

The background of the entire page is a photograph of a pond. In the foreground, there are tall green reeds and various wildflowers, including yellow and purple ones. The pond's surface is calm, reflecting the sky and the surrounding greenery. In the background, there is a dense line of trees and a few houses, suggesting a suburban or rural setting.

# Blackberry Creek Watershed Action Plan Executive Summary

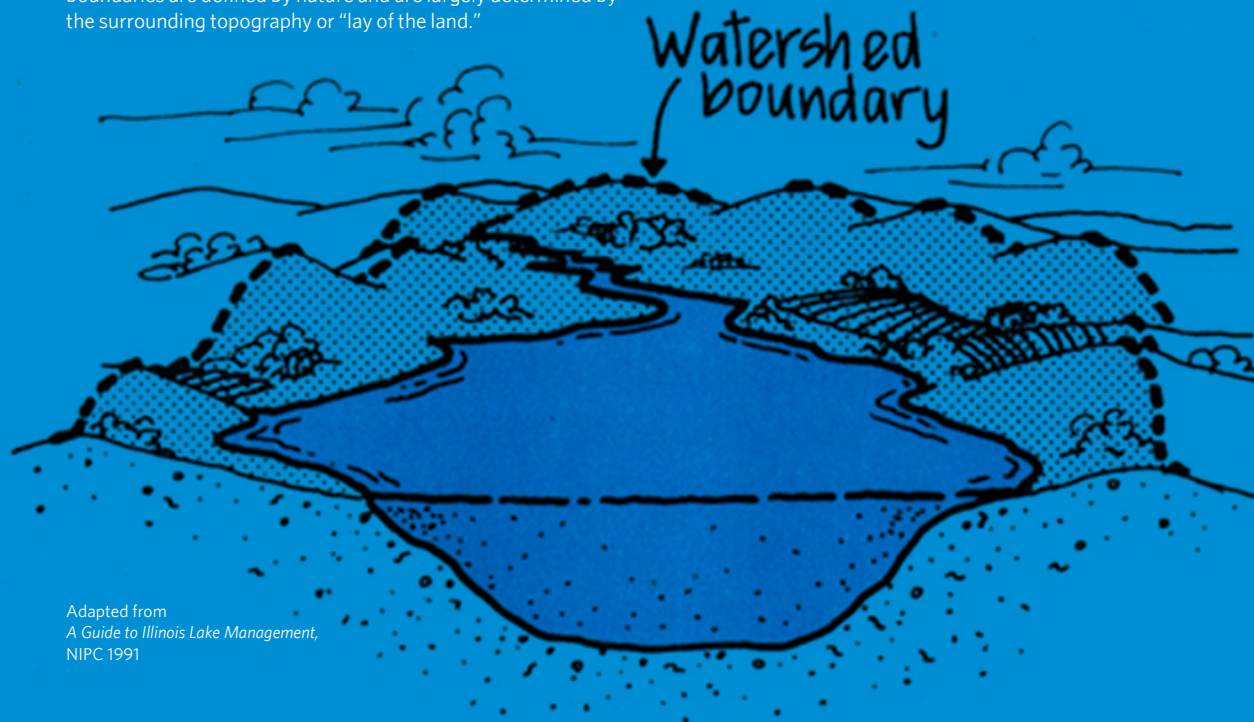
December 2011

# Planning to protect local water resources

Beginning in fall 2010, community members in south central Kane County and north central Kendall County met to participate in a planning opportunity to protect water resources in the Blackberry Creek Watershed. More than 90 local residents, community leaders, representatives of governmental agencies, organizations, businesses, and others participated in meetings and provided input for over a year. The Chicago Metropolitan Agency for Planning (CMAP) developed a watershed action plan integrating local priorities for protecting water quality and watershed health.

## Figure 1. What is a watershed?

A watershed is the land area from which rainwater and snowmelt drains into a body of water such as a stream or lake. Watershed boundaries are defined by nature and are largely determined by the surrounding topography or "lay of the land."



Adapted from  
*A Guide to Illinois Lake Management*,  
NIPC 1991

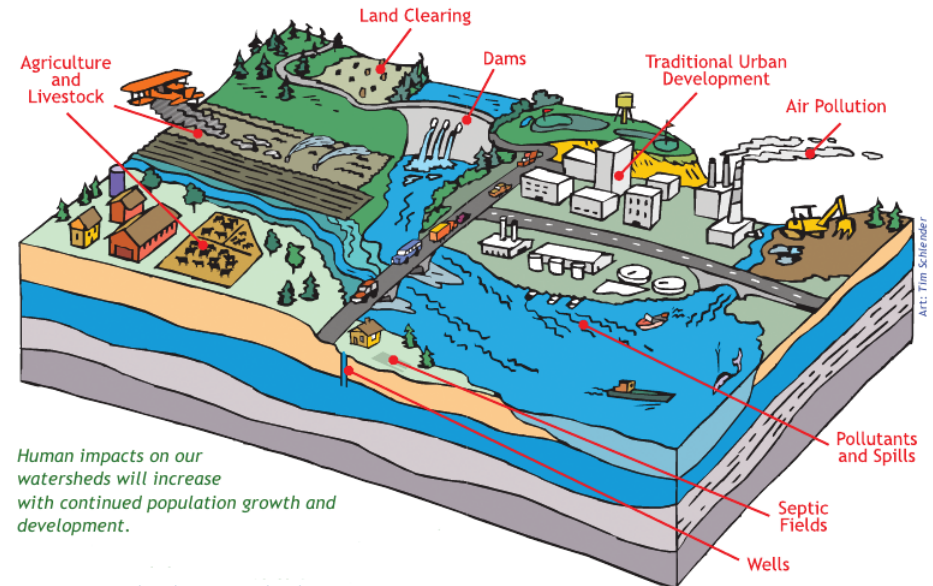
## What is Watershed Planning?

Watershed planning is a voluntary, collaborative public process involving local residents, governmental agencies, organizations, businesses, and other interested community members. These “stakeholders” are the individuals or parties participating in the planning process, along with the interests they represent, since they all have a vested interest, or stake, in the overall health of the place in which they live, work, or play. The planning process and resulting plan are informed by both local knowledge and science-based information. Addressing nonpoint-source pollution to protect good water quality or improve poor water quality is the primary purpose for developing a watershed-based plan. However, other objectives also can be pursued, since they are often related to the health of our water resources.

A watershed is defined as the land area from which surface runoff from precipitation drains to a common point downhill: typically a stream, river, lake, or wetland. In this planning process, the watershed is used as an organizing principle for understanding the interrelationships between the many ways that people view, impact, and interact with both land and water resources. When combined with an adaptive management approach to plan implementation, the plan and those who produced it offer a potentially effective framework for producing and evaluating project and policy recommendations to correct water resource problems. It is from this viewpoint that the Blackberry Creek Watershed Action Plan was created.

The Blackberry Creek Watershed planning process was designed to be stakeholder-driven with assistance from CMAP and other partner agencies. As the project lead, CMAP facilitated monthly meetings from September 2010 through December 2011 and provided technical assistance for the watershed-based plan. CMAP also facilitated a kick off meeting in September 2010, held two evening open houses to give a wider variety of stakeholders an opportunity to learn about and participate in the planning process, and met with local officials to discuss water resource planning and project opportunities in their communities. Together these activities directed the development of the watershed-based plan based on stakeholder input and best professional judgment.

The Conservation Foundation (TCF) and the Fox River Ecosystem Partnership (FREP) were both partners in the planning process. In coordination with CMAP and FREP, TCF served as the watershed coordinator, convened local stakeholders, and executed an information and outreach campaign during the planning process. FREP supported the outreach and education effort by upgrading their website, serving as a source of watershed planning news and information, and highlighting watershed planning activities in their monthly Downstream e-newsletter. The Blackberry Creek Watershed Action Plan (Plan) can be found at <http://foxriverecosystem.org/blackberry.htm> and <http://cmap.illinois.gov/watershed-planning><sup>1</sup>.



**Figure 2. Why do watersheds matter?**

Watersheds are important because what we do on the land directly affects the quality of our surface waters, drinking water supply, local economy, wildlife habitat, and recreational resources.

Adapted from  
*Healthy Watersheds, Healthy People*,  
Washington Department of Ecology, 2008

<sup>1</sup> Information highlighted in the Executive Summary is documented comprehensively in the full plan.

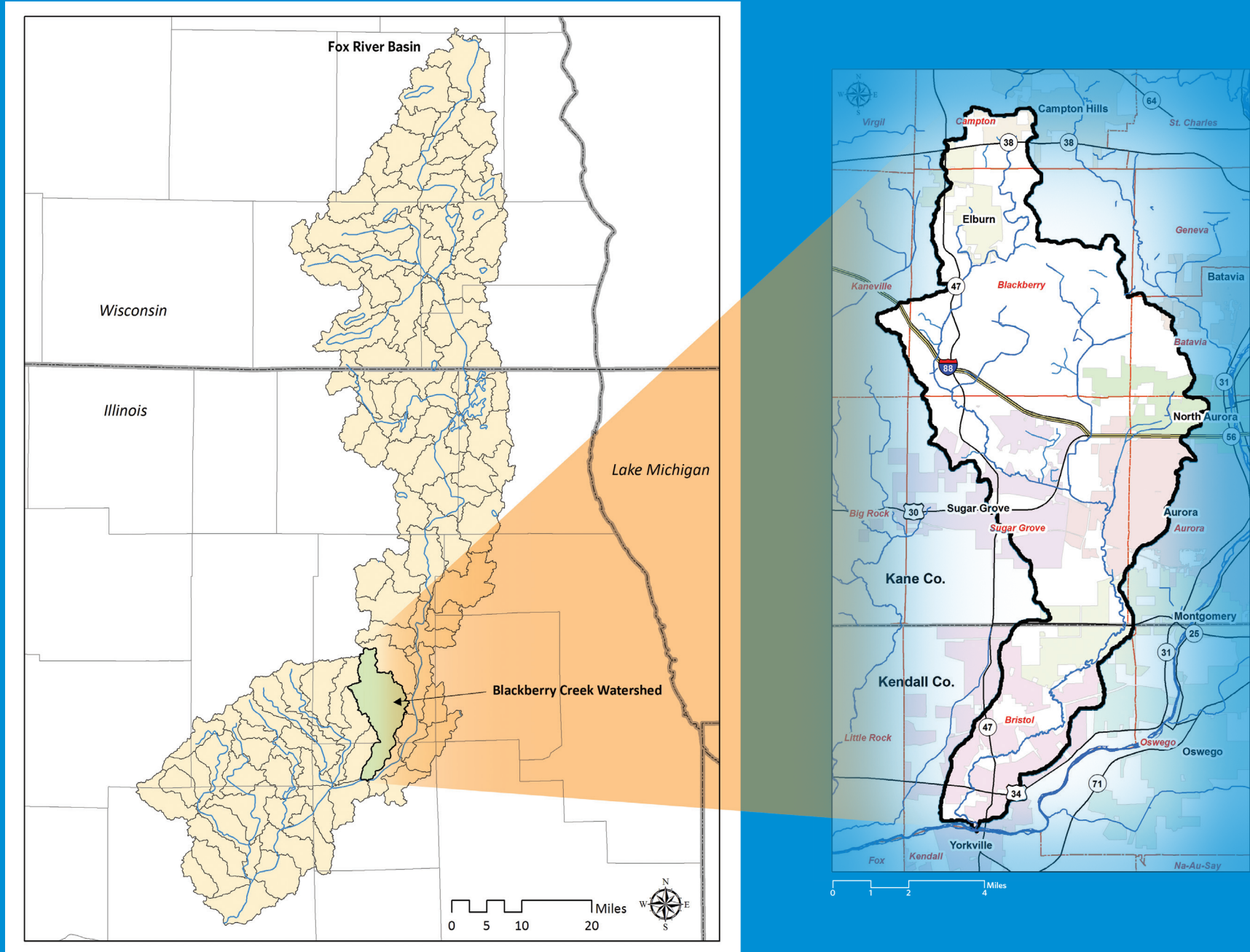
## Introduction: The Blackberry Creek Watershed

A subwatershed of the Fox River Basin in Illinois, the Blackberry Creek Watershed spans south-central Kane and north-central Kendall Counties and has a drainage area of nearly 75 square miles. This watershed (Hydrologic Unit Code 0712000702) includes portions of the Cities of Aurora, Batavia, and Yorkville; the Villages of Campton Hills, Elburn, North Aurora, Sugar Grove, Montgomery, and Oswego; and unincorporated areas in Kane and Kendall Counties including portions of Campton, Kaneville, Blackberry, Batavia, Geneva, Sugar Grove, and Bristol Townships. The watershed is located on the urban fringe of the Chicago metropolitan area. Kane and Kendall Counties are two of the fastest growing counties in Illinois (Kendall is the fastest and Kane is the fifth in growth rates as compared to the rest of the state.) The total population residing in the Blackberry Creek Watershed is approximately 60,000.

**Table 1: Blackberry Creek Watershed - basic facts**

|   |   |
|---|---|
| Size of watershed                         | <b>74.7 square miles (47,797 acres)</b>   |
| Counties, municipalities, & townships     | <b>Kane &amp; Kendall Counties; Cities of Aurora, Batavia, &amp; Yorkville; Villages of Campton Hills, Elburn, North Aurora, Sugar Grove, Montgomery, &amp; Oswego; Campton, Kaneville, Blackberry, Batavia, Geneva, Sugar Grove, Aurora, &amp; Bristol Townships</b> |
| Population (2010)                         | <b>63,279 people</b>  |
| Incorporated & unincorporated land (2005) | <b>18,817 acres (39%) / 28,980 acres (61%)</b>  |
| Land in residential use (2005)            | <b>9,047 acres (19%)</b>  |
| Land in agricultural use (2005)           | <b>22,987 acres (48%)</b>   |
| Land in open space (2005)                 | <b>5,414 acres (11%)</b>  |
| Length of stream network                  | <b>66 miles</b>   |
| Elevation range                           | <b>1,016 to 570 feet above mean sea level</b>   |
| Water supply source                       | <b>Groundwater</b>  |
| Dominant soil type                        | <b>Silt loam or silty clay loam, hydrologic soils group B</b>   |

Figure 3. Blackberry Creek Watershed within the Fox River Basin



## Purpose of the Plan

The Plan provides a roadmap for protecting and improving local water quality and thus the quality of life for those that live, work, and play within the Blackberry Creek Watershed. Water quality is generally evaluated by the absence or presence of certain elements (e.g., water chemistry) or attributes (e.g., aquatic biology, physical characteristics of stream network). Although many of these elements are naturally occurring and not innately harmful, it is their excessive concentrations that can negatively affect water quality. The table below provides a summary of common water quality indicators and associated sources or causes of impairment.

**Table 2: Water quality characteristics**

| WATER QUALITY INDICATOR | POTENTIAL PRIMARY SOURCES OF IMPAIRMENT  |
|-------------------------|--|
| Chloride                | Road salt, water softeners   |
| Fecal coliform          | Potentially many, including failing septic systems, pet waste, waterfowl and other wildlife waste, manure, illicit sewer connections, etc. |
| Dissolved oxygen        | Sediment oxygen demand, algal blooms/respiration, hydrologic modification  |
| Phosphorus              | Wastewater treatment plants, septic systems, urban & agricultural runoff including pet, waterfowl/wildlife, & livestock waste              |
| Nitrogen                | Wastewater treatment plants, septic systems, urban & agricultural runoff including pet, waterfowl/wildlife, & livestock waste              |
| Suspended sediments     | Erosion from streambanks, lakeshores, construction sites, agricultural fields  |

Regular testing of Illinois' streams and lakes for these and other water quality concerns is managed by the Illinois Environmental Protection Agency (EPA). Waterbodies are assessed for certain designated uses (e.g., aquatic life, primary contact, water supply) and the results are reported every two years in the *Illinois Integrated Water Quality Report and Section 303(d) List* (Integrated Report.) In the 2010 Integrated Report cycle, Blackberry Creek was assessed and determined to be in full support for the aquatic life designated use and in nonsupport for the primary contact (e.g., swimming) designated use. Illinois EPA determined the cause of the primary contact nonsupport is due to fecal coliform (an indicator of bacterial contamination), but the particular source(s) of this impairment is unknown.

## Stakeholder Concerns and Goals

As a first task in developing plan recommendations, stakeholders identified local water quality concerns. Along with the Illinois EPA-identified fecal coliform impairment in Blackberry Creek, stakeholders identified nutrients, sediment, and other pollutants in runoff as potential concerns to creek health. They specifically noted soil erosion from land and streambanks, herbicides and pesticides from lawns, golf courses, and agricultural land, large numbers of Canada geese along various sections of the creek, and the presence of foam in a specific creek area. Stakeholders were also concerned with the water quality, habitat, and flooding impacts of channel modifications and constraining structures built across the creek (e.g., bridges, culverts, dams). Groundwater concerns focused on impacts to groundwater sources from additional pumping due to increased development.

The stakeholders then formulated goals toward protecting and improving Blackberry Creek's quality. The final goals outlined here capture the desired outcomes for the watershed. Recommendations found throughout the Plan address each of these goals.

- Reduce fecal coliform contributions (an indicator of bacterial contamination)
- Reduce nutrient loadings and other emerging pollutant loadings
- Minimize sedimentation, siltation, streambank, and streambed erosion
- Reduce risk of flooding through initiatives to improve water quality
- Protect groundwater resources
- Promote awareness of watershed resources and threats

As the only confirmed contaminant in Blackberry Creek, a target load reduction for fecal coliform was adopted by the stakeholders. **Stakeholders set a fecal coliform target load reduction of 17% for the geometric mean of the number of fecal coliforms per 100 mL, as determined from water samples collected in accordance with the guidelines specified in the Illinois water quality standard for fecal coliform.** This pollutant-load reduction is derived from data collected by Illinois EPA compared with the Illinois water quality standard for fecal coliform.

## Plan recommendations

In order to work towards achieving the pollutant-load reduction, Plan recommendations focus in part on reducing fecal coliform loadings from potential sources. Recommendations also address water quality protection more broadly, including planning, programs, and projects to reduce stormwater runoff volumes and nutrient and sediment loadings to the streams, lakes, and wetlands within the Blackberry Creek Watershed, as well as to protect and restore stream, lake, wetland, and riparian habitat.

### Policy and Planning/Programming

The policy recommendations of the Plan focus mostly on actions that local units of government within the watershed can take or adopt that may protect or improve the water quality by addressing potential sources of fecal coliform. A green infrastructure framework was used to shape watershed-wide recommendations with a specific focus on land-use decisions that may impact water resources. Such an approach to water quality protection is defined by a range of natural and built systems that can occur at the regional, community, and site scales.<sup>2</sup> At the regional scale, green infrastructure refers to a network of connected open space and natural lands and waters that provide important environmental functions. At the community and neighborhood scales, green infrastructure incorporates design approaches such as compact, mixed-use developments, urban forestry, parking reductions, and other strategies that reduce impervious (non-water absorbing) surfaces, such as conventional roofs, parking lots, and driveways. At the site scale, green infrastructure is manifested by practices that retain, infiltrate, and evaporate (through evapotranspiration) stormwater to mimic natural systems. Under this framework, lands in the watershed fall into four main categories: Open Space Reserve, Planned Development, Developed Lands, and Agricultural Lands.

### Open Space Reserve

In this category, an interconnected network of hubs and corridors are proposed for inclusion in an open space protection program that encompasses ecologically sensitive lands. The goal of this network is to assure continued flood water storage, protect wetlands, provide habitat in the stream corridor, and preserve ecosystem functions that society values<sup>3</sup> while minimizing stormwater runoff and nonpoint-source pollution. The hubs are composed of currently protected public and private open space and proposed open space to be connected by the stream network and existing trails and greenways. Ideally, and to provide the highest ecological functions, these lands are preserved and restored to native land cover wherever possible and realistic. The data that were analyzed to create the Open Space Reserve include the Blackberry Creek stream network, threatened and endangered species and the Illinois Natural Areas Inventory sites, Phase II Wellhead Protection Areas, and greenways and trails corridors. These data were then considered in the context of agricultural and vacant/wetland sites from the CMAP 2005 Land Use Inventory to identify open space protection opportunities (Figure 4).

2 U.S. EPA. *Water Quality Scorecard: Incorporating Green Infrastructure Practices at the Municipal, Neighborhood, and Site Scales*. EPA 231-B-09-001. Washington, DC: U.S. EPA, 2009. [http://www.epa.gov/smartgrowth/water\\_scorecard.htm](http://www.epa.gov/smartgrowth/water_scorecard.htm) (accessed Nov. 8, 2011).

3 Benedict, M.A. and E.T. McMahon. *Green Infrastructure: Smart Conservation for the 21st Century*. Washington, DC: The Conservation Fund, 2002. [http://www.conservationfund.org/sites/default/files/GI\\_SC21C.pdf](http://www.conservationfund.org/sites/default/files/GI_SC21C.pdf) (accessed Nov. 21, 2011).

### Planned Development

This category includes currently undeveloped land, with certain characteristics, that is zoned for future development. Planned Development includes developable land that falls in one or more of the following distinctions: hydric, organic, and excessive permeability soil locations, shallow aquifers with high contamination potential, existing oak stands, and proposed/potential greenways and trails.

### Developed Lands

This category represents the developed areas in the watershed where protection and restoration measures may be appropriate. These include implementing new stormwater management practices in areas not currently served by such practices, as well as retrofitting existing BMPs to improve their water quality benefits.

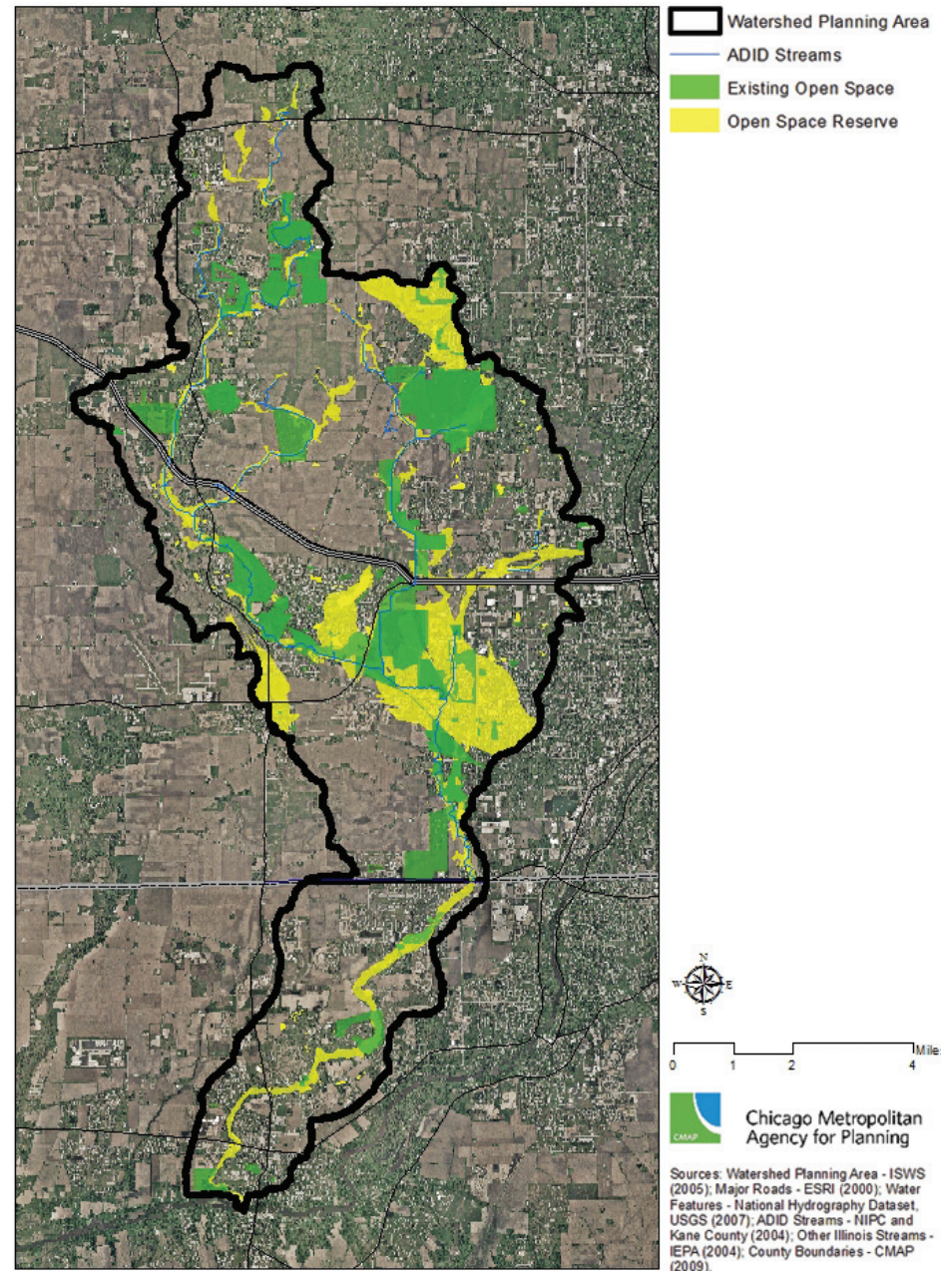
### Agricultural Lands

This category represents those lands currently managed for agricultural purposes such as crop and livestock production and equestrian uses. Policy, planning, and programming recommendations focus on pathways to help implement or enhance the various types of best management practices (BMPs) appropriate for agricultural areas. The U.S. Department of Agriculture-Natural Resource Conservation Service (USDA-NRCS) Field Office Technical Guides comprehensively document conservation practices applicable to the State of Illinois, as well as standards and specifications for these practices.

To better frame the policy recommendations while taking into account the local context, governmental representatives from the stakeholder group completed a code and ordinance review that was based on a worksheet developed by the Center for Watershed Protection.<sup>4</sup> The worksheet provided scoring for the extent to which current land use and development codes and ordinances agreed with model principles in the categories of Residential Streets and Parking Lots, Lot Development, and Conservation of Natural Areas. As a result of this review, a policy and planning/programming recommendations matrix, based on the green infrastructure framework, was developed (see table below). Specific ordinances and programs that are pertinent to the status of the Blackberry Creek Watershed are highlighted in the full plan document. Local governments are encouraged to incorporate recommended policies and codes within their existing regulations to offer increased protection to water resources, and are encouraged to collaborate with the relevant entities to implement programs that may be beneficial to the watershed as a whole.

<sup>4</sup> Center for Watershed Protection (CWP). *Better Site Design: A Handbook for Changing Development Rules in Your Community*. Ellicott City, MD: CWP, 1998. <http://www.cwp.org/categoryblog/101-better-site-design-.html>.

Figure 4. Blackberry Creek Watershed Open Space Reserve





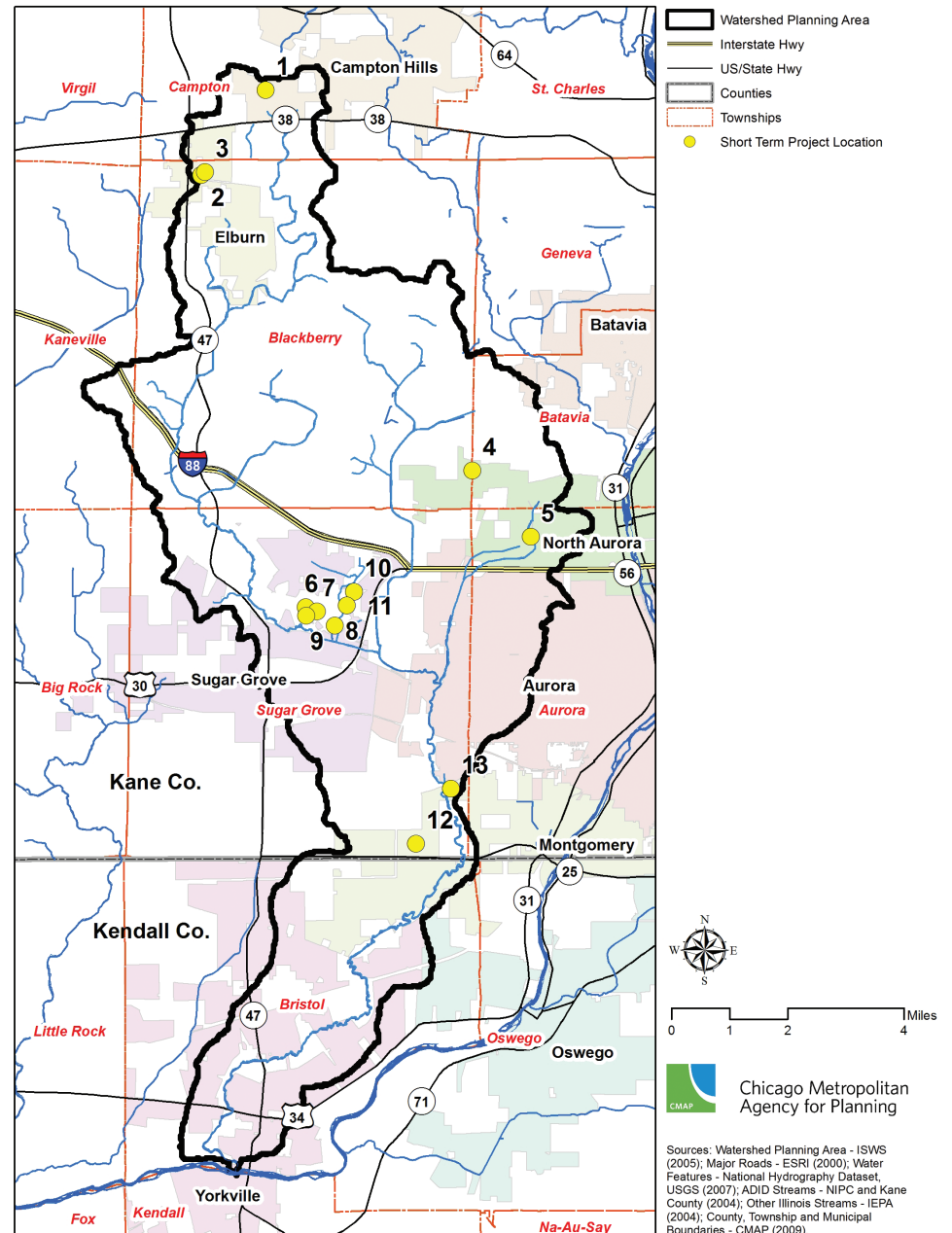
**Table 3. Summary of policy and planning/programming recommendations for the Blackberry Creek Watershed**

| GREEN INFRASTRUCTURE FRAMEWORK CATEGORY | RECOMMENDATIONS   |  |
|---|---|--|
| Open Space Reserve                      | Policy <ul style="list-style-type: none"> <li>▪ Open space protection ordinances</li> <li>▪ Farmland preservation ordinances</li> <li>▪ Ordinances promoting interconnectivity of currently protected open space</li> </ul>   | Planning/Programming <ul style="list-style-type: none"> <li>▪ Conservation easements</li> <li>▪ Purchase or transfer of development rights</li> <li>▪ Municipal buy-back programs for areas in the 100-year floodplain</li> <li>▪ Creation of conservancies of volunteer land stewards for maintenance and restoration activities in forest preserve and park district properties</li> <li>▪ Open space plan development</li> <li>▪ Wellhead protection programs</li> <li>▪ Oak stand inventory</li> </ul>                     |
|   | Implementers<br><b>Municipalities and Counties</b>  | Implementers<br><b>Municipalities and Counties, Land trust agencies, Forest Preserve and Park Districts, Townships, Landowners</b>   |
| Planned Development                     | Policy <ul style="list-style-type: none"> <li>▪ Overlay zones where BMPs are required for lands identified as critical to source water quality protection and recharge</li> <li>▪ Minimum open space requirements for subdivisions, land-cash donation ordinances</li> <li>▪ Conservation Design/LID regulations</li> <li>▪ Bonus for/require stormwater retention in new development or redevelopment</li> </ul> | Planning/Programming <ul style="list-style-type: none"> <li>▪ Protection measures for pre-identified sensitive lands</li> <li>▪ Natural lawn care and sustainable landscape practices</li> <li>▪ Oak stand inventory</li> <li>▪ Preservation of existing/mature trees</li> <li>▪ Landowner stewardship programs</li> </ul>   |
|   | Implementers<br><b>Municipalities and Counties</b>  | Implementers<br><b>Municipalities and Counties, Developers, Landowners</b>   |
| Developed Lands                         | Policy <ul style="list-style-type: none"> <li>▪ Pet waste pick-up ordinances</li> <li>▪ Water Use Conservation Ordinance</li> <li>▪ Tree Preservation Ordinances</li> </ul>   | Planning/Programming <ul style="list-style-type: none"> <li>▪ Natural lawn care and sustainable landscape practices</li> <li>▪ Detention basin inventories and retrofit programs</li> <li>▪ Rain garden and rain barrel cost-share programs</li> <li>▪ Sustainable road salting and maintenance programs</li> <li>▪ Urban greening/urban forestry programs</li> <li>▪ Oak stand inventory</li> <li>▪ Landowner stewardship programs</li> <li>▪ Audubon Cooperative Sanctuary Program certification for golf courses</li> </ul> |
|   | Implementers<br><b>Municipalities and Counties</b>  | Implementers<br><b>Municipalities, Counties, Forest Preserve and Park Districts, Landowners, Landscape companies, Golf course owners/operators</b>   |
| Agricultural Lands                      | Policy <ul style="list-style-type: none"> <li>▪ Livestock facility siting laws/ordinances, animal waste management ordinances</li> </ul>  | Planning/Programming <ul style="list-style-type: none"> <li>▪ Agricultural BMPs: Expansion and better-funding for USDA-NRCS/SWCD livestock operations management programs</li> <li>▪ Soil conservation practices</li> <li>▪ Integrated nutrient and/or pest management planning</li> <li>▪ Oak stand inventory</li> <li>▪ Sealing of abandoned wells</li> </ul>  |
|   | Implementers<br><b>State, Municipalities, and Counties</b>  | Implementers<br><b>Landowners, County Farm Bureaus, Soil &amp; Water Conservation Districts, USDA-Natural Resources Conservation Service, USDA-Farm Service Agency, County Health Departments, University of Illinois-Extension</b>  |

**On-The-Ground Projects**

Based on the input of the stakeholders throughout the planning process plus focused meetings and discussions with staff and officials of municipalities, townships, counties, park and forest preserve districts, and homeowner associations, numerous opportunities were identified to implement projects throughout the watershed with the goal of protecting and restoring Blackberry Creek and its tributaries. Potential projects were divided into two categories depending on the time frame in which they might reasonably be implemented: short-term (within five years of Plan adoption) and long-term (within five - ten years of Plan adoption). The short term best management practice (BMP) projects are identified in the accompanying figure and table below. They are not listed in any particular order, other than they are generally arranged by location from north to south. Educational signage projects are included in this “on-the-ground” BMP project list, while education and outreach programs are highlighted in the section below. (The long term project list can be found in the full Plan.) Both the short-term and long-term BMP project lists are not intended to be limited only to those identified during the planning process, but to also provide examples that community members could use to conceptualize other similar projects within the Blackberry Creek Watershed. The expectation is that BMP projects other than those listed in the Plan that provide similar water quality benefits would be eligible for Nonpoint-Source Pollution Control Program grant funding from Illinois EPA, among other grant programs offered by local, state, and federal agencies and organizations.

**Figure 5. Short-term project locations within the Blackberry Creek Watershed**



Sources: Watershed Planning Area - ISWS (2005); Major Roads - ESRI (2000); Water Features - National Hydrography Dataset; USGS (2007); ADID Streams - NIPC and Kane County (2004); Other Illinois Streams - IEPA (2004); County, Township and Municipal Boundaries - CMAP (2009).

**Table 4. Short-term projects within the Blackberry Creek Watershed**

| PROJECT MAP # | PROJECT NAME OR DESCRIPTION  | IEPA CATEGORY | BMP TYPE  | LANDOWNERS                | PARTNERS                              |
|---------------|--|---------------|---|---------------------------|---------------------------------------|
| 1             | Headwaters Conservation Area Nonpoint Source Education                   | Other         | Education (signage)   | Campton Township          |                                       |
| 2             | North Street Bioswales   | Urban         | Bioswales   | Village of Elburn         | Consultant                            |
|               |  | Other         | Education (signage)   |                           |                                       |
| 3             | Prairie Park Nonpoint Source Education                                   | Other         | Education (signage)   | Village of Elburn         |                                       |
| 4             | Mirador Park Nonpoint Source Education                                   | Other         | Education (signage)   | Batavia Park District     | Homeowners association                |
| 5             | Oak Hill Pond Shoreline Stabilization & Buffer Establishment             | Hydrologic    | Shoreline Protection  | Homeowners association    | Village of North Aurora               |
|               |  | Other         | Buffer Zone Enhancement/ Installation   |                           |                                       |
| 6             | Hankes Road Bioswales  | Urban         | Bioswales   | Sugar Grove Township      | Prestbury Citizens Assoc., Consultant |
| 7             | Lake Blackberry Shoreline Stabilization & Buffer Establishment           | Hydrologic    | Shoreline Protection  | Prestbury Citizens Assoc. | Consultant                            |
|               |  | Other         | Buffer Zone Installation  |                           |                                       |
| 8             | Lake Prestbury Buffer Establishment & Shoreline Stabilization            | Other         | Buffer Zone Installation  | Prestbury Citizens Assoc. | Consultant                            |
|               |  | Hydrologic    | Shoreline Protection  |                           |                                       |
| 9             | Hankes Creek Stabilization & Buffer Establishment                        | Hydrologic    | Streambank Protection   | Prestbury Citizens Assoc. | Consultant                            |
|               |  | Urban         | Urban Filter Strip  |                           |                                       |
| 10            | Mossfield Right of Way Natural Area Restoration                          | Urban         | Natural Area Restoration  | Prestbury Citizens Assoc. |                                       |
| 11            | Walnut Lane Natural Area Restoration                                     | Urban         | Natural Area Restoration  | Prestbury Citizens Assoc. |                                       |
| 12            | Stuart Sports Complex BMPs for Runoff Reduction & Water Quality Benefits | Hydrologic    | Wetland Restoration   | Fox Valley Park District  | Consultant                            |
|               |  | Urban         | Naturalized Wet Detention, Naturalized Dry Detention, Bioswales, Permeable Pavers, Natural Area Restoration                       |                           |                                       |
|               |  | Other         | Education (signage)   |                           |                                       |
| 13            | Jericho Lake Park BMPs for Runoff Reduction & Water Quality Benefits     | Urban         | Bio-retention Facility, Bioswales, Permeable Pavers, Natural Area Restoration, Revegetated Riparian Zone/Corridor (stream buffer) | Fox Valley Park District  | Consultant                            |
|               |  | Hydrologic    | Shoreline Protection  |                           |                                       |
|               |  | Other         | Education (signage)   |                           |                                       |

### Education and Outreach

Research shows that a watershed plan will have a higher level of long-term support and success if stakeholders are involved in creating and implementing the plan. Through the course of this planning process, several outreach efforts were completed including the publishing of two brochures and one poster, two open houses to inform the public about the watershed plan, and a networking event hosted by the Fox River Ecosystem Partnership (FREP) in which participants toured restoration sites in the Dick Young Forest Preserve in Kane County. Additionally, The Conservation Foundation created a slide show presentation that was used to communicate the planning process to municipal staff, boards, and committees. A website describing the watershed planning process and other relevant resources has been hosted by FREP at <http://foxriverecosystem.org/blackberry.htm>.



**Figure 6.**  
FREP Noon Network participants spreading prairie plant seed at Dick Young Forest Preserve, Kane County (May 2011).

Throughout the watershed planning process, the stakeholder group discussed the need for education and outreach. To continue the momentum from the planning process, the stakeholder group is considering the formation of a “Watershed Coalition” to oversee plan implementation. The coalition will be best served by hiring a watershed coordinator, a position that may potentially be funded by the governmental entities in the watershed. The watershed coordinator will provide a focused, local approach to watershed plan implementation, taking into consideration regional activities and opportunities. A summary of education/outreach recommendations follows:

1. The Watershed Coalition will partner with existing organizations to provide a Section 319 grant writing workshop to assist lead implementers with applications.
2. The Watershed Coalition will work with partnering organizations to raise awareness about all potential sources of fecal coliform bacteria in Blackberry Creek and its tributaries.
3. The Watershed Coalition will target landowners and homeowners’ associations, especially those identified in the critical areas analysis for fecal coliform bacteria, about proper septic maintenance and warning signs of a failing system.
4. The Watershed Coalition will distribute U. S. EPA’s *Healthy Lawn care Practices and Reduce Runoff: Slow it Down, Spread it Out, Soak it In!* DVDs to homeowners associations for use at meetings as an educational tool.
5. The Watershed Coalition will continuously work with municipalities to promote the use of the CMAP *Model Water Use Conservation Ordinance* in their respective municipalities.

The Coalition will seek to maintain the current Blackberry Creek Watershed Plan website hosted by FREP as one of the tools to achieve the above five objectives. Additional tools include brochures, interpretive signs, and public service announcements as well as activities for targeted audiences such as classroom curricula, presentations for homeowners associations, and technical workshops for developers and land use planners on development practices that have minimal adverse impacts on water quality.

### Expected Water Quality Benefits and Costs

Sediment or total suspended solids (TSS), total phosphorus, total nitrogen, and fecal coliform load reductions were calculated as applicable for each short-term BMP project. Conceptual level engineering cost estimates were based on information available on the proposed BMP projects, typical design components required for such projects, and unit cost information available from other, recently implemented projects in northeastern Illinois. The results are summarized in the tables below.

**Table 5. Short-term project benefits organized by category**

| IEPA PROJECT CATEGORY | SEDIMENT (tons/yr) | TSS (lbs/yr)   | PHOSPHORUS (lbs/yr) | NITROGEN (lbs/yr) | FECAL COLIFORM (counts/year) |
|-----------------------|--------------------|----------------|---------------------|-------------------|------------------------------|
| Hydrologic            | 51                 | 476            | 86                  | 209               | 3E+11                        |
| Other                 | 11                 | 71,360         | 704                 | 259               | 2E+12                        |
| Urban                 | 0                  | 38,359         | 452                 | 15                | 2E+11                        |
| <b>Totals</b>         | <b>62</b>          | <b>110,094</b> | <b>1,242</b>        | <b>483</b>        | <b>3E+12</b>                 |

**Table 6: Short-term project costs**

| IEPA PROJECT CATEGORY | ACCUMULATIVE COST OF SHORT-TERM PROJECTS |
|-----------------------|--|
| Hydrologic            | \$211,879                                |
| Other                 | \$4,003,309                              |
| Urban                 | \$45,946                                 |
| <b>Total</b>          | <b>\$4,261,133</b>                       |

### Timeline and Implementers

A five-year schedule for plan implementation was developed for each recommendation category (Policy and Planning, Projects, Education and Outreach) with the assumption that the Plan will be updated every five years. It should be noted that implementation of projects and programs is based on a variety of factors including, but not limited to, securing appropriate funding, receiving participation from willing landowners and local governments, and availability of technical assistance resources.

In addition to short-term projects, the watershed plan also describes numerous policy recommendations. Identified parties are encouraged to consider and implement the Plan’s policy recommendations within five years from plan adoption. To help facilitate these efforts, CMAP, other organizations, and consultants can provide assistance to communities for those recommendations that are related to comprehensive planning, codes and ordinances for water resource protection (e.g., Model Water Use Conservation Ordinance), conservation design, and stormwater best management practices.

Implementation of the outreach and education recommendations will be an ongoing effort among partnering organizations, agencies, local governments, businesses, homeowners associations, and other groups that are active within the watershed. It is encouraged that the Blackberry Creek Watershed Coalition (successor organization facilitated by the services of a watershed coordinator) will continue to work with watershed communities to support these efforts.

### Additional Information Needs

Subbasin-specific water quality and pollutant loading data do not exist for Blackberry Creek. To address this gap in information, this watershed plan relies heavily on modeling results to estimate pollutant loads within the watersheds.

By 2016, a monitoring system should be implemented throughout the Blackberry Creek Watershed that captures water quality conditions at adequate spatial and temporal resolutions. Stakeholders can partner with the Fox River Study Group (FRSG) and Illinois State Water Survey (ISWS) to develop a more robust water quality monitoring scheme with a goal of achieving an improved understanding of the sources of fecal coliform within the watershed. After such monitoring data are collected and analyzed, the source of contamination in terms of origin(s) and geographic location(s) should be better understood. Watershed stakeholders can then reevaluate the Plan’s recommendations and make appropriate adjustments to priorities at that point.

## Acknowledgments

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### About CMAP

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](http://www.cmap.illinois.gov) for more information.





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