



Metropolitan Washington
Council of Governments

*Protecting the Potomac River, Local Tributaries and the
Chesapeake Bay for Public Health and Environmental Quality*

Metropolitan Washington Council of Governments

Department of Environmental Programs

FY 2010

Water Resources Work Program and Budget

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FY 2010 Water Resources Work Program and Budget

Overview

Purpose - For more than 20 years, COG's Water Resources (WR) program has focused on conserving, protecting and restoring the region's water resources while providing COG's members access to emerging policies, technology and regional water resources information. To these ends, COG:

- Provides a forum for consensus-building and decision-making;
- Implements intergovernmental policies, plans and programs; and
- Supports the region as an expert information resource.

A key aspect of COG's WR Program is the ability to project local values, perspectives and voice to help shape water resources policies and programs being developed by federal and state agencies. This is fundamental to the region's ability to assess the value of investments to protect water quality.

Focal Points for FY 2010 - The FY 2010 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 development of the "Bay TMDL" and the resulting nutrient and sediment load allocations;

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; and

The impacts of climate change on the region's water resources.

The Bay TMDL and the new nutrient and sediment load allocations will dominate much of the regional water quality activities. Since the water quality targets set in the Chesapeake 2000 agreement will not be met by 2010, development of a Bay TMDL has begun. Accordingly, a much more regulatory Bay Program, coupled with interim implementation milestones, is rapidly emerging. Pending programs and policies are likely to affect local wastewater, stormwater and possibly land use programs in unprecedented ways. COG's continued participation on all fronts is designed to ensure that a local perspective will help shape new programs and policies being developed at the federal and state levels.

Among specific actions proposed for FY 2010 are:

Completion of a **Potomac River Water Quality report** reflecting the multi-year data collected at Chain Bridge to promote awareness of conditions in the Potomac River and to help frame policy recommendations;

Conducting targeted **workshops and work sessions** addressing programs and policies that are likely to affect local wastewater, stormwater and land use programs, including assessing the potential implications of climate change;

FY 2010 Water Resources Work Program and Budget

Overview

Conducting a **legislative tracking and advocacy program** designed to anticipate federal and state legislative initiatives critical to regional water quality and to take advantage of funding opportunities; and
Preparation of specific products and workshops to promote **green infrastructure and sustainable agriculture** in the region.

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 supporting regional 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 immediately follows this Overview. This, in turn, is followed by individual Activity descriptions.

COG FY 2010 Water Resources Work Program and Budget

Budget Summary

Program Area	[1]IRWF	[2]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 and Member Support	\$56,411	\$0	\$24,550	\$0	\$80,961
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	\$135,500	\$175,500
E. Work Program and Budget Development	\$50,000	\$0	\$24,550	\$0	\$74,550
Subtotals	\$431,411	\$0	\$49,100	\$135,500	\$616,011
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 of the Chesapeake Bay Water Quality and Watershed Models and Other Load Models	\$90,000	\$0	\$0	\$0	\$90,000
C. Development and Application of the Regional Wastewater Flow Forecast Model	\$50,000	\$0	\$0	\$0	\$50,000
D. Growth, Sustainability, Infrastructure, and Climate Change	\$40,000	\$0	\$0	\$0	\$40,000
E. Technical 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	\$133,500	\$0	\$0	\$0	\$133,500
Subtotals	\$292,500	\$0	\$0	\$0	\$292,500
IV. Urban Watershed 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	\$430,500	\$1,911,061

[1] Regional Water Fund

[2] Regional Environmental Fund

I. Policy and Program Development — FY 2010

COG FY 2010 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 2010 will be on the increasingly regulatory Bay Program.

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.

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

FY 2010 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
Committee Oversight	Chesapeake Bay and Water Resources Policy Committee; COG Board of Directors
Staffing	Lead: Karl Berger Staff Resources: Stuart Freudberg, Ted Graham, Tanya Spano, Steve Bieber

Activity Description

The Chesapeake Bay and Water Resources Policy Committee (CBPC) established several priorities for action in 2009-2010. These include coordination of: a regional response to the Bay Program's development of the Bay TMDL; 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; and development of a strategy for how stormwater management fits into the Bay restoration effort. The CBPC also has assumed the task of coordinating policy in response to the issue of plastic bag trash in waterways.

Within these broad areas, the committee will continue its role as policy advisor to the COG Board, receiving input from the Water Resources Technical Committee (WRTC) and providing policy recommendations to the Board. The committee also will work with other COG efforts, such as Greater Washington 2050 and the newly formed Climate, Energy and Environment Policy Committee (CEEPC), to integrate water quality planning with other regional policy initiatives.

In addition to directly staffing the committee, COG staff supports the CBPC work through participation on numerous Bay Program committees, where it represents member interests and obviates the need for direct COG member participation. This policy level coverage includes the Bay Program's Water Quality Steering Committee responsible for TMDL development, the Executive Council, the Principals' Staff Com-

Outcomes and Major Products

- Regional plastic bag policy and data report (1st Quarter)
- Reports on state and federal legislative priorities for the region (1st half of year)
- Presentations to COG Board (as appropriate)
- Letters and other communication to the Bay Program partners (as appropriate)
- Regional policy on nutrient and sediment reduction allocations and two-year milestones (1st half of year)
- Regional policy on how local stormwater management programs fit into Bay restoration efforts (2nd half of year)

Budget

Regional WF	Regional EF	COG Local	Grant; Other	Total
\$205,000	\$0	\$0	\$0	\$205,000

FY 2010 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.

A new task this year will be coordination with COG's CEEPC, including participation in an annual joint meeting (probably in the fall of 2009) with MWAQC, and the CEEPC.

Outcomes and Major Products

- Report on the use of stimulus funding
- Convening the first annual joint meeting with the new Climate, Energy and Environment Committee and MWAQC (Fall 2009)
- Response to requests (as requested)
- Federal and state legislative and regulatory summaries (as requested)
- 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)

Budget

Regional WF	Regional EF	COG Local	Grant; Other	Total
\$56,411	\$0	\$24,550	\$0	\$80,961

FY 2010 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: Jim Shell Staff Resources: Christine Howard; Water Resources Intern; Steve Bieber; Stuart Freudberg

Activity Description

Provide continued technical, policy, and staff support to COG's Drought Coordination Committee and Water Security Work Group. Under these groups provide support for monitoring, assessment, and in implementing a water supply work program addressing regional water supply and drought management issues. Also included would be continued coordination and oversight for regional water security and water system reliability; continued monitoring of regional water supply quality and conditions; preparation of monthly drought outlook and conditions reports; response to media requests; briefings to the COG Board; CAO's, EPC, WSWG, WRTC; support and coordination of the Drought Technical Committee and Communication Work Group/Community Engagement Network; maintenance of the COG water supply web page; and participation and coordination in drought and water security emergency exercises.

Outcomes and Major Products

- Management and coordination of Water Security Work Group meetings and Drought Coordination Committee (2009-2010)
- Stand-up and management 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)
- Tracking and analysis of NVRC 2040 and Washington Region Demand and Flow Forecast studies (continuing 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
- Plan and conduct a regional Water Supply Emergency Plan Exercise (Fall/Winter 2010)
- Implementation of a one day regional table top exercise (Fall/Winter 2010)
- Participation in Critical Infrastructure Protection Interdependency Exercise (Fall 2009)
- Coordinate with DHS Critical Infrastructure Regional Programmatic Work Group activities and efforts.

Budget

Regional WF	Regional EF	COG Local	Grant; Other	Total
\$80,000	\$0	\$0	\$0	\$80,000
**Additional program funds are provided annually through the regional Urban Area Security Initiative (UASI) grants.				

FY 2010 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	Water Supply Task Force; Communication Work Group
Staffing	Lead: Jim Shell Staff Resources: Christine Howard; Water Resources Intern

Activity Description

Develop and 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 in order to 1) increase awareness and affect behavioral and attitudinal changes toward area water resources, water/wastewater treatment, distributors and suppliers, and engender understanding and support for water and wastewater utility programs and efforts designed to provide the safest and most reliable quality drinking water and wastewater treatment; 2) provides support for educational outreach programs at area public schools to enhance the understanding of regional water resource, water resource protection, wise water use, water and wastewater treatment needs, processes and costs, the need and importance of reliable infrastructure; 3) continue efforts to develop public/private partnerships to help support and strengthen Campaign efforts and programs; 4) use and implementation of promotional outreach events to increase public awareness and effect attitudinal and behavioral changes toward critical water resource issues; 5) continued design and maintenance of a COG Community Engagement Campaign website to provides a wide range of information on regional water resource issues; 6) development and use of Web 2.0 tools (YouTube, podcast, etc.) to promote understanding and support of Community Engagement Campaign messages to a large segments of the public; and 7) maximize impact and create positive change use existing outreach tools and informational materials.

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 would include:

- Implementation of Water Resource public education awareness programs in local elementary schools (Winter-Spring 2010);
- Development of public/private campaign partnerships for ongoing and future Community Engagement Campaign efforts (year around);
- Maintaining a COG Community Engagement Campaign website (year around);
- Community Engagement Campaign promotional outreach events Summer/Fall 2010);
- Development and use of Web 2.0 tools to reach and engage large numbers of individuals (year around);
- Use of transit, radio, and theater PSA's (focus on Summer/Fall 2010);
- Use of available audio, video, and other materials from national organizations as well as local utilities and local, state, and federal, government (year around);
- Establishment of watershed, federal/state collaborative to garner information and support of Campaign objectives (year around).

Budget

Regional WF	Regional EF	COG Local	Grant: Other	Total
\$40,000	\$0	\$0	\$135,500	\$175,500

FY 2010 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; Jim Shell; Karl Berger; Steve Bieber; John Galli

Activity Description

This task funds management and administrative activities in support of the FY 2010 work program and covers the preparation of the FY 2011 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 2010)
- Preliminary FY 2011 budget (March 2010)
- Proposed FY 2011 final WP&B (May 2010)
- Final FY 2011 WP&B (June 2010)
- Grant Proposals (Ongoing)
- Employee performance appraisals (July - September, 2009)

Budget

Regional WF	Regional EF	COG Local	Grant; Other	Total
\$50,000	\$0	\$24,500	\$0	\$74,500

II. Development and Application of Technical Tools and Outreach

COG FY 2010 Water Resources Work Program and Budget

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

COG's effectiveness in helping to shape and implement regional WR programs and policies depends in large measure on access to and participation in the use of a variety of technical modeling tools. 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 Bay TMDL and resultant load allocations are reviewed and discussed.

Analysis 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 TMDL, load allocations and Tributary Strategies. COG staff directly participates in the development and application of these models.

Development and Application of the Regional Wastewater Flow Forecast Model - The COG-developed Regional Wastewater Flow Forecast Model will be an important tool in assessing the growth implications for wastewater loads and as an aid in assessing how the region can maintain its load cap obligations.

Growth, Sustainability, Infrastructure and Climate Change - This activity covers a variety of emerging "sustainability" issues, including the implications of growth; addressing our members' needs regarding aging infrastructure; and climate change.

Technical 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 2010; more if funding materi-

FY 2010 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: Tomlyne Malcolm, Wastewater Intern 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)

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 regulations, policies and other initiatives that affect or may affect COG members in the following core program areas: wastewater, stormwater, drinking water, biosolids and related water quality and water resource programs. The WRTC may also provide technical input to other COG Committees as required to address multi-media issues such as Climate Change, as well as growth and public health issues. The technical support required to address specific water quality issues is outlined under other FY 2010 project write-ups. This project element supports COG staff's work with the WRTC to:

- Synthesize data and conduct analysis, and assess the cumulative impact of these initiatives;
- Define the key technical issues and identify potential impact to the COG region and it's members;
- Make presentations, prepare technical summaries, and prepare and submit technical comments on behalf of the WRTC; and
- Develop policy recommendations from the WRTC to the CBPC and ultimately the COG Board.

Key topics that the WRTC expects to address in FY 2010 will include assessments of:

- CBP updates to its models, revisions to the nutrient/sediment load cap reallocation of existing tributary and source loads, and development of the Bay TMDL;
- State Tributary Strategy and/or TMDL implementation plans and development of local jurisdictional loads;
- Permit and regulatory implications of the Bay TMDL and load caps;
- Funding needs for point source, non-point source and agricultural sectors; and
- Climate Change initiatives and providing analysis/technical input to COG's new Climate, Energy, & Environment Policy Committee (CEEPC) regarding all water resource/water quality related.

In addition to coordination and integration of these many issues, emphasis will be given to specific wastewater and stormwater topics through special technical work sessions. This will include efforts to integrate water quality issues with other COG Departments' programs/activities/committees to expand stakeholder input. Related technical work/work shops to address new/evolving, yet related topics that are not part of the core Water Resource program areas are generally addressed under II. D. and E.

Outcomes and Major Products

- Meetings of the WRTC (Bi-monthly), and 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, and policy recommendations to the WRTC, and to the CBPC on behalf of the WRTC (Bi-monthly)
- Priority recommendations for COG's FY 2011 Regional Water Work Program & Budget (spring 2010)

Budget

Regional WF	Regional EF	COG Local	Grant; Other	Total
\$295,000	\$0	\$0	\$0	\$295,000

FY 2010 Water Resources Work Program and Budget

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

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 2010 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 research test bed for applying a web based version of the CBP watershed model, at the local scale.

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; and c) identify management implications for pollutant loadings for various sectors (e.g., wastewater, urban stormwater, air deposition, etc.). This will also provide for briefings and worksessions with the WRTC and CBPC related to the regional implications of the upgrade and application of the Bay Program's Phase 5 WSM and the WQSTM.

Outcomes and Major Products

- Advocate on behalf of the COG membership to insure proactive and direct involvement in the development and application of the CBP's modeling tools used to guide regulatory decisions for our region, the Potomac River and the Chesapeake Bay.
- Participate as a member of the CBP Modeling Subcommittee and provide input to the CBP Model Development Team, making sure that the most appropriate technical assumptions and data have been utilized.
- Test assumptions of the Phase 5 Watershed Model using local data from the COG region.
- Prepare a technical assessment and memorandum on Bay model results for the Potomac.
- Reconvene COG's Watershed Model Workgroup to review urban load allocations using Phase 5.2 results.
- Present updates to the WRTC regarding the status of the Phase 5 WSM, the Bay Program's WQSTM, and application of the COAST/Vortex tool (Quarterly).

Budget

Regional WF	Regional EF	COG Local	Grant; Other	Total
\$90,000	\$0	\$0	\$0	\$90,000

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Program Area	II. Chesapeake Bay and Water Resources Technical Analysis and Application of Technical Tools
Activity	C. Development and Application of the Regional Wastewater Flow Forecast Model
Committee Oversight	Water Resources Technical Committee
Staffing	Lead: Tanya Spano Staff Resources: Tomlyne Malcolm, Wastewater Intern, Mukhtar Ibrahim; Lana Sindler

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 and septic area boundaries;
- Develop accurate baseline year flow figures for areas outside of the Blue Plains Service Area; and
- Update the wastewater flow factors if required.

COG staff will then utilize the latest demographic figures from COG's approved Cooperative Forecast (Round 7.2) 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.

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 Tributary Strategies and CBP's 2010/2030 projection assumptions and alternative growth scenarios; as well as continuing to provide input to COG's Greater Washington 2050 initiative.

Outcomes and Major Products

- Preliminary regional wastewater flow projections (based on approved Round 7.2 Cooperative Forecasts) (1st Quarter)
- Analysis of projected population trends, wastewater flow figures, and related nutrient loads (1st Quarter)
- Updated RWFFM (incorporating updated demographic data, revised wastewater flow factors & hydraulic base flows for COG region) (4th Quarter)

Budget

Regional WF	Regional EF	COG Local	Grant; Other	Total
\$50,000	\$0	\$0	\$0	\$50,000

FY 2010 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 Climate Change
Committee Oversight	Water Resources Technical Committee
Staffing	Lead: Tanya Spano Staff Resources: Tomlyne Malcolm, 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.

Growth - COG staff will continue to evaluate the CBP's '2030 Land Use Change' modeling efforts to assess the validity of the data inputs and projection methodologies, 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.

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. This effort will also evaluate EPA's *Clean Watersheds Needs Survey* to quantify regional infrastructure funding needs, as well as to consider whether to recommend that the CBPC consider regional support for a national Clean Water Trust Fund.

Growth, Sustainability & Climate Change - COG staff will continue to evaluate local, state and federal initiatives related to growth, sustainability and Climate Change issues, and to work with local officials and organizations to identify potential issues, impacts and options for addressing these issues. As needed specialized workshops will be organized to share this information (see II. C.). In addition, environmental indicators - specifically water quality related metrics, will be developed for potential inclusion in COG Greater Washington 2050 (GW2050) scenarios.

Outcomes and Major Products

- GW2050 Indicators (Summer/Fall 2009)
- CBP 2030 Land Use Projection Assessment (Fall - tentative)
- Infrastructure Web site & Fact Sheets regarding Water Resource Projects (Ongoing)
- Analysis & Presentations to COG's WRTC, CBPC, and CEE Policy Committee regarding Water Resources Issues (Ongoing)

Budget

Regional WF	Regional EF	COG Local	Grant; Other	Total
\$40,000	\$0	\$0	\$0	\$40,000

FY 2010 Water Resources Work Program and Budget

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

Activity Description

The technical workshops and seminars proposed for FY 2010 are anticipated to include:

- *'Climate Change/Sustainability - Impacts and Options for Wastewater Plants'* - in collaboration with WEF/WERF, DC-WASA, and COG's other wastewater utilities to highlight potential local impacts of Climate Change and local mitigation and adaptation efforts that can be utilized locally) - Summer/Fall 2009
- *Potomac Water Quality* - Futures Forum (explore wide spectrum of issues: Bay TMDL, local impairments, EDC concerns, drinking water issues, Climate Change impacts, growth implications, expanded stormwater requirements). *It will also address policy issues such as adaptive management (see III. A. Potomac Monitoring Program).* -- Winter 2010

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.)

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 2009)
- Potomac Water Quality Futures Forum (Winter 2010)
- Presentation and background material (for each event)
- Summary documents (after each event)
- Feedback/evaluation process (for each event)
- Policy and technical recommendations as appropriate (as needed)
- Memorandum to CBPC, CEEPC, and COG Board on policy implications of Climate Change on water quality, wastewater, drinking water, stormwater programs

Budget

Regional WF	Regional EF	COG Local	Grant; Other	Total
\$60,000	\$0	\$0	\$25,000	\$85,000



III. Water Quality Monitoring — FY 2010

COG FY 2010 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 two 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 Phase 5.2 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'2010, 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.

FY 2010 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 storing and managing the region's water quality monitoring data in a central, readily accessible database encompassing the region's water quality and wastewater information for the Potomac and Anacostia Rivers. This item also covers support to the Regional Monitoring subcommittee, support for COG staff to respond to information requests by members, and support for COG staff to participate in regional monitoring efforts, such as specialized efforts by USGS, EPA, and others.

Building on the outcomes of COG's first ever Potomac Monitoring Forum, which was held on March 10 & 11, 2008, COG staff will continue working with COG's member jurisdictions and Forum participants to:

- Inventory ongoing monitoring 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.

COG staff will also participate on Chesapeake Bay Program "Issue Teams" that will be developing detailed plans for rebalancing of CBP monitoring resources that would begin to be implemented in January 2010 (full transition to the new alignment may take 1-2 years). The target for shifting monitoring resources from tidal to watershed programs will be roughly \$1 million. Participation in this effort will enhance the active role of the region in the development of effective monitoring programs for the Potomac River and the Chesapeake Bay. In addition, COG staff 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.

Lastly, COG staff will continue working with local utilities and national agencies (e.g., EPA, USGS, USDA) to track and coordinate water quality monitoring initiatives related to "emerging contaminants - very low concentrations of organic compounds (e.g., pesticides, solvents, gasoline hydrocarbons), pharmaceuticals, personal-care and domestic-use products being found in waters throughout the country, including the Potomac River..

Outcomes and Major Products

- Continue to maintain and update physical/chemical water quality data, hydro-meteorological data, and wastewater loadings for the COG region.
- Continue to inventory ongoing watershed efforts and make regional water quality monitoring information readily available on the COG web site.
- Review historical data to identify trends and examine underlying causes. Complete a 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)
- Participate on Chesapeake Bay Program "Issue Teams" that will be developing detailed plans for rebalancing of CBP monitoring resources (completion by January 2010).
- Work with local utilities and national agencies (e.g., EPA, USGS, USDA) to track and coordinate water quality monitoring initiatives related to emerging contaminants.

Budget

Regional WF	Regional EF	COG Local	Grant; Other	Total
\$159,000	\$0	\$0	\$0	\$159,000

FY 2010 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	Grant; Other	Total
\$133,500	\$0	\$0	\$0	\$133,500

COG FY 2010 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 2010 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 Bonaffon

Activity Description

Promote technical information exchange and provide support for COG members in the area of urban stormwater management and environmentally responsible lawn and landscaping practices. Provide focus regarding the implications of urban stormwater pollution to the region's water quality. 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. 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 "Green Roads and Highways"
- 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	Grant; Other	Total
\$0	\$20,000	\$20,000	\$120,000	\$160,000

FY 2010 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	Grant; Other	Total
\$0	\$45,200	\$29,200	\$50,000	\$124,450

FY 2010 Water Resources Work Program and Budget

Program Area	IV. Urban Watershed Management
Activity	<i>C. Planning for Green Infrastructure and Sustainable Agriculture; Related Database Management</i>
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 and the National Park Service are currently pursuing joint funding opportunities through their ongoing cooperative agreement. COG staff will continue to pursue other grant 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 Metropolitan area.

Outcomes and Major Products

- Regional Green Infrastructure Database Update (Fall - Winter 2009/10)
- Support for the Regional Agricultural Workgroup (4 Workgroup meetings per annum) (Summer 2009 - Spring 2010)
- Regional Agricultural Workshop (Fall-Winter 2009/10)
- Regional Urban Timber Recovery Initiative (Fall-Winter 2009/10)
- Regional Agriculture Marketing Initiative (Fall-Winter 2009/10)
- Other potential grant supported project deliverables (TBD)

Budget

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