

CHAPTER 7 - INFORMATION AND EDUCATION STRATEGY

7.0 INTRODUCTION

Information and Education (I&E) Strategies are designed to involve the public by increasing awareness of water quality issues and motivating individuals to take action. Strategies must build on the concepts of watershed recognition, acknowledgement of water quality improvements & impairments, demonstration of watershed-friendly land use practices, and development and maintenance of partnerships.

7.1 PUBLIC PARTICIPATION PROCESS

The Sanilac Conservation District began holding steering committee meetings for the Black River Watershed in August of 2008. This initial meeting was held at the Sanilac Career Center located in Peck, Michigan. Since then two other steering committee meetings have been held in other locations to include all regions of the watershed. The second steering committee meeting was held in February 2009 at the Greenwood Twp. Hall in St. Clair County. The third meeting was held in June 2009 in Croswell. These meetings were publicized through a press release and invitations were mailed to key stakeholders like county commissioners, local government officials, and the foremost agricultural producers in the Black River Watershed (Watershed). These meetings were well attended by many local residents, farmers, and township, city, and village officials.

Each Steering Committee meeting proceeded through a three part agenda that focused on basic concepts of watershed management. The first meeting introduced the audience to the Watershed project staff and their role in the development of a Watershed Management Plan (WMP). Mr. Charlie Bauer spoke to the Steering Committee about the Clean Water Act Section 319 grant and what outcomes were expected from the Watershed's project. Approximately 22 people attended the first meeting, 45 at the second and 30 for the third. Major concerns of citizens who attended these meetings are: agriculture sustainability, wetland regulation, wildlife protection, public access to river, and water quality improvements.

During the committee meetings different speakers from the Department of Natural Resources and Department of Environmental Quality gave presentations about the Black River. To begin, Robert Haas from the Lake St. Clair Fisheries Research Station gave a presentation about a fisheries study conducted in 2008 at the February 2009 meeting. He discussed the results of his investigation. Such results include that the Black River and Mill Creek provide good habitat for

fish, but with 1000 miles of county drains sediment is a large issue. The Black River is a warm water stream, while the Mill Creek is a cold water stream. A variety of native fish exist. But, they are affected by sediment. He also mentioned that the unique areas of the Port Huron State Game Area and Minden State Game Area are valuable ecosystems and are in need of a preservation plan. Rob Zbiciak, Wetlands Specialist from MDEQ, presented about the Minden Bog and its history. He discussed the environmental functions of the bog, wetland loss, original undisturbed landscape and its mining by Michigan Peat Company. Rob explained the history of a lawsuit brought on by the state against Michigan Peat over mining and how it was settled. Today, Michigan peat holds permits to mine some of the original bog. He presented the idea that the watershed plan should stress the importance to save the permitted land from being mined.

At the June 2009 Steering Committee meeting, the audience was asked to complete a survey of what their Desired Uses of the Watershed were. Such desired uses are discussed in this watershed management plan.

For further involvement of the communities, three sub-committees were formed to focus on specific requirements of developing an approvable WMP. These committees were:

- **Technical Committee:** Agricultural experts, engineers, scientists, and residents with a great deal of knowledge of the watershed characteristics. Primary focus on systems of Best Management Practices (BMPs) and technical review of the WMP.
- **Policy Committee:** Local officials, zoning and planning officials, and politically active citizens. Primary focus was on storm water management, land use policies, ordinance development, and analysis of the Policy Review Document.
- **I&E Committee:** Media and public relation experts, local officials, and concerned citizens. Goal was to produce an I&E strategy for the WMP.

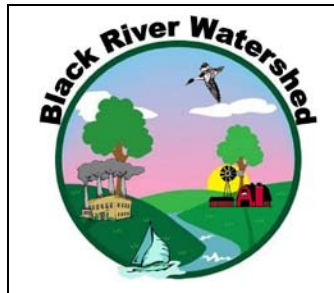
In addition to the public meetings mentioned above, the Sanilac and St. Clair Conservation Districts utilized existing publications to release information about the Watershed project. The Districts' cumulatively distributed: 4 watershed newsletters, (8000 newsletters mailed total), 4 articles for annual reports, 2 district newsletters, 2 presentations at rural education day and one presentation at the CYO Camp.

7.2 GOAL OF THE INFORMATION AND EDUCATION STRATEGY

The goal of the I&E Strategy for the Watershed is to adopt land use activities that reduce the negative impacts on water resources within the Watershed. To be successful, this strategy must identify target audiences and choose the appropriate outreach methods. This I&E Strategy will serve as a guide to outline major steps and actions that will be needed to successfully improve and maintain high water quality in the Watershed. This guide was created by the I&E Committee using the information created through inventory and recommendations by the Technical and Policy Committees. The I&E Strategy may be revised to use new information and tools which were not available at the time of the implementation of this plan.

7.3 WATERSHED LOGO

The logo was designed to represent the Watershed as a symbol. This will make the watershed initiative recognizable. This logo will be used on signage, letterhead, and other materials appropriate to watershed recognition. The Watershed logo is shown below.



7.4 INFORMATION AND EDUCATION ACTION PLAN

The I&E Strategy for this Watershed will be focusing on the primary pollutants and issues within the entire watershed. The primary focus is 1. Watershed Initiative Recognition 2. Reduce Pathogens 3. Reduce Sedimentation 4. Reduce Nutrient Loads 5. Hydrology Preservation and Restoration. Secondary issues such as thermal pollution, toxic contaminants, etc require further scientific studies to prove they are problematic to this watershed. It is recommended that the MS4 communities located in St Clair County refer to the educational plan included in the NEW Watershed Management Plan for I&E activities targeted toward the non primary issues related to the Lower Black River Watershed. Details of the NEW Watershed Management Plan can be found at the St. Clair County Health Department.

Each of the five main issues listed in this I&E Strategy have common audiences to target. Also, some of the activities common to the watershed may produce one or more of the types of issues presented in this strategy. This particular watershed, with limited use diversity, has limited audiences that would be the most effective for implementation.

7.5 INFORMATION AND EDUCATION DELIVERY METHODS

The objectives of the I&E Strategy will be met by the following delivery methods:

- Use of the watershed logo to create awareness the Clean Water Initiative
- Articles for local media
- Conservation District annual report
- Event displays (earth fair, 4-H fairs, river day, etc)
- Presentations
- Water quality monitoring
- Watershed tours
- Websites
- Conservation meetings/seminars
- Storm drain marking
- On farm risk assessments
- Technical assistance
- United States Department of Agriculture conservation programs outreach
- Public meeting participation
- Radio announcements

7.6 DEVELOP PARTNERSHIPS

Conservation Districts

Conservation Districts can play an important role in reaching out to the Agriculture Community. Lapeer, St. Clair and Sanilac Conservation Districts are all co-located with the United States Department of Agriculture.

Michigan Department of Environmental Quality (MDEQ)

The MDEQ Water Division will provide guidance to grantees during the implementation phase of the management plan. The MDEQ can provide examples and materials that have proven effective in other watershed plans.

Other potential partnerships will be developed with local agencies and government organizations. A list of these partnerships can be found on Table 7.0.

Table 7.0 - Potential Partners for Information and Education

Local Agencies and Organizations		
Natural Resource Conservation Service (NRCS)		
MSUE (Sanilac, St. Clair, Lapeer)		
Newspapers		
Clubs / Youth Groups: Future Farmers of America, 4-H, Master Gardeners		
Schools		
Marinas		
River Front Owners		
Community Foundation		
Municipal Storm Sewer Separation System Communities (MS4)		
Michigan Townships Association		
State Government		
Michigan Department of Natural Resources		
Michigan Department of Agriculture		
Michigan Department of Transportation		
County Government		
Board of Commissioners Road Commission		
Drain Commissioner		
Health Department		
Building and Land Use Department		
Planning Commission		
Department of Parks and Recreation		
Local Municipalities		
Cities		Villages
Brown City		Applegate
Croswell		Carsonville
Port Huron		Deckerville
Sandusky		Melvin
Yale		Peck
Townships		
Arcadia	Goodland	Mussey
Bridgehampton	Grant	Port Huron
Brockway	Greenwood	Sanilac
Buel	Imlay	Speaker
Clyde	Kenockee	Washington
Custer	Lexington	Watertown
Elk	Lynn	Wheatland
Flynn	Maple Valley	Worth
Fort Gratiot	Marion	
Fremont	Minden	

7.7 DEVELOP MESSAGES

Messages to reach target audiences range from broad to specific, depending on the character of the audience. In order to get the target audience to change “old habits”, they need to have an understanding of how their actions affect water quality. Changing the pollution causing behaviors involves a three step educational process:

1. Awareness - Public recognized that there is a problem
2. Education - Public understands the problem and its causes
3. Action - Public makes behavior changes that improve water quality

7.8 SCHEDULE AND COSTS

The following pages contain a series of tables that address each of the five primary pollutants or concerns listed in this I&E Strategy. These tables describe the goal, objective and message we want to send to the target audience. It also breaks down the target audiences and plans of action with potential partners. Estimated costs are included in a preceding table referencing each individual activity on a single basis. Finally, the table lists an evaluation method for each activity for grantees to determine the successfulness of the I&E activity.

Lower Black River Sub-watershed

Goal No: 1 Watershed Education: Increase Public Awareness

Objective: Increase public knowledge and broaden awareness of the Watershed. Develop partnerships among stakeholders by sharing, ideas, resources, and concerns.

Message: The Black River and its tributaries are assets to the communities of Lapeer, St. Clair, and Sanilac Counties. Everybody needs to take preventative measures to reduce water pollution in the watershed.

Critical Areas: Urban, agriculture lands, public lands

Target Audience	Measurable Milestone			Potential Partners	Estimated Cost	Evaluation Methods
	Awareness	Education	Action			
Residents, Visitors, Public Employees	Actions within the BR watershed affect the health of its tributaries and the river.	Newsletters, Earth fairs, Websites, Stream Leaders monitoring program, Watershed or Farm tours, Public service announcements on radio or television	Participation in cleanups, Hazardous collections, Conduct annual events, Submit information for radio or television	Cities, Health Depts., MSUE, Conservation Districts, County Agencies,	Table 7.8 Reference # 1, 2, 3, 4, 5, 6, 7	# of newsletters distributed # of attendees at events, growth of event over time Amount & type of hazardous materials collected # of hits to the website, content of website # of streams monitored, # of volunteers, improved water quality reports # of participants Growth of event over time, amount and type of media coverage # of PSA's, frequency of viewing
Fishing / Recreational Groups		River Day events	Participation in annual events such as river day, free fishing day, river cleanups, etc.	Bluewater Sports Fishing Association, DNR, Hunt Clubs, Blue Water Outdoor Club, Beautification Committees	Table 7.8 Reference # 2	# of events, # of participants Amount & type of debris removed from cleanups Amount and type of media coverage Growth of event over time
Local Municipalities		Presentations, Watershed road signs	LID activities, Install signage at road/stream crossings	Gov't entities, MSUE, Health Depts., Boy/Girl Scouts	Table 7.8 Reference # 8, 9	Changes in municipalities policy # of LID activities adopted # of signs installed, location of signs
Teachers/Students		Presentations, Activity booklet,	Event / Contest participation	Schools, MSUE, Career Center, Boy/Girl Scouts	Table 7.8 Reference # 8, 10	# of presentations, # of activity books # of contest poster's distributed Content of presentations
Agriculture Producers		Conservation meetings, Newsletters, CD annual reports, Farmer participation in trials	Conservation minded farming	NRCS, MSUE, Farm Bureau, Conservation Districts	Table 7.8 Reference # 1, 11, 12, 13	# of producers participating in conservation programs

Lower Black River Sub-watershed

Goal No 2: Watershed Education: Reduce Pathogens

Objective: Reduce the amount of pathogens from animal agriculture, illicit discharges and urban runoff that enter the drainage system of the Black River Watershed

Message: Management of surface water contaminants can be beneficial in many ways. Well managed runoff will decrease environmental liabilities, cut fertilizer costs, and contribute to good soil tilth.

Critical Areas: County Drains adjacent to agriculture lands, illicit connections from residential properties

Target Audience	Measurable Milestone			Potential Partners	Estimated Costs	Evaluation Methods
	Awareness	Education	Action			
Livestock Feeding Operations	Improper storage & poor management heightens the risk of manure spills.	On farm risk assessment, MAEAP meetings	MAEAP Certification EQIP program signup	Farm Bureau, NRCS, MSUE, MDA, Conservation Districts	Table 7.8 Reference # 14, 15	Increased EQIP applications, # of attendees at meetings, # of on farm risk assessments made
Custom Manure Applicators	Improper application of manure causes runoff into the waterways.	Technical assistance, Seminars	Careful application of manure to fields	NRCS, MDEQ, Conservation Districts	Table 7.8 Reference # 16, 17	Increased setbacks Increased incorporation of manure
Residents, Visitors, Public Employees, Residential Septic System Owners	Illicit discharges cause pathogens to get into the surface water.	Promote phone number, Workshops, Brochures, Educational materials	24-hour Water Quality Hotline Monitor hotline regularly, Follow up on calls, Fix illicit connections to a permitted septic field	Health Depts., Drain Commission, Realtors	Table 7.8 Reference # 17, 18, 19, 20	# of calls to hotline Nature of complaints Follow up actions # of brochures distributed Content of brochure # of workshops conducts, # of participants
Parks & Recreation	Pets and wild animals cause unwanted feces within the parks that washes into the river system.	Educational materials	Clean Up after Pets, Bag dispensers for cleanup, Waterfowl Control, Refrain from feeding wildlife.	County Parks, Cities, Health Departments, Conservation Districts	Table 7.8 Reference # 20	# of educational materials dispersed # of bag dispensers installed/refills

Goal No 3: Watershed Education: Reduce Sedimentation

Objective: Reduce the amount of sediment leaving agricultural lands and construction sites within the watershed.

Message: Agriculture is vital to the economics within this watershed. Reducing soil erosion and protecting the drainage system from sedimentation creates sustainable farming for generations to come

Critical Areas: County drains, construction sites, including road ditches

Target Audience	Measurable Milestone			Potential Partners	Estimated Costs	Evaluation Methods
	Awareness	Education	Action			
Residents, Contractors, and Developers, Excavators	Highlight the effects of soil erosion on our waterways.	Brochures, Employee training programs, SESC program, Newsletters	Implement good housekeeping practices, Installation of BMP's, Submittal of SESC plans	Cities, Townships, SCCHD, Building department	Table 7.8 Reference # 1, 19, 21, 22,	# of brochures distributed # of type of BMP's installed # of SESC permits issued Content of brochure Improved water quality reports Content of newsletter
Conventional Tillage Producers	Topsoil is washing into the drains, causing excessive sedimentation in the Black River.	One on one technical assistance, Meetings, Watershed tours	Installation of erosion control measures	Farm Bureau, NRCS, MSUE, MDA, Conservation Districts	Table 7.8 Reference # 5, 11,16	Amount of installed erosion control measures (filter strips, structures, cover crops, etc)

Lower Black River Sub-watershed

Goal No 4: Watershed Education: Reduce nutrients entering the drainage system.

Objective: Reduce the amount of phosphorus and other nutrients entering drainage systems from agriculture, industrial and residential areas.

Message: Nutrients reaching water cause algae growth. Clean water can be maintained by careful and proper use of fertilizers, herbicides and pesticides.

Critical Areas: Agricultural lands, cities (lawns), waterfront properties

Measurable Milestone						
Target Audience	Awareness	Education	Action	Potential Partners	Estimated Costs	Evaluation Methods
Agriculture Producers	Topsoil is washing into the drains, causing excessive nutrient loading in the Black River.	One on one technical assistance, Meetings, Watershed tours	Installation of soil & water quality control measures	Farm Bureau, NRCS, MSUE, MDA, Conservation Districts	Table 7.8 Reference # 5, 11, 16	Amount of installed erosion control measures (filter strips, structures, cover crops, etc)
Waterfront property owners, Homeowners located on Drains, Rural populated communities, Lawn care companies, Students/Teachers	Overuse/misuse of fertilizer/pesticides negatively impact our waterways.	Presentations, brochures, Tabletop displays at fairs, Events & meetings, Newsletters	Establish riparian buffers, Installation of native landscaping, Participation in native plant sales, Encourage soil testing	Greenhouses, Nurseries, MSUE, Municipalities, Conservation Districts	Table 7.8 Reference # 1, 2, 8, 11, 19	# of native plant kits sold Amount of area covered with native plants/length of riparian buffer # of brochures distributed # of presentations, # of participants # of soil testing kits sold Period of time tabletop display was up
Golf Courses	Over fertilization / irrigation of greens causes excess nutrients to enter our waterways.	Trade shows, RUP Credit meetings, Water Stewardship Program, MAEAP	Nutrient plan, Pest plan, Irrigation scheduling, Higher mow heights, Erosion control practices	Golf course owners, Professional groups, MSUE, MDA, Irrigation & turf representatives, MDA, Conservation District	Table 7.8 Reference # 11, 14, 15, 23,	

Goal No 5: Watershed Education: Emphasize the importance of wetlands to this watershed.

Objective: Retain & restore wetlands through existing programs to willing participants.

Message: Loss of wetlands causes unstable hydrology by reducing the storage capacity of storm water and creating greater surface runoff volumes.

Critical Areas: Upper Black River Watershed, Mill Creek Watershed

Measurable Milestone						
Target Audience	Awareness	Education	Action	Potential Partners	Estimated Costs	Evaluation Methods
Recreational Property Owners Large Tract Property Owners Looking for Alternatives to Agriculture Production	Protecting and restoring hydrology can be profitable and conserve our natural resources.	Meetings, One on one technical assistance, Newsletters, Websites, Annual environmental events	Installation of wetlands or protection of existing wetlands	USFWS, MDNR, USDA (NRCS, FSA), Land Conservancies, Cities, Townships, Ducks Unlimited, Conservation Districts	Table 7.8 Reference # 1, 2, 3, 11, 16	Amount of restored land Amount of land purchased, easements installed # of newsletters distributed, content of article # of hits to website

Mill Creek Sub-watershed

Goal No: 1 Watershed Education: Increase Public Awareness

Objective: Increase public knowledge and broaden awareness of the Watershed. Develop partnerships among stakeholders by sharing, ideas, resources, and concerns.

Message: The Black River and its tributaries are assets to the communities of Lapeer, St. Clair, and Sanilac Counties. Everybody needs to take preventative measures to reduce water pollution in the watershed.

Critical Areas: Urban, agriculture lands, public lands

Target Audience	Measurable Milestone			Potential Partners	Estimated Costs	Evaluation Methods
	Awareness	Education	Action			
Residents, Visitors, Public Employees	Actions within the BR watershed affect the health of its tributaries and the river.	Newsletters, Earth fairs, Websites, Stream Leaders monitoring program, Watershed or Farm Tours, Public service announcements on radio or television	Participation in cleanups, Hazardous collections, Conduct annual events, Submit information for radio or television	Cities, Health Depts., MSUE, Conservation Districts, County Agencies,	Table 7.8 Reference # 1, 2, 3, 4, 5, 6, 7	# of newsletters distributed # of attendees at events, growth of event over time Amount & type of hazardous materials collected # of hits to the website, content of website # of streams monitored, # of volunteers, improved water quality reports # of participants Growth of event over time, amount and type of media coverage # of PSA's, frequency of viewing
Fishing / Recreational Groups		River Day events	Participation in annual events such as River Day, Free Fishing Day, River cleanups, etc.	Bluewater Sports Fishing Association, DNR, Hunt Clubs, Blue Water Outdoor Club, Beautification Committees	Table 7.8 Reference # 2	# of events, # of participants Amount & type of debris removed from cleanups Amount and type of media coverage Growth of event over time
Local Municipalities		Presentations, Watershed road signs	LID activities, Install signage at road/stream crossings	Gov't entities, MSUE, Health Depts., Boy/Girl Scouts	Table 7.8 Reference # 8, 9	Changes in municipalities policy # of LID activities adopted # of signs installed, location of signs
Teachers/Students		Presentations, Activity booklet,	Event / Contest participation	Schools, MSUE, Career Center, Boy/Girl Scouts	Table 7.8 Reference # 8, 10	# of presentations, # of activity books # of contest poster's distributed Content of presentations
Agriculture Producers		Conservation meetings, newsletters, CD annual reports, Farmer participation in trials	Conservation minded farming	NRCS, MSUE, Farm Bureau, Conservation Districts	Table 7.8 Reference # 1, 11, 12, 13	# of producers participating in conservation programs

Mill Creek Sub-watershed

Goal No 2: Watershed Education: Reduce Pathogens

Objective: Reduce the amount of pathogens from animal agriculture, illicit discharges and urban runoff that enter the drainage system of the Black River Watershed

Message: Management of surface water contaminants can be beneficial in many ways. Well managed runoff will decrease environmental liabilities, cut fertilizer costs, and contribute to good soil tilth.

Critical Areas: County Drains adjacent to agriculture lands, illicit connections from residential properties

Target Audience	Measurable Milestone			Potential Partners	Estimated Costs	Evaluation Methods
	Awareness	Education	Action			
Livestock Feeding Operations	Improper storage & poor management heightens the risk of manure spills.	On farm risk assessment, MAEAP meetings	MAEAP Certification EQIP program signup	Farm Bureau, NRCS, MSUE, MDA, Conservation Districts	Table 7.8 Reference # 14, 15	Increased EQIP applications, # of attendees at meetings, # of on farm risk assessments made
Custom Manure Applicators	Improper application of manure causes runoff into the waterways.	Technical assistance, Seminars	Careful application of manure to fields	NRCS, MDEQ, Conservation Districts	Table 7.8 Reference # 16, 17	Increased setbacks Increased incorporation of manure
Residents, Visitors, Public Employees, Residential Septic System Owners	Illicit discharges cause pathogens to get into the surface water.	Promote phone number, Workshops, Brochures, Educational materials	24-hour Water Quality Hotline Monitor hotline regularly, Follow up on calls, Fix illicit connections to a permitted septic field	Health Depts., Drain Commission Realtors	Table 7.8 Reference # 17,18, 19, 20	# of calls to hotline Nature of complaints Follow up actions # of brochures distributed Content of brochure # of workshops conducts, # of participants

Goal No 3: Watershed Education: Reduce Sedimentation

Objective: Reduce the amount of sediment leaving agricultural lands and construction sites within the watershed.

Message: Agriculture is vital to the economics within this watershed. Reducing soil erosion and protecting the drainage system from sedimentation creates sustainable farming for generations to come

Critical Areas: County drains, construction sites, including road ditches

Target Audience	Measurable Milestone			Potential Partners	Estimate Costs	Evaluation Methods
	Awareness	Education	Action			
Residents, Contractors, and Developers, Excavators	Highlight the effects of soil erosion on our waterways.	Brochures, Employee training programs, SESC program	Implement good housekeeping practices, Installation of BMP's, Submittal of SESC plans, Installation of proper barriers to reduce runoff, Minimize soil erosion from sites	Cities, Townships, SCCHD	Table 7.8 Reference # 19, 21, 22	# of brochures distributed # of type of BMP's installed # of SESC permits issued Content of brochure Improved water quality reports Content of newsletter
Conventional Tillage Producers	Topsoil is washing into the drains, causing excessive sedimentation in the Black River.	One on one technical assistance, Meetings, Watershed tours	Installation of erosion control measures	Farm Bureau, NRCS, MSUE, MDA, Conservation Districts	Table 7.8 Reference # 5, 11, 16	Amount of installed erosion control measures (filter strips, structures, cover crops, etc)

Mill Creek Sub-watershed

Goal No 4: Watershed Education: Reduce nutrients entering the drainage system.

Objective: Reduce the amount of phosphorus and other nutrients entering drainage systems from agriculture, industrial and residential areas.

Message: Nutrients reaching water cause algae growth. Clean water can be maintained by careful and proper use of fertilizers, herbicides and pesticides.

Critical Areas: Agricultural lands, cities (lawns), waterfront properties

Measurable Milestone						
Target Audience	Awareness	Education	Action	Potential Partners	Estimated Costs	Evaluation Methods
Agriculture Producers	Topsoil is washing into the drains, causing excessive nutrient loading in the Black River.	One on one technical assistance, Meetings, Watershed tours	Installation of soil & water quality control measures	Farm Bureau, NRCS, MSUE, MDA, Conservation Districts	Table 7.8 Reference # 5, 11, 16	Amount of installed erosion control measures (filter strips, structures, cover crops, etc)
Waterfront property owners, Homeowners located on Drains, Rural populated communities, Lawn care companies, students/teachers	Overuse/misuse of fertilizer/pesticides negatively impact our waterways.	Presentations, brochures, Tabletop displays at fairs, events & meetings, Newsletters	Establish riparian buffers, Installation of native landscaping, Participation in native plant sales, Encourage soil testing	Greenhouses, nurseries, MSUE, Municipalities, Conservation Districts	Table 7.8 Reference # 1, 2, 8, 19	# of native plant kits sold Amount of area covered with native plants/length of riparian buffer # of brochures distributed # of presentations, # of participants # of soil testing kits sold Period of time tabletop display was up

Goal No 5: Watershed Education: Emphasize the importance of wetlands to this watershed.

Objective: Retain & restore wetlands through existing programs to willing participants.

Message: Loss of wetlands causes unstable hydrology by reducing the storage capacity of storm water and creating greater surface runoff volumes.

Critical Areas: Upper Black River Watershed, Mill Creek Watershed

Measurable Milestone						
Target Audience	Awareness	Education	Action	Potential Partners	Estimated Costs	Evaluation Methods
Recreational Property Owners Large Tract Property Owners Looking for Alternatives to Agriculture Production	Protecting and restoring hydrology can be profitable and conserve our natural resources.	Meetings, One on one technical assistance, Newsletters, Websites, Annual environmental events	Installation of wetlands or protection of existing wetlands	USFWS, MDNR, USDA (NRCS, FSA), Land Conservancies, Cities, Townships, Ducks Unlimited, Conservation Districts	Table 7.8 Reference # 1, 2, 3, 11, 16,	Amount of restored land Amount of land purchased, easements installed # of newsletters distributed, content of article # of hits to website

Upper Black River Sub-watershed

Goal No: 1 Watershed Education: Increase Public Awareness

Objective: Increase public knowledge and broaden awareness of the Watershed. Develop partnerships among stakeholders by sharing, ideas, resources, and concerns.

Message: The Black River and its tributaries are assets to the communities of Lapeer, St. Clair, and Sanilac Counties. Everybody needs to take preventative measures to reduce water pollution in the watershed.

Critical Areas: Urban, agriculture lands, public lands

Target Audience	Measurable Milestone			Potential Partners	Estimated Costs	Evaluation Methods
	Awareness	Education	Action			
Residents, Visitors, Public Employees	Actions within the BR watershed affect the health of its tributaries and the river.	Newsletters, Earth fairs, Websites, Stream Leaders monitoring program, Watershed or Farm Tours, Public service announcements on radio or television	Participation in cleanups, Hazardous collections, Conduct annual events, Submit information for radio or television	Cities, Health Depts., MSUE, Conservation Districts, County Agencies,	Table 7.8 Reference # 1, 2, 3, 4, 5, 6, 7	# of newsletters distributed # of attendees at events, growth of event over time Amount & type of hazardous materials collected # of hits to the website, content of website # of streams monitored, # of volunteers, improved water quality reports # of participants Growth of event over time, amount and type of media coverage # of PSA's, frequency of viewing
Fishing / Recreational Groups		River Day events	Participation in annual events such as River Day, Free Fishing Day, River cleanups, etc.	Bluewater Sports Fishing Association, DNR, Hunt Clubs, Blue Water Outdoor Club, Beautification Committees	Table 7.8 Reference # 2	# of events, # of participants Amount & type of debris removed from cleanups Amount and type of media coverage Growth of event over time
Local Municipalities		Presentations	LID activities	Gov't entities, MSUE, Health Depts., Boy/Girl Scouts	Table 7.8 Reference # 8	Changes in municipalities policy # of LID activities adopted
Teachers/Students		Presentations, Activity booklet,	Event / Contest participation	Schools, MSUE, Career Center, Boy/Girl Scouts	Table 7.8 Reference # 8, 10	# of presentations, # of activity books # of contest poster's distributed Content of presentations
Agriculture Producers		Conservation meetings, newsletters, CD annual reports, Farmer participation in trials	Conservation minded farming	NRCS, MSUE, Farm Bureau , Conservation Districts	Table 7.8 Reference # 1, 11, 12, 13	# of producers participating in conservation programs

Upper Black River Sub-watershed

Goal No 2: Watershed Education: Reduce Pathogens

Objective: Reduce the amount of pathogens from animal agriculture, illicit discharges and urban runoff that enter the drainage system of the Black River Watershed

Message: Management of surface water contaminants can be beneficial in many ways. Well managed runoff will decrease environmental liabilities, cut fertilizer costs, and contribute to good soil tilth.

Critical Areas: County Drains adjacent to agriculture lands, illicit connections from residential properties

Target Audience	Measurable Milestone			Potential Partners	Estimated Costs	Evaluation Methods
	Awareness	Education	Action			
Livestock Feeding Operations	Improper storage & poor management heightens the risk of manure spills.	On farm risk assessment, MAEAP meetings	MAEAP Certification EQIP program signup	Farm Bureau, NRCS, MSUE, MDA, Conservation Districts	Table 7.8 Reference # 14, 15	Increased EQIP applications, # of attendees at meetings, # of on farm risk assessments made
Custom Manure Applicators	Improper application of manure causes runoff into the waterways.	Technical assistance, Seminars	Careful application of manure to fields	NRCS, MDEQ, Conservation Districts	Table 7.8 Reference # 16, 17	Increased setbacks Increased incorporation of manure
Residential Septic System Owners	Illicit discharges cause pathogens to get into the surface water.	Workshops, Brochures, Educational materials	Fix illicit connections to a permitted septic field	Health Depts., Drain Comm., Realtors	Table 7.8 Reference # 17, 19, 20	# of brochures distributed Content of brochure # of workshops conducts, # of participants

Goal No 3: Watershed Education: Reduce Sedimentation

Objective: Reduce the amount of sediment leaving agricultural lands and construction sites within the watershed.

Message: Agriculture is vital to the economics within this watershed. Reducing soil erosion and protecting the drainage system from sedimentation creates sustainable farming for generations to come

Critical Areas: County drains, construction sites, including road ditches

Target Audience	Measurable Milestone			Potential Partners	Estimated Costs	Evaluation Methods
	Awareness	Education	Action			
Conventional Tillage Producers	Topsoil is washing into the drains, causing excessive sedimentation in the Black River.	One on one technical assistance, Meetings, Watershed tours	Installation of erosion control measures	Farm Bureau, NRCS, MSUE, MDA, Conservation Districts	Table 7.8 Reference # 11, 16, 5, 6	Amount of installed erosion control measures (filter strips, structures, cover crops, etc)
Drain / Road Commission County Commissioners	Careless dredging is causing unstable banks within the county drainage system.	Employee training Presentations	Adopt policy to stabilize / reseed drains after cleanout	County BOC, Drain Commission, Road Commission, Townships, Conservation District	Table 7.8 Reference # 8, 21	Amount of properly cleaned and stabilized drains

Upper Black River Sub-watershed

Goal No 4: Watershed Education: Reduce nutrients entering the drainage system.

Objective: Reduce the amount of phosphorus and other nutrients entering drainage systems from agriculture, industrial and residential areas.

Message: Nutrients reaching water cause algae growth. Clean water can be maintained by careful and proper use of fertilizers, herbicides and pesticides.

Critical Areas: Agricultural lands, cities (lawns), waterfront properties

Measurable Milestone						
Target Audience	Awareness	Education	Action	Potential Partners	Estimated Costs	Evaluation Methods
Agriculture Producers	Topsoil is washing into the drains, causing excessive nutrient loading in the Black River.	One on one technical assistance, Meetings, Watershed tours	Installation of soil & water quality control measures	Farm Bureau, NRCS, MSUE, MDA, Conservation Districts	Table 7.8 Reference # 5, 11, 16	Amount of installed erosion control measures (filter strips, structures, cover crops, etc)
Waterfront property owners, Homeowners located on Drains, Rural populated communities, Lawn care companies, students/teachers	Overuse/misuse of fertilizer/pesticides negatively impact our waterways.	Presentations, brochures, Tabletop displays at fairs, events & meetings, Newsletters	Establish riparian buffers, Installation of native landscaping, Participation in native plant sales, Encourage soil testing	Greenhouses, nurseries, MSUE, Municipalities, Conservation Districts	Table 7.8 Reference # 1, 2, 8, 19	# of native plant kits sold Amount of area covered with native plants/length of riparian buffer # of brochures distributed # of presentations, # of participants # of soil testing kits sold Period of time tabletop display was up

Goal No 5: Watershed Education: Emphasize the importance of wetlands to this watershed.

Objective: Retain & restore wetlands through existing programs to willing participants.

Message: Loss of wetlands causes unstable hydrology by reducing the storage capacity of storm water and creating greater surface runoff volumes.

Critical Areas: Upper Black River Watershed, Mill Creek Watershed

Measurable Milestone						
Target Audience	Awareness	Education	Action	Potential Partners	Estimated Costs	Evaluation Methods
Recreational Property Owners Large Tract Property Owners Looking for Alternatives to Agriculture Production	Protecting and restoring hydrology can be profitable and conserve our natural resources.	Meetings, One on one technical assistance, Newsletters, Websites, Annual environmental events	Installation of wetlands or protection of existing wetlands	USFWS, MDNR, USDA (NRCS, FSA), Land Conservancies, Cities, Townships, Ducks Unlimited, Conservation Districts	Table 7.8 Reference # 1, 2, 3, 11, 16	Amount of restored land Amount of land purchased, easements installed # of newsletters distributed, content of article

Table 7.8

Estimated Costs for Activities in the Information and Education Strategy		
Reference #	Activity	Estimated Cost
1	Newsletters	\$0.75 each (postage & printing)
2	Events (earth fairs, river day, 4-H fair, etc)	\$500 per event (displays)
3	Websites	\$1,300 per year (design & hosting)
4	Stream Leaders Monitoring Program	\$700 per site (Bi-annual monitoring)
5	Watershed Tours	\$2,000 per tour (bussing, promotion, etc)
6	Farm Tours	\$2,000 per tour (bussing, promotion, etc)
7	Public Service Announcements (radio or tv)	\$60 per announcement (airtime of 1 minute)
8	Presentations	\$300 per presentation (handouts, travel, wage)
9	Watershed Road Signs	\$250 per sign (sign, post, labor of installation)
10	Activity Booklets	\$5 per booklet (printing)
11	Conservation Meetings	\$1000 per meeting (promotion, speakers, handout materials)
12	Conservation District Annual Reports	\$500 per year (article space, printing, distribution)
13	Farmer Participation in Trials	\$500 per acre (seed, fertilizer, land & equip rent)
14	On Farm Risk Assessments	\$250 per farm (technician time, mileage, plans)
15	MAEAP Meetings	\$1000 per meeting (promotion, speakers, handout materials)
16	Technical Assistance	\$250 per visit (technician time, mileage, plans)
17	Seminars / Workshops	\$2000 per event (professional speakers, handout materials, promotion)
18	Water Quality Hotline Promotion	\$350 per year (poster contest + promotional items in line 20)
19	Brochures	\$1 each (design, print in color)
20	Educational Materials/Promotional Items	\$2 each (stickers, magnets, children handouts, etc)
21	Employee Training Program	\$500 per employee (wage, travel, course fees, etc)
22	SESC Program	\$150 per year (hosting training workshop + promotional items in line 20)
23	Trade Shows	\$2000 per show (space rental, displays, wages, travel)

7.9 IMPLEMENTATION OF THE INFORMATION & EDUCATION STRATEGY

Implementation of the I&E Strategy will vary for the three sub watersheds as different entities will be involved as well as the needed focus on education. Priority activities need to be focused on first. These activities should be the focus for the first three years. While the other activities could come in as funding is secured within the five to ten year timeframe. Listed below are the primary focus areas for the Lower BR, Mill Creek and Upper BR watersheds as well as an approach to begin.

Lower Black River- The St Clair County Health Department and Conservation District will partner together to bring education to the forefront of this sub watershed. Both entities have an already existing foundation to start from. They currently partner with each other to bring the community earth fair. The Health Department has an educational coordinator on staff with experience in urban educational programs. The Conservation District offers educational programs targeting rural communities. Bringing the two together under the Lower Black River Watershed umbrella would directly target the priority goals in the I&E plan and allow this to be done in the one to three year timeframe. Activities to begin with include: Presentations, On Farm Risk Assessments, Technical Assistance, Environmental Events (earth day, river day, etc), Event Display (county fair), Watershed Road Signs and Media Outreach (press releases, websites, radio spots, newsletters, CD annual reports).

Mill Creek- The St. Clair County Conservation District can implement the prioritized components in this sub watershed as it fits in with their current educational mission. To begin, the district currently offers education programming through the water stewardship program, tree education program. It also has a partnership with the St. Clair Farmland Preservation Board to offer an annual Fall Farm Tour. Securing funding through a 319 grant for a full time watershed technician would allow them to expand its educational outreach even further and implement the priority activities in a one to three year timeframe. These activities include: Tours, Presentations, On Farm Risk Assessments, MAEAP & Conservation Meetings, Environmental Events, Technical Assistance and Media Outreach (press releases, websites, radio spots, newsletters, CD annual reports).

Upper Black River- The Sanilac County Conservation District can implement the prioritized components in this sub watershed as it fits with their current educational programs. The Sanilac CD has employed a watershed technician for the past eight years and has hosted many educational projects targeting the agriculture sector and the populated lake communities. Currently, the district administers the Michigan Water Stewardship Program making some educational programs available now. Continuation of implementation money would allow for seamless implementation of the I&E Strategy's priority activities in the one to three year timeframe. These activities include: Farm Tours, Presentations, On Farm Risk Assessments, MAEAP & Conservation Meetings, Environmental Events, Technical Assistance and Media Outreach (press releases, websites, radio spots, newsletters, CD annual reports).