

LAND & WATER RESOURCE MANAGEMENT WORKPLAN (2006 - 2010)

2008 PLANNED ACTIVITIES UPDATE

NOTE: All goals are of equal priority. Objectives under each goal are listed in priority order, from highest priority to lowest priority. Planned Actions with measurable outcomes are noted in bold.

DEVELOPMENT ISSUES & PLANNED ACTIONS

GOAL: Improve and implement planning strategies that protect and preserve land and water resources

WORKPLAN OBJECTIVES	PLANNED ACTIONS & OUTCOMES	STATUS OF PLANNED ACTIONS	AGENCY
1. Preserve and restore stream corridor, wetland and floodplain areas.	Assist and advise the Planning Division in the Comprehensive Planning process regarding the management and preservation of wetland and floodplain areas.	ONGOING	PPD, LWCD
	Identify corridor and floodplain areas to be preserved and/or restored.	A. O. A	PPD, LWCD, SEWRPC
	Promote existing programs and conservation easements through semi-annual newsletter articles and 1 public event (i.e. fairs)	ONGOING	LWCD, NRCS, DNR, LLT, MMSD
2. Protect and maintain woodlands, environmental corridors, exceptional water resources, and unique geological areas; protect threatened and endangered species.	Assist and advise the Planning Division in the Comprehensive Planning process regarding the protection of natural resource bases.	ONGOING	PPD, LWCD
	Identify, map and maintain these areas.	ONGOING	LWCD, PPD, SEWRPC, MMSD
	Identify efforts that have been successful within Washington County and throughout the region	ONGOING	LWCD, PPD, UWEX, SEWRPC, DNR, OWLT, MMSD
	Promote successful preservation efforts (workshops, newsletters, etc.)	ONGOING	LWCD, PPD, UWEX, OWLT, DNR, MMSD,

DEVELOPMENT ISSUES & PLANNED ACTIONS

	Host 1 tour annually to show protection efforts/needs	ONGOING	LWCD, UWEX, DNR, OWLT, MMSD
	Encourage municipalities to follow the Natural Areas and Critical Species Habitat Protection and Management Plan	A. O. A	LWCD, PPD, SEWRPC
	Encourage municipalities to follow the Washington County Park and Open Space Plan	A. O. A	PPD, LWCD
	Promote the use of state and federal set-aside and preservation programs	ONGOING	LWCD, NRCS, FSA, DNR
	Provide information about sensitive areas to landowners, land trusts and other organizations	ONGOING	LWCD, PPD
3. Encourage Development that can be served by established urban infrastructure and services	Encourage development within areas planned for or currently served by sewer systems	A. O. A	LWCD, PPD, SEWRPC, DNR
4. Increase the use of conservation-minded development practices	Develop informational materials (newsletter, fact sheets, etc.)	ONGOING	LWCD, UWEX
	Identify and promote projects that successfully implement conservation-minded practices	ONGOING	LWCD, UWEX
	Promote successful practices with developers, local officials, and others agencies, via workshops and updates (Hold 1 workshop annually)	ONGOING	LWCD, PPD, UWEX, MMSD, DNR, NRCS
	Work with interested developers in the planning and design phase of new developments	ONGOING	LWCD, PPD
5. Promote uniform adoption of wetland regulations.	Maintain a dialogue for the implementation of one set of rules for environmental protection between incorporated and unincorporated areas	A. O. A	PCPC, CO BOARD, MUN, DNR, ARMY CORP
	Work with/encourage municipalities to implement wetland regulations	A. O. A	DNR, LWCD, PPD, MUN

DEVELOPMENT ISSUES & PLANNED ACTIONS

6. Preserve sufficient farmland to support a viable agricultural community, future food production needs and environmentally safe application of human and animal wastes.	Assist and advise the Planning Division in the Comprehensive Planning process regarding farmland preservation	ONGOING	PPD, LWCD
	Assist towns with information regarding ag land preservation	A. O. A	PPD, LWCD, LLT, DATCP, NRCS
	Encourage municipalities to follow the Washington County Park and Open Space Plan	A. O. A	PPD, LWCD
	Publicize / furnish information on sustainable and alternate ag practices	ONGOING	LWCD, UWEX, DATCP, RC&D
7. Reduce overland water flow and increase infiltration from developed land.	Promote increased use of infiltration basins, rain gardens, and other water infiltration methods	A. O. A.	LWCD, UWEX
	Distribute information related to successful infiltration practices	ONGOING	LWCD, UWEX
8. Improved intergovernmental cooperation with urban, rural, and county.	Promote an annual meeting of cooperating municipalities to discuss developmental issues	07	PPD, LWCD, UWEX
9. Promote identification, control and management of invasive plant and animal species	Assist with the development of the Southeastern Wisconsin Cooperative Weed Management Area (CWMA).	08 09 10	CWMA, LWCD
	Work with/encourage County and Municipal Departments to identify, control and manage invasive species in parks and roadways.	08 09 10	CWMA, PPD, LWCD, MUN, HWY
	Distribute information to the public related to invasive species identification, control, and management.	ONGOING	CWMA, LWCD
	Promote native species plantings by offering native tree, shrubs, and herbaceous plants through the annual division tree sale program.	ONGOING	LWCD
	Continue participation in the WDNR Gypsy Moth Suppression Program.	ONGOING	DNR, LWCD

Estimated Budget for above Issue - 20% of Annual Divisional Budget

FERTILIZER & PESTICIDE ISSUES & PLANNED ACTIONS

GOAL: Improve and protect surface and groundwater through the proper use of fertilizers and pesticides

WORKPLAN OBJECTIVES	PLANNED ACTIONS & OUTCOMES	STATUS OF PLANNED ACTIONS	AGENCY
1. Assist farmers and private consultants with the development and implementation of nutrient management plans on cropland.	Host 1 certification training program annually and 1 update/revision course bi-annually	ONGOING	LWCD, UWEX, NPM
	Develop a compliance monitoring procedure	06	LWCD
	Monitor compliance on 10% of planned acres annually	07	LWCD
	Provide support to private agronomists	ONGOING	LWCD
	Provide information and educational opportunities	ONGOING	LWCD, UWEX, NPM, NRCS
	Explore testing procedures and nutrient recommendations of non-state approved labs and agronomist, and recommend they be acceptable for the nutrient management plan requirement of NR 151	06	LWCD, PCPC, CO BOARD
2. Increase awareness of the proper use of fertilizer, pesticide and de-icers and promote natural landscaping (non-agricultural)	Organize and participate in training / learning events for residential, departmental, utilities, public and private property owners and managers	ONGOING	LWCD, PPD, UWEX, LD
	Publish 4 articles in newsletter	ONGOING	LWCD, PPD, UWEX
	Promote lawn testing and use of low/no Phosphorous Fertilizer.	ONGOING	LWCD, PPD, UWEX, LD
	Promote natural landscaping and proper use of lawn products	ONGOING	LWCD, PPD, UWEX,
	Tie non-agricultural pesticide and fertilizer education to existing programs	ONGOING	LWCD, UWEX

FERTILIZER & PESTICIDE ISSUES & PLANNED ACTIONS

3. Monitor quantities and locations of sludge and septic applications	Maintain working relationship with DNR to be kept informed of materials being applied in Washington County	ONGOING	DNR, LWCD
	Obtain annual reports on location, content, and amount being applied. If funds become available conduct limited soil testing for heavy metal build-up	A. O. A	DNR, LWCD
	Informally monitor sludge and septage application and look for mismanagement	ONGOING	DNR, LWCD

Estimated Budget for above Issue - 15% of Annual Divisional Budget

STORMWATER ISSUES & PLANNED ACTIONS

GOAL: Reduce the quantity and improve the quality of stormwater runoff from developed and developing areas.

WORKPLAN OBJECTIVES	PLANNED ACTIONS & OUTCOMES	STATUS OF PLANNED ACTIONS	AGENCY
1. Expand the adoption and implementation of the county's erosion control and stormwater management ordinance or equivalent for new developments	Revise Chapter 17 to include infiltration standards	05	LWCD
	Follow up with all town officials regarding status of ordinance update and administration	A. O. A.	LWCD
	Meet with village and city officials to promote consistent Erosion and Stormwater Control Ordinances	A. O. A.	LWCD
	Continue to update and develop related policy and procedure forms	05	LWCD
	Review development projects in which LWCD has jurisdiction for compliance, including offsite impacts to cropland. Promote more esthetically pleasing stormwater facilities	ONGOING	LWCD, PPD
	Monitor and track county wide development to improve design and maintenance of properly engineered stormwater facilities	ONGOING	LWCD, PPD

STORMWATER ISSUES & PLANNED ACTIONS

	Increase awareness about impacts and proper management of stormwater runoff (contractors/developers workshop, newsletters, etc.)	ONGOING	DNR, LWCD, PPD, UWEX
2. Ensure the long-term function and maintenance of stormwater facilities	Map stormwater facilities in unincorporated areas in county GIS	ONGOING	LWCD
	Develop a routine inspection procedure whereby a certain percent of all facilities are checked annually	ONGOING	LWCD
	Inspect facilities based on the procedure; take follow-up action as needed	06	LWCD
	Work with municipalities to develop best alternatives strategies for long term maintenance	A. O. A.	LWCD
	Develop a Maintenance Guide for Stormwater Facilities and create a distributions system for the guide	06	LWCD, UWEX, DNR
3. Increase the use of regional stormwater practices (RSP's)	Promote benefits, design and maintenance of RSP's (workshops, town meetings, newsletters, etc.)	A. O. A.	LWCD, PPD
	Advise and assist the Lake Districts on plans and projects related to water quality protection and regional stormwater management, including implementation	A. O. A.	LWCD, PPD, SEWRPC
	Work with towns to determine long term development plans and identify sites for RSP's	A. O. A.	LWCD, PPD
	Determine potential sources and mechanisms for funding the implementation of RSP's	A. O. A.	LWCD, PPD
4. Assist municipalities with the adoption of the developed urban areas performance standards	Advise and assist municipalities on implementation of the public education components (storm drain stenciling, leaf pick-up, fertilizer/pesticide and de-icer use, etc.)	ONGOING	LWCD, UWEX, MUN

Estimated Budget for above Issue - 20% of Annual Divisional Budget

ANIMAL WASTE ISSUES & PLANNED ACTIONS

GOAL: Reduce the human and environmental risks posed by animal waste

WORKPLAN OBJECTIVES	PLANNED ACTIONS & OUTCOMES	STATUS OF PLANNED ACTIONS	AGENCY
1. Continue application of the County's Manure Storage Ordinance (Chapter 16)	Continue to provide high quality technical review and planning assistance	A. O. A.	LWCD
	Update ordinance to include requirements for manure storage abandonment and expansion permits	05, 06	LWCD, PCPC
	Develop an inspection procedure and schedule for manure storage facilities	07	LWCD
	Inspect 20 percent of facilities annually	07	LWCD
	Inspect storage facilities based on the procedure; take follow-up action as needed	08	LWCD
	Educate producers, town officials, ag lenders and contractors regarding ordinance requirements (town meetings, newsletters, etc.)	A. O. A.	LWCD, UWEX
	2. Ensure that all livestock operations have: No overflowing manure storage facilities; No unconfined manure stacks within Water Quality Management Areas (WQMA's); No direct runoff from feedlots or stored manure to water resource; No animals in streams where degradation of the streambank has or will likely occur.	Complete Geographic Information System (GIS) mapping of existing livestock operations	ONGOING
Complete on-site inventory of existing operations to determine compliance		ONGOING	LWCD DNR
Develop/revise producer farm resource conservation plans which address these objectives		ONGOING	LWCD, NRCS
Educate producers, town officials, ag lenders and contractors regarding these objectives (town meetings, one-on-one contacts, newsletters, etc.)		A. O. A.	LWCD, UWEX, NRCS
Assist 5 producers annually with implementing corrective measures		ONGOING	LWCD

ANIMAL WASTE ISSUES & PLANNED ACTIONS

	Implement a monitoring and inspection procedure that encompasses State Performance Standards	07	LWCD
	Inspect operations and take follow-up actions as needed	08	LWCD, DNR
3. Assist with the planning and development of livestock expansions	Provide technical assistance for expansion projects	ONGOING	LWCD, NRCS

Estimated Budget for above Issue - 15% of Annual Divisional Budget

GROUNDWATER ISSUES & PLANNED ACTIONS

GOAL: Protect and improve the quality and quantity of groundwater

WORKPLAN OBJECTIVES	PLANNED ACTIONS & OUTCOMES	STATUS OF PLANNED ACTIONS	AGENCY
1. Ensure a safe drinking water supply.	Locate sensitive (e.g. high bedrock, sandy soils) recharge areas using existing maps and groundwater hydrology models	06	SEWRPC, DNR, LWCD, PPD
	Identify unused wells through farmstead inventories and subdivision reviews and promote abandonment of wells.	ONGOING	LWCD, PPD, DNR, MUN
	Promote and provide assistance for proper well abandonment	A. O. A.	LWCD, HD, DNR, MUN
	Develop an outreach program to increase well water sampling (Newsletters, fact sheets, workshops, increase distribution of testing kits, etc.)	ONGOING	LWCD, DNR, HD, UWEX, PPD
	Develop/revise producer whole farm resource conservation plans that include these objectives	ONGOING	LWCD, NRCS
	Raise awareness about levels of nitrates, VOC's and other well contaminates	ONGOING	LWCD, DNR, HD, UWEX, PPD
	Assist local communities in developing "Wellhead Protection Plans"	A. O. A.	SEWRPC, HD, LWCD, DNR, UWEX, PPD

GROUNDWATER ISSUES & PLANNED ACTIONS

	Increase awareness and promote action for proper groundwater protection practices (fertilizer and pesticide use, well abandonment, etc.)	ONGOING	LWCD, DNR, HD, UWEX, PPD, MUN
2. Protect/preserve groundwater recharge areas, springs and other discharge points that feed cold water streams.	Identify and map springs, cold water streams and their recharge areas	ONGOING	DNR, SEWRPC, LWCD, PPD
	Assist and advise the Planning Division in the Comprehensive Planning process regarding groundwater protection	A. O. A.	PPD, LWCD
	Continue with Quaas Creek Watershed Protection Project and “Watershed Protection Plan” implementation	ONGOING	City of West Bend, DNR, SEWRPC, LWCD, PPD
	Initiate watershed protection planning efforts for all cold water streams using Quaas Creek as a model	A. O. A.	LWCD
	Identify and encourage protection of recharge areas for groundwater	ONGOING	SEWRPC, DNR, LWCD
3. Promote adequate maintenance of private sewerage treatment systems.	Increase awareness and promote action for proper groundwater protection	ONGOING	LWCD, PPD, UWEX
	Locate and compile educational and informational materials	ONGOING	LWCD, PPD, UWEX, MUN
	Provide informational materials list to others for distribution to interested parties	A.O.A.	LWCD, PPD, UWEX, MUN
4. Identify practices and educate homeowners on conservation measures they can use to decrease water consumption within household.	Raise awareness about groundwater levels, water infiltration, and aquifer recharge	ONGOING	SEWRPC, LWCD, UWEX
	Develop an outreach program to increase water conservation efforts. (Newsletters, fact sheets, workshops, increase distribution of testing kits, etc.)	ONGOING	LWCD, UWEX
	Provide current information via the LWCD web site and link with other sites of similar content	06	LWCD

Estimated Budget for above Issue - 5% of Annual Divisional Budget

SOIL SUSTAINABILITY/SEDIMENTATION ISSUES & PLANNED ACTIONS _____

GOAL: Protect and enhance the productivity and sustainability of all cropland and Reduce sediment delivery into streams, lakes and wetlands.

WORKPLAN OBJECTIVES	PLANNED ACTIONS & OUTCOMES	STATUS OF PLANNED ACTIONS	AGENCY
1. Achieve an erosion rate at or below "T" for cropland fields	Identify croplands that currently don't have a conservation plan	ONGOING	LWCD, NRCS
	Develop/revise 20 producer whole farm resource conservation plans annually that include this objective	ONGOING	LWCD, NRCS
	Actively promote the CRP	ONGOING	LWCD, NRCS, FSA, UWEX
	Research and distribute information about alternatives for marketing hay	ONGOING	LWCD, UWEX, RC & D
	Increase education and use of BMP that reduce erosion	ONGOING	LWCD, NRCS, UWEX
	Develop a routine spot-check procedure whereby 5 percent of plans are checked annually	05 – 07	LWCD, NRCS
	Perform spot-checks according to the procedure; take follow-up action as needed	A. O. A.	LWCD, NRCS
2. Increase the establishment and maintenance of vegetated buffer strips along lakes and streams	Identify target areas, map to GIS database	ONGOING	LWCD, PPD, LD
	Actively promote buffer programs	ONGOING	LWCD, NRCS, PPD, UWEX, FSA
	Administer a monitoring and maintenance program	ONGOING	LWCD, NRCS
	Work with local organizations and land trusts	ONGOING	LWCD, NRCS, UWEX, LLT, MMSD
3. Establish and maintain permanent grass in concentrated flow channels where runoff would otherwise cause erosion or sediment delivery to surface waters	Countywide education effort to promote conservation practices	ONGOING	LWCD
	Develop/revise producer whole farm resource conservation plan to include these objectives	ONGOING	LWCD, NRCS

SOIL SUSTAINABILITY/SEDIMENTATION ISSUES & PLANNED ACTIONS

	Complete GIS cropland, hydrography and BMP layers	ONGOING	LWCD
	Develop an inspection procedure to monitor compliance	05 - 07	LWCD
	Monitor compliance and take follow-up action	A. O. A.	LWCD
4. Reduce soil loss to 1/3 T from all fields within Water Quality Management Areas (WQMA)	Develop/revise producer whole farm resource conservation plan to include these objectives	ONGOING	LWCD, NRCS
	Use GIS and other existing Data to identify cropland areas within WQMA's	ONGOING	LWCD
	Complete GIS cropland, hydrography and BMP layers	ONGOING	LWCD
	Develop an inspection procedure to monitor compliance	05 - 07	LWCD, NRCS
	Monitor compliance and take follow-up Action	A. O. A.	LWCD, NRCS
5. Promote agricultural BMP's that improve soil health	Increase education about and use of BMP's such as conservation tillage (Reduced till and No-till)	ONGOING	LWCD, NRCS, UWEX
	Include principles of balanced pH and micronutrient content of soils in nutrient mgt. planning efforts	ONGOING	LWCD, NRCS, UWEX
	Promote testing for compaction and other soil quality indicators	ONGOING	LWCD, NRCS, UWEX
	Raise producer awareness (field days, fact sheets, etc.) Hold at least 1 public event annually	ONGOING	LWCD, NRCS, UWEX
	Distribute information developed by others (e.g. Soil Quality Institute)	ONGOING	LWCD, NRCS, UWEX

Estimated Budget for above Issue - 15% of Annual Divisional Budget

NON-METALLIC MINING ISSUES & PLANNED ACTIONS ---

GOAL: Assure reclamation of mines when operations are terminated

WORKPLAN OBJECTIVES	PLANNED ACTIONS & OUTCOMES	STATUS OF PLANNED ACTIONS	AGENCY
1. Monitor sites for compliance	Approve and permit sites and reclamation plans annually	ONGOING	LWCD
	Inspect sites to ensure plan compliance and update financial guarantees	ONGOING	LWCD

Estimated Budget for above Issue - 5% of Annual Divisional Budget

WASTE MANAGEMENT ISSUES & PLANNED ACTIONS ---

GOAL: Reduce the human and environmental risks posed by hazardous waste

WORKPLAN OBJECTIVES	PLANNED ACTIONS & OUTCOMES	STATUS OF PLANNED ACTIONS	AGENCY
1. Provide easy and cost effective ways for county residents to dispose of unused hazardous waste to protect county resources through Clean Sweep	Apply for grants to conduct Household and Agricultural chemical hazardous waste Clean Sweep programs	ONGOING	LWCD
	Promote partnering with local municipalities and business community involving program initiative	A. O. A.	LWCD, UWEX, MUN, DATCP
	Conduct annual County wide Clean Sweep incorporating other recycling efforts and I/E awareness into the program (depending upon grant availability)	A. O. A.	LWCD, UWEX, MUN, DATCP
2. Increase awareness on the Hazards of dioxins and other Toxins/carcinogens emitted by Open burning	Provide educational materials to landowners as part of farm assessment	06	LWCD

Estimated Budget for above Issue - 5% of Annual Divisional Budget

Chapter VIII

IMPLEMENTATION BUDGET

BUDGET IMPLEMENTATION

Adequate funding will be essential to successfully implement the County’s LWRM Plan. It is suggested that current staffing and administrative funding are not adequate to fulfill the objectives outlined in this plan. Currently, there are 6 full-time employees working in the Land & Water Conservation Division.

The projected staff costs (not including support/office costs) for implementing this plan over the next five years is outlined below in *Table 18*. As the estimates indicate, it is anticipated that the level of state support for local administration of land and water resource management activities will hold steady over the next five-years. Consequently, the County will need to pursue one of three possible courses of action. The first option would be for the County to gradually increase its portion of costs to maintain a staffing level of 7 employees. The second option is to scale back the implementation of the LWRM Plan to a level that is suited to the number of staff currently supported by county plus anticipated state funds. The third option is a combination of the first two options whereby the County would make increased commitment to local staff support along with scaling back implementation. Both tables below show the estimated costs given the third option.

**Table 18:
STAFF COSTS BY SOURCE: 2005-2010^a**

Funding Source	2005		2006		2007 ^c		2008		2009		2010	
	COST	FTE ^b	COST	FTE	COST	FTE	COST	FTE	COST	FTE	COST	FTE
County	\$347,002	4.7	\$364,352	4.7	\$432,569	5.8	\$458,447	5.8	\$485,619	5.9	\$514,150	5.9
State	\$85,000	1.3	\$85,000	1.3	\$85,000	1.2	\$85,000	1.2	\$85,000	1.1	\$85,000	1.1
Total	\$432,002	6.0	\$449,352	6.0	\$517,569	7.0	\$543,447	7.0	\$570,619	7.0	\$599,150	7.0
5-YEAR TOTAL (2006-2010)												
County:	\$2,255,137											
State	\$425,000											

^a Figures include 5% annual cost increases for salary and benefits

^b Full Time Equivalent

^c Projected increase due to need for additional staff

The second budget consideration involves financial assistance to landowners. This type of funding, referred to as cost sharing, is administered through the LWCD to help offset the price of installing best management practices (BMPs). To qualify for assistance, the landowner must meet program eligibility criteria, enter into a binding cost-share contract with the County and commit to a long-term maintenance plan.

The projected cost share needs of installing best management practices over the next 5 years are listed in *Table 19*. Due to limited inventory, the variability between farm operations, uncertain funding levels and the farm economy, the amounts shown below are only rough estimates.

Currently, all cost share dollars are acquired through grants from the State and Federal government. While the County will continue to apply for grants, it will need to look into different funding opportunities, ranging from alternative grants to creating a county cost share program to supplement state and federal funds.

**Table 19:
COST SHARE NEEDS BY PRACTICE TYPE^a**

Category	2006	2007	2008	2009	2010	Total
Development & Groundwater	2,500	2,500	2,500	2,500	2,500	12,500
Fertilizer & Pesticide Mgt.	50,000	50,000	50,000	50,000	50,000	250,000
Animal Waste Mgt.	75,000	75,000	75,000	75,000	75,000	375,000
Sedimentation & Cropland Sustainability	20,000	20,000	20,000	20,000	20,000	100,000
Totals	147,500	147,500	147,500	147,500	147,500	737,500

^a Does not include the portion paid by the landowners (approx. \$320,000).

Chapter IX

EVALUATION

Evaluating progress of this plan will occur by 1) Administrative reviews; 2) Quantifying resource protection; and 3) Monitoring water resources. Results from each of three components will be included in annual reports to the DNR and DATCP.

ADMINISTRATIVE REVIEW

Administrative review will consist of tracking and reporting the accomplishments and amount of staff time involved in carrying out the year-to-year activities outlined in the workplan, including but not limited to:

- Completed I&E activities
- Landowners contacts
- Design and installation of best management practices
- Conservation and nutrient management plans developed
- Developing cost share agreement and other documentation
- Stormwater and erosion control plan reviews
- Manure storage permits issued
- Compliance monitoring and follow-up
- Maintenance of computer database records
- Program planning, promotion, etc.

Most of these administrative activities do not result in a direct, measurable pollution reduction. Therefore, evaluating their effectiveness is often a subjective exercise. Decisions to continue or discontinue certain activities will be an internal determination based on whether or not the LWCD and the LCC determine they are producing positive results.

Administrative reports will also document the amount of funding that was committed to implementing the various activities/programs and funds distributed for cost sharing

RESOURCE PROTECTION

The second component of the annual evaluation will be quantifying the amount of resource protection, including resource preservation and pollution reduction, which occurs as a result of installing best management practices or modifying behavior. Listed below are the methods that the county will use to document measurable effects certain management efforts are having directly on achieving the respective issue goals.

DEVELOPMENT

Using GIS, track where and how development is occurring. The results will be compared to current land use information to determine if/where farmland, wetlands, shoreland and other environmentally sensitive areas are being adequately protected. Trends in the use of conservation (versus conventional) subdivisions, zoning restrictions, boundary agreements, etc. will also be documented. **Invasive species baseline populations will be identified and monitored over time using maps prepared by the Southeastern Wisconsin Cooperative Weed Management Area (CWMA). The County Highway Department and municipalities will be surveyed for invasive species identification training and management resource needs, and workshops will be organized to supply those needs. The LWCD will track annual native plant sales and Gypsy Moth reports/treatments.**

FERTILIZER AND PESTICIDE MANAGEMENT

The LWCD will track the number and acres of nutrient and pest management plans and monitor subsequent changes in fertilizer management practices (quantity, placement, timing, etc.) of local producers. Changes in management by non-farm residents and managers of public areas cannot be easily assessed, however, as time and resources allow, the county will monitor behavior and attitude changes over time by routinely conducting a random survey of landscaping and turf management operations.

STORMWATER MANAGEMENT

Stormwater quality and quantity improvements will be evaluated by using standard book values or computer modeling to estimate reductions in pollutants and stormwater discharge. The increased adoption of stormwater ordinances and regional stormwater practices, and better maintenance of existing facilities, will also be monitored.

ANIMAL WASTE MANAGEMENT

At sites where feedlot runoff management practices are applied, reductions in phosphorus and other pollutants from will be documented using current accepted computer models. The installation and proper maintenance of manure storage facilities will also be documented as a function of the permitting process.

GROUNDWATER PROTECTION

There is no feasible way to directly measure the effects that isolated land use changes have on improving or protecting ground water quality. Based on scientific research, the county will presume that groundwater quality improves as a result of increased adoption of sound nutrient and pest management practices, proper maintenance of private septic systems and proper well abandonment - all of which can be documented.

SOIL SUSTAINABILITY AND SEDIMENTATION

Data from the annual soil erosion Transect Survey and farm conservation plan updates will be used to track trends in soil erosion rates. Improvements in soil health, including such factors as compaction, organic matter and balanced micronutrients, will be monitored using standard soil quality testing kits.

Reductions in sediment delivery to water bodies and wetlands will be quantified using either book values or computer models which reveal “before and after” effects of best management practices (vegetative buffer strips, conservation tillage, etc.). Reports will document the number of acres upon which practices were applied in addition to the resulting reduction in sediment. Construction site sediment control will be monitored as a function of the number of erosion control plans reviewed by the Land & Water Conservation Division and the Planning and Parks Department.

NON-METALLIC MINING

Reports will be generated depicting permit activities.

WASTE MANAGEMENT

Continued analysis of the Clean Sweep program will be monitored in order to adjust the County program based upon feedback from the county residents.

WATER RESOURCE MONITORING ---

The best evaluation of whether or not water quality goals are being met is by directly monitoring the resource. In addition, monitoring data shows where, why and to what degree water resources are suffering from nonpoint pollution. This type of evidence is the best way to encourage behavioral modifications. Farmers and other residents are willing to make appropriate changes in order to be better stewards, particularly if data can be presented that links their actions and water quality problems downstream. It is also essential to justify the amount of staff and money being spent for environmental protection efforts.

Despite its importance, water quality data is far too sparse as demonstrated by the large amounts of missing data in *Tables 13 and 14*. Furthermore, the monitoring data that has been collected is neither well coordinated nor easily accessible. Therefore, the LWCD will assemble water quality data and appraisals from various sources including the U.S. Geological Survey, DNR, SEWRPC and University of Milwaukee. The LWCD will also seek to increase the amount of monitoring activity until current water quality data is available for all streams within the county;

and furthermore, to have that data in an accessible and comprehensible format. This will be done by:

- Encouraging the DNR and USGS to step up their monitoring activities;
- Expanding local volunteer and school monitoring efforts; and
- Building cooperative partnerships between volunteer and professional monitors

When available, the results of private well water tests will be evaluated and documented to monitor groundwater quality trends as well.