

County Management Measures Augmenting the Patuxent River Policy Plan

January 21, 2000

See Table 4 in the Report for a listing of related State Programs

Recommendation #1 - Establish a Primary Management Area (PMA)

Overall Comments - see the description of the Chesapeake Bay Critical Area Management Act in Table 4 of the Patuxent Policy Plan Update document. This State mandated program is partially based on the PMA.

<i>County</i>	<i>Description</i>	<i>Status / Issues</i>
Anne Arundel	<ul style="list-style-type: none"> \$ Critical Area Program \$ 4-year review including increased fines and permitted uses in the Resource Conservation Area. 	<ul style="list-style-type: none"> \$ Violations of the 100' buffer in developed areas. \$ Program Improvement. Next review due in 2000
	<p>Open Space (OS) Zoning</p> <ul style="list-style-type: none"> \$ Purpose is to preserve open areas for recreation, protect property and persons from flood hazards, and discourage development that is not compatible with the natural environment. <p>Chesapeake Bay Community Partner Program</p> <ul style="list-style-type: none"> \$ Recognizes local environmental initiatives to protect natural resources, the Bay and its tributaries. 	<ul style="list-style-type: none"> \$ Land within 100 feet of the Patuxent River and its tributaries is zoned OS (open space) to limit development and protect natural resources adjacent to these waters. \$ The OS designation expands beyond the 100-foot width where appropriate to include adjacent floodplains and wetlands. \$ Anne Arundel County won the GOLD award in 1999.
Calvert	<ul style="list-style-type: none"> ▼ Critical Area Program ▼ 50' buffer from wetlands ▼ 50' buffer from blue-line stream, which is extended for steep slopes ▼ Mandatory Clustering and Forest Conservation regulations place priority for forest retention on floodplains, steep slopes, extended stream buffers and contiguous large tracts of forest 	<ul style="list-style-type: none"> \$ Success in reducing loss of forest and maintaining buffers. \$ Many variances granted on existing lots. \$ Stormwater regs sometimes ineffective. \$ Increased Open Space Preservation
Charles	<ul style="list-style-type: none"> \$ Critical Area Program \$ Resource Protection Zone for non-Critical Area portion 	<ul style="list-style-type: none"> \$ Proposed update of the Critical Area Program include Shore Erosion Control implementation provisions and cliff setbacks.
Howard	<ul style="list-style-type: none"> \$ 75' buffers on perennial stream and 50; buffers on intermittent streams in residential zones; 50' buffers on perennial and intermittent streams in non-residential zones. 	<ul style="list-style-type: none"> \$ Establishing buffers in developed areas. \$ Buffers established through FCA requirements for retention, reforestation & afforestation. Fee in-lieu funds used for riparian buffer acquisition and to establish riparian buffers on County open space. \$ No central inventory.
Montgomery	<ul style="list-style-type: none"> \$ Patuxent River Watershed Primary Management Area Guidelines - development guidelines and standards for 1/4 mile from the Patuxent Mainstem and 1/8 mile from each side of all tributaries. 	<ul style="list-style-type: none"> \$ These programs have protected this County's portion of the Patuxent. \$ Buffers may be reduced if water quality is maintained. \$ Coordination among involved agencies (e.g., County and Soil Conservation District) is important.

	\$ Functional Area Master Plan for the Patuxent River Watershed - guidelines for the overall protection of the Watershed: guidelines for the protection of steep slopes, wetlands, reservoirs and other sensitive areas.	
Prince George's	\$ Critical Area Program \$ County's Primary Management Area Guidelines for development. \$ Primary Management Area is established in the Master Plan, County Code, and in the County's GIS. \$ Targeting of the Patuxent for natural land acquisition.	\$ Many Soil and Water Conservation Plans written for this area. \$ Coordination with various agencies and programs. \$ Programs have been effective in protection of the resource.
City of Bowie	\$ Falls under Prince George's County's program(s)	\$ Supports County guidelines/criteria at development review
St. Mary's	\$ Critical Area Program	
City of Laurel	\$ City's Master Plan cites purpose and justification for the Primary Management Area	\$ Implement through various regulatory devices including flood plain and forest conservation ordinances.

Recommendation #2 - Provide BMPs and Vegetative Buffers

Overall Comments - see the description of Statewide Initiatives in Table 4 of the Patuxent Policy Plan Update document. Since stormwater management, sediment and erosion control, tidal and non-tidal wetlands, and floodplain management are State and in some cases also Federal programs implemented at the local level, they are listed here if there are unique aspects to them.

<i>County</i>	<i>Description</i>	<i>Status / Issues</i>
Anne Arundel	\$ Shoreline protection and public education - annual emergent grass plantings in wetlands by citizens and organizations. County supplies plants, citizens supply labor and tools.	\$ Successful, good public response. \$ Coordination with Parks and Rec important.
	Steep Slopes Protection \$ Defined by an incline greater than 15% outside the Critical Area and an incline of 15% or greater within the Critical Area. \$ Grading Ordinance requires a 25 foot buffer to slopes of 25% or greater.	\$ Protection is afforded through the permit review process and grading/sediment/erosion control inspection. \$ Waivers have lessened effectiveness.
	Emergent Grasses Program \$ Public outreach tool for annual grass plantings in wetlands by citizens and community groups. \$ County provides plants and instruction, citizens provide labor and tools.	\$ No requests from citizens in the tidal portions of the Patuxent River watershed. \$ Very few community groups in this part of the watershed.
	Non tidal Wetlands \$ Grading Ordinance requires a 25 foot buffer	\$ Need to establish requirement for buffers to non-tidal perennial streams.

	surrounding all non-tidal wetlands.	
	<p>Floodplain Management</p> <ul style="list-style-type: none"> \$ Local program documentation found in County Code, Article 21. \$ Establishes minimum set-back of 100-feet from edge of 100-yr. Floodplain \$ Restricts development in the floodplain \$ Retains floodplain in natural state. 	<ul style="list-style-type: none"> \$ OS Zoning and floodplain delineation have protected some contiguous areas immediately adjacent to the Patuxent River shore.
	<p>Stormwater Management</p> <ul style="list-style-type: none"> \$ Local program documentation found in County Code \$ Specific design requirement found in County Stormwater Design Manual \$ Builds on State Program and will be revised to meet and/or exceed new State Stormwater Management Design Requirements. \$ Requires both quality and quantity management.. 	<ul style="list-style-type: none"> \$ Somewhat effective. \$ Most small projects receive a waiver to quantity management. \$ Inspection and maintenance of private structures needed. \$ Cumulative impacts to watershed are not considered in current regulations.
Calvert	<ul style="list-style-type: none"> ▼Critical Area Program ▼50' buffer from wetlands. ▼50' buffer from blue-line stream, which is extended for steep slopes. ▼Steep slope protection - 15% in Critical Area, 25% otherwise. 	<ul style="list-style-type: none"> \$ Success in reducing loss of forest and maintaining buffers. \$ Many variances granted on existing lots. \$ Stormwater regs sometimes ineffective. \$ Considering more of a Primary Management Area approach in Hunting Creek. \$ Buffers should be expanded in some cases.
	<ul style="list-style-type: none"> \$ Floodplain Management - in new subdivisions, retain floodplains in their natural state. 	
	<ul style="list-style-type: none"> \$ Stormwater Management - builds on State program and related to County's watershed management program. Requires quantity and quality management. 	<ul style="list-style-type: none"> \$ Working on stenciling community involvement. \$ Not applicable for the RCA, Critical Area portion of the watershed because of the greater than 2 acre zoning.
	<ul style="list-style-type: none"> \$ Agriculture BMPs Planning and Implementation - plan to have all farms covered by the year 2008. 	<ul style="list-style-type: none"> \$ Hunting Creek and Hall Creek Watersheds complete, St. Leonard Creek Watershed to be completed in Sept. 2000. Critical Area Farm Plans completed..
Charles	<ul style="list-style-type: none"> \$ Critical Area Program 	<ul style="list-style-type: none"> \$ Updating Critical Area Program to include Buffer Management Plan requirements \$ Provision included in Program, which maximizes stream buffers to the greater of the Critical Area requirement or the Resource Protection Zone
	<ul style="list-style-type: none"> \$ Resource Protection Zone for non-Critical Area portion: non-tidal wetlands, flood plains, associated steep slopes, and 50' to 100' stream buffers. 	<ul style="list-style-type: none"> \$ Coordination with building and permit review and subdivision plats has improved.
Howard	<ul style="list-style-type: none"> \$ 75' buffers on perennial stream and 50; buffers on intermittent streams in residential zones; 50' buffers on perennial and intermittent streams in non-residential zones. 	<ul style="list-style-type: none"> \$ Need to establish buffers in developed areas. \$ Buffers established through FCA requirements for retention, reforestation & afforestation. Fee in-lieu funds used for riparian buffer acquisition and to establish riparian buffers on County open space.

		\$ No central inventory
	\$ Steep Slopes over 25% protected	
	\$ Floodplain Management - no new development in the 100 year floodplain	
	\$ Agricultural BMPs targeted in Patuxent Watershed. \$ Sand Hill Demonstration Project for limiting livestock access to streams.	
Montgomery	\$ See Primary Management Area and Management Area Guidelines descriptions above.	\$ These programs have protected this County's portion of the Patuxent. \$ Buffers may be reduced if water quality is maintained. \$ Coordination among involved agencies (e.g., County and Soil Conservation District) is important.
	\$ Agriculture BMPs Planning and Implementation - plan to have all farms covered by the year 2000.	\$ Beginning in 1998, annual cost-share among Montgomery County, Howard County, and WSSC for dedicated conservation planner and local BMP cost share.
	\$ Stormwater Management - builds on State program and related to County's watershed management program. Requires quantity and quality management.	\$ Not applicable for most of the watershed because of the greater than 2 acre zoning.
Prince George's	\$ Critical Area Program	\$ LID options employed within critical area properties to reduce the effects of urban runoff into nearby estuaries.
	\$ County's Primary Management Area Guidelines for development - includes 100' buffer for all tidal areas, 50' minimum buffer, 100 yr floodplain, wetland and adjacent steep slopes (25% or greater and 15-25% on highly erodible soils). All subdivisions must establish buffers.	LID design approach has increased the amount of treated runoff from urban areas.
	\$ Stormwater Management - water quality and quantity.	\$ Coordinate with SCD and MNCPPC. \$ SWM information in GIS. \$ Numerous bioretention sites have been built to address site-planning constraints of existing methods. \$ Integrated site design very effective in achieving water quality goals for a site.
	\$ Stormwater maintenance - County has its own program.	\$ Effective
	\$ Regional Stormwater Management - quality and quantity	\$ Effective. \$ Limited use. \$ Often provide recreation benefits also.
	\$ Stormwater Retrofitting - adding quality to quantity control	\$ Successful where done.
	\$ Stream Restoration - incorporating Rosgen method	\$ Effective

City of Bowie	\$ Falls under Prince George's County's program	\$ Development review guidelines encourage use of BMP's \$ Plans should be sensitive to Area Master Plan recommendations
St. Mary's	\$ Critical Area Program	
	\$ Stream Buffers - 25' to 50' buffer on perennial streams.	
City of Laurel	\$ State and Federal programs \$ See Primary Management Area	

Recommendation #3 - Identify Major Nonpoint Source Pollution Sites.

Overall Comments - The Federal NPDES requirements for stormwater systems is a major program for most of the counties urban stormwater management programs. See Table 4 in the document for more information.

<i>County</i>	<i>Description</i>	<i>Status / Issues</i>
Anne Arundel	Municipal NPDES Stormwater Management Program	\$ During 1998-1999, characterized existing stormwater management infrastructure County-wide. \$ Characterization included (1) location of all major storm drain outfalls and stormwater management ponds, (2) structural condition assessment, (3) downstream channel stability assessment, (4) pollutant loading estimates, and (5) identification of stormwater management retrofit opportunities. \$ In Patuxent River watershed, 122 outfalls assessed. \$ Ten outfalls indentified as optimal candidates for retrofit under Capital Improvement Program. \$ Need automated sampling.
	Town Center Water Quality Monitoring Program \$ County Code requires water quality monitoring to ensure stormwater runoff is not degrading receiving streams in the Odenton and Parole Town Center Areas. \$ If diminution of water quality is documented, then County must take measures to eliminate source of diminution. \$ Odenton Town Center area includes tributaries to the Little Patuxent River (Franklin Branch)	\$ Baseflow water quality monitoring (grab sampling) has occurred at one site in Patuxent Watershed since 1993. \$ Storm event samples not collected. \$ Need to expand monitoring program outside of Town Centers. \$ Funding sources need to be identified to expand program.
	Citizens Outreach Program in 1999 \$ Coordinated by Save Our Streams, Inc. \$ Conducted MudBusters training for citizens specific to sediment and erosion control techniques for new development. \$ Surveyed new construction sites in County, including Patuxent and Little Patuxent River watersheds. \$ Identified problems addressed by County sediment and erosion control inspectors.	\$ Citizen input effective. \$ Promotes good stewardship of land by all parties.

Calvert	<ul style="list-style-type: none"> ▼Water Quality Monitoring - Solomons Harbor Water Quality Study. 	<ul style="list-style-type: none"> \$ Successful - useful information. \$ Need groundwater information. \$ Need continued funding.
	<ul style="list-style-type: none"> \$ Stream Surveys of Hunting and Hall Creeks - CHESPAX and DNR also doing biological surveys. \$ Large amounts of sediment eroding from banks of stream behind Calvert Memorial Hospital. 	<ul style="list-style-type: none"> \$ Outlined water quality problems and provided base line for future work. \$ Need more monitoring in freshwater areas. \$ Completed design for stream restoration behind Hospital. \$ Added citizen monitoring program in tidal portion of Hunting Creek.
	<ul style="list-style-type: none"> \$ Soil and Water Conservation Plans 	<ul style="list-style-type: none"> \$ Hunting Creek and Hall Creek Watersheds complete, St. Leonard Creek Watershed to be completed in Sept. 2000. Critical Area Farm Plans completed. Rest of County to be completed by 2008.
Charles	<ul style="list-style-type: none"> \$ NPDES - ID and measure pollutants in stormwater. 	<ul style="list-style-type: none"> \$ Only applicable to Development District, which is in the Middle and Lower Potomac Watersheds..
	<ul style="list-style-type: none"> \$ Stormwater Management Program 	<ul style="list-style-type: none"> \$ Very few stormwater management facilities in Patuxent River Watershed due to rural nature. \$ 3 year inspection program on facilities, maintenance of private facilities is a challenge.
	<ul style="list-style-type: none"> \$ SCD Soil and Water Conservation Plans 	<ul style="list-style-type: none"> \$ Lower participation rate in Patuxent River Watershed than in other watersheds. \$ SCD effort to improve participation rate planned \$ Inventory of properties with plans being updated.
	<ul style="list-style-type: none"> \$ Stream water quality monitoring program - a recommendation from the Stream Valley Management Program. 	<ul style="list-style-type: none"> \$ Seeking funds and citizens to start the program.
Howard	<ul style="list-style-type: none"> \$ Stream corridor assessment was conducted in the reservoirs watershed and is planned for the Little Patuxent River watershed. 	<ul style="list-style-type: none"> \$ Surveys helped identify water quality and habitat problem areas.
	<ul style="list-style-type: none"> \$ NPDES Program 	
	<ul style="list-style-type: none"> \$ SCD Soil and Water Quality Conservation Plans 	
	<ul style="list-style-type: none"> \$ Reservoir Protection Program 	<ul style="list-style-type: none"> \$ Development of Reservoir Watershed Protection Action Plan.
Montgomery	<ul style="list-style-type: none"> \$ Water quality survey and modeling 	<ul style="list-style-type: none"> \$ Estimated sources of pollutants. \$ Working to coordinate with the SCD to reduce agricultural pollution. \$ Working through Patuxent Reservoir Protection Group to conduct water chemistry monitoring for reservoirs and tributaries. \$ Working through Patuxent Reservoir Protection Group to develop models for watershed inputs and reservoir eutrophication.
	<ul style="list-style-type: none"> \$ Reservoir Watershed Protection Strategy 	<ul style="list-style-type: none"> \$ Development of Interim Reservoir Protection Strategy.

	\$ NPDES Program	\$ In place since 1996, the County has completed baseline monitoring for biological and physical habitat assessments. Hawlings River report completed in 6/99; reports for Upper and Lower Patuxent watershed to be completed by 6/00.
	\$ Stream Corridor Assessment	\$ During 1998, the County used the MD DNR Stream Corridor Assessment Technique to survey every mile of stream in the watershed, identify and rank habitat and water quality problems, and create photographic records, computerized maps, and detailed databases from these field surveys.
	Watershed Action Plans: comprehensive assessments of magnitude, sources, and potential solutions to water quality and instream habitat problems.	County has included \$135,000 in FY 99-01 to conduct comprehensive watershed assessment and project feasibility in the Hawlings River.
Prince George-s	\$ Comprehensive Watershed Management Plan - ID water quality related problems with a variety of techniques.	\$ Developing NPS management programs. \$ Working on coordination and public outreach. \$ Establishment of Stormwater Management Technical Group.
	\$ Watershed Protection System GIS model \$ Hydrologic and Hydraulic Models \$ Septic Model \$ Water Quality Models (Planning and Simulation)	\$ Targets and prioritizes problems \$ Analyzes for effectiveness \$ Provides mechanism for identifying problem areas
	\$ SWM Preventive Maintenance Inspections	\$ All private facilities are inspected on triennial basis
	\$ County Owned/Maintained Facilities	\$ Reconnaissance investigations on these facilities for pollution prevention and need for NPDES SWM permit.
	\$ Pollution Prevention Inspections	\$ All commercial/industrial sites are planned to be inspected
	\$ NPDES Program	\$ Outfall sampling - 200 outfalls per year screened for illegal discharges
City of Bowie	\$ NPDES Program	\$ Have State permit review authority \$ Cooperate with County-s Stormwater Management Technical Group.
St. Mary-s	\$ SCD Soil and Water Conservation Plans	\$ Need higher participation rate.
City of Laurel	\$ NPDES Program	

Recommendation #4 - Retrofit Existing Development

Overall Comments - The State has a cost-share program that aids local governments and others with retrofitting.

<i>County</i>	<i>Description</i>	<i>Status / Issues</i>
Anne Arundel	Towers Branch Restoration Project (PED Grant) ▼Stream restoration and rebuilt 5 storm drains in residential neighborhoods.	▼All restoration activities completed.. ▼Monitoring water quality for post-restoration evaluation of effectiveness.

	▼Agricultural BMPs on Naval Academy Dairy Farm	
	Towers Branch Watershed \$ Stabilized and rebuilt 5 storm drains in residential neighborhood. \$ Installed two infiltration structures \$ Constructed wetland diversion structure \$ Work completed in the 1980s	▼Restoration effective in reducing nutrient and sediment loads.
	Capital Improvement Program ▼Conversion of large dry pond to extended detention/wet pond/shallow marsh facility.	▼Successful retrofit ▼Includes public education component.
	\$ Fish Passage Blockages	▼Three blockages at road crossings over Towers Branch removed. ▼Culverts replaced in a manner allowing fish to move upstream to spawn.
Calvert	\$ Stream restoration project behind Calvert Memorial Hospital	\$ Design complete, applying to MDE for construction funding.
Charles	\$ Retrofit Assessment program associated with NPDES permit for the Development District	\$ Not applicable to Patuxent River Watershed due to rural zoning of 1 unit/3 acres, except for the village centers of Benedict and Hughesville an no need.
Howard	\$ Capital Improvements Program - The County plans to survey the 5 major watersheds for retrofit options on publicly owned ponds. Four watershed surveys have been completed. County is pursuing priority retrofits.	\$ Conversion of dry ponds to extended detention is very expensive.
Montgomery	\$ Capital Improvements Program	\$ As part of the Hawlings River watershed assessment to begin 2000, the County will consider retrofits to regional facilities in James Creek and Upper Olney Mill tributaries.
	\$ Olney Retrofit Project - stream restoration, wetland creation, and stormwater quality retrofits in a neighborhood park.	
Prince George-s	\$ Educational Program - public information for citizen action. Done in Kettering and Palmer Park.	\$ Effective \$ Needs to be expanded to more parts of the county.
	\$ Implementation of a study to determine if existing urban areas may be retrofitted with LID components is underway.	\$ This technique is being used in a joint project with the USCOE as a watershed management technique in the Western Branch watershed.
	\$ Anacostia Trails Heritage Area extends to the Patuxent watershed and includes revitalization efforts to improve aesthetics and water quality.	
	\$ Micromanagement techniques are employed such as landscape controls and conversion of green space	

	\$ Public Participation - next step from the education program.	\$ Effective \$ Needs to be expanded
	\$ Pollution Prevention Plans - Provide information to industrial and commercial properties about implementation pollution prevention plans.	\$ Need public / private partnerships.
	\$ Retrofit existing stormwater facilities - incorporate water quality function.	\$ Implementation of a study to determine if existing urban areas may be retrofitted with LID components is underway.
	\$ New facilities - construct new facilities in older developed areas that do not management.	\$ Effective \$ Needs to be coordinated according to watershed study implementation. \$ Need to expand the program.
	\$ Stream Restoration - many projects throughout the County including the Patuxent, especially Western Branch.	\$ Effective but expensive. \$ Incorporating Rosgen Method.
	\$ maintenance - DPW&T currently implements a maintenance program for all public stormwater facilities.	\$ Effective \$ Requires coordination between involved agencies.
City of Bowie	\$ Several retrofit projects not under any specific program.	\$ City will consider the various options in the State's cost-share program.
St. Mary's		
City of Laurel	\$ County Retrofitting Fund - cost-sharing with the County (PG).	\$ Expensive and time consuming. \$ Coordination with the County required. \$ Need additional funding.

Recommendation #5 - Accommodate Future Development

Overall Comments - Two State programs augment the county programs: the Economic Growth, Resource Protection and Planning Act of 1992; and the recently passed Smart Growth Act of 1997. See Table 4 for more information.

<i>County</i>	<i>Description</i>	<i>Status / Issues</i>
Anne Arundel	\$ County Comprehensive Rezoning established a 100' open space zone along the Patuxent and its tributaries. It goes beyond 100' to include floodplains and wetlands.	
	General Development Plan ▼▼ Adopted by County Council in 1997. ▼▼ Seeks to channel growth away from sensitive, natural resources and toward existing development. ▼▼ Strives to conserve rural and agricultural areas, and open space.	▼▼ Supports Smart Growth Policies ▼▼ Within Patuxent River drainage, growth directed to areas in Little Patuxent Watershed with existing infrastructure (e.g., Odenton).
	Odenton Town Center Growth Management Area ▼▼ Provisions in zoning code to allow development while preserving open space and environmental	

	quality.	
	<p>Small Area Plans</p> <ul style="list-style-type: none"> ▼Outgrowth of General Development Plan. ▼More targeted planning for smaller geographic area. ▼Recommends land use changes that may/may not result in zoning revisions. 	<ul style="list-style-type: none"> ▼Plans being prepared through 2000 for Odenton and Jessup/Maryland City areas. ▼Plans include environmental component addressing water quality and watershed protection.
Calvert	<ul style="list-style-type: none"> ▼Comprehensive Plan - Directs growth to town centers and provides environmental protection. ▼Adopted 50% reduction in residential density. ▼Active TDR program. 	<ul style="list-style-type: none"> \$ Successful for commercial and industrial development, but only moderate for residential development. \$ Problem - high demand for homes on large lots in rural setting. Large lot zoning and previous subdivision regulations encourages sprawl development. Also grandfathered lots. \$ Current Zoning encourages higher density and affordable housing in town centers and rural clustering is mandatory.
	<ul style="list-style-type: none"> \$ Related tools: <ul style="list-style-type: none"> \$ Mandatory rural clustering \$ PDR and TDR \$ Revolving Loan Fund for land preservation 	<ul style="list-style-type: none"> \$ Goal is to preserve 40,000 acres of open space. \$ 23,000 acres currently preserved, 14,000 through Agricultural Preservation Program, 9,000 through other means.
Charles	<ul style="list-style-type: none"> \$ Comprehensive Plan - Established growth boundaries, called development District, where 70 - 75% of the new units are built. Development District is located in Middle and Lower Potomac Watersheds. Additionally, Comprehensive Plan established a village centers 	<ul style="list-style-type: none"> \$ Two village centers located in Patuxent River Watershed (Benedict and Hughesville)
	<ul style="list-style-type: none"> \$ Resource Protection Zone - prohibits development in floodplains, wetlands, adjacent steep slopes and buffer areas that varies with the stream order. 	<ul style="list-style-type: none"> \$ 1996 Subdivision Regulations implement protection of Habitat Protection Areas
	<ul style="list-style-type: none"> \$ Cluster Development - rural zones and development zones. 	<ul style="list-style-type: none"> \$ Successful in the rural zones, not used in the agricultural zones as often due to lower densities permitted.
	<ul style="list-style-type: none"> \$ County Water and Sewer Plan - Establishes allocation policy (timing and location) for sewer and water service. 	<ul style="list-style-type: none"> \$ Patuxent River Watershed is designated as low priority to be a Water and Sewer Service Area.
	<ul style="list-style-type: none"> \$ Subdivision Regulations - 	<ul style="list-style-type: none"> \$ Coordination of permitting has improved. \$ Need to coordinate permitting.
Howard	<ul style="list-style-type: none"> \$ General Plan - Focuses on rural preservation in the west and concentrating growth in the east within the planned water and sewer service area. 	
	<ul style="list-style-type: none"> \$ Rural zoning - Clustering is mandatory for parcels of 20 acres or greater in the RC zone. It is optional for smaller lots in the RC zone and in the RR zone. A Density Exchange Option helps preserve larger tracts of rural land by sending 	

	development rights to already developed areas within the rural west.	
	\$ Other zoning - Mixed Use Development combines housing, employment, commercial and open space uses.	
	\$ Adequate Public Facilities - Times infrastructure with growth to help achieve the General Plan's objectives.	
Montgomery	\$ Functional Area Master Plan for the Patuxent- articulates land use policy for the Patuxent piece of the County. The County's Patuxent drainage also falls in to four planning areas.	\$ Effective - outlines land use and infrastructure policy for this part of the County.
	\$ Zoning - Most of the County's Patuxent drainage is in 25 or 5 acre zoning. The 25 acre zoning is to protect the reservoirs and to preserve farming. The 5 acre zoning is aimed at low density development and protecting the reservoirs.	\$ Effective - protects the landscape
	\$ Septic System Siting-County requires 3 reserve recovery areas and a minimum of 17,000 sq. ft. septic reserve area in Patuxent reservoirs watershed compared to State's minimum for 2 reserve areas and 10,000 sq.ft.	\$ Provides additional protection beyond State's requirements for minimum lot size of 2 acres and lot width of 175' within 2,500' of normal water level in drinking water supply watersheds.
Prince George's	\$ Area Master Plan - Provide land use guidance, incorporate concentrated development and protection for sensitive areas.	
	\$ Clustering - optional in some residential zones.	\$ Not often used and not permitted in rural zones. Considering rural clustering.
	\$ Directed growth and redevelopment: \$ overlay zones for areas around Metro stations which concentrate residential and commercial development; \$ established sewer envelope and specifically restrict development in the Patuxent Watershed east of Route US 301; and \$ Streamline regulations within designated older communities, two new zones BMixed Use Town Center and Urban Light Industrial Zones which have fewer regulatory standards and use development guidelines instead.	
	\$ On-site Controls - required for all new development.	\$ Effective \$ Use comprehensive LID approach. \$ LID lowers cost for stormwater management.
	\$ Site Planning - Incorporates water quality issues such as imperviousness into the planning stages of development. \$ Site Planning	\$ Effective - requires significant coordination between DER and MNCPPC. \$ LID site design approach has increased the amount of treated runoff from urban areas. \$ Numerous bioretention sites have been built to address site-planning constraints of existing methods.

		\$ Integrated site design very effective in achieving water quality goals for a site.
	\$ Public Education - Incorporate public education topics into the development process.	\$ Need to expand the program.
City of Bowie	\$ falls under Prince George's County's cluster regulations \$ area master plan land use guidance	\$ cluster developments are supported where the County's criteria has been met. \$ Supports area master plan recommendations
St. Mary's	\$ Updating Comprehensive Plan - details TBA	
	\$ 1993 Sewer and Water plan - outlines location and timing of infrastructure - helps to implement the Comprehensive Plan.	\$ Will probably need updating once the new Comprehensive Plan is adopted.
	\$ Cluster development - optional and only bonus densities for affordable housing in PUD and RL zones.	\$ Not used often - considering changes.
	\$ Planned Unit Development	\$ Clustering under this provision has been effective because of density bonuses.
	\$ Resource Protection in the Rural Preservation District - Prohibits building on 25%+ slopes, and limits development in 15%+ slopes.	\$ New Comprehensive Plan may alter this zone.
City of Laurel	\$ Master Plan - provides policy guidelines for future development, including environmental concerns.	

Recommendation #6 - Increase Recreation and Open Space -

Overall Comments - The State's Program Open Space helps local governments acquire and improve parkland. The Rural Legacy Program also helps to preserve land. See Table 4.

<i>County</i>	<i>Description</i>	<i>Status / Issues</i>
Anne Arundel	Land Preservation, Recreation, and Open Space Plan <ul style="list-style-type: none"> ▼Updated in 1994; new plan in progress. ▼Inventory of recreation and open space land available in County 	<ul style="list-style-type: none"> ▼County has 1272+ acres in the Patuxent River Park system. ▼Includes Oxbow Natural Reserve in the Little Patuxent watershed ▼1994 Plan recognized lack of recreational open space in the Patuxent and Little Patuxent watersheds.
	Jug Bay Wetland Sanctuary <ul style="list-style-type: none"> ▼Managed for environmental education and preservation 	<ul style="list-style-type: none"> ▼In 1990, Jug Bay Nature Reserve became part of Chesapeake Bay National Estuarine Reserve in Maryland.
	Wooten's Landing <ul style="list-style-type: none"> ▼Passive recreation area ▼Fishing access ▼Hiking trails 	<ul style="list-style-type: none"> ▼State Highway Administration, in cooperation with the County, created 74 acres of forested and emergent wetlands on abandoned sand and gravel mine lands as part of wetlands mitigation required for highway construction.
	Program Open Space	<ul style="list-style-type: none"> ▼Very effective program.

	Rural Legacy Program	<ul style="list-style-type: none"> ▼Preserves rural lands. ▼Most of the County's Rural Legacy Area lies in the Patuxent watershed.
	Patuxent River Greenway	<ul style="list-style-type: none"> ▼Recreation and Parks has plans to cooperate with other Counties and State on a plan.
	Subdivision Regulations ▼County Code establishes open space requirements or fee-in-lieu for residential development.	<ul style="list-style-type: none"> ▼Dedicated open space may include sensitive areas.
Calvert	<ul style="list-style-type: none"> ▼Recreation Fund financed by \$600 fee per new building permit. 	
	\$ Revolving Loan Fund - assists land trusts in buying land for public use.	
	\$ Goal set to preserve 40,000 acres of open space.	\$ 23,000 acres currently preserved, 14,000 through Agricultural Preservation Program. 9,000 through other means.
	\$ Inter-department Open Space Committee to implement Land Preservation and Recreation Plan and to evaluate potential acquisition and development projects.	
	\$ Requirement of on-site recreation in all townhouse and multifamily projects and all subdivisions with more than 50 dwelling units.	
	\$ Capital Improvements Program - purchase of regional passive and active recreational parks.	\$ Has been successful, needs outgrowing funding and facilities.
Charles	\$ Conservancy for Charles County - Land trust program established with limited ties to the County government	<ul style="list-style-type: none"> \$ Incorporated in 1996 \$ Co-sponsored seminar, "Saving Your Land and Your Farm: How to Start Your Estate Planning Now"
	\$ Land Preservation and Recreation Plan, nine objectives include open space greenways and trail systems implementation and enhanced protection of County resource lands, etc.	\$ Adopted Fall 1999
	\$ Capital Improvement Program - establishes funds for land acquisition.	\$ Needs better coordination.
Howard	\$ Cluster subdivision provisions in rural west set aside 60 to 70% of site as preservation parcel. Preservation parcels are protected from future subdivision by permanent easements.	
	\$ Subdivision and Land Development Regulations - establish minimum open space requirements or fee-in-lieu for all residential zones.	<ul style="list-style-type: none"> \$ Dedicated open space often includes sensitive areas. \$ Most major stream valley corridors in urban areas are largely in open space.
	\$ Comprehensive Recreation, Parks, and Open Space Plan - guides current open space planning.	

Montgomery	\$ MNCPPC Park Acquisition Program - mostly directed toward stream valleys. In the Patuxent, it targets the mainstem of the Patuxent and Hawlings rivers.	\$ Acquisitions coordinated with environmental management guidelines. \$ The important headwater areas are not included in this program.
	\$ MC Department of Economic Development prepared Rural Legacy application during FY=98-99 and is working with M-NCPPC to prepare application for FY=01.	\$ MCDED successful in receiving \$850,000 during FY=98-99 to acquire easements through the Rural Legacy Program.
Prince George's	\$ Patuxent Mainstem Acquisition Program - Aggressive planning and acquisition program, 70% of the Patuxent mainstem has been placed in public ownership.	\$ Will continue as long as funds and willing sellers permit. \$ Over 6,000 acres include Jug Bay.
	\$ Rural Legacy Area - The Patuxent Rural Legacy Area has been designated along the Patuxent River shoreline under the State of Maryland Rural Legacy Program. An area of approximately 35,000 acres is now eligible for fee-simple acquisition or protective easements.	\$ \$3.0 million in grant funds have been awarded.
City of Bowie	\$ City has Environment and Open Space policies and guidelines	\$ Supports County's Rural Legacy program participation.
St. Mary's	\$ Land Preservation and Recreation Plan - outlines recreation demands and recommends land preservation measures. Considers greenways and Patuxent access.	\$ Not much implementation yet. \$ Putting additional emphasis on land preservation and Patuxent Access \$ Recently acquired Myrtle Point on the Patuxent.
City of Laurel	\$ Subdivision Dedication	\$
	\$ Riverfront Park Development - acquisition and purchase of a parkland buffer along the river.	\$ In progress - 1 mile long section complete.

Recommendation #7 - Protect Forest Cover

Overall Comments - See the State Forest Conservation Act and the Chesapeake Bay Critical Area Management Act in Table 4 in the Update document. Another related State-wide program is the Forest Harvest Permit program. In addition, the Rural Legacy program will help protect forest cover by buying development rights on forest land.

<i>County</i>	<i>Description</i>	<i>Status / Issues</i>
Anne Arundel	Critical Area Program	\$ County has difficulty finding enough acreage in Critical Area to reforest
	Forest Conservation Act \$ Adopted by County Council in 1994 (Bill 71-94) \$ Implements State Forest Conservation Act \$ Establishes conservation thresholds and priorities for forest retention \$ Establishes mitigation standards through reforestation and afforestation \$ Forest percentage to be conserved based on zoning	\$ Successful program \$ Developers also allowed to use mitigation banking for reforestation.

	\$ Most stringent for agricultural or resources uses.	
	Woodland Preservation Program \$ Same as Agriculture Program description (see below)	\$ Not used frequently to protect smaller woodlands.
Calvert	▼Critical Area and Forest Conservation Program	\$ In coordination with mandatory clustering, very effective
	\$ Mandated Buffer Strips - zoning ordinance requires buffer strips between development activities and wetlands, streams, coastlines, and major highways. \$ Goal set in Comprehensive Plan to preserve 90% of forest cover	\$ Planning stages. \$ Forest Interior study complete.
Charles	\$ Critical Area and Forest Conservation Program	\$ 1999 in process of updating Critical Area Program and Ordinance \$ Will be updating Forest Conservation ordinance.
Howard	\$ Forest Conservation Program	\$ Fee-in-lieu of funds used to establish forested riparian buffers on County open space and for forested riparian buffer acquisition.
Montgomery	\$ Forest Conservation Program	
	\$ Reservoirs Action Plan	\$ Includes Agricultural initiative for local cost share to foster protection and enhancement of streamside buffers.
Prince George-s	\$ Critical Area and Forest Conservation Program	\$
City of Bowie	\$ Falls under the County-s Woodland Conservation/Tree Preservation Program	\$ Working with State Forest Service to establish an Urban Forest Management Plan city-wide. \$ Has a Beautification/Tree Preservation Committee (volunteer) \$ Council directive for establishment of a tree mitigation sites inventory of City owned property. \$ City policy for off-site mitigation to be within the same subBwatershed of the tree removal when possible.
St. Mary-s	\$ Critical Area and Forest Conservation Program	
City of Laurel	\$ Forest Conservation Program	\$

Recommendation #8 - Preserve Agricultural Land

Overall Comments - Both the Maryland Agricultural Land Preservation Program (since 1980?) and the newly created Rural Legacy programs provide funds for purchasing development rights on agricultural land.

<i>County</i>	<i>Description</i>	<i>Status / Issues</i>
Anne Arundel	Maryland Agricultural Land Preservation Program ▼Purchases development rights on agricultural land and woodland acreage.	▼ Effective program. ▼ Within the Patuxent River watershed, over 4,700 acres in State district or easement program.

	<ul style="list-style-type: none"> ▼ Provides tax credit to land owners. 	acres in State district or easement program.
	<p>County Agricultural Land Preservation Program</p> <ul style="list-style-type: none"> ▼ purchases development rights on agricultural land and woodland acreage. ▼ Allows smaller farms to participate in program (decreased acreage requirements over State program). 	<ul style="list-style-type: none"> ▼ Effective program ▼ Within the Patuxent River watershed, over 2,600 acres preserved through County district or easement processes.
	<p>Installment Purchase Agreement Program</p> <ul style="list-style-type: none"> ▼ Defers majority of County's payment of easement purchase price for 30 years. ▼ Landowner defers capital gains. ▼ County can purchase more land at today's prices. 	<ul style="list-style-type: none"> ▼ County-wide goal is to preserve 20,000 acres of agricultural land. ▼ Program instituted in fall 1999 to assist in this effort. ▼ Currently reviewing applications for this program.
	<p>General Development Plan</p> <ul style="list-style-type: none"> ▼ Focused on conserving rural and agricultural lands and open space. ▼ Concentrate development in areas with existing or planned facilities. 	<ul style="list-style-type: none"> ▼ Effective Program ▼ Small Area Planning used to fine tune GDP recommendations with respect to land use changes and preservation of agricultural lands.
Calvert	<ul style="list-style-type: none"> ▼ Agricultural Land Preservation Program - purchases development rights on agricultural land. 	\$ Effective, 21,000 acres enrolled in agriculture preservation program, 14,000 per, 40,000 acres goal.
	<p>\$ Transfer of Development Rights (TDR) - sends development rights to the town centers in from the agricultural areas.</p> <p>\$ Adopted 50% reduction in residential density.</p>	\$ Addition of Farm Community rural overlay zone, 50% reduction in residential density and changes to TDR program should improve TDR market and amount of land preserved by the program.
	<p>\$ Mandatory Rural Clustering - A 50% and 80% clustering requirement in two different zones.</p>	\$ Effective
	<p>\$ Tax Credit - Farmers in Agricultural Preservation Districts receive a 100% tax credit for farmland.</p> <p>\$ Increased recordation fee to generate funds for land preservation (9/99)</p>	<p>\$ Effective</p> <p>\$ Need to get more farms into the program</p>
Charles	\$ Agricultural Land Preservation Program	\$ 1:5 increase in matching funds approved by Commissioners 1999
	\$ Requirement of Transfer Development Rights for any residential density granted by the County Commissioners greater than the base density of the zone (used for floating zones)	\$ Adopted in 1999
	\$ TDR Program	\$ Need more demand for TDRs
	\$ 100% Tax Credit on farmland	\$ Effective
	\$ Rural Legacy Area (1.5 million for preservation efforts in Zekiah Swamp)	\$ Not applicable to Patuxent River Watershed.
Howard	\$ Agricultural Land Preservation Program	\$ Not active in County since 1988.
	\$ Rural Cluster Subdivisions	\$ Preservation parcels may be easements placed in County Ag Preservation Program if parcel meets

		program guidelines.
	\$ County Agricultural Land Preservation Program	\$ Effective \$ Installment purchase program has reached authorized funding limit.
Montgomery	\$ Agricultural Land Preservation Program	\$ MD Dept. of Econ Devel. Is working with M-NCPPC to develop Rural Legacy application for FY2000
	\$ Functional Master Plan for the preservation of Agriculture and Rural Open Space - recommends specific zoning categories and an innovative TDR program to protect agricultural land from suburban development.	\$ Effective - has defined the agricultural reserve area and provided policy guidance. \$ Coordination important.
	\$ TDR Program - transfers development rights from agricultural areas to growth areas.	\$ Mixed results.
	\$ County Agricultural Easement Program - similar to the State program.	\$ High cost of land and greater development potential of properties in Patuxent Reservoirs watershed makes easement acquisition difficult..
	\$ Maryland Environmental Trust - also purchases or receives donations of development easements or fee-simple in some cases.	\$ Geared toward various types of resource lands, including agriculture.
Prince George-s	\$	\$
City of Bowie	\$ City-s Development Review Guidelines supports agricultural preservation	\$ Encouraged through incentive program. \$ Recommends new County legislation be developed.
St. Mary-s	\$ Agricultural Land Preservation Program	
City of Laurel	\$ NA	\$

Recommendation #9 - Manage Sand and Gravel Extraction

Overall Comments - State planning enabling legislation requires a Mineral Resource Plan element in county comprehensive plans.

<i>County</i>	<i>Description</i>	<i>Status / Issues</i>
Anne Arundel	1997 General Development Plan ▼Promote prudent use of mineral resources while protecting natural resources.	
	Surface Mining Management and Critical Area Program ▼Operate as a Special Exception in RA, W3, and DD zoning districts. ▼All projects reviewed on case-by-case basis. ▼Public hearing required to obtain Special Exception. ▼Standards to be met found in Zoning Code. ▼Permit must be obtained from MDE after Special Exception approval. ▼Clearing restrictions and guidelines safeguard	▼Only one (1) request for Special Exception for mining in past year. ▼Environmental requirements associated with State issued permit only. ▼County environmental regulations apply only to the Critical Area.

	Habitat Protection Areas, Natural Heritage Areas, and areas with high percentages of forest interior dwelling birds in the Critical Area.	
Calvert	▼▼Surface Mining management and Critical Area Program.	\$ Mineral Resources element in Calvert County Comprehensive Plan.
	\$ Board of Appeals Approval	
Charles	▼▼Surface Mining management and Critical Area Program.	\$ Site Development Guidelines for better environmental protection
	\$ Zoning Special Exception - mining activities must be approved via the Special Exception process by the Board of Appeals	\$ Effective
	Sand and Gravel Task Force implementation recommendations to county Commissioners	\$ Made implementation recommendations to County Commissioners, three recommendations deal with water quality issues (both groundwater and surface water) 1999.
Howard	\$ Board of Appeals Approval	\$ Rarely an issue
Montgomery	\$ Board of Appeals Approval and Master Plans	\$ Not an issue
Prince George's	\$ Area Master Plans - Mineral Resources Component.	\$ Somewhat effective, provides policy information \$ Environmental Impact Reports are prepared for every sand and gravel mining proposal which address environmental issues including buffers and tree conservation.
	\$ Zoning Special Exception - mining activities must be approved via the Special Exception process the District Council.	\$ Effective
	\$ Reclamation Program - Several such as Fran Uhler Park have been reclaimed for parkland and environmental restoration.	\$ Effective
City of Bowie	\$ Falls under the County's zoning authority.	\$ Supportive of reclamation/restoration where / when applicable.
St. Mary's	\$ Surface Mining management and Critical Area Program	\$ Rarely an issue
City of Laurel	\$ Board of Appeals Approval	\$ No Active Sites

Recommendation #10 - Annual Action Program and Outreach

Overall Comments - The Patuxent River Commission conducted an Annual Action Program with the counties and Laurel up until 1992 when the Commission felt that given the Patuxent Policy Plan's age, it was not longer relevant.

<i>County</i>	<i>Description</i>	<i>Status / Issues</i>
Anne Arundel	Critical Area Program ▼▼Information video AWindow on the Bay@about the buffer.	▼▼Video on Cable TV and available at County libraries, otherwise limited distribution. ▼▼Courses presented were well-attended.

	<ul style="list-style-type: none"> ▼▼Courses for Realtors, contractors, builders, and landscape professionals. ▼▼Information booth at local fairs promoting environmental programs. ▼▼Master Gardeners and County collaborated on booklet entitled ANative Plants for Anne Arundel County@to guide homeowners in re-vegetating their buffers. 	<ul style="list-style-type: none"> ▼▼Citizens attending fairs showed interest in County programs. ▼▼Native Plants booklet will be distributed at local fairs, through mass mailings, and at PACE offices.
	<p>County Watershed Outreach Program</p> <ul style="list-style-type: none"> ▼▼Environmental education program coordinated by Save Our Streams, Inc. ▼▼Initiated in 1999 	<p>Water quality monitoring and stream surveys not focused in the Patuxent watershed.</p> <p>MudBusters Program included all of Patuxent watershed.</p> <p>MudBusters effective in educating and coordinating citizen participation in soil erosion control monitoring.</p>
Calvert	<ul style="list-style-type: none"> ▼▼CHESPAX Program - an environmental education program for students, involves mentorship programs with schools, and stream surveys. 	\$ Effective
	\$ Patuxent River Appreciation and Discovery Days - Educates the public on protecting the river and what can be done to preserve it.	\$ Effective - well attended
	\$ Critical Area Publicity Campaign - mass letter mailings, brochure, and radio and newspaper advertising.	\$ Somewhat effective, needs to be repeated on a regular basis.
Charles	\$ Critical Area Educational Campaign	\$ Program in development stage.
Howard	\$ Education - Brochures and programs to educate developers, engineers, homeowners, and others on regulations, best management practices and the importance of protecting sensitive areas.	
Montgomery	\$ Patuxent Reservoirs Watershed Protection Agreement Annual Action Plan	\$ Developed annually since 1997 by agencies involved in Reservoirs watershed Protection effort.
	<ul style="list-style-type: none"> \$ Outreach Workgroup: Annual Newsletter \$ Reservoir Watershed Signs \$ Annual Stewardship Activities with Izaak Walton League-Wildlife Achievement Chapter. 	\$ County participates along with WSSC and Howard County Planning and Zoning to plan and implement outreach activities for the watershed.
Prince George-s	\$ Patuxent Watershed Advisory Committee - coordinates County and municipality issues related to the Patuxent.	\$ Effective
	\$ Environmental Enhancement Grant	\$ Up to \$15,000 for environmental projects, equipment, staff needs, materials, etc. These can be Stream Teams projects, SWM facilities and/or community enhancement projects.
	\$ Comprehensive Community Cleanup	\$ Targets 10 communities for cleanup services annually. Approximately 10,000 single-family households and 27,000 people are reached through the program. Services provided include tree trimming, bulky trash collection, street sweeping, housing code enforcement,

		abandoned vehicle towing, storm drain maintenance, roadside litter pick-up and information distribution
	\$ Residential Pollution Prevention Public Outreach	\$ Environmentally sensitive lawn care and car care programs; Rain Gardens and Bayscapes programs.
	\$ Commercial/Industrial Pollution Prevention Public Outreach	\$ Pollution prevention manuals and fact sheets.
St. Mary-s	\$ Speakers=bureau.	
City of Laurel	\$ Patuxent Watershed Advisory Committee	

Other Initiatives

<i>County</i>	<i>Description</i>	<i>Status / Issues</i>
Anne Arundel	\$ Zoning - established a 100' open space zone along the Patuxent and its tributaries, expanded to include floodplains and wetlands.	\$ Effective
	\$ Monitoring of receiving streams in Odenton and Parole Towncenter areas.	
Calvert	▼Groundwater protection and water conservation - added a well-head protection plan to the Water and Sewer Plan, also requires water conservation devices in new construction.	\$ Effective
	\$ Stream surveys of Hunting and Hall Creeks - need for sampling but have developed baseline data.	\$ Need to expand. \$ Need continued funding.
	\$ ReLeaf Program - targets for tree plantings.	\$ Coordinate with County schools and County Dept of Public Works and Transportation.
	\$ LID Research and development of modeling techniques. \$ Revitalization Program. \$ Streetscape Projects.	
	\$ Expand County-wide watershed planning.	
Charles	\$ Tree planting program on the Maxwell Hall County Park property.	\$ Effective
	\$ Potapasco Aquifer Regional Study involving St. Mary-s, Calvert and Charles County	\$ Proposed
	\$ Stream water quality monitoring program, to determine land management strategies (by SERC)	
Howard	\$ Participate in the Patuxent Reservoir Watershed Protection group with Montgomery and Prince George-s Counties, HSCD, MSCD, MNCPPC, and WSSC. Working to develop and implement	

	a watershed management plan to protect this portion of the watershed. Also conducting a public outreach campaign.	
	\$ Envirothon - natural resource topic competition program for high school students	
	\$ Stream Monitoring Program - trains and organizes citizen volunteers to conduct water quality bio-monitoring and stream habitat assessments. Also other monitoring for selected watersheds.	
Montgomery		
Prince George-s	\$ Stream Restoration Program - many in Western Branch, and Beaverdam Creek. Incorporate Rosgen method in stream restoration projects. Kettering project.	
	\$ Re-Leaf Program - targets for tree plantings.	\$ Coordinate with County schools and County Dept of Public Works and Transportation.
	\$ LID Research and development of modeling techniques \$ Revitalization Program \$ Streetscape Projects	
	\$ Expand County-wide watershed planning.	
City of Bowie	\$ Small Watershed Restoration Program participant	\$ One year grant for a public partnership with U.S. Fish and Wildlife Service BayScape Program staff to promote BayScapes City-wide; created a demonstration garden behind City Hall. \$ Implementing leaf pick-up program at curb-side.
St. Mary-s		
City of Laurel		