

## **Chapter III. Goals, Objectives and Planned Activities**

In general terms, the overall goal of the Waukesha County land and water resource management program is to meet state water quality standards and water resource objectives while also addressing local resource issues of concern. This chapter describes more specific program goals, objectives, planned activities and estimated staff resources to be assigned to each goal over the next 10 years by the Land Resources Division. The LRD plans to achieve its goals and objectives through the use of a wide variety of program methods, including but not limited to: information and education, conservation planning and technical assistance, cost-sharing grants, geographic information system (GIS) technology, tax credits, partnerships with other agencies and organizations, and the enforcement of county ordinances and state conservation compliance rules. Many of these program methods are intended to facilitate the installation and maintenance of conservation practices to protect or improve water quality. Further details on all these methods are provided in the remainder of this chapter and in Chapter IV.

### **Water Resources Objectives**

As noted above, a guiding principle for the development and implementation of this plan is to protect and improve the water resources of Waukesha County. Water quality is important for public health, recreation, local property values and many other reasons. Chapter II summarized the condition of local lakes and streams and their watersheds based on available data and reports from the Wisconsin Department of Natural Resources (DNR) and the Southeastern Wisconsin Regional Planning Commission (SEWRPC). In general, the data shows that many of the lakes and streams in the county are only partially meeting water quality standards or supporting their potential biological use classification. This is true regardless if they are classified as a warm water forage fish community, a warm water sport fish community, or a cold-water community. With the exception of those waters identified in Section NR 104.06 Wisconsin Administrative Code, all water resources in the County are expected to meet the water quality standards associated with the classifications shown in Tables II-5 and II-6 and be fully compliant with the fishable and swimmable goals established by the federal Clean Water Act.

The noted reports also describe the impairment factors that prevent these water resources from reaching their full potential. These factors include, but are not limited to: low dissolved oxygen, degraded habitat (i.e. streambank erosion, channelization, developed shores), contaminated fish tissue (i.e. mercury, PCBs), elevated water temperature, recreational restrictions due to pathogens (i.e. fecal coliform, e-coli), chronic aquatic toxicity, contaminated sediment (i.e. Polycyclic aromatic hydrocarbons or PAH's), and turbidity (i.e. suspended solids). The other most commonly listed pollutants are phosphorous and sediment, which can originate from both agricultural and urban landscapes. Sewage treatment plant discharges are also a significant source of phosphorous, although recently enacted state regulations address this concern. Invasive species are also widespread in the county, both in the aquatic and terrestrial environments.

Many of the goals for this plan are aimed at meeting water resource objectives or standards for surface or groundwater. However, given the development pressures in urbanizing watersheds in the county, and the resulting impacts on water quality and quantity, in some cases it may be a more realistic goal to maintain existing water resource conditions. Also, given the overall shortage of water quality monitoring data in the county, it is usually very difficult to measure program success in terms of measurable water quality improvements, especially within a 10-year planning horizon. This issue is discussed in more detail in Chapter IV.

### **Plan Goals**

As noted in Chapter I, the overall program goals were carried over from the 2012 plan as the foundation for this 2022 plan update, as listed below:

1. Control Urban Runoff Pollution and Flooding
2. Protect the Quality and Quantity of Groundwater
3. Control Agricultural Runoff Pollution
4. Educate the Public on Conservation Issues
5. Preserve Targeted Farmland and Natural Areas
6. Support Water Monitoring and Improve Public Access to Water Resource Data
7. Reclaim Active Nonmetallic Mining Sites

It should be noted that, while all of the resource issues or goals identified by the advisory committee were determined to be important, fiscal constraints, state mandates and other local program commitments would limit the LRD's ability to commit to all the goals and objectives identified by the advisory committee. These facts also played a role in establishing the level of staff resources assigned to each goal.

## **Plan Objectives and Planned Activities**

For each of the seven plan goals noted above, more specific objectives and planned activities were developed and are described in this section. Background information is first provided on each of the program goals, how they apply to Waukesha County, and the subsequent objectives that were derived from them. The background information often references the resource assessments provided in Chapter II. The objectives and planned activities were drafted by the LRD and reviewed by the plan advisory committee, as described in Chapter I.

A guiding principle behind the entire plan is to build partnerships with other conservation agencies and organizations whenever practical to help achieve program goals or objectives. To avoid unnecessary redundancy, all partnerships are not described in detail under each planned activity, but some key partnerships are noted either in the activity description or the program notes to the right. All agency, organization and program acronyms used in the following sections are defined in Appendix A.

After each goal is a projected level of staff and budget resources that will be assigned to that goal on an average annual basis. The staff projections are based on Land Resources Division 2022 staffing levels of approximately **X.X** full-time equivalents (FTE) available to work on land and water resource management programs. One FTE is equal to 2080 hours of work, but may actually be distributed to any number of employees, full or part time. As noted in Chapter IV, this assumed staffing level does not represent any commitment by Waukesha County, and is in fact subject to changing program and department demands, county budgets and level of state funding that is maintained during the planning period.

All activities listed are high priority unless there is an (M) listed after the activity description. High priority means that the activity represents a core function of the LRD or an existing commitment and will be completed unless significant funding shortfalls are encountered. The (M) designation is to represent a medium priority, which means the activity is considered important, but may experience delays in implementation depending on available funding, staff resources, and the amount of time required to complete high priority activities. No low priority items are listed in the activity plan since they would represent activities that are not likely to be accomplished due to limited resources. All references to the LRD web site can be found at: [www.waukeshacounty.gov/landconservation](http://www.waukeshacounty.gov/landconservation). All references to the Waukesha County GIS-web site are at: [www.waukeshacounty.gov/GIS](http://www.waukeshacounty.gov/GIS)

Program notes are included after each planned activity to provide some additional context for the activity and to reference progress made on the activity since the 2012 LWRM Plan. Since this is a long-range planning effort (10 years), the level of detail for planned activities was purposely kept to a minimum to allow for changing conditions, consistent with the statutory intent of LWRM plans. Some detail was added solely to satisfy DATCP planning requirements, but the majority of details are reserved for annual internal LRD work plans. At that point, measurable outcomes are assigned to specific staff members as much as

possible and used for annual performance reviews. The LWRM plan provides the framework for this more detailed level of planning to occur later. Chapter IV includes more detail on how progress on implementing this plan will be reviewed annually and modified as needed to meet the constantly changing program demands, public policies and mandates.

## **Goal 1: Control Urban Runoff Pollution and Flooding**

### Background:

Urban runoff is the number one source of water pollution in most watersheds in Waukesha County. Local development pressures are very strong, resulting in over 5 square miles per year of new development over the last 3 decades. Previous modeling through the Priority Watershed Program revealed that construction sites and developed urban areas accounted for 85% of the sediment loads in the Upper Fox River Watershed – the largest watershed in the county. In addition, impervious surfaces from development increase runoff volumes, which lead to downstream flooding and channel erosion. In 2008 and 2010, a series of heavy rains caused severe flooding throughout the county. Combined with a heavy winter snowpack, the shallow groundwater aquifer reached record high levels in both 2008 and 2010, which was the primary cause of widespread basement flooding in the county.

To address these issues, local governments, including Waukesha County, have adopted construction site erosion control and storm water management ordinances, with similar cross-compliance requirements in local zoning codes. To help prevent basement flooding, many of these ordinances - including Waukesha County's - also include technical standards requiring new basements to be built well above the highest groundwater levels. Enforcing these ordinances currently represents the single largest workload for the LRD and the top priority in this plan. Improving these efforts make up some of the objectives stated below. Since many storm water management best management practices (BMPs) have now been in place for 10-20 years, BMP maintenance has also become a program priority.

Subsequent to the 2006 LWRM Plan, Waukesha County, along with 30 of 37 other communities within the county, was issued a Municipal Separate Storm Sewer System (MS4) storm water discharge permit by the DNR under NR 216. This permit contains a number of requirements designed to reduce nonpoint pollution from existing county-owned land, roads, buildings and other infrastructure. Some of these permit requirements are included in the objectives below, while a more detailed explanation of the MS4 permit program and how it affects Waukesha County is provided in Chapter IV.

Other objectives under this goal reflect the need for a more proactive approach to urban runoff management, such as watershed protection planning and low impact development. Nationwide, studies have shown that increasing impervious surfaces in a watershed can have a dramatic impact on the water quality of a stream. The Center for Watershed Protection, in cooperation with the US EPA, has published summaries that show with as little as 10% of a watershed being covered by impervious surfaces, negative impacts are usually found in the receiving body of water. Some common examples include: poor water quality; sedimentation; reduced fish and aquatic insect populations; streambank erosion; expanding floodplains; and reduced baseflows. Historically, by the time a watershed is covered with 25% or more impervious surfaces, most streams are severely degraded and devoid of any significant aquatic life. The challenge is to prevent this from occurring through better planning.

Instead of only responding to development proposals one at a time, watershed protection planning takes a proactive approach to future land development and storm water management. It allows communities in a watershed to plan and work together toward a common goal of protecting a water resource through coordinated planning, educational efforts, land acquisitions, regulations, land and infrastructure management, and other institutional changes. For example, this type of planning can result in selecting sites for regional storm water facilities to be built before development occurs, or identifying areas that

need to be preserved or even acquired for protection. In 2008, the LRD completed such a plan for the Pebble Creek Watershed, a cold water stream in a high growth area on the west side of the City of Waukesha. The LRD also assisted SEWRPC in completing a similar plan in 2010 for the Mukwonago River Watershed, which is a designated “exceptional resource water” in the state. The preparation and implementation of watershed protection plans will remain a high priority for the LRD.

Another type of watershed planning underway in portions of Waukesha County is called Total Maximum Daily Load (TMDL) planning. This federally mandated program under the Clean Water Act is designed to improve water quality in lakes and streams that are not meeting water quality standards. A list of these water resources is called the “impaired waters list” or 303(d) list, named after the applicable section of the federal law. This list is updated every two years by the DNR and reported to the EPA. Under the TMDL planning process, water quality of a specific stream is measured and modeled, and a plan is developed which establishes the maximum amount of pollution the stream can tolerate on a daily basis to meet water quality standards and water use objectives. Through extensive modeling, a TMDL plan “allocates” tolerable pollutant discharges between point and nonpoint sources throughout the watershed. During plan implementation, pollutant trading can occur between sources. The DNR encourages counties to act as “brokers” of the pollutant trading that can occur. An example is a sewage treatment plant paying for nutrient management planning or a manure storage facility on a farm upstream. A TMDL plan may affect the minimum state nonpoint pollution control standards for both urban and agricultural areas, and therefore may affect other goals in this plan.

<b>Goal 1 - Control Urban Runoff Pollution and Flooding</b> (2.4 FTE and 41% of annual budget)		
<b>Objectives</b>	<b>Planned Activities</b>	<b>Program Context/Progress Notes</b>
<b>A. Enforce State Non-Agricultural Nonpoint Pollution Performance Standards through the County Storm Water Management &amp; Erosion Control Ordinance</b>		
	1. Review new land divisions, development and construction plans, issue permits, conduct inspections and carry out enforcement activities.	Depending on development activity, the LRD has averaged 50-100 Storm Water permits each year.
	2. Maintain “Authorized Local Program” status under s. NR 216.415 Wis. Adm. Code to streamline state and local storm water permitting.	County ALP status was approved by DNR starting 1/1/2011 – the first in Wisconsin. Applies to construction sites > 1 acre and allows county SW permit to also provide NR 216 coverage.
	3. Maintain intergovernmental agreements with local communities to coordinate ordinance enforcement efforts.	LRD currently has 25 agreements with local communities, executed 2006-2009. Five town and four village versions include ordinance enforcement coordination provisions.
	4. Use county Development Review Team meetings to coordinate project review comments with other county departments early in the site planning process.	Coordinates reviews with Planning & Zoning, Public Works and Towns. Avoids the ping-pong of projects between plan review authorities.

## Goal 1 - Control Urban Runoff Pollution and Flooding

(2.4 FTE and 41% of annual budget)

Objectives	Planned Activities	Program Context/Progress Notes
<b>B. Update County Storm Water &amp; Erosion Control Ordinance</b>		
	1. Incorporate NR 151 and NR 216 updates to storm water performance standards, prohibitions and other applicable mandated program changes.	A copy of the county storm water ordinance is available on the LRD web page. The ordinance was updated in 2016 to reflect changes in state codes.
	2. Incorporate ordinance improvements based on LRD redline tracking of enforcement experiences and code clarifications.	The LRD maintains an internal red-lined version of the ordinance to track ordinance interpretations and possible future changes.
	3. Continue consulting with the Waukesha County Storm Water Advisory Committee on major code updates.	This advisory committee is prescribed in the county Storm Water Ordinance.
<b>C. Maintain compliance with County MS4 Storm Water Discharge Permit issued by DNR for all existing county-owned land and infrastructure</b>		
	1. Complete annual MS4 permit technical requirements relating to illicit discharge detection, BMP inspections and maintenance, pollution prevention, storm sewer system/outfall mapping, etc.	The requirement for a 40% Total Suspended Solids reduction was recently removed by the state legislature, and reverted to 20%. TMDLs are superseding where they have been developed..
	2. Complete annual DNR reporting requirements relating to storm water program accomplishments and ordinance administration efforts.	This report is combined with the annual ALP report required under A.2. above.
	3. Complete mandated urban nonpoint pollution educational program.	See Goal #4 below for details.
<b>D. Facilitate storm water best management practice (BMP) maintenance</b>		
	1. Update sample BMP maintenance agreement documents on LRD web page and provide to permit applicants.	Samples are now available in MS Word format so they can be easily adapted to each site.
	2. Continue requiring all new BMP maintenance agreements to be recorded at the Register of Deeds during a new land division, and all BMP as-built documents to be recorded as an addendum.	This addendum process was adopted by the LRD in 2006 and will be continued.

## Goal 1 - Control Urban Runoff Pollution and Flooding

(2.4 FTE and 41% of annual budget)

Objectives	Planned Activities	Program Context/Progress Notes
	3. Continue collecting and loading BMP photos, as-built plans and maintenance data into the county storm water BMP database.	For permits issued prior to 2006, LRD back-scanning is on-going and nearly complete as of 2021.
	4. Optimize and promote public access to storm water BMP data and images through the county GIS web application.	As of 2021, data and images for over 800 BMPs are displayed on the county GIS-web site. Map IV-3 (draft) provides a recent snap shot of the data points. Future plans are discussed under Goal 6.
	5. Offer local community staff login access to the storm water database and GIS system to allow editing and uploading of BMP data and maintenance inspections.	One community has been trained to date. No charges are involved for using the system.
	6. Maintain model BMP maintenance ordinance language on the LRD web site and encourage local community adoption and enforcement.	The county developed this model ordinance in 2010. However, counties do not have the special assessment authority needed to enforce it.
	7. Publish sample BMP inspection forms and use them in BMP inspections conducted by the LRD on request, or in cooperation with a local government.	LRD completed sample BMP inspection forms which are published on the County's website. Existing intergovernmental agreements with towns also cover BMP inspections.
	8. Include BMP maintenance in educational workshops and presentations.	The LRD has covered BMP maintenance in workshops during 2010, 2011 and 2012, 2013, 2014, 2017, 2019, 2020 and 2021.
<p><b>E. Provide storm water-related technical and cost-sharing services to other county departments and local organizations</b></p>		
	1. Coordinate storm water ordinance enforcement and MS4 permit compliance activities among county Parks and Public Works projects.	An interdepartmental agreement was executed in February 2012, as required under the county MS4 permit and ALP. The Departments of Parks and Land Use and Public Works meet annually to review projects.
	2. Assist with storm water and erosion control planning, design and cost-sharing for county infrastructure and land management projects.	This includes county-owned parkland and existing and new county buildings, parking lots and roads.
	3. Provide Planning and Zoning staff with technical recommendations relating to storm water, erosion control, impervious surface mitigation under NR 115 and basement/groundwater separation.	These recommendations are incorporated into zoning permits, land division approvals, conditional use permits and other zoning actions.

## Goal 1 - Control Urban Runoff Pollution and Flooding

(2.4 FTE and 41% of annual budget)

Objectives	Planned Activities	Program Context/Progress Notes
	4. Assist nonprofits, lake organizations, and other local governments with storm water and erosion control planning, design and cost-sharing upon request.	An example is the LRD working agreement executed with the Fox River Commission, which resulted in numerous BMPs being installed as shown on their web site: <a href="http://www.SEWFRC.org">www.SEWFRC.org</a>
	5. Provide local schools technical and cost-sharing assistance with rain garden, outdoor classroom designs, and other related services.	This is offered as part of the LRD Green Schools program and grants. See Goal 4 for more details.
<b>F. Prevent flooding of homes and businesses from surface and groundwater</b>		
	1. Encourage communities to plan and zone hydric soils, internally drained and other flood-prone areas to protective categories.	Hydric soil thematic maps have been posted on the county GIS-web site.
	2. Enforce 1-foot basement/groundwater separation requirement in the county storm water ordinance. Encourage other communities to adopt similar requirements.	LRD policies require detailed soil profile evaluations using USDA classification system to identify highest groundwater levels by redoximorphic and other soil features.
	3. Assist with updating county zoning codes to be consistent with the storm water ordinance basement/groundwater separation requirements.	Drafts have been prepared for the general zoning code and need to be developed for the county shoreland and floodplain ordinances.
	4. Enforce 50-foot horizontal and 2-foot vertical flood setback requirements in the county storm water and floodplain zoning ordinances.	In response to past flooding problems, the LRD has published detailed procedures for un-mapped floodplains and internally drained areas.
	5. Assist with updating floodplain zoning maps for unstudied reaches or watersheds with outdated flood studies,	Example is the new floodplain prepared for Pebble Creek and Brandy Brook in cooperation with the Drainage District.
	6. Use Emergency Assistance Program grant funds when available to assist landowners and communities in flood remediation and prevention projects.	During 2011 and 2012, the LRD administered \$1.6 million in EAP grants to over 32 low-moderate income home owners that suffered from flood damage in 2008.
	7. Continue cost-sharing the operation of stream flow gauges on the Fox, Menomonee, Mukwonago and the Bark Rivers, as well as funding other floodplain modeling efforts.	The county has been sponsoring flow gauges in Waukesha, Menomonee Falls, Mukwonago and Rome for many years, and finished many local floodplain map updates in 2008 in cooperation with DNR, SEWRPC and USACOE.



## Goal 1 - Control Urban Runoff Pollution and Flooding

(2.4 FTE and 41% of annual budget)

Objectives	Planned Activities	Program Context/Progress Notes
<p><b>G. Promote and demonstrate watershed protection planning to guide and coordinate land use and storm water program efforts among communities in a watershed</b></p>		
	<p>1. Continue promoting and assisting local community groups and SEWRPC on developing watershed protection plans.</p>	<p>The LRD is currently working with SEWRPC on a plan for the Pewaukee River watershed. Mason Creek is being discussed.</p>
	<p>2. Post locally completed watershed protection plans on the LRD web site and link to GIS watershed maps.</p>	<p>Plans have been completed for Pebble Creek and Mukwonago River, but still need to be linked to GIS system.</p>
	<p>3. Promote and support implementation of completed watershed plans through educational efforts, community group activities, land acquisition and ordinance enforcement.</p>	<p>The Pebble Creek plan is currently being used to complete an environmental impact statement for the West Waukesha Bypass.</p>
	<p>4. Direct future development away from environmentally sensitive areas, such as environmental corridors, wetlands, steep slopes, or shallow water table or bedrock.</p>	<p>These areas are identified in the adopted 2009 County Development Plan and in a series of thematic maps on the county GIS-web system.</p>
<p><b>H. Promote and demonstrate low impact development techniques and innovative storm water BMPs</b></p>		
	<p>1. Support conservation designs in zoning and storm water ordinances and land division reviews.</p>	<p>County zoning code has lot density credits for preservation of natural areas and implemented treated impervious surface provisions in the Shoreland Zone.</p>
	<p>2. During storm water permit reviews, encourage developers to use rain gardens, native plantings, constructed wetlands, green roofs, compost, stream and wetland buffers, recycled/recyclable products, and other low impact BMPs.</p>	<p>On-going effort to treat storm water as an amenity to site landscaping and to reduce waste on construction sites.</p>
	<p>3. Use low impact development BMPs and techniques on county infrastructure and land management projects, as outlined in the County Sustainability Plan.</p>	<p>Examples include rain gardens and porous surfaces at the Retzer Nature Center, a green roof on the county Health &amp; Human Service building and a bioretention basin at the Grounds Maintenance Building.</p>
	<p>4. Continue demonstrating the use of composted yard waste to reclaim the county gravel pit as mining is completed.</p>	<p>Six different erosion control demonstration plots were set up in 2008 and used for educational tours.</p>
<p><b>I. Ensure water protection efforts are based on the sensitivity of the resource</b></p>		



<b>Goal 1 - Control Urban Runoff Pollution and Flooding</b> (2.4 FTE and 41% of annual budget)		
<b>Objectives</b>	<b>Planned Activities</b>	<b>Program Context/Progress Notes</b>
	1. Develop and populate a water resource geodatabase on the county GIS-web so permit applicants have access to data.	See Goal #6 for details.
	2. Base storm water permit reviews on the sensitivity of the receiving water, providing extra protection to outstanding and exceptional water resources, cold water streams, lakes and other sensitive areas.	This is currently required in the county Storm Water ordinance. The more sensitive streams are also listed in the ordinance.
	3. Ensure compliance with storm water and erosion control standards in adopted TMDL plans in target watersheds.	As of 2012, TMDL plans are being written for the Upper Rock River and Menomonee River watersheds.
	4. Encourage or require variable width buffers along water resources based on sensitivity, site conditions, code requirements (NR 115) & wildlife habitat.	County shoreland ordinance needs to be updated to meet state standards.

## **Goal 2: Protect the Quality and Quantity of Groundwater**

### Background:

Concern for the quality and quantity of groundwater in Waukesha County has taken the front stage over the past decade. As noted in Chapter II, the deep sandstone aquifer provides drinking water for many of the larger communities in the county, but over-pumping groundwater has caused the water table to drop over 600 feet from natural levels in the eastern part of the county. As the water table dropped, levels of naturally occurring pollutants such as radium began to rise in municipal water supplies, with some exceeding the U.S. EPA standards for drinking water. A long legal battle over this issue has resulted in a court order for the City of Waukesha to reduce radium levels in their water supply to comply with EPA standards by 2018.

The groundwater in the county's shallow aquifer is more easily accessed and is the primary water source for thousands of homes beyond the reach of municipal water supplies. However, the shallow aquifer is also more susceptible to contamination and any drawdown from over-pumping would drop water levels in local lakes and wetlands and reduce stream base flows. Legal battles have already occurred where high-capacity shallow municipal wells were proposed near lakes and groundwater recharge areas.

To avoid these types of issues and plan for future water supplies in SE Wisconsin, SEWRPC recently completed a three-phased multi-agency effort to inventory local groundwater resources, develop a regional groundwater model, and develop and publish a Regional Water Supply Plan for Southeast Wisconsin (2010). The plan is based upon an adopted regional comprehensive plan design year of 2035, recommends a sustainable water supply for every community in southeast Wisconsin, and can be found at: <http://www.sewrpc.org/SEWRPC/Environment/RegionalWaterSupplyPlan.htm>

For some communities, the Regional Water Supply Plan recommends switching from a deep aquifer groundwater supply to a shallow aquifer or surface water supply – namely Lake Michigan. This type of

switch would not only provide a sustainable supply of water to the community, but would also allow the region’s deep aquifer to recover from decades of over-pumping. While switching to Lake Michigan for a community water supply may be supported by a tremendous amount of science, it does introduce a level of complexity in the administrative and political arenas due to the adoption of the Great Lakes - St. Lawrence River Basin Water Resources Compact (“Great Lakes Compact”) in 2008. Being enacted by the legislatures of all eight states bordering the Great Lakes, as well as the United States Congress and two Canadian provinces, this regional law trumps all other laws relating to the use and “diversion” of water from the Great Lakes basin. Under the Great Lakes Compact, any water diverted outside of the basin must be returned after use and only communities straddling the watershed boundary or located in a county that straddles the watershed are eligible for diverting Great Lakes water. The Compact also established a water diversion application process, requiring all applications to comply with strict technical criteria and be approved by all eight Great Lakes states. A diversion application for Lake Michigan water was submitted by the City of Waukesha in 2010 was approved by the DNR in 2021 and is under construction.

Given the importance of groundwater as a resource and vital asset to support many communities in the region, Waukesha County has been working cooperatively with the City of Waukesha and a number of local businesses and other groups since 2006 to promote local water conservation efforts. This organization started locally, but has grown to a statewide group called the Wisconsin Water Conservation Coalition.

<b>Goal 2 - Protect the Quality and Quantity of Groundwater</b> (0.4 FTE and 6% of the annual budget)		
<b>Objectives</b>	<b>Planned Activities</b>	<b>Program Context/Progress Notes</b>
<b>A. Promote water conservation. *</b>		
	1. Continue supporting the Wisconsin Water Conservation Coalition in developing and implementing water conservation programs in the county.	LRD staff currently serves on the WWCC Board of Directors.
	2. Include water conservation education on LRD web page and in presentations to schools, civic groups, and general public.	See Goal #4 for details.
	3. Continue to look for opportunities to partner with other agencies and organizations to develop and disseminate information and generate action.	In 2010, Waukesha County was awarded a Silver Water Star Community for the county’s work on surface and groundwater issues.
<b>B. Protect groundwater recharge areas and encourage storm water infiltration. *</b>		
	1. Promote the use of county storm water infiltration potential maps to guide land use and storm water management concept planning.	Thematic maps are now available as a data layer on the county GIS-web site.
	2. Enforce groundwater recharge protection and infiltration standards in the county storm water ordinance – especially in the western recharge zone for the deep aquifer.	The county storm water ordinance defines these areas and the standards.

**Goal 2 - Protect the Quality and Quantity of Groundwater**  
 (0.4 FTE and 6% of the annual budget)

Objectives	Planned Activities	Program Context/Progress Notes
	3. Include explanations of county deep and shallow aquifers, their importance to community water supplies, and current trends and potential threats to the aquifers in public outreach activities.	See Goal #4 for details on outreach efforts.

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<b>C. Minimize the impacts on groundwater from nutrients, pesticides, road salt and other contaminants contained in urban and agricultural storm water runoff. *</b>		
	1. Implement and periodically update MS4 pollution prevention plans for county facilities, including highway maintenance substations with salt storage areas.	The county has developed and implemented pollution prevention plans at highway substations and reduced road salt use through salt brine applicators.
	2. Enforce storm water pretreatment and groundwater/bedrock separation restrictions in storm water permits and demonstrate BMPs on county land.	A compacted 2-foot clay liner was recently installed in the storm water pond treating runoff from the Courthouse campus.
	3. Include pollution prevention and treatment information on the LRD web site and in educational workshops.	Pollution prevention planning has been a topic at the 2018 and 2021 annual county storm water workshops.
	4. Promote and provide technical and financial assistance in proper well abandonment (urban & rural).	SWRM cost-sharing funds were used to abandon 37 local wells since 2005. Benchmark: properly abandon 5 wells annually.
	5. Assist DNR with investigating and resolving well contamination cases upon request.	The LRD can help locate the source of the well contamination and make recommendations to prevent it.
<b>D. Promote the implementation of the SE Wisconsin Regional Water Supply Plan to protect surface and groundwater resources.</b>		
	1. Advocate for approval of the City of Waukesha's application for Lake Michigan water, and compliance with all applicable laws, including the Great Lakes Compact.	The LRD hosted the SE Area Land Conservation Tour in September 2011 with this topic as the tour theme.
	2. Track progress on plan implementation and impacts on local groundwater supplies and include in education and outreach efforts.	See Goal #4 for details on outreach efforts.

\* This objective reflects a recommendation of the SE Wisconsin Regional Water Supply Plan, SEWRPC, 2010.

### **Goal 3: Control Agricultural Runoff Pollution**

Background:

According to DNR and EPA reports, agricultural runoff is the largest source of water pollution in most watersheds in Wisconsin and nationally. This goal reflects a state mandate under Chapters NR 151 and ATCP 50 Wisconsin Administrative Code for all counties to ensure landowner compliance with state

agricultural nonpoint pollution performance standards and prohibitions. The state nonpoint standards address soil erosion and nutrient runoff from cropland as well as barnyard runoff and manure handling practices for livestock operations. Details on these standards are provided in Chapter IV. State administrative rules also prescribe specific cost-sharing requirements that must be met before a landowner can be required to comply with the state standards. The minimum cost-share rate is generally 70%, except in cases of economic hardship, whereby 90% cost-sharing is required. The cost-sharing requirement does not apply to landowners who receive the state Farmland Preservation income tax credit.

A 2010 agricultural land use inventory conducted by the LRD shows there were 92,196 acres in agricultural uses, or about 23% of the county landscape, not including woodlands, wetlands, lakes or rivers. Since the 1990's, conservation plans have been developed for a large percentage of county farmland due to the owner or operator participating in USDA programs, the state Farmland Preservation tax credit, or previous Priority Watershed projects. A transect survey conducted by LRD staff in 2001 showed that approximately 90% of county cropland was at or below "tolerable" (T) soil erosion rates, the state and federal standard that would maintain soil productivity indefinitely. In 2002, the "T" value was also adopted as one of the above noted state nonpoint pollution performance standards. While compliance with "T" value is mandatory under state law, the NRCS will not participate in enforcement efforts. In fact, conservation plans prepared for USDA programs cannot be used by LRD staff to determine landowner compliance with state standards without the written permission from the landowner.

The LRD has also inventoried livestock operations in the county and found very few significant threats to local water resources. Map IV-4 shows the general location of 98 livestock facilities with more than 40 animal units. Only 17 of these 98 are located within a water quality management zone (300 feet of a river or 1000 feet of a lakeshore). The LRD estimates that about half of the 17 may need some runoff control practices, such as clean water diversion to meet state nonpoint standards. Large pasture areas used on several farms make this unnecessary. Based on LRD landowner contacts to date, the majority of local farms do not currently comply with state requirements for a nutrient management plan. The state Nutrient Management technical standard (NRCS 590) includes Phosphorous Index limits for individual farm fields, but the local level of compliance is unknown.

As noted in Chapter II, development pressures are a daily fact of life for agricultural producers in Waukesha County. While there is still a considerable amount of agricultural production in the county, the LRD considers many of the remaining farms to be a temporary land use based on adopted community land use plans. Therefore, if problem fields or livestock facilities are located in an area planned for future development, it would seem questionable policy to invest a significant amount of limited public resources to address short-term agricultural runoff issues. Because of this, the total LRD resources allocated to this goal are much less than most other county land conservation departments in the state and agricultural nonpoint compliance activities are focused on the "priority farms" noted in A.2. below. Having said this, all farms in the county must meet the NR 151 performance standards and are therefore subject to enforcement action for noncompliance. Further details on agricultural nonpoint compliance efforts are provided in Chapter IV.

<b>Goal 3: Control Agricultural Runoff Pollution</b> (0.8 FTE and 13% of the annual budget)		
<b>Objectives</b>	<b>Planned Activities</b>	<b>Program Context/Progress Notes</b>
<b>A. Implement state agricultural performance standards and prohibitions.</b>		

### Goal 3: Control Agricultural Runoff Pollution

(0.8 FTE and 13% of the annual budget)

Objectives	Planned Activities	Program Context/Progress Notes
	1. Update GIS tracking system to a web-based geodatabase to track nonpoint compliance evaluations of local farms.	This will simplify data entry for compliance evaluations.
	2. Target “priority farms”, including Farmland Preservation zoned areas, county-owned cropland, Water Quality Management Areas (WQMAs) and sensitive watersheds or subwatersheds.	See Chapter II for the location of sensitive watersheds or subwatersheds. See Chapter IV for further details on compliance activities.
	3. Perform LRD records inventory to help determine current conservation compliance status.	NRCS does not allow access to their conservation plan files without written permission from the landowner.
	4. Contact landowners to complete compliance evaluation process.	On-going. See Chapter IV for further details. Determine conservation compliance for 15 farms annually.
	5. Record/map compliance status of fields/farms in GIS geodatabase.	On-going. See Chapter IV for further details.
	6. Notify landowners of compliance status. Identify any BMPs needed to achieve compliance and deadlines that may apply.	12/31/15 compliance deadline applies for all FPP participants, regardless of cost-sharing availability.
	7. Offer landowner technical assistance and cost sharing, if available.	Ensure 2,500 acres of preserved farmland meets NR 151 requirements for tolerable soil loss and has a valid nutrient management plan.
	8. After landowner takes compliance steps, re-evaluate and update tracking system and landowner documentation.	Notify the landowner that they must maintain future compliance without cost-sharing.
	9. If a non-compliance issue poses a significant threat to water quality, refer to the DNR for possible enforcement. Pursue a DNR/LRD working agreement to handle ag runoff complaints/referrals.	To date, DNR has chosen not to enter into a working agreement with the LRD due to regional DNR staff shortages. However, DNR/LRD staff still work together on ag runoff issues and talks will continue on a future working agreement.
	10. Update county Animal Waste Management ordinance and issue permits for new waste storage units to assure compliance with state laws. (M)	Original ordinance was adopted in 1987 and has not been updated to current state standards. However, the need is very limited due to NR 151.
	11. Promote and implement BMPs in agricultural areas as needed to comply with adopted TMDL plans, including the brokering of nutrient trading if available.	TMDL plans in the Rock and Fox River watersheds are most likely to include agricultural needs in the county.

<b>Goal 3: Control Agricultural Runoff Pollution</b> (0.8 FTE and 13% of the annual budget)		
<b>Objectives</b>	<b>Planned Activities</b>	<b>Program Context/Progress Notes</b>
<b>B. Promote natural buffers between agricultural lands and water resources to protect water quality, wildlife habitat, and groundwater recharge.</b>		
	1. Promote available federal and state cropland set-aside programs (CRP, CREP, etc.) to eligible landowners.(M)	Waukesha County was in CREP, but there was very little landowner interest and the contract expired in 2008.
	2. Incorporate state tillage setback and/or buffer standard into the agricultural compliance evaluations under A above.	ATCP 50 may be updated to further define tillage setback requirements contained in NR 151 (5-20 foot setback).
	3. Assist Parks division with buffer planning and design as part of greenway land acquisitions and county-owned land management efforts.	The county has adopted a standard cross-section for greenway acquisition, which includes buffer areas. See Goal 5 for details.

## **Goal 4 – Educate the Public on Conservation Issues**

### Background:

Information and education efforts are an important part of any conservation program. Gaining public acceptance of the various program goals is a minimal step, but getting target audiences to take action such as adopting a conservation practice is much more difficult. Since 2006, one of the driving factors for the Waukesha County information and education program has been maintaining compliance with the MS4 storm water permits issued to 30 of the 37 local communities, including the county. One of the requirements of an MS4 permit is for the community to implement a storm water information and education program. To gain efficiencies and effectiveness of these program efforts, the LRD developed a comprehensive intergovernmental storm water education program, which was approved by DNR. The LRD then offered to lead program implementation for local communities through a dedicated staff position, in exchange for an annual fee. While four communities bordering Milwaukee County had already committed to an education program under an earlier Phase I permit, the other 25 communities accepted the county offer and executed intergovernmental agreements to carry out the approved program. Since the vast majority of activities listed below are tied to the MS4 education program, their implementation is contingent on the continuation of the intergovernmental agreements.

It should be noted that since 1990, the LRD has also served as the “Responsible Unit” for 25 local communities under state recycling law (Chapter 287 Wis. Stats.). As a component of this law, the LRD is also charged with implementing a comprehensive recycling and waste reduction information and education program. Since some of the recycling and storm water educational program efforts overlap and even complement each other, the LRD has been integrating these efforts as much as possible. Most of the recycling program education efforts are not listed below.



## Goal 4 – Educate the Public on Conservation Issues

(1.1 FTE and 19% of the annual budget)

Target Audience & Topics	Planned Education Activities	Program Context/Progress Notes
<p><b>A. Target Audience:</b> Developers, engineers, and local government officials  <b>Primary Topics:</b> Nonpoint pollution, groundwater, storm water planning, construction site erosion control planning, plan implementation, regulations, soil investigations, BMP design, installation and maintenance, MS4 permit compliance, low impact development, flood control, natural area protection, pollution prevention, and invasive species control</p>		
	1. Continuously update and improve storm water ordinance forms, check lists, guidance documents, sample plans, etc.	Distribute them to permit applicants and use them in plan reviews.
	2. Host or co-host annual workshops with topics/theme selected by a community planning committee.	The LRD has hosted or co-hosted annual workshops for the past 11 years, with an average attendance of 100 people.
	3. Maintain LRD web page with up-to-date storm water program materials, workshop presentation archives, and special event announcements.	The past 5 years of workshop presentations are maintained on the LRD web page.
	4. Improve electronic communications with target audience for information exchange and program/event announcements.	Goal is to provide on-line sign-up for workshop and other program mailings.
	5. Coordinate field tours of available BMP demonstration sites.	Done in cooperation with local communities.
	6. Provide presentations upon request to other agencies or organizations.	Includes the Metropolitan Builders Association and UW-Milwaukee.
<p><b>B. Target Audience:</b> General public  <b>Primary Topics:</b> Nonpoint pollution, groundwater, water conservation, public health impacts of water pollution, rain gardens, rain barrels, home composting, shoreland management, volunteer stream monitoring, natural area preservation, invasive species control, BMP maintenance, and household hazardous waste management.</p>		
	1. Partner with other groups on I/E material and presentation development and marketing.	Work with UWEX and DNR on program materials with statewide application.
	2. Host/co-host targeted public workshops and presentations through a regular schedule or by request through the county speaker's bureau.	Workshops are scheduled annually at the Retzer Nature Center or other county facilities.

## Goal 4 – Educate the Public on Conservation Issues

(1.1 FTE and 19% of the annual budget)

Target Audience & Topics	Planned Education Activities	Program Context/Progress Notes
	3. Set up displays and tend booths at community events.	LRD displays are also provided for community halls.
	4. Sponsor storm drain marking (“Dump No Waste – Drains to River/Lake”) for youth and community groups.	LRD purchases all supplies and trains volunteer groups. We are currently migrating to permanent metal markers.
	5. Write and distribute news releases on special events.	For local newspapers
	6. Write and distribute seasonal newsletter articles for community newsletters.	On-going through the MS4 program.
	7. Conduct target mailings of educational materials and event announcements.	LRD maintains a number of target mailing lists.
	8. Coordinate special sales of rain garden plants, rain barrels and compost bins through the Retzer Nature Center.	In 2011, over 900 home compost bins were sold in a special truckload sale sponsored by the LRD.
	9. Maintain robust LRD educational web pages and provide information and brochures on request.	On-going.
	10. Partner with local Chambers of Commerce to make recycling and storm water assessments and information available to local businesses.	LRD staff has been joining local Chambers to target the business audiences.
	11. Promote and support household and agricultural hazardous waste collection sites in the County.	The LRD maintains four permanent HHW sites and usually operates four additional temporary sites each year.
	12. Maintain data and maps on web-GIS system for home building limitations and BMP maintenance information.	Soil thematic maps are available on GIS-web for wet soils, shallow bedrock and steep slopes.
<p><b>C. Target Audience:</b> Rural land owners and farm operators  <b>Primary Topics:</b> Agricultural nonpoint performance standards, buffers, wetland restoration, farmland preservation, conservation programs and cost-sharing opportunities</p>		
	1. Conduct one-on-one contacts and distribute educational materials.	On-going as part of conservation compliance checks.
	2. Present information at local farm group meetings upon request.	Example is the local Farm Bureau chapter.

<b>Goal 4 – Educate the Public on Conservation Issues</b> (1.1 FTE and 19% of the annual budget)		
<b>Target Audience &amp; Topics</b>	<b>Planned Education Activities</b>	<b>Program Context/Progress Notes</b>
	3. Conduct target mailings for priority farms.	See Goal #3 for details.
<p><b>D. Target Audience:</b> Teachers, students, school administrators and youth groups  <b>Primary Topics:</b> Nonpoint pollution, groundwater, soil and water conservation, rain gardens, waste reduction and recycling, water quality monitoring, composting, invasive species control, outdoor classrooms and managing storm water on school grounds</p>		
	1. Conduct annual teacher training workshops.	Includes Project Wet and Wisconsin Education Innovations training.
	2. Deliver classroom presentations to coincide with curriculum.	On-going by request.
	3. Promote participation in the Green Schools program, providing technical and financial assistance with green team storm water and recycling assessments, and environmental plan implementation.	As of 2012, 46 schools have participated in the county Green Schools program. LRD has provided each school a \$1,000 - \$3,000 grant to help with recycling programs.
	4. Sponsor storm drain stenciling and water quality monitoring events for school groups.	LRD provides all monitoring equipment and student training.
	5. Partner with area colleges to provide tours, activities, and training to students and prospective teachers.	This would be a new initiative.

## **Goal 5 – Preserve Targeted Farmland and Natural Areas**

### Background:

Preserving farmland and natural areas are quality of life issues that show up in public opinion surveys in many forms, such as a desire to: preserve the rural character of the county, recharge our local drinking water supplies, avoid land use conflicts, minimize flooding, provide food and fiber for local markets, attract quality employees, encourage business investment, or provide wildlife habitat. In 2011, the Waukesha County Board of Supervisors adopted Addendum D to the 2009 Waukesha County Comprehensive Plan, which serves as an update to the 1984 Waukesha County Agricultural Land Preservation Plan. This updated “Farmland Preservation Plan” contains specific preservation criteria for contiguous rural land areas and individual parcels within those areas, consistent with Wisconsin’s farmland preservation law revisions enacted in 2009. Under the revised state law, Farmland Preservation Plans must be consistent with locally adopted comprehensive plans and new tools were created, including “Agricultural Enterprise Areas” (AEA) and “Purchase of Agricultural Conservation Easements” (PACE) grants. More details on these programs are

provided in Chapter I. Chapter IV contains an overview of the agricultural resources in Waukesha County and the areas designated for preservation under the county’s 2011 plan update. Map IV-5 shows the portions of Waukesha County that would be eligible to apply for AEA and PACE, assuming other program requirements are met. The county Farmland Preservation Plan includes 10,264 acres or 11% of county farmland in a farmland preservation category. An additional 24,738 acres or 27% of farmland is delineated for possible future AEA designation, which would require a locally led process to revise land use plans. It should be noted that 2011 Act 32 (2011-2013 State Budget Bill) eliminated most state funding for PACE grants, but retained DATCP program authority for these permanent farmland preservation easements.

Also included in the 2009 Waukesha County Comprehensive Plan are a number of planning goals, objectives and standards relating to the preservation of environmental corridors, wetlands, floodplains and other environmentally sensitive natural areas. Associated county zoning codes are designed to prevent unnecessary loss of these lands through a number of tools such as residential lot density calculations, grading limitations, and conditional use permit criteria. The county storm water ordinance also contains restrictions on grading in environmentally sensitive areas. SEWRPC has done extensive mapping of natural areas and published a series of reports with specific recommendations on how they should be preserved. SEWRPC also uses these reports in requests for sanitary sewer extensions and amendments to regional water quality management plans. County ordinances often contain cross-references to these SEWRPC reports and maps.

Waukesha County also maintains a large nature-based park system, including eight developed parks with staff located at the facility year-round, four other major parks scheduled for future development, and a comprehensive system of recreational trails. The county Park and Open Space Plan was updated in 2009 and includes the identification of proposed land acquisitions for expansion of parks, greenways and trails. Historically, the majority of county parkland acquisitions have occurred as dedications of greenways during the development review process. However, since 2000 the county has also budgeted \$1 million each year for new land acquisitions through a dedicated revolving fund. As of 2008, the county parks system consists of 4,858 acres of parkland and 2,786 acres of greenways, totaling approximately 2% of the county area. An integral component to the Waukesha County Park and Open Space Plan is the acquisition of greenways. The vision is to create a system of corridors along the County’s major rivers and streams, which will protect and improve water quality as well as the natural resource land features along those water courses. In addition, the greenways will connect major state, county and local parkland providing recreational and educational opportunities.

<b>Goal 5 – Preserve Targeted Farmland and Natural Areas</b> (0.2 FTE and 4% of the annual budget)		
<b>Objectives</b>	<b>Planned Activities</b>	<b>Program Context/Progress Notes</b>
<b>A. Assist Planning and Zoning Division and local governments with preserving prime farmland in accordance with the 2011 adopted county Farmland Preservation Plan</b>		
	1. Assist with Farmland Preservation zoning outreach efforts in designated areas.(M)	State law requires Waukesha County and local communities to update their farmland preservation zoning ordinances by the end of 2012.
	2. Assist with GIS analysis of soils, land use, or other criteria as needed to evaluate proposed amendments to farmland preservation areas.	The 2009 WCCP contains specific procedures to consider plan revisions on an annual basis.

## Goal 5 – Preserve Targeted Farmland and Natural Areas

(0.2 FTE and 4% of the annual budget)

Objectives	Planned Activities	Program Context/Progress Notes
	3. Assist with processing applications for Agricultural Enterprise Areas and Purchase of Agricultural Conservation Easements or similar grants.	The county assisted the Town of Oconomowoc with their successful AEA application in 2010.
	4. Enforce state conservation compliance requirements for landowners claiming the Farmland Preservation tax credit.	See Goal #3 for details.
<b>B. Minimize negative agricultural impacts from growing communities and wildlife populations</b>		
	1. Ensure county storm water permits prevent cropland damages from increased runoff volumes and peak flows from new impervious surfaces.	Cropland damage from urban storm water runoff is a common problem in the county. Preventive standards are included in the county SW ordinance.
	2. Develop recommendations for applying municipal storm water utility fees to farmland, giving credit for soil conservation practices and open space.	The local Farm Bureau chapter has requested LRD's assistance in this project.
	3. Continue participating in the Wildlife Damage Abatement and Claims Program, to allow local farmers to obtain financial relief from crop damage and abatement technical assistance.	The county has maintained a contract with USDA-WS to provide these services since 2002.
<b>C. Enforce county ordinances to protect existing natural areas</b>		
	1. Evaluate sensitivity of natural areas proposed for disturbance, requesting expert technical assistance when needed and referencing SEWRPC maps and publications. ( <a href="http://www.sewrpc.org">www.sewrpc.org</a> ).	County ordinances require mapping these areas for development reviews and often reference SEWRPC data and reports for environmental corridors and other natural areas.
	2. Prevent unnecessary grading activity near natural areas and direct storm water BMP construction outside floodplains and environmental corridors.	This is included in the guiding principles of the storm water ordinance.
	3. Require invasive species control in all site restoration work and native plantings in storm water facilities.	The LRD has adopted BMP planting certification procedures, including a transect survey of plants.
	4. Require cleanup of solid waste disposal sites in natural areas as a condition of other permits.	This is a standard ordinance requirement for new developments.

## Goal 5 – Preserve Targeted Farmland and Natural Areas

(0.2 FTE and 4% of the annual budget)

Objectives	Planned Activities	Program Context/Progress Notes
<b>D. Protect and restore wetlands and natural areas, using available cost-sharing programs.</b>		
	1. Evaluate potential sites for wetland restoration, targeting farmed hydric soils. Use to prioritize landowner contacts.	The LRD has completed a county-wide GIS analysis of potential sites.
	2. Assist with site assessments and wetland restoration project implementation on county-owned parkland. Create a wetland restoration bank for possible regulatory mitigation sites.	A large LRD wetland restoration design was completed on county greenway land in the Town of Vernon in 2006, using cost-sharing from Fox River Commission and Army Corp violation penalties.
	3. Contact private landowners and encourage wetland restoration efforts through partnerships with conservation organizations.	This is dependent on landowner interest and the availability of cost-sharing funds. NRCS Wetland Reserve Program and the US Fish & Wildlife Service are two potential funding sources.
	4. Assist other agencies and organizations with locating possible wetland mitigation sites on private lands to satisfy wetland fill regulatory requirements.	An example of this is the planned Waukesha West bypass, located in the Pebble Creek Watershed.
	5. Encourage wetland restoration through watershed protection planning efforts and county park/greenway acquisitions.	The planning effort underway for Pewaukee River Watershed will have some potential for this.
	6. Use wetland restoration as a potential nutrient trading BMP for TMDL plan implementation.	This is dependent on a TMDL nutrient trading funding source, such as a sewage district.

## Goal 6 – Support Water Monitoring and Improve Public Access to Water Data

### Background:

Monitoring water quality can be a powerful tool for tracking long-term trends and “ground-truthing” assumed impacts of land use changes and pollution control practices installed. Past citizen surveys conducted by the LRD show that an equal number of people think water quality is getting better versus getting worse or staying the same. In general, a shortage of water quality monitoring information makes it impossible to say who is right. While newer technologies offer great efficiencies, the competition for limited public funds remain an obstacle for implementation. One solution to this problem is to encourage volunteer citizen monitoring.

Since 2001, the LRD has been promoting, training and supporting citizen volunteer water quality monitoring of county streams in cooperation with groups such as the Rock River Coalition, Pewaukee River Partnership, and Water Action Volunteers (WAV). Through these partnerships, citizens are trained how to monitor streams for temperature, turbidity, dissolved oxygen, and stream flow and how to conduct biotic index and



habitat assessments. The data collected is entered into the WAV Internet database for future reference. While filling a data gap, this program also serves as a powerful educational tool for program participants and their families. Further details on the program are provided in Chapter IV.

Improving public access to water data has been a long-term goal of the LRD for over 10 years. It would help developers, land managers and the general public to better understand and appreciate local water resources and comply with related regulations. While new GIS technologies now make this goal more achievable, it remains a challenging long-term project.

<b>Goal 6 – Support Water Monitoring and Improve Public Access to Water Data</b> (0.8 FTE and 14% of the annual budget)		
<b>Objectives</b>	<b>Planned Activities</b>	<b>Program Context/Progress Notes</b>
<b>A. Promote and sponsor water monitoring efforts</b>		
	1. Promote stream gauges and agency monitoring of county lakes and streams to track water quality trends and provide data for floodplain regulations.	The county funds a couple USGS stream gauges on the Fox River.
	2. Conduct annual citizen stream monitoring training (level 1 & 2) and provide equipment and materials to volunteer monitoring teams. Assist with lake monitoring upon request.	As of 2012, the LRD is sponsoring 25 volunteer stream monitoring teams. More details on the program are provided in Chapter IV.
	3. Provide quality control of citizen monitoring through team site visits and checking data entry on WAV web site.	This is part of the support the LRD provides monitoring teams.
	4. Maintain LRD web site with current information about the monitoring program and links to available monitoring data.	On-going effort.
	5. Continue monitoring groundwater elevations on county land in the Town of Genesee.	This monitoring was started in 2004 as a Conditional Use permit requirement for the sand and gravel mining operation.
<b>B. Improve accuracy, usability and public access to water resource data</b>		
	1. Build and maintain a water resource geodatabase on the county GIS-web system to allow easy public access and use of water resource data.	Each year, the LRD will focus on incremental steps in the process.
	2. Link water graphics layers to DNR water resource classification data.	This will allow local access to the DNR data without a duplication of effort.



**Goal 6 – Support Water Monitoring and Improve Public Access to Water Data**  
(0.8 FTE and 14% of the annual budget)

Objectives	Planned Activities	Program Context/Progress Notes
	3. Add detailed watershed maps and link them to associated data and approved watershed plans.	Watershed maps are completed for the county, but need to be matched to more accurate surface models.
	4. Add surface and groundwater water monitoring data points and links to associated monitoring and gauging data.	Links could be made to USGS and DNR monitoring data web sites.
	5. Add dam locations and link to DNR dam database.	May also add updated photos to the inventory.
	6. Work with GIS and zoning staff to improve the accuracy, currency and display of county floodplain maps and amendments, flood elevations and profiles, ordinary high water marks, wetland delineations and navigability determinations.	This is an on-going effort. Many floodplain map updates were completed in 2008, but significant work remains to make the data more publically available and understandable.
	7. Continue to update storm water BMP data, photos and maintenance inspection results.	On-going effort as part of the storm water permit termination process.
	8. Create interpretive maps of water resource data and allow the public to generate on-line reports.	This may be the last step in the data improvement process.

**Goal 7 – Reclaim Active Nonmetallic Mining Sites**

Background:

Mines can negatively impact lakes, streams and well water and cause land use conflicts, even after the mine is no longer active. In 2000, the Department of Natural Resources adopted statewide nonmetallic mine reclamation requirements through the promulgation of Chapter NR 135 Wisconsin Administrative Code. Under this rule, all counties in the state were required to adopt and enforce nonmetallic mining reclamation ordinances. All other municipalities had the option of adopting and enforcing these requirements. In response to this mandate, the Land Resources Division convened a workgroup to assist with drafting the Waukesha County Nonmetallic Mining Reclamation Ordinance. The workgroup completed the task in May of 2001 and the Waukesha County Board adopted the county Nonmetallic Mining Reclamation Ordinance in July 2001. Presently, the LRD regulates 17 mining sites in six different communities in the county, as shown on Map II-4. Each permit requires compliance with an approved reclamation plan, based on a locally approved post-mining land use plan. Because this program represents an ongoing workload for LRD staff, it is included here as a goal even though it was not identified as a resource issue of concern during the nominal group process with the Citizens Advisory Committees. It should be noted that In Waukesha County, high land values encourage mine reclamation as much as any state or local regulation.

In 2004, the LRD opened a county-wide yard waste composting facility in conjunction with sand and gravel mining on county-owned land in the Town of Genesee. Private contractors operated both facilities. The  
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county is paid annually for the mining rights, while the contractor was paid for yard waste composting services. State recycling grants helped support the composting operation. The composting operation ended in 2013. The finished compost is being used as a topsoil substitute to reclaim the mine, following approved plans and permits. Mining is currently permitted through 2021 with reclamation planned for 2022.

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**Goal 7 – Reclaim Active Nonmetallic Mining Sites**  
(0.2 FTE and 3% of the annual budget)

Objectives	Planned Activities	Program Context/Progress Notes
<b>A. Enforce the county nonmetallic mine reclamation ordinance.</b>		
	1. Review plans, issue permits, inspect sites and enforce ordinance provisions. Make approved reclamation plans more accessible to the general public.	The LRD is in the process of building a GIS application to allow public access to the 16 approved reclamation plans under county jurisdiction.
<b>B. Reclaim county gravel pit and prepare to sell property for industrial activities.</b>		
	1. Continue the mining operations through the 2021.	As of 2020, mining is 95% complete and reclamation 10% complete.
	2. Complete construction of storm water management basins and implementation of post-mining grading and storm water management plans.	An agreement was executed in 2004 with the owner of an adjacent mine to allow coordinated grading along 1500 feet of shared property lines.
	3. Maintain monitoring and reporting in accordance with permit requirements.	Since opening in 2004, a comprehensive annual report must be submitted to the Town of Genesee to comply with existing permits.
	4. Reclaim the site utilizing compost from former yard waste composting operation as a topsoil substitute.	Composting operation ended in 2013. There is a large volume of compost on site to act as a substitute for topsoil. Grade site according to approved plans and add roads for proposed industrial park.