



Promoting Water Resources Stewardship in the National Capital Region on behalf of COG's Members and Affiliated Water and Wastewater Utilities



**Department of Environmental Programs
FY 2011 Water Resources Work Program and Budget
July 1, 2010 to June 30, 2011**

Draft May 7, 2010



**Metropolitan Washington
Council of Governments**



**Water Resources
FY 2011 Work Program and Budget**

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COG FY 2011 Water Resources Work Program and Budget

Overview

Purpose - For more than 30 years, COG's Water Resources (WR) program has focused on the stewardship of the region's water resources. COG's water resources programs assist its members and affiliated water and wastewater utilities with conserving, protecting, and restoring the region's water resources. These programs provide access to and analysis of emerging policies, advocacy on behalf of members and utilities, detailed monitoring and modeling evaluations, and outreach to members and the public. All of these efforts complement and support COG's Mission:

COG is the premier forum to identify, discuss, and resolve regional issues to enhance the quality of life in the National Capital Region. COG convenes local governments and other stakeholders to initiate collaborative regional analysis. COG develops, implements, and coordinates intergovernmental policies, plans, partnerships, and programs. COG educates all stakeholders and the public about the issues, analyses, and solutions developed through its role as regional catalyst.

Focal Points for FY 2011 - The FY 2011 WR program will emphasize the water quality goals of the Chesapeake Bay, the Potomac River, and local streams. Several issues are especially important to local governments and utilities. These include:

- The completion of the "92 Bay TMDLs" and the resulting waste load allocations (WLAs) and load allocations (LAs) for nutrients and sediment;
- The preparation of the Phase I and Phase II Watershed Implementation Plans (WIPs) with highly localized (i.e., county-level) load targets;
- The increasingly stringent regulatory requirements for controlling urban stormwater and potentially for wastewater treatment plants;
- A range of system management concerns including aging infrastructure and effective community outreach;
- Support for green infrastructure, land conservation and sustainable agriculture
- Implementation of the "Region Forward" by the Greater Washington 2050 Coalition.
- The implementation of a regional educational and information Community Engagement Campaign that focuses on Wise Water Use, Infrastructure, Source Water Protection and Drinking Water Quality.

In FY 2011, promulgation of the 92 Bay TMDLs with their caps on the amounts of nitrogen, phosphorus and sediment pollution from the watershed and (the new nutrient and sediment WLAs and LAs noted above) will dominate much of the regional water quality activities. Since the 2010 water quality targets set in the Chesapeake 2000 agreement have not been achieved. EPA initiated development of the Bay TMDLs. Accordingly, The Bay TMDL, the attendant state-level WIPs, and their two-year milestones will usher in a much more regulatory Chesapeake Bay Program, coupled with interim implementation milestones, is rapidly emerging. Pending programs and policies are likely to that will affect local wastewater, stormwater and possibly land use programs in unprecedented ways. In addition to the TMDL regulation itself, COG's members may be affected by pending federal legislation regarding the Bay restoration effort and by actions stemming from the Chesapeake Bay Executive Order. COG's continued participation on all fronts is designed to ensure that a local perspective will help shape new these programs and policies being developed at the federal and state levels.

COG FY 2011 Water Resources Work Program and Budget

Overview

Organization of this Document – The WR program is organized in four broad Program Areas:

- Policy, Program Development, Advocacy, and Regional Outreach** – covering policy development, member support, outreach and education and administrative tasks;
- Chesapeake Bay and Water Resources Technical Analysis and Application of Technical Tools** – focusing on water resources technical analyses, technical workshops, and the development and application of modeling tools;
- Water Quality Monitoring** – a key component of COG's contribution to understanding the water quality trends and conditions in the Potomac River; and
- Urban Watershed Management** – addressing watershed management, site design, green infrastructure and support to agriculture in the COG region—in support of the region's water quality goals.

Among specific actions proposed for FY 2011 are:

- Participation in development and providing comments on the Bay Program's TMDLs, Watershed Implementation Plans, including assessment of any connections with NPDES permitting;
- Implementation of the online information distribution and blogging campaign, as a part of the Community Engagement Campaign;"
- Analysis and presentation of Watershed Model output applicable to the load allocations in the COG region;
- Application of the Regional Wastewater Flow Forecast Model to help assess the long-term viability of the Watershed Implementation Plans in the COG region;
- Conducting a Potomac water Quality Futures Forum to explore a wide spectrum of prospective water-based issues in the Potomac River basin;
- Conducting a workshop on the topic of "Site-based Rain Harvesting and Zero-discharge Site design;" and
- Conducting a Regional Agricultural Charrette to explore policy options for sustainable agriculture.

There are several distinct Activities in each Program Area and specific Products associated with each Activity. These are addressed in the individual activity description forms. A Budget Summary (Table 1) immediately follows this Overview. Table 2 Shows how the allocation of the Regional Water Fund among COG's member jurisdictions. This, in turn, is followed by individual Activity descriptions.

COG FY 2011 Water Resources Work Program and Budget

Table 1—Water Resources Budget Allocation for FY 2011

Table 1 - Water Resources Budget Allocation for FY 2011

Program Area	RWF	REF	COG Local	Grant; Other	Total
I. Policy, Program Development, Advocacy and Regional Outreach					
A. Chesapeake Bay and Water Resources Policy	\$205,000	\$0	\$0	\$0	\$205,000
B. COG Board & Member Support	\$52,111	\$0	\$24,550	\$0	\$76,661
C. Water Supply Emergency Response and Drought Management	\$80,000	\$0	\$0	\$0	\$80,000
D. Regional Water Resources Community Engagement Campaign	\$40,000	\$0	\$0	\$95,000	\$135,000
E. Work Program Management and Budget Development	\$50,000	\$0	\$24,550	\$0	\$74,550
Subtotals	\$427,111	\$0	\$49,100	\$95,000	\$571,211
II. Chesapeake Bay and Water Resources Technical Analysis and Application of Technical Tools					
A. Core Water Resources Technical Program Support	\$295,000	\$0	\$0	\$0	\$295,000
B. Analysis and Application of the Chesapeake Bay Water Quality and Watershed Models and Other Load Models	\$90,000	\$0	\$0	\$0	\$90,000
C. Update and Application of the Regional Wastewater Flow Forecast Model & Wastewater Process Database	\$50,000	\$0	\$0	\$0	\$50,000
D. Growth, Sustainability, and Emerging Issues	\$40,000	\$0	\$0	\$0	\$40,000
E. Workshops and Seminars	\$60,000	\$0	\$0	\$25,000	\$85,000
Subtotals	\$535,000	\$0	\$0	\$25,000	\$560,000
III. Water Quality Monitoring					
A. Regional Monitoring Program	\$159,000	\$0	\$0	\$0	\$159,000
B. Chain Bridge and Little Falls Monitoring	\$137,800	\$0	\$0	\$0	\$137,800
Subtotals	\$296,800	\$0	\$0	\$0	\$296,800
IV. Urban Watershed Protection and Management					
A. Urban Stormwater and Site Design	\$0	\$20,000	\$20,000	\$120,000	\$160,000
B. Watershed Stream Ecology, GIS Applications and Forestry	\$0	\$45,250	\$29,200	\$50,000	\$124,450
C. Planning for Green Infrastructure and Sustainable Agriculture; Related Database Management	\$0	\$0	\$58,100	\$100,000	\$158,100
Subtotals	\$0	\$65,250	\$107,300	\$270,000	\$442,550
Totals	\$1,258,911	\$65,250	\$156,400	\$390,000	\$1,870,561

Note: RWF: Regional Water Fund; REF: Regional Environmental Fund.

TABLE 2
FY 2011 SCHEDULE OF LOCAL GOVERNMENT CONTRIBUTIONS TO
CONSOLIDATED ENVIRONMENTAL PROGRAMS'
REGIONAL AND SUBREGIONAL FUNDS

POPULATION-BASED

	ALEX	ARL	BOWIE	COLLEGE PARK	DC	FAIRFAX CITY	FFx CO	FALLS CHURCH	GAITHERS BURG	GREEN BELT	LOUDOUN	MC	PG	PW	ROCK VILLE	TAKOMA PARK	FY10/FY11 TOTAL ADJ POPULATION & JURISDICTION
POPULATION ADJUSTED FOR BUDGET																	
ADJ POPULATION FY10 (1)	141,500	217,200	55,831	26,392	603,500	22,650	1,059,211	12,300	65,065	20,903	291,734	840,171	765,497	408,510	67,465	17,299	4,615,228
ADJ POPULATION FY11 (1)	143,600	216,000	55,896	26,392	591,833	24,182	1,059,200	12,000	59,134	21,183	293,961	841,801	773,979	405,884	65,116	17,299	4,607,460
WATER FUND (2) '10	\$26,452	\$40,604	\$10,437	\$4,934	\$251,782	\$4,234	\$251,782	\$2,299	\$12,163	\$3,908	\$54,537	\$251,782	\$251,782	\$76,368	\$12,612	\$3,234	\$1,258,911
WATER FUND (2) '11	\$26,969	\$40,566	\$10,498	\$4,957	\$251,782	\$4,542	\$251,782	\$2,254	\$11,106	\$3,978	\$55,208	\$251,782	\$251,782	\$76,228	\$12,229	\$3,249	\$1,258,911
ENVIR FUND (3) '10	\$17,887	\$27,457	\$0	\$3,336	\$76,290	\$2,863	\$133,898	\$1,555	\$8,225	\$2,642	\$36,879	\$106,209	\$96,769	\$51,641	\$8,528	\$2,187	\$576,368
ENVIR FUND (3) '11	\$18,184	\$27,352	\$0	\$3,342	\$74,944	\$3,062	\$134,127	\$1,520	\$7,488	\$2,682	\$37,225	\$106,598	\$98,010	\$51,397	\$8,246	\$2,191	\$576,368
'10	\$44,340	\$68,061	\$10,437	\$8,270	\$328,073	\$7,097	\$385,680	\$3,854	\$20,388	\$6,550	\$91,416	\$357,991	\$348,551	\$128,009	\$21,140	\$5,421	\$1,835,279
'11	\$45,153	\$67,918	\$10,498	\$8,299	\$326,726	\$7,604	\$385,909	\$3,773	\$18,594	\$6,661	\$92,432	\$358,380	\$349,792	\$127,625	\$20,475	\$5,439	\$1,835,279
SPECIAL SUB REGIONAL																	
BLUE PLAINS SUPPORT (4)																	
'10					\$171,689		\$31,419					\$108,292	\$63,600				\$375,000
'11					\$171,689		\$31,419					\$108,292	\$63,600				\$375,000
ANAC RESTORATION FUND (5)																	
'10					\$83,000							\$83,000	\$83,000				\$249,000
'11					\$83,000							\$83,000	\$83,000				\$249,000
I-95 TECHNICAL COMM. (6)																	
'10	\$973	\$1,048			\$8,932		\$13,997										\$24,950
'11	\$973	\$1,048			\$8,932		\$13,997										\$24,950
'10	\$973	\$1,048			\$263,621		\$45,416					\$191,292	\$146,600				\$648,950
'11	\$973	\$1,048			\$263,621		\$45,416					\$191,292	\$146,600				\$648,950
GRAND TOTAL '10	\$45,313	\$69,109	\$10,437	\$8,270	\$591,694	\$7,097	\$431,096	\$3,854	\$20,388	\$6,550	\$91,416	\$549,283	\$495,151	\$128,009	\$21,140	\$5,421	\$2,484,229
GRAND TOTAL '11	\$46,126	\$68,966	\$10,498	\$8,299	\$590,348	\$7,604	\$431,325	\$3,773	\$18,594	\$6,661	\$92,432	\$549,672	\$496,392	\$127,625	\$20,475	\$5,439	\$2,484,229

NOTES:

- (1) Adjusted population figures for Maryland counties reflect net population after deduction of city populations within their boundaries. Virginia county and city populations are counted separately and thus do not have to be adjusted.
- (2) Regional Water Fund allocation formula for the Blue Plains Users (per Section 9 of the 1985 IMA, and codified under CBPC By-laws) is 80% of the RWF: District of Columbia (DC) (20%), Montgomery County (20%), Prince George's County (20%) and Fairfax County (20%). Remaining jurisdictions' share is 20% by adjusted populations for participating jurisdictions.
Note: DC-WASA pays for 100% of the District's share of the RWF. WSSC pays for 100% of Prince George's and Montgomery Counties' shares of the RWF, as well as 100% of the shares for five additional Maryland jurisdictions (i.e., Bowie, College Park, Gaithersburg, Greenbelt, and Takoma Park).
- (3) Regional Environmental Fund contributions are calculated on a prorata share of the region's population for participating jurisdictions.
- (4) Blue Plains User's Support allocated according to Section 9 of the IMA of 1985 (i.e., based on 370 MGD flow allocations; with WSSC's share sub-allocated at 63% to Montgomery County and 37% to Prince George's County).
- (5) Allocation per agreement of signatory members of Anacostia Watershed Restoration Partnership. The State of Maryland also has an equal share which is not shown.
- (6) Allocation per agreement of signatory members to I-95 Landfill agreement.

COG FY 2011 Water Resources Work Program and Budget

I. Policy, Program Development, Advocacy, and Regional Outreach

The Policy, Program Development, Advocacy, and Regional Outreach program area includes five discrete activities. Collectively, these comprise COG's water resources policy development and public outreach. Briefly, the five activities are:

Chesapeake Bay and Water Resources Policy - In this activity COG staff prepares policy analyses and recommendations for consideration by the Chesapeake Bay and Water Resources Policy Committee (CBPC) and for the COG Board as appropriate. Much of the focus in FY 2011 will be on the increasingly regulatory Bay Program, including the completion of the 92 Bay TMDLs and the related WIPs.

COG Board and Member Support - This activity provides for direct support to COG members in response to requests for information or policy direction on water resources matters. Also covers staff time required to develop materials and presentations to the COG Board and COG Annual Retreat as may be required.

Water Supply Emergency Response and Drought Management - In this activity, COG addresses a range of water supply issues related to drought and security.

Regional Water Resources Community Engagement Campaign - COG's member governments and utilities are increasingly interested in developing a regional outreach and education program to complement their individual efforts on a wide range of issues from aging infrastructure to water efficiency. This activity covers the regional aspects of that campaign.

Work Program Management and Budget Development - This activity covers a range of administrative tasks from preparation of the annual work program and budget to performance reviews.

FY 2011 Water Resources Work Program and Budget

Program Area	I. Policy, Program Development, Advocacy, and Regional Outreach
Activity	A. Chesapeake Bay and Water Resources Policy
Committee Oversight	COG Board of Directors
Staffing	Lead: Karl Berger Staff Resources: Ted Graham, Tanya Spano, Steve Bieber, Heidi Bonnaffon, Stuart Freudberg

Activity Description

The Chesapeake Bay and Water Resources Policy Committee (CBPC) established several priorities for action in 2010-2011. These include: coordination of a regional response to the Bay Program's development of the 92 Bay TMDLs; load allocations and restoration milestones; advocacy for funding from the state and federal governments; support for public outreach efforts with a water quality and infrastructure focus; comment on federal legislation and regulation affecting the Bay TMDL process; a policy to address growth in light of nutrient caps at wastewater plants; and development of a strategy for how stormwater management fits into the Bay restoration effort. The CBPC also will coordinate policy in response to the issue of plastic bag trash in waterways. The committee will rely on technical input from the Water Resources Technical Committee (WRTC) and will inform the COG Board on water resources issues and seek actions as appropriate. The committee also will play a role in other COG efforts, providing oversight of the water quality aspects of the Region Forward/Greater Washington 2050 initiative and the HUD sustainability grant program; coordinating with the Climate, Energy and Environment Policy Committee; and working to inform and develop policies that address growth issues and their water quality implications with COG's MDPC and related committees.

In addition to staffing the committee, COG staff supports this task through participation on several key Bay Program committees, where it represents member interests and reduces the need for direct COG member participation. In particular, COG staff will actively monitor and participate in meetings of the Bay Program's Water Quality Goal Implementation Committee, which is responsible for TMDL development, as well as the Chesapeake Executive Council and the Principals' Staff Committee. COG staff also participates in various workgroups, including those for wastewater and urban stormwater.

Outcomes and Major Products

- Comments on Phase I watershed implementation plans (1st Quarter)*
- Comments on draft TMDLs (in particular those for the COG region) (2nd Quarter)*
- Comments on Phase II watershed implementation plans (3rd Quarter)*
- Regional policy on urban nutrient management efforts (2nd half of year)
- Presentations to COG Board (as appropriate)
- Letters and other communication to the Bay Program partners (as appropriate)
- Support (preparation, planning, follow-up) for 6 committee meetings plus an annual committee tour

*Note—deliverables involving the TMDL process are subject to change based on external events.

Budget

Regional WF	Regional EF	COG Local	Grants	Total
\$205,000	\$0	\$0	\$0	\$205,000

FY 2011 Water Resources Work Program and Budget

Program Area	I. Policy, Program Development, Advocacy, and Regional Outreach
Activity	B. COG Board and Member Support
Committee Oversight	Chesapeake Bay and Water Resources Policy Committee
Staffing	Lead: Ted Graham

Activity Description

This task enables COG to fulfill its role as a member service organization by responding to member requests for information on regional programs and policies and serving as a clearinghouse for environmental information. It provides for COG staff to respond to special requests for technical assistance or other support from the COG Board and COG members. Typical examples include reporting on the latest regulatory requirements under the Clean Water Act or proposed funding strategies at the federal and state levels, including the American Recovery and Reinvestment Act of 2009 (ARRA). It provides funds for staff support in developing water resources presentations to the COG Board and other COG committees and COG members. It also provides for preparation of presentations by elected official leaders at the COG Board, to Congressional committees and state legislative bodies.

Outcomes and Major Products

- Briefings and presentations to COG Board and others (4-6 per year)
- Preparation of presentations and testimony for use by elected official leaders (4-6 per year)
- Report on the use of stimulus funding
- Response to requests (as requested)
- Federal and state legislative and regulatory summaries (as requested)

Budget

Regional WF	Regional EF	COG Local	Grants	Total
\$52,111	\$0	\$24,500	\$0	\$76,661

FY 2011 Water Resources Work Program and Budget

Program Area	I. Policy, Program Development, Advocacy, and Regional Outreach
Activity	C. Water Supply Emergency Response and Drought Management
Committee Oversight	Water Security Work Group; Drought Coordination Committee
Staffing	Lead: Steve Bieber Staff Resources: Christine Howard; Water Resources Intern; Stuart Freudberg; Heidi Bonnaffon

Activity Description

This activity involves three main tasks:

- Water Supply and Drought Management Tracking and Reporting;
- Drought and Water Supply Emergency Response and Planning; and
- Support for the Regional Water Security Work Group.

Under this activity, COG staff will provide continued technical, policy, and staff support to COG's Drought Coordination Committee and implement a regional water supply work program addressing water supply and drought management issues. Also included would be continued monitoring of regional water supply conditions, preparation of monthly drought outlook and conditions reports, and implementation of the regional Water Supply Emergency Plan in response to drought events and other water supply issues. In addition, COG staff will continue to support the regional Water Security Work Group to:

- provide regional assessment of the threats to and vulnerabilities of the NCR's water supplies
- provide regional assessment of the threats to and vulnerabilities of the NCR's water distribution systems;
- Identify strategies to address vulnerabilities.

Outcomes and Major Products

- Management and coordination of Drought Coordination Committee and Drought Tech Committee during periods of drought (as needed)
- Tracking and monitoring of Potomac basin drought and water quality conditions and website updates (continuing year around effort)
- Monthly Regional Drought and Water Supply Outlook Reports (Seasonal, May-Oct.)
- Staff support and management coordination to the Water Security Work Group (continuing effort)
- Continued management, and coordination of Regional Water Security Monitoring Network
- Implementation of a one day regional table top exercise (July 2011)

Budget

Regional WF	Regional EF	COG Local	Grants	Total
\$80,000	\$0	\$0	\$0	\$80,000

**Additional program funds are provided annually through the regional Urban Area Security Initiative (UASI) grants.

FY 2011 Water Resources Work Program and Budget

Program Area	I. Policy, Program Development, Advocacy, and Regional Outreach
Activity	D. Regional Water Resources Community Engagement Campaign
Committee Oversight	Community Engagement Network (previously known as the Communication Work Group); Chesapeake Bay and Water Resources Policy Committee
Staffing	Lead: Steve Bieber Staff Resources: Christine Howard; Heidi Bonnaffon; Water Resources Intern

Activity Description

Implement a regional educational and information Community Engagement Campaign that focuses on Wise Water Use; Infrastructure; Source Water Protection (includes FOG and Do Not Flush elements); and Drinking Water Quality. The Campaign would target, using a variety of tools, the general public, elected officials, consumers/rate payers, homeowners, and other key groups. This year, in addition to traditional outreach efforts, we will be distributing our information online, embracing the trend toward communications that are social and conversational, rather than institutional. Our messages will appear first on three blogs:

The "Mommy" blog; The "Green Thumb" blog; and The "Infrastructure" blog.

In addition, readers will have the opportunity to subscribe via Facebook, Twitter, RSS, and email. This will make it easy for our readers to spread the information to their friends, family and coworkers.

This new online focus has many benefits, including:

We'll know exactly how successful our efforts are - we'll have precise data about how many people visit our sites, which pages they read, and how many of them become subscribers. We'll know how far our message spreads beyond our own site on Twitter, Facebook, and other blogs.

We can collect valuable information from our readers - the comments that readers leave, the "quick poll" answers they provide, and traffic patterns we observe all provide valuable insights into public attitudes and habits.

Accomplishments and lessons learned will be summarized after the first six months and the effort will be adjusted to continue what has worked well and change what has not. Success and effectiveness of the campaign will be measured every step of the way by tracking:

- ◇ The number of visitors from COG jurisdictions;
- ◇ The number of subscribers;
- ◇ The number of completed surveys (or other transactions); and
- ◇ Links or mentions in the media or other blogs.

Outcomes and Major Products

- Implementation of a regional educational and outreach Community Engagement Campaign designed to effect public awareness, attitudinal, and behavioral changes toward regional 1) Source Water Protection, 2) Wise Water Use, 3) Infrastructure, and 4) Water Quality;
- Campaign tools and efforts will include:
 - ◇ Implementation of an online information distribution and blogging campaign (year round).
 - ◇ Maintaining a COG Community Engagement Campaign website (year around);
 - ◇ Community Engagement Campaign promotional outreach events Summer/Fall 2011;
 - ◇ Use of available audio, video, and other materials from national organizations as well as local utilities and local, state, and federal, government (year around);

Budget				
Regional WF	Regional EF	COG Local	Other	Total
\$40,000	\$0	\$0	\$95,000	\$135,000

FY 2011 Water Resources Work Program and Budget

Program Area	I. Policy, Program Development, Advocacy, and Regional Outreach
Activity	E. Work Program Management and Budget Development
Committee Oversight	Chesapeake Bay and Water Resources Policy Committee
Staffing	Lead: Ted Graham Staff Resources: Stuart Freudberg; Tanya Spano; Karl Berger; Steve Bieber; John Galli; Christine Howard

Activity Description

This task funds management and administrative activities in support of the FY 2011 work program and covers the preparation of the FY 2012 regional Water Resources Work Program and Budget (WP&B) in collaboration with the Water Resources Technical Committee. It also includes preparation of performance appraisals, participation in internal staff meetings, and program wide direct costs.

This task will also help support COG staff in submitting certain work program proposals or grant applications designed to secure funding support from outside agencies. This also helps support costs associated with proposal writing or preparation of RFPs for certain pass-through contracts such as for special water quality studies.

Outcomes and Major Products

- Midyear Budget Review (January 2011)
- Preliminary FY 2011 budget (March 2011)
- Proposed FY 2011 final WP&B (May 2011)
- Final FY 2011 WP&B (June 2011)
- Grant Proposals (Ongoing)
- Employee performance appraisals (July - September, 2010)

Budget

Regional WF	Regional EF	COG Local	Grants	Total
\$50,000	\$0	\$24,550	\$0	\$74,550

COG FY 2011 Water Resources Work Program and Budget

II. Chesapeake Bay and Water Resources Technical Analysis and Application of

COG's effectiveness in helping to shape and implement regional WR programs and policies relies heavily upon COG staff's analysis of a wide range of data, modeling tools, and other technical resources in order to independently assess how well such tools and assumptions reflect actual conditions in the region, as well to identify issues that are critical to COG's members. It is also important to ensure that COG's members are kept abreast of emerging technical and policy issues, generally through workshops.

The five activities in this program area are:

Core Water Resources Technical Program Support - The WRTC is the lead technical resource to the CBPC and, ultimately, to the COG Board on all regional water resources issues. COG staff works closely with the WRTC to analyze technical issues and make policy recommendations as required. This is, for instance, the venue where the technical aspects of the 92 Bay TMDLs and resultant load allocations are reviewed and discussed.

Analysis and Application of the Chesapeake Bay water Quality and Watershed Models and Other Load Models - The various models used by the Bay Program partners are fundamental to the development of the Bay TMDLs, load allocations and Tributary Strategies. COG staff directly participates in the development and application of these models.

Update and Application of the Regional Wastewater Flow Forecast Model & Wastewater Process Database - The COG-developed Regional Wastewater Flow Forecast Model continues to be an important tool in assessing the growth implications for wastewater loads and as an aid in assessing how the region can maintain its nutrient load cap obligations in the face of expected growth. The Wastewater Process Database will be used to document related issues about the nutrient cap loads, capacity constraints, costs, treatment processes, and related information that along with the wastewater flow projections will help to provide context for how the region's WWTPs will be addressing the region's growth and living under nutrient cap loads.

Growth, Sustainability, and Emerging Issues - This activity covers a variety of emerging "sustainability" issues, including the implications of growth; addressing our members' needs regarding aging infrastructure; addressing the region's climate change commitments, and monitoring the latest developments regarding the potential health and environmental implications of 'emerging contaminants' as well as regulations aimed at addressing those pollutants.

Workshops and Seminars - COG has long been an excellent venue for convening timely workshops to address critical technical and/or policy issues faced by our members. We plan on convening at least two during FY 2011; more if funding materializes. Topics to be covered will include water quality and special issues noted above.

Program Area II. Chesapeake Bay and Water Resources Technical Analysis and Application of Technical Tools

Activity A. Core Water Resources Technical Program Support

Committee Oversight Water Resources Technical Committee

Staffing Lead: Tanya Spano
Staff Resources: New Wastewater Engineer, Heidi Bonnaffon, Ted Graham, Karl Berger, Steve Bieber; COG planning and public health staff

Partners Chesapeake Bay Program (CBP), Northern Virginia Regional Commission (NVRC), Interstate Commission for the Potomac River Basin (ICPRB)

Activity Description

The WRTC is the lead technical resource to the CBPC on all regional water quality and water resource management issues. COG staff support to this committee entails evaluation and technical analysis of data, regulations, policies and other initiatives that affect or may affect COG members in the following core water resource program areas: wastewater, stormwater, drinking water, biosolids and overall water quality. The WRTC may also provide technical input to other COG Committees as required addressing multi-media issues such as Climate Change, as well as growth, public health issues, and other environmental issues. The technical support required to address specific water quality issues is outlined under other FY 2011 project write-ups. This project element supports COG staff's core water resources technical work conducted on behalf of the WRTC to:

- Attend/participate in critical meetings, work sessions, conference calls, webinars, and other venues in order to actively monitor Chesapeake Bay Program activities, as well a broad range of state and federal water quality related initiatives and programs—all of which are of interest or have potential impact to COG's members.
- Organize work sessions and arrange for presentations to the WRTC by federal/state staff, as well as other technical experts—in order to better understand these initiatives, and to provide the WRTC members with the ability to directly interface with these staff/experts and provide their input as these initiatives are developed.
- Analyze and synthesize data, reports, policy and regulatory documents, and other technical documentation associated with these federal and state initiatives. This includes work to monitor, analyze, report on developments in state and federal water quality and related regulatory activities — and to develop recommendations. Based on that work, assess the cumulative impact, define key technical issues, offer recommendations for addressing technical issues, and identify policy implications to the COG region and its members.
- Make presentations to and prepare technical summaries for the WRTC in response to all of these initiatives and activities; and as appropriate, prepare and submit technical comments on behalf of the WRTC.
- Coordinate with and make similar presentations to COG planning, development, public health, and air program committees as appropriate for issues that link water resources issues with their program areas and/or are cross-media in nature or impact.
- Develop policy recommendations from the WRTC to the CBPC and ultimately the COG Board.
- Utilize a variety of technical tools (e.g., internet, WRTC Web site, video conferencing) to provide quicker updates, enhance access and participation, and to make access and retrieval of information, presentations, and other documents readily available to the WRTC members.

FY 2011 Water Resources Work Program and Budget

Program Area	II. Chesapeake Bay and Water Resources Technical Analysis and Application of Technical Tools
Activity	A. Core Water Resources Technical Program Support
Committee Oversight	Water Resources Technical Committee
Staffing	Lead: Tanya Spano Staff Resources: New Wastewater Engineer, Heidi Bonnaffon, Ted Graham, Karl Berger, Steve Bieber; COG planning and public health staff
Partners	Chesapeake Bay Program (CBP), Northern Virginia Regional Commission (NVRC), Interstate Commission for the Potomac River Basin (ICPRB)

Activity Description

(continued from page 14)

This core water resources work is supplemented by additional technical work needed to: analyze and assess various Chesapeake Bay Program and other water quality/watershed models (ref. II. B); utilize COG tools to assess impacts on wastewater and growth (ref. II. C); and to monitor and analyze other emerging or evolving issues that also have water quality implications (ref. II. D). COG staff also organize special events to address key issues that warrant more detailed presentations/discussions beyond routine WRTC meetings and work sessions (ref. II. E). The oversight of regional water quality monitoring issues by the WRTC's Regional Monitoring Subcommittee also ensures that the regional closely monitors and acts on those initiatives that also might impact the COG region and its members (ref. III. A & B).

Key topics that the WRTC expects to address in FY 2011 will include assessments of:

- EPA's 92 nutrient/sediment TMDLs for the Bay and its tidal tributaries;
- State Watershed Implementation Plans (WIPs) and development of local jurisdictional loads;
- CBP updates to its models to support the TMDL and WIP assumptions;
- Permit and regulatory implications of the 92 Bay TMDLs and load caps;
- Updates and recommendations from the RMS regarding Potomac water quality and monitoring issues;
- Funding needs for point source, non-point source and agricultural sectors;
- Climate Change initiatives and providing analysis/technical input to COG's new Climate, Energy, & Environment Policy Committee (CEEP) regarding all water resource/water quality related; and
- Briefings on 'Emerging Contaminants' and related environmental and health issues. [

Outcomes and Major Products

- Meetings of the WRTC (Bi-monthly),
- Conference calls/meetings of work groups (as required)
- Technical work sessions to address specific wastewater & stormwater issues (2-3 times per year)
- Briefing material, presentations, technical analyses and comments to the WRTC (Bi-monthly)
- Policy recommendations to the CBPC on behalf of the WRTC (Bi-monthly)
- Briefings and presentations to other COG committees on cross-media/water quality related issues (Bi-monthly, as required)
- Notifications/alerts to WRTC/work group members, and solicitations for input on time-sensitive issues (ongoing, as required)
- Upkeep of WRTC Web site and related COG websites related to water resource issues (ongoing)
- Priority recommendations for COG's FY 2012 Regional Water Work Program & Budget (spring 2011)

Budget

Regional WF	Regional EF	COG Local	Grants	Total
\$295,000	\$0	\$0	\$0	\$295,000

FY 2011 Water Resources Work Program and Budget

Program Area	II. Chesapeake Bay and Water Resources Technical Analysis and Application of Technical Tools
Activity	B. Analysis and Application of the Chesapeake Bay Water Quality and Watershed Models and Other Load Models
Committee Oversight	Water Resources Technical Committee
Staffing	Lead: Steve Bieber, Karl Berger, Mukhtar Ibrahim, and Tanya Spano

Activity Description

The Chesapeake Bay Water Quality and Sediment Transport Model (WQSTM) is the primary tool used by the Chesapeake Bay Program (CBP) to set nutrient and sediment load caps to meet water quality standards in the tidal waters of the Chesapeake Bay watershed, including the Potomac River from Chain Bridge to the confluence with the Bay. The CBP's Watershed Model (WSM) divides the 64,000 square mile Chesapeake Bay drainage basin into much smaller model segments (about the size of a county) and simulates soil erosion and pollutant loads from the land to the rivers. These modeling tools have been upgraded and will be used in fiscal 2011 to evaluate nutrient and sediment load caps to meet State water quality standards, and to establish TMDLs throughout the Bay watershed by December 2010. It is anticipated that new regulatory requirements will follow the TMDLs, adding specific and lower permit limits to regulated entities in the COG region. To fully evaluate the implications of these anticipated regulatory and permit changes, it is essential to have a comprehensive understanding of the development and application of modeling tools used by the CBP to set nutrient and sediment load caps, and to establish TMDLs.

Participation in this effort will greatly enhance the active role of the region in development of the technical tools underlying major water quality management decisions, particularly related to Blue Plains, State-led basin and small tributary TMDLs and evolving MS4 permitting requirements. Some of the expected benefits include, but are not limited to, the following:

- Proactive and direct involvement in applying the modeling tools used to guide regulatory decisions for our region, the Potomac River and the Chesapeake Bay.
- A geographic focus on the COG region and the Potomac to insure that the modeling tools and regulatory decisions affecting the region are based on "sound science."
- Serving as a resource for applying model output to decision making at the local level.

COG's participation will ensure that a full spectrum of local impacts will be explored, including those affecting the tidal fresh Potomac and embayments in the Washington area. This effort will support staff efforts to: a) ensure that the most appropriate technical assumptions and data have been utilized; b) characterize the resulting water quality impacts in the tidal fresh Potomac and embayments in the Washington region; c) identify management implications for pollutant loadings for various sectors (e.g., wastewater, urban stormwater, air deposition, etc.); and d) assessing the potential implications to the region's growth of the 92 TMDLs. . This will also provide for briefings and work sessions with the WRTC and CBPC related to the regional implications of the upgrade and application of the Bay Program's Phase 5.3 WSM and the WQSTM.

Outcomes and Major Products

- Represent the COG member views on the way in which modeling tools are used to guide regulatory decisions for our region, the Potomac River and the Chesapeake Bay.
- Provide model output as appropriate to members
- Technical assessment and memorandum on Bay model results for the Potomac.
- Analysis of the urban load and wastewater load allocations and implications using watershed model output
- Provide updates to the WRTC regarding the status of the Phase 5.3 WSM and the Bay Program's WQSTM (Quarterly).

Budget				
Regional WF	Regional EF	COG Local	Grants	Total
\$90,000	\$0	\$0	\$0	\$90,000

FY 2011 Water Resources Work Program and Budget

Program Area	II. Chesapeake Bay and Water Resources Technical Analysis and Application of Technical Tools
Activity	C. Update and Application of the Regional Wastewater Flow Forecast Model & Wastewater Process Database
Committee Oversight	Water Resources Technical Committee
Staffing	Lead: Tanya Spano Staff Resources: New Wastewater Engineer, Mukhtar Ibrahim, Lana Sindler, Wastewater Intern

Activity Description

COG staff will continue to update the Regional Wastewater Flow Forecast Model (RWFFM) inputs for the COG region, including working with each jurisdiction/agency to:

- Update and verify the GIS sewershed, septic area, and combined sewer system boundaries;
- Utilize the work done to update the Blue Plains Service Area (BPSA) portion of the model (FY 2010) to help define new Base Year Flows and update the wastewater Unit Flow Factors as required for the remainder of the COG region's sewer service areas;
- Utilize the latest demographic figures from COG's approved Cooperative Forecast (Round 8.0) to generate updated wastewater flow and nutrient load projections for the COG region and compare the results with various local, state, and Chesapeake Bay Program projection methodologies;
- Evaluate sewer service and combined sewer system areas for the COG region compare GIS mapping with various local, state, and Chesapeake Bay Program GIS maps; and
- Identify any significant discrepancies in wastewater projections and/or mapping and/or wastewater capacity/growth assumptions that are being used by local, state and federal programs to make program or regulatory decisions that would negatively impact COG's members.

COG staff will also work with the WRTC members to assess the potential impact of the flow projections to the region in terms of: nutrient load caps versus expected growth; wastewater plant capacity constraints; as well as watershed permit and trading options. It will also serve as an important check on the flow and load information assumptions in the state WIPs and CBP's 2011/2030 projection assumptions and alternative growth scenarios; as well as continuing to provide input to COG's Greater Washington 2050 initiative.

The Wastewater Process Database will also help to gather information that will provide context for the region's wastewater plant's and how this aspect of growth will be dealt with (e.g., current and future flows, flow capacity limits versus nutrient load caps, the treatment technologies expected to meet these cap loads, the associated cost (both capital, as well as operation and maintenance), and any regulatory, operational and/or environmental challenges that result). This information will also provide input for the GW 2050 initiative and various wastewater-related indicators.

Outcomes and Major Products

- Updated RWFFM (incorporating updated demographic data, revised wastewater flow factors & hydrologic base year flows for COG region) (1st Quarter)
- Regional wastewater flow projections (based on approved Round 8.0 Cooperative Forecasts) (2nd Quarter)
- Analysis of projected population trends, wastewater flow figures, and related nutrient loads for the COG region (2nd Quarter)
- Presentation/technical memorandum to WRTC (2nd Quarter)
- Updated WWTP Fact Sheets (2nd & 4th Quarters)

Budget

Regional WF	Regional EF	COG Local	Grants	Total
\$50,000	\$0	\$0	\$0	\$50,000

FY 2011 Water Resources Work Program and Budget

Program Area	II. Chesapeake Bay and Water Resources Technical Analysis and Application of Technical Tools
Activity	D. Growth, Sustainability, Infrastructure, and Emerging Issues
Committee Oversight	Water Resources Technical Committee
Staffing	Lead: Tanya Spano Staff Resources: New Wastewater Engineer, Lana Sindler, Heidi Bonnaffon, Steve Bieber, Karl Berger, COG planning staff
Partners	NVRC; MD-NCPPC; WERF, NACWA, AwwaRF; local water and wastewater authorities and organizations

Activity Description

This program area provides technical support and analysis of a wide range of new and evolving issues that relate to COG's core wastewater, stormwater and water resource activities, but which often have indirect or broader and even multi-media implications for COG's members. As needed, specialized workshops will be organized to share this information (see II. C).

Growth & Sustainability - COG staff will continue to evaluate the CBP's '2030 Land Use Change' modeling efforts and the states' WIP assumptions to assess the validity of data inputs, projection methodologies, and assumptions, to ensure that projections are reasonable valid, and whether the resultant nutrient/ sediment loads generated for the COG region are reliable for assessing water quality impacts. This effort will also continue to assess the validity of assessing such loads at a local level and linking this information to local land use decisions. The goal of this work effort is to assess the technical veracity of the modeling and the potential policy implications of using the model to assess local impacts. This work will be done in conjunction with local partners and COG's Planning Directors and their staff. In addition, environmental indicators - specifically water quality related metrics (e.g., assessing wastewater capacity, local implementation to meet Chesapeake Bay Program goals, impervious surface measures, preserving agriculture, and supporting green infrastructure, etc.) will be prepared and updated as part of the COG Greater Washington 2050 (GW2050) assessments.

Infrastructure - COG staff will continue to identify funding opportunities, quantify regional funding needs and projects - in order to support CBPC and/or COG Board efforts to support/seek funding for the COG region's drinking water, wastewater, and stormwater infrastructure needs. As appropriate, this information will also be used to update COG's Infrastructure Web site and develop regional Fact Sheets; and will be coordinated with COG's Community Engagement Campaign efforts (ref. I. D).

Emerging Issues - COG staff will continue to evaluate local, state and federal initiatives related to growth, sustainability, Climate Change, and Emerging Contaminants issues, and to work with local officials and organizations to identify potential issues, impacts and options for addressing these topics.

Outcomes and Major Products

- Preparation of GW2050 Water Quality-Related Indicators (Summer/Fall 2010)
- Presentations to WRTC on CBP WSM 2030 Assumptions & State WIP Land Use Assessments (Summer/Fall - tentative)
- Updates to Infrastructure Web site & Fact Sheets regarding Water Resource Projects (Ongoing)
- Analysis & Presentations to COG's WRTC, CBPC, and CEE Policy Committee regarding all Water Resources Issues (Bi-Monthly or as required)

Budget

Regional WF	Regional EF	COG Local	Grants	Total
\$40,000	\$0	\$0	\$0	\$40,000

FY 2011 Water Resources Work Program and Budget

Program Area	II. Chesapeake Bay and Water Resources Technical Analysis and Application of Technical Tools
Activity	E. Workshops and Seminars
Committee Oversight	Water Resources Technical Committee
Staffing	Lead: Tanya Spano Staff Resources: New Staff Engineer, Lana Sindler, Heidi Bonnaffon, Karl Berger, Steve Bieber, Ted Graham
Partners	WEF, WERF, AWWA, WRF, NVRC, ICPRB, CBP, COG wastewater/stormwater/drinking water organizations and utilities

Activity Description

The technical workshops and seminars proposed for FY 2011 are anticipated to include:

- Potomac Water Quality - Futures Forum (explore wide spectrum of issues: Bay TMDL and WIP implementation, local impairments, emerging contaminants concerns, drinking water issues, Climate Change impacts, growth implications, infrastructure needs, expanded stormwater requirements, etc.). *It will also address policy issues such as adaptive management (see III. A. Potomac Monitoring Program).*

As priorities develop, and if additional funds/grants become available, additional workshops may also be considered - including, but not limited to:

- Climate Change and Stormwater/Drinking Water Implications' (workshop to assess the potential supply needs, water quality, and runoff impacts associated with potential changes in precipitation patterns)
- Stormwater Workshops (to address monitoring, programmatic, regulatory issues, etc.)
- Infrastructure Workshop - Assess the regional funding needs, and implications.

Collaborative efforts, co-sponsoring, and grant funding to supplement these efforts will also be sought in order to leverage COG's RWF monies. These efforts, in particular those associated with growth, climate change, and EDCs will also be coordinated with other COG environmental staff, committees, and stakeholders. This activity is to provide an in-depth discussion of critical and complex issues. By providing a forum for outside speakers and presentations, this approach also supports COG's members' efforts to increase the dialogue with state regulators and other interested parties on these issues. This approach builds on several highly successful workshops on wastewater and EDC issues, drinking water and risk communication, and stormwater workshops.

Outcomes and Major Products

- Climate Change - Wastewater Workshop (Summer-Fall 2010)
- Potomac Water Quality Futures Forum (Spring 2011)
- Workshops & Forums—General (for each event/as needed)
 - Presentation and background material
 - Summary documents
 - Feedback/evaluation process
 - Policy and technical recommendations as appropriate
- Memorandum to CBPC, CEEPC, and COG Board on policy implications of Climate Change on water quality, wastewater, drinking water, stormwater programs (as required)

Budget

Regional WF	Regional EF	COG Local	Grants	Total
\$60,000	\$0	\$0	\$25,000	\$85,000



COG FY 2011 Water Resources Work Program and Budget

III: Water Quality Monitoring

COG has served as the water quality monitoring coordinator and regional repository for water quality and wastewater data in the Washington metropolitan region for more than three decades. COG now serves as the repository for physical/chemical water quality data, hydro-meteorological data, and wastewater loadings for the COG region, as produced by federal, state, and local government agencies. Data exists for 99 stations on the mainstem of the Potomac River and the mouths of its tributaries (Point of Rocks to Point Lookout), and 46 stations in the Anacostia watershed. More than 33 wastewater treatment plants also send their monthly discharge monitoring reports (DMRs) and monthly operating reports to COG. COG supplements this data with flow gage data from the USGS and meteorological data from the National Weather Service.

There are two main elements under the Water Quality Monitoring Program:

- The Regional Monitoring Program; and**
- The Chain Bridge Monitoring Program.**

The regional monitoring program is a component of the larger Chesapeake Bay Monitoring Program, which measures key components of the ecosystem, including pollutant inputs, water quality, habitat and living resources. The monitoring information collected by these programs is vital for evaluating the progress of management actions aimed at restoring the Potomac River and Chesapeake Bay, for determining attainment of water quality criteria and to providing guidance for future management actions. Monitoring data is also used for research and efforts to model the Potomac and Bay ecosystems.

While always important, having reliable monitoring data has taken on a greater importance as new water quality criteria and standards have been adopted by the Bay states and the District of Columbia. Monitoring will be instrumental in determining whether or not attainment of water quality standards has been achieved and to provide input into the Potomac River Water Quality Model, the Chesapeake Bay Program's Water Quality and Sediment Transport Model, and the Chesapeake Bay Program's Watershed Model. Management scenarios from these modeling tools will have major implications for additional water pollution prevention and control requirements, and monitoring data will be a key to making sure those modeling estimates are realistic.

In FY'2011, work on a comprehensive Potomac Water Quality Report will be completed using data from the regional monitoring program and other available data sources. The report will provide details about water quality conditions in the Potomac River, how those conditions have changed over time, and future challenges as we move into the next chapter of the Potomac's history. Data from regional monitoring programs will also be used to develop environmental indicators as part of the Greater Washington 2050 initiative. Another key element of this program is the ready availability of and access to water quality data by COG members. Also, members of

FY 2011 Water Resources Work Program and Budget

Program Area	III. Water Quality Monitoring
Activity	A. Regional Monitoring Program
Committee Oversight	Water Resources Technical Committee and Regional Monitoring Subcommittee
Staffing	Lead: Steve Bieber Staff Resources: Christine Howard; Mukhtar Ibrahim

Activity Description

COG will continue to collect, manage and analyze water quality monitoring and wastewater data for the Potomac and Anacostia Rivers from various sources in our region—local and state governments as well as a number of federal agencies (EPA, USGS, and others). As part ongoing efforts to support the peer network of monitoring agencies, COG will continue to coordinate meetings with the Regional Monitoring subcommittee, - a group designed to meet at least twice a year to discuss relevant monitoring efforts in our region.— and provide comments and recommendations to the WRTC. In FY2011 COG staff will also work with member jurisdictions to:

- Inventory ongoing watershed efforts and make a directory available on the COG web site so all interested parties can leverage from other programs and optimize what is already being done.
- Review historical data to identify trends and examine underlying causes.

Identify successful monitoring approaches from watersheds from the COG region and elsewhere, and promote their application in the Potomac and Chesapeake Bay.

In addition, COG stall will examine whether other long-term monitoring programs need to be established to develop baseline assessments for the Potomac TMDL programs being developed by Virginia, Maryland and the District of Columbia. COG will continue working with other agencies to improve data sharing and reporting.

Outcomes and Major Products

- Continue to inventory ongoing watershed efforts and make a directory available on the COG web site.
- Provide briefing for the WRTC and CBPC on Potomac River Water Quality Report (4th Quarter)
- Update COG's Water Quality Procedure Guide to reflect the most recent method of data collection and water quality sampling methods.
- Convene meetings of the Regional Monitoring Committee (at least twice a year)
- Reporting to WRTC in areas of need for regional monitoring, focusing on long-term Chain Bridge monitoring and other potential programs.
- Identify successful monitoring approaches from watersheds from the COG region and elsewhere, and promote their application in the Potomac and Chesapeake Bay.

Budget

Regional WF	Regional EF	COG Local	Grants	Total
\$159,000	\$0	\$0	\$0	\$159,000

FY 2011 Water Resources Work Program and Budget

Program Area	III. Water Quality Monitoring
Activity	B. Chain Bridge and Little Falls Monitoring
Committee Oversight	Water Resources Technical Committee and Regional Monitoring Subcommittee
Staffing	Lead: Steve Bieber Staff Resources: Christine Howard; Mukhtar Ibrahim Cooperators: Virginia Tech's Occoquan Watershed Monitoring Laboratory; USGS MD-DE-DC Water Science Center; U.S. Army Corps of Engineers.

Activity Description

This project continues to maintain the single most important Potomac estuary pollution monitoring station (at Chain Bridge). It involves operation of an automated storm monitoring and grab sampling system for conventional pollutants and nutrients at the Chain Bridge monitoring station on the Potomac River. Data collected by this project are used to measure and estimate pollutant loads entering the Potomac estuary, calculate trends, and calibrate the Chesapeake Bay Program's Watershed Model. It also provides an important "reality check" on modeled load estimates that are critical to the Chesapeake Bay Program's load allocation process. The monitoring program is subject to modification as necessary to supplement regional monitoring needs for regulatory and cooperative programs.

This project also covers the local share of the USGS gage at Little Falls, which is a cooperative project between COG and the U.S. Geological Survey. Access to the gage site is provided by the Baltimore District, U.S. Army Corps of Engineers. Water temperature and specific conductance monitoring are also supported by the U.S. Army Corps of Engineers.

Outcomes and Major Products

- Operation of Chain Bridge Monitor (Year-round)
- Cost share funding for the USGS stream gage at Little Falls.
- Final technical memo on prior year data and loads (4th Quarter)
- Presentations to technical committees as requested.
- Potomac River Water Quality Report analyzing fall line data and loadings, including presentation to the Water Resources Technical Committee and the Regional Monitoring Committee. (4th Quarter)

Budget

Regional WF	Regional EF	COG Local	Grants	Total
\$137,800	\$0	\$0	\$0	\$137,800

COG FY 2011 Water Resources Work Program and Budget

IV: Urban Watershed Protection and Management

The Urban Watershed Management program area addresses several elements important to the protection and management of local watersheds. There are three distinct activities in this program area:

Urban Stormwater & Site Design - Urban stormwater is becoming increasingly important regionally as the Bay TMDL proceeds and with the results to be reflected in our members' stormwater permits. Both structural pollution prevention solutions are included in this program area.

GIS Applications, Watershed Stream Ecology and Forestry - COG staff has particular expertise in stream assessment, urban forestry and development of GIS applications in support of watershed protection. This activity area, leveraging grants as needed, couples these into a capability of direct support to our members.

Green Infrastructure - COG leveraged an earlier "Green Infrastructure" grant into an ongoing capability that supports planning for green infrastructure in the region and support to regional agricultural activities.

Funding - The funding for watershed protection and management activities is a combination of local membership funds, Regional Environmental Funds, and external grants. The Regional Environmental Fund is a key component of this funding, with a focus on the stormwater management interests of the Water Resources Technical Committee including technical exchange through timely workshops. A portion of the funds is intended to support member-endorsed activities and attract external funding contributions.

FY 2011 Water Resources Work Program and Budget

Program Area	IV. Urban Watershed Management
Activity	A. Urban Stormwater and Site Design
Committee Oversight	Water Resources Technical Committee
Staffing	Lead: Ted Graham Staff Resources: Steve Bieber; Karl Berger; Heidi Bonnaffon

Activity Description

This activity is designed to promote technical information exchange and to provide support for COG members in the area of urban stormwater management and environmentally responsible lawn and landscaping practices. It focuses on the implications of urban stormwater pollution to the region's water quality. COG staff will continue to pursue grant opportunities that promote COG member urban stormwater, environmentally responsible lawn and landscaping practices, and environmentally sensitive site design (ESSD) objectives and initiatives. And identify opportunities to partner with members on increasing the awareness of the general public concerning the benefits and practices of responsible lawn care and landscaping including the appropriate use of chemical inputs, water, and plant species.

Outcomes and Major Products

- Individual meetings with COG jurisdictional members to educate and encourage the adoption of healthy lawn care principles and practices.
- Organize and host a workshop on "Site-based Rain Harvesting and Zero-discharge Site Design "
- Development of one or more local/regional demonstration projects, working in collaboration with private business and university researchers.
- Presentation(s) to the Water Resources Technical Committee, Chesapeake Bay Policy Committee and Bay Program committees as appropriate (bi-monthly/as needed)
- Grant project deliverables (as specified in grants)

Budget

Regional WF	Regional EF	COG Local	Other	Total
\$0	\$20,000	\$20,000	\$120,000	\$160,000

FY 2011 Water Resources Work Program and Budget

Program Area	IV. Urban Watershed Management
Activity	B. Watershed Stream Ecology, GIS Applications, and Forestry
Committee Oversight	Water Resources Technical Committee, Community Forestry Network
Staffing	Lead: John Galli Staff Resources: Phong Trieu; Brian LeCouteur; Aubin Maynard; Wood Hudson

Activity Description

This work element provides for limited direct staff support and opportunities to leverage grant support covering watershed monitoring studies, assessment of physical, chemical and biological conditions of local streams, riparian forest buffer and watershed evaluations using various environmental indicators, remote sensing and GIS applications, evaluation of the performance of various urban stormwater Best Management Practices and/or other watershed water quality enhancement-related projects and initiatives. COG staff will continue to pursue grant opportunities which promote and/or enhance COG member watershed & forest protection, restoration and management objectives and initiatives. Based upon such grant support, COG staff will continue to provide stream restoration, fish passage, stormwater management, wetland creation and riparian habitat restoration design and technical, GIS-related watershed evaluation expertise and guidance to COG members.

Activities supported in this work element, (some with grant support), include staff support to the Community Forestry Network (CFN); amend and update the green infrastructure database for the Washington Metropolitan Area; and several stream and riparian buffer assessment studies.

Outcomes and Major Products

- Prince George's County - Upper and Lower Beaverdam Creek Benthic Assessment Study (4th quarter)
- COG Region Biological Indicators Database Development (2nd quarter)
- Northwest and Northeast Branch- Larval Herring Reintroduction, (4th quarter)
- District of Columbia- Watts Branch Benthic Stream Assessment Study (3rd quarter)
- Urban Tree Canopy Goal Development
- District of Columbia Waste Wood Facility Analysis (Urban Timber Utilization)
- Support for CFN (three meetings, total)
- Other potential grant supported project deliverables (TBD)

Budget

Regional WF	Regional EF	COG Local	Other	Total
\$0	\$45,250	\$29,200	\$50,000	\$124,450

FY 2011 Water Resources Work Program and Budget

Program Area	IV. Urban Watershed Management
Activity	C. Planning for Green Infrastructure and Sustainable Agriculture; Related Database Management
Committee Oversight	Water Resources Technical Committee, Chesapeake Bay Policy Committee, and Regional Agriculture Workgroup
Staffing	Lead: John Galli Staff Resources: Phong Trieu; Brian LeCouteur; Aubin Maynard; Wood Hudson

Activity Description

This work element provides for direct staff support and opportunities to leverage grant support covering green infrastructure projects for the Metropolitan region. This will include project areas such as maintaining current land cover mapping databases using remote sensing and GIS applications as well as supporting ongoing regional Green Infrastructure initiatives. This element is also designed to support ongoing work for the Regional Agricultural Initiative including marketing of local agriculture, mapping agricultural lands, further analysis of farm markets and support of the Regional Agricultural Workgroup (RAW) to explore opportunities that support agricultural-related activities. COG staff will continue to pursue grant and partnership opportunities which promote and/or enhance COG member green infrastructure and agricultural programs and initiatives for the protection and enhancement of green space for agriculture, recreation, wildlife habitat, and watershed protection. Based upon such grant support, COG staff will continue to provide expertise and guidance to COG members.

Activities supported in this work element, include pursuit of grant matching funds, staff support for the Regional Agricultural Workgroup and the www.nationalcapitalfarms.org web site, assisting COG membership on Green Infrastructure and Agriculture programs, as well as maintenance and expansion of the green infrastructure database for the Washington

Outcomes and Major Products

- Regional Green Infrastructure Database Update (Fall - Winter 2010)
- Support for the Regional Agricultural Workgroup (4 Workgroup meetings per annum) (Summer 2010 - Spring 2011)
- Regional Agricultural Charette (Spring 2011)
- Regional Urban Timber Recovery Initiative (Fall-Winter 2010)
- Regional Agriculture Marketing Initiative (Fall-Winter 2010)
- Other potential grant supported project deliverables (TBD)

Budget

Regional WF	Regional EF	COG Local	Other	Total
\$0	\$0	\$58,100	\$100,000	\$158,100