

# Bassett Creek Watershed Management Commission



## 2015 Annual Report

Crystal • Golden Valley • Medicine Lake • Minneapolis  
Minnetonka • New Hope • Plymouth • Robbinsdale • St. Louis Park



April 2016

# Bassett Creek Watershed Management Commission 2015 Annual Report

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Cover photo: Main Stem Bassett Creek Restoration Project in Theodore Wirth Park, completed 2015

# Bassett Creek Watershed Management Commission

Executive Summary: 2015 Annual Report



## 2015 Activities & Achievements

The BCWMC worked on the following activities Feb 2015 – Jan 2016 in order to fulfill its mission:  
*Stewardship of Water Resources to Protect and Enhance Our Communities.*

### Major Projects (Capital Improvement Program)

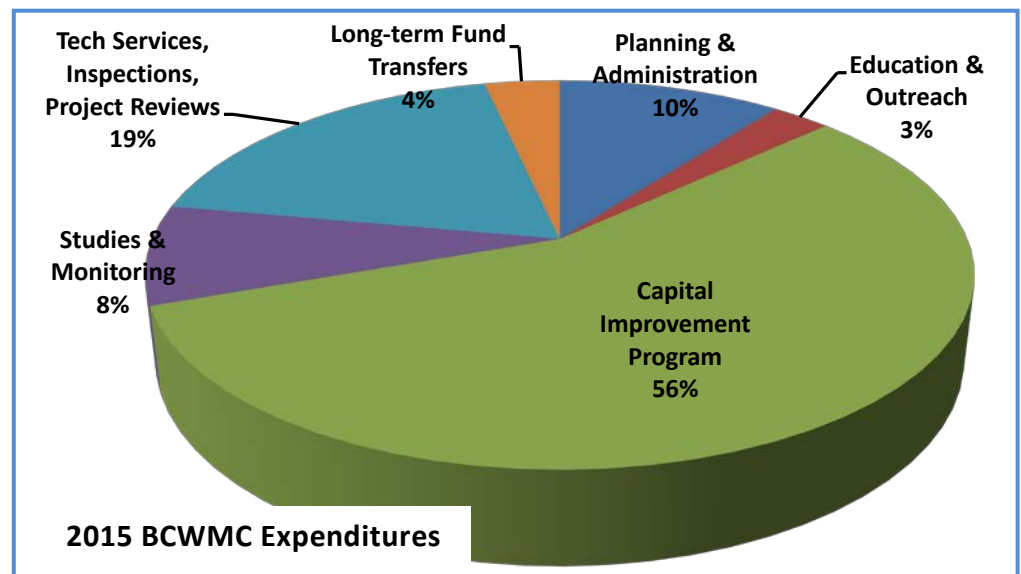
The BCWMC continued to implement its capital improvements program. Information on all BCWMC projects (completed, on-going and proposed) can be found at [www.bassettcreekwmo.org](http://www.bassettcreekwmo.org).

- **COMPLETED:** Restoration of the Bassett Creek Main Stem through Theodore Wirth Park in Minneapolis and Golden Valley (pictured). This project was partially funded by a Clean Water Land & Legacy Funds through a MN Board of Water & Soil Resources grant. Work included streambank stabilization and restoration of buffers to reduce erosion and improve habitats.
- **COMPLETED:** Construction of a water quality treatment pond the Briarwood/Dawnview area of Golden Valley. This new pond will capture and treat runoff from 184 acres of residential properties.
- **COMPLETED:** The Schaper Pond Diversion Project in Golden Valley is expected significantly improve the water quality of Sweeney Lake, just downstream. This project modified Schaper Pond by installing a floating baffle that redirects flow through the pond and to increase its ability to remove phosphorus.
- **COMPLETED:** Twin Lake in Golden Valley was treated with alum to reduce the amount of phosphorus available for algae and to maintain excellent water clarity in the lake. Although another alum dose may be needed in the next couple years to fully complete the intended project, excellent water quality should continue in the lake.



### Budget

In FY 2015, the BCWMC spent approximately \$621,500 on activities and programs. Another \$805,000 was spent capital projects. BCWMC income included \$490,300 from member cities, \$1M from Hennepin County tax levy on watershed residents, \$80,000 in State grants, and \$55,700 in development review fees. For an itemization or more information on the BCWMC's 2015 expenditures, see the Financial Information in Appendix A of the annual report.



*The Bassett Creek Watershed Management Commission (BCWMC) is governed by a board composed of representatives from each of the nine member cities: Crystal Golden Valley Medicine Lake Minneapolis Minnetonka New Hope Plymouth St. Louis Park and Robbinsdale. Representatives are appointed by their cities and serve three-year terms on the board.*

## Water Monitoring Activities

- Assessed the health of Westwood Lake by collecting data on water quality, plankton, and aquatic plants
- Assessed the health of Plymouth Creek, North Branch and Sweeney Branch of Bassett Creek and the Main Stem of Bassett Creek by analyzing the macroinvertebrates (bugs) and habitat in the streams.
- Participated in Metropolitan Council Environmental Services' Citizen-Assisted Monitoring Program (CAMP) for six lakes
- Performed continuous stream monitoring on Bassett Creek, in cooperation with the Metropolitan Council Environmental Services
- Provided funding for the Hennepin County's River Watch program which educates and uses high school students to collect benthic invertebrates, indicators of stream health, from various site along Bassett Creek

**WATER QUALITY DATA AND REPORTS ARE AVAILABLE AT [www.bassettcreekwmo.org](http://www.bassettcreekwmo.org)**

## 2015 Watershed Management Plan

In September the BCWMC finalized and adopted its 2015 – 2025 Watershed Management Plan. The plan includes goals and policies for the organization and its member cities that will guide the organization's work over the next ten years! It includes a re-prioritization of their lakes and streams, new requirements for development and redevelopment (the Minimal Impact Design Standards), requirements for buffers along some streams and wetlands, and a list of capital projects.

## Education & Outreach Activities

- Participated with the West Metro Water Alliance, a consortium of watershed organizations and other partners that collaborate on education programming.
- Provided watershed education to the public at the Plymouth Yard/Garden Expo and Golden Valley Arts and Music Festival.
- Provided native plant seed packets at watershed education events and at displays in member city halls.
- Participated in the Non-point Education for Municipal Officials program (NEMO) – workshops for west metro local officials.
- Provided financial support to Metro Watershed Partners for their "Clean Water MN" media campaign, the Children's Water Festival, and the Freshwater Society.
- Provided funding for Commissioner education for conference registrations.
- Held public meetings and presentations to gather input on 2017 capital projects.
- Designed new website with better access to information on waterbodies, projects, meetings and events, etc.

**Check it out at: [www.bassettcreekwmo.org](http://www.bassettcreekwmo.org)**



# I. Annual Activity Report

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This annual report covers the Bassett Creek Watershed Management Commission’s (BCWMC) activities for fiscal year 2015 (February 1, 2015—January 31, 2016). The BCWMC Annual Report was prepared to meet the Annual Reporting Requirements as set forth in Minnesota Rules Chapter 8410.0150, subparts 1, 2, and 3.

## A. 2015 Commissioners

<b>Municipality / Term Expiration</b>	<b>Commissioners</b>	<b>Alternates</b>
<b>Crystal</b> February 1, 2018	Guy Mueller, Vice Chair	Vacant
<b>Golden Valley</b> February 1, 2018	Stacy Hoschka, Treasurer	Jane McDonald Black
<b>Medicine Lake</b> February 1, 2018	Clint Carlson	Gary Holter
<b>Minneapolis</b> February 1, 2016	Michael Welch	Lisa Goddard
<b>Minnetonka</b> February 1, 2016	Jacob Millner, Secretary	Patty Acomb
<b>New Hope</b> February 1, 2016	John Elder	Pat Crough
<b>Plymouth</b> February 1, 2017	Ginny Black	David Tobelmann
<b>Robbinsdale</b> February 1, 2017	Wayne Sicora	Mike Scanlan
<b>St. Louis Park</b> February 1, 2017	Jim de Lambert, Chair	Patrick Noon

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## C. Watershed Management Plan Adoption

Development of the Next Generation Watershed Management Plan continued in 2015. In 2015, activities included responding to comments from State agencies and stakeholders gathered during the formal 60-day review period, submitting the Plan for the final 90-day review, and presenting the Plan to the Metro Subcommittee of the MN Board of Water and Soil Resources (BWSR). At its meeting in September 2015, the BCWMC passed a resolution adopting [2015 Bassett Creek Watershed Management year Watershed Management Plan](#). The most significant change in BCWMC policies is the implementation of the MPCA's Minimal Impact Design Standards (MIDS) as the BCWMC development/redevelopment standards.

## D. BCWMC Goals

**BCWMC Mission:** Stewardship of water resources to protect and enhance our communities.

### BCWMC Goals

The BCWMC's goals, as stated in its *2015 Watershed Management Plan*, fall under the categories of water quality, flood control, erosion and sediment control, stream restoration, wetland management, groundwater, public ditches, and public involvement and information. The goals are to:

- Manage the surface water resources of the watershed to meet or exceed state standards and BCWMC water quality goals for wetlands, lakes, and streams.
- Improve the quality of stormwater runoff reaching the Mississippi River by reducing nonpoint source pollution.
- Protect and enhance fish and wildlife habitat in the BCWMC.
- Consider aesthetics and recreational opportunities within the watershed when completing BCWMC projects.
- Reduce stormwater runoff volume for the purposes of improving water quality.
- Protect against flood risks along the Bassett Creek trunk system.
- Protect human life, property, and surface water systems that could be damaged by flood events.
- Reduce stormwater runoff rates and volumes to minimize flood problems, flood damages, and the future costs of stormwater management systems.
- Provide leadership and assist member cities with coordination of intercommunity stormwater runoff issues.

- Notwithstanding that which occurs from natural processes, minimize erosion and sedimentation to protect the BCWMC's water resources and health, safety and welfare.
- Maintain or improve shoreland integrity and implement stream restoration measures to maintain or enhance ecological functions as well as human health, safety, and welfare.
- Increase the quality and quantity of wetlands in the BCWMC.
- Protect the quantity and quality of groundwater resources.
- Manage public ditches in a manner that recognizes their current use as urban drainage systems and as altered natural waterways.
- Raise awareness of the BCWMC's existence and its role in protecting and improving water quality, minimizing flooding, and preserving the watershed's ecological functions and aesthetics.
- Strengthen public confidence in the BCWMC's expertise and enable meaningful public participation in the planning process and ongoing projects conducted by the BCWMC.
- Raise awareness of the impact that individuals, businesses, and organizations have upon water resources and motivate these audiences to change personal/corporate behavior that has a negative impact on the watershed.
- Minimize the spread and manage the adverse impacts of harmful aquatic invasive species.
- Develop a greater understanding of climate change and its impact on water resources, including stormwater infrastructure capacity and flooding, and develop strategies to appropriately manage future impacts.

## E. 2015 Activities

The BCWMC conducted the following activities in 2015. Work associated with review of development proposals is listed in Section E. Work related to water quality monitoring is addressed in Section F.

### 1. Capital Improvements Program (CIP)

The BCWMC continued to implement its capital improvements program. The complete 10-year CIP can be found in Table 5-3 in Section 5.0 of the 2015 Watershed Management Plan. (<http://www.bassettcreekwmo.org/document/wmp-plans>) Information, photos, related documents (including final documents of completed projects), and progress on projects can be found at: <http://www.bassettcreekwmo.org/projects>. In 2015, progress on CIP projects included:





- COMPLETED - Restoration of the Bassett Creek Main Stem through Theodore Wirth Park in Minneapolis and Golden Valley: This project was partially funded by a Clean Water Land & Legacy Funds through a MN Board of Water & Soil Resources grant. Work included streambank stabilization and restoration of buffers to reduce erosion and improve habitats.
- COMPLETED - Construction of a water quality treatment pond the Briarwood/Dawnview area of Golden Valley: This new pond was constructed in late summer and fall 2015 and will capture and treat runoff from 184 acres of residential properties. Post construction modeling shows estimates that the pond will remove 40 pounds of total phosphorus and 23 tons of total suspended solids annually.
- COMPLETED - The Schaper Pond Diversion Project in Golden Valley is expected to significantly improve the water quality of Sweeney Lake, just downstream. This project modified Schaper Pond by installing a floating baffle that redirects flow through the pond and to increase its ability to remove phosphorus. Construction was complete in December 2015 and final vegetation management be wrapped up at the site in spring 2016.
- COMPLETED - Twin Lake in Golden Valley was treated with alum to reduce the amount of phosphorus available for algae and to maintain excellent water clarity in the lake. Although another alum dose may be needed in the next couple years to fully complete the intended project, excellent water quality should continue in the lake.
- IN CONSTRUCTION - 2015 Main Stem Restoration Project 10th Avenue to Duluth Street, Golden Valley: The 90% design plans for this project were approved by the BCWMC at their June 2015 meeting. Construction began late in 2015 and is being constructed in two phases. Phase one includes stream bank shaping, placement of field stone rock and 12-inch bio-logs, and repair of storm sewer outlets. Phase two includes the establishment of native vegetation along the stream which will start spring 2016 and will continue over two additional growing seasons to ensure proper establishment.
- STARTED – After a Plan Amendment (see below), the Northwood Lake Improvement Project in New Hope got underway in 2015 with approvals of the 50% and 90% design plans in September and November, respectively. The project received two State grants totaling \$700,000 including a Clean Water Partnership Grant from the MPCA and a Clean Water Fund grant from the BWSR. The project will be constructed in 2016.

- **STARTED** – After a Plan Amendment (see below), the Honeywell Pond Expansion Project in Golden Valley got underway in 2015 with approvals of the 50% and 90% design plans in September and November, respectively. The project will be constructed in conjunction with the Douglas Drive reconstruction project slated for 2017.
- **ON HOLD** - Four Seasons Mall Area Water Quality Project in Plymouth: Although project plans were approved in 2013, this project was delayed due to significant concerns from local residents. Alternatives were evaluated in 2014 and 2015. It is anticipated that a project will be implemented with redevelopment of the commercial site, expected in the next few years.
- **STUDIES STARTED** – Feasibility studies began for the BCWMC’s 2017 CIP Projects including the Plymouth Creek Restoration Project (Annapolis Lane to 2,500 feet upstream in Plymouth) and the Main Stem Bassett Creek Streambank Erosion Repair Project in Minneapolis. The feasibility studies for these projects will be completed in early 2016.
- **PLAN AMENDMENT** - A major plan amendment was submitted to and approved by BWSR and adopted by the BCWMC in 2015 to revise the BCWMC’s 10-year CIP in its 2004 Watershed Management Plan (prior to adoption of the 2015 Plan):
  - Revising a project in New Hope to improve water quality in Northwood Lake (NL-1) in the Capital Improvement Program (CIP) from the construction of two stormwater ponds (NB-35A,B,C and NB-29A,B) to the construction of one pond just upstream (west) of Northwood Lake and the construction of a stormwater reuse system with bioretention basins in Northwood Park near the east end of the lake; and
  - Adding to the CIP a project (BC-4) in Golden Valley to expand an existing pond (Honeywell Pond) to provide stormwater quantity and water quality improvements, divert currently untreated stormwater to the pond, and provide opportunities for reuse of water from the pond. This work is to be completed in conjunction with the Douglas Drive street reconstruction project, in an area tributary to Bassett Creek.

## **2. Grant Administration**

- Submitted project updates and final report for the BWSR Clean Water Fund Grants for the Main Stem channel restoration, Golden Valley Rd. to Irving Avenue N. (Cedar Lake Rd.), in Minneapolis and Golden Valley (2012 Grant)
- Received grant and developed work plan and submitted project update for MPCA Clean Water Partnership Grant for the Northwood Lake Improvement Project in New Hope. (2015 Grant)

- Received grant and developed work plan for BWSR Clean Water Fund Grant for the Northwood Lake Improvement Project in New Hope. (2015 Grant)

### **3. Annual Report**

The BCWMC prepared the 2014 Annual Report as set forth in the Minnesota Rules Chapter 8410.0150. The report was submitted to the Board of Water and Soil Resources and is available online at the Bassett Creek Watershed Management Commission website at <http://www.bassettcreekwmo.org>.

### **4. Citizen Participation**

The BCWMC encourages citizen participation, including providing an opportunity at each monthly BCWMC meeting for the Commission to hear citizen-input about agenda and non-agenda items. The BCWMC posts its meeting calendar, upcoming meeting agendas, meeting materials, and previous meeting minutes on its website ([www.bassettcreekwmo.org](http://www.bassettcreekwmo.org)) to provide citizens an opportunity to attend BCWMC and BCWMC Committee meetings and to monitor BCWMC actions. The BCWMC notified the public and the member cities of and held public meeting on March 19, 2015 to receive comments on the proposed major plan amendment to the BCWMC's *2004 Watershed Management Plan* to incorporate new projects in the CIP list, and of another public hearing on May 21, 2015 to receive comments on the draft *2015 Bassett Creek Watershed Management Plan*. Also, the BCWMC notified the public and the member cities and held a public hearing on August 20, 2015, regarding the proposed CIP projects: Northwood Lake Improvement Project in New Hope and the Honeywell Pond Expansion Project in Golden Valley. (See Section H below for further information on public involvement and education.)

### **5. BCWMC Website**

In 2015, the BCWMC contracted with HDR, Inc. to provide technical services in redesigning its website. The BVWMC Education Committee provided input and helped guide the development of the new site. The new website launched early in 2016 and features easily accessed data and information on the priority lakes and streams and BCWMC Capital Improvement Projects, along with a meeting and event calendar, interactive maps, and a document library. A "latest news" section and "featured project" will on the homepage will be updated regularly. A BCWMC Facebook page is also a new addition to help disseminate information about the watershed and projects.

### **6. Water Quantity**

The BCWMC continued its lake- and stream-gauging program. The lake-gauging program consisted of collecting lake-level readings at Medicine Lake, Sweeney Lake, Parkers Lake, Westwood Lake, Crane Lake (Ridgedale Pond), Northwood Lake and the Theodore Wirth Park storage area (upstream of the

Highway 55 control structure). Lake levels were measured twice per month between April and September, and once per month outside this period.

The stream-gauging program consisted of periodically surveying stages or inspecting the creek during periods of high flow. The BCWMC also participated with the Metropolitan Council and Minneapolis Park and Recreation Board on the watershed outlet monitoring program (WOMP) designed to continuously monitor flow and water quality.

## **7. Watershed Inspections**

As of the 2014 fiscal year, the BCWMC no longer performs monthly erosion control inspections of construction sites within the watershed. The watershed inspection program includes BCMWC inspection of sites or sending communications to developers, only at the request of the member cities or the Commission. No inspections were requested or performed in 2015.

## **8. Flood Control Project Inspections**

On October 14-15, 2015, the BCWMC performed its annual flood control project inspection. The conditions of the flood control features were inspected and erosion, settlement, sedimentation, and structural issues were recorded, compiled into a report, and reported to the Commission at its December 17, 2015 meeting. The BCWMC distributed its findings and recommendations to the Minnesota Department of Natural Resources, the Army Corps of Engineers, and staff at the BCWMC member cities. The 5-year double box culvert inspection was performed on December 9-10, 2014. In cooperation with the City of Minneapolis, a separate report was prepared during 2015 regarding the box culvert inspection. Following review of the draft report, the City requested GIS mapping of the inspection and defects resulting in the report being published in 2016.

## **9. Development of Responsibilities and Funding Mechanisms for Rehabilitation and Replacement of Flood Control Project Features**

At their May 21, 2015 meeting, the BCWMC authorized staff to perform a study to determine responsibilities for major rehabilitation and replacement of the Flood Control Project features and establish the associated funding mechanisms as per policy in the 2015 Watershed Management Plan. The BCWMC Engineer prepared background information and recommendations in a document that the Technical Advisory Committee (TAC) began discussing in September 2015. The TAC continued discussions at their November 2015 and January 2016 meetings. Final TAC discussions and recommendations to the BCWMC will occur in 2016.

## **10. XP-SWMM Phase II Project**

At their April 16, 2015 meeting, the BCWMC approved the XP-SWMM Phase 2 work, to be phased over BCWMC fiscal years 2015 and 2016. The work involves updating the watershed-wide XP-SWMM model developed in 2012 by further subdividing the watershed divides, incorporating upstream storage in ponds and wetlands, including the associated storm sewer data, using new soils data, incorporating Atlas 14 precipitation data, adjusting vertical datums, performing flow monitoring, calibrating the model, and preparing a report. The BCWMC received a Flood Control Reduction Grant from the Minnesota DNR for work related to this project in 2016. In 2015, the work included completion of the following tasks:

- Detailed Modeling, Plymouth Creek Watershed
- Detailed Modeling, Medicine Lake Direct Watershed
- Flow Monitoring, North Branch Bassett Creek

## **11. Development Proposals**

The BCWMC reviewed 38 development proposals in the watershed for conformance to water quality and flooding policies. As a comparison, the BCWMC reviewed 35, 41, 37 and 32 development proposals respectively in 2014, 2013, 2012 and 2011, See Section E: Project Reviews.

## **12. Review of Municipal Plans and Adjacent WMO Plans/Plan Amendments**

In 2015, the BCWMC did not receive any municipal plans nor adjacent WMO plans/plan amendments for review.

## **13. Technical Advisory Committee**

Technical Advisory Committee meetings are open to the public and the meeting times and dates are posted on the BCWMC's website as well as at the BCWMC's official notice posting site of Golden Valley City Hall. The BCWMC directed its Technical Advisory Committee (TAC) to meet eight times during the 2015 fiscal year to review and work on the following items:

- Final review of the draft 2015 Watershed Management Plan and recommendations for revisions to BCWMC "Requirements Document"
- Development of the 2017 – 2021 Capital Improvement Program list
- Study of the roles, Responsibilities, and funding mechanisms for long term maintenance and replacement of BCWMC Flood Control Project
- Revisions to policies related to the BCWMC Channel Maintenance Fund
- Development of a detailed watershed-wide XP-SWMM model (Phase II)

- Processes and procedures for improving the CIP process and implementation
- Review of the Upper Mississippi River Bacteria TMDL

#### 14. Resolutions

The BCWMC passed 7 business-related resolutions in 2015 and 3 resolutions of appreciation to former Commissioners and staff. Copies of the business-related resolutions are included in Appendix B.

#### 15. Impaired Waters and Total Maximum Daily Loads (TMDL) Studies

The following water bodies in the Bassett Creek Watershed are listed in the Minnesota Pollution Control Agency’s (MPCA) Draft 2014 “*Inventory of Impaired Waters*”. The inventory includes listings of (1) impaired waters that require the development of a TMDL study, (2) impaired waters that have an approved TMDL study, but are not yet meeting water quality standards, and (3) impaired waters from natural causes that do not require a TMDL study. The inventory is available at the MPCA’s Impaired Waters website: <http://www.pca.state.mn.us/water/tmdl/tmdl-303dlist.html>.

<b>Water Body (Lake/River ID #)</b>	<b>Pollutant or Stressor (Year of Listing)</b>
Bassett Creek from Medicine Lake to Mississippi River (07010206-538)	Fish bioassessments (2004) Fecal coliform (2008) Chloride (2010)
Plymouth Creek from Headwaters to Medicine Lake (07010206-526)	E. coli (2014) Chloride (2014) <sup>2</sup>
North Branch Bassett Creek from Northwood Lake to Bassett Creek (07010206-526)	E. coli (2014)
Sweeney Lake (27-0035-01)	Nutrient/Eutrophication Biological indicators (2004) Chloride (2014) <sup>2</sup>
Wirth Lake (27-0037-00)	Nutrient/Eutrophication Biological indicators (2002) <sup>3</sup> Mercury in fish tissue (1998) <sup>1</sup> Chloride (2014) <sup>2</sup>
Medicine Lake (27-0104-00)	Nutrient/Eutrophication Biological indicators (2004) Mercury in fish tissue (2004) <sup>1</sup>
Parkers Lake (27-0107-00)	Mercury in fish tissue (1998) Chloride (2014) <sup>2</sup>
Spring Lake (27-0654-00)	Chloride (2014) <sup>2</sup>
Northwood Lake (27-0627-00)	Nutrient/Eutrophication Biological indicators (2004)

<sup>1</sup> The MPCA completed a statewide mercury TMDL that was approved 2007

<sup>2</sup> MPCA proposed several new impairment listings for chloride in September, 2013. Following responses to comments, these listings remained on the 2014 Proposed Impaired Waters List (updated 4/15/2014).

<sup>3</sup> See discussion below for delisting of Wirth Lake for this impairment in 2014

- **Bassett Creek Fish Bioassessment Listing**—In the Final EPA-Approved MPCA 2004 CWA 303(d) *List of Impaired Waters*, the Main Stem of Bassett Creek, from Medicine Lake to the Mississippi River, was listed as impaired for fish (biota). In response to this listing, the MPCA completed fish sampling of the creek in 2008. The MPCA is currently reviewing the existing biota standards/listing criteria. The TMDL will be completed as part of the future watershed-wide TMDL (see “Watershed-wide TMDL”).
- **Bassett Creek Fecal Coliform Listing and E. coli listings for Plymouth Creek and North Branch, Bassett Creek** —In the 2008 *Final TMDL List Inventory of all Impaired Waters*, Bassett Creek, from Medicine Lake to the Mississippi River, was listed as impaired for fecal coliform. In response to this listing, the BCWMC and the MPCA cooperated in collecting and analyzing E. coli samples of Bassett Creek between July 2008 and June 2010. The samples confirmed the presence of E. coli bacteria. The Bassett Creek watershed is included in the Upper Mississippi River Bacteria TMDL project. Additional data for the Upper Mississippi River E. coli TMDL was collected in 2010 and 2011, and identification of the likely sources of bacteria pollution began in 2011 and continued in 2013. Stakeholder meetings also continued in 2013. The TMDL report incorporated the draft 2014 impaired waters listings for E. coli in Plymouth Creek and North Branch, Bassett Creek, and was approved in 2014. The BCWMC provided a comment letter on the TMDL study in May, 2014, reviewed the TMDL Implementation Plan in 2015, and attended the June 25, 2015 TAC meeting to discuss the plan with MPCA staff. The final TMDL Implementation Plan was approved by the MPCA in February, 2016. The Upper Mississippi River E. coli TMDL project website maintained by the MPCA is at <https://www.pca.state.mn.us/water/tmdl/upper-mississippi-river-bacteria-tmdl-project>.
- **Sweeney Lake TMDL Study**—In the *Final EPA-Approved MPCA 2004 CWA 303(d) List of Impaired Waters*, Sweeney Lake was listed as impaired due to excess nutrients (phosphorus). The TMDL was approved on August 10, 2011.
- **Wirth Lake TMDL Study**—In the *Final EPA-Approved MPCA 2004 CWA 303(d) List of Impaired Waters*, Wirth Lake was listed as impaired due to excess nutrients (phosphorus in amounts greater than the state’s goal of 40 micrograms per liter). The Wirth Lake TMDL and implementation plan were approved October 25, 2010. The implementation plan identified one project—modifying the Wirth Lake outlet structure to prevent flow from Bassett Creek to Wirth Lake during flood periods—to achieve the annual load reductions prescribed in the TMDL. The Wirth Lake Outlet Modification Project is estimated to reduce phosphorus loading to the lake by an average of 55 pounds per year. The project was substantially completed in November 2012. A detailed comparison of the lake water quality during the past ten years with MPCA’s eutrophication standards revealed that Wirth Lake was no longer impaired for excess nutrients. A request for re-categorization was submitted to MPCA in October, 2013. In December, 2013 the BCWMC submitted a technical memorandum to MPCA requesting delisting of Wirth Lake for

nutrient/eutrophication biological indicators. The memo provided a detailed water quality evaluation for MPCA consideration during the formal comment period for development of the draft 2014 impaired waters list. MPCA responded to the delisting request by removing Wirth Lake from the Impaired Waters list in July, 2014.

- **Medicine Lake TMDL Study**—In the *Final EPA-Approved MPCA 2004 CWA 303(d) List of Impaired Waters*, Medicine Lake was listed as impaired due to excess nutrients (phosphorus). The TMDL and implementation plan were approved on February 8, 2011.
- **Watershed-wide TMDL** —In 2011, the MPCA indicated that funding for a watershed-wide TMDL for the Bassett Creek watershed would be available in 2020 or later. The watershed-wide TMDL would cover the current Bassett Creek and Northwood Lake impairments, along with any future listings between now and 2020.
- **Twin Cities Metro Area (TCMA) Chloride Project** —In the *2014 Draft TMDL List Inventory of all Impaired Waters*, MPCA proposed several new impairment listings for chloride in September, 2013. Following responses to comments from BCWMC, five listings (tabulated above) remained on the 2014 Proposed Impaired Waters List (updated 4/15/2014). Based on the available monitoring data for chloride, three BCWMC water bodies—Northeast drainage to Medicine Lake, the Rockford Road drainage to Medicine Lake and Medicine Lake, were placed in a category of high risk waters, which can be viewed as a watch list for future changes. The MPCA recently finalized the TCMA Chloride Management Plan that is intended to balance the public safety needs for deicing with attainment of the chronic and acute water quality standards for chloride. The BCWMC provided comments on the draft TMDL Report and Chloride Management Plan in August 2015. The management plan will include a performance-based approach for meeting chloride TMDLs and is also intended to protect water bodies with water quality that is currently better than the standard. A winter maintenance assessment tool has recently been developed to support TMDL implementation efforts. The Chloride TMDL and road salt/water quality project website maintained by the MPCA is at <https://www.pca.state.mn.us/water/road-salt-and-water-quality>.
- **TMDL Implementation Reporting** — Although the BCWMC is not a MS4, the Wirth Lake, Medicine Lake, and Sweeney Lake TMDLs assigned the BCWMC a role in the implementation of the TMDLs. For example, the Medicine Lake TMDL calls for the BCWMC to serve as the “convener of action for the categorical TMDL, but not as a responsible entity.” The BCWMC’s interpretation of this role is that the BCWMC should track implementation of the TMDLs, which would likely include the following tasks:
  - Reporting on TMDL implementation activities to the MPCA. TMDL progress reports will be due one year after the MPCA issues the new MS4 permit. However, the new MS4 permit



was not issued in 2012, so the BCWMC did not develop the implementation reports. The new MS4 permit became effective on August 1, 2013, which means the TMDL progress reports will be due each year after that, in June.

- Estimating and reporting progress towards achieving the assigned wasteload allocations. The BCWMC's watershed P8 model, originally completed in 2013 and updated annually, is an essential tool for estimating reductions in phosphorus loading.
- Monitoring lake water quality on an annual basis. See Section G "2015 Water Quality Monitoring Data and Studies" regarding monitoring of these lakes in 2015.

## F. BCWMC Project Reviews

The following table, *Proposed projects reviewed by BCWMC in fiscal year 2015* includes development proposals and other plans that were submitted to the BCWMC for review. The list does not include review of capital improvement projects and preliminary review of the Blue Line and Southwest LRT projects.

### Proposed projects reviewed by BCWMC in fiscal year 2015<sup>1</sup>

Appl. Form	Project Name	Date Submitted	City	Type
2014-31	Golden Valley 2015 Pavement Mgmt Pl.	1/21/2015	GV	Street / Public Agency
<b>2015-01</b>	<b>Vicksburg Lane Reconstruction</b>	<b>1/29/2015</b>	<b>PLY</b>	<b>Street / Public Agency</b>
2015-02	Centerpoint Energy	2/27/2015	GV	Commercial
2015-03	Vicksburg Ridge	2/17/2015	PLY	Single Family Lot
2015-04	Struther's Parkinson's Center	2/19/2015	GV	Commercial
<b>2015-05</b>	<b>France/Indiana Ave Reconstruction</b>	<b>3/27/2015</b>	<b>ROB</b>	<b>Street / Public Agency</b>
2015-06	TH 55 - TH 100 Ramp	3/24/2015	GV	Street / Public Agency
2015-07	Plymouth Medical Center	3/26/2015	PLY	Commercial
2015-08	2015 Pavement Management Area 3A	4/21/2015	SLP	Street / Public Agency
2015-09	Crossroads Commons, 2nd Addition	4/23/2015	PLY	Commercial
2015-10	Plymouth Point Bus. Ctr.	4/24/2015	PLY	Commercial
<b>2015-11</b>	<b>26th Ave. Development - Mpls (Theodore Wirth Pkwy to Irving Ave.)</b>	<b>4/24/2015</b>	<b>MPLS</b>	<b>Street / Public Agency</b>
2015-12	Sandburg Athletic Field Improvements	5/13/2015	GV	Other 5-20 acres
2015-13	Solutran Headquarters	5/28/2015	PLY	Commercial
<b>2015-14</b>	<b>Plymouth Ice Ctr./Life Time Parking Lot Expansion</b>	<b>5/28/2015</b>	<b>PLY</b>	<b>Public Agency</b>
2015-15	King of Grace LC Site	6/5/2015	GV	Other 5-20 acres
2015-16	Mini-Hops Gymnastics (Parking Lot Improvements)	6/10/2015	PLY	Commercial
2015-17	Jet 55 Corporate Center	6/23/2015	PLY	Commercial
2015-18	Liberty Crossing Development	6/25/2015	GV	Multi-residential
2015-19	Parking Lot Exp. 7724 Winpark Dr.	7/9/2015	NH	Commercial
2015-20A	Golden Villas-Demolition	8/7/2015	GV	Multi-residential
<b>2015-20B</b>	<b>Golden Villas</b>	<b>7/31/2015</b>	<b>GV</b>	<b>Multi-residential</b>
2015-21	Henn Cty ACF Site Security Expansion	7/31/2015	PLY	Other >20 acres
2015-22	Fretham Twenty Four 2nd Add	7/31/2015	PLY	Single Family Lot
2015-23	Tennant Co. Site Improvements	7/31/2015	GV	Commercial 5-20 acres
2015-24	Ramada Conversion	9/10/2015	GV	Commercial
2015-25	Plymouth Cr. Christian Church Addition	8/21/2015	PLY	Commercial
<b>2015-26</b>	<b>Sochacki Trail Paving</b>	<b>8/27/2015</b>	<b>ROB</b>	<b>Public Trails</b>
<b>2015-27</b>	<b>Cornerstone Creek</b>	<b>8/28/2015</b>	<b>GV</b>	<b>Multi-residential</b>
<b>2015-28</b>	<b>Dani Araya (2241 Legend Drive)</b>	<b>9/21/2015</b>	<b>GV</b>	<b>Single Family Lot</b>
2015-29	Proto Labs - Parking Lot Expansion	9/25/2015	PLY	Commercial
<b>2015-30</b>	<b>239 Peninsula Rd (Solar Install)</b>	<b>10/5/2015</b>	<b>ML</b>	<b>Single Family Lot</b>
<b>2015-31</b>	<b>1130 Angelo Drive</b>	<b>10/30/2015</b>	<b>GV</b>	<b>Single Family Lot</b>
<b>2015-32</b>	<b>Douglas Drive</b>	<b>11/2/2015</b>	<b>GV</b>	<b>Street / Public Agency</b>
2015-33	TH 169 Drainage Imp (SP 2772-111)	11/13/2015	PLY	Street / Public Agency
2015-34	Waterford Innovation Center	10/15/2015	PLY	Commercial
2015-35	Park Place Drainage Improvement	12/15/2015	PLY	Street / Public Agency
2015-36	10th Ave-UP Rail Culvert Repairs	1/22/2016	GV	Street / Public Agency

- <sup>1</sup>Projects in **bold** were presented for BCWMC review and comment at a BCWMC meeting.

## G. Water Quality Monitoring Data and Studies

The following water quality monitoring and water quality studies were performed:

- **Citizens Assisted Lake Monitoring Program (CAMP)** — The BCWMC participated with the Metropolitan Council Environmental Services (MCES) in its citizen-assisted lake-monitoring program (CAMP). In 2015, citizen volunteers monitored the following lakes: Twin Lake and Sweeney Lake in Golden Valley, Northwood Lake in New Hope, two sites on Medicine Lake in Medicine Lake and Plymouth, Parkers Lake and Lost Lake in Plymouth, and Westwood Lake in St. Louis Park. Reports that include CAMP monitoring results can be found on the Met Council website at:  
[http://es.metc.state.mn.us/eims/related\\_documents/view\\_documents\\_by\\_topic.asp?optn=12](http://es.metc.state.mn.us/eims/related_documents/view_documents_by_topic.asp?optn=12)
- **Detailed stream monitoring at Bassett Creek WOMP station**—Stream monitoring was performed in cooperation with the Metropolitan Council Environmental Services (MCES) as part of the stream monitoring and watershed outlet monitoring program (WOMP). The BCWMC contracts with Wenck & Associates to perform monitoring activities at this station.  
<http://www.metrocouncil.org/Wastewater-Water/Services/Water-Quality-Management/Stream-Monitoring-Assessment.aspx?source=child>
- **Westwood Lake Monitoring**—In 2015, the BCWMC monitored the water quality of Westwood Lake in St. Louis Park. Water samples were collected from the Westwood Lake the deepest location in the lake basin on six occasions from April through September 2015 and analyzed in the laboratory for total phosphorus, soluble reactive phosphorus, total nitrogen, and chlorophyll *a*. Dissolved oxygen, temperature, specific conductance, pH, oxidation reduction potential (ORP), Secchi disc transparency (Secchi depth), and turbidity were measured in the field. On five occasions from June through September, water samples were collected and analyzed for phytoplankton (algae) and zooplankton (microscopic crustaceans). An aquatic plant survey was also performed on two occasions, in June and August.

In 2015, summer average total phosphorus and chlorophyll *a* concentrations and Secchi disc transparency met the BCWMC/Minnesota Pollution Control Agency (MPCA) standards. Trend analyses indicate significant reductions in summer average total phosphorus and chlorophyll *a* concentrations during the past 10 years. Secchi disc transparency depths have increased over that time period, but the increases are not significant, and are unable to

increase further as the Secchi disc was visible to the lake bottom. Overall, the lake's water quality has significantly improved over the past 10 years. Specific conductance measurements in 2015 indicate that chloride concentrations in Westwood Lake during 2011 and 2015 ranged from about 40 to 50 mg/L, well below the MPCA chronic standard of 230 mg/L. In 2015, *Lynchnothamnus barbaratus* (bearded stonewort) was observed in Westwood Lake (and Minnesota) for the first time. Genetic testing is underway to determine whether the plants in Westwood Lake are genetically similar to the Wisconsin populations and/or other known populations in the world. The BCWMC prepared the report "*2015 Lake Water Quality Study, Westwood Lake*" (BCWMC, March 2016). The report is available on the BCWMC Web site (<http://www.bassettcreekwmo.org/lakes-streams/westwood-lake>).

- **Biotic Index Evaluation of Bassett Creek and Plymouth Creek**—In 2015, the BWMC performed biotic index monitoring on its priority streams: Main Stem Bassett Creek, Plymouth Creek, North Branch Bassett Creek, and Sweeney Lake Branch Bassett Creek. The BCWMC began periodic monitoring of the macroinvertebrate communities in these creeks in 1980 and has monitored every three years since 2000. The BCWMC has used biotic indices to evaluate the water quality of Plymouth and Bassett Creeks since 1980. The BCWMC used the Hilsenhoff Biotic Index (HBI) (since 1980) and the Invertebrate Community Index (ICI) (since 1995) to evaluate existing water quality and assess changes over time. In 2015, the BCWMC added a third biotic index—the Macroinvertebrate Index of Biotic Integrity (MIBI)—to help identify biologically impaired streams by assessing the health of their macroinvertebrate communities. In 2015, the BCWMC also added water quality and habitat monitoring to the program. The water quality and habitat data provide insight into the factors that influence the quality of the biological community. The BCWMC prepared the report "*2015 Biotic Index Evaluation of Plymouth Creek and Bassett Creek*" (BCWMC, March 2016). The report is available on the BCWMC Web site under individual creek pages at <http://www.bassettcreekwmo.org/lakes-streams>.
- **Wirth Lake and Spring Lake Monitoring Data**—In 2015, the Minneapolis Park & Recreation Board (MPRB) monitored the water quality of Wirth Lake and Spring Lakes. The MPRB monitors Wirth Lake annually and Spring Lake every other year. The MPRB's latest *Water Resources Reports* are available on the Minneapolis Park & Recreation Board website at: [https://www.minneapolisparke.org/park\\_care\\_improvements/water\\_resources/#group\\_2\\_216566](https://www.minneapolisparke.org/park_care_improvements/water_resources/#group_2_216566)

- **Medicine Lake**—The Three Rivers Park District (TRPD) monitored Medicine Lake in 2015. Monitoring results are available from TRPD or the City of Plymouth.
- **Stormwater flow monitoring and in-stream water quality monitoring** in the watersheds of Parkers Lake (two sites), Medicine Lake (two on Plymouth Creek, one on Wood Creek and one other site), and Northwood Lake (one site) was performed on behalf of the City of Plymouth by the Three Rivers Park District (TRPD). The 2015 results are included in a report by TRPD and available at the City of Plymouth’s website at: <http://www.plymouthmn.gov/index.aspx?page=258>.
- **River Watch Program**—The BCWMC continues to support the Hennepin County Environmental Services’ River Watch Program. The program began in 1995 and uses student volunteers to conduct biological monitoring as a means of monitoring water quality. The grading scale used in River Watch takes into account three major biotic indices used routinely in biological monitoring programs:
  - The Family Biotic Index, which measures the overall community of invertebrates and their tolerance to pollution levels. The scale ranges from 0 to 10 with the lower values indicating high sensitivity and good water quality if present.
  - EPT, which stands for Ephemeroptera, Plecoptera, and Trichoptera, or mayflies, stoneflies, and caddisflies. These three families include the most sensitive individuals and are looked at for indications of presence or absence. Higher scores indicate better water quality.
  - The number of families, which measures the overall abundance of families or total diversity of family units. Again, with this index, the higher the number the better.

Students have been monitoring Bassett Creek since 1999. There were three River Watch sites in the Bassett Creek watershed in 2015. The *Hennepin County River Watch Report 2015* is available on the Hennepin County website at <http://www.hennepin.us/business/work-with-henn-co/riverwatch> .

## H. Local Plan Adoption

The following table shows the status of the surface water management plan preparation for each municipality.

<b>Municipality</b>	<b>Local Plan Status</b>	<b>Comments</b>
Crystal	Completed	Local plan was approved by the BCWMC in January 2010. Resolution 10-02.
Golden Valley	Completed	Revised plan was approved by the BCWMC in September 2008. Resolution 08-06.
Medicine Lake	Completed	Local plan was approved by the BCWMC in January 2010. Resolution 10-05.
Minneapolis	Completed	Local plan was approved by the BCWMC in September 2006. Resolution 2006-04.
Minnetonka	Completed	Revised local plan was approved by the BCWMC in September 2008. Resolution 08-05.
New Hope	Completed	Revised plan was approved by the BCWMC in October 2008. Resolution 08-08.
Plymouth	Completed	Local plan conditionally approved by the BCWMC in February 1999. Resolution 99-3. Revised plan was approved by the BCWMC in November 2008. Resolution 08-09.
Robbinsdale	Completed	Local plan was approved by the BCWMC in October 1996; reconfirmed in April 1997. Resolution 97-5. Local plan was reviewed as part of the city's comprehensive plan review in 2008. Revised plan was submitted to the BCWMC for review in December 2009. Resolution 10-04.
St. Louis Park	Completed	Revised plan was approved by the BCWMC in September 2009. Resolution 09-06.

## I. Watershed Communication/Public Education

In accordance with Minnesota Rules, Chapter 8410.0100, Subpart 4, the BCWMC utilized the following information sources for providing information to the general public:

- **Improvements and Development Requirements**—The document *Requirements for Improvements and Development Proposals*, prepared by the BCWMC (updated in 2015), is posted for use and reference on the BCWMC's website at <http://www.bassettcreekwmo.org/developer>.
- **Website**—The BCWMC maintained information on its website during 2015 and made a significant upgrade to the site which launched in early 2016. In 2015, there were

approximately 191,978 visits, or 525 per day. A copy of the website Usage Report from January 1, 2015, through December 31, 2015, is included in the appendices. The BCWMC's contact list, meeting calendar, meeting materials, watershed plan, data, and projects are included on the website, among other documents and information. The address for the Bassett Creek Watershed Management Commission website is <http://www.bassettcreekwmo.org>.

- **BCWMC Meeting Packet**— Each month in 2015 the BCWMC posted electronic meeting packets on its website and e-mailed the link to approximately 40 parties. Additionally each month the BCWMC mailed a hard copy of meeting packet to approximately 16 interested parties. The packets included the BCWMC meeting agenda, meeting minutes, and meeting materials about the issues on the monthly meeting agenda.
- **Publications**—The Commission published its public hearing notices in a variety of Twin Cities metro-area publications including *Finance & Commerce*, *Sun Sailor*, and *Lakeshore Weekly News*.
- **West Metro Water Alliance (WMWA)** – The BCWMC continued its participation in WMWA along with several watershed management and other water-related organizations in the west Metro area. Through WMWA, these organizations collaborated on educational campaigns including the Watershed PREP program aimed at educating 4<sup>th</sup> grade students about water resources and the impacts of stormwater. WMWA also contracted with Metro Blooms to develop a campaign aimed at engaging residents and businesses in converting turf or hard surfaces to native plantings called “Pledge to Plant – 10,000 Plantings by 2025.” <http://www.westmetrowateralliance.org/>.
- **Metro WaterShed Partners**—The BCWMC participated as a member of the Metro WaterShed Partners as a general supporter of the program and also as a supporter of the Metro Clean Water Minnesota Media Campaign. Metro Watershed Partners maintains a listserv and a website as forums for information sharing, holds monthly meetings for members to collaborate, and displays an exhibit at the State Fair to educate the public about watersheds. The Clean Water Minnesota Media Campaign is a stormwater education collaboration that develops and delivers stormwater educational materials to a broad audience through television, radio, and billboard campaigns as well as through its website [www.cleanwatermn.org](http://www.cleanwatermn.org).

- **Watershed Map** – In 2014, the BCWMC contracted with Hoshal Advertising and Hedberg Maps to develop a printed watershed map for distribution among residents, stakeholders, and others. The map measures 17 x 30” (unfolded) and includes information about the BCWMC and its water resources, historical information about the watershed, and a list of practices homeowners can use to help improve water quality. The BCWMC continued distributing maps throughout 2015 and finds it a very useful and well-received education piece.
- **Participation in Community Events and Meetings** – In 2015, the BCWMC participated in the Plymouth Home Expo with an information booth and display. Water-related education materials and information was disseminated by watershed Commissioners during the two-day event. Also in 2015, the BCWMC participated in the Golden Valley Arts and Music Festival by manning an information booth and display where materials and maps were disseminated. Additionally, the BCWMC Administrator gave a presentation to Friends of Northwood Lake on the upcoming Northwood Lake Improvement Project in April 2015.
- **Non-Point Education for Municipal Officials** – In 2015 the BCWMC continued its support and cooperation with other watershed organizations and the University of Minnesota Extension to develop and present a series of workshops aimed at educating local appointed and elected officials and community leaders about stormwater and water issues.
- **Additional Educational Activities and Organizations** – In addition to the above mentioned programs, the BCWMC financially sponsored Metro Blooms, the Children’s Water Festival, and the Freshwater Society in 2015.

## **J. Professional Services Proposal**

The BCWMC last solicited letters of interest for legal and engineering/technical consulting services in December 2014. As per MN State Statute, the BCWMC will solicit proposals again in 2016.

## **K. Assessment of Changes in Fund Balance**

A discussion of the fund balance is included in the BCWMC’s annual financial audit report. A copy of the annual audit report is available on the BCWMC website at:

<http://www.bassettcreekwmo.org/document/annual-report-budget>.



## L. Wetland Conservation Act/Wetland Banking Program

**1991 Wetland Conservation Act**—The interim program of the 1991 Wetland Conservation Act was effective through December 31, 1993. On January 1, 1994, the permanent program of the 1991 Wetland Conservation Act became effective. Each municipality was required to designate the local government unit (LGU) responsible for administering the interim program and the permanent program of the 1991 Wetland Conservation Act. The following table indicates the local governmental unit for each municipality.

<b>Municipality</b>	<b>Permanent Program (Effective 1/1/94)</b>
Crystal	Crystal
Golden Valley	Golden Valley
Medicine Lake	BCWMC
Minneapolis	Minneapolis
Minnetonka	Minnetonka
New Hope	New Hope
Plymouth	Plymouth
Robbinsdale	BCWMC
St. Louis Park	BCWMC

BCWMC = Bassett Creek Watershed Management Commission

In 2015, the BCWMC submitted to BWSR its WCA annual report covering all 2015 WCA-related activities.

**Wetland Mitigation Policy**—The BCWMC's wetland mitigation policy specifies that filling or developing existing lakes and wetlands require an evaluation of the benefits of the wetland for stormwater storage, water quality enhancement, and wildlife habitat, as well as the development of a plan to mitigate the loss of those benefits somewhere in the affected municipality.

**Wetland Banking Program**—The BCWMC has not adopted a wetland banking program.

## II. 2016 Projected Work Plan

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Following is a list of tasks to be completed during 2016:

**A. Capital Improvements Program (CIP)**—The BCWMC will continue to implement its capital improvements program. In 2016, this work will include:

1. **Capital Improvement Program and Prioritization**—The BCWMC will review and update its capital improvement program and its water resource prioritization. The CIP is included in the report appendices.
2. **Progress on CIP projects:**
  - Complete vegetation management and site cleanup for Schaper Pond Diversion Project (SL-3) in Golden Valley to address Sweeney Lake TMDL.
  - Seek alternatives for the Lakeview Park Pond Project (ML-8) in Golden Valley—the original estimated project cost is \$196,000.
  - Seek alternatives and work with residents on the Four Seasons Area Water Quality Project (NL-2) in Plymouth—the estimated project cost is \$990,000.
  - Continue construction of the Main Stem Bassett Creek Restoration Project in Golden Valley (CR2015) 10<sup>th</sup> Avenue to Duluth St.- estimated project cost is \$1,503,000.
  - Begin construction of the Honeywell Pond Expansion Project (BC-4) in Golden Valley – estimated project cost is \$1,202,000 with the city contributing \$450,000 to the project.
  - Begin construction of the Northwood Lake Water Quality Improvement Project (NL-1) in New Hope with use of funds from City of New Hope and grants from BWSR’s Clean Water Fund and MPCA’s Clean Water Partnership Fund.
  - Order project and develop construction designs for Plymouth Creek Restoration Project (CR2017-P) in Plymouth from Annapolis Lane extending 2,500 feet upstream.

- Order project and develop construction designs for Main Stem Channel Restoration Project (CR2017-M) in Minneapolis from Cedar Lake Road to Irving Ave.

### **3. Begin feasibility studies for the following BCWMC 2018 CIP projects:**

- Bassett Creek Park Pond Dredging (BCP-2)

### **4. Grant Administration:**

- Submitting project updates, reports, etc. for the BWSR Clean Water Fund Grant and the MPCA Clean Water Partnership Grant for the Northwood Lake Improvement Project (NL-1).

**B. Watershed Management Plan**—In 2016 the BCWMC will implement its Capital Improvements Program and its annual water quality and flood control programs as described in the 2015 BCWMC *Watershed Management Plan*.

<http://www.bassettcreekwmo.org/document/wmp-plans>

## **C. Additional Monitoring, Studies, and Programs**

- 1. Watershed-wide XP-SWMM Model**— The BCWMC will continue to develop the XP-SWMM Phase 2 model. This work involves updating the watershed-wide XP-SWMM model developed in 2012 by further subdividing the watershed divides, incorporating upstream storage in ponds and wetlands, including the associated storm sewer data, using new soils data, incorporating Atlas 14 precipitation data, adjusting vertical datums, performing flow monitoring, calibrating the model, and preparing a report.
- 2. Water Quantity**—The BCWMC will perform its lake- and stream-gauging program. The lake-gauging program will encompass Medicine Lake, Sweeney Lake, Parkers Lake, Westwood Lake, Crane Lake (Ridgedale Pond), Northwood Lake, Bassett Creek Park Pond and Theodore Wirth Park Storage area upstream of the TH 55 control structure. Two readings per month will be taken during the period April 1 – September 30; one reading per month will be taken outside this period. The stream-gauging program will consist of periodically surveying stages or inspecting the creek during periods of high flow. The program also includes periodic surveys of benchmarks.

3. **Flood Control Project Inspection**—The BCWMC will perform its annual flood control project inspection program, as set forth in the Bassett Creek Flood Control Project Operations and Maintenance Manual.
4. **Municipal Plan Review**—The BCWMC will review of the member cities’ local water management plans and plan amendments, and BCWMC review of adjacent WMO plans and plan amendments.
5. **Water Quality**— Proposed water quality tasks for 2016 include performance of the following:
  - ***Water Quality Monitoring***: The BCWMC will perform detailed water quality monitoring as laid out in its Water Monitoring Program [http://www.bassettcreekwmo.org/application/files/7914/4676/6436/Appendix\\_A\\_Monitoring\\_Plan.pdf](http://www.bassettcreekwmo.org/application/files/7914/4676/6436/Appendix_A_Monitoring_Plan.pdf) In 2016, the BCWMC will cooperate with the City of Minnetonka to monitor Crane Lake, will cooperate with the City of Plymouth and Three Rivers Park District to monitor Medicine Lake, and will monitor Northwood Lake in the City of New Hope. In addition to collection of samples for chemical analysis, phytoplankton and zooplankton samples will be collected and analyzed, and an aquatic plant survey will be performed on two occasions.
  - ***Citizens Assisted Monitoring Program (CAMP)***: The BCWMC has entered into an agreement with the Metropolitan Council Environmental Services (MCES) to participate in this program. Volunteer citizens will monitor the following lakes in 2016: Twin Lake and Sweeney Lake in Golden Valley, two sites of Medicine Lake in the cities of Medicine Lake and Plymouth, Northwood Lake in New Hope, Westwood Lake in St. Louis Park, and Parkers Lake and Lost Lake in Plymouth.
  - ***Watershed Outlet Monitoring Program (WOMP)***: The BCWMC is the local sponsor of this monitoring site in cooperation and with funding support from the Metropolitan Council. The Metropolitan Council Environmental Services (MCES) will provide up to \$5,000 per year in financial support between January 1, 2016, and December 31, 2017, to the BCWMC for operating the station and maintaining the rating curve. The BCWMC entered into an agreement with a Wenck & Associates from its consulting pool to ensure the monitoring equipment is in working order, conduct routine maintenance of the WOMP site and equipment, collect samples, make in-situ field

measurements, and coordinate sample delivery to MCES in 2016. BCWMC staff will continue to maintain the rating curve.

- *Parkers Lake* will be monitored by TRPD, on behalf of the City of Plymouth.
- *Wirth Lake and Spring Lake* will be monitored by MPRB.
- **River Watch Program:** The BCWMC will participate in the River Watch program managed by Hennepin County Environmental Services (HCES); three sites on Bassett Creek will be sampled. HCES will provide a final report of the sampling results to the BCWMC.
- **Stormwater flow monitoring and in-stream water quality monitoring** in the Parkers Lake, Medicine Lake and Northwood Lake watersheds will be performed by the TRPD, on behalf of the City of Plymouth.
- **Development Reviews**—The BCWMC will review development proposals in the watershed for conformance to water quality and flooding policies.
- **Channel Maintenance Fund**—The BCWMC will continue to fund its Creek and Streambank Trunk System Maintenance, Repair and Sediment Removal Fund (the Channel Maintenance Fund). The BCWMC collects \$25,000 annually for the fund through an assessment paid by the member cities.
- **Flood Control Long-Term Maintenance Fund**—The BCWMC established a long-term maintenance fund to be used to repair structures associated with the BCWMC Flood Control Project. The BCWMC collects \$25,000 annually for the fund through an assessment paid by the member cities. The fund balance is not to exceed \$1 million.
- **Annual Report**—The BCWMC will prepare an annual report, submit the report to BWSR and member cities, and post it on the BCWMC website.
- **TMDL Implementation Reporting**— The EPA approved the Wirth Lake TMDL on October 25, 2010, the Medicine Lake TMDL on February 8, 2011, and the Sweeney Lake TMDL on August 10, 2011. These TMDLs assigned categorical waste load allocations, which means a watershed approach is to be taken in implementing water quality improvement measures in these watersheds. In 2015, the BCWMC will continue tracking the

implementation of the Medicine Lake, Sweeney Lake and Wirth Lake TMDLs. The BCWMC role will likely include the following tasks:

- Assisting the cities with reporting regarding TMDL implementation activities to the MPCA.
- Estimating and reporting progress towards achieving the assigned wasteload allocations. The BCWMC's watershed P8 model, completed in 2013, will be an essential tool for estimating reductions in phosphorus loading.
- Monitoring lake water quality on an annual basis. See "Water Quality" bullet above regarding monitoring of these lakes in 2016.

## **D. Education and Outreach**

The BCWMC will implement its 2016 education and outreach plan (as approved by the Commission). This plan includes financial contributions (and some staff or Commissioner participation in) to the following organizations and programs: Metro WaterShed Partners, River Watch, Citizen Assisted Monitoring Program, Metro Blooms, West Metro Water Alliance (includes staff participation), and the Children's Water Festival. The plan also includes funding for Commissioner registration fees for training or programs, and participation in community events such as the Plymouth Home Expo and Golden Valley Arts and Music Festival.

## **III. Annual Financial Report**

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The 2015 fiscal year for the Bassett Creek Watershed Management Commission (BCWMC) commenced on February 1, 2015 and ended January 31, 2016.

### **A. 2015 Approved Budget**

The approved operating budget for fiscal year 2015 was \$626,700. Each member's contribution toward the annual budget is based 50 percent on the total area of the municipality within the watershed and 50 percent on the tax capacity of the area within the watershed. A copy of the 2015 operating budget, 2015 revenues, and 2015 member-city assessment table are located in Appendix A.

### **B. Report of Revenues**

See the Financial Audit Report available online at <http://www.bassettcreekwmo.org/document/annual-report-budget>.

### **C. Report of Expenditures**

See the Financial Audit Report available online at <http://www.bassettcreekwmo.org/document/annual-report-budget>.

### **D. Financial Audit Report**

The annual audit report for the year ending January 31, 2016, was performed by Malloy Montague Karnowski Radosevich & Co., P.A. A copy of the annual audit report is available online at: <http://www.bassettcreekwmo.org/document/annual-report-budget>.

## APPENDIX A

### Financial Information

Documents included:

FY 2015 Operating Budget

FY 2015 Expected Income

FY 2015 Assessments to Member Cities



	A	E	F	G	H	I	J	K	L
1	<b>2015 Operating Budget</b>								
2	<b>Bassett Creek Watershed Management Commission</b>								
3	<b>Item</b>	<b>2011 Actual</b>	<b>2012 Budget</b>	<b>2012 Actual</b>	<b>2013 Budget</b>	<b>2013 Actual</b>	<b>2014 Budget</b>	<b>2015 Budget</b>	
4	<b>ENGINEERING &amp; MONITORING</b>								
5	Technical Services	127,840	120,000	97,715	120,000	133,347	120,000	120,000	
6	Development/Project Reviews (funded by fees)	50,971	60,000	49,972	60,000	62,902	65,000	65,000	(A)
7	Non-fee and Preliminary Reviews							15,000	(B)
8	Commission and TAC Meetings	9,919	14,250	8,284	14,250	17,390	16,000	14,500	(C)
9	Surveys and Studies	21,411	10,000	7,024	10,000	11,380	20,000	20,000	(D)
10	Water Quality / Monitoring	29,957	20,000	19,686	40,000	39,913	45,000	63,000	(E)
11	Water Quantity	8,532	11,000	9,671	11,000	10,250	11,000	11,500	
12	Inspections								
13	Watershed Inspections	4,827	7,000	7,569	7,000	4,790	1,000	1,000	(F)
14	Annual Flood Control Project Inspections	2,291	9,000	9,317	15,000	3,024	20,000	10,000	(G)
15	Municipal Plan Review	0	2,000	0	2,000	0	2,000	2,000	(H)
16	Watershed Outlet Monitoring Program (WOMP)	9,106	10,000	5,710	17,000	12,757	17,000	17,000	(I)
17	<b>Subtotal Engineering &amp; Monitoring</b>	<b>\$264,854</b>	<b>\$263,250</b>	<b>\$214,948</b>	<b>\$296,250</b>	<b>\$295,754</b>	<b>\$317,000</b>	<b>\$339,000</b>	
18	<b>PLANNING</b>								
19	Watershed-wide XP-SWMM Model		70,000	69,509	0	488	0	-	
20	Watershed-wide P8 Water Quality Model		135,000	125,031	0	9,967	0	-	
21	Next Generation Plan Development		40,000	23,959	40,000	43,394	40,000	30,000	
22	<b>Subtotal Planning</b>	<b>\$0</b>	<b>\$245,000</b>	<b>\$218,499</b>	<b>\$40,000</b>	<b>\$53,849</b>	<b>\$40,000</b>	<b>\$30,000</b>	
23	<b>ADMINISTRATION</b>								
24	Administrator	24,099	50,000	4,662	50,000	48,310	60,000	62,000	(J)
25	Legal	16,953	18,500	16,197	18,500	17,570	18,500	18,500	
26	Financial Management	3,100	3,045	3,000	3,045	3,119	3,045	3,200	(K)
27	Audit, Insurance & Bond	12,771	15,225	12,927	15,225	13,000	15,500	15,500	
28	Digitize Historic Paper Files							2,500	(L)
29	Meeting Catering Expenses	3,940	2,750	2,735	2,750	1,821	3,000	2,500	
30	Admin Services (Rec Sec+Printing+Postage)	39,303	40,000	32,784	40,000	31,157	35,800	32,000	
31	<b>Subtotal Administration</b>	<b>\$100,166</b>	<b>\$129,520</b>	<b>\$72,305</b>	<b>\$129,520</b>	<b>\$114,977</b>	<b>\$135,845</b>	<b>\$136,200</b>	
32	<b>OUTREACH &amp; EDUCATION</b>								
33	Publications / Annual Report	2,410	2,000	2,449	2,000	1,948	2,000	4,000	(M)
34	Website	214	2,500	120	2,500	201	2,000	12,000	(N)
35	Demonstration/Education Grants	0	0	0	0	0	0	-	
36	Watershed Education Partnerships	19,055	13,000	11,030	15,000	11,200	15,500	15,500	(O)
37	Education and Public Outreach	0	5,775	3,316	14,775	12,788	15,000	17,000	
38	Public Communications	1,443	3,000	1,609	3,000	1,867	3,000	3,000	
39	<b>Subtotal Outreach &amp; Education</b>	<b>\$23,122</b>	<b>\$26,275</b>	<b>\$18,524</b>	<b>\$37,275</b>	<b>\$28,004</b>	<b>\$37,500</b>	<b>\$51,500</b>	
40	<b>MAINTENANCE FUNDS</b>								
41	Erosion/Sediment (Channel Maintenance)	25,000	25,000	25,000	25,000	25,000	25,000	25,000	(P)
42	Long-Term Maint. (Flood Control Project)	25,000	25,000	25,000	25,000	25,000	25,000	25,000	(Q)
43	<b>Subtotal Maintenance Funds</b>	<b>\$50,000</b>	<b>\$50,000</b>	<b>\$50,000</b>	<b>\$50,000</b>	<b>\$50,000</b>	<b>\$50,000</b>	<b>\$50,000</b>	
44	<b>TMDL WORK</b>								
45	TMDL Studies	-					0	-	
46	TMDL Implementation Reporting	-	10,000	10,000	10,000	-	20,000	20,000	(R)
47	<b>Subtotal TMDL Studies</b>	<b>\$0</b>	<b>\$10,000</b>	<b>10,000</b>	<b>\$10,000</b>	<b>\$0</b>	<b>\$20,000</b>	<b>\$20,000</b>	
48	<b>GRAND TOTAL</b>	<b>\$438,142</b>	<b>\$724,045</b>	<b>\$584,276</b>	<b>\$563,045</b>	<b>\$542,584</b>	<b>\$600,345</b>	<b>\$626,700</b>	

	A	E	F	G	H	I	J	K
50	<b>NOTES</b>							
51	(A) Partially funded by permit fees							
52	(B) New line item to cover reviews for which either we do not receive an application fee or it's too early in the process for us to have received an application fee.							
53	(C) Includes attendance at BCWMC meetings, TAC meetings and Next Generation Plan Steering Committee meetings. 2010- 2013 estimates based on 18 meetings. 2014 estimate based on 30 meetings. 2015 estimate based on 24 meetings							
54	(D) For Commission-directed surveys and studies. Past work has included watershed tours, Medicine Lake outlet work, etc.							
55	(E) Budget for detailed monitoring (every 4 years) of Westwood Lake, Bassett Creek biotic index evaluation (every 3 years), general water quality requests, and city water quality requests							
56	(F) Review of city inspection activities (reports of inspections are available from each city), and inspection of projects such as County highway and MnDOT projects.							
57	(G) Typical annual inspection							
58	(H) Assumed budget to address municipal and adjacent WMO plan amendments.							
59	(I) Reimbursed \$5,000 from Met Council. \$17,000 includes \$11,000 for Wenck or similar contractor + \$6,000 for Barr's data management and analyses							
60	(J) Based on hourly rate increase from \$65/hr to \$67/hr (approx 3%); equates to up to 76 hours/month; no charge for mileage or travel time to meetings							
61	(K) Based on suggested increase of 2.5% by S. Virnig							
62	(L) An estimate for consideration to better preserve and track historic Commission documents							
63	(M) Includes approximately 3 hours per month of Recording Secretary's time to increase publications, articles, and press releases for the Commission							
64	(N) Includes a complete website redesign							
65	(O) Includes CAMP (\$5,000), River Watch (\$2,000), Metro WaterShed Partners (\$3,500), Blue Thumb (\$2,000), Metro Blooms (\$3,000)							
66	(P) Will be transferred to Channel Maintenance Fund							
67	(Q) Will be transferred to Long-Term Maintenance Fund							
68	(R) Task includes reporting on TMDL implementation and updating P8 model to include new BMPs.							

**2014 Financial Information**

Audited Fund Balance as of January 31, 2014		\$	386,616
Expected income from assessments in 2014	+	\$	490,345
Expected interest income in 2014	+	\$	-
Expected income from project review fees	+	\$	60,000
Expected income from CIP Administrative Funds	+	\$	22,375
Expected transfer from Long-term Maint Fund for Flood	+	\$	20,000
Expected income from WOMP reimbursement	+	\$	5,000
Estimated funds available for fiscal year 2014		\$	984,336
Estimated expenditures for fiscal year 2014	-	\$	600,345
Estimated fund balance as of January 31, 2015		\$	383,991

**2015 Budget Details****Expected Income**

Assessments to cities	+	\$	490,345
Use of fund balance	+	\$	36,355
CIP Administrative Funds (2.5% of requested levy)	+	\$	25,000
Expected project review fees	+	\$	60,000
Transfer from Long-term Maint Fund for Flood Control Proj Ins	+	\$	10,000
WOMP reimbursement	+	\$	5,000
Interest income in 2015	+	\$	-
		\$	626,700

**Expected Expenses**

Total operating budget		\$	626,700
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**Fund Balance Details**

Beginning Fund Balance (Jan 31, 2015)		\$	383,991
Use of Fund Balance (see income above)	-	\$	36,355
Remaining Fund Balance (Jan 31, 2016)		\$	347,636

**Bassett Creek Watershed Management Commission  
2015 Assessments**

	<b>Community</b>	<b>For Taxes Payable in 2014 Net Tax Capacity</b>	<b>2014 Percent of Valuation</b>	<b>Current Area Watershed in Acres</b>	<b>Percent of Area</b>	<b>Average Percent</b>	<b>2012 Assessment \$461,045</b>	<b>2013 Assessment \$515,016</b>	<b>2014 Assessment \$490,345</b>	<b>2015 Assessment \$490,345</b>
54	Crystal	\$6,480,669	5.46	1,264	5.09	5.28	\$24,941	\$27,424	\$25,504	\$25,868
28	Golden Valley	\$27,425,623	23.12	6,615	26.63	24.87	\$115,080	\$129,126	\$123,033	\$121,964
79	Medicine Lake	\$764,196	0.64	199	0.80	0.72	\$3,484	\$3,909	\$3,479	\$3,543
1	Minneapolis	\$8,011,164	6.75	1,690	6.80	6.78	\$32,661	\$35,236	\$32,953	\$33,235
34	Minnetonka	\$8,315,857	7.01	1,108	4.46	5.74	\$24,920	\$28,464	\$27,402	\$28,121
86	New Hope	\$6,447,554	5.44	1,252	5.04	5.24	\$25,533	\$27,648	\$26,479	\$25,681
40	Plymouth	\$53,467,320	45.07	11,618	46.77	45.92	\$209,101	\$235,310	\$224,959	\$225,159
44	Robbinsdale	\$2,023,833	1.71	345	1.39	1.55	\$8,022	\$8,479	\$7,743	\$7,587
46	St. Louis Park	\$5,691,613	4.80	752	3.03	3.91	\$17,303	\$19,420	\$18,792	\$19,184
	<b>TOTAL</b>	<b>\$118,627,829</b>	<b>100.00</b>	<b>24,843</b>	<b>100.00</b>	<b>100.00</b>	<b>\$461,045</b>	<b>\$515,045</b>	<b>\$490,345</b>	<b>\$490,345</b>