls (Lake Roland)	*	*

APPENDIX TABLE F-1

Maryland watersheds with portions not meeting designated uses due to
conventional and toxic pollutants, 1985-1987
- continued -

BASIN	WATERSHED NAME	CONVENTIONAL	TOXIC
<u>ESTUARY</u> - Chesapeake Bay proper			
02139996	Upper Chesapeake Bay	*	
02139997	Middle Chesapeake Bay	*	
02139998	Lower Chesapeake Bay	*	

Appendix Table F-2. Waterbodies which do not meet goals of the Clean Water Act

To generate this waterbody list (Appendix Table F-2), watersheds that do not meet goals of the Clean Water Act (CWA) were identified using the water quality assessment procedures described in Appendix B. Water quality problems were identified by waterbody type (e.g. river, lake, wetland) for each watershed and assessed as to whether they supported the "Fishable" and "Swimmable" CWA goals. Watershed lengths or areas that do not meet the CWA goals were summarized and used to create a table of waterbody types which do not meet the CWA goals (Volume I; Table 12). The following listing of watersheds and the lengths or areas of impact was created from this summary process.

As with all other waterbody lists presented in this appendix section, this list is not presented by priority; watersheds are "ranked" only in terms of their basin code.

APPENDIX TABLE F-2

Maryland waters not meeting goals of the Clean Water Act, 1985-1987

BASIN	WATERSHED NAME	NOT MEETING FISHABLE GOALS ¹	NOT MEETING SWIMMABLE GOALS
<u>OCEAN (shoreline miles)</u>			
None			
<u>RIVER/STREAM - (mainstem miles)</u>			
02120101	Lower Susquehanna River.....	5.....	1
02130103	Isle of Wight Bay Area.....	6	
02130105	Newport Bay Area.....	2	
02130106	Chincoteague Bay.....	2	
02130201	Pocomoke Sound.....	5	
02130206	Tangier Sound.....	6	
02130207	Big Annessex River.....	6	
02130208	Manokin River.....	9	
02130301	Lower Wicomico River.....	8	
02130302	Monie Bay.....	5	
02130305	Nanticoke River.....	4	
02130401	Honga River.....	1	
02130402	Little Choptank River.....	6	
02130403	Lower Choptank River.....	13.....	1
02130501	Eastern Bay.....	9	
02130502	Miles River.....	6	
02130503	Wye River.....	10	
02130504	Kent Narrows/Prospect Bay.....	4	
02130505	Lower Chester River.....	12	
02130506	Langford Creek.....	6	
02130508	Southeast Creek.....	4	
02130509	Middle Chester River.....	5	
02130601	Lower Elk River.....		1
02130701	Bush River.....		2
02130901	Back River.....	6	
02130902	Bodkin Creek.....	4	
02130903	Baltimore Harbor.....	7.....	7
02130904	Jones Falls.....	9	
02130905	Gwynns Falls.....	12	
02131001	Magothy River.....	11.....	1
02131002	Severn River.....	11.....	1
02131003	South River.....	16.....	1
02131004	West River.....	6	
02131005	Other West Chesapeake Area.....	4.....	1

NOTE: ¹ - includes restricted shellfish harvesting areas, fish consumption advisories areas as well as areas which do not support a balanced fish population partially due to pollution

APPENDIX TABLE F-2

Maryland waters not meeting goals of the Clean Water Act, 1985-1987
- continued -

BASIN	WATERSHED NAME	NOT MEETING FISHABLE GOALS ¹	NOT MEETING SWIMMABLE GOALS
<u>RIVER/STREAM (mainstem miles)</u>			
02131101	Patuxent - Mouth to Ferry Landing.....	11	2
02131103	Western Branch.....	16	
02131104	Patuxent - Route 214 to Rocky Gorge Dam.....	24	
02131105	Little Patuxent River.....	35	
02140101	Potomac - Mouth to Smith Point.....	9	5
02140102	Potomac - Smith Point to Marshall Hall.....		1
02140103	St. Mary's River.....	8	
02140104	Breton Bay.....	5	2
02140105	St. Clements Bay.....	6	
02140106	Wicomico River.....	7	
02140109	Port Tobacco River.....		1
02140110	Nanjemoy Creek.....		1
02140111	Mattawoman Creek.....		1
02140201	Potomac - Marshall Hall to Chain Bridge.....	10	
02140202	Potomac - Chain Bridge to Monocacy River....	38	
02140205	Anacostia River.....	14	
02140206	Rock Creek.....	17	
02140302	Lower Monocacy River.....	24	
02140303	Upper Monocacy River.....	34	
02140304	Double Pipe Creek.....	30	
02140501	Potomac - Washington County Drainage.....		1
02140504	Conococheague Creek.....		1
02141001	Lower North Branch Potomac River.....	30	
02141003	Wills Creek.....	24	
02141004	Georges Creek.....	17	
02141005	Upper North Branch Potomac River.....	21	
02141006	Savage River.....	5	
05020201	Youghiogheny River.....	14	1
05020202	Little Youghiogheny River.....		2
05020203	Deep Creek.....	2	
05020204	Casselman River.....	19	1

NOTE: ¹ - includes restricted shellfish harvesting areas, fish consumption advisories areas as well as areas which do not support a balanced fish population partially due to pollution

APPENDIX TABLE F-2

Maryland waters not meeting goals of the Clean Water Act, 1985-1987
 - continued -

BASIN	WATERSHED NAME	NOT MEETING FISHABLE GOALS ¹	NOT MEETING SWIMMABLE GOALS
<u>PUBLIC LAKE</u> (acres)			
02130103	Isle of Wight Bay (Bishopville Pond).....	5.7	
02130304	Wicomico River Headwaters (Johnson Pond).....		1.5
<u>ESTUARY</u> - Chesapeake Bay proper (square miles)			
02139996	Upper Chesapeake Bay.....	386	1
02139997	Middle Chesapeake Bay.....	403	
02139998	Lower Chesapeake Bay.....	1192	1

NOTE: ¹ - includes restricted shellfish harvesting areas, fish consumption advisories areas as well as areas which do not support a balanced fish population partially due to pollution

Appendix Table F-3. Waterbodies which experience water quality impacts due to nonpoint source pollution.

The U.S. Environmental Protection Agency's (EPA) guidance for this State water quality inventory report as well as the Section 319(a)(1) (nonpoint source) guidance required only a single listing of waterbodies which do not meet designated uses due to nonpoint source pollution. The State's monitoring programs offer little direct information about nonpoint source water quality impacts in the State; most of this information is circumstantial and frequently related to adjacent land use. Considerable subjective judgement is required to assess nonpoint source pollution Statewide. In addition, after this waterbody list was created, it became evident that a more comprehensive list should be included to indicate probable and unknown nonpoint source impacts on the State's waters.

To generate the required list, watersheds (or portions thereof) that do not meet designated uses were identified using the water quality assessment procedures described in Appendix B. Water quality problems were identified by waterbody type (e.g. river, lake, wetland) and the level of use impairment or designated use for each State watershed (partially support or not support designated use). The listing of watersheds (or portions thereof) that do not meet designated uses due to nonpoint sources of pollution was created (Appendix Table F-3) with the cause and source of use impairment. Note that the water quality impairment causes and sources in this table are listed independently; they do not necessarily represent a one-to-one relationship with each other.

As with all other waterbody lists presented in this appendix section, this list is not presented by priority; watersheds are "ranked" only in terms of their basin code.

APPENDIX TABLE F-3
 Maryland waters not meeting designated uses
 due to nonpoint source pollution, 1985-1987

BASIN	WATERSHED NAME	CAUSE	SOURCE
<u>OCEAN</u>			
None			
<u>RIVER/STREAM</u>			
02120101	Lower Susquehanna River	Dissolved oxygen	Dam operations
02130103	Isle of Wight Bay Area	Bacteria Nutrients	Agricultural runoff
02130106	Chincoteague Bay	Bacteria	Agricultural runoff
02130201	Pocomoke Sound	Bacteria	Agricultural runoff Natural runoff
02130206	Tangier Sound	Bacteria	Agricultural runoff Natural runoff
02130207	Big Annemessex River	Bacteria	Agricultural runoff Natural runoff
02130208	Manokin River	Bacteria	Agricultural runoff Natural runoff
02130301	Lower Wicomico River	Bacteria Nutrients Organic enrichment	Agricultural runoff Urban runoff Natural runoff
02130302	Monie Bay	Bacteria	Agricultural runoff Natural runoff
02130305	Nanticoke River	Bacteria	Agricultural runoff Natural runoff
02130401	Honga River	Bacteria	Waste disposal
02130402	Little Choptank River	Bacteria	Agricultural runoff Natural runoff Waste disposal

APPENDIX TABLE F-3
 Maryland waters not meeting designated uses
 due to nonpoint source pollution, 1985-1987
 - continued -

BASIN	WATERSHED NAME	CAUSE	SOURCE
02130403	Lower Choptank River	Bacteria Nutrients	Agricultural runoff Natural runoff Waste disposal Extra-basin source
02130501	Eastern Bay	Bacteria	Agricultural runoff Urban runoff Natural runoff
02130502	Miles River	Bacteria	Agricultural runoff Natural runoff Waste disposal
02130503	Wye River	Bacteria	Agricultural runoff Natural runoff Waste disposal
02130504	Kent Narrows/Prospect Bay	Bacteria	Agricultural runoff Natural runoff Waste disposal
02130505	Lower Chester River	Bacteria	Agricultural runoff Natural runoff Waste disposal Extra-basin source
02130506	Langford Creek	Bacteria	Agricultural runoff Natural runoff
02130508	Southeast Creek	Bacteria	Agricultural runoff Natural runoff
02130701	Bush River	Bacteria	Urban runoff Waste disposal
02130901	Back River	Pesticides Organic enrichment	Urban runoff
02130902	Bodkin Creek	Organic enrichment	Urban runoff
02130903	Baltimore Harbor	Bacteria Pesticides Organic enrichment	Urban runoff

APPENDIX TABLE F-3
**Maryland waters not meeting designated uses
 due to nonpoint source pollution, 1985-1987**
 - continued -

BASIN	WATERSHED NAME	CAUSE	SOURCE
02130904	Jones Falls	Bacteria	Urban runoff
02130905	Gwynns Falls	Bacteria	Urban runoff
02131001	Magothy River	Bacteria Nutrients	Urban runoff Natural runoff
02131002	Severn River	Bacteria Nutrients	Urban runoff Natural runoff
02131003	South River	Bacteria Nutrients	Agricultural runoff Urban runoff Natural runoff Waste disposal
02131004	West River	Bacteria Nutrients	Agricultural runoff Natural runoff Waste disposal
02131005	Other West Chesapeake Area	Bacteria	Agricultural runoff Natural runoff
02131101	Patuxent - Mouth to Ferry Ldg.	Bacteria Nutrients Organic enrichment	Agricultural runoff Natural runoff Waste disposal Extra-basin sources
02131102	Patuxent - Ferry Ldg. to Rt 214	Nutrients Organic enrichment	Agricultural runoff Extra-basin sources
02131103	Western Branch	Nutrients Sediments	Agricultural runoff Urban runoff
02131104	Patuxent - Rt 214 to Rocky Gorge	Nutrients	Agricultural runoff Urban runoff
02131105	Little Patuxent River	Nutrients	Agricultural runoff Urban runoff
02140101	Potomac - Mouth to Smith Pt.	Bacteria	Agricultural runoff Urban runoff Natural runoff Waste disposal

APPENDIX TABLE F-3
 Maryland waters not meeting designated uses
 due to nonpoint source pollution, 1985-1987
 - continued -

BASIN	WATERSHED NAME	CAUSE	SOURCE
02140102	Potomac - Smith Pt. to Marshall Hall	Bacteria	Waste disposal
02140103	St. Mary's River	Bacteria	Agricultural runoff Natural runoff
02140104	Breton Bay	Bacteria	Agricultural runoff Natural runoff
02140105	St. Clements Bay	Bacteria	Agricultural runoff Natural runoff
02140106	Wicomico River	Bacteria	Agricultural runoff Natural runoff
02140109	Port Tobacco River	Bacteria	Waste disposal
02140110	Nanjemoy Creek	Bacteria	Waste disposal
02140111	Mattawoman Creek	Bacteria	Waste disposal
02140201	Potomac - Marshall Hall to Chain Br.	Nutrients	Urban runoff Extra-basin source
02140202	Potomac - Chain Br. to Monocacy	Nutrients Sediment	Agricultural runoff Urban runoff Extra-basin sources
02140205	Anacostia River	Sediments	Urban runoff Mine activities
02140206	Rock Creek	Sediments	Urban runoff
02140302	Lower Monocacy River	Nutrients Sediment	Agricultural runoff Extra-basin sources
02140303	Upper Monocacy River	Nutrients Sediment	Agricultural runoff Urban runoff Extra-basin sources
02140304	Double Pipe Creek	Nutrients Sediment	Agricultural runoff
02141001	Lower North Branch Potomac	Acid/metals	Mine activities

Maryland waters not meeting designated uses
 due to nonpoint source pollution, 1985-1987

- continued -

BASIN	WATERSHED NAME	CAUSE	SOURCE
02141003	Wills Creek	Acid/metals	Mine activities
02141004	Georges Creek	Bacteria Acid/metals Flow alteration	Urban runoff Mine activities
02141005	Upper North Branch Potomac	Acid/metals	Mine activities
02141006	Savage River	Acid/metals	Mine activities
05020201	Youghiogheny River	Bacteria Acid/metals	Sewage inflow Mine activities
05020202	Little Youghiogheny River	Bacteria	Sewage inflow
05020203	Deep Creek	Acid/metals	Mine activities
05020204	Casselman River	Acid/metals Bacteria	Mine activities Sewage inflow
<u>PUBLIC LAKES/PONDS</u>			
02130103	Isle of Wight Bay (Bishopville Pond)	Nutrients	Agricultural runoff Natural runoff Extra-basin sources
02130304	Wicomico River Headwaters (Johnson Pond)	Bacteria Nutrients	Urban runoff
02130804	Loch Raven Reservoir	Nutrients	Agricultural runoff Urban runoff Natural runoff
02130904	Jones Falls (Lake Roland)	Sediments Pesticides	Urban runoff

APPENDIX TABLE f-3
**Maryland waters not meeting designated uses
 due to nonpoint source pollution, 1985-1987**
 - continued -

BASIN	WATERSHED NAME	CAUSE	SOURCE
<u>ESTUARY</u> - Chesapeake Bay proper			
02139996	Upper Chesapeake Bay	Nutrients	Agricultural runoff Extra-basin sources
02139997	Middle Chesapeake Bay	Organic enrichment Nutrients Bacteria	Agricultural runoff Extra-basin sources Bottom releases
02139998	Lower Chesapeake Bay	Organic enrichment Nutrients	Agricultural runoff Extra-basin sources Bottom releases

Appendix Table F-4. Watersheds which experience water quality impacts due to nonpoint source pollution.

Examination of the nonpoint source impact list provided above (Appendix Table F-3) revealed that numerous watersheds with suspected or probable nonpoint source water quality impacts were not included. To include these other watersheds in this list would require additional Statewide monitoring or changing criteria used to define "meeting/not meeting designated uses". It was concluded that a "long list" of watersheds that might experience water quality problems due to nonpoint source pollution should also be included. This list (Appendix Table F-4) was generated by reviewing the land use data of each watershed using summary tables described in Appendix B. In this list, asteriks (*) were used to indicate impact (known or probable). Blank spaces should not be interpreted as "No Impact"; rather, they should be considered as "Unknown Impact". As might be expected, every watershed in the State is subject to some form of nonpoint source pollution.

It is important to note that wetland and ground water impacts by nonpoint source pollution are not included in this report. Wetland assessments are not documented as to use impairment. In addition, the extent of non-tidal wetlands in the State are only now being identified. Ground water investigations are complaint-oriented which skews the available data to appear impacted. In addition, ground water quality impacts are difficult to trace to any particular point or nonpoint source.

As with all other waterbody lists presented in this appendix section, this list is not presented by priority; watersheds are "ranked" only in terms of their basin code.

**Watersheds with water quality impacts due to
nonpoint source pollution in Maryland**

ACTIVITY

<u>Basin code</u>	<u>Segment name</u>	<u>Agri-</u> <u>culture</u>	<u>Forestry</u>	<u>Construc-</u> <u>tion</u>	<u>Urban</u> <u>Runoff</u>	<u>Mining</u>	<u>Waste</u> <u>Disposal</u>	<u>Natural</u> <u>Sources</u>	<u>Hydro-</u> <u>logical</u>
2050301	Conewago Creek	*						*	
2120201	Lower Susquehanna River	*			*		*	*	*
2120202	Deer Creek	*					*	*	
2120203	Octoraro Creek	*			*		*	*	
2120204	Conowingo Dam-Susquehanna Run	*					*	*	*
2120205	Broad Creek	*						*	
2130101	Atlantic Ocean							*	
2130102	Assawoman Bay	*		*	*		*	*	
2130103	Isle of Wight Bay	*		*			*	*	
2130104	Sinepuxent Bay	*						*	
2130105	Newport Bay	*		*	*		*	*	
2130106	Chincoteague Bay	*						*	
2130201	Pocomoke Sound	*					*	*	
2130202	Lower Pocomoke River	*			*		*	*	
2130203	Upper Pocomoke River	*						*	
2130204	Dividing Creek	*						*	
2130205	Nassawango Creek	*						*	
2130206	Tangier Sound	*						*	
2130207	Big Annemessex River	*						*	
2130208	Manokin River	*						*	
2130301	Lower Wicomico River	*		*	*		*	*	
2130302	Monie Bay	*						*	
2130303	Wicomico River	*					*	*	
2130304	Wicomico River Headwaters	*			*		*	*	
2130305	Nanticoke River	*					*	*	
2130306	Marshyhope Creek	*			*		*	*	
2130307	Fishing Bay	*						*	
2130308	Transquaking River	*						*	
2130401	Honga River	*					*	*	
2130402	Little Choptank River	*					*	*	
2130403	Lower Choptank River	*			*		*	*	
2130404	Upper Choptank River	*					*	*	
2130405	Tuckahoe Creek	*					*	*	
2130501	Eastern Bay	*			*		*	*	
2130502	Miles River	*			*		*	*	
2130503	Wye River	*			*		*	*	
2130504	Kent Narrows-Prospect Bay	*		*	*		*	*	
2130505	Lower Chester River	*		*	*		*	*	
2130506	Langford Creek	*					*	*	
2130507	Corsica River	*		*	*			*	
2130508	Southeast Creek	*						*	
2130509	Middle Chester River	*			*		*	*	
2130510	Upper Chester River	*						*	
2130511	Kent Island	*		*	*		*	*	
2130601	Lower Elk River	*					*	*	
2130602	Bohemia River	*					*	*	
2130603	Upper Elk River	*		*	*			*	
2130604	Back Creek	*					*	*	*
2130605	Little Elk River	*		*	*		*	*	
2130606	Big Elk Creek	*		*	*	*	*	*	
2130607	Christina River	*		*	*		*	*	
2130608	Northeast River	*			*		*	*	

**Watersheds with water quality impacts due to
nonpoint source pollution in Maryland
- continued -**

<u>Basin code</u>	<u>Segment name</u>	ACTIVITY						
		<u>Agri- culture</u>	<u>Forestry</u>	<u>Construc- tion</u>	<u>Urban Runoff</u>	<u>Mining</u>	<u>Waste Disposal</u>	<u>Natural Sources</u>
2130609	Furnace Bay	*			*		*	*
2130610	Sassafras River	*					*	*
2130611	StillPond-Fairlee	*					*	*
2130701	Bush River	*		*	*	*	*	*
2130702	Lower Winters Run	*		*	*		*	*
2130703	Atkisson Reservoir	*		*	*		*	*
2130704	Bynum Run	*		*	*		*	*
2130705	Aberdeen Proving Ground	*		*	*		*	*
2130706	Swan Creek	*		*	*	*	*	*
2130801	Gunpowder River	*		*	*	*	*	*
2130802	Lower Gunpowder Falls	*		*	*	*	*	*
2130803	Bird River	*		*	*	*	*	*
2130804	Little Gunpowder Falls	*		*	*	*	*	*
2130805	Loch Raven Reservoir	*		*	*	*	*	*
2130806	Prettyboy Reservoir	*		*	*	*	*	*
2130807	Middle River-Browns Creek	*		*	*	*	*	*
2130901	Back River	*		*	*	*	*	*
2130902	Bodkin Creek	*		*	*	*	*	*
2130903	Baltimore Harbor	*		*	*	*	*	*
2130904	Jones Falls	*		*	*	*	*	*
2130905	Gywanns Falls	*		*	*	*	*	*
2130906	Patapsco-Lower North Branch	*		*	*	*	*	*
2130907	Liberty Reservoir	*	*	*	*	*	*	*
2130908	South Branch Patapsco	*		*	*	*	*	*
2131001	Magothy River	*		*	*	*	*	*
2131002	Severn River	*		*	*	*	*	*
2131003	South River	*		*	*	*	*	*
2131004	West River	*		*	*	*	*	*
2131005	West Chesapeake Bay Area	*		*	*	*	*	*
2131101	Patuxent-Mouth to Ferry Landing	*		*	*	*	*	*
2131102	Patuxent-Ferry Landing to Rt.214	*		*	*	*	*	*
2131103	Patuxent-Western Branch	*		*	*	*	*	*
2131104	Patuxent-Rt.214 to Rocky Gorge Dam	*		*	*	*	*	*
2131105	Little Patuxent River	*		*	*	*	*	*
2131106	Middle Patuxent River	*		*	*	*	*	*
2131107	Rocky Gorge Dam Area	*		*	*	*	*	*
2131108	Patuxent-Brighton Dam to Headwaters	*		*	*	*	*	*
2139996	Upper Chesapeake Bay	*		*	*	*	*	*
2139997	Middle Chesapeake Bay	*		*	*	*	*	*
2139998	Lower Chesapeake Bay	*		*	*	*	*	*
2140101	Potomac-Smith Point to Mouth	*		*	*	*	*	*
2140102	Potomac-Marshall Hall to Smith Point	*		*	*	*	*	*
2140103	St. Mary's River	*		*	*	*	*	*
2140104	Breton Bay	*		*	*	*	*	*
2140105	St. Clements Bay	*		*	*	*	*	*
2140106	Wicomico River	*		*	*	*	*	*
2140107	Gilbert Swamp	*		*	*	*	*	*
2140108	Zekiah Swamp	*		*	*	*	*	*
2140109	Port Tobacco River	*		*	*	*	*	*
2140110	Nanjemoy Creek	*		*	*	*	*	*
2140111	Mattawoman Creek	*		*	*	*	*	*

**Watersheds with water quality impacts due to
nonpoint source pollution in Maryland
- continued -**

Basin code	Segment name	ACTIVITY					
		Agri- culture	Forestry	Construc- tion	Urban Runoff	Waste Mining Disposal	Natural Sources
2140201	Potomac-ChainBridge to Marshall Hall	*		*	*	*	*
2140202	Potomac-Monocacy to Chain Bridge	*		*	*	*	*
2140203	Piscataway Creek	*		*	*	*	*
2140204	Oxon Run	*		*	*	*	*
2140205	Anacostia River	*		*	*	*	*
2140206	Rock Creek	*		*	*	*	*
2140207	Cabin John Creek	*		*	*	*	*
2140208	Seneca Creek	*		*	*	*	*
2140301	Potomac-Shenandoah to Monocacy	*		*	*	*	*
2140302	Lower Monocacy	*		*	*	*	*
2140303	Upper Monocacy	*		*	*	*	*
2140304	Double Pipe Creek	*		*	*	*	*
2140305	Catoctin Creek	*		*	*	*	*
2140501	Potomac-Hancock to South Branch	*		*	*	*	*
2140502	Antietam Creek	*		*	*	*	*
2140503	Marsh Run	*		*	*	*	*
2140504	Conococheague Creek	*	*	*	*	*	*
2140505	Little Conococheague Creek	*		*	*	*	*
2140506	Licking Creek	*	*	*	*	*	*
2140507	Tonoloway Creek	*		*	*	*	*
2140508	Allegheny County Drainage	*	*	*	*	*	*
2140509	Little Tonoloway Creek	*	*	*	*	*	*
2140510	Sideling Hill Creek	*	*	*	*	*	*
2140511	Fifteen Mile Creek	*	*	*	*	*	*
2140512	Town Creek	*	*	*	*	*	*
2141001	Lower North Branch Potomac	*	*	*	*	*	*
2141002	Evitts Creek	*	*	*	*	*	*
2141003	Wills Creek	*		*	*	*	*
2141004	Georges Creek	*		*	*	*	*
2141005	Upper North Branch Potomac	*	*	*	*	*	*
2141006	Savage River	*	*	*	*	*	*
5020201	Youghiogheny River	*	*	*	*	*	*
5020202	Little Youghiogheny River	*	*	*	*	*	*
5020203	Deep Creek Lake	*	*	*	*	*	*
5020204	Casselman River	*	*	*	*	*	*

Appendix Table F-5. Public lakes and their trophic status.

As described in Appendix D, a list of the larger lakes and ponds in the State which have public access were generated from available documents and reports and the trophic status of each was determined through available water quality data and through professional judgement of State fisheries biologists. Information about the trophic status of these lakes and ponds which is provided in Appendix Table D is summarized in the following table (Appendix Table F-5).

As with all other waterbody lists presented in this appendix section, this list is not presented by priority; watersheds are "ranked" only in terms of their basin code.

APPENDIX TABLE F-5
Trophic status of public lakes in Maryland, 1985-1987

<u>BASIN</u>	<u>LAKE NAME</u>	<u>SIZE (ac)</u>	<u>TROPHIC STATUS</u>
02130103	Bishopville Pond	5.7	Eutrophic
02130106	Big Mill Pond	60.2	Eutrophic
02130301	Coulbourn Pond	8.6	Eutrophic
	Mitchell Pond #1	10.1	Eutrophic
	Mitchell Pond #2	8.6	Eutrophic
	Mitchell Pond #3	5.8	Eutrophic
	Morris Mill Pond	6.0	Eutrophic
	Shumaker Pond	48.6	Eutrophic
	TonyTank Lake	42.0	Eutrophic
	TonyTank Pond	41.3	Eutrophic
02130303	Allen Pond	35.8	Eutrophic
02130304	Johnson Pond	104.0	Eutrophic
	Leonard Pond	45.9	Eutrophic
02130305	Adkins Pond	17.2	Eutrophic
	Barren Pond	14.7	Eutrophic
	Rewastico Pond	24.4	Eutrophic
02130306	Chambers Lake	9.4	Eutrophic
	Smithville Pond	40.0	Eutrophic
02130405	Tuckahoe State Park #1	86.0	Eutrophic
02130503	Wye Mills Community Lake	61.5	Eutrophic
02130509	Urieville Community Lake	35.0	Eutrophic
02130510	Unicorn Mill Pond	48.0	Eutrophic
02130602	Bohemia Mills	28.7	Eutrophic
02130702	Edgewater Village	7.2	Eutrophic
02130805	Loch Raven Reservoir	2400.0	Eutrophic
02130806	Prettyboy Reservoir	1500.0	Mesotrophic/Eutrophic
02130904	Lake Roland	100.0	Eutrophic
02130907	Liberty Reservoir	3106.0	Mesotrophic/Eutrophic
02130908	Piney Run Reservoir	298.0	Mesotrophic
02131001	Lake Waterford	12.0	Eutrophic
02131103	Allen Pond	9.5	Eutrophic
02131104	Laurel Lake	7.2	Mesotrophic/Eutrophic
02131105	Centennial Park	50.0	Eutrophic
02131106	Lake Elkhorn	49.0	Eutrophic
	Lake Kittamaqundi	107.0	Eutrophic
	Wilde Lake	23.0	Eutrophic
02131107	Duckett Reservoir	773.0	Mesotrophic/Eutrophic
02131108	Tridelphia Reservoir	800.0	Mesotrophic
02140103	St. Mary's #1	250.0	Eutrophic
02140107	Gilbert Run #2	59.0	Eutrophic
02140111	Myrtle Grove Lake	23.0	Eutrophic
02140203	Cosca Lake	11.0	Eutrophic
02140205	Greenbelt Lake	21.5	Eutrophic
	Pine Lake	5.0	Eutrophic
02140206	Lake Frank	56.0	Eutrophic
	Lake Needwood	74.0	Eutrophic
02140208	Seneca Lake	505.0	Eutrophic
	Clopper Lake	90.0	Eutrophic
02140303	Cunningham Falls Reservoir	46.0	Mesotrophic
02140502	City Park Lake	5.2	Eutrophic
	Greenbrier Lake	27.0	Mesotrophic
02140508	Blairs Valley Lake	32.2	Eutrophic
02141002	Lake Habeeb	208.5	Mesotrophic
02141005	William Randolph Reservoir	952.0	Oligotrophic
02141006	Savage River Reservoir	360.0	Oligotrophic
	New Germany Lake	13.0	Mesotrophic
05020201	Herrington Lake	41.5	Mesotrophic
05020202	Little Youghiogheny #6	138.0	Mesotrophic
05020203	Deep Creek Lake	4500.0	Mesotrophic

TOTAL SIZE (acres)

17447.3

Appendix Table F-6. Public lakes not meeting their designated uses.

As described in Appendix D, a list of the larger lakes and ponds in the State which have public access were generated from available documents and reports and the water quality condition of each was determined through available water quality data and through professional judgement of State fisheries biologists.

As described in Appendix Table D, only two lakes do not support their designated uses. Bishopville Pond (Isle of Wight segment in the Ocean/Coastal basin; 02-13-01-03) with a surface area of 5.7 acres has no resident sportfish population due to organic enrichment from an upstream municipal discharge (Selbyville, DE), past industrial discharge and agricultural runoff. In addition, a portion of Johnson Pond (Wicomico River Headwaters segment in the Nanticoke/Wicomico basin; 02-13-03-04) has high bacterial levels due to urban runoff which causes a 1.5 acre bathing area to be closed.

Appendix Table F-7. Public lakes not meeting their designated uses due to high acidity.

As described above, a list of the larger lakes and ponds in the State which have public access were generated from available documents and reports and the water quality condition of each was determined through available water quality data and through professional judgement of State fisheries biologists.

The U.S. Environmental Protection Agency's guidance for completing the requirements of Section 314 of the 1987 Water Quality Act (Clean Water Act amendments) defines high acidity as pH less than 4.5. No significant public lake or pond in the State experiences acidity levels this high.

