

COG's Regional Water Quality Management Program Annual Work Program and Budget - FY2015

July 1, 2014 - June 30, 2015 - FINAL (06/25/14)

A Collaborative Approach to Address Water Resource Priorities in the Metropolitan Washington Region



Policy,
Program
Development
and Outreach



Water Quality
Technical
Analysis



Watershed
Management
Services



Water Supply
and Security

METROPOLITAN WASHINGTON  COUNCIL OF GOVERNMENTS

One Region Moving Forward

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REGIONAL WATER RESOURCES MANAGEMENT

This is the Annual Work Program and Budget document for COG's Regional Water Quality Management (RWQM) Program for Fiscal Year 2015 (FY 2015). It includes information on: COG's water resource programs; committee oversight; key challenges, drivers and priorities; as well as specific budgets and key deliverables. The work program is structured to meet the needs of COG's members to address critical regional water resource and water quality issues. Key features of the FY 2015 RWQM work program are summarized below.

A. COG's WATER RESOURCES PROGRAMS

Under the overall administration of COG's Department of Environmental Programs, Water Resources Program staff assist COG's local government members, and affiliated wastewater treatment and drinking water utilities, with protecting, restoring, and conserving the region's water resources as well as addressing the policy and technical implications of various state and federal initiatives that have water quality/resource implications for the COG region. COG's four primary Water Resources Programs include:

- **Regional Water Quality Management Program (RWQM)** – This program addresses regional water quality issues, particularly in the upper estuary of the Potomac River. The primary support for the program is the Regional Water Fund – which is funded by the Blue Plains Parties¹ [under the terms of the 2012 Blue Plains Intermunicipal Agreement (2012 IMA), Service Agreement #2], as well as COG's local governments and wastewater utilities. Oversight of this program is by COG's Chesapeake Bay and Water Resources Policy Committee (CBPC) and the Blue Plains IMA Leadership Committee.
- **Blue Plains Intermunicipal Agreement (IMA) Support** – This program supports the coordination amongst, as well as providing technical and policy support to the parties to the Blue Plains 2012 IMA, and is funded solely by those parties. Oversight of this program is by the Blue Plains IMA Regional and Leadership Committees.
- **Urban Watershed Programs**, including the **Anacostia Restoration Program (ARP)** – The ARP supports the Anacostia Watershed Restoration Partnership and the Anacostia Watershed Steering Committee's (AWSC) work. Funding is provided by members of the Partnership, as well as through various grants, and oversight is provided the AWSC. Oversight of the regional aspects of the program are reflected in the RWQM Program, with oversight provided by the CBPC; while oversight of specific grant-funded projects is by the grantor agencies.
- **Homeland Security: Water Resources** – This program, part of a larger COG program, addresses security issues of importance/impact to local drinking water and wastewater utilities and is funded through federal UASI² grant and EPA STAG³ funds, as well as in-kind

¹ Blue Plains Parties – District of Columbia, DC Water, Fairfax County, Montgomery County, Prince George's County, and Washington Suburban Sanitary Commission.

² UASI - Urban Area Security Initiative

contributions from the region's water and wastewater utilities. Oversight for this program is provided by the COG Chief Administrative Officers Homeland Security Executive Committee (CAO-HSEC) and state-federal Senior Policy Group (SPG), and the Water Security Work Group (RESF3A-Water).

B. RWQM PROGRAM OVERSIGHT & COORDINATION

RWQM Annual Work Program and Budget – The primary focus for this program is to address water quality issues associated with the assessment and protection of the tidal estuary portion of the upper Potomac River. Overall funding levels for COG's annual budget are set by the COG Board in January of the preceding fiscal year.⁴ The CBPC and the IMA Leadership Committee are responsible for approving the annual work program and budget allocations for the RWQM Program, while technical oversight is provided by the Water Resources Technical Committee (WRTC) and the IMA Regional Committee. Details for other water resource work programs are outlined in separate documents and oversight is handled by the program funders.

Integrating Water Quality/Resource Issues – The RWQM Program is coordinated with the Department's Environmental Resources Program (e.g., energy and climate change, green building, alternative fuels, and solid waste and recycling programs). It is also designed to complement and support the COG Board's Mission and priorities on a wide range of issues that have water resource and broader environment implications – such as providing support to COG's [Region Forward](#) vision and [Economy Forward](#) initiatives, as well as working to meet COG's water-specific [climate change and energy](#) commitments, and the [COG Board's Regional Infrastructure initiative](#).

In order to address climate and energy-related issues, the CBPC will continue to coordinate with on such cross-cutting issues with COG's Climate, Energy, and Environment Committee (CEEPC).

Additional coordination is anticipated with the Region Forward Coalition and the COG Board to emphasize the challenges faced by the region's aging water infrastructure, and the pivotal role it plays in supporting and maintaining a viable region and economy.

C. CHALLENGES & PRIORITIES FOR FY 2015

Major challenges for the region continue to be how best to meet the region's water quality objectives, protect the region's critical water resources, and support the associated infrastructure – in a sustainable and affordable manner. This is particularly challenging in light of increased requirements, limited funding, aging infrastructure, extreme weather/climate impacts, and continued growth in the future. In order to meet these broad challenges, the region's wastewater and stormwater programs and facilities are evolving and actively innovating in sometimes significant ways. Some examples of these changes are discussed below.

³ STAG – State and Tribal Assistance Grants

⁴ The COG Board adopted the FY 2015 budget for this program on January 8, 2014.

Wastewater Management

The wastewater industry is undergoing a major change in how it approaches its fundamental role to treat wastewater in order to protect public health and to protect our water environment. The industry is moving away from traditional notions of wastewater treatment and towards being producers of, or recovering valuable water resources for their communities. This is reflected in how the industry defines its role as well as how it portrays itself in our communities, i.e., as water reuse, water reclamation or resource recovery facilities.

In addition, increased costs combined with financial challenges have also led the industry to pursue innovations in areas like resource recovery, energy efficiency, biofuel generation, and other treatment innovations. Many of these efforts are linked to energy use, given that our wastewater treatment plants (like drinking water treatment plants) are dependent on external energy sources and are major energy users in our communities. This water-energy nexus also continues to be a key link between COG's water quality and climate change efforts – and the region's plants are actively working to reduce their energy demands and become as self-sufficient as they can. Energy generation is also dependent upon reliable water sources, so there are many relationships between these two regional infrastructure sectors. Taking a more holistic approach to these issues can also link how the region addresses wastewater treatment/reuse and the other water supply/source water protection efforts.

Stormwater Management

The region's stormwater programs continue to be faced with increased regulatory and permit requirements, evolving technical solutions, as well as implementation, rate and funding challenges. However the region's local governments continue to pursue new and innovative ways to address these challenges in order to fulfill their role of protecting water quality as well as dealing with stormwater related flooding issues.

The use of green infrastructure as well as other low impact development (LID) techniques as well as innovative implementation programs, e.g., public private partnerships, are just some examples of these treatment and implementation innovations. The potential to reuse stormwater is also one of the holistic approaches that are being considered throughout the region.

Summary

Key water resource issues that are expected to continue to define priorities for FY 2015 and beyond are listed in **Figure 1**; along with a list of key initiatives planned to respond to those challenges. **The key features of proposed FY 2015 RWQM Work Program generally reflect the same overall drivers, challenges, areas of focus and level of effort as FY 2014**; but now the region is closer to Bay 2017 Re-evaluation and 2017 mid-point goals. **New and changing issues for 2015 include:**

- Potential implications of new Chesapeake Bay Agreement
- Beginning to know more about climate change/adaptation planning/implications in region – but not clear yet re: Bay water quality implications
- Wastewater plant upgrades are/coming on-line
- Stormwater permits evolving
- Blue Plains' permit up for renewal
- Regional emphasis on all forms of infrastructure

Specific project and budget details are defined in the detailed work program tables. The priority associated with each of these challenges will of course vary, and will depend upon the unique features & circumstances of each jurisdiction and water utility.



FUNDING AND BUDGET

COG's Regional Water Quality Management (RWQM) Program is primarily funded by the Regional Water Fund, with supplemental funding provided by allocations from the Regional Environmental Fund, and COG Membership Fees. In some cases grants and other funding sources support specific projects and activities.

The information below provides background on these funding sources, notes the levels of funding that were approved for FY 2015 (see **Table 1**, page 9, and outlines how those funds are proposed to be allocated to address the water resource priorities for FY 2015 (see **Table 2**, page 10). **Charts 1, 2 and 3** (page 11) also provide a graphical overview of the various funding sources, how those funds are allocated, and the key funders' contributions. A history of the various funding sources and how those funding levels were determined is outlined in the Appendices^{5,6}.

A. FUNDING SOURCES

Regional Water Fund (RWF) - The COG Board of Directors adopted its FY 2015 Work Program and Budget on January 8, 2014 which included a funding level of **\$1,337,441 for the RWF** – reflecting an increase of 1.8% compared with FY 2014, and after applying a 5% cap to jurisdictions that would have experienced a larger increase.

Regional Environmental Fund (REF) - When the COG Board of Directors adopted its FY 2015 Work Program and Budget on January 9, 2013, it also included a funding level for the **REF of \$606,871** – reflecting an increase of 1.6% compared with FY 2014. This amount also reflects the previous COG Board decision in FY 2013 to cap COG Membership Fee increases at no more than 5%.

COG Membership Fees & Other – All 22 members⁷ of COG pay an annual fee to be a member of COG. That fee is set using a per capita rate that is applied to each jurisdiction using “population adjusted for budget.” For FY 2015, the per capita rate was increased to \$0.70 (from \$0.67), with individual jurisdiction increases capped at 5%. Additional supplemental funds may also be provided from COG's building and other interest revenue.

Grants or Other – These funding sources recognize that some program areas are heavily dependent on local, state, and federal grants, and that some project work is also supplemented by participants under separate funding formulas to better leverage COG's regional work.

B. FUNDING LEVELS, BUDGETS & ALLOCATIONS

Table 1 below lists the total budgets and funding contributions for COG's two regional environmental funds (as approved by the COG Board on January 8, 2014). Table 2 indicates the sources of funds used to support the RWQM Program, and further allocates the funding to support specific program activities in FY 2015. Charts 1, 2 and 3 portray the percentages of various funding

⁵ Appendix A - COG'S REGIONAL WATER PROGRAMS – Background on Funding Sources

⁶ Appendix B - COG'S REGIONAL WATER QUALITY MANAGEMENT PROGRAM – A Brief History

⁷ Town of Bladensburg is an Adjunct Member and pays a per capita rate of ½ of a regular member.

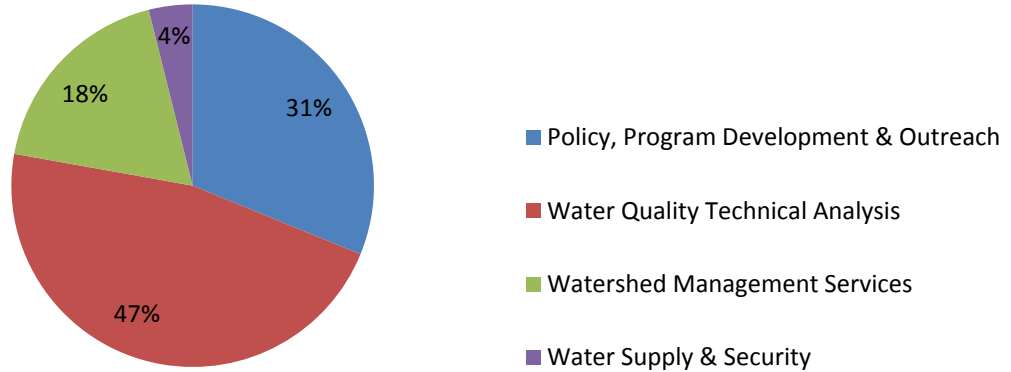
sources, overall distribution of RWQM program funds, and funding contributions for the Regional Water Fund.

TABLE 1		
Local Government Contributions to COG's Regional Environmental Funds – FY 2015		
Jurisdiction	Regional Water Fund Allocations	Regional Environmental Fund Allocations
Alexandria, City of	\$27,594	\$18,817
Arlington County	\$40,263	\$27,457
Bowie, City of	\$10,408	0
College Park, City of	\$5,651	\$3,853
District of Columbia	\$268,094	\$83,718
Fairfax County	\$268,094	\$140,606
Fairfax, City of	\$4,367	\$2,978
Falls Church, City of	\$2,434	\$1,660
Gaithersburg, City of	\$11,862	\$8,089
Greenbelt, City of	\$3,885	\$2,649
Loudoun County	\$63,909	\$43,092
Montgomery County	\$268,094	\$110,684
Prince George's County	\$268,094	\$98,694
Prince William County	\$79,700	\$54,349
Rockville, City of	\$11,886	\$8,106
Takoma Park, City of	\$3,106	\$2,118
TOTALS	\$1,337,441	\$606,871

COG Regional Water Quality Management Program					
Table 2 - Program Budget Allocations					
Program Area	Regional Water Fund	Regional Environ. Fund	COG Member. Fees & Other	Grants or Other	Total
I. Policy, Program Development & Outreach					
A. Water Resources Policy & Advocacy	\$205,000	\$0	\$0	\$0	\$205,000
B. COG Board & Member Support	\$110,000	\$0	\$38,200	\$0	\$148,200
C. Work Program Management	\$75,000	\$0	\$20,000	\$0	\$95,000
D. Water Resources Outreach	\$40,000	\$0	\$0	\$71,500	\$111,500
TOTAL	\$430,000	\$0	\$58,200	\$71,500	\$559,700
II. Water Quality & Water Resource Management Technical Analysis					
A. Potomac & Local Water Quality Analysis					
1. Regional Water Quality Database	\$170,000	\$0	\$0	\$0	\$170,000
2. Potomac Monitoring Contracts	\$156,429	\$0	\$0	\$0	\$156,429
3. Regional Wastewater Flow Forecast Model & WWTP Database	\$60,000	\$0	\$0	\$0	\$60,000
4. Bay Modeling Analysis	\$40,000	\$0	\$0	\$0	\$40,000
5. Potomac & Local Water Quality Management & Analysis	\$106,012	\$0	\$0	\$0	\$106,012
B. Regulatory & Financial Analysis					
1. Technical & Program Support to WRTC	\$245,000	\$0	\$0	\$0	\$245,000
2. Water Resource Emerging Issues	\$60,000	\$0	\$0	\$0	\$60,000
TOTAL	\$837,441	\$0	\$0	\$0	\$837,441
III. Watershed Management Services					
A. Urban Stormwater Regulatory Analysis and Information Exchange	\$0	\$20,000	\$30,000	\$0	\$50,000
B. Watershed Management and Forestry Projects	\$0	\$30,866	\$38,200	\$50,000	\$119,066
C. Green Infrastructure and Sustainable Agriculture Projects	\$0	\$14,384	\$44,915	\$100,000	\$159,299
TOTAL	\$0	\$65,250	\$113,115	\$150,000	\$328,365
IV. Water Supply & Security					
Water Supply Emergency and Drought Management	\$70,000	\$0	\$0	\$0	\$70,000
GRAND TOTAL	\$1,337,441	\$65,250	\$171,315	\$223,500	\$1,795,506

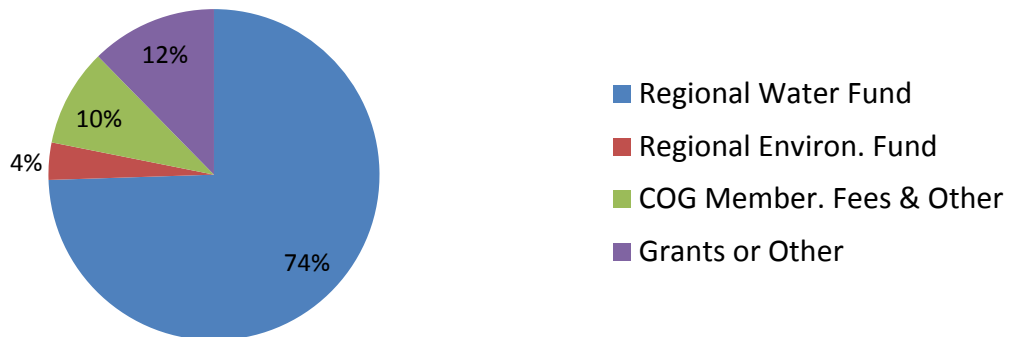
RWQM Program Budget Allocations - FY 2015

Chart 1



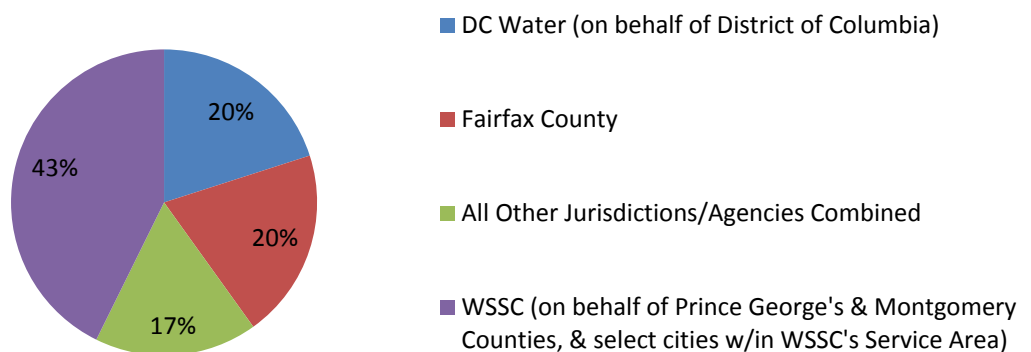
RWQM Program Funding Sources - FY 2015

Chart 2



Regional Water Fund Funding Jurisdiction/Agency Shares - FY 2015

Chart 3



ANNUAL WORK PROGRAM AND BUDGET

A. OVERVIEW

As with FY 2014, the FY 2015 RWQM Work Program continues to focus on a wide range of activities that have water quality/water resource implications for the Metropolitan Washington region. It is structured to address the many pressing challenges facing COG’s local government members and water utilities that provide wastewater treatment and drinking water services, and manage stormwater on behalf of the region. The program is designed to address priority issues in response to COG’s members’ needs, and to actively support and advocate on behalf of those members in a variety of technical and policy forums.

The FY 2015 RWQM Work Program continues to be organized into four key program areas that address a wide range of policy, advocacy, outreach, technical analysis and support to COG’s CBPC and WRTC committees. The tables that follow outline the individual program elements, their associated budgets and funding sources, as well as details regarding the key priorities and deliverables anticipated for FY 2015.

RWQM Program Areas – FY 2015	
I. Policy, Program Development & Outreach	
	<i>Supports policy development, advocacy, CBPC support, program management, and outreach.</i>
	<ul style="list-style-type: none"> A. Water Resources Policy and Advocacy B. COG Board & Member Support C. Work Program Management D. Water Resources Outreach
II. Water Quality & Water Resource Management Technical Analysis	
	<i>Supports technical work for the WRTC on a wide range of water quality/water resource issues.</i>
	<ul style="list-style-type: none"> A. Potomac & Local Water Quality Analysis B. Regulatory & Financial Analysis
III. Watershed Management Services	
	<i>Supports work to address environmental initiatives with water quality implications/impacts and integrate efforts with other regional initiatives.</i>
	<ul style="list-style-type: none"> A. Urban Stormwater Regulatory Analysis & Information Exchange B. Watershed Management & Forestry Projects C. Green Infrastructure & Sustainable Agriculture Projects
IV. Water Supply & Security	
	<i>Supports work to address water supply and security issues with water quality/water resource implications and impacts</i>
	Water Supply Emergency & Drought Management

B. PROGRAM DETAILS

Work Program Areas – Detailed Descriptions					
I. Policy & Program Development					
PROGRAM AREA	FUNDING SOURCES				
	Regional Water Fund	Regional Environ. Fund	COG Member. Fees	Grants or Other	Total
A. Water Resources Policy & Advocacy	\$205,000	\$0	\$0	\$0	\$205,000
B. COG Board & Member Support	\$110,000	\$0	\$38,200	\$0	\$148,200
C. Work Program Management	\$75,000	\$0	\$20,000	\$0	\$95,000
D. Water Resources Outreach	\$40,000	\$0	\$0	\$71,500	\$111,500
Total	\$430,000	\$0	\$58,200	\$71,500	\$559,700
Committee Oversight: CBPC, WRTC, and CEC Public Information Officers Committee Program Manager: Tanya Spano Lead Staff/Senior Staff: Heidi Bonnaffon/Karl Berger/Steve Bieber					
FY 2015 Priorities: A. Policy & Advocacy <u>Bay TMDL & Regulatory</u> <ul style="list-style-type: none"> Assess and provide comments on Chesapeake Bay Program activities, Bay TMDL developments, implementation of WIPs, and status of the states' Two-Year Implementation Milestones. Track implementation of the new Chesapeake Bay agreement and work to ensure local government input and involvement in the associated Management Strategies development process. Track nutrient trading and accounting for growth policy, and comment on state and federal policies. Assess and provide comments on federal/state legislative and regulatory initiatives regarding Bay restoration, local water quality, and related water resource issues. <u>Water Infrastructure, Affordability, Climate & Growth</u> <ul style="list-style-type: none"> Work with U.S. Conference of Mayors, WEF, AWWA, and other national groups on ongoing dialogue with EPA over affordability and flexible permitting issues for all water quality issues. Advocate for the need for adequate funding to address requirements for the region's aging water resources infrastructure, and seek to balance regulatory requirements with those maintenance needs (see Section II.B for discussion of proposed regional water infrastructure forum). Coordinate with the <i>Region Forward Coalition</i>, the Climate, Energy and Environment Policy Committee (CEEPC) and other COG policy committees on growth and sustainability as well as cross-media issues and metrics - as they relate to water quality (e.g., water resources and energy use, and planning/land-use and water quality, and potential air-water benefits/credits). Educate other local government officials about the suite of water quality/water resource infrastructure issues and challenges; and advocate for regional policies on these priorities and federal and state initiatives; and to work toward consistency between these initiatives and protection of the region's local water quality/water resource needs as well as broader environmental and policy objectives. This includes focusing on aging wastewater collection and water distribution systems, as well as legacy stormwater systems. 					

B. COG Board & Member Support

- Work with the CBPC and WRTC to continue to support COG Board’s Regional Infrastructure work plan, including preparation of material and presentations and speakers on a variety of water resource infrastructure issues.
- Respond to information requests and briefings on regional water resource issues in response to requests by the COG Board, COG policy committees, COG members, general public, and media requests; to support COG’s role as a clearinghouse for environmental information and a member service organization.
- Brief COG Board, CAOs, and local elected officials/senior management, on water resources issues and seek formal action as appropriate.
- Update the CBPC web page on the COG web site to provide timely summary of Bay restoration developments as they relate to local governments in the region.

C. Work Program Management

- Prepare an FY 2016 annual Work Program and Budgets (WP&B) in response to work session input.

D. Water Resources Outreach

- Continued implementation of a regional educational and information outreach effort – the **Community Engagement Campaign**. In FY 2015, the campaign elements will continue the FY’2013’s three outreach focus areas: **Wise Water Use**, **“TapIt”** to address accessible/sustainable access to drinking water, and **Do Not Flush** messaging. Use innovative means to target focus areas, and leverage funds to cost-effectively support the work of COG’s local governments/agencies.
- **Expand regional outreach efforts to support and communicate broader water resource priorities** to other local elected officials, state and federal officials, and the COG region (e.g., communicating water resources infrastructure needs and challenges, report on improvements in water quality in the Potomac, water resource work force/staffing challenges, etc.)

Major Work Projects/Activities	Quarter				Other
	1 st	2 nd	3 rd	4 th	
<ul style="list-style-type: none"> • Track the implementation of the new Chesapeake Bay agreement implementation and Management Strategies development, the progress of TMDL/WIP implementation and the achievement of 2-Year Milestones 	XX	XX	XX	XX	Ongoing
<ul style="list-style-type: none"> • Update/report on water resource indicators/metrics in COG’s Region Forward initiative; & support CBPC/WRTC in these efforts 	XX		XX		Per schedule
<ul style="list-style-type: none"> • Meetings, conference calls & events in support of the CBPC: <ul style="list-style-type: none"> ○ 6 meetings, including invited guest speakers, including: <ul style="list-style-type: none"> ▪ Presentations on Water Infrastructure issues ▪ Annual Bay-Water Quality Forum ○ Special sessions/joint meetings with Federal & state rep.’s, & COG’s CEEPC & other committees/organizations 	XX	XX	XX	XX	Bi-monthly & As required
<ul style="list-style-type: none"> • Briefings/presentations/testimony for COG Board, its members, and to/for local elected officials & others • Respond to COG member & media information requests 					4-6 per year & As required
<ul style="list-style-type: none"> • Mid-year review and draft policy priorities for CBPC • Annual Work Program & Budget for FY 2016 			XX	XX	Annually
<ul style="list-style-type: none"> • COG staff to conduct annual employee performance reviews • Program management and oversight 	XX				Annually &

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					Ongoing
<ul style="list-style-type: none"> Continue a regional educational & outreach Community Engagement Campaign focused on Wise Water Use, TapIt and Do Not Flush messaging – including website & events 	XX	XX	XX	XX	Year-round & Seasonal
<ul style="list-style-type: none"> Regional outreach products to support key events & initiatives (e.g., infrastructure event, water quality report) 		XX		XX	Based on Board Schedule

Work Program Areas – Detailed Descriptions					
II. Water Quality & Water Resource Management					
Technical Analysis					
PROGRAM AREA	FUNDING SOURCES				
	Regional Water Fund	Regional Environ. Fund	COG Member. Fees	Grants or Other	Total
A. Potomac & Local Water Quality Analysis					
1. Regional Water Quality Database	\$170,000	\$0	\$0	\$0	\$170,000
2. Potomac Monitoring Contracts (i.e., Chain Bridge & Little Falls Gage)	\$156,429	\$0	\$0	\$0	\$156,429
3. Regional Wastewater Flow Forecast Model & WWTP Database	\$60,000	\$0	\$0	\$0	\$60,000
4. Bay Modeling Analysis	\$40,000	\$0	\$0	\$0	\$40,000
5. Potomac & Local WQ Management Analysis & Reporting	\$106,012	\$0	\$0	\$0	\$106,012
Subtotal	\$532,441	\$0	\$0	\$0	\$532,441
Committee Oversight: WRTC Program Manager: Karl Berger (WQ & Modeling) and Tanya Spano (WW) Lead Staff/Staff: Christine Howard/Mukhtar Ibrahim/Nasser Ameen/Lana Sindler/Amanda Campbell					
FY 2015 Priorities: <u>Potomac River Monitoring</u> <ul style="list-style-type: none"> Continue to fund Virginia Tech’s Occoquan Watershed Monitoring Laboratory (OWML) to conduct water quality monitoring at Chain Bridge on the Potomac River. The OWML effort provides an assessment of water quality that is independent of the joint U. S. Geological Survey/Chesapeake Bay Program (USGS/CBP) monitoring effort at Chain Bridge. Continue to provide about half the funding to maintain the USGS’ stream flow gage at Little Falls in the Potomac River. Results from the gauge are necessary to compute Chain Bridge load estimates by both the OWML and USGS/CBP efforts. <u>Potomac River Trends Analysis</u> <ul style="list-style-type: none"> Focus on use of OWML results and other data to enhance the understanding of the region’s water quality managers on what’s happening in the Potomac River, with a particular emphasis on the upper Potomac River estuary, where the vast majority of wastewater flow from the region is discharged and where much of the stormflow from the region’s urban areas also impacts the river. <ul style="list-style-type: none"> Use OWML results to report on long-term trends in water quality parameters at the Potomac River fall line at Chain Bridge. Compare trend results using OWML data to those produced using USGS data. Compare both trend results and the long-term modeling record to Chesapeake Bay Program watershed model results. 					

- Continue participation in a USGS/CBP effort to understand the observation of increasing load trends for some water quality parameters in recent years in the fall-line flows at Chain Bridge.
- Analyze the impact of these inputs on water quality conditions in the tidal fresh estuary, taking into account groundwater lag time, legacy sediment and the possibility of non-linear threshold responses by living resources.
- Present results to the Regional Water Quality Monitoring Subcommittee at several workshops and coordinate the members' efforts to explain what's happening and identify issues to be raised with the region's water quality managers and the members of COG's WRTC and CBPC.
 - Document the findings in several expansions of COG's Potomac Water Quality Fact Sheet.

Local Stream Health Analysis

- Work with members to identify ways to track and characterize the current status of stream health in the region, including summarization of 303d and TMDL listings, as well as benthic index scoring methods.
 - Report on results as one of COG's Region Forward goals.

Regional Water Quality Database

- Continue efforts to re-organize the water quality monitoring data generated by or reported to COG to focus on the core information of greatest use to our members and avoid duplication with databases maintained by other agencies in the region.
- Update COG's Website to provide a user-friendly location for accessing regional data and contact information and to promote the exchange of monitoring data, watershed programs, wastewater/stormwater implementation programs and related activities.

Bay Program Modeling Analysis

Bay Program TMDL Implementation & Modeling Tools

- Continue to focus on the technical aspects of the Bay Program's efforts to implement the Bay TMDL and the associated State/District's Phase II watershed implementation plans (WIPs), including State/District proposed 2014-15 milestones.
- Continue to evaluate Bay Program efforts to upgrade the data and tools to be used in the 2017 mid-course evaluation process for the Bay TMDL, including
 - Updated calibration and other details of Version 6 of the Chesapeake Bay Watershed Model
 - Land use categories/data for the model
 - Assumptions for urban loads and BMPs
 - Assumptions for septic/on-site systems and biosolids land application
- Quantify the impact of alternative air quality management scenarios on nitrogen loads and assess how the watershed model is addressing the impacts of climate change.
- Track efforts to update the Chesapeake Bay Program's various models to reflect Climate Change impacts and implications for water quality and the Bay TMDL.

Regional Wastewater Flow Forecast Model (RWFFM)

- Finalize updates to the RWFFM, incorporate the results of COG's Round 8.2 Cooperative Forecasting efforts and produce **wastewater forecasts for the COG region**.
- Complete the inventory of the region's WWTPs to:
 - Confirm nutrient cap load values and treatment capacity timelines, as well as other process information, apply the RWFFM results, and compare load caps to expected long-term growth in the region. Also assess potential load capacity versus hydraulic capacity constraints for the region's wastewater plants and growth implications

- Analyze links with COG’s Region Forward/Economy Forward efforts and Activity Centers
- Begin to review and confirm/correct CBP’s assumptions regarding areas served by septic/distributed systems.

Regional Wastewater Database

- In support of ongoing regional infrastructure work, continue to update regional database of key plant process/operations, permit requirements, greenhouse gas inventories, climate change/sustainability efforts, energy demands, water infrastructure features, service areas, nutrient reduction implementation status, and various sector innovations.
 - Coordinate similar efforts for the region’s water utilities
 - Use this information to report on COG’s Region Forward and CEEPC goals.

Major Work Projects/Activities	Quarter				Other
	1 st	2 nd	3 rd	4 th	
<ul style="list-style-type: none"> ● Prepare additional fact sheets to complement overall Potomac Water Quality Fact Sheet <ul style="list-style-type: none"> ● Chain Bridge loads fact sheet ● Potomac estuary SAV fact sheet ● Algal bloom fact sheet 		XX	XX	XX	
<ul style="list-style-type: none"> ● Prepare template for regional stream health assessment ● Update the regional state/District assessments of ‘impaired waters’ (303d & TMDLs) listings 		XX		XX	
<ul style="list-style-type: none"> ● Update regional water quality database inventory on COG Website & use information to inform COG’s regional infrastructure efforts 	XX	XX	XX	XX	Ongoing
<ul style="list-style-type: none"> ● Manage contracts for OWML sampling/data analysis at Chain Bridge & cost-share agreement for Little Falls gage data 	XX			XX	Annually & As required
<ul style="list-style-type: none"> ● Continue to update wastewater flow projections and loading estimates for region to reflect annual COG demographic projections, and compare to CBPC’s projections ● Continue to work with Blue Plains and other COG wastewater plants to identify potential influent nutrient load versus hydraulic capacity constraints 		XX	XX		Estimated timing of events
<ul style="list-style-type: none"> ● Provide data/trend information in presentations to WRTC, CBPC and other audiences ● Respond to water resource data/information requests ● Report on status of Region Forward indicators & goals: <ul style="list-style-type: none"> ● Bay Goals - Water Quality Implementation for Wastewater & Stormwater management ● Local Stream Health 	XX	XX	XX	XX	Ongoing
<ul style="list-style-type: none"> ● Hold two work sessions for members that focus on water quality monitoring results 	XX		XX		Estimated timing of events

Work Program Areas – Detailed Descriptions					
II. Water Quality Technical Analysis					
PROGRAM AREA	FUNDING SOURCES				
	Regional Water Fund	Regional Environ. Fund	COG Member. Fees	Grants or Other	Total
B. Regulatory and Financial Analysis					
1. Technical & Program Support to WRTC	\$245,000	\$0	\$0	\$0	\$245,000
2. Water Resource Emerging Issues	\$60,000	\$0	\$0	\$0	\$60,000
Subtotal	\$305,000	\$0	\$0	\$0	\$305,000
Committee Oversight: WRTC Program Manager: Tanya Spano Lead Staff /Staff: Amanda Campbell/Karl Berger/Lana Sindler/ Heidi Bonnaffon/Nasser Ameen					
FY 2015 Priorities:					
<u>Water Resources Infrastructure</u>					
<ul style="list-style-type: none"> • Continue to work with member governments and water/wastewater utilities to document the status of water quality infrastructure in the region and the financial and regional economic development implications of deferring maintenance of existing infrastructure. This will include: <ul style="list-style-type: none"> ○ Work with COG member governments/water utilities to compile regional cost estimates of what it will cost to meet TMDL and related water resource/infrastructure requirements. Focus will include: aging wastewater collection and water distribution systems, as well as legacy stormwater systems. ○ Work with national organizations and others to compare data against industry metrics and national benchmarks to frame this issue for elected officials and to put the region’s infrastructure costs into a broader context. ○ Develop comprehensive cost and rate information database for region to capture scope and financial implications of water infrastructure in support of COG’s members and the COG Board’s Regional Infrastructure priority. ○ Continue work with the Water Environment Federation and utility managers in the region to organize a regional water resources infrastructure forum on challenges and opportunities for the COG region. ○ Link efforts to COG’ Region Forward, Economy Forward and Activity Center efforts. 					
<u>Regulatory Initiatives</u>					
<ul style="list-style-type: none"> • Continue to assess opportunities for more flexible permitting in the region and use of adaptive management as EPA /States make water quality and permitting decisions. 					
<u>Climate Change and Other Emerging Issues</u>					
<ul style="list-style-type: none"> • Continue efforts to assess the significance of other water resource issues (e.g., growth, sustainability, Climate Change, and emerging compounds of concern) and the potential impacts/implications of these issues to the COG region. • For climate change issues, coordinate among water resource infrastructure/facilities and other agencies to share resources to address climate-related impacts on water resource infrastructure/facilities. • Continue to coordinate with the Climate Energy & Environment Policy Committee to highlight and support implementation of water-energy nexus related measures in the Climate Action Plan. 					

Major Work Projects/Activities	Quarter				Other
	1 st	2 nd	3 rd	4 th	
<ul style="list-style-type: none"> Prepare recommendations to the CBPC on formal comments to be sent to Bay Program Partners, EPA & state governments regarding the new Bay agreement, Bay TMDL, Phase II WIPs, & 2 Year Milestones processes; and related water resource issues/initiatives 	XX	XX	XX	XX	Quarterly & 4-6 per year
<ul style="list-style-type: none"> Meetings, conference calls, work sessions, & events in support of the WRTC, its work groups & subcommittees: <ul style="list-style-type: none"> 6 meetings, including inviting guest speakers Hold special work sessions/forums to address key issues and get input from WRTC and other regional experts on: <ul style="list-style-type: none"> Infrastructure and rates/affordability Share sustainability tools and best practices for including energy efficiency, alternative energy, water reuse, and climate vulnerability assessments Update Climate Change data for Water Sector (e.g., related to CEEPC's Goals) 	XX	XX	XX	XX	Bi-monthly & As required
<ul style="list-style-type: none"> Prepare presentations , reference information and coordinate speakers for COG Board, CAOs, CBPC and WRTC presentations as part of FY 2015's COG Board Regional Infrastructure priority Organize a regional forum/webinar on water resource infrastructure needs and challenges, and rates/affordability issues - coordinating with COG's member governments/water utilities, & national organizations Produce factsheets/reports as needed to summarize regional needs and issues 	XX	XX	XX	XX	Ongoing, Estimated timing
<ul style="list-style-type: none"> Track the development of new data and assumptions for use in an updated version of the Watershed Model to be used in the Bay Program's 2017 Mid-course Evaluation and provide member input to Bay modeling efforts through staff participation on various Bay program groups, including the Wastewater, Urban and Land Use, Monitoring and Trading workgroups, and the Modeling Review Team. 	XX	XX	XX	XX	Monthly

Work Program Areas – Detailed Descriptions					
III. Watershed Management Services					
PROGRAM AREA	FUNDING SOURCES				
	Regional Water Fund	Regional Environ. Fund	COG Member. Fees	Grants or Other	Total
A. Urban Stormwater Regulatory Analysis & Information Exchange	\$0	\$20,000	\$30,000	\$0	\$50,000
B. Watershed Management & Forestry Projects	\$0	\$30,866	\$38,200	\$50,000	\$119,066
C. Green Infrastructure & Sustainable Agriculture Projects	\$0	\$14,384	\$44,915	\$100,000	\$159,299
Total	\$0	\$65,250	\$113,115	\$150,000	\$328,365
Committee Oversight:	WRTC, CBPC, & Regional Agricultural Work Group				
Program Manager:	Steve Bieber				
Lead Staff / Senior Staff:	Karl Berger (A) / Phong Trieu (B & C) / Brian LeCouteur (C)				
FY 2015 Priorities:					
A. Urban Stormwater Regulatory Analysis & Information Exchange					
<ul style="list-style-type: none"> • Continue to promote technical information exchange among COG members about stormwater management and the implications on local water quality and the Bay/local TMDL processes. • Update regional stormwater fee and cost estimate information and analysis of stormwater regulatory developments to the region's elected officials. 					
B. Watershed Management & Forestry Projects					
<ul style="list-style-type: none"> • Provide limited direct staff support and opportunities to leverage grant support to address: <ul style="list-style-type: none"> ○ 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 ○ Provide expertise and guidance to COG members on - stream restoration, fish passage, stormwater management, wetland creation and riparian habitat restoration monitoring, design and technical, GIS-related watershed evaluations • Continue cross-cutting work on the development of a pilot, phase one, regional urban tree canopy analysis and management strategy to help achieve area-wide expansion of tree canopy cover; providing water quality, - air quality, and other ancillary benefits. Link this work to reassessing the watershed health indicators for Region Forward baseline report. • Support the Community Forestry Network (CFN); amend and update the green infrastructure database for the Washington Metropolitan Area • Conduct several stream and riparian buffer assessment studies 					
C. Green Infrastructure & Sustainable Agriculture Projects					
<ul style="list-style-type: none"> • 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. • Support efforts and provide advice to the CBPC and COG Board on Region Forward initiatives in areas such 					

as climate adaptation, land use, stormwater management (e.g., green streets), local agriculture, and locally grown food.

- Provide limited direct staff support and opportunities 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. **Leverage grant support** to include:
 - Maintaining current land cover mapping databases using remote sensing and GIS applications
 - Supporting ongoing regional **Green Infrastructure initiatives**
 - Integrate the Region Forward initiative and links to local food production and consumption, climate adaptation, stormwater management
 - Continue work for the **Regional Agricultural Initiative** including quantification of local food production, marketing local agriculture, mapping agricultural lands, and further analysis of farm markets
 - Support the Regional Agricultural Workgroup (RAW) to explore opportunities that support agricultural-related priorities and activities
 - Maintain the www.nationalcapitalfarms.org Web site

Major Work Projects/Activities	Quarter				Other
	1 st	2 nd	3 rd	4 th	
<ul style="list-style-type: none"> • Stormwater updates for CBPC, COG Board or others 					Schedule TBD
<ul style="list-style-type: none"> • Updated regional stormwater fee survey 	XX		XX	XX	Ongoing
<ul style="list-style-type: none"> • Updated regional stormwater fact sheet 	XX	XX			
<ul style="list-style-type: none"> • Conduct (separately or in concert with other organizations) workshops on a variety of stormwater topics: <ul style="list-style-type: none"> • Green Streets • BMP cost/performance • Public-private partnerships • Stream restoration 					Schedule TBD
Projects:					
<ul style="list-style-type: none"> ○ District of Columbia-Pope Branch Pre-Stream Restoration Monitoring 	XX	XX	XX	XX	
<ul style="list-style-type: none"> ○ Prince George’s County – Northwest and Northeast Branch-River Herring and Resident Fish Habitat Utilization 			XX	XX	
<ul style="list-style-type: none"> ○ Montgomery County & Prince George’s County-Northwest Branch Streambank Chemistry-Related Assistance 			XX	XX	
<ul style="list-style-type: none"> ○ District of Columbia - Watts Branch Benthic Stream Assessment Study 	XX	XX	XX	XX	
<ul style="list-style-type: none"> ○ Develop a pilot, regional urban tree canopy analysis and management plan in coordination with CBPC & CEEPC 	XX	XX	XX	XX	
<ul style="list-style-type: none"> ○ District of Columbia – Regional Urban Tree Canopy and Land Use/Land Cover Analysis 	XX	XX	XX	XX	
<ul style="list-style-type: none"> ○ District of Columbia Waste Wood Facility/Marshalling Yard Assistance (Urban Timber Utilization) 	XX	XX	XX	XX	
<ul style="list-style-type: none"> • Support for the Region Forward initiative and tracking/reporting of indicators and goals associated with: <ul style="list-style-type: none"> ○ Watershed Health 	XX	XX			Based on program schedule

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○ Forest Coverage/Tree Canopy					
○ Acres of Impervious Surfaces					
• Support for CFN meetings					3X/year
• Regional Green Infrastructure Database Update				XX	
• Support for the Regional Agricultural Workgroup	XX	XX	XX	XX	
• Regional Agricultural Mini-Workshops			XX	XX	
• Regional Agricultural Survey	XX	XX			
• Other potential grant supported project deliverables					TBD
• Presentations to the WRTC and CBPC					1-2X/year

Work Program Areas – Detailed Descriptions

IV. Water Supply and Security

PROGRAM AREA	FUNDING SOURCES				
	Regional Water Fund	Regional Environ. Fund	COG Member. Fees	Grants or Other	Total
Water Supply Emergency and Drought Management	\$70,000	\$0	\$0	**	\$70,000

Committee Oversight: Drought Coordination Committee, Water Security Work Group, WRTC & CBPC
Program Manager: Steve Bieber
Lead Staff / Senior Staff: Christine Howard (Drought Coordination); Heidi Bonnaffon & Julie Karceski (Water Security)

***Note: Additional program funds are provided annually through the regional Urban Area Security Initiative (UASI) grants & a U.S. EPA STAG grant.*

FY 2015 Priorities:

- Continued focus on communication and coordination among local and state governments, water supply utilities, the media and general public in the event of **serious droughts or other water supply emergencies**.
 - Continue to **integrate efforts with regional Homeland Security issues** given importance of and linkages between drinking water/source water protection issues in response to potential security threats and those associated with drought or other natural phenomenon.
 - Continue to focus on providing comprehensive and up-to-date information to these committees to enable the region to provide timely regional responses to potential and actual water supply/drought conditions as well as water security issues.
- Provide continued technical, policy, and staff support to:
 - **COG’s Drought Coordination Committee:**
 - Implement a regional water supply work program to address water supply/drought management issues
 - Provide continued monitoring of regional water supply conditions
 - Prepare monthly drought outlook and conditions reports,
 - Update **Water Supply and Drought Awareness Response Plan** to outline steps needed to enter a drought ‘WATCH’
 - Implement the regional **Water Supply Emergency Plan** in response to drought events and other water supply issues.
 - The regional **Water Security Work Group:**
 - Coordinate and manage regional water security activities in areas such as modeling, monitoring, redundancy and resiliency, operational planning, identification of best practices, facility hardening, mutual aid, and training and exercises;
 - Continue to assess risks, threats, and vulnerabilities of the NCR’s drinking source water, drinking water distribution systems, and wastewater collection and treatment systems;
 - Identify strategies and best practices to address the highest priority risks, threats, and vulnerabilities, including the growing threat from cyber-attacks.

Major Work Projects/Activities	Quarter				Other
	1 st	2 nd	3 rd	4 th	
<ul style="list-style-type: none"> Manage and coordinate Drought Coordination Committee and Drought Technical Committee during periods of drought 	XX	XX		XX	Summer / As required
<ul style="list-style-type: none"> Track and monitor Potomac basin drought and water supply conditions and website updates 	XX	XX	XX	XX	Year-round / Ongoing
<ul style="list-style-type: none"> Monthly Regional Drought and Water Supply Outlook Reports 	XX	XX		XX	Seasonal (May – Oct)
<ul style="list-style-type: none"> Staff support for assessing Drought Watch Trigger and preparing updates to Response Plan 					Timing TBD
<ul style="list-style-type: none"> Staff support and management coordination to the Water Security Work Group Continued management and coordination of Regional Water Security Monitoring Network 	XX	XX	XX	XX	Ongoing / As required
<ul style="list-style-type: none"> Continued management and coordination of NCRWARN (regional utility mutual aid network) 	XX	XX	XX	XX	Ongoing / As required
<ul style="list-style-type: none"> Implementation of a regional table top exercise 					Timing TBD
<ul style="list-style-type: none"> Updates to WRTC regarding drought reports & general briefings regarding regional security initiatives 	XX		XX		Periodic
<ul style="list-style-type: none"> Support for the Region Forward initiative and tracking/reporting of indicators and goals associated with: <ul style="list-style-type: none"> Water Usage (per capita) 	XX	XX			Based on program schedule