

CITY OF BOWIE  
STATE OF THE ENVIRONMENT REPORT  
FOR  
FISCAL YEAR 2013

(JULY 1, 2012 TO JUNE 30, 2013)

October 2013

Prepared by the Department of Planning  
and Economic Development



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## **I. Introduction**

The *2013 City of Bowie State of the Environment Report* is a summary of the City's environmental actions and initiatives undertaken during Fiscal Year 2013 (July 1, 2012 through June 30, 2013). The report tracks the performance measurements for environmental programs and activities identified in the City's Environmental Infrastructure Action Strategy Plan (EI Plan) and many other City actions undertaken in the past year.

This report is organized into three sections. The first provides a list of accomplishments achieved during FY 2013. 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 about the City's environment.

It is important to note the existence of the City's 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, reporting associated with that document will be used to track progress of the Climate Change Resolution.

A closeout of the EI Plan will occur upon completion of the Plan's specific objectives. The State of the Environment Report will soon transition to tracking the City's environmental initiatives using the Sustainable Maryland Certified program as its primary focus.

## **II. Accomplishments**

- The City's application for certification under the University of Maryland Environmental Finance Center's Sustainable Maryland Certified Program was approved.
- The City's "Sustainable Communities" application was approved by the Maryland Department of Housing and Community Development.
- A stormwater Best Management Practices inventory was completed.
- An Invasive Species Management Study for 55 acres of City-owned afforested sites plus Whitmarsh and Tanglewood Parks was completed.
- A Community Greenhouse Gas emissions analysis was completed. This analysis will be useful in establishing City-wide benchmarks pertaining to greenhouse gas emissions and will help the City in formulating a campaign to better communicate to City residents strategies by which to reduce energy consumption.

- The City purchased one additional hybrid vehicle for the City Hall fleet.
- A total of 169 volunteers cleaned 12 stream segments (eight in October 2012 and four in April 2012), removing a total of 1,410 pounds of trash and 1,900 pounds of recyclables.
- Since January, 2013, 26 additional rain barrels were registered with the City.
- The Planning Department held its annual rain barrel workshop in conjunction with the Bowie Lions Club at City Hall on April 27, 2013.
- City staff continued its work related to the Phase II Watershed Implementation Plan (WIP II) to meet required nutrient and sediment reductions of the Chesapeake Bay TMDL.
- City staff wrote an environmentally-themed article for each edition of the City's newsletter, the *Bowie Spotlight*.
- The City's Watershed Manager presented the EnviroScape watershed model to the 4<sup>th</sup> grade class at Rockledge Elementary School
- The City's internal workgroup, comprised of staff from departments across the City to implement the recommendations from the Energy Efficiency and Conservation Strategy, continued to meet regularly as the "Municipal Green Team."
- The City held its annual Arbor Day celebration in April 2013 at Acorn Hill Park, which was marked by a tree planting in honor of the holiday.
- The City planted 165 trees along City-owned streets and 60 trees within parks and on other City property. A breakdown of park trees planted is in Section 3.
- On July 9, 2012, Council passed Resolution R-56-12, adopting a Tree Canopy Goal of 45% for the City.
- The City was designated as a Tree City USA community for the 21<sup>st</sup> year in a row.
- A neighborhood scale analysis of the City's tree canopy coverage was completed and planting opportunities and priorities were identified.
- The City's Green Team and the Bowie Lions Club sponsored a Green Expo in April 2013 at The Kenhill Center.
- The City issued 152 rebates for mulching lawn mowers, including 2 push-reel mowers, 3 electric mowers and 145 gas mowers.

- The City executed a contract to purchase a 14 acre property adjacent to Jericho Park for park expansion, Green Infrastructure Network protection and to facilitate construction of The Bowie Heritage Trail.
- Grants were obtained for portions of The Bowie Heritage Trail.
- The City's Environmental Advisory Committee again attended multi-jurisdictional meetings of environmental advising groups (October 18, 2012 and April 18, 2013).
- The Environmental Advisory Committee sponsored informational displays at the International Festival and Bowiefest to promote environmental awareness.
- The number of residential properties designated as certified Backyard Wildlife Habitats by the National Wildlife Federation in the City increased from 102 to 125.
- The Bowie Gardens4Wildlife group sponsored a habitat tour of National Wildlife Federation certified properties in the City, with more than 50 people attending.
- A City Weed Warrior Program was initiated at Whitemarsh Park.
- A study of photovoltaic capabilities at City facilities was completed.
- Since January 2012, residents have installed solar panels or technologies at 89 homes.
- The U.S. Green Building Council awarded a GOLD Certification to the new Bowie City Hall.
- The City delivered 7,968 recycling carts to City residents. This completed the distribution of these 65 gallon recycling carts to all 21,085 households in Bowie.
- The City began an Energy Ambassador Program. Employees in each Department have been chosen as energy ambassadors to help focus and promote energy conservation throughout the organization.
- The City again participated in the PJM Demand Response Program by switching to generators to help curtail energy usage on high demand days. Seven City facilities participated in this program, and the City expects to receive approximately \$60,000 from our involvement in the program in FY 2013.
- The City has participated in the BGE Smart Energy Savers Program and received financial incentives (\$2,600) for the installation of energy efficient HVAC units at the Kenhill Center.

- Photovoltaic (PV) installation at the Radio and Television Museum has resulted in a 79% reduction of electricity use at this facility. As a result of this PV installation, the City has also received Solar Renewal Energy Credits of \$1,776 for this facility. Additionally, the City has engaged a consultant to evaluate other City facilities for possible PV installation. The FY 2013 Budget established a CIP page with funding of approximately \$50,000 per year through FY 2019 for potential PV installation at other City sites.
- A 6.9 kW installation was completed at the Park Maintenance Facility. As part of this project, the City was able combine the new (6.9kW) PV system with the original (8 kW) PV system and interconnect with the BGE meter for a combined total of 14.9 kW. The City will now receive SREC payments for the combined systems.
- The City has engaged contractors to perform 104 energy audits for seniors through the City's Residential Energy Efficiency Program over the five-year period from 2008 to 2013. In FY 2013, energy efficient upgrades and/or home rehabilitation were completed at 22 residences, and the City began the selection process for the next fifteen program participants.
- The City held a shredding event on June 25, 2013 in which 14 tons of paper were collected, shredded and recycled.
- The University of Maryland Environmental Finance Center began a comprehensive review of the City's stormwater program. Their activities included a community meeting to discuss stormwater issues with about 20 residents, a table at Bowiefest with the Enviroscope model, and presentations before staff and City Council.
- The City's Planning Department sponsored a storm drain art contest and will paint the six winning designs on storm drains in Fiscal Year 2014.
- City Council passed a resolution declaring April 2013 the first Earth Month in Bowie.

### **III. Progress on EI Plan Objectives**

This section provides an update on each Environmental Infrastructure Action Plan (EI Plan) Performance Indicator along with a reference to the corresponding objective from the EI Plan. Appendix B provides a spreadsheet summary of fiscal years 2011-2013 progress on each EI Plan Performance Indicator for each objective.

## 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 – According to the Urban Greening Strategy, the City had 42.5% canopy cover in 2009 and has met this objective. The EAC recommended a new tree canopy goal based on recommendations from the Urban Greening Strategy. On July 9, 2012, the City Council adopted a goal of 45% tree canopy coverage through passage of Resolution R-56-12. Planning staff are working on an Urban Forest Management Plan in FY 2014 that will include specific urban greening strategies. A Weed Warrior Program was initiated at Whitemarsh Park.
  
- **Objective: Afforest 20 acres of City property by 2012 (Action Plan 9).**  
Progress -- In October 2011, 12,051 trees were planted on 42.5 acres of five City-owned properties as part of the MD State Highway Administration’s Intercounty Connector forest mitigation requirements. Along with the 4,000 trees that were planted on 8 acres of Church Road Park in FY 2010, the City has achieved and exceeded this objective. (Invasives removal and an additional 4,000 trees are planned for an additional 8 acres at Church Road Park in FY 2016.)
  
- **Objective: Plant a minimum of 150 street trees annually (Action Plan 6).**  
Progress -- In FY 2013, the City planted 165 trees along City-owned streets. The following list shows the location of 60 trees planted by the Department of Community Services on City property in FY 2013 but not along streets:
  - Sussex Lane Park 3
  - Belair Mansion 1
  - Jericho Park 1
  - Church Road Park 4
  - Glen Allen Park 1
  - Senior Center 2
  - Buckingham Park 1
  - City Hall 3
  - Acorn Hill Park 4
  - Holiday Lane SWM 40

### *Environmental Restoration, Preservation and Conservation*

- **Objective: Complete Land Preservation Plan by December 31, 2009 (Action Plan 8).**  
Progress --The Plan was deferred due to a lack of funding in the Approved FY 2010 City Budget. City staff completed a study of vacant lands that identified 164 acres of privately-owned developable land and 63 acres of undevelopable land. Gaps in the City’s

Green Infrastructure network continue to be identified in the official Program Open Space Plan submitted to the MD Department of Natural Resources. A contract was executed for City acquisition of a 14 acre parcel adjacent to Jericho Park for land preservation purposes.

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

Progress—The area of turf mowing remained at 232 acres in FY 2013. *An analysis by the Community Services Department has concluded that there are no other areas that can be given a “no-mow” designation.* However, due to the implementation of afforestation projects at Glen Allen and Pope’s Creek Park in Fall, 2011, the mowed area (232 acres) decreased by almost three (3) acres, or 1.3%.

## **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 are currently 132 certified habitats in the City including 125 residential lots, five schools and two community sites.

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

Progress—Approximately 3,500 square feet of turf was converted to native plantings at Holiday Lane in FY 2013. The total area of turf converted since 2007 is 19,500 square feet (or 0.45 acres). Although there are few remaining opportunities, the City continues to look for locations to convert public turf areas to landscaping.

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

Progress—In FY 2011, the City acquired one acre of land adjacent to the Devonshire subdivision and 10 acres of a 21-acre tract known as the Mills Property at the northwest corner of US 301 and Mitchellville Road. It had been approved for development of 14 single-family homes, which will not be built. No land was acquired by the City in FY 2012, but the City executed a contract to acquire 14 acres adjacent to Jericho Park in FY 2013.



### *Alternative Means of Stormwater Management*

- **Objective: Encourage three (3) stormwater management retrofits by 2012 (Action Plan 7).**

Progress--Two stormwater management studies were funded in FY 2013: a Best Management Practices Inventory and a study that will identify potential stormwater management retrofits where treatment is not provided or is insufficient.

### **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--Landfill tonnage decreased from 1.42 tons-per-household (FY 2007)<sup>1</sup> to 0.94 tons-per-household in FY 2012, with a further decrease to 0.92 tons-per-household in FY 2013. This objective has been achieved.

- **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--The recycling rate for FY 2013 is 36%, up from 32% in FY 2012. The revised benchmark set in the Climate Change Resolution has been met. This increase is likely at least partially due to the recent completion of delivery of 65-gallon rolling recycle bins to all residents. This number is expected to continue increasing over the coming years as residents continue to use the larger recycle bin.

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

Progress – In FY 2013, 4,653 tons of yard waste were recycled. This is over a 51% increase above the 2012 level of 3,062 tons.

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

Progress-- The City issued 152 rebates for mulching lawn mowers. In FY 2012, the program was expanded to include electric and push-reel mowers. In FY 2013, rebates were given for 2 push-reel mowers, 3 electric mowers and 147 gas mowers. This objective has been achieved, and rebates will continue to be offered.

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<sup>1</sup> This number was revised from the initial number of 1.3 tons shown in the EI Plan based on internal data adjustments.

#### 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—12 stream teams worked during FY 2013. The details of each cleanup are presented in the table below. This objective has been met.

	<b>Fall (October 13, 2012)</b>	<b>Spring (April 6, 2013)</b>
Number of volunteers	120	49
Number of sites	8	4
Trash collected	900 lbs	510 lbs
Recyclables collected	1,225 lbs	675 lbs

- **Objective: Clean a minimum of 10 miles of stream annually (Action Plan 1).**

Progress -- Through FY 2010, this objective had been met. Since then, stream team leaders have been hard to find, and the lack of consistent volunteer leadership at sites has made tracking the miles cleaned difficult. Staff completed a review of the program during FY 2013 and determined that public interest in the cleanup program continues, making twice-annual cleanups necessary, despite the downward trend in both volunteers and debris.

- **Install 150 rain barrels by 2012 (Action Plan 4).**

Progress--As of August 2013, 196 rain barrels have been registered with the City, although many more have been sold by the Bowie Lions Club. These barrels collectively store 10,880 gallons of rooftop runoff.

#### IV. Findings

- Recycling rates are at their highest level in the City’s history, due in large part to the distribution of 65-gallon rolling recycling carts to all homes in the City.
- In FY 2011, the City met its objective of decreasing tonnage of material landfilled to one ton per household by 2012. In FY 2013, this per-household amount was 0.92 tons.
- Only 164 acres of privately-owned, developable land remain in the City.
- The City continued to exceed its mower rebate program objective.
- The City reassessed its volunteer stream cleaning program and found it necessary to continue with twice a year events, although it is no longer possible to clean 10 miles of stream annually.

- The City has not been able to convert any substantial turf areas to native landscaping and did not meet the objective of converting seven acres by 2010.
- The City is now over 80% of the way toward meeting the number of the certified habitats to meet its backyard habitat objective of 150 lots by 2012. However, the City did not accomplish the objective by 2012, as envisioned.
- The City has met and exceeded its goal of afforesting 20 acres of City property by 2012.
- The City's Stream Team cleanups continue to be very successful. Between the program's beginning in April 2008 and April 2013, 80 streams have been cleaned by 2,069 volunteers who have removed 15,880 pounds of trash, 14,675 pounds of recycling and over 10 tons of bulk trash and scrap metal.
- The rain barrel program has been very popular, and the objective of 150 barrels installed by 2012 has been met and exceeded.
- There has been no progress toward achieving at least three developer-initiated stormwater management retrofits by 2012. As redevelopment projects come through for approval, they must comply with new state stormwater regulations requiring stormwater retrofits.
- While State funding has been reduced in past fiscal years, the City's Program Open Space allocation for land acquisition from previous years is substantial and remains a viable funding source for open space preservation opportunities.
- In FY 2013, the percentage of solid waste stream recycled was 36%, compared to only 25% in FY 2005. The number of tons of white metal collected averaged 137 tons per year over the past five (5) fiscal years up to FY 2012, but has declined to just over 90 tons in the past two fiscal years.
- In FY 2013, the amount of yard waste recycled increased by over 51%.
- Although there were five more vehicles added to the City's vehicle fleet and five more police vehicles added in FY 2013, the total number of vehicle miles driven decreased along with the total number of gallons of diesel/gasoline used, compared to FY 2012.
- The City maintains 396 miles of storm sewers, 107 acres of basins, outfalls and drainage areas, including 76 ponds and basins and 40 outfalls/drainage areas. The City added three stormwater basins and three acres to its inventory during FY 2013. The City cleaned over 5,000 linear feet of open channels, the same amount as last fiscal year, which is down from 5,800 linear feet recorded for FY 2011.
- The number of acres of grass maintained stayed level at 232 acres.
- The number of animals-running-at-large calls stayed level at around 440 calls, while the number of wildlife complaints decreased by about 27% since FY 2009 to 257 complaints in FY 2013.
- The number of City water system accounts averages about 7,700 residential customers and 222 commercial customers.

## *State of the Environment Report (2013)*

- The number of street trees actually planted in FY 2013 (165) was 58% more than in FY 2012 (104).
- The City's Annual Drinking Water Report for calendar year 2012 indicated no water quality concerns, but the report acknowledged that the City's water system is susceptible to build-up of naturally-occurring iron. The City has installed treatment to remove iron from the raw water. The number of water quality complaints recorded in FY 2013 (15) decreased by about 48% from the previous year (29).
- The percentage of wastewater collection system cleaned peaked at 54.1% in FY 2009 but amounted to not even one-fourth of the system in FY 2013. The percentage dropped to an all time low of 23.5% in FY 2012 and rose slightly in FY 2013 to 24.7%.
- The Public Works Department sweeps well over 1,800 curb miles of street annually. The level of street sweeping continued at an all-time high total of 1,875 curb miles in FY 2013 (same as in FY 2012).
- The amount of wastewater treatment sludge produced in FY 2013 (2,400 tons) is significantly less than the 3,155 tons produced in FY 2009, while the volume of wastewater treated, 680 gallons, was slightly less than the average of 724 gallons recorded over the previous four years. This can be attributed to Enhanced Nutrient Removal at the wastewater treatment plant.

## **V. Conclusion**

Assessment of the EI Plan objectives through the annual State of the Environment Report helps the City monitor the condition of the City's environment. As of FY 2013, most of the EI Plan's objectives were met. 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 remains very good and, with continued implementation of the EI Plan and other sustainability actions, it will continue to improve. Specific areas to be targeted in the future include: pursuing stormwater retrofits across the city to meet upcoming stormwater permit requirements, working on an urban forest management plan, and further implementation of the Sustainable Maryland Certified and Energy Efficiency and Conservation Strategy plans.

## **Appendix A: City Documented Measures**

These tables were taken from the City's Approved Budget for Fiscal Year 2014.

### **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>CY09</i>	<i>CY10</i>	<i>CY11</i>	<i>CY12</i>	<i>CY13</i>
Number of running-at-large calls	389	480	444	404	444
Number of wildlife complaints	355	348	306	247	257

### **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>FY09</i>	<i>FY10</i>	<i>FY11</i>	<i>FY12</i>	<i>FY13</i>
Number of vehicles in service	191	193	199	201	206
Total number of vehicle miles driven	1,588,905	1,615,000	1,613,500	1,662,000	1,659,600
Number of Police vehicles	48	50	56	59	64
Gallons of gasoline used in all vehicles	109,000	122,800	130,700	108,100	103,000
Gallons of diesel used in all vehicles	105,600	112,900	108,100	89,300	86,500

### **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.

	<i>FY09</i>	<i>FY10</i>	<i>FY11</i>	<i>FY12</i>	<i>FY13</i>
Number of households served	19,320	20,734	20,745	21,086	21,100
Total number of tons collected	31,696	29,865	29,627	29,409	30,120
Number of tons land filled	23,080	21,016	20,559	19,966	19,350
Number of tons recycled	8,616	8,849	9,068	9,443	10,770
Percent of solid waste stream recycled	27%	30%	31%	32%	36%
Sales Revenues from Recyclables	\$48,343	\$27,330	\$41,211	\$70,166	\$30,000
Number of tons of white metal collected	121	173	114	91	92

**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 187 miles of City streets.

	<i>FY09</i>	<i>FY10</i>	<i>FY11</i>	<i>FY12</i>	<i>FY13</i>
Miles of street maintained	183.5	184.2	186.7	187.5	187.5
Square Yards of Streets Resurfaced	155,883	142,407	157,262	194,485	173,968
Miles of street resurfaced	8.56	9.90	9.10	12.88	14.88
Curb-miles of street swept	1,834	1,840	1,867	1,875	1,875
Miles of sidewalks maintained	127	127.9	128.2	129.8	129.8
Number of street lights maintained	5,723	5,595	5,636	5,651	5,651

**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>FY09</i>	<i>FY10</i>	<i>FY11</i>	<i>FY12</i>	<i>FY13</i>
Square feet of buildings cleaned/maintained	110,732	110,732	190,732	190,732	190,732

**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>FY09</i>	<i>FY10</i>	<i>FY11</i>	<i>FY12</i>	<i>FY13</i>
Number of acres of grass maintained	202	202	202	232	232
Average number of times mowed per year	32	32	32	38	35
Acres of R.O.W. and Parkland maintained	72	72	72	102	102
Acres of athletic field turf maintained	130	130	130	130	130
Number of fields maintained	78	65	65	65	65
Number of fields irrigated	26	26	26	26	26
Number of fields lighted	21	21	21	21	21
Miles of trail maintained	24	24	24	24	24
Number of trees in right of way inventoried	17,500	17,500	17,500	17,500	17,388
Number of trees maintained (pruned)	3,500	2,500	2,500	4,506	3,075
Number of trees planted in right of way	150	145	200	111	175
Number of annuals/color planted	5,000	5,000	5,000	8,000	9,000

### Stormwater Management

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

	<i>FY09</i>	<i>FY10</i>	<i>FY11</i>	<i>FY12</i>	<i>FY13</i>
Miles of Storm Sewers	396	396	396	396	396
Total acres of basins, outfalls and drainage areas maintained	99	101	101	104	107
Number of SWM ponds and basins maintained	69	71	71	73	76
Number of SWM outfalls and drainage areas maintained	40	40	40	40	40
Open channels cleaned (in linear feet)	-	-	5,805	5,000	5,000

### 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>FY09</i>	<i>FY10</i>	<i>FY11</i>	<i>FY12</i>	<i>FY13</i>
Miles of pipeline	90	90	90	90	90
Millions of gallons treated/delivered	743	769	746	586	580
Number of water/sewer customers-residential	7,700	7,700	7,700	7,700	7,700
Number of water/sewer customers-commercial	220	222	222	224	224
Customer complaints about water quality	10	12	8	29	15

### 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>FY09</i>	<i>FY10</i>	<i>FY11</i>	<i>FY12</i>	<i>FY13</i>
Miles of collection mains in the system	85	85	85	85	85
Miles of collection system cleaned	46	25	30	20	21
Million gallons of wastewater treated	721	761	700	715	680
Tons of sludge produced	3,155	3,025	2,800	2,700	2,400

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## Appendix B: EI Plan Performance Measures Tracking

Goals	Objectives	FY2011	FY2012	FY2013
<b>Waste Management</b>	<b><i>Recycling</i></b>			
	Decrease the tonnage of material landfilled per household from the current 1.42 tons (FY07) to 1 ton by 2012	20,559 (0.99 tons/hh)	19,966 (0.88 tons/hh)	19,350 (0.84 tons/hh)
	Increase the tonnage of recyclables from FY 2007's 24% to 50% by 2012	9,068	9,443	10,770
	Increase the tonnage of yard waste recycling by 10% of 2007 levels by 2012. (3,474 tons)	3,617	4,277	4,653
	Increase the tonnage collected during special recycling events	no event held	no event held	14 tons shredded paper
	Increase the # of rebates given for mulching mowers from 30 - 60 per year by 2012	216	150	152
<b>Surface Water Protection</b>	<b><i>Stream Teams</i></b>			
	Establish a minimum of 5 active stream teams in Bowie by 2012.	4 in Oct 2010 8 in April 2011	8 in Oct 2010 8 in April 2011	8 in Oct 2012 4 in April 2013
	(additional indicator) Amount of debris removed from streams	<b>Oct 2010:</b> 177 vols, 1025 lbs trash, 975 lbs recycling. <b>Apr 2011:</b> 235 vols, 1650 lbs trash, 1325lbs recycling	<b>Oct 2011:</b> 182 vols, 1,025 trash, 1,175 lbs recycling. <b>Apr 2012:</b> 125 vols, 1,150 lbs trash, 750 lbs recycling	<b>Oct 2012:</b> 120 vols, 900 lbs trash, 1,225 lbs recycling. <b>Apr 2013:</b> 49 vols, 510 lbs trash, 675 lbs recycling
Clean a minimum of 10 miles of stream annually	unsure	unsure	unsure	

Goals	Objectives	FY2011	FY2012	FY2013
<b>Surface Water Protection</b>	<b>Rain Barrels</b>			
	Install 150 rain barrels by 2012. (each number shown is the total registered at the end of that year)	143	185	196
	<b>Alternative Means of Stormwater Management</b>			
	Implement three (3) stormwater management retrofits by 2012.	✓	✓	✓
	Encourage installation of five (5) green roofs by 2012.	✓	✓	✓
	<b>NPDES</b>			
	Investigate WRAS pipe outfall sites, unusual conditions, & exposed pipes in two subwatersheds and mitigate deficiencies by 2012.	This work has begun but is on hiatus for the summer due to vegetation growth	All WRAS sites have been visited. Post-field data review has not been completed	WRAS problem sites will be incorporated into upcoming stormwater retrofit survey by consultant
	Begin regular water quality sampling at specific locations in one subwatershed by 2010.	Some grab samples were collected at three sites in Middle Collington Branch. No water quality concerns were discovered.	Regular water quality monitoring does not appear necessary at this time	
	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	Interns have been conducting these screenings for now	The stream team program will be reviewed, and this objective will be assessed at the same time.	Due to a lack of consistent stream cleanup volunteers/leaders, outfall screening training will not be pursued.

Goals	Objectives	FY2011	FY2012	FY2013
Surface Water Protection	<b>WRAS</b>			
	By 2012, make one (1) stream habitable by a fish population.	Awaiting updated MBSS data to determine if fish are present		
	Begin testing family-level benthic index of biotic integrity	B-IBI scores are calculated by MD DNR. Awaiting updated data		
	Complete investigations of 35 inadequate buffer sites	An initial desktop investigation has been conducted. Field verification to follow.	All WRAS follow-up investigations were completed in FY2012.	
	Complete investigations of 21 channel alteration sites	This work has begun but is on hiatus for the summer due to vegetation growth		
	Complete investigations of 78 fish barriers	Fish barriers that have been identified are not easily fixed (e.g., railroad track, culvert). Field review will continue this fall.		
	Establish new baseline of stream bank length with eroding banks	This work has begun but is on hold for the summer due to vegetation growth		
Urban Forest Management	<b>Urban Forest</b>			
	Strive for 40% canopy coverage in 20 years.	objective met	EAC recommended a 45% canopy goal to Council. It was approved on July 9, 2012	Objective met. Received grant to conduct survey of residents on tree planting interest.
	<b>Street Trees</b>			
	Plant a minimum of 150 street trees annually through 2012.	149	104	165

<b>Goals</b>	<b>Objectives</b>	<b>FY2011</b>	<b>FY2012</b>	<b>FY2013</b>
<b>Urban Forest Management</b>	<b>Forest Mitigation Sites</b>			
	Afforest 20 acres by 2012. (each number presented is the total number as of the end of that fiscal year)		42.5 (SHA mitigation)	Objective met
<b>Environmental Restoration, Preservation and Conservation</b>	<b>Land Preservation</b>			
	Complete a Land Preservation Plan by 12/31/09.	This objective is indefinitely on hold due to budget constraints		
	<b>Backyard Habitat</b>			
	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)	91	102	132
	<b>Turf Reduction</b>			
	Decrease the number of acres mowed Citywide by at least 10% by 2012. (total mowed area in 2007 = 202 ac)	202	232	232 will not meet objective. No more area can be designated no-mow.
Convert 7 acres of publicly-owned turf to native landscaping (each number presented is the cumulative total)	13,500 sq ft	16,000 sq ft	19,500 sq ft	