Preservation
Advocacy
e**X**citement

Patuxent River Policy Plan:

2015 Update

(DRAFT)

PATUXENT RIVER COMMISSION

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 Draft 3.0 Draft 3.0

Summary

The Patuxent River Watershed Act, adopted in 1980, is intended to protect the important state resource embodied by the Patuxent River. The Patuxent River Commission and the Patuxent River Policy Plan are two essential components of this effort. The plan serves as a policy guide for local jurisdictions and state agencies in carrying out their actions and regulatory programs in the Patuxent River watershed. The Commission is charged with monitoring and assisting in the coordination of the work of state and local governments implementing the plan.

The original 1984 Policy Plan, signed by all seven counties within the Patuxent watershed and later approved by the City of Laurel, identified 20 goals and 10 recommendations to improve the Patuxent River. The 1997 Policy Plan Update reflected the amended role of the Commission as the Patuxent River Tributary Team and the resulting increased stakeholder interaction with six programmatic guidelines. The purposes of this 2015 Policy Plan Update are to: (1) build on the goals and recommendations of the 1984 plan; (2) support the programmatic guidelines of the 1997 plan update; and (3) provide a more flexible and effective policy framework for local governments and units of state government to implement the plan. The 2015 Patuxent River Policy Plan shifts the focus from a regulatory framework to one that guides local jurisdictions and the state in preserving and restoring the river, raising awareness of the river through advocacy, and creating excitement about the multiple opportunities for interaction with the river.

Dedication

The 2015 Patuxent River Policy Plan is dedicated to Senator Clyde “Bernie” Fowler, who has been the heart and soul of the Patuxent River Commission from its inception and has been a local, regional, state, and national leader on efforts to restore the Patuxent, the Chesapeake Bay and the environment in general. Senator Fowler was a founding member of the Commission and led the Patuxent Charrette, which served as the foundation for the original 1984 Patuxent River Policy Plan. That work led to increased efforts to provide the same focus for the Chesapeake Bay and its tributaries.

In 1988, Senator Fowler created an annual event known as the Bernie Fowler Wade-In. The Wade-In engages the general public, particularly children, about the beauty, richness and importance of the Patuxent River. The success of the event has led to the adoption of wade-ins for other rivers throughout Maryland.

Senator Fowler served as a Calvert County Commissioner from 1970 to 1982 and a State Senator from 1983 to 1994. He was a member of the U.S. Navy from 1944 to 1946. The Patuxent River Commission expresses its appreciation and gratitude to Bernie Fowler for his passion, love, commitment and dedicated work for Maryland’s largest river.

Introduction

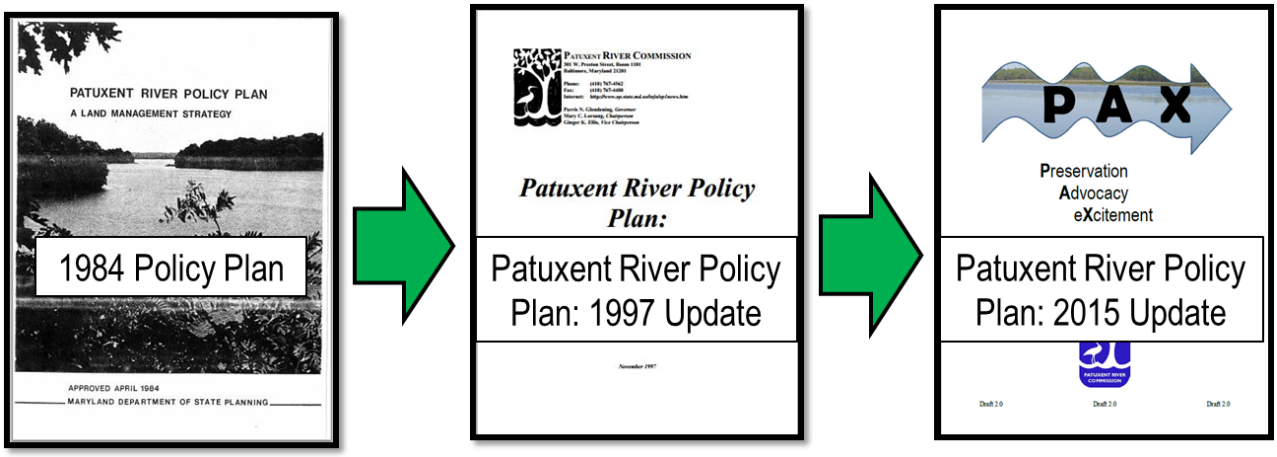
The 1980 Patuxent River Watershed Act sought to protect this important natural resource in Maryland by creating the Patuxent River Commission (PRC) and requiring the development of a policy plan to coordinate and direct the efforts of local jurisdictions, state agencies and community representatives in their work to restore the river.

The seven counties within the Patuxent watershed signed the 1984 plan; it was later approved by the city of Laurel. The first plan established an outline for the implementation of best management and land use practices contained within 20 goals and 10 recommendations. In 1995, the PRC's role was amended by state law to include oversight of the development and implementation of the Patuxent River tributary strategy to meet the Chesapeake Bay Agreement's 40 percent nutrient reduction goal. The PRC's designation as the Tributary Team enabled increased interaction among stakeholders and between citizens and government. In 1997, the PRC updated the plan to reflect its additional responsibilities and increased stakeholder interaction with six programmatic guidelines (1997 Plan Update).

This plan is intended to:

- build on the goals and recommendations of the 1984 plan
- support the programmatic guidelines of the 1997 plan update
- provide a more strategic and policy-oriented document that reflects the changes that have taken place in the last 18 years.

Appendix A contains a summary of the 1984 plan and the 1997 plan update in the document: "Technical Report: Cross-Reference of Previous Goals and Recommendations with Proposed Policies and Strategies" prepared by the Maryland Department of Planning (MDP).



Evolution of the Patuxent River Policy Plan document.

1980 to Today

The 1980 Watershed Act calls for a review of the policy plan every five years to determine if an update is necessary. The first formal update was in 1997 and highlighted the PRC's finding that, while many of the 1984 recommendations had been implemented, the health of the river was continuing to decline.

The 1997 update featured six programmatic guidelines to better meet the challenges of growth management, personal stewardship and financing for the river's restoration. The city of Laurel and all seven counties within the Patuxent River watershed signed the document. In 2009, the PRC evaluated the 1997 update and found that all of the counties had done extensive work in meeting the programmatic guidelines.

Since 1984, the Patuxent River Policy Plan had called for a more regulatory approach to address the steadily declining water quality of the river. Over the last 13 years, the Maryland Department of the Environment (MDE) has established Total Maximum Daily Loads (TMDLs) for portions of the Patuxent River and many of its tributaries (see Table 1). The TMDLs spell out reductions needed in the level of sediment and other pollutants to meet water quality standards in those water bodies. Additional portions of the Patuxent River are listed as "impaired" within Section 5 of Maryland's Integrated 303(d) List. Section 303(d) of the federal Clean Water Act requires Maryland to identify waters assessed as not meeting water quality standards. "Impaired" water bodies must either be addressed through a TMDL or a Water Quality Analysis (if new water quality monitoring data suggest that a waterbody is actually meeting water quality standards).

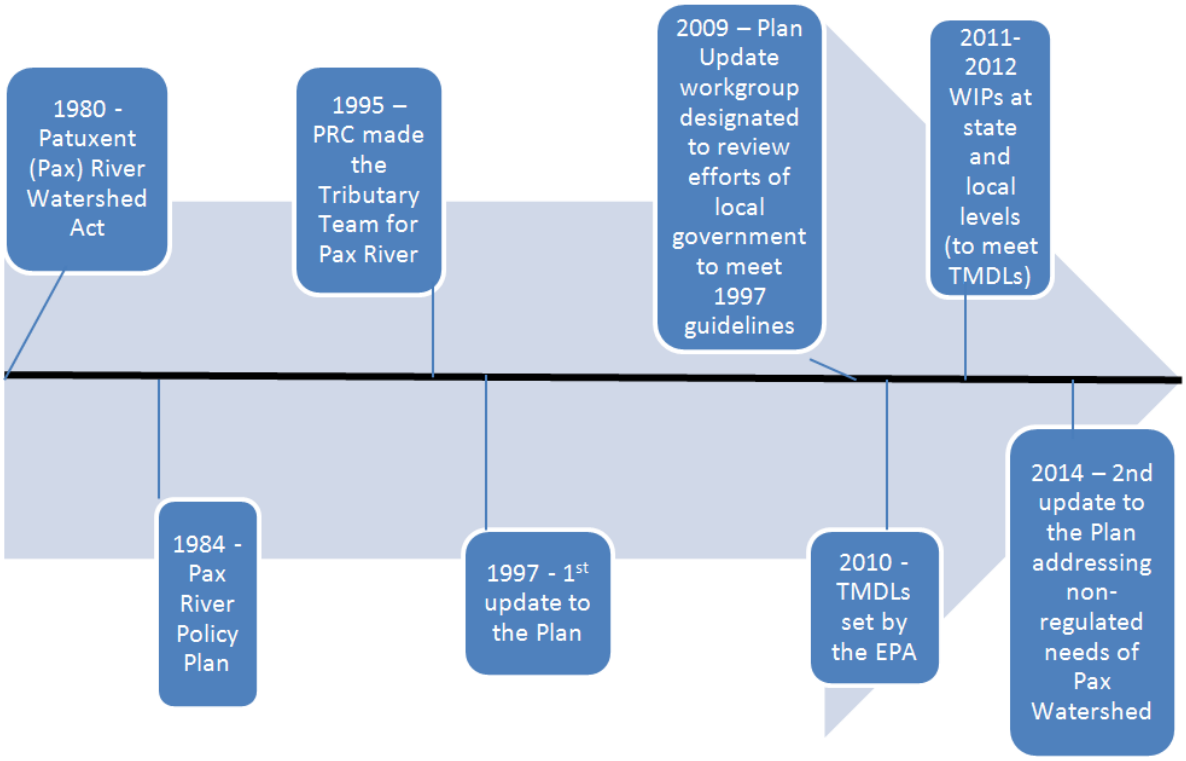
MDE provides a searchable database of "impaired" waters within the Patuxent River Watershed. Approved TMDLs within the Patuxent River watershed are listed on MDE's website.

In 2010, the U.S. Environmental Protection Agency (EPA) established TMDLs to meet water quality standards in the Chesapeake Bay and its major tributaries, including the Patuxent River, in accordance with the Federal Clean Water Act. Maryland was among the seven Chesapeake Bay jurisdictions required to develop and implement Watershed Implementation Plans (WIPs) to meet TMDL requirements. Maryland's final Phase II WIP is available on MDE's website.

Local jurisdictions in Maryland prepared corresponding WIPs on a county-by-county basis, and in the Patuxent River watershed these have taken the place of the previous Patuxent Tributary Strategy. Essentially, voluntary measures to restore water quality – necessary for supporting biodiversity and an abundance of resources in the Patuxent River – are now regulated after more than 25 years of their inclusion in Patuxent River policy documents. Links to local WIPs also can be found on MDE's website.

Table 1. Approved TMDLs within the Patuxent River Watershed as of March 2014

Title of TMDL	**Date Approved**
Sediment in the Patuxent River Upper Watershed, Howard, Anne Arundel, and Prince George's Counties, Maryland	September 30, 2011
Sediment in the Little Patuxent River Watershed, Howard and Anne Arundel Counties, Maryland	September 30, 2011
Fecal Bacteria for the Patuxent River Upper Basin in Anne Arundel and Prince George's Counties, Maryland	August 9, 2011
Fecal Coliform for the Restricted Shellfish Harvesting Area in Mill Creek of the Lower Patuxent River Basin in Charles County, Maryland	August 20, 2009
Phosphorus and Sediments for Triadelphia Reservoir (Brighton Dam) and Phosphorus for Rocky Gorge Reservoir, Howard, Montgomery, and Prince George's Counties, Maryland	November 24, 2008
Fecal Coliform for Restricted Shellfish Harvesting Areas in Solomons Island Harbor, Washington and Persimmon Creeks, and Cuckold Creek of the Patuxent River Lower Basin in Calvert and St. Mary's Counties, Maryland	September 27, 2005
Island Creek, Town Creek, Trent Hall Creek, St. Thomas Creek, Harper and Pearson Creeks, Goose Creek and Indian Creek and a Water Quality Analysis for Battle Creek of Fecal Coliform for Restricted Shellfish Harvesting Areas in the Lower Patuxent River Basin in Calvert, Charles, and St. Mary's Counties, Maryland	May 25, 2005
Sediments and Phosphorus to Centennial Lake, Howard County, MD	April 24, 2002
Biochemical Oxygen Demand (BOD) for the Western Branch of the Patuxent River, Prince George's County, MD	June 6, 2000



Given the state and federal bay-related water quality regulations, the Patuxent River Policy Plan now shifts from a regulatory framework to one that guides local jurisdictions and the state in preserving and restoring the river, raising awareness of the river through advocacy, and creating excitement about the multiple opportunities for interaction with the river. By achieving a closer connection between people and the river's resources, as outlined in this Policy Plan's policies and strategies, the PRC will be able to place a greater emphasis on economics – the river's value to local economies through the products and opportunities for recreation the river provides.

The PRC recognizes that the WIP requirements do not encompass the full protection needs of the Patuxent River watershed. Other aspects of restoration remain to be addressed:

- fish and shellfish resources important to local economies
- temperature and hydrology of stormwater runoff
- wetland and terrestrial habitat
- drinking water supplies
- public outreach and education
- recreation and public access

The current revisions address these needs while continuing to incorporate the previous goals.

Background

Patuxent River Watershed. Source: Maryland Department of the Environment and M-NCPPC Prince George's County

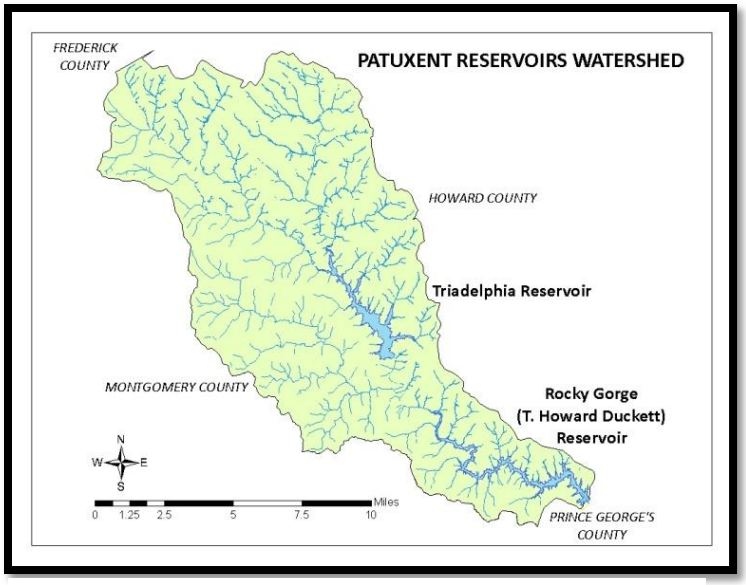
River Facts

The Patuxent River, one of eight major tributaries to the Chesapeake Bay, is the longest and deepest river running entirely through Maryland. It flows for 110 miles and stretches more than a mile across at its entrance to the bay, with a maximum depth of about 175 feet. Its watershed covers 937 square miles, or about one-tenth of Maryland's land mass.

The influence of the Patuxent extends into multiple jurisdictions within the state, including seven of its southern counties around the Baltimore-D.C. metropolitan area and five municipalities, including two of Maryland's largest cities: Laurel and Bowie.

Historic and Economic Importance

The Patuxent River watershed has been inhabited by indigenous people for several thousand years. European settlers first explored the Patuxent River in 1608. The river became part of the transportation network in southern Maryland and provided power for local mills. The river also served as a source of abundant aquatic life that supported the livelihood of southern Maryland residents and the area economy.



Drinking Water Supply Reservoirs on the Patuxent River. Source: WSSC.

The headwaters of the Patuxent River became an important regional source of drinking water when two large dams were built across the river in 1942 and 1954 impounding the Triadelphia and Rocky Gorge reservoirs. Originally containing 13.6 billion gallons of water, sedimentation over subsequent decades reduced the reservoirs' capacity to 12.2 billion gallons by 2005. The reservoirs are owned and operated by the Washington

Suburban Sanitary Commission (WSSC), which treats the water at its Patuxent Water Filtration Plant in Laurel. Water from the Patuxent reservoirs supplies approximately 650,000 residents in Montgomery and Prince George's Counties. The reservoirs also provide recreational opportunities for fishing and boating, and the WSSC's property surrounding the reservoirs has picnic sites and equestrian and hiking trails, and is opened seasonally to managed deer hunts (more information on WSSC recreational opportunities can be found on WSSC's website).

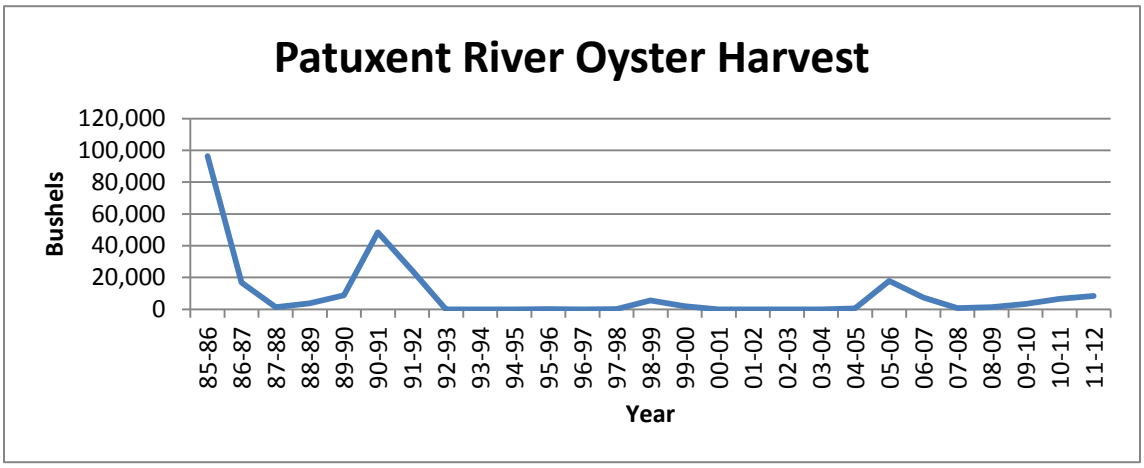
The Patuxent River plays an important role in the Chesapeake Bay system, and is integrally linked to the economy of both local communities and the state. In particular, the oyster fisheries traditionally have been a crucial industry within the Chesapeake Bay and its tributaries.

Decline in Chesapeake Bay Oyster Population, Value

	Chesapeake Bay Oyster Landings		
Year	1880	Early 1920's	2010
Bushels*	2.4 million	1.2 million	0.02 million
Dockside value (2010 Dollars)	$1.16 billion	$570 million	$9.5 million

*assumes 50 lbs. per bushel

In the 1880s, the bay and its tributaries produced the highest numbers of oysters in the world. However, harvests fell by half by 1930; now, according to the U.S. Army Corps of Engineers, the oyster population is approximately 1 percent of its peak. Oyster populations declined due to a number of interrelated factors, including poor water quality and disease. A summary of oyster harvests completed by the Maryland Department of Natural Resources from 1985 through 2012 for the Patuxent River shows a dramatic decline from a high of 96,300 bushels in the 1985-86 season to zero in 1992-93. Since then, harvests have rebounded to 8,419 bushels in the 2011-12 season, still meager compared to two decades ago.



Declining oyster harvests in the Patuxent River

The bay and its tributaries serve as a major economic engine for the region, as demonstrated in the 2012 Chesapeake Bay Foundation (CBF) report titled, *The Economic Argument for Cleaning up the Bay and its Rivers*. Findings from the CBF report include:

- In 2012 dollars, the bay is worth about $1 trillion related to fishing, tourism, property values, and commerce
- An EPA study concluded that every $1 spent on source-water protection saves an average of $27 in water treatment costs
- The commercial seafood industry in Maryland and Virginia creates $3.4 billion in sales and provides $890 million in income per year and more than 34,000 jobs
- Recreational boating contributes $2.03 billion per year and 35,025 jobs to Maryland's economy
- Wildlife watchers in Maryland in 2006 spent $636 million on trip-related expenses and equipment
- One estimate places the value of new green stormwater infrastructure at more than $2 of benefits for each $1 dollar invested
- Public health issues and economic losses are not restricted to the tidal regions of the bay watershed.

These facts point to the continued importance and cost-effectiveness of safeguarding and enhancing the natural resources that are the source of these benefits.

The environmental and economic trends that hold true for the bay also hold true for the Patuxent River. As the bay receives increasing attention to reduce pollution, it will be important and profitable for the bay region, and Maryland and the seven Patuxent counties in particular, to ensure not only that bay restoration goals are met, but also that additional actions are taken to protect and improve the health and economic value of the Patuxent River.

Water Quality Decline

Though 85 percent of the land within the Patuxent watershed was in agricultural or forest land uses in 1984, water quality had declined significantly and the river's health was compromised. A likely cause was the area's rapid population growth, thanks to its location between Washington, D.C. and Baltimore. Between 1973 and 2010, development increased from 68,000 acres to 230,000 acres within the watershed (see Appendix B), while the population more than doubled. Point source discharges from wastewater treatment plants were a major source of poor river water quality; the state enacted the 208 Water Quality Management Plan for the Patuxent River Basin in 1980 in part to deal with this point pollution source. However, although the initial focus was on wastewater treatment plants, 50 percent of nitrogen runoff and close to 100 percent of sediment runoff were coming from diffuse land-based sources ("non-point sources") rather than single pipes.

State and local efforts to upgrade wastewater treatment plants greatly helped reduce point-source pollution to the river. In 1994, nitrogen loads from wastewater treatment plants had decreased by 50 percent and phosphorus loads had decreased by 76 percent compared to 1985. These

nutrient load reductions occurred while there was a 25 percent increase in flows. Submerged aquatic vegetation and juvenile fish appeared to positively respond as well.

Nevertheless, the positive changes could not make up for continued population growth and development in the watershed. By 2010, only 58 percent of the watershed was classified as agriculture or forest while 40 percent was developed. In 2008, the Patuxent River received a score of "D-" in a health report card looking at water clarity, the presence of aquatic grasses and levels of dissolved oxygen by the Patuxent Riverkeeper and the University of Maryland Center for Environmental Science. In 2012, the Patuxent River received a grade of "D" by the University of Maryland in its annual report card due to a decline in sea grasses and benthic organisms, though improvements were noted in the levels of dissolved oxygen and reductions in nitrogen and phosphorus.

In spite of the river's water quality challenges, the Patuxent remains an important piece of Maryland's natural heritage. It provides a variety of habitats from cold-water trout streams to tidal wetlands. More than 100 species of fish live in the Patuxent including bass, catfish, chain pickerel and bluefish. These fish in turn support the existence of iconic bird species like the bald eagle, great blue herons and osprey. The Patuxent supports oyster and blue crab populations, and holds the promise for increased abundance and diversity of these and many other plant and animal species, along with clean, swimmable waters.

General Policies

The following general policies, which guide the work of the local jurisdictions and the state within the Patuxent River watershed, are divided into three focus areas: Preservation, Advocacy, and eXcitement

Preservation

Local jurisdictions and the state will work toward the preservation of the Patuxent River and the land within its watersheds and the restoration of the ecological and economic functions of the river.

Advocacy

Local jurisdictions and the state will advocate for the Patuxent River by raising awareness among the general public and elected and appointed officials of the challenges the river faces and make recommendations for improvements.

eXcitement

Local jurisdictions and the state will create excitement about the Patuxent River and its value as a natural, scientific, economic, cultural and educational resource.

Strategies

Preservation

Local jurisdictions and the state will work toward the preservation of the Patuxent River and the land within its watersheds and the restoration of the ecological and economic functions of the river.

Strategies:

P1. Maintain and improve the health of the Patuxent River so it can support commercial and recreational fishing and seafood harvesting.
P2. Identify and prioritize for conservation the critical natural resources within the Patuxent River Watershed in county and municipal land use documents.
P3. Embrace smart growth and smart conservation practices in the counties and municipalities in the Patuxent River watershed to reduce sprawl and preserve irreplaceable resources.
P4. Restore the health of the river by actions such as encouraging acquisition of properties or easements in sensitive resource areas, planting stream buffers, and controlling invasive plants, focusing on stream buffers.
P5. Preserve the Patuxent River headwaters as a permanent and reliable source of drinking water, and improve and restore water quality in the tributaries feeding the reservoirs.
P6. Support the work of local jurisdictions and the state in meeting their respective water quality goals as stated in approved plans and permits.
P7. Preserve and restore the movement of water, fish and wildlife through identifying and removing barriers.

Advocacy

Local jurisdictions and the state will advocate for the Patuxent River by raising awareness among the general public and elected and appointed officials of the challenges the river faces and make recommendations for improvements.

Strategies:

A1. Keep abreast of issues facing the river in communities within the Patuxent River watershed and share experiences and challenges with the PRC.
A2. Pursue resolution of pollution concerns for communities within the Patuxent River watershed.
A3. Keep elected and appointed officials aware of the issues facing the river and seek their support when appropriate.
A4. Recommend changes to policies, programs, legislation and/or regulations to improve and restore water quality in the river and its watershed.

eXcitement

Local jurisdictions and the state will create excitement about the Patuxent River and its value as a natural, scientific, economic, cultural and educational resource.

Strategies:

X1. Maintain, create and encourage opportunities for river-related economic activities on the river and within the watershed, in appropriate locations.
X2. Ensure and encourage public access to the river, its tributaries, and recreational opportunities within the watershed.
X3. Support economic and scientific research projects on the river and seek or support funding where possible.
X4. Create and support educational and stewardship opportunities for all communities within the watershed.
X5. Protect valuable cultural resources and historical properties within the watershed.

Annual Action Plan for the Patuxent River Commission

Under §5-816 of the State Finance and Procurement Article, the Patuxent River Commission shall:

> (1) review the operation of units of state and local government that have responsibility for implementation of the Plan;
> (2) provide a clearinghouse for information on the Patuxent River and its watershed;
> (3) review and comment on plans and reports related to the Patuxent River and its watershed; and
> (4) serve as the Tributary Strategy Team for the Patuxent Watershed, coordinating the Patuxent tributary strategy with the Plan.

Note: State and local Chesapeake Bay Watershed Implementation Plans (WIPs) have taken the place of the previous Patuxent tributary strategy. In its more policy-oriented approach, the 2015 update to the Patuxent River Policy Plan guides the Patuxent River Commission to:

- Advance plan objectives by local jurisdictions and units of state government within the watershed by developing/ updating an Annual Action Plan each January to monitor river restoration efforts. As part of the Annual Action Plan, the PRC may invite local jurisdictions and units of state government to report on their implementation progress.

- Focus its meetings and staff time on the tasks within the Annual Action Plan. Emergency issues, informational presentations, and administrative issues shall be handled as much as possible outside regular meetings.

- Compile accomplishments from the previous year annually.

- Monitor annually:

    - The Scientific and Technical Advisory Committee report and/or a report from the Chesapeake Research Consortium on the ecological health of the Patuxent River;
    - The Maryland Department of Natural Resources report on the status of fish and shellfish within the Patuxent River;
    - The Maryland Department of the Environment report on the status of water quality within the Patuxent River
    - The Maryland Department of Planning report on past and forecasted land use change and wastewater processing within the Patuxent River Watershed, including implementation of PlanMaryland.

If the necessary data sets are not available, other sources will be provided by the appropriate agencies.

Acronyms

CBF – Chesapeake Bay Foundation

EPA – U.S. Environmental Protection Agency

MDE – Maryland Department of the Environment

MDP – Maryland Department of Planning

PRC – Patuxent River Commission

TMDL – Total Maximum Daily Load

WIP – Watershed Implementation Plan

WSSC – Washington Suburban Sanitary Commission

Glossary

1980 Watershed Act: Legislation passed by Maryland's General Assembly initiating collaborative efforts between the Maryland Department of Planning and the Patuxent River Commission to develop the Patuxent River Policy Plan in order to reduce non-point source pollution in the Patuxent River watershed.

208 Water Quality Plan for the Patuxent River Basin: this plan, approved by Governor Hughes and the EPA in 1983, contained the initial strategy for controlling point sources of pollution within the Patuxent River watershed, along with a technical water quality assessment of the watershed. The Executive Summary of the 208 Plan can be found in Appendix II of the 1984 Patuxent River Policy Plan.

Chesapeake Research Consortium: A nonprofit chartered by the State of Maryland comprised of six research institutions involved in studying the Chesapeake Bay.

Federal Clean Water Act: Legislation regulating the discharge of pollutants into the nation's waterways and regulating standards for surface water quality. The basis of this act was passed in 1948 but was significantly reorganized and expanded in 1972.

Green Stormwater Infrastructure: a range of soil-water-plant systems, such as stormwater planters, rain gardens and green roofs, that intercept stormwater, infiltrate a portion of it into the ground, evaporate a portion of it into the air, and in some cases release a portion of it slowly back into the storm sewer system.

Nitrogen: An element necessary for plant growth and often found in fertilizers. Excess nitrogen in water bodies is often associated with harmful algal blooms, loss of dissolved oxygen and consequently dead zones for aquatic life.

Non-point Source: Pollution carried by diffuse sources like rainwater or snowmelt running off or through the ground carrying pollutants to water bodies.

Phosphorus: an element necessary for plant growth and often found in fertilizers. Excess phosphorus in water bodies is often associated with harmful algal blooms, loss of dissolved oxygen and consequently dead zones for aquatic life.

Point Source: Discrete conveyances of pollutants. Examples are pipes or ditches.

Policy Plan: Document intended to guide future actions in accordance with a set of strategies or principles.

Runoff: Rainwater or snowmelt washing off the land surface and into water bodies. This may be carrying loose sediments or dissolved nitrogen and phosphorus.

Sediment: Loose soil particles carried by rainwater or water bodies. A large amount of sediment may negatively impact water clarity, smother benthic species and hinder submerged aquatic plant growth.

Scientific and Technical Advisory Committee: A committee designated as a liaison between the scientific community and the Chesapeake Bay Program sharing reports and technical advice.

Tributary: A stream feeding into another larger stream or other water body.

Tributary Team: Between 1995 and 2011, groups of stakeholders organized by the Maryland Department of Natural Resources to advocate for the use of best management practices in order to restore the water quality of local tributaries and ultimately the larger Chesapeake Bay system.

Watershed: The entire drainage area emptying into a body of water.

Appendix A

Patuxent Policy Plan Technical Report:
Cross-Reference of Previous Goals and Recommendations with
Proposed Policies and Strategies

The purpose of this technical report is to demonstrate that the previous 20 goals and 10 recommendations within the 1984 Patuxent Policy Plan (approved in 1984 by all seven of the counties within the Patuxent River Watershed and the General Assembly, and subsequently adopted by the City of Laurel) and the 6 programmatic guidelines within the 1997 Patuxent Policy Plan Update (adopted in 2000 by all seven of the counties and the City of Laurel, adopted in 2001 by the Maryland General Assembly) have been incorporated within the proposed 2015 Patuxent Policy Plan's three overarching policies and 16 strategies to implement those policies.

The report contains, in the following order:

1. 1984 Patuxent Policy Plan Goals
2. 1984 Patuxent Policy Plan Recommendations
3. 1997 Patuxent Policy Plan Update Programmatic Guidelines
4. Policies and Strategies of the 2015 Policy Plan Update

The 2015 Policy Plan's three overarching policies and 16 strategies to implement those policies are listed within the final table, followed by references that note which of the previous 1984 goals and recommendations or 1997 programmatic guidelines have been incorporated into the statement.

1984 Patuxent Policy Plan Goals

1. To restore water quality in the Patuxent River to acceptable pre-development levels as defined by dissolved oxygen content and turbidity;
2. To view the river as an integrated system from the headwaters to the Chesapeake Bay for management purposes;
3. To promote a continuous buffer along the river to protect water quality, prevent flood damage to human life and property, preserve wildlife habitats, and provide an open space and recreation resource;
4. To restore and improve the potential for recreational uses of the river including boating, sports, fishing, crabbing, swimming, and aesthetic pleasure;
5. To restore the catch of desired species of fin and shellfish in the river;
6. To protect and enhance the use of the river for fish spawning;
7. To establish and maintain river flow volumes that support the multiple uses of the river;
8. To maintain research capability to identify the key environmental needs of important aquatic species;
9. To preserve and enhance important wildlife habitats throughout the watershed;
10. To protect and enhance the scenic quality of the river;

11. To protect and manage valuable natural resources within the watershed including prime agricultural and forest lands, aquifer recharge areas, and potential sand and gravel extraction sites;
12. To protect the economic and social needs of both upper and estuarine jurisdictions within the watershed;
13. To promote land use patterns and practices that will accommodate growth while protecting water quality goals;
14 To prohibit or regulate the use of hazardous and toxic materials and wastes to ensure that they will not harm the river;
15. To protect valuable cultural resources within the watershed including historic sites and areas that are architecturally unique or picturesque;
16. To determine state funding targets for research, Program Open Space, sewage facility construction, and rural and urban non-point source programs;
17. To assure that each county shall be responsible for the cost of mitigating or preventing environmental problems within its jurisdiction.
18. To promote coordinated planning for basin-wide issues requiring interjurisdictional action; and
19. To promote the protection of the environmental integrity of the areas surrounding the reservoirs to protect and enhance the water quality of the Rocky Gorge and Triadelphia Reservoirs.
20. To protect the environmental quality of aquifer recharge areas.

1984 Patuxent Policy Plan Recommendations

1. Establish a Primary Management Area (PMA) – A primary management area, delineated 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.
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.
3. Identifying major non-point pollution sites – The state, in conjunction with local governments, will survey the watershed and identify major non-point pollution sites.
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.
5. Accommodating future development – Future development will be accommodated in ways to minimize impact on water quality and maximize existing opportunities.
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.
7. Protecting forest cover – Existing forest cover will be retained and important sensitive areas will be reforested to protect water quality.
8. Preserving agricultural land – Prime and productive agricultural land will be preserved in 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.

10. Adopting an annual action plan – The Patuxent River Commission will annually develop and adopt an action plan to implement the strategies.

1997 Patuxent Policy Plan Update Programmatic Guidelines

1. Implement a comprehensive watershed management approach to control all sources of pollution and resource degradation.
2. Continue to restore, improve, and protect the habitat function of aquatic and terrestrial living resources.
3. Concentrate new development in and around existing developed areas and population centers while protecting the rural landscape and agricultural economy.
4. Enhance the environmental quality and community design in new and existing communities.
5. Develop a sense of stewardship for the Patuxent River and its watershed through increased public education and participation programs.
6. Provide sufficient funding and staff to support continued programs, policies, and projects to meet the ten recommendations of the Plan.

Policies and Strategies of the 2015 Policy Plan Update

The following table contains the 2015 Plan Policies and Strategies and identifies which goals, recommendations and/or guidelines from previous Plans are represented by each policy or strategy.

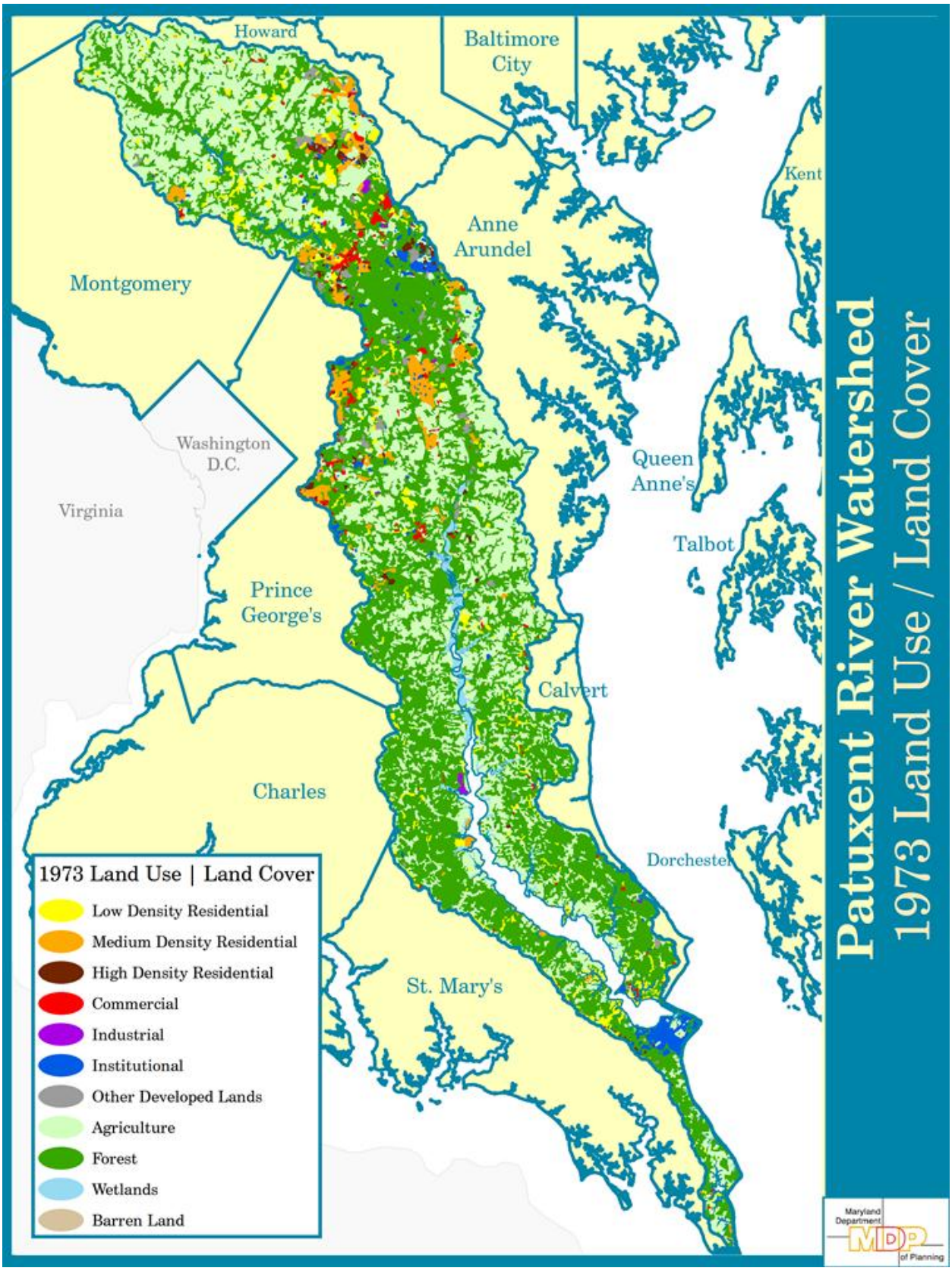
2015 proposed policy or strategy	1984 Goals (20)	1984 Recommendations (10)	1997 Guidelines (6)
Preservation: Local jurisdictions and the state will work toward the preservation of the Patuxent River and the land within its watersheds and the restoration of the ecological and economic functions of the river.	2, 9, 11, 12, 17, 18, and 20	7, 8, and 10	1 and 2
P1. Maintain and improve the health of the Patuxent River to continue to support commercial and recreational fishing and seafood harvesting.	4, 5, 6, 7, 9, 12, 13, and 14	5 and 7	1 and 2
P2. Identify and prioritize for conservation the critical natural resources within the Patuxent River Watershed in county and municipal land use documents.	9, 11, 12, 13, and 16	6, 7, and 8	
P3. Embrace Smart Growth and Smart Conservation practices in the seven counties and five municipalities in the Patuxent River watershed to reduce sprawl and preserve irreplaceable resources.	9, 10, 11, 12, 13, 15, 16, and 18	5, 6, 7, and 8	2, 3 and 4
P4. Restore the health of the river by actions such as encouraging acquisition of properties or easements in sensitive resource areas; planting stream buffers where they do not currently exist; and controlling invasive plants, focusing on stream buffers.	3 and 9	1, 2, 6, and 7	2
P5. Preserve the Patuxent River headwaters as a permanent and reliable source of drinking water, and improve and restore water quality in the tributaries feeding the reservoirs.	1, 7, 11, 14, 18, 19, and 20	1, 2, 3, 7, and 9	1
P6. Support the work of local jurisdictions and the state in meeting their respective water quality goals as stated in approved plans and permits.	1, 2, 14, 16, and 17	2, 3,and 4	1, 2, 4, and 6
P7. Preserve and restore the movement of water, fish and wildlife through identifying and removing barriers	2, 4, 5, 6, 7, and 18		1 and 2

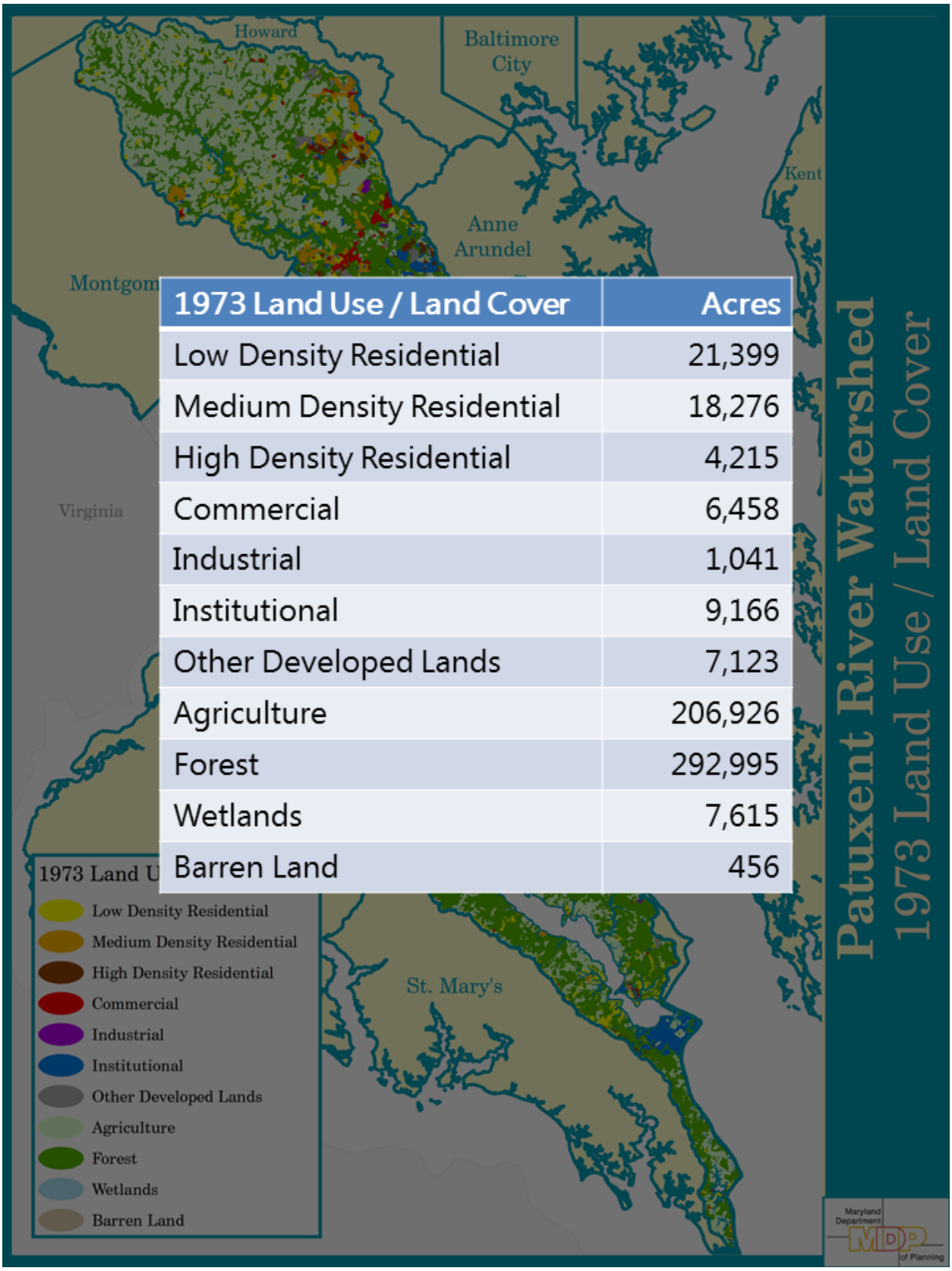
2015 proposed policy or strategy	1984 Goals (20)	1984 Recommendations (10)	1997 Guidelines (6)
Advocacy: Local jurisdictions and the state will advocate for the Patuxent River by raising awareness among the general public and elected and appointed officials of the challenges the river faces and make recommendations for improvements.	2, 12, 16, 17, and 18	10	6
A1. Keep abreast of issues facing the river in communities within the Patuxent River watershed and share experiences and challenges with the full PRC.	2, 12, 16, 17, and 18	10	6
A2. Pursue resolution of pollution concerns for communities within the Patuxent River watershed.	1, 4, 5, 6, 7, 9, 10, 11, 14, 19 and 20	3 and 7	1 and 2
A3. Keep respective elected and appointed officials aware of the issues facing the river and seek their support when appropriate.	2, 12, 16, 17, and 18	10	6
A4. Make recommendations where appropriate for changes to policies, programs, legislation and/or regulations to improve and restore the water quality of the river and its watershed.	2, 12, 16, 17, and 18	10	6
eXcitement: Local jurisdictions and the state will create excitement about the Patuxent River and its value as a natural, scientific, economic, cultural and educational resource.	4, 8, 10, 12, 15, and 16	6	5 and 6
X1. Maintain, create and encourage opportunities for river-related economic activities on the river and within the watershed, in appropriate locations.	4, 10, 12, and 15	6	6
X2. Ensure and encourage public access to the river and its tributaries and to recreational opportunities within the watershed.	3, 4, 10, 16, and 18	6	6
X3. Support economic and scientific research projects on the river and seek or support funding where possible.		8	
X4. Create and support educational and stewardship opportunities for all communities within the watershed.	10, 12, and 15	5	
X5. Protect valuable cultural resources and historical properties within the watershed.	4, 10, 12, 15 and 18	6	6

This document was prepared by staff from the Maryland Department of Planning at the request of the Patuxent River Commission, September 2013, updated March 2014.

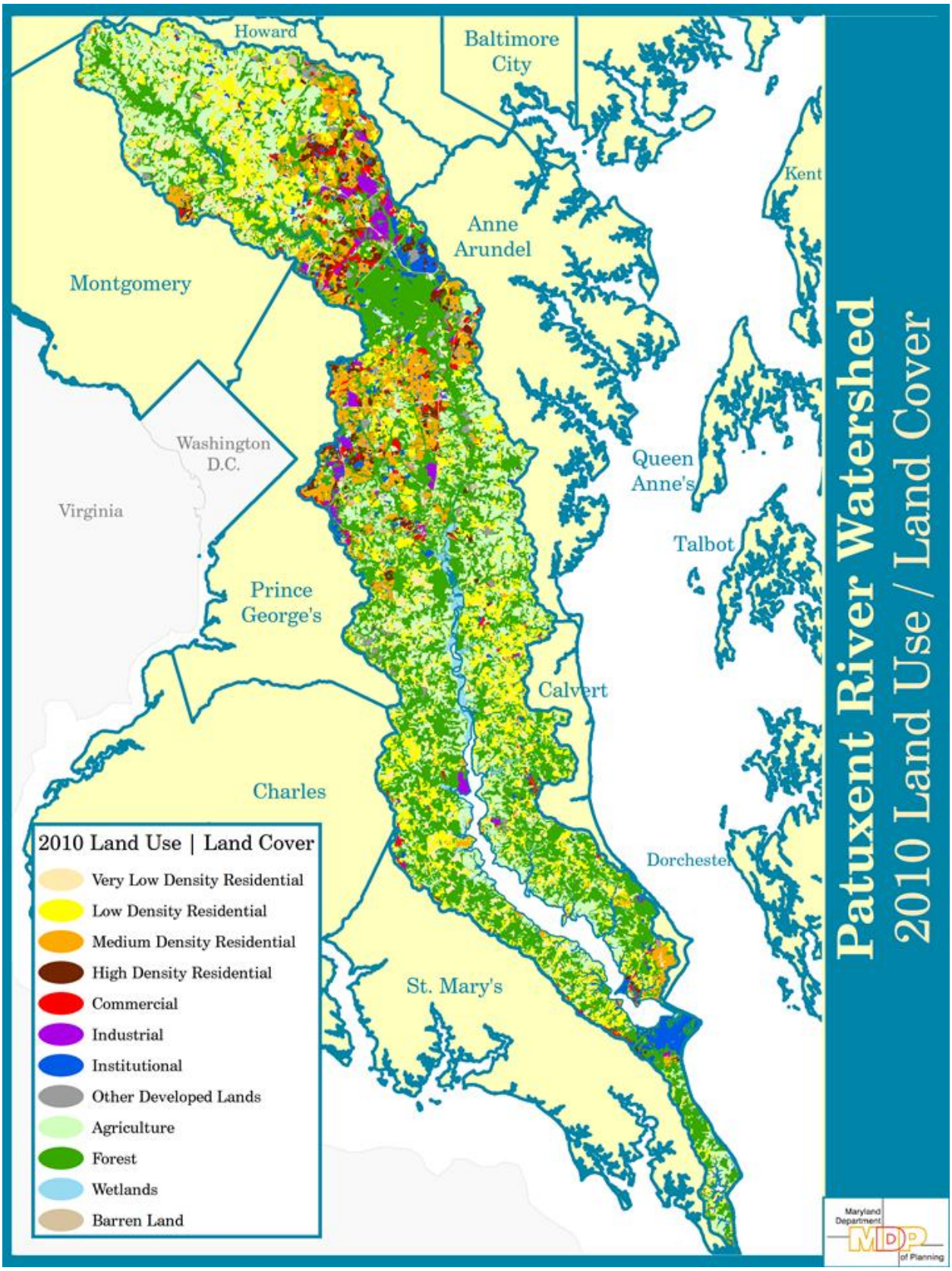
Appendix B

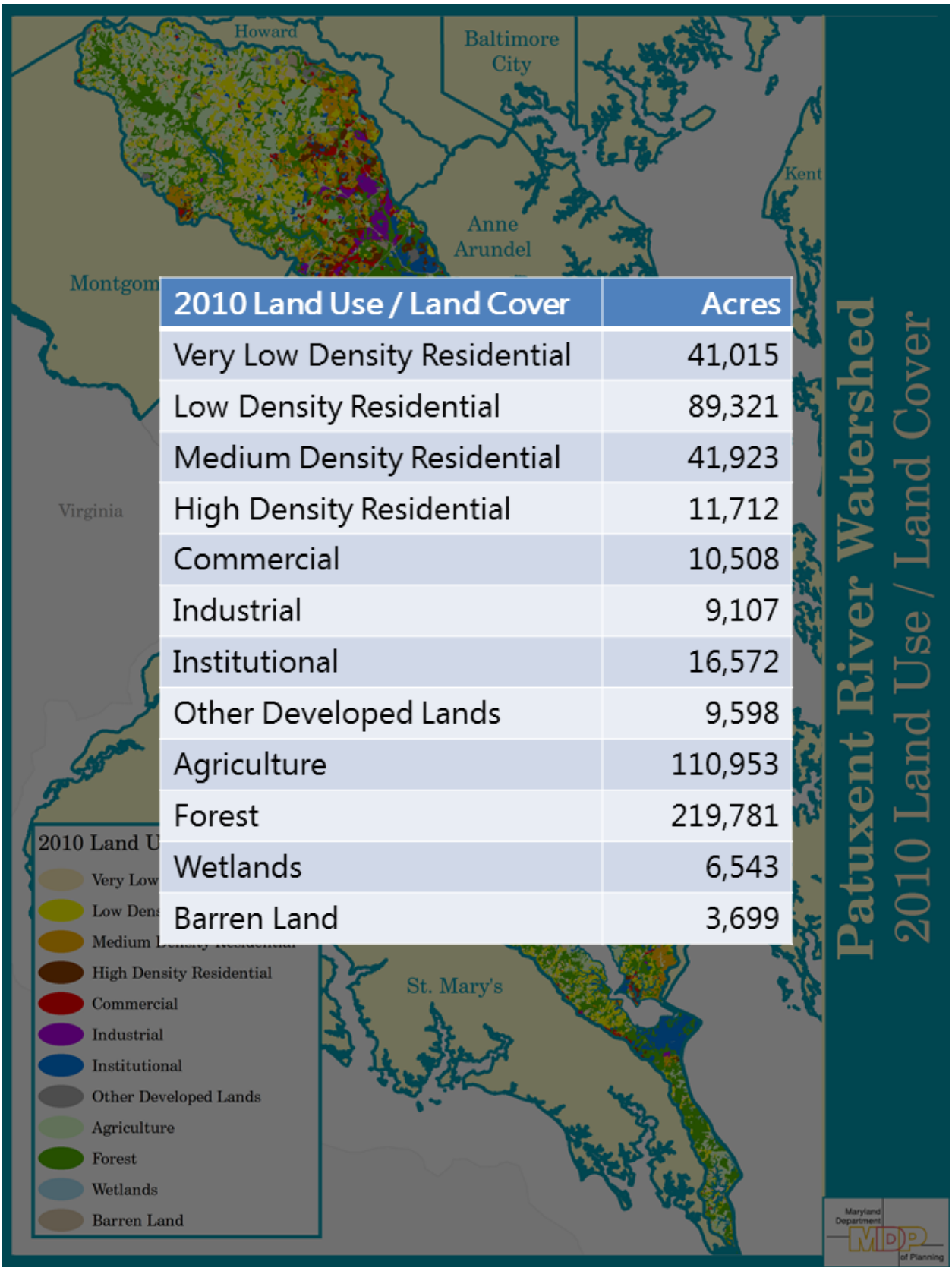
Land Use/Land Cover Change in the Patuxent Watershed, 1973-2010


Patuxent River Watershed
1973 Land Use / Land Cover
Howard
Baltimore City
Kent
Anne Arundel
Montgomery
Washington D.C.
Virginia
Queen Anne's
Talbot
Prince George's
Calvert
Charles
Dorchester
St. Mary's
1973 Land Use | Land Cover
Low Density Residential
Medium Density Residential
High Density Residential
Commercial
Industrial
Institutional
Other Developed Lands
Agriculture
Forest
Wetlands
Barren Land
Maryland Department of Planning
MDP



1973 Land Use / Land Cover	Acres
Low Density Residential	21,399
Medium Density Residential	18,276
High Density Residential	4,215
Commercial	6,458
Industrial	1,041
Institutional	9,166
Other Developed Lands	7,123
Agriculture	206,926
Forest	292,995
Wetlands	7,615
Barren Land	456


Patuxent River Watershed
2010 Land Use / Land Cover
Howard
Baltimore City
Kent
Anne Arundel
Montgomery
Washington D.C.
Virginia
Queen Anne's
Talbot
Prince George's
Calvert
Charles
Dorchester
St. Mary's
2010 Land Use | Land Cover
Very Low Density Residential
Low Density Residential
Medium Density Residential
High Density Residential
Commercial
Industrial
Institutional
Other Developed Lands
Agriculture
Forest
Wetlands
Barren Land
Maryland Department of Planning



2010 Land Use / Land Cover	Acres
Very Low Density Residential	41,015
Low Density Residential	89,321
Medium Density Residential	41,923
High Density Residential	11,712
Commercial	10,508
Industrial	9,107
Institutional	16,572
Other Developed Lands	9,598
Agriculture	110,953
Forest	219,781
Wetlands	6,543
Barren Land	3,699

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