CMAP

Water Quality Activities Report

December 2012

This report was prepared in December 2012 using Federal Water Pollution Control Act Section 604(b) funds from the Illinois Environmental Protection Agency. The findings and recommendations contained herein are not necessarily those of the funding agency.

Back cover photos (clockwise from upper-left): coneflower in the Village of Elburn, Blackberry Creek, photo by CMAP staff; Veterans Acres Park in Silver Creek and Sleepy Hollow Creek Watershed, photo by Lynn Rotono; damselfly in Elburn, Blackberry Creek, photo by Melanie Kandler; zebra mussel on a native mussel, photo by CMAP staff.

The Chicago Metropolitan Agency for Planning (CMAP) is the region's official comprehensive planning organization. Its GO TO 2040 planning campaign is helping the region's seven counties and 284 communities to implement strategies that address transportation, housing, economic development, open space, the environment, and other quality of life issues.

See **www.cmap.illinois.gov** for more information.

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Watershed-Based Planning

The Chicago Metropolitan Agency for Planning has engaged in a number of watershed-based planning activities during Year 2011- 12. Summaries of these activities and a map depicting watershed-based activities undertaken throughout the region (Figure 1) are as follows:

Fox River Basin Watershed Planning

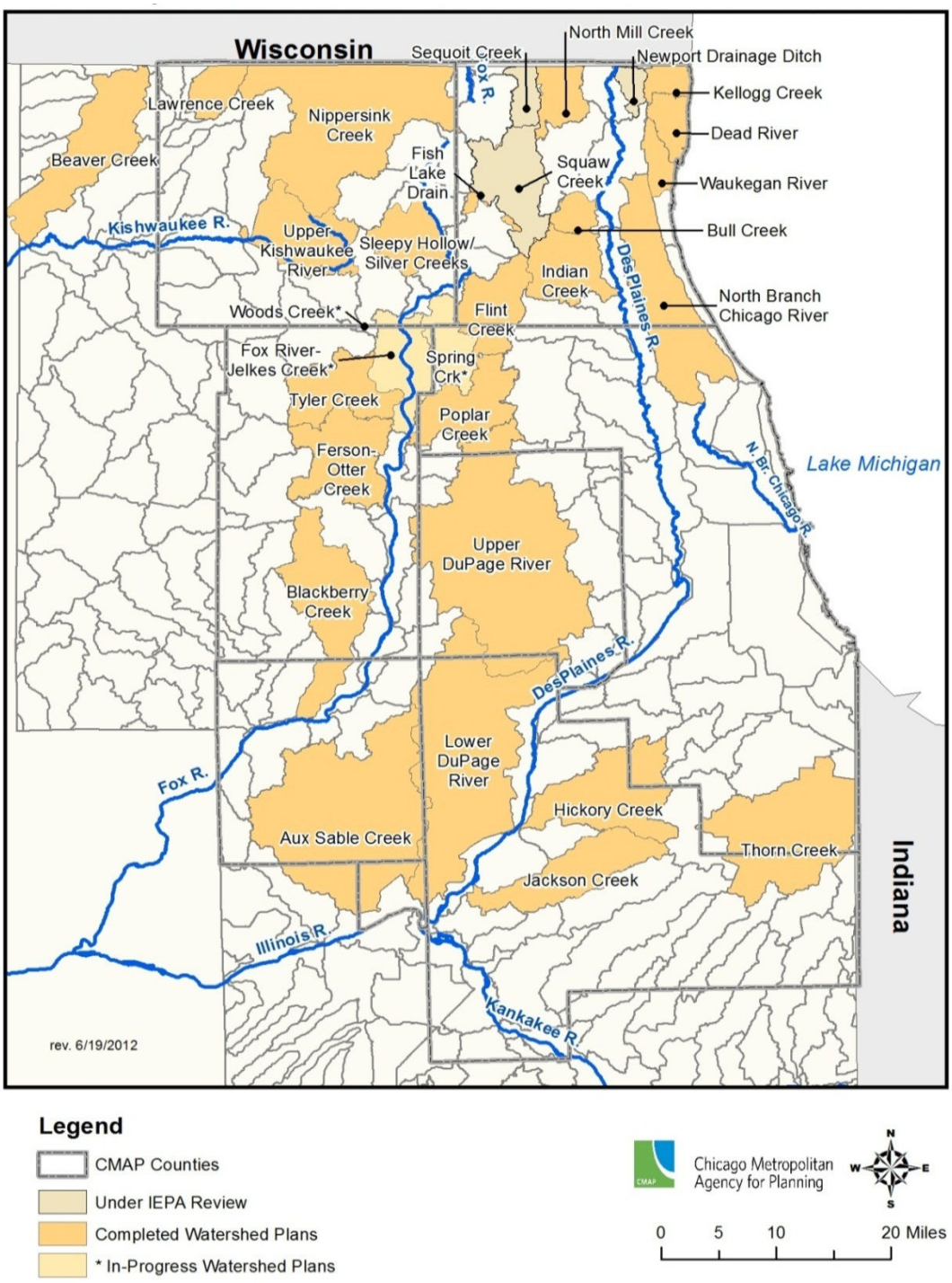
In December 2011, CMAP completed three watershed plans for tributaries to the Fox River: Silver Creek and Sleepy Hollow Creek Watershed Action Plan, Blackberry Creek Watershed Action Plan, and Ferson-Otter Creek Watershed Plan. In addition to addressing the nine components required of a Clean Water Act funded plan, staff also engaged stakeholders on local issues of groundwater protection. Discussions and subsequent plan recommendations that address groundwater quality, supply, and planning were informed by *Water 2050* and other work carried out by the Illinois EPA, Bureau of Water and the Illinois State Water Survey.

CMAP staff has subsequently worked with local planning groups to support post-plan implementation efforts. Additionally, CMAP's Local Technical Assistance (LTA) Program will allow staff in 2013 to provide ordinance review for water quality protection for the City of Elgin and stakeholders of the Silver / Sleepy Watershed Coalition. The LTA Program project will provide recommendations and language to update comprehensive plans and codes for watershed communities (McHenry, Crystal Lake, Prairie Grove, and Oakwood Hills) to be consistent with watershed plan recommendations for water quality. The LTA Program work implements a recommendation made in all three plans.

Total Maximum Daily Load Implementation

The 9 Lakes TMDL Implementation Planning project got underway in mid-2012. The 29 square mile planning area includes three subwatersheds – Cotton-Mutton Creek, Slocum Lake Drain, and Tower Lakes Drain – and an area of direct drainage within the Upper Fox River Basin of southwestern Lake County (92%) and southeastern McHenry County (8%). This project's focus is to develop an implementation plan concurrent with development of total phosphorus TMDLs for eight of nine lakes, a fecal coliform TMDL for two of those same eight lakes, and a dissolved oxygen TMDL for the ninth lake. CMAP staff will employ a watershed-based planning approach and in addition to identifying a number of short-term (i.e., within five years) BMP recommendations, the plan will feature a "watershed-wide summary of BMPs recommended for implementation. BMPS of this latter category will be identified regardless of implementation timeframe or what entity might play a lead role. The plan is expected to be finalized by June 2014.

Figure 1. USEPA Compliant Watershed Plans Completed or in Progress in Northeastern Illinois as of December 2012



Note: Wisconsin watershed boundaries are not included as part of this map.

Wastewater Quality Planning and Management Activity

Facility Planning Area Amendment Review Process

As of September 2, 2010, the Illinois EPA announced that its long standing policy to deny a sewer extension construction permit based solely on the extension crossing an FPA boundary has been challenged. Therefore, the Illinois EPA concluded that FPA boundaries do not hinder and applicant's ability to secure a sewer extension permit. Applicants requesting an FPA boundary extension now have the option of going directly to the Illinois EPA to receive a sewer extension permit thereby eliminating the need for an FPA review. CMAP and its Wastewater Committee are still required to review requests for new or expanded wastewater treatment facilities.

In light of recent Illinois EPA changes to the process, CMAP staff has had several discussions on how its role may best add value to overall water quality protection efforts. These discussions are ongoing and may result in changes to CMAP's Process and Procedures manual.

Facility Planning Area Map Updates

Under a contract with Illinois EPA, CMAP prepares Facility Planning Area base maps and point source tabular accounts for amendments to the Illinois Water Quality Management Plan.

With the recent decline in development, due to current economic conditions, the amount of FPA map updates has been reduced. This reduction is also likely a result of Illinois EPA's recent position regarding FPA amendments (see Facility Planning Area Amendment Review Process Discussion). During the program year of 2011, CMAP completed revisions to the Facility Planning Area (FPA) maps that incorporated all of the recent FPA boundary amendments. In addition to FPA boundaries, these new maps also include the location of municipal NPDES permit discharges as well as tabular descriptions of each municipal discharge. These new maps will provide more information to municipal units of government, planners, engineers, and the general public.

Facility Planning Amendment Area Reviews

Under contract with the Illinois EPA to implement the Northeastern Illinois Water Quality Management Plan, CMAP reviewed requested amendments to wastewater Facility Planning Areas (FPA). As a result of current economic conditions and, in part, Illinois EPA's position, the number of requests submitted to CMAP for review has been significantly reduced. A summary of this fiscal year's review actions involving FPA boundary changes and new or expanded treatment

facilities is represented in Table 1 and Table 2. A total of 4 requests were reviewed during this 1-year period. CMAP's Wastewater Committee recommended support for approximately 1416.95 acres of land transfer from a non-FPA to FPA or from one FPA to another FPA and one plant expansion.

Table 1. Level I Water Quality Amendments

WQ Review Number	Applicant	Type of Request	Acreage Requested	CMAP Recommendation	Acreage CMAP Supported	Illinois EPA Decision	HUC 8 Watershed
10-WQ-050	Village of Grayslake	FPA Boundary Change-	585	Support	583	Approved	Des Plaines
12-WQ-004	City of Chicago	FPA Boundary Change –	311.4	Support	311.4	Pending	Des Plaines
Total			1416.95		-1416.95		--

Table 2. Level II Water Quality Amendments

WQ Review Number	Applicant	Type of Request	Acreage Requested	CMAP Recommendation	Acreage CMAP Supported	IEPA Decision	HUC 12 Watershed
11-WQ-005	Village of Wadsworth	FPA Boundary	Change 70.78	Support	70.78	Approved	DesPlaines
11-WQ-051	Village of Hoffman Estates	FPA Boundary	451.77	Support	451.77	Approved	Upper Fox/ Des Plaines
12-WQ-001	Village of Lisbon	New WWTP	N/A	Support	N/A	Pending	Upper Illinois
Total			1416.95		1416.95		

Nonpoint Source Pollution Control Projects – Section 319, Clean Water Act

The Illinois EPA receives federal funds through Section 319(h) of the Clean Water Act to help implement Illinois' Nonpoint Source (NPS) Management Program (Program). The purpose of the Program is to work cooperatively with local units of government and other organizations toward the goal of protecting the quality of Illinois' waters by controlling NPS pollution. The Program supports several types of activities including implementation of cost-effective corrective and preventive best management practices (BMPs) on a watershed scale; implementation of demonstrative new and innovative BMPs on a non-watershed scale; NPS pollution control information, education and outreach programs; NPS pollution control research and monitoring projects; and development of watershed-based plans.

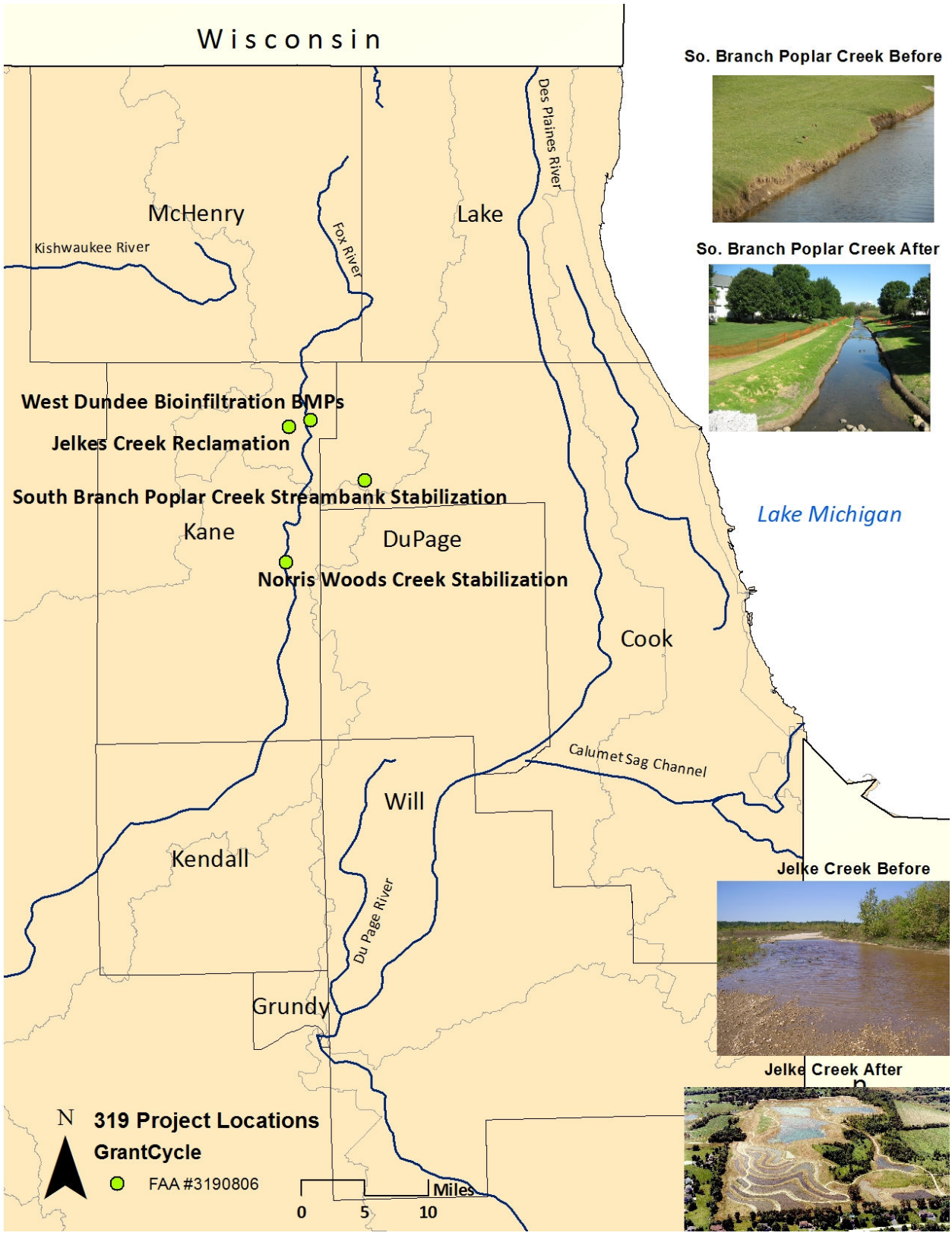
For more than eleven years, CMAP and its predecessor the Northeastern Illinois Planning Commission have assisted numerous local municipalities, agencies, and organizations in implementing projects designed to reduce NPS pollution to the region's rivers, streams, lakes and wetlands. This assistance has typically included grant application development as well as project coordination, administration, and technical review of design plans, BMP installations, and education and outreach products. During the past year, CMAP has provided assistance to four project participants.

Fox and Des Plaines River Watershed Projects

Four projects (Figure 2) were funded under USEPA's FY08 Section 319 grant cycle. As part of this cycle, CMAP provided financial, administrative, and technical assistance to the Village of Streamwood, Dundee Township, the Village of West Dundee, and the St. Charles Park District, along with other project participants during design and implementation of the various BMPs for nonpoint source pollution control. Of the four projects, the Village of West Dundee's project was completed in 2010 and a summary of the West Dundee's report was included in the previous water quality activities report (January 2010 through December 2010).

The total budget for the projects is $2,302,677 of which $1,247,622 is federal and $1,055,055 local sponsor funded. Project highlights are provided below.

Figure 2. CMAP Assisted 319 Projects Active in 2011



The **Village of Streamwood South Branch Poplar Creek Implementation Project** undertook work stabilizing approximately 2,160 feet of eroding streambank along a 1,080 foot segment of the South Branch of Poplar Creek located between the Streamwood Oaks Golf Course and Whispering Drive in Streamwood, Cook County, Illinois (Figure 3).

Figure 3. South Branch Poplar Creek Project Location Map

During the past year, streambed inspection and maintenance was completed, inspection and maintenance of the site were completed as part of the operation and maintenance plans were conducted, a draft and final reports have been completed.

The project (Figure 4) was designed to address issues including: reducing discharge rates from storm water run-off in urban and developing areas, naturalizing streams, non-structural storm water management techniques to reduce stream bed and stream bank erosion, encouraging pro-active efforts to protect sensitive recharge areas, protecting and restoring in-stream natural habitats, stream bank and riparian habitat improvements, and increase collaboration with existing groups to advance watershed awareness/education.

Figure 4. Village of Streamwood South branch Poplar Creek Implementation Site

Looking downstream from Whispering Drive severe erosion at banks with poor vegetation (pre-construction). (Photo by M. Mann, Streamwood).

Looking downstream from Whispering Drive gabions, coir logs, vegetated geogrid along banks (post construction) (photo by M. Mann, Streamwood.).

Dundee Township completed the Jelke **Creek Reclamation Project**. Implementation includes conducting reclamation and restoration of a 160-acre site on Jelke Creek, a tributary of the Fox River, located at the 239-acre Jelke Creek Bird Sanctuary owned by Dundee Township in the Village of Sleepy Hollow, Kane County, Illinois. Project descriptions may be found on the Dundee Township website at: http://www.dundeetownship.org/?m=2&s=2. (Figure 5).

Pre-project conditions included eroding topsoil stockpile berms, spoil piles, and extensive moderately to steeply sloped areas that were poorly vegetated. Gully, sheet and rill erosion was common. Water quality impacts on Jelke Creek included siltation/sedimentation, nutrient enrichment, and habitat degradation. Project benefits include stabilization of spoil piles and eroding slopes with gully, sheet and rill erosion within a 120-acre area. Results to date include the reclamation and restoration of the 120-acre area by regrading to reduce slopes re-spreading topsoil berms, installing native plant materials in the respread topsoil zones and construction of the following BMPs with work consisting of the following:

Conversion of 40 acres of eroding berms and stockpiles Stabilized Slopes containing Native Plant Materials:

- Seven (7) Wetland Filtration Basins totaling 18.2 acres in area to improve water quality, remove suspended and soluble nonpoint source pollutants, enhance habitat and aesthetics, and improve water retention and other beneficial hydrologic functions (two of the basins were pre-existing ponds).
- One (1) Naturalized Detention Basin 0.5 acres in area from a pre-existing pond.
- Six (6) Biofiltration Swales totaling 3,500 linear feet to treat and infiltrate runoff from the site.
- Over 4,000 linear feet of Terraced Swales stabilized with native plant materials.
- Fourteen (49) Rock Checks.
- Five (5) Sediment Forebays.
- Over 875 linear feet of Natural Log Toe and Log Habitat Structures; and other BMPs.

During the past year, educational signage was developed and posted at the site, also draft and final educational brochures, and draft and final reports.

Figure 5. Dundee Township Jelke Creek Reclamation Project

Pre-project conditions indicate 20-foot tall north and east boundary slopes contained erosion. Substantial deposits of eroding soil stockpiles were located along the disturbed area (photo by Sue Harney, Dundee Township).

Post-Project conditions included conversion of eroding slopes into 4,000 linear feet of graded Terraced Swales. (photo by Sue Harney, Dundee Township).

The **St. Charles Park District** implemented streambank and streambed stabilization of a 1,700-foot segment of Norris Woods Creek, a tributary of the Fox River, located in the Norris Woods Nature Preserve (Figure 6). Norris Woods Creek is a small, flashy ephemeral stream that receives predominantly urban runoff. A spring located in an old pond, along with tiled drainage from an adjacent golf course, provide a base flow. During dry periods, the stream flow disappears completely.

The purpose of the Norris Woods Creek Stabilization Project is to protect the Fox River from non-point source pollutants from stream channel erosion, as well as a golf course and urban runoff. This will be done by decreasing the velocity of the water as it travels down the creek.

The **Norris Woods** project included reconfiguration of accumulated sediment in an on-line pond to facilitate installation of wetland plant species to slow and filter stream flow; reconfiguration of a basin located in the lower third of the project site into a vegetated swale to collect and filter runoff before discharging to the creek; and development and installation of two interpretive signs to be installed at the project site.

Figure 6. St. Charles Park District's Norris Woods Project Educational Signage

Signage for the St. Charles Park District provides steps residents may take to improve water quality to the Fox River.

Illinois EPA Funded Watershed Projects in Watershed Plan Areas

Table 3. Section 319 Watershed Project Implementation Projects

Project Name	Watershed	Project Start Date	Total Budget	Total 319 Funds	IGIG [1] Funds
Nippersink Creek Watershed Plan Implementation	Nippersink Creek	1/14/2012	$460,297	$267,539	$0
North Branch Chicago River Watershed Project	North Branch Chicago River Watershed-	10/7/2011	$946,844	$531,672	$0
Naperville Parks Water Quality Prj.	Upper DuPage River Watershed	8/26/2011	$822,677	$493,606	$0
Nippersink Watershed Social Evaluation-Phase 2	Nippersink Creek Watershed	5/25/2012	$152,659	$88,939	$0
Agricultural BMPs Technical Assistance Program	North Mill Creek Watershed	6/8/2012	$36,000	$21,600	$0
Flint Creek Stream and Floodplain Rest.	Flint Creek Watershed	6/12/2012	$235,727	$141,436	$0
West Branch DuPage River Corridor Restoration	Upper DuPage River Watershed	8/14/2012	$2,284,489	$1,370,693	$0
Village of Niles Bioinfiltration Facility	North Branch Chicago River Watershed-Based	8/30/2011	$237,911	$0	$202,224
Greenbriar School	North Branch Chicago River Watershed-Based	8/30/2011	$435,880	$0	$326,910
Milwaukee Avenue Green Development Corridor Sub-granting	North Branch Chicago River Watershed-Based	11/29/2011	$293,334	$0	$220,000
Terada Park Green Infrastructure Imp.	Upper DuPage River Watershed	6/26/2012	$150,000	$0	$75,000
Waukegan Road Urban Rain Garden	North Branch Chicago River Watershed-Based	6/14/2012	$11,430	$0	$7,113

[1] Illinois Green Infrastructure Grant Program for Stormwater Management
http://www.epa.state.il.us/water/financial-assistance/igig.html

Lake Monitoring and Management

Illinois' Volunteer Lake Monitoring Program (VLMP) completed its 31st and 32nd seasons, respectively, in 2011 and 2012. Initiated by Illinois EPA in 1981, this popular program brings together citizens, state agency staff, and regional and local governmental staff to monitor and investigate the quality of Illinois' lakes. In northeastern Illinois, CMAP served as program coordinator for the counties of Cook, DuPage, Kane, Kendall, McHenry, and Will, while the Lake County Health Department coordinated the program in Lake County. Staff provides volunteer training, technical assistance, educational materials, training material updates, data and equipment management, volunteer recognition recommendations, and assistance in annual report preparation. All monitoring equipment, data forms, instructional materials (including a comprehensive Training Manual), and other supplies are provided to the volunteers. Volunteers need only have a boat and anchor to participate

Volunteer monitors measure water transparency (clarity) in a lake of their choosing using a simple device called a Secchi disk (an 8-inch diameter plate painted black and white in opposite quadrants, attached to a calibrated rope or tape measure) (Figure 9). The disk is lowered into the water and the depth at which it is no longer visible is recorded. Volunteers also record water color, aquatic plant growth, and several other factors relating to lake, weather, and watershed conditions each time they monitor. Monitoring typically is done twice a month from May through October at three, in-lake locations.

The Secchi measurements are used to document changes in water transparency during the monitoring season as well as from year to year (Secchi transparency is affected by the color of the water and the amount of suspended sediment and algae in the lake). Another useful bit of information the Secchi measurement indicates is that about twice as deep as you can see the Secchi disk in the water is the sunlit, or "euphotic," zone of the lake. This means that within this zone there is generally enough sunlight for aquatic plants and algae to live and grow.

In addition to Secchi disk monitoring, a subset of the volunteers (on a rotating basis) also have an opportunity to collect water chemistry samples on a monthly basis that are analyzed at an Illinois EPA laboratory. The water chemistry data provides important information on suspended material in the lake (e.g., sediment, algae) as well as levels of nutrients (phosphorus, nitrogen) that can promote nuisance aquatic plant and algae growth. Some volunteers also collect samples for chlorophyll analysis and record dissolved oxygen and temperature data. The chlorophyll data is particularly useful in determining the amount of microscopic, Figure 7. VLMP Volunteers"planktonic" algae in the lake. Dissolved oxygen and temperature data are useful for determining if the lake stratifies during the summer (separates into layers of warm,

upper water and cool, bottom water) and if there is adequate oxygen in the water to support aquatic life.

Primary goals of the VLMP are to familiarize volunteers (Figure 10) with lake processes and to help them learn about lake ecology and the cause-and-effect relationships that exist between their lake, its watershed, weather, and human activity. Through the VLMP's hands-on educational structure, the data and information gathered can more effectively assist in local lake and watershed management decision-making. Lake scientists, planners, and consultants also use the data for a wide variety of purposes. Furthermore, the Illinois EPA uses VLMP data in its biennial assessment of the state's waters as required by the federal Clean Water Act.

In the six counties coordinated by CMAP, the number of lakes monitored at least once was 24 during the 2011 season and 19 during the 2012 season, involving more than 50 volunteers each year. The Secchi monitoring data can be viewed and downloaded from Illinois EPA's VLMP Web Application (http://dataservices.epa.illinois.gov/waBowSurfaceWater/Default.aspx). For more information about the VLMP, contact Northeastern Illinois VLMP's Coordinator at CMAP at 312/454-0400.

Figure 8. Secchi Disk

Figure 9. VLMP Volunteers

Volunteer Bob Libka collects a water sample at Woods Creek Lake, McHenry County.

Volunteer Darlene Garay (Lake Charles, DuPage Co.) carefully folds a filter containing algae that will be shipped to an Illinois EPA laboratory for chlorophyll analysis.

Lake Rehabilitation and Protection

For more than 25 years, CMAP and its predecessor the Northeastern Illinois Planning Commission have assisted numerous local municipalities and agencies in studying, protecting, and rehabilitating their lakes. This assistance typically involves developing grant applications, monitoring lake conditions and diagnosing problems, formulating rehabilitation and protection plans, and assisting in the implementation of rehabilitation and protection strategies.

Maple Lake Rehabilitation and Protection Project

Implementation of an Illinois Clean Lakes Program Phase 2 rehabilitation and protection program at the Forest Preserve District of Cook County's Maple Lake was completed in fall 2011, followed by completion of the project report in spring 2012. Supported by a Clean Lakes Program grant from the Illinois EPA, the District accomplished several projects and programs under 15 lake management strategies aimed at protecting the lake's water quality and improving aquatic habitat and recreational opportunities. CMAP served as technical project advisor to the District for the Phase 2 program.

Lake management activities conducted by the District during 2011 (Figure 11) focused on control of non-native invasive aquatic plants, specifically the submergent species Eurasian water milfoil (*Myriophyllum spicatum*) and curlyleaf pondweed (*Potamogeton crispus*) (Photo #), as well as the emergent species flowering rush (*Butomus umbellatus*) and common reed (*Phragmites australis*). Monthly, post-implementation water sampling by CMAP staff continued through October 2011.

For more information about this project please see http://water.epa.gov/type/lakes/cllkspgm.cfm .

Figure 10. Maple Lake Sampling

View from above the water surface (upper left) and underwater (upper and lower right) of decaying milfoil and curlyleaf pondweed near Maple Lake's western shore on June 8, 2011, approximately one month after the initial aquatic herbicide application. Note the overall absence of lower leaves on the stems.

Related Natural Resource Activities; Chicago Wilderness Activities

Chicago Wilderness

The GO TO 2040 plan recommends setting aside a significant sum of additional land for conservation purposes, and that conservation lands be arranged in a network of core areas connected by open space corridors. Working with Chicago Wilderness, CMAP carried out a project to classify and characterize important resources in a consistent and analytically robust manner, as well as to define ecological and human connectivity needs and provide enhanced information to support conservation and development decisions. The result was the Green Infrastructure Vision. The main products of this project are derived GIS datasets that describe and characterize the regional green infrastructure network. In the current fiscal year, CMAP intends to meet with stakeholders in a variety of areas to develop a policy document describing how existing decision-making processes – e.g., transportation project development, municipal zoning, etc. – can take account of the critical regional green infrastructure network.

Water Supply Planning

CMAP had funding for a focused Water 2050 Implementation support project during the first 18 months of this two-year reporting period. Much was accomplished during this time.

CMAP's "Water Resources Planning" website was overhauled to both better reflect program integration (i.e., water quality planning and water supply planning activities) and highlight programs and resources under the Water 2050 Implementation area. Regarding the latter, the website was redesigned to be a primary portal of information for those seeking guidance or assistance. Information available includes some of the work products made possible by CMAP's water resource economist through a joint-staff position between CMAP and the Illinois-Indiana Sea Grant Program. Another notable product is the library of water-bill inserts, a collection of cogent messages designed to raise awareness and promote public information in support of *Water 2050: Northeastern Illinois Regional Water Supply/Demand Plan* (March 2010). The water-bill inserts are available in formats to use either as printable bill stuffers or newsletter material (online or paper).

Staff provided numerous presentations by invitation at conferences, meetings, and seminars/workshops throughout the region, and elsewhere. Interest in *Water 2050* findings and recommendations remains consistently strong. While direct presentations have been and continue to be a primary vehicle for disseminating public information, CMAP also distributed a bimonthly e-newsletter to over 500 recipients. The newsletter highlighted both CMAP water-related activities and other newsworthy items from the world of water resources.

One significant outcome of the regional water supply planning process that culminated in the publication of *Water 2050* was the creation of the Northwest Water Planning Alliance (NWPA). The NWPA formed via intergovernmental agreements between five counties and about 80 groundwater-dependent communities via their respective council of government. Notable NWPA accomplishments include many members becoming a WaterSense Partner and deliberation / adoption of an outdoor lawn-watering ordinance recommendation. The NWPA heeds a *Water 2050* call for groundwater-dependent communities to practice self-organization and collaborative management. CMAP staff serves on the NWPA Technical Advisory Committee.

In conjunction with CMAP's Local Technical Assistance Program, a grant program funded by the U.S. Department of Housing and Urban Development, staff worked with the Village of Oak Park and the City of Evanston to develop water-use conservation and efficiency programs. Staff also worked with the Village of Orland Park on updating their municipal development codes to

reflect water use best practices. The CMAP staff expertise brought to bear on these three communities would not have been possible without the knowledge gained from years spent developing Water 2050.

With the start of Fiscal Year 2013 (i.e., July 1, 2012), Water 2050 implementation ceased to be a standalone and multi-staff project. Loss of funding from traditional sources prevents CMAP from continuing robust implementation support efforts.

Full Cost Pricing

The long-range GOTO 2040 Regional Comprehensive plan specifically recommends full-cost pricing to encourage residents to conserve water and to provide communities with adequate revenues to address their water infrastructure investment needs and move forward with sustainable water planning at the community level.

CMAP maintained a partnership with Illinois-Indiana Sea Grant (IISG) to support an in-house Water Resource Economist. The Economist assembled a Full Cost Pricing Advisory Committee to frame an outreach program promoting adoption of full cost water pricing in the northeastern Illinois region. The nine member committee represented a spectrum of water service stakeholders to provide a broad-spectrum consensus on how best to frame the full cost of water issue in the region.

CMAP developed the CMAP/IISG *Full-Cost Water Pricing Guidebook for Sustainable Community Water Systems* as a resource for local decision makers. The guidebook also includes a special section on rate structure design to facilitate CMAP's **Water Use Conservation Ordinance** implementation (see below), as referred to in the 2010 version of this report, as well as a section on integrating water conservation planning and pricing. Associated activities and products undertaken by CMAP include:

- Presented the guidebook in a webinar: *Ensuring Sustainable Water Systems through Innovative, Full Cost Water Pricing* – (*November 8, 2011, 60 attendees*).
- Led and sponsored a Water 2050 forum, ***Sustaining the Triple Bottom Line: The Full Value of Water Resources*** provided on measuring and incorporating the full cost of resource impacts into decision making (http://www.cmap.illinois.gov/water-2050-forums). (*June 9, 2011/66 attendees*)**.**
- Organized ***Getting your Project to Flow Smoothly: Sustainable Infrastructure Planning.*** This intensive two-day training, in partnership with several regional agencies provided information on foundational full cost best practices for water suppliers, and follow up

technical assistance. (*June 18th and 19th, 2012, 11 attendees who serve multiple communities/counties*).

- Made eight presentations on full cost pricing to regional local elected officials, planners, water utility staff, and other policy makers. (*during 2011-2012, estimated total of 150 attendees)*. Several of these presentations are publically available on the Water Financing outreach Website.
- Provided the CMAP Regional Conservation Coordinator's (see below) technical assistance program package development with full cost water pricing components used by CMAP staff in Local Technical Assistance water conservation projects.

Healthy Landscapes, Healthy Lakes

CMAP's water resource economist lead a collaborative program promoting healthy lawn and landscape practices to protect water resources in the Great Lakes region. The project objective is that, by 2013, a total of 38,290 lawn acres will be tended with more sustainable lawn and landscape practices at the community and household level resulting in a loadings reduction of weed and feed use of 5,169,150 lbs. /yr., with an associated pesticide loadings reduction of 38,769 lbs. /yr. and an associated phosphate reduction of 286,017 lbs. /yr. This three year project is now in its third year:

Lawn to Lakes workshops and outreach (Figure 12):

- *Natural Lawn Care Workshop,* Oakton Community College Des Planes Illinois, March 23/88 attendees (73 subtracting resource managers).
- *Natural Lawn Care Workshop for Professionals and Municipalities*, College of Lake County October 13, 2011/ 45 attendees.
- *Natural Lawn Care Workshop,* Indiana University Northwest, March 21, 2012 and *Natural Lawn Care Workshop for Schools and Childcares,* Northwest Indiana Educational Service Center March 22 (53 combined attendees).
- Master Gardener Train the Trainer Natural Lawn Care workshops (Sept 28, 2011 Du Page County; August 25 & September 1, 2011 Northern Cook County, 10/19/11 in Chicago, 2/28/12 in Glencoe, 3/7/12 in Grayslake, 3/29/12 in Orland Park). (144 Master Gardeners trained).
- *Natural Lawn Care for Homeowners* September 27, Arlington Heights Public Library, *No-P lawn practices for Homeowners* Fall 2011 Hobart, Indiana, Public presentation on Natural Lawn Care Evanston March 12, 2012; Indiana Lake Management Society, March 23, 2012; A Workshop for Residents – Valparaiso, IN February 25, 2012; Tinley Park Home and Garden

show 3 day 3/2-3/4/12; Illinois Lake Management Society meeting March 1st – 3rd, 2012. (633 residents reached).

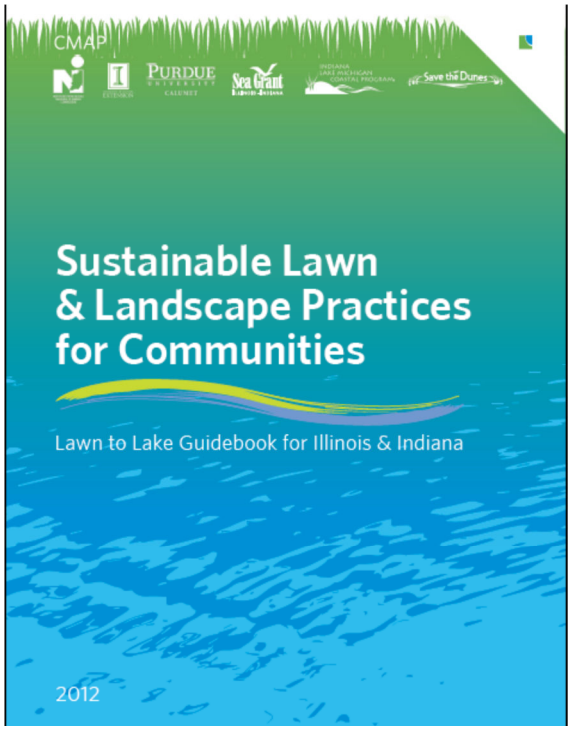
- Conducted 5 EnviroScape® teacher trainings (40 teachers reached).
- Worked with 32 area retailers to promote low-input lawn care and products.
- Purchased and located 6 EnviroScape® models for watershed education that are located throughout the region for use in an educational and outreach settings to demonstrate the connection between lawn and landscape practices and water quality.

Figure 11. Lawn to Lake Professionals Workshop and Outreach

Tools, technologies, and information services created or used

- Websites: University of Illinois Extension's Lawn Talk (http://urbanext.illinois.edu/lawntalk/) completely updated to include more information on natural, sustainable methods of lawn care; created Lawn to Lake Websites http://www.iiseagrant.org/l2l/index.html.
- Publications: 17 fact sheets, two posters, lawn care manual (Figure 13), nine outreach cards.

Figure 12. Lawn to Lake Guidebook



Water Conservation

The regional GOTO 2040 comprehensive plan recommends adopting water conservation including regular communication with water users about the benefits of water conservation, and actions taken by the public water supplier to enhance conservation and stewardship. CMAP with assistance from IISG, created the Bill Insert Program to serve as a method of public information outreach (http://www.cmap.illinois.gov/Water-2050/bill-inserts). An early result of the Bill Insert Program is a local water supplier using the bill program to provide public information to their customers about water issues in the region (Figure 14). Both the lawn watering and infrastructure needs inserts were distributed to 290,000 customers.

Figure 13. Water Conservation Bill Insert

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