

APPENDIX A

STATE DESIGNATED WATER USES FOR
MONTGOMERY COUNTY STREAMS

The Maryland Department of the Environment applies distinct designated water uses for the surface waters of the State, each having a specific set of standards. Below is a list of the Water Use for each watershed in the County, followed by definitions of each water use and the State anti-degradation policy.

<u>Use</u>	<u>Waters</u>	<u>Extent/Limits</u>
Use I	<ul style="list-style-type: none"> ● Little Paint Branch ● Sligo Creek ● Rock Creek 	Entirety Entirety Below MD Route 28
Use I-P	<ul style="list-style-type: none"> ● Patuxent River and all tributaries except those designated below as Use III-P or IV-P ● Potomac River and all tributaries except those designated as Use III, III-P, IV or IV-P ● Little Seneca Creek and Little Seneca Lake ● Little Monocacy River ● Bennett Creek ● Great Seneca Creek ● Dry Seneca Creek 	Upstream of Rocky Gorge Dam, including Rocky Gorge Reservoir Upstream of Montgomery County/ Washington DC line Between the lake and the B&O Railroad Bridge, and below confluence of Bucklodge Branch incl. Bucklodge Br. Entirety Entirety Entirety Entirety
Use II	None	
Use III	<ul style="list-style-type: none"> ● Paint Branch and all tributaries ● Rock Creek and all tributaries ● North Branch Rock Creek and all tributaries 	Upstream of Capital Beltway (I-495) Upstream of Muncaster Mill Road Upstream of Muncaster Mill Road
Use III-P	<ul style="list-style-type: none"> ● Little Bennett Creek and all tributaries ● Furnace Branch and all tributaries ● Patuxent River and all tributaries ● Little Seneca Creek and all tributaries ● Wildcat Branch and all tributaries 	Upstream of Maryland Route 355 Entirety Upstream of Triadelphia Reservoir Between the B&O Railroad Bridge & the confluence with Bucklodge Branch Upstream of confluence with Great Seneca Creek
Use IV	<ul style="list-style-type: none"> ● Rock Creek and all tributaries (including Lake Frank and Lake Needwood) 	Between Route 28 and Muncaster Mill Road

- | | | |
|----------|---|---|
| | ● Northwest Branch & all tributaries | Upstream of East-West Highway
(MD Route 410) |
| Use IV-P | ● Patuxent River and all tributaries | Between Rocky Gorge and Triadelphia
Reservoirs, and including
Triadelphia Reservoir |
| | ● Little Seneca Creek & all tributaries | Upstream of Little Seneca Lake |

Definitions of Water Use Categories

A. USE I: WATER CONTACT RECREATION & PROTECTION OF AQUATIC LIFE

Waters that are suitable for: water contact sports; play and leisure time activities where the human body may come in direct contact with the surface water; fishing; the growth and propagation of fish (other than trout); other aquatic life, and wildlife; agricultural water supply; and industrial water supply.

Criteria for Use I waters:

- a) Bacteriological - there may not be any source of pathogenic or harmful organisms in sufficient quantities to constitute a public health hazard. Public health hazard will be presumed when:
 - (i) fecal coliform density exceeds a log mean of 200 per 100 ml based on minimum of 5 samples taken over 30 days;
 - (ii) 10 percent of total number of samples exceed 400 per 100 ml; or
 - (iii) except when a sanitary survey approved by the Maryland Department of the Environment discloses no significant health hazard, i and ii do not apply.
- b) Dissolved Oxygen - may not be less than 5.0 mg/liter at any time.
- c) Temperature - maximum temperature outside the mixing zone may not exceed 90 degrees F (32 degrees C) or the ambient temperature of the surface waters, whichever is greater. A thermal barrier that adversely affects aquatic life may not be established.
- d) pH - Normal pH values may not be less than 6.5 or greater than 8.5.
- e) Turbidity - may not exceed levels detrimental to aquatic life. Turbidity in the surface water resulting from any discharge may not exceed 150 units at any time or 50 units as a monthly average.
- f) Toxic Substances - all toxic substance criteria to protect fresh water and estuarine and salt water aquatic organisms, and the wholesomeness of fish for human consumption, apply in fresh, estuarine and salt waters (see COMAR 26.08.02.03-3).

B. USE I-P: WATER CONTACT RECREATION, PROTECTION OF AQUATIC LIFE, AND PUBLIC WATER SUPPLY

Waters that are suited for all uses identified in Use I and use as a public water supply.

Criteria for Use I-P waters:

- a) The criteria for Use I waters (a)-(e)
- b) Toxic Substances - all toxic substances criteria for protection of fresh water aquatic organisms and to protect public water supplies and the wholesomeness of fish for human consumption apply.

C. USE II: SHELLFISH HARVESTING WATERS

None in Montgomery County

D. USE III: NATURAL TROUT WATERS

Waters that are suitable for the growth and propagation of trout, and that are capable of supporting self sustaining trout populations and their associated food organisms.

Criteria for Use III waters:

- a) Bacteriological - same as Use I waters
- b) Dissolved Oxygen - may not be less than 5.0 mg/liter at any time with a minimum daily average of not less than 6.0 mg/liter.
- c) Temperature - maximum temperature outside the mixing zone may not exceed 68 degrees F (20 degrees C) or the ambient temperature of the surface water, whichever is greater. A thermal barrier that adversely affects aquatic life may not be established.
- d) pH - same as Use I waters
- e) Turbidity - same as Use I waters
- f) Total Residual Chlorine (TRC) - except as provided in COMAR 26.08.03.06, the Department may not issue a permit allowing the use of chlorine or chlorine compounds in the treatment of wastewater discharging to Use III and III-P waters.
- g) Toxic Substances - all criteria to protect fresh water aquatic organisms and the wholesomeness of fish for human consumption apply.

E. USE III-P: NATURAL TROUT WATERS AND PUBLIC WATER SUPPLY

Waters that include all uses identified for Use III waters and use as a public water supply.

Criteria for Use III-P waters:

- a) The criteria for Use III waters (a)-(f)
- b) Toxic Substances - all toxic substances criteria for protection of fresh water aquatic organisms and to protect public water supplies and the wholesomeness of fish for human consumption apply.

F. USE IV: RECREATIONAL TROUT WATERS

Waters that are capable of holding or supporting adult trout for put and take fishing, and that are managed as a special fishery by periodic stocking and seasonal catching (cold or warm waters).

Criteria for Use IV waters:

- a) Bacteriological - same as Use I waters
- b) Dissolved Oxygen - same as Use I waters
- c) Temperature - maximum temperature outside the mixing zone may not exceed 75 degrees F (23 degrees C) or the ambient temperature of the surface water, whichever is greater. A thermal barrier that adversely affects aquatic life may not be established.
- d) pH - same as Use I waters
- e) Turbidity - same as Use I waters

- f) Toxic Substances - all toxic substance criteria to protect fresh water aquatic organisms and the wholesomeness of fish for human consumption apply.

G. USE IV-P: RECREATIONAL TROUT WATERS AND PUBLIC WATER SUPPLY

Waters that include all uses identified for Use IV waters and use as a public water supply.

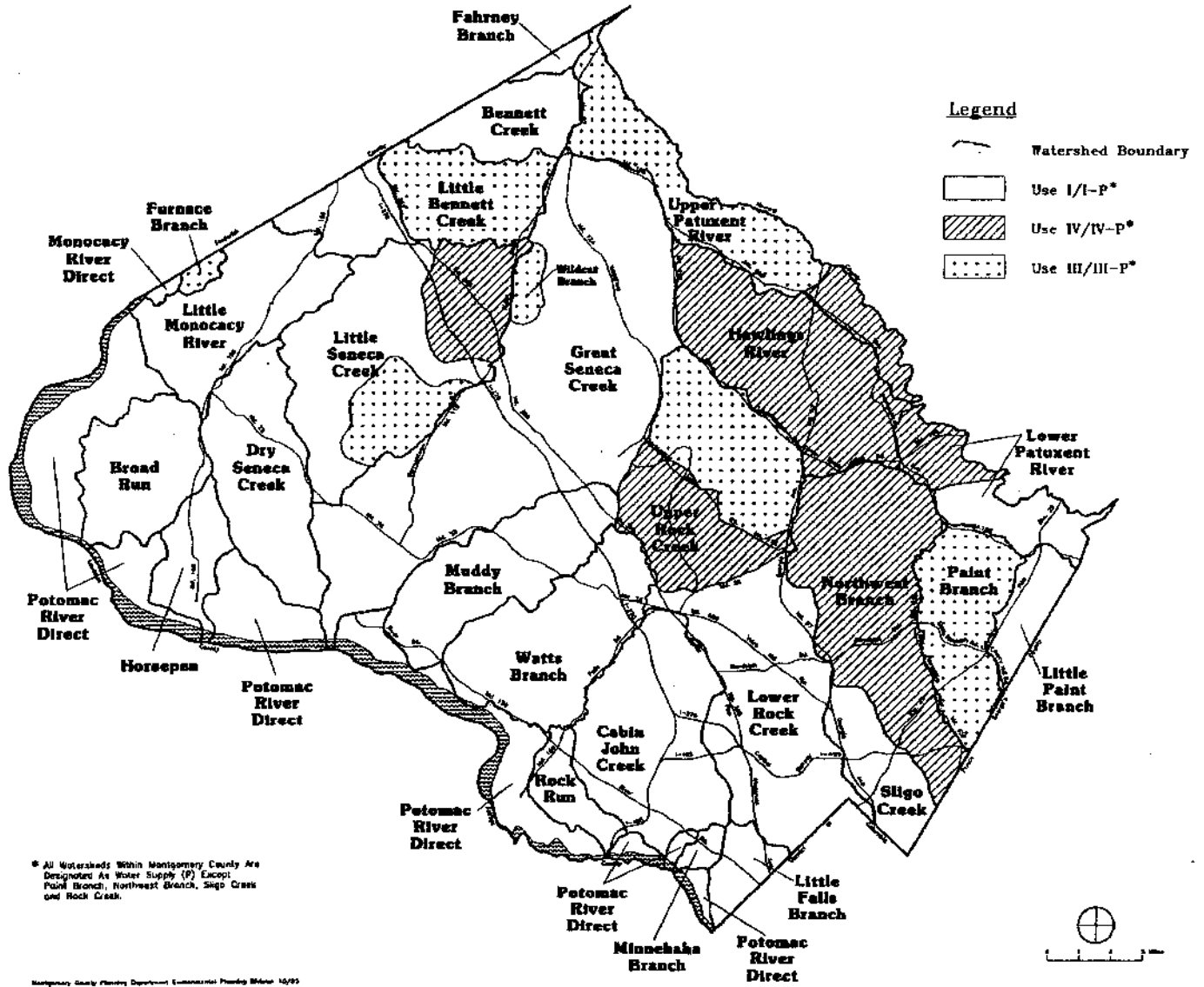
Criteria for Use IV-P waters:

- a) The criteria for Use IV waters (a)-(e)
- b) Toxic Substances - all toxic substances criteria for protection of fresh water aquatic organisms and to protect public water supplies and the wholesomeness of fish for human consumption apply.

COMAR 26.08.02.04 Anti-Degradation Policy

- A. Certain waters of this State possess an existing quality which is better than the water quality standards established for them. The quality of these waters shall be maintained unless:
 - (1) The Department determines a change is justifiable as a result of necessary economic or social development; and
 - (2) A change will not diminish uses made of, or presently possible, in these waters.
- B. To accomplish the objective of maintaining existing water quality:
 - (1) New and existing point sources shall achieve the highest applicable statutory and regulatory effluent requirements; and
 - (2) Nonpoint sources shall achieve all cost effective and reasonable best management practices for nonpoint source control.
- C. The Department shall discourage the downgrading of any stream from a designated use with more stringent criteria to one with less stringent criteria. Downgrading may only be considered if:
 - (1) The designated use is not attainable because of natural causes;
 - (2) The designated use is not attainable because of irretrievable man-induced conditions; or
 - (3) Controls more stringent than the effluent limitations and national performance standards mandated by the Federal Act, and required by the Department, would result in substantial and widespread economic and social impact.
- D. The Department shall provide public notice and opportunity for a public hearing on the proposed change before:
 - (1) Permitting a change in high quality waters; or
 - (2) Downgrading any stream use designation.
- E. Water which does not meet the standards established for it shall be improved to meet the standards.

Figure 11. State Water Use Designations for Montgomery County



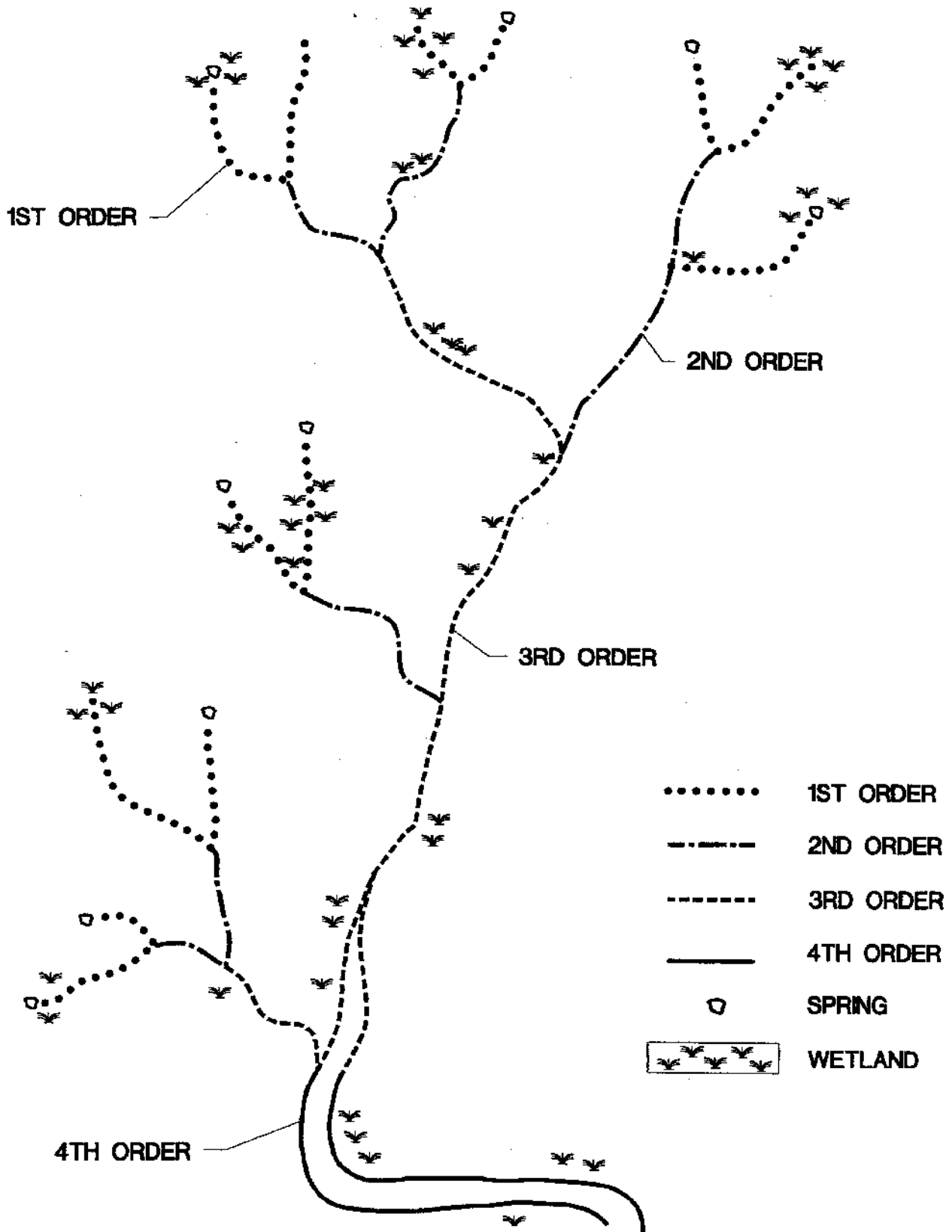
APPENDIX B

STREAM ORDER DETERMINATION

Stream order is used in these guidelines as one factor that determines appropriate wetland buffer widths. Smaller headwater streams, classified as order one and two, are given more wetland protection than the larger downstream reaches classified as order three and four (see Chapters III and V for details). Stream order is determined from a standard map set. For these guidelines, stream order shall be determined from M-NCPPC 1:200' scale topography and stream maps.

Stream order is determined starting at the headwaters of a watershed and continuing until the stream reaches the ocean. All initial headwater perennial streams are classified as first order streams. Wherever two first order streams conjoin to form a larger stream, that reach of stream is labeled second order. Wherever two second order streams conjoin, the next reach is labeled as third order. Note that a first order and a second order stream joining still remains a second order stream; it only becomes third order when the second order one joins another second order. An example of how to determine stream order is found in Figure 11 on the following page.

Figure 12. Stream Order Determination



APPENDIX C

ERODIBLE SOILS LIST

(Source: U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS), *1995 Soil Survey of Montgomery County, Maryland*)

The following soils are classified as having a *severe hazard of erosion* by the NRCS, based on the erodibility index of a soil map unit. These soils are severely erodible and must be incorporated into wetland buffers according to the guidance in chapters III and V. These severely erodible soils should also be incorporated into the property's open space as much as possible and carefully managed during construction.

- 16D Brinklow-Blocktown channery silt loams, 15 to 25% slopes
- 18E Penn silt loam, 15 to 45% slopes, very stony
- 21D Penn silt loam, 15 to 25% slopes
- 21E Penn silt loam, 25 to 45% slopes
- 21F Nestoria-Rock Outcrop Complex, 25 to 50% slopes
- 57D Chillum silt loam, 15 to 25% slopes
- 61D Croom gravelly loam, 15 to 25% slopes
- 61E Croom gravelly loam, 25 to 40% slopes
- 109E Hyattstown channery silt loam, 25 to 45% slopes, very rocky
- 116E Blocktown channery silt loam, 25 to 45% slopes, very rocky

APPENDIX D

STATE PATUXENT RIVER POLICY RECOMMENDATIONS

The following excerpt from the State *Patuxent River Policy Plan* (1984) includes the ten final recommendations of the plan.

RECOMMENDATIONS

1. ESTABLISHING A PRIMARY MANAGEMENT AREA (PMA)

A PRIMARY MANAGEMENT AREA, DELINEATING THE AREA ALONG THE RIVER AND ITS TRIBUTARIES, WILL BE ESTABLISHED TO IDENTIFY AND MANAGE LAND FROM WHICH POLLUTION IS MOST LIKELY TO BE TRANSPORTED INTO THE RIVER.

The PMA shall be considered to be an area critical to the Chesapeake Bay and its tributaries;

Local governments will include the PMA in their plans and zoning ordinances;

Preferred land uses in the PMA will be agriculture, forest, and recreation;

Local governments will prepare plans for the PMA to minimize dense and intensive development and large impervious areas in the PMA;

State agencies, in regulatory activities, technical assistance, and grant programs, will target the PMA as a priority area; and

State and local governments will ensure that land use practices within the PMA shall be of such a nature so as to have no (or at least minimal) adverse impact on water quality of the Patuxent River.

2. PROVIDING BEST MANAGEMENT PRACTICES (BMPS) AND VEGETATIVE BUFFERS

PROGRAMS FOR PROVIDING BMPS AND VEGETATIVE BUFFERS IMMEDIATELY ADJACENT TO THE RIVER AND ITS TRIBUTARIES WILL BE DEVELOPED.

State and local governments will provide BMPs on their publicly owned lands, including buffers where appropriate;

The State will require BMPs on State assisted projects, including buffers where appropriate;

Local governments will adopt subdivision and zoning provisions that require BMPs, including buffers where appropriate, in all new development;

BMPs, including filter strips and field borders, will be encouraged on agricultural land through education, voluntary action, incentive, compensation, and through implementation of the Maryland Agricultural Water Quality Management Plan;

Implementation of soil conservation plans, including filter strips and field borders where appropriate, will be required on lands acquired in easements;

The federal government will be requested to provide BMPs including buffers where appropriate, on its lands; and

The State Department of Transportation will protect roadside buffers by eliminating its practice of broadcast spraying of herbicides along roadsides.

3. IDENTIFYING MAJOR NONPOINT POLLUTION SITES

THE STATE, IN CONJUNCTION WITH LOCAL GOVERNMENTS, WILL SURVEY THE WATERSHED AND IDENTIFY MAJOR NONPOINT POLLUTION SITES.

Existing State regulatory and corrective programs will consider these sites as priority areas.

4. RETROFITTING EXISTING DEVELOPMENT

THE STATE WILL DEVELOP A COST-SHARING PROGRAM TO AID LOCAL GOVERNMENTS IN CORRECTING AND MANAGING STORMWATER POLLUTION FROM EXISTING DEVELOPED AREAS.

Local governments will pursue a program of abating pollution in existing developed areas;

State and local governments will curtail nonpoint pollution coming from their facilities; and

The State will establish priorities among developed areas causing nonpoint pollution and address problems in order of priority.

5. ACCOMMODATING FUTURE DEVELOPMENT

FUTURE DEVELOPMENT WILL BE ACCOMMODATED IN WAYS TO MINIMIZE IMPACT ON WATER QUALITY AND MAXIMIZE EXISTING OPPORTUNITIES.

Development will be concentrated where possible, outside the PMA;

Development will optimize the use of existing facilities and utilities;

Development will be sited to maximize use of soil infiltration capacity;

Development will be sited away from sensitive areas, such as reservoirs, wetlands, steep slopes, and aquifer recharge areas;

Sites within the watershed that offer unique opportunities for development and redevelopment will be identified and planned; and

New public facilities (schools, parks, highways) will incorporate best management practices.

6. INCREASING RECREATION AND OPEN SPACE

ADDITIONAL RECREATION AND OPEN SPACE LANDS WILL BE ACQUIRED IN THE PATUXENT WATERSHED BY THE STATE AND LOCAL GOVERNMENTS.

State and local governments will review their recreation and open space plans for the Patuxent Watershed;

Acquisition will be concentrated along the river and tributaries and in the lower portion of the watershed;

Federal holdings in the watershed must be retained for open space and research; and

An acquisition program for the lower portion of the watershed will be prepared.

7. PROTECTING FOREST COVER

EXISTING FOREST COVER WILL BE RETAINED AND IMPORTANT SENSITIVE AREAS WILL BE REFORESTED TO PROTECT WATER QUALITY.

Existing State programs, like Program Open Space and Agricultural Preservation will be examined and amended for their application to forest protection;

Buffering with forested strips will be encouraged; and

The State will institute a reforestation program for developed areas.

8. PRESERVING AGRICULTURAL LAND

PRIME AND PRODUCTIVE AGRICULTURAL LAND WILL BE PRESERVED IN THE PATUXENT WATERSHED

Easement purchases will include requirements for implementing soil conservation plans including buffer strips where appropriate; and

The Agricultural Cost-Sharing program will target the Patuxent watershed.

9. EXTRACTING SAND AND GRAVEL

SAND AND GRAVEL ACTIVITIES WILL BE MANAGED TO ALLOW EXTRACTION OF THE RESOURCE WITHOUT DAMAGE TO THE RIVER.

Abandoned sand and gravel sites will be reclaimed;

Sensitive control of active and future sites, particularly those in the PMA, will be required;

Penalties for allowing sediment to enter the Patuxent River resulting from washing operations are to be increased to a minimum of \$1,000 per day for every day a violation is found to exist by the appropriate State agency; and

The location of the resources will be identified, and county resource management strategies developed.

10. ADOPTING AN ANNUAL ACTION PROGRAM

THE PATUXENT RIVER COMMISSION WILL ANNUALLY DEVELOP AND ADOPT AN ACTION PROGRAM TO IMPLEMENT THE STRATEGIES.

The action program will contain a schedule and indicate responsibilities in carrying out specific actions to implement the plan;

A community education program will be an integral part of the action program; and

The Commission will prepare an annual report on progress in implementing the plan.

The recommendations and proposed actions in this plan are a starting point. The Policy Plan has been approved by county governments and the General Assembly. Approval of the plan indicates concurrence and commitment to improving the Patuxent River. The combined work of local and State governments, citizens, land owners, and private industry is required to transform the proposals into an improved river.

While prepared for the Patuxent, the land management recommendations contained in this plan can serve as a model for managing any watershed and the Chesapeake Bay.