

CITY OF BOWIE
STATE OF THE ENVIRONMENT REPORT
FOR
FISCAL YEAR 2010

October 2010

Prepared by the Department of Planning
and Economic Development



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I. Introduction

The *2010 City of Bowie State of the Environment Report* is a summary of the City's environmental actions and initiatives undertaken during Fiscal Year 2010 (July 1, 2009 through June 30, 2010). The report tracks the performance measurements for environmental programs and activities identified in the City's Environmental Infrastructure Action Strategy Plan (EI Plan). This year's report is laid out a bit differently from last year's. The budget tables shown throughout the 2009 report have been updated and are provided in Appendix A.

This report is organized into three sections. The first provides a list of Accomplishments achieved during FY 2010. The second section presents specific progress made on objectives from the EI Plan. The final section of the report identifies some key Findings, including some observations of the strengths, weaknesses and challenges for the City's environmental programs, as well as an overall Conclusion.

It is important to note the recent Energy Efficiency and Conservation Strategy (EECS) developed under a grant from the US Department of Energy. The EECS is one of a series of plans, policies, and programs the City has undertaken since 2005 addressing the environment, climate change and sustainability. The EECS lists 34 strategies to manage energy use, promote energy efficiency, reduce greenhouse gas emissions, increase the use of renewable energy, and reduce material consumption. Because all of the elements identified in the City Council's Climate Change Resolution (R-47-09) are covered by the EECS, that process will be used to track progress of the climate change resolution.

II. Accomplishments

- A total of 356 volunteers cleaned nine stream segments in the City in October 2009 and six stream segments in April 2010, removing a total of 5,175 pounds of trash and 4,125 pounds of recyclables. Additionally, one team collected approximately 4,700 pounds of bulk scrap metal.
- As of August 2010, a total of 15 construction projects have either physically removed or have provided water quality treatment for a net 1.94 acres of impervious cover.
- As of September 2010, the Lions Club has sold 154 rain barrels, and 130 have been registered with the City.
- BGE neared completion of its Bowie Electric Reliability Action Plan (BERAP) program. As of August 2010, BGE provided 3,032 vouchers for reimbursement of up to \$100 for each tree greater than eight inches in diameter removed from residential property.
- City staff attended an HOA meeting in Glen Allen to discuss an upcoming afforestation project.
- City staff completed a grant application for the Chesapeake Bay Trust's Urban Greening Program to fund a consultant to help the City develop an Urban Greening Strategy and a new tree canopy goal.

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- City staff contributed one environmentally-themed article to each edition of the *Spotlight*.
- City staff gave a talk about the Green Bowie program to approximately 20 attendees at the Rotary Club in Old Town Bowie.
- City staff conducted a water quality demonstration to about 50 kids at the Cub Scouts Day Camp at Bowie State University.
- In Church Road Park, about 8 acres of land was planted with 4,000 trees, and treatment for and removal of invasives began.
- In November 2009, the City received a \$464,000 grant from the Department of Energy (DOE) for the purpose of developing strategies to reduce energy consumption at City facilities. The first task under this grant was to develop a comprehensive plan for the City and its facilities – the Energy Efficiency and Conservation Strategy.
- Nearly 115 storm drains in the Pointer Ridge section were marked with “Do Not Dump, Drains to Waterway” emblems by an Eagle Scout and his volunteers.
- The Bowie Gardens for Wildlife Habitat Team attended two events and promoted backyard habitat certification. The goal is to have enough houses, schools, and other buildings certified so that the City will be designated/certified as a Community Wildlife Habitat. The Team also provided a backyard habitat article to the *Spotlight*.
- The City again won designation as a Tree City USA community.
- The City began planning the Bowie Heritage Trail and Devonshire Trail, and installed nearly 300 yards of additional trail/sidewalk along Rt. 197 from the Bowie Corporate Center down to Northview Drive.
- The City Council adopted a Climate Change Resolution (R-47-09) in August 2009.
- The City held a shredding and e-cycling event that yielded 21 tons of shredded paper and 34 tons of electronics for recycling.
- The City’s Environmental Advisory Committee initiated and hosted a multi-jurisdictional meeting of environmental advising groups including Annapolis, Gaithersburg and Rockville.
- The City is nearing completion of the Enhanced Nutrient Removal upgrade to the wastewater treatment plant.
- The City issued 188 rebates for mulching lawn mowers.
- The City planted 170 new street trees within the public right-of-way and parks.
- The City posted an Environmental Stewardship Self-Certification Workbook for Households and a related survey on its website to allow residents to identify options around their homes that can help increase their environmental stewardship.
- The City received the Green Level Community Plant Award, a statewide award program to recognize communities for their tree planting and tree care efforts.
- The City sponsored an Arbor Day celebration in April.

- The City's Annual Drinking Water Report for calendar year 2009 was released. There were no significant water quality concerns.
- The Environmental Advisory Committee sponsored an informational display at the International Festival and Bowiefest events to promote environmental awareness.
- In March 2010, the City Council accepted an Energy Efficiency and Conservation Strategy (EECS)¹ report that lays out the specific tasks to be completed under the DOE grant. The City's Environmental Advisory Committee gave input on this document, and an EECS work group comprised of staff from departments across the City will begin working on implementation during FY2011.
- The number of properties designated as certified Backyard Wildlife Habitats by the National Wildlife Federation in the City increased from 66 to 83.
- The on-the-ground, GPS-based street tree inventory continued. A total of 5,746 trees have been inventoried to date.
- The Planning Department completed an informational brochure on Low Impact Development (LID) stormwater practices, which highlights LID projects in the City. There is also research underway on providing a "virtual tour" on the City's website of these LID projects.
- The Planning Department held a Rain Barrel Workshop in conjunction with the Bowie Lions Club that was attended by about 25 City residents.
- Work in Middle Collington Branch has continued – staff completed an upland pollution source survey, and a consultant has been contracted to complete a model of current pollutant sources and to recommend a variety of best management practices.

¹ The EECS report was created for the City Manager's Office. Only highlights of EECS progress will be provided in the annual State of the Environment report. For more details, see the EECS report.

III. Progress on EI Plan Objectives

In this section, each EI Plan Performance Indicator associated with the respective element, along with a reference to the corresponding objective from the EI Plan and a statement of progress is noted. Appendix B provides a spreadsheet summary of FY2009 and FY2010 progress on each EI Plan Performance Indicator for each objective, and Appendix C provides a table and explanation of objectives for which there has been no progress or which have changed in status.

1. EI Plan Performance Indicators for Open Space Network

Urban Forest Management

- **Objective: Strive for 40% tree canopy coverage in 20 years (Action Plan 5).**
Progress--Latest recorded canopy coverage is 46%. The City Council is considering a new tree canopy goal, and the EECS recommended a goal of 50%. The Planning Department prepared a grant application to have an urban greening consultant determine a realistic tree canopy goal and identify the specific methods needed to meet that goal. Additionally, the City is seeking assistance from the Public Service Commission for reimbursement from BGE for the additional 5,000+ BERAP vouchers that were not redeemed by residents. This money would be used to help meet the new canopy goal.
- **Objective: Afforest 20 acres of City property by 2012 (Action Plan 9).**
Progress--In FY2010, 4,000 trees were planted on 8 acres of Church Road Park. (Invasives removal and an additional 4,000 trees are planned for an additional 8 acres in FY2013.) Program and contract documents were prepared for the City-approved planting of 42.5 acres on 5 sites as part of the MD State Highway Administration's Intercounty Connector planting scheduled for FY2012. The City will achieve and exceed this objective.
- **Objective: Plant a minimum of 150 street trees annually (Action Plan 6).**
Progress--Since FY2005, an annual average of 152 trees has been planted within City rights-of-way, including 170 in FY2010. The street tree inventory now includes 5,746 trees, and the inventory will continue in the future.
The following list shows trees planted on City property but not in the street right-of-way:

Acorn Hill Park: 3	City Hall: 2
Allen Pond Park: 4	Madeley Lane: 25
Belair Mansion: 1	Whitemarsh Park: 20
Belair Meadows: 19	

Environmental Restoration, Preservation and Conservation

- **Objective: Complete Land Preservation Plan by December 31, 2009 (Action Plan 8).**
Progress --The Plan was deferred due to lack of funding in Approved FY 2010 City Budget, however City staff completed a study of vacant lands in the City that identified

164 acres of privately-owned developable land and 63 acres of undevelopable land. Gaps in the City's Green Infrastructure network were included in the official Program Open Space Plan submitted to the MD Department of Natural Resources. City staff has begun to update the City's land use map.

- **Objective: Decrease areas mowed Citywide by at least 10% by 2012 (Action Plan 12).**

Progress-- Turf mowing has actually decreased by more than the 10% (or 20.2 acres) shown is this objective due to afforestation and conversion of mowed areas to native landscaping. An analysis by the Community Services Department has not identified any other areas that can be given a "no-mow" designation. In fact, the Department indicates that moving into 2012 the amount of mowed turf in the city will increase. This is due to a maintenance agreement under which the City will mow turf located in the city but owned by both Prince George's County and the MD State Highway Administration. If those afforested or converted areas are not counted, this objective cannot be achieved.

2. EI Plan Performance Indicators for Green Infrastructure Network

Environmental Restoration, Preservation and Conservation

- **Objective: Increase the number of registered lots with certified backyard habitats to a minimum of 150 lots by 2012 (Action Plan 3).**

Progress--There was an increase of 11 certified backyard habitats. The current total is one place of worship, two schools, and 82 homes. The distribution is fairly scattered across the city.

- **Objective: Convert at least seven (7) acres of publicly-owned turf to native landscaping by 2010 (Action Plan 12).**

Progress--3,000 square feet (0.07 acres) were converted to native trees and shrubs in FY 2010 (Madeley Lane). The total area of turf converted to date is 10,500 square feet (or 0.24 acres). This objective has not been achieved, but the City will continue to look for opportunities.

- **Objective: Increase the number of acres of protected land (Action Plan 8).**

Progress--12 acres of new passive parkland acquired (McLaughlin Property) under Program Open Space. Woodland Conservation Easements were established at Gallant Fox Park (0.98 acres) and Church Road Park (16.66 acres). City staff are preparing to acquire one acre of land adjacent to the Devonshire subdivision and are investigating future acquisition of a larger property in the Rockledge section.

Alternative Means of Stormwater Management

- **Objective: Encourage three (3) stormwater management retrofits by 2012 (Action Plan 11).**

Progress--The Department of Public Works designed a storm drain retrofit to address an erosion problem in a portion of the Millstream Branch subwatershed at the Public Works facility. This project will be implemented in FY 2011. The Planning Department

completed an informational brochure on Low Impact Development (LID) stormwater practices, which highlights LID projects in the City and will be developing an online “virtual tour” of these sites.

3. EI Plan Performance Indicators for Waste Management

- **Objective: Decrease tonnage of material landfilled from 1.3 tons-per-household to 1 ton-per-household by 2012 (Action Plan 2).**

Progress--A decrease was recorded from 1.42 tons-per-household (FY07)² to 1.15 tons-per-household, a 19% decrease.

- **Objective: Increase tonnage of recyclables from FY 2007's percentage (24%) to 50% by 2012 (Action Plan 2).** *(NOTE: The passage of the City Council's Climate Change Resolution established a more limited benchmark of 2% per year over the next five years, which results in a new goal of 35% by 2014.)*

Progress--An increase of 3.2% was recorded since FY09. The recycling rate for FY2010 is 29.7%. A pilot project slated to begin in late summer 2010 will provide 65 gallon rolling recycle cans to a handful of neighborhoods. The expectation is that this makes recycling easier and will result in a greater increase in recycling than typical.

- **Objective: Increase tonnage of yard waste recycling (Action Plan 2).**

Progress--In 2007, 3,474 tons of yard waste were recycled, and in FY10, 3,301 tons were collected. This is a net decrease of 173 tons.

- **Objective: Increase number of mulching mower rebates from 30 to 60 by 2012 (Action Plan 2).**

Progress--The number of mulching mower rebates given in FY10 was 188. This objective has been achieved, and rebates will continue to be offered.

4. EI Plan Performance Indicators for Surface Water Protection

- **Objective: Establish a minimum of five (5) active stream teams by 2012 (Action Plan 1).**

Progress--As of the October 2009 Stream Team event, there were nine (9) Stream Teams established; six teams worked in April 2010. This objective has been achieved, but stream cleanups will continue. The details of each cleanup are presented in the table below.

² This number was revised from the initial number of 1.3 tons shown in the objective based on internal data adjustments.

	Fall (October 17, 2009)	Spring (April 17, 2010)
Number of volunteers	114	242
Number of sites	9	6
Trash collected	1,925 lbs	3,250 lbs
Recyclables collected	1,125 lbs	3,000 lbs + 4,700 lbs of bulk scrap metal

- **Objective: Clean a minimum of 10 miles of stream annually (Action Plan 1).**
Progress--In FY10, 12.8 miles of stream were cleaned – 8.3 miles in October 2009 and 4.5 in April 2010.
- **Install 150 rain barrels by 2012 (Action Plan 4).**
Progress--To date, 130 rain barrels have been registered with the City, although many more have been sold by the Bowie Lions Club. These barrels store 7,220 gallons of rooftop runoff and can be found at 97 homes across the city. The majority of registered barrels are in the northern part of Bowie (23 are below Route 50, and of those 10 are found below Mt Oak Rd). The Lions Club has sold 154 rain barrels total.

IV. Findings

- Land use data for the City is in need of updating and refinement to address existing inconsistencies.
- The City's open space meets and exceeds the MDNR goal of 35 acres/1,000 people, with approximately 38 acres/1,000 people.
- Based on recommendations in the EECS, the City should set a new policy for increasing tree canopy coverage beyond the current 46%. Much potential exists for increasing the City's tree canopy coverage. *{Editor's note: The electric utility serving the City, BGE, substantially completed a large scale tree trimming project in the City, especially on private property and within the public right-of-way, and many trees have been removed since completion of the urban tree canopy study. Some have estimated that 1% of the City's tree canopy was lost. BGE offered a tree replacement reimbursement program, and 3,032 of the available 9,151 vouchers for each tree greater than eight inches in diameter removed from residential property.}*
- The City began planning the Bowie Heritage Trail and Devonshire Trail, and installed nearly 300 yards of additional trail/sidewalk along Rt. 197 from in front of the Bowie Corporate Center down to Northview Drive. The Bowie Heritage Trail will offer opportunities to include environmental enhancements during construction.

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- The City will meet its afforestation objective in FY2012 with both 42.5 acres at 5 sites that will be planted in the fall of 2011 by the MD State Highway Department's Intercounty Connector contractor, and completion of the Church Road Park forest mitigation bank in FY2012. The City continues to exceed the EI Plan's objective for number of street trees planted annually.
- A more aggressive, targeted program for turf conversion to native landscaping is needed in order to accelerate progress toward meeting the objective of seven acres by 2010.
- The City's park trees should be documented and natural resource management plans should be considered for each of the City's major open spaces.
- Public outreach has been successful in promoting backyard habitats: 83 lots are now registered as certified wildlife habitats.
- The City's Waste Management efforts have been successful, with increases in tonnage of recyclables and yard waste collected, and a corresponding decrease in tonnage of material landfilled.
- The percentage of solid waste recycled has improved from 24% to 29%. This has resulted in a reduction of 1,302 tons of landfilled material.
- The mulching mower rebate program has been a success, but the number of yearly rebates appears to have peaked in FY 2008. This objective has been achieved, and the rebates will continue.
- The EI Plan's objective for establishing Stream Teams has been achieved and exceeded, with nine (9) individual Stream Teams working during the April 2009 event.
- The square feet of building maintenance will increase significantly in FY2012 with the opening of the new City Hall building.

V. Conclusion

Assessment of the City's EI Plan objectives through the annual State of the Environment Report is one way to monitor the condition of the City's environment. The City's environmental programs and facilities remain in full compliance with all applicable laws and regulations. The information contained in this report demonstrates that the state of the City's environment is very good and with continued implementation of the EI Plan, it will continue to improve. Specific areas to be targeted in the future are increasing tree canopy coverage and more closely aligning the Green Infrastructure network with Program Open Space property acquisition.

Appendix A: City Documented Measures

Animal Control

The Animal Control division of the Department of Community Services is responsible for wildlife complaints and general animal control in the city. This includes capturing any reported wild animals and pets that are either ‘running-at-large’ or are not leashed in public.

	<i>FY05</i>	<i>FY06</i>	<i>FY07</i>	<i>FY08</i>	<i>FY09</i>	<i>FY10</i>	<i>FY11</i>
Number of running-at-large calls	476	420	418	358	316	364	518
Number of wildlife complaints	300	452	516	423	306	352	395

Solid Waste

The Solid Waste division of the Department of Public Works is responsible for the collection and disposal of the City's solid waste. This includes bulk trash pickup, glass, cans, newspaper, magazines, junk mail and yard waste pickup for recycling, twice weekly household refuse pickup, weekly pickup of special metals and tires, and processing of plastics. Some of the numbers below have changed from the FY2009 report, based on internal data adjustments.

	FY06	FY07	FY08	FY09	FY10	FY11
Number of households served	18,840	19,064	19,231	19,320	19,354	19,620
Total number of tons collected	37,517	35,717	33,896	31,696	31,507	31,200
Number of tons land filled	28,348	27,041	25,583	23,080	22,325	22,200
Number of tons recycled	9,169	8,676	8,313	8,616	9,182	9,000
Percent of solid waste stream recycled	24%	24%	24.53%	27.18%	29.14%	28.85%
Sales Revenues from Recyclables	\$99,445	\$98,464	\$53,665	\$48,343	\$30,000	\$30,000
Number of tons of white metal collected	301	270	177	121	100	85

Equipment Maintenance/Garage

Maintaining and repairing all City vehicles and equipment is the responsibility of the Equipment Maintenance and Garage division of the Department of Public Works.

	<i>FY05</i>	<i>FY06</i>	<i>FY07</i>	<i>FY08</i>	<i>FY09</i>	<i>FY10</i>	<i>FY11</i>
Number of vehicles in service	144	145	161	181	194	205	200
Total number of vehicle miles driven	1,211,963	1,265,000	1,412,910	1,597,810	1,718,000	1,819,680	1,680,000
Number of Police vehicles	-	-	16	36	49	52	55
Gallons of gasoline used in all vehicles	56,237	58,134	82,514	97,305	108,624	118,000	116,000
Gallons of diesel used in all vehicles	100,240	102,300	103,000	101,070	111,320	111,000	114,000

Streets

The responsibilities of the Streets division of the Department of Public Works include all street and sidewalk maintenance as well as street and traffic signs, posts, snow removal and ice control on approximately 185 miles of City streets.

	<i>FY05</i>	<i>FY06</i>	<i>FY07</i>	<i>FY08</i>	<i>FY09</i>	<i>FY10</i>	<i>FY11</i>
Miles of street maintained	180	180	180	183	185	188	184.5
Square Yards of Streets Resurfaced	150,000	145,000	147,840	163,932	152,869	155,935	155,000
Miles of street resurfaced	7	8.6	9.06	9.31	8.91	9.7	10.0
Curb-miles of street swept	1,450	1,450	1,457	1,830	1,850	1,880	1,838
Miles of sidewalks maintained	122	124	124	124	124	125	128.5
Number of street lights maintained	4,910	5,100	5,263	5,348	5,433	5,519	6,000

Public Buildings and Grounds

The Public Buildings and Grounds division of the Department of Community Services is responsible for the maintenance at all City owned buildings and facilities.

	<i>FY05</i>	<i>FY06</i>	<i>FY07</i>	<i>FY08</i>	<i>FY09</i>	<i>FY10</i>	<i>FY11</i>
Square feet of buildings cleaned/maintained	107,932	107,932	110,732	110,732	110,732	110,732	131,532

Parks and Grounds

The Parks and Grounds division of the Department of Community Services maintains all City ballfields, parks, bike trails, fences, play areas, play equipment and flower beds as well as all trees, shrubs, and lawns on City property and the fencing along Route 197.

	<i>FY05</i>	<i>FY06</i>	<i>FY07</i>	<i>FY08</i>	<i>FY09</i>	<i>FY10</i>	<i>FY11</i>
Number of acres of grass maintained	196	196	198	202	202	202	232
Average number of times mowed per year	32	32	32	24	32	32	32
Acres of R.O.W. and Parkland maintained	66	66	66	72	72	72	102

	<i>FY05</i>	<i>FY06</i>	<i>FY07</i>	<i>FY08</i>	<i>FY09</i>	<i>FY10</i>	<i>FY11</i>
Acres of athletic field turf maintained	130	130	130	130	130	130	130
Number of fields maintained	78	78	78	78	78	78	65
Number of fields irrigated	26	26	26	26	26	27	26
Number of fields lighted	21	21	21	21	21	21	21
Miles of trail maintained	22.5	22.5	23.5	23.5	23.5	23.75	24
Number of trees in right of way inventoried	17,000	17,000	17,500	17,500	17,500	17,650	17,650
Number of trees maintained (pruned)	5,000	5,000	3,000	3,500	3,500	3,500	2,500
Number of trees planted in right of way	125	125	140	200	150	170	150
Number of annual/color planted	5,000	5,000	5,000	3,500	5,000	3,500	5,000

Stormwater Management

The Stormwater Management division of the Department of Community Services currently provides stormwater facility management to the City's stormwater system.

	<i>FY05</i>	<i>FY06</i>	<i>FY07</i>	<i>FY08</i>	<i>FY09</i>	<i>FY10</i>	<i>FY11</i>
Miles of Storm Sewers	396	396	396	396	396	396	396
Total acres of basins, outfalls and drainage areas maintained	90	92	97	99	99	99	101
Number of SWM ponds and basins maintained	60	60	67	69	69	69	71
Number of SWM outfalls and drainage areas maintained	36	36	40	40	40	40	40

Water

The Water division of the Public Works Department is responsible for the production and purification of the water supply for the City which meets or exceeds all State and Federal health standards. The water is fluoridated for health purposes and the iron is removed by a filtration-flocculation aeration-sedimentation process. The cost of maintaining the water distribution system is included in this division.

	<i>FY05</i>	<i>FY06</i>	<i>FY07</i>	<i>FY08</i>	<i>FY09</i>	<i>FY10</i>	<i>FY11</i>
Miles of pipeline	90	90	90	90	90	90	90
Million gallons treated/delivered	692	800	779	798	743	750	750
Number of water/sewer customers-residential	7,690	7,700	7,700	7,700	7,700	7,700	7,700
Number of water/sewer customers-commercial	175	179	178	220	220	220	220
Customer complaints about water quality	15	9	6	10	10	10	9

Wastewater

The Wastewater division of the Public Works Department is responsible for the collection and treatment of raw sewage. This sewage is treated and returned to the Patuxent River in full compliance with State and EPA permit standards. The cost of maintaining the sewer collection system is included in this division.

	<i>FY05</i>	<i>FY06</i>	<i>FY07</i>	<i>FY08</i>	<i>FY09</i>	<i>FY10</i>	<i>FY11</i>
Miles of collection mains in the system	85	85	85	85	85	85	85
Miles of collection system cleaned	46	43	34	31	46	28	30
Million gallons of wastewater treated	684	704	711	708	721	715	694
Tons of sludge produced	3,406	2,974	3,036	3,028	3,155	3,050	3,000

Appendix B: EI Plan Performance Measures Tracking

Goals	Objectives	FY2009 actual	FY2010 actual	FY2011 budget expectation
Waste Management	Recycling			
	Decrease the tonnage of material landfilled per household from the current 1.42 tons (FY07) to 1 ton by 2012	23,029 (or 1.19 tons/hh)	21,726 (or 1.12 tons/hh)	22,200 (1.13 tons/hh)
	Increase the tonnage of recyclables from FY 2007's 24% to 50% by 2012	8,616 (or 27.18%)	9,173 (or 30%)	9,000 (or 28.85%)
	Increase the tonnage of yard waste recycling by 10% of 2007 levels by 2012. (3474)	3078	3301	-
	Increase the tonnage collected during special recycling events	no event held	10.65 tons	-
	Increase the # of rebates given for mulching mowers from 30 - 60 per year by 2012	225	188	75
Surface Water Protection	Stream Team			
	Establish a minimum of 5 active stream teams in Bowie by 2012.	9 for each cleanup	9 in Oct 2009; 6 in Apr 2010	-
	(additional indicator) Tonnage of trash/recycling removed from streams	Oct 2008: 240 vols, 1525 lbs trash, 1110 lbs recycling. Apr 2009: 380 vols, 1745 lbs trash, 2135 lbs recycling	Oct 2009: 114 vols, 1925 lbs trash, 1125 lbs recycling. Apr 2010: 242 vols, 3250 lbs trash, 3000 lbs recycling, 4700 lbs scrap metal	-
	Clean a minimum of 10 miles of stream annually	12.6	12.8	-
	Rain Barrels			
Install 150 rain barrels by 2012. (each number presented is the total number in use at the end of the fiscal year)	70	97	-	

Goals	Objectives	FY2009 actual	FY2010 actual	FY2011 budget expectation
Surface Water Protection, cont	Alternative Means of Stormwater Management			
	Encourage three (3) stormwater management retrofits by 2012.	✓	✓	-
	Encourage installation of 5 green roofs by 2012.	✓	✓	-
	NPDES			
	Investigate WRAS pipe outfall sites, unusual conditions, & exposed pipes in two subwatersheds and mitigate deficiencies by 2012.	-	Some initial investigations are underway in Middle Collington Branch	-
	Begin regular water quality sampling at specific locations in one subwatershed by 2010.	Identification of sites is underway for taking a single round of grab samples to establish baseline conditions		-
	By the year 2012, install at least 1 continuous stream monitor in a subwatershed by 2012.	WQ monitoring strategy changed per advice from MD DNR. Continuous stream gage installation is not advised at this time.		
	Have one team of volunteers per subwatershed trained in outfall screening by 2012	0	0	-
	WRAS			
	By 2012, make one (1) stream habitable by a fish population.	0	Under investigation. MBSS data indicates that multiple streams are already inhabited by fish.	-
	Begin testing family-level benthic index of biotic integrity	0	Some initial investigations are underway in Middle Collington Branch	-
	Complete investigations of 35 inadequate buffer sites	0		-
	Complete investigations of 21 channel alteration sites	0		-
	Complete investigations of 78 fish barriers	0		-
	Establish new baseline of stream bank length with eroding banks	0	-	-

Goals	Objectives	FY2009 actual	FY2010 actual	FY2011 budget expectation
Urban Forest Management	Urban Forest			
	Strive for 40% canopy coverage in 20 years.	-	46%	-
	Street Trees			
	Plant a minimum of 150 street trees annually through 2012.	150	170	150
	Forest Mitigation Sites			
	Afforest 20 acres by 2012. (each number presented is the total number as of the end of that fiscal year)	8.98	51.5	-
Environmental Restoration, Preservation and Conservation	Land Preservation			
	Complete a Land Preservation Plan by 12/31/09.	This objective is indefinitely on hold due to budget constraints		
	Backyard Habitat			
	Increase the amount and stewardship of wildlife habitat on private property - minimum of 100 lots registered by 2012. (each number presented is the total number in place at the end of the fiscal year)	66	83	-
	Turf Reduction			
	Decrease the number of acres mowed Citywide by at least 10% by 2012. (total mowed area in 2007 = 202 ac)	202	202	232
	Convert 7 acres of publicly-owned turf to native landscaping	7,000 sq ft	10,500 sq ft	-

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Appendix C: Status of EI Plan Performance Objectives

<i>Indicator</i>	<i>Rationale</i>
Have at least 6 trained volunteers in each subwatershed by 2012	Rewrote objective to state: Have one team of volunteers per subwatershed trained in outfall screening by 2012. Watershed Manager objective for 2011.
Complete investigations of 27 trash dumping sites by March 2008	DPW monitors on an ongoing basis.
Encourage installation of five (5) green roofs by 2012	Watershed Manager objective continues for FY 2011.
Install a stream gage in at least 1 stream to measure water flow by 2012	WQ monitoring strategy changed per advice from MD DNR. Continuous stream gage installation is not advised at this time.
Investigate 213 pipe outfall sites, 37 unusual conditions, 21 exposed pipes and 13 DPW/ERM fieldwork 5/07 sites by 2012	DPW monitors on an ongoing basis. Continues as a Watershed Manager objective for FY 2011.
Begin water quality sampling at specific locations in each watershed by 2010	Identification of sites is underway for taking a single round of grab samples to establish baseline conditions.
Install at least 1 continuous stream monitor in a sub-watershed by 2012	WQ monitoring strategy changed per advice from MD DNR. Continuous stream gage installation is not advised at this time.
By 2012, make one stream habitable by a fish population	Under investigation. MBSS data indicates that multiple streams are already inhabited by fish.
Complete investigations of 21 channel alteration sites and 35 inadequate buffer sites by December 2009 and 78 fish barriers by December 2010.	DPW monitors channel alterations on an ongoing basis. Watershed Manager is investigating inadequate buffer sites in Overbrook Branch and Collington Middle. Investigation of fish barriers was determined to be not a cost-efficient use of staff time.
Begin testing family-level benthic index of biotic integrity by 2009	Water quality monitoring has been put on hold.
Establish new baseline of stream bank length with eroding banks by June 2008	The current plan is for volunteer teams in certain subwatersheds to estimate this length while conducting outfall screening.

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