SECTION 5: SET GOALS AND SELECT INDICATORS

Setting the Goals

The Steering Committee evaluated the priority resource concerns that were gathered from stakeholders throughout the Sugar Creek Watershed, evaluated the problem statements, and examined the mission statement of the Sugar Creek WMP. With this information in mind, seven goals were developed, which the committee hopes to achieve through the implementation of the Sugar Creek WMP. The number in parentheses listed with each goal corresponds to the problem statement to which that goal applies. The complete listing of the Sugar Creek WMP's goals is as follows:

Goal #1: Sustain the Sugar Creek Watershed Stakeholder Group.

Objectives:

- Meet as a Committee on a quarterly basis,
- Increase involvement and participation with the planning process from Stakeholders within the Watershed,
- Pursue and implement watershed improvement projects,
- Sustaining active subcommittees.

Goal #2: Reduce *E. coli* concentrations to meet state standard of 235 CFU/100 ml in the Sugar Creek Watershed by 2030.

Objectives:

- Reduce the amount of *E. coli* runoff from agricultural lands through the encouragement of exclusionary fencing installation, the promotion of alternative water supplies, and the education and implementation of manure management practices,
- Reduce the amount of *E. coli* runoff from urban lands,
- Reduce the amount of *E. coli* runoff from point sources, failed septic systems, and package plants, and
- Reduce the amount of *E. coli* in Sugar Creek to allow the waters to be fishable and swimmable for all stakeholders.

Goal #3: Reduce the maximum concentration so that there are no exceedances of Nitrate plus Nitrite of 10 mg/L and Total Phosphorus of 0.3 mg/L by 2030.

Objectives:

- Improve the efficiency of urban and agricultural fertilizer application using grid mapping, and variable rate technology,
- Educate the public/Stakeholders (urban and agricultural) of the importance of reduced application of fertilizers,
- Increase the riparian buffer zone using filter strips and grassed waterways,

- Increase the amount of BMPs used in the Sugar Creek Watershed including but not limited to: cover crops in the winter, grid mapping, and variable rate technology,
- Discourage the Fall and Winter application of fertilizer,
- Encourage more soil testing to optimize Nitrogen application (Home owners, farmers, etc.),
- Encourage lower application rates of fertilizers within the watershed through education workshops and field days.

Goal #4: Reduce soil erosion/sedimentation from agricultural and urban lands to meet 80 mg/L of total suspended solids (TSS) by 2030.

Objectives:

- Reduce soil erosion and sedimentation from agricultural lands,
- Reduce soil erosion and sedimentation from urban lands, and
- Encourage enforcement of erosion control practices associated with the issuance of building permits within the Watershed.

Goal #5: Reduce flood damage in the Sugar Creek Watershed by 2030.

Objectives:

- Reduce flow rates and volumes from existing developed areas and prevent increases in flow rates and volumes from new development within the Watershed,
- Protect and restore floodplain functions,
- Encourage the maintenance and management of the Sugar Creek corridor and other drainageways to minimize flooding,
- Create and restore wetland areas to increase storage within the Watershed.

Goal # 6: Develop and implement watershed education and outreach programs in the Sugar Creek Watershed.

Objectives:

- Effectively use forms of media (TV, newspaper, newsletters and radio) to share and communicate past, current, and future activities of the Sugar Creek Steering Committee with the media, public, and current and potential Sugar Creek Steering Committee members,
- Recruit and train volunteers to monitor at a minimum, each of the subwatersheds, obtaining both wet and dry weather data at each site at least twice each year, and provide continuing education opportunities for volunteer monitors,
- Promote sustainable drainage practices,
- Educate homeowners in urban communities about the use of fertilizers,

- Educate stakeholders using septic systems about the importance of septic system maintenance,
- Establish a legislative liaison,
- Educate stakeholders and landowners about the detrimental effects that All Terrain Vehicles (ATV's) have on the Sugar Creek Watershed,
- Educate the stakeholders in the Watershed about other efforts and studies conducted within the Watershed,
- Educate homeowners within the Watershed about the Storm Drain Marking Program.

Goal #7: Increase preservation and restoration of open space within the Sugar Creek Watershed by 2030.

Objectives:

- Increase acquisition of land to be dedicated to open space and greenways,
- Increase the preservation of wildlife habitat and protected areas within the Sugar Creek Watershed,
- Encourage the utilization of proper wildlife management practices within the Sugar Creek Watershed,
- Encourage farmland preservation within the Watershed.

To help achieve these goals, eight Sub-committees have been formed to spearhead and guide the activities necessary to achieve the aforementioned goals. These sub-committees include:

1) Education Sub-Committee
2) Recreation Sub-Committee
3) Legislative/ Local Advocacy Sub-Committee
4) Research/Grant-Writing Sub-Committee
5) Media/Marketing/Website Sub-Committee
6) Monitoring Sub-Committee
7) Urban Sub-Committee
8) Agricultural Sub-Committee

The Education Sub-Committee will work with local schools, corporations, and government bodies to assist with natural resource education. Members of this committee will research and provide or create educational materials that promote watershed awareness. The Education Sub-Committee will host a Hoosier Riverwatch training within the Sugar Creek Watershed as well as coordinate field days and other educational events. Members of the Education Sub-Committee will assist in the design of presentation and display materials as well as promotional materials that are provided by the Media/Marketing/Website Sub-Committee. Assistance will be given to the agricultural and urban Sub-Committees by members of the Education Sub-Committee. The Monitoring Sub-Committee will work closely with the Education Sub-Committee to keep data current in educational materials.

The Recreation Sub-Committee effort is focused on the creation of recreational opportunities and events for stakeholders of Sugar Creek. Members of the Recreation Sub-Committee will coordinate the removal of trash from Sugar Creek, its tributaries, and riparian corridors with the intention that cleaning efforts will promote recreational uses such as canoeing and fishing.

The Recreation Sub-Committee will sponsor a recreational activity including but not limited to birding, hiking as well as identify navigable reaches within Sugar Creek.

The tasks of the Legislative/Local Advocacy Sub-Committee include identification and establishment of collaborative relationships with entities whom have potential influence on water quality. Members of the Legislative/Local Advocacy Sub-Committee will contact legislators and other influential members of local government to inform of current Sugar Creek Watershed activities and issues. The Research/Grant-Writing Sub-Committee will help prepare, review and submit grant applications. One member of the Research/Grant-Writing Sub-Committee will act as a liaison to appropriate applications. All members of the Research/Grant-Writing Sub-Committee will network with universities, schools, government entities and other groups in order to coordinate, communicate, and participate in ongoing water quality research activities that are applicable within the Sugar Creek Watershed. Members of the Research/Grant-Writing Sub-Committee will research additional grant sources and opportunities for the Sugar Creek Watershed.

The Media/Marketing/Website Sub-Committee will create and maintain a Sugar Creek Watershed website as well as create an active site for data sharing. Members of this Sub-Committee will assist other sub-committee groups with preparation, distribution and review of materials related to the Sugar Creek Watershed. Members of the Media/Marketing/Website Sub-Committee will develop relationships with local electronic media and individual reporters. Watershed newspaper articles will be prepared and submitted to inform the public about the watershed and the planning process.

The Monitoring Sub-Committee will work with local agencies to provide updated water quality data as it is collected. Members of the Monitoring Sub-Committee will coordinate and conduct water quality sampling to provide information to the general public through the Hoosier Riverwatch volunteer monitoring program as well as recruit volunteers to monitor various sites throughout the Watershed. Future fish and macroinvertebrate sampling within Sugar Creek will be coordinated by members of the Monitoring Sub-Committee.

The Urban and Agricultural Sub-Committee will establish relationships with entities within urban and agricultural areas throughout the Watershed that could have a potential influence on water quality. Members of these committees will build relationships in order to promote protection and improvement of the Sugar Creek Watershed. Best Management Practices specific to urban or agricultural areas will be promoted as impairments to the Watershed are discussed.

The establishment and specific tasks assigned to each of the Sub-Committee groups will allow for multiple avenues of watershed improvement to be pursued. Awareness of issues and impairments within the Watershed will increase stakeholder participation and will hopefully increase membership of the Sugar Creek Watershed Steering Committee.

Prioritization of Objectives within the 7 Goals of the Watershed Management Plan

Objectives were prioritized by the Steering Committee at the July 9, 2008, meeting. Priorities were identified as Short-Term or Long-Term. Short-Term priorities are those which the Steering Committee would like to accomplish within the first five years (2009 - 2014) of implementing the WMP. Long-Term priorities are also those which the Steering Committee would like to accomplish within twenty-one years (2009 - 2030) of implementing the WMP. These priority rankings of objectives are presented on Table 32a through g.

Programmatic Action Plan

The following itemized action plan for each of the seven goals was established by the Steering Committee. The actions described in this implementation plan can be found on Tables 32a through 32g. The tables identifies the objectives, the action items, assign a priority ranking, identifies the responsible party or parties involved with the implementation of the actions, and outlines both the technical and financial assistance for each action item. Goal #1 is to sustain the Sugar Creek Watershed stakeholder group. The objectives and action items outlined in goal #1 are to be accomplished within the short term. Goal #2 is to reduce *E. coli* concentrations to meet the state standard of 235 CFU per 100 ml in the Sugar Creek Watershed by 2030. The objectives and action items outlined in Goal #2 are prioritized to be accomplished within the short term. Goal #6 is to Develop and implement watershed education and outreach programs in the Sugar Creek Watershed. Similarly, all of the objectives and action items outlined in Goal #6 are intended to be accomplished within the short term. This makes priority of accomplishing the actions items of Goals 1, 2 and 6 all within the first five years.

Goals # 5 and 7 are intended to have their objectives and action items accomplished within the first twenty-one years. Goal #5 is to Reduce flood damage in the Sugar Creek Watershed. Goal #7 is to increase preservation and restoration of open space within the Sugar Creek Watershed. Goal #3 is to reduce the maximum concentration so that there are no exceedances of nitrate plus nitrite of 10 mg/L total phosphorus of 0.3 mg/L. Goal #4 is to reduce soil erosion/sedimentation from agricultural and urban lands to meet 80 mg/L of total suspended solids (TSS) by 2030.

Interim Measurable Milestones

Table 32a through 32g lists the measurable milestones for each of the seven goals identified by the Steering Committee. Each goal is divided into two categories consisting of: Short Term Milestones and Measurable Goals and Long Term Milestones and Measurable Goals. These milestones have been suggested in order to help track the process of implementing action items within the first five years for Short Term Measurable Milestones, within the first twenty-one years for Long Term Measureable Milestones.

Short-Term Priority Objectives

The following are Short-Term priority objectives that the Steering Committee will address in the years 2009-2014:

Goal #1: Sustain the Sugar Creek Watershed Stakeholder Group.

Objectives:

- Meet as a Committee on a quarterly basis,
- Increase involvement and participation with the planning process from Stakeholders within the Watershed,
- Pursue and implement watershed improvement projects,
- Sustaining active subcommittees.

Goal # 6: Develop and implement watershed education and outreach programs in the Sugar Creek Watershed.

Objectives:

- Effectively use forms of media (TV, newspaper, newsletters and radio) to share and communicate past, current, and future activities of the Sugar Creek Steering Committee with the media, public, and current and potential Sugar Creek Steering Committee members,
- Recruit and train volunteers to monitor at a minimum, each of the subwatersheds, obtaining both wet and dry weather data at each site at least twice each year, and provide continuing education opportunities for volunteer monitors,
- Promote sustainable drainage practices,
- Educate homeowners in urban communities about the use of fertilizers,
- Educate stakeholders using septic systems about the importance of septic system maintenance,
- Establish a legislative liaison,
- Educate stakeholders and landowners about the detrimental effects that All Terrain Vehicles (ATV's) have on the Sugar Creek Watershed,
- Educate the stakeholders in the Watershed about other efforts and studies conducted within the Watershed,
- Educate homeowners within the Watershed about the Storm Drain Marking Program.

Long-Term Priority Objectives

The following are Long-Term priority objectives that the Steering Committee will address in the years 2009-2030:

Goal #2: Reduce *E. coli* concentrations to meet state standard of 235 CFU/100 ml in the Sugar Creek Watershed by 2030.

Objectives:

- Reduce the amount of *E. coli* runoff from agricultural lands through the encouragement of exclusionary fencing installation, the promotion of alternative water supplies, and the education and implementation of manure management practices,
- Reduce the amount of *E. coli* runoff from urban lands,
- Reduce the amount of *E. coli* runoff from point sources, failed septic systems, and package plants, and
- Reduce the amount of *E. coli* in Sugar Creek to allow the waters to be fishable and swimmable for all stakeholders.

Goal #3: Reduce the maximum concentration so that there are no exceedances of Nitrate plus Nitrite of 10 mg/L and Total Phosphorus of 0.3 mg/L by 2030.

Objectives:

- Improve the efficiency of urban and agricultural fertilizer application using grid mapping, and variable rate technology,
- Educate the public/Stakeholders (urban and agricultural) of the importance of reduced application of fertilizers,
- Increase the riparian buffer zone using filter strips and grassed waterways,
- Increase the amount of BMPs used in the Sugar Creek Watershed including but not limited to: cover crops in the winter, grid mapping, and variable rate technology,
- Discourage the Fall and Winter application of fertilizer,
- Encourage more soil testing to optimize Nitrogen application (Home owners, farmers, etc.),
- Encourage lower application rates of fertilizers within the Watershed through education workshops and field days.

Goal #4: Reduce soil erosion/sedimentation from agricultural and urban lands to meet 80 mg/L of total suspended solids (TSS) by 2030.

Objectives:

- Reduce soil erosion and sedimentation from agricultural lands,
- Reduce soil erosion and sedimentation from urban lands, and
- Encourage enforcement of erosion control practices associated with the issuance of building permits within the Watershed.

Goal #5: Reduce flood damage in the Sugar Creek Watershed by 2030.

Objectives:

- Reduce flow rates and volumes from existing developed areas and prevent increases in flow rates and volumes from new development within the Watershed,
- Protect and restore floodplain functions,
- Encourage the maintenance and management of the Sugar Creek corridor and other drainageways to minimize flooding,
- Create and restore wetland areas to increase storage within the Watershed.

Goal #7: Increase preservation and restoration of open space within the Sugar Creek Watershed by 2030.

Objectives:

- Increase acquisition of land to be dedicated to open space and greenways,
- Increase the preservation of wildlife habitat and protected areas within the Sugar Creek Watershed,
- Encourage the utilization of proper wildlife management practices within the Sugar Creek Watershed,
- Encourage farmland preservation within the Watershed.

Table 32a Priority Ranking of Objectives: **Goal #1:** Sustain the Sugar Creek Watershed Stakeholder Group. All action items are short-term measureable milestone priorities.				
Objective	**Action Item**	**Responsible Party**	**Technical Assistance**	**Financial Assistance**
Meet as a Committee on a quarterly basis	Retain active committee participants and acquire new committee members.	**Steering Committee**	Volunteers, SWCDs	Volunteer/Donations
Increase involvement and participation with the planning process from Stakeholders within the Watershed	Expand responsibilities and stewardship of active committee participants and stakeholders with the planning process.	**Steering Committee**	Volunteers, SWCDs	Volunteer/Donations
	Research local stakeholder groups with similar missions or interest within the Watershed.	**Steering Committee**	Volunteers, SWCD	Volunteer/Donations
	Network with related stakeholder groups and use public forums as recruiting opportunities	**Steering Committee**	Volunteers, SWCD	Volunteer/Donations
Pursue and implement watershed improvement projects	Promote urban BMPs by pursuing funding, implementing urban BMP demonstration projects and providing field day tours of implementation sites.	**Research/Grant Writing; Media/Marketing/Website; Urban Sub-Committees**	Volunteers, SWCDs, NRCS, IDNR, IDEM, Consultant	Volunteer/Donations/ Grant Funding
	Promote rural BMPs by pursuing funding, implementing rural BMP demonstration projects and providing field day tours of implementation sites.	**Research/Grant Writing; Media/Marketing/Website; Agricultural Sub-Committees**	Volunteers, SWCDs, NRCS, IDNR, IDEM, Consultant	Volunteer/Donations/ Grant Funding
Sustaining active subcommittees	Retain active subcommittee participants and acquire new subcommittees and subcommittee members.	**Steering Committee**	Volunteers, SWCDs	Volunteer/Donations

Table 32b Priority Ranking of Objectives:
Goal #2: Reduce *E. coli* concentrations to meet state standards of 235 CFU/100 ml in the Sugar Creek Watershed by 2030. All action items are long-term measureable milestone priorities.

Objective	Action Item	Responsible Party	Technical Assistance	Financial Assistance
Reduce the amount of *E. coli* runoff from agricultural lands through the encouragement of exclusionary fencing installation, the promotion of alternative water supplies, and the education and implementation of manure management practices	Promote and provide technical assistance to implement exclusionary fencing installation which would prevent livestock from having access to the stream.	**Education; Media/Marketing/Website; Agricultural Sub-Committees**	Volunteers, SWCDs, NRCS, IDNR, IDEM, Consultant	Volunteer/Donations/ Grant Funding
	Promote and provide technical assistance to implement alternative water supplies for livestock in order to replace direct access to the stream.	**Education; Media/Marketing/Website; Agricultural Sub-Committees**	Volunteers, SWCDs, NRCS, IDNR, IDEM, Consultant	Volunteer/Donations/ Grant Funding
	Promote and provide technical assistance to educate and implement manure management practices.	**Education; Media/Marketing/Website; Agricultural Sub-Committees**	Volunteers, SWCDs, NRCS, IDNR, IDEM, Consultant	Volunteer/Donations/ Grant Funding
Reduce the amount of *E. coli* runoff from urban lands	Promote and provide technical assistance to implement appropriate BMPs.	**Steering Committee**	Volunteers, SWCDs, NRCS, IDNR, IDEM, Consultant	Volunteer/Donations/ Grant Funding
Reduce the amount of *E. coli* runoff from point sources, failed septic systems, and package plants	Educate stakeholders about the detrimental impacts to water quality from point sources, failed septic systems and package plants.	**Steering Committee**	Volunteers, SWCDs	Volunteer/Donations
	Encourage regular maintenance and repair of failing septic systems.	**Steering Committee**	Volunteers, SWCD	Volunteer/Donations
Reduce the amount of *E. coli* in Sugar Creek to allow the waters to be fishable and swimmable for all stakeholders	Promote and provide technical assistance to implement appropriate BMPs.	**Steering Committee**	Volunteers, SWCDs, NRCS, IDNR, IDEM, Consultant	Volunteer/Donations/ Grant Funding

Table 32c Priority Ranking of Objectives:
Goal #3: Reduce the maximum concentration so that there are no exceedances of Nitrate plus Nitrite of 10 mg/L and Total Phosphorus of 0.3 mg/L by 2030. All action items are long-term measureable milestone priorities.

Objective	Action Item	Responsible Party	Technical Assistance	Financial Assistance
Improve the efficiency of urban and agricultural fertilizer application using grid mapping, and variable rate technology	Educate farmers, home owners, landscaping companies, stakeholders about the proper application of fertilizers.	**Steering Committee**	Volunteers, SWCDs, NRCS, IDNR, IDEM, Consultant	Volunteer/Donations/Grant Funding
	Utilize and promote the Farm Bill Program.	**Steering Committee**	SWCDs, NRCS	Grant Funding
Educate the public/Stakeholders (urban and agricultural) of the importance of reduced application of fertilizers	Educate farmers, home owners, landscaping companies, stakeholders about the impacts to water quality (both groundwater and surface water) from the improper application of excessive fertilizers.	**Steering Committee**	Volunteers, SWCDs, NRCS, IDNR, IDEM, Consultant	Volunteer/Donations/Grant Funding
Increase the riparian buffer zone using filter strips and grassed waterways	Promote and provide technical assistance to implement appropriate BMPs.	**Steering Committee**	Volunteers, SWCDs, NRCS, IDNR, IDEM, Consultant	Volunteer/Donations/Grant Funding
	Promote filter strips and grassed waterways as BMPs by pursuing funding, implementing demonstration projects and providing field day tours of implementation sites.	**Steering Committee**	Volunteers, SWCDs, NRCS, IDNR, IDEM, Consultant	Volunteer/Donations/Grant Funding
Increase the amount of BMPs used in the Sugar Creek Watershed including but not limited to: cover crops in the winter, grid mapping, and variable rate technology	Promote and provide technical assistance to implement appropriate BMPs.	**Steering Committee**	Volunteers, SWCDs, NRCS, IDNR, IDEM, Consultant	Volunteer/Donations/Grant Funding
	Promote BMPs by pursuing funding, implementing demonstration projects and providing field day tours of implementation sites.	**Steering Committee**	Volunteers, SWCDs, NRCS, IDNR, IDEM, Consultant	Volunteer/Donations/Grant Funding
Discourage the Fall and Winter application of fertilizer	Educate farmers, home owners, landscaping companies, stakeholders about the impacts to water quality (both groundwater and surface water) from the improper application of fertilizers.	**Steering Committee**	Volunteers, SWCDs, NRCS, IDNR, IDEM, Consultant	Volunteer/Donations/Grant Funding
Encourage more soil testing to optimize Nitrogen application (Home owners, farmers, etc.)	Promote and provide technical assistance to encourage more soil testing to optimize nitrogen application.	**Steering Committee**	Volunteers, SWCDs, NRCS, IDNR, IDEM, Consultant	Volunteer/Donations/Grant Funding
Encourage lower application rates of fertilizers within the Watershed through education workshops and field days	Educate farmers, home owners, landscaping companies, stakeholders through workshops and field days about the impacts to water quality (both groundwater and surface water) from the improper application of fertilizers.	**Steering Committee**	Volunteers, SWCDs, NRCS, IDNR, IDEM, Consultant	Volunteer/Donations/Grant Funding

Table 32d Priority Ranking of Objectives:
Goal #4: Reduce soil erosion/sedimentation from agricultural and urban lands to meet 80 mg/L of total suspended solids (TSS) by 2030. All action items are long-term measureable milestone priorities.

Objective	Action Item	Responsible Party	Technical Assistance	Financial Assistance
Reduce soil erosion and sedimentation from agricultural lands	Promote and provide technical assistance to implement appropriate agricultural land BMPs.	**Education; Media/ Marketing/ Website; Agricultural Sub-Committees**	Volunteers, SWCDs, NRCS, IDNR, IDEM, Consultant	Volunteer/Donations/ Grant Funding
	Promote agricultural land BMPs by pursuing funding, implementing demonstration projects and providing field day tours of implementation sites.	**Education; Research/ Grant Writing; Agricultural Sub-Committees**	Volunteers, SWCDs, NRCS, IDNR, IDEM, Consultant	Volunteer/Donations/ Grant Funding
	Utilize and promote the Farm Bill Program.	**Steering Committee**	SWCDs, NRCS	Grant Funding
	Designate a volunteer for specific areas throughout the Watershed as the main contact for reporting violations.	**Steering Committee**	Volunteers, Steering Committee	Volunteers
Reduce soil erosion and sedimentation from urban lands	Promote and provide technical assistance to implement appropriate urban land BMPs.	**Education; Media/ Marketing/ Website; Urban Sub-Committees**	Volunteers, SWCDs, NRCS, IDNR, IDEM, Consultant	Volunteer/Donations/ Grant Funding
	Promote urban land BMPs by pursuing funding, implementing demonstration projects and providing field day tours of implementation sites.	**Education; Research/ Grant Writing; Urban Sub-Committees**	Volunteers, SWCDs, NRCS, IDNR, IDEM, Consultant	Volunteer/Donations/ Grant Funding
	Designate a volunteer for specific areas throughout the Watershed as the main contact for reporting violations.	**Steering Committee**	Volunteers, Steering Committee	Volunteers
Encourage enforcement of erosion control practices associated with the issuance of building permits within the Watershed	Work with permitting entities to adopt building permit ordinances with more conservative erosion control practices.	**Legislative/ Local Advocacy Sub-Committees**	Volunteers, SWCDs, NRCS, IDNR, IDEM, Consultant	Volunteer/Donations/ Grant Funding
	Work with permitting entities to adopt more stringent enforcement of erosion control practices.	**Legislative/ Local Advocacy Sub-Committees**	Volunteers, SWCDs, NRCS, IDNR, IDEM, Consultant	Volunteer/Donations/ Grant Funding
	Establish a volunteer group that will monitor construction sites for violations.	**Monitoring; Legislative/ Local Advocacy Sub-Committees**	Volunteers, Steering Committee	Volunteers

Table 32e Priority Ranking of Objectives:
Goal #5: Reduce flood damage in the Sugar Creek Watershed by 2030. All action items are long-term measureable milestone priorities.

Objective	Action Item	Responsible Party	Technical Assistance	Financial Assistance
Reduce flow rates and volumes from existing developed areas and prevent increases in flow rates and volumes from new development within the Watershed	Work with permitting entities to adopt stormwater permit ordinances with more conservative stormwater runoff rate and volume limits.	**Legislative/Local Advocacy Sub-Committees**	Volunteers, SWCDs, NRCS, IDNR, IDEM, County Surveyor	Volunteer/Donations/ Grant Funding
	Promote and provide technical assistance to implement appropriate BMPs within developed areas to reduce stormwater runoff flow rates and volumes.	**Steering Committee**	Volunteers, SWCDs, NRCS, IDNR, IDEM, County Surveyor	Volunteer/Donations/ Grant Funding
	Promote BMPs within developed areas to reduce stormwater runoff flow rates and volumes by pursuing funding, implementing demonstration projects and providing field day tours of implementation sites.	**Steering Committee**	Volunteers, SWCDs, NRCS, IDNR, IDEM, County Surveyor	Volunteer/Donations/ Grant Funding
Protect and restore floodplain functions	Promote and provide technical assistance to protect and restore floodplain functions within the Watershed.	**Steering Committee**	Volunteers, SWCDs, NRCS, IDNR, IDEM, County Surveyor	Volunteer/Donations/ Grant Funding
	Promote the protection and restoration of floodplain functions by pursuing funding, implementing demonstration projects and providing field day tours of implementation sites.	**Steering Committee**	Volunteers, SWCDs, NRCS, IDNR, IDEM, County Surveyor	Volunteer/Donations/ Grant Funding
Encourage the maintenance and management of the Sugar Creek corridor and other drainageways to minimize flooding	Promote and provide technical assistance for maintenance and management practices which will result in reducing flood damage within the Watershed.	**Steering Committee**	Volunteers, SWCDs, NRCS, IDNR, IDEM, County Surveyor	Volunteer/Donations/ Grant Funding
Create and restore wetland areas to increase storage within the Watershed	Promote and provide technical assistance to implement wetland creation and restoration projects to increase storage.	**Steering Committee**	Volunteers, SWCDs, NRCS, IDNR, IDEM, County Surveyor	Volunteer/Donations/ Grant Funding
	Promote wetland creation and restoration projects by pursuing funding, implementing demonstration projects and providing field day tours of implementation sites.	**Steering Committee**	Volunteers, SWCDs, NRCS, IDNR, IDEM, County Surveyor	Volunteer/Donations/ Grant Funding

Table 32f Priority Ranking of Objectives:
Goal #6: Develop and implement watershed education and outreach programs in the Sugar Creek Watershed. All action items are short-term measureable milestone priorities.

Objective	Action Item	Responsible Party	Technical Assistance	Financial Assistance
Effectively use forms of media (TV, newspaper, newsletters and radio) to share and communicate past, current, and future activities of the Sugar Creek Steering Committee with the media, public, and current and potential Sugar Creek Steering Committee members	Promote the effective use of media (TV, newspaper, newsletters and radio) to share and communicate watershed improvement activities.	**Media/Marketing/Website Sub-Committees**	Volunteers, SWCDs, NRCS, IDNR, IDEM, Consultant	Volunteer/Donations/ Grant Funding
Recruit and train volunteers to monitor at a minimum, each of the subwatersheds, obtaining both wet and dry weather data at each site at least twice each year, and provide continuing education opportunities for volunteer monitors	Promote activities to recruit and train volunteers for monitoring watershed conditions including biological, physical and chemical parameters.	**Education; Monitoring Sub-Committees**	Volunteers, SWCDs, NRCS, IDNR, IDEM, Consultant	Volunteer/Donations/ Grant Funding
	Provide training and educational opportunities for volunteer monitors.	**Education; Monitoring Sub-Committees**	Volunteers, SWCDs, NRCS, IDNR, IDEM, Consultant	Volunteer/Donations/ Grant Funding
Promote sustainable drainage practices	Encourage implementation of sustainable drainage practices throughout the Watershed.	**Steering Committee**	Volunteers, SWCDs, NRCS, IDNR, IDEM, Consultant	Volunteer/Donations/ Grant Funding
Educate homeowners in urban communities about the use of fertilizers	Educate home owners, stakeholders about the impacts to water quality (both groundwater and surface water) from the improper application of excessive fertilizers.	**Steering Committee**	Volunteers, SWCDs, NRCS, IDNR, IDEM, Consultant	Volunteer/Donations/ Grant Funding
Educate stakeholders using septic systems about the importance of septic system maintenance	Encourage regular maintenance and repair of failing septic systems.	**Steering Committee**	Volunteers, SWCD	Volunteer/Donations
Establish a legislative liaison	Promote the establishment of a legislative liaison with a prime directive of improving the water quality of the Sugar Creek Watershed.	**Legislative/Local Advocacy Sub-Committees**	Volunteers, SWCDs, NRCS, IDNR, IDEM, Consultant	Volunteer/Donations/ Grant Funding
Educate stakeholders and landowners about the detrimental effects that All Terrain Vehicles (ATV's) have on the Sugar Creek Watershed	Promote awareness of detrimental effects on the health of the Watershed from ATV use in and along Sugar Creek.	**Steering Committee**	Volunteers, SWCDs, NRCS, IDNR, IDEM, Consultant	Volunteer/Donations/ Grant Funding
Educate the stakeholders in the Watershed about other efforts and studies conducted within the Watershed	Encourage stakeholder awareness with respect to studies conducted within the Watershed.	**Steering Committee**	Volunteers, SWCDs, NRCS, IDNR, IDEM, Consultant	Volunteer/Donations/ Grant Funding
Educate homeowners within the Watershed about the Storm Drain Marking Program	Promote implementing a Storm Drain Marking Program throughout the Watershed.	**Steering Committee**	Volunteers, SWCDs, NRCS, IDNR, IDEM, Consultant	Volunteer/Donations/ Grant Funding

Table 32g Priority Ranking of Objectives:

Goal #7: Increase preservation and restoration of open space within the Sugar Creek Watershed by 2030. All action items are long-term measureable milestone priorities.

Objective	Action Item	Responsible Party	Technical Assistance	Financial Assistance
Increase acquisition of land to be dedicated to open space and greenways	Promote greenway corridors	**Steering Committee**	Parks Departments, Volunteers	Volunteer/Donations/ and Grants
	Promote park expansion and use of public land	**Steering Committee**	Parks Departments, Volunteers	Volunteers/ Donations/ and Grants
	Connect open spaces with conservation corridors.	**Steering Committee**	Volunteers, Consultants	Volunteers/ Donations/ and Grants
	Identify current and future recreational needs and match with appropriate open space within the Watershed.	**Steering Committee**	Volunteers	Volunteers/ Donations
Increase the preservation of wildlife habitat and protected areas within the Sugar Creek Watershed	Identify natural resources, ecological areas, and unique habitats to be preserved and protected.	**Steering Committee**	IDEM, DNR, Parks Departments, Volunteers	Volunteers/ Donations/ and Grants
	Promote awareness of invasive species and their impact on native ecosystems.	**Steering Committee**	Parks Departments, Volunteers	Volunteers/ Donations/ and Grants
	Promote awareness of threatened and endangered species throughout the Watershed. Encourage and educate the public on ways they can protect these species.	**Steering Committee**	Parks Departments, Volunteers	Volunteers/ Donations/ and Grants
	Manage current open spaces for invasive species.	**Steering Committee**	Parks Departments, DNR, Volunteers	Volunteers/ Donations/ and Grants
	Support wetland, prairie and woodland restoration.	**Steering Committee**	IDEM, DNR, Parks Departments, Volunteers	Volunteers/ Donations/ and Grants
Encourage the utilization of proper wildlife management practices within the Sugar Creek Watershed	Educate stakeholders on management practices which simulate natural processes such as burning or thinning.	**Steering Committee**	Volunteers	Volunteers/ Donations/ and Grants
	Use native vegetation extensively in BMPs to enhance wildlife habitat.	**Steering Committee**	Volunteers	Volunteers/ Donations/ and Grants
Encourage farmland preservation within the Watershed	Promote the preservation of farmland within the Watershed.	**Steering Committee**	Volunteers	Volunteers/ Donations/ and Grants

Selecting the Indicators for the Goals

Goal #1: Sustain the Sugar Creek Watershed Stakeholder Group.

In order to sustain the Sugar Creek Watershed Stakeholder Group, the short term objectives for goal #1 will need to be met. The short term goals include meeting as a group on a quarterly basis, increasing involvement and participation with the planning process from Stakeholders within the Watershed, pursuing and implementing watershed improvement projects, and sustaining active subcommittees. Achieving goal #1 will require active committee participants to continue membership and attain new committee members. Members of the Sugar Creek Watershed Stakeholder Group will expand their responsibilities and stewardship of active committee participants and stakeholders with the planning process. Members will also research and network with related stakeholder groups with similar missions or issues within the Watershed and use public forums as recruiting opportunities. Educating and obtaining the interest of landowners will be very important in sustaining the Stakeholder Group as well as promoting urban and agricultural BMPs. The promotion of urban and agricultural BMPs will include implementing BMP demonstration projects and providing field day tours of implementation sites.

Goal #2: Reduce *E. coli* concentrations to meet state standards of 235 CFU/100 ml in the Sugar Creek Watershed by 2030.

The reduction of levels of *E. coli* are not based on modeling of water quality, so indicators for this goal can be expanded to evaluate the implementation of BMPs to reach nutrient loading and erosion goals. The measured presence of *E. coli* in values less than the state standard is desired to provide primary and secondary contact waters at fishable and swimmable levels without risk of illness. Achieving goal #2 will require successful outreach and education about the detrimental impacts to water quality from point sources, failed septic systems and package plants. Educational outreach will emphasize the importance of regular maintenance of septic systems and repair of failing septic systems. Promotion of exclusionary fencing to prevent livestock from having stream access, alternative water supplies, and manure management is vital in reducing *E. coli* concentrations. Providing technical assistance for exclusionary fencing installation, alternative water supply implementation, and participation in manure management practices will increase awareness of *E. coli* concentrations and methods of reduction within the Watershed. Educational outreach concerning the importance of *E. coli* concentration reductions will further reduce *E. coli* from infiltrating the Watershed from agricultural lands, urban lands and rural residential lands.

Goal #3: Reduce the maximum concentration so that there are no exceedances of Nitrate plus Nitrite of 10 mg/L and Total Phosphorus of 0.3 mg/L by 2030.

The selected water quality indicator for accomplishing the indicators for achieving goal #3 is based on the measurable improvements to the pollutant concentrations for nitrate, nitrite and total phosphorus load reduction modeling. Educating farmers, home owners, landscaping companies and stakeholders within the Watershed about the proper application of fertilizer and the impacts to water quality when fertilizer is applied incorrectly will reduce the amount of nutrients in the Watershed. Promotion of soil tests will optimize the effectiveness of nitrogen application in the Watershed. BMP practices will be promoted with emphasis on filter strips and grassed waterways by pursuing funding and creation of implementation projects that will be used during field day tours. Technical assistance will be provided to those interested in implementing BMP and information regarding the Farm Bill Program will be provided in applicable cases. As the implementation of urban and agricultural BMPs takes place within the Watershed, improvements to the nutrient loads can be projected; examples of accepted removal rates are discussed in Section 6. Targets have been established for load reduction values, which are to be discussed in Section 7.

Goal #4: Reduce soil erosion/sedimentation from agricultural and urban lands to meet 80 mg/L of total suspended solids (TSS) by 2030.

The selected water quality indicator for accomplishing the indicators for reducing Total Suspended Solids (TSS) is based on the measurable improvements to the pollutant concentrations in the TSS load reduction modeling. Erosion enforcement will be achieved through the establishment of a volunteer group that will monitor construction sites for violations and a main contact will be designated for specific areas throughout the watershed for reporting violations. Achieving goal #4 will require partnership with permitting entities in order to adopt more stringent enforcement of erosion control practices as well as adopting building permit ordinances with more conservative erosion control practices. Technical assistance will be provided to those interested in implementing urban and agricultural BMPs and promotion and utilization of the Farm Bill Program will be applied in appropriate cases. As the implementation of urban and agricultural BMPs takes place within the Watershed, improvements to the TSS loads can be projected; examples of accepted removal rates are discussed in Section 6. Targets have been established for load reduction values, which are to be discussed in Section 7.

Goal #5: Reduce flood damage in the Sugar Creek Watershed by 2030.

Flood insurance property and crop damage claims due to flooding can be compared to previous year's claims for tracking trends in flood damage. Promotion and implementation of BMPs within developed areas of the Watershed will reduce stormwater runoff flow rates and volumes as well as working with permitting entities to adopt stormwater permit ordinances with more conservative stormwater runoff rates and volume limits is necessary to achieve a reduction in flood damage throughout the Watershed. Wetland creation and restoration projects will be promoted as they increase storage and can reduce flood damage. Advocating for increased maintenance and management of drainageways will reduce flood damage. Achieving goal #5 will require the pursuing funding for the promotion and implementation of demonstration projects that will provide field day tours of implementation sites such as wetland and floodplain restoration. The number and amount of property and crop damage claims can vary greatly from one year to another based on the amount and frequency of precipitation, so years with similar weather should be compared if possible. The USGS website, http://waterdata.usgs.gov/nwis/uv?site_no=03361650, can also be accessed to show staff gauge and flow of Sugar Creek. This data can show trends in water levels, volume, and duration of flooding events.

Goal # 6: Develop and implement watershed education and outreach programs in the Sugar Creek Watershed.

Indicators for achieving the development and implementation of watershed education and outreach programs can be identified by the successful accomplishment of the short-term priority action items for this goal. Educational materials concerning the impacts to water quality from the improper application and excessive use of fertilizer as well as watershed improvement activities will be provided to stakeholders through effective use of media. Promotion of training activities and education opportunities throughout the watershed will be used to recruit new volunteers that can participate in monitoring watershed conditions including biological, chemical and physical parameters. Awareness of current and past studies of the watershed will be achieved through outreach. Sustainable drainage practices throughout the Watershed and maintenance and repair of failing septic systems will be promoted and encouraged through educational outreach programs. All terrain vehicle impacts will be discussed as it has a detrimental impact to the Watershed when used in and along Sugar Creek. A member of the Sugar Creek Watershed Stakeholder Group will serve as a legislative liaison with their prime directive being improvement of the water quality of the Sugar Creek Watershed. Other ways of measuring success could be performed by tracking public involvement in volunteer programs (such as Hoosier Riverwatch) over time, tracking the number of people that attend volunteer programs, and tabulating attendance at Watershed Steering Committee meetings to see if attendance is increasing over time. Implementation of a storm drain marking program within the Watershed will be an indicator for achievement of goal #6. Short-term action items discussion is also located in Section 5.

Goal #7: Increase preservation and restoration of open space within the Sugar Creek Watershed by 2030.

An indicator of accomplishing the preservation and restoration of open space can involve the general inventory of lands held within preservation and open space land uses as it changes through 2030. Identification of current and future recreational needs will be matched with appropriate open space which will promote the preservation and protection of unique habitats and ecological areas within the Watershed. Education of stakeholders regarding the presence of threatened and endangered species within the Watershed encourage stakeholders to participate in activities that will protect these species. Achieving goal #7 will require the expansion of greenway corridors, park land and use of public land, and connection of open spaces with conservation corridors. Indicators of successful restoration of uplands, wetlands, streambanks and stream channels are all positive indicators of reaching this goal. Native vegetation will be used extensively in BMPs and restoration to enhance wildlife habitat. Management of invasive species within open space will be necessary to promote native vegetation growth and support wetland, prairie and woodland restoration. Restoration efforts will be combined with educational outreach to promote management activities that simulate natural processes such as thinning and burning. Money spent through 2030 on preservation and restoration is also an indicator of accomplishing this goal. Reduction of the amount of flood damage to crops, buildings and infrastructure is also an indicator of how much restoration has occurred in the Watershed.