16. GOALS & ACTION STRATEGY

Setting goals and developing an action strategy is a crucial part of a watershed management plan. We have identified two broad goals that should guide watershed-centered actions. Ten unique objectives underlay these strategies. We feel that using these broad strategies and objectives as a basis for actions will help to provide effective and clear guidance rooted in load reduction modeling conclusions. Our ten objectives help highlight and emphasize key people and groups that we recognize as crucial to the future health of the watershed. By framing our objectives as such, it promotes communication and cooperation between community members and furthers the basic intention that watershed-centered actions should engage communities. Forming these fundamental relationships will open avenues to reach the wider public. The action items listed under each strategy's objectives contain milestones for achieving the objective. Each milestone will provide a measurable indicator that will demonstrate whether progress is being made toward achieving that objective. These objectives are general, addressing not only critical areas but the entire watershed as well. Strategies #1 and #2 are represented in more detail in Tables 16.6–16.17. These tables contain a timeframe for achieving milestones and a breakdown of estimated costs, possible partners, and sources of technical assistance for each action.

16.1 Goal #1: PROVIDE EDUCATION AND FORM PARTNERSHIPS

Objectives: (1) Build local capacity for volunteer monitoring; (2) Provide education and form partnerships with Agricultural Landowners, (3) Ecological Landowners, (4) Recreational Enthusiasts, (5) Local Health Departments, and (6) County Drainage Boards and Surveyors; and (7) Perform policy research and develop educational resources to promote citizen involvement in county/municipal planning and the policy-making.

Problem: There are currently few volunteers who conduct monitoring in the watershed. More monitoring is needed to understand if efforts to reduce nonpoint source pollution in the watershed are having an impact.
Goal #1, Objective #1: ***Build local capacity for volunteer monitoring***
Indicators:

- Number of brochures distributed to the public
- Number of persons visiting water quality booth at events, trade shows, etc.
- Number of attendees at Hoosier Riverwatch training workshop
- Number of active volunteer stream water quality monitors
- Data from 4-5 critical areas, collected monthly over one year
- Number of teachers attending meetings regarding developing local water quality curriculum
- Number of lesson plans taught using local water quality curriculum developed at meetings

Problem: There is currently no comprehensive system in place for engaging, educating, and connecting agricultural producers throughout the entire watershed about BMPs.
Goal #1, Objective #2: ***Provide education and form partnerships with Agricultural Landowners***
Indicators:

- Number of brochures about the Conservation Farming Directory distributed to landowners
- Number of farmers included in the Conservation Farming Directory
- Number of letters sent out promoting cost-share opportunities
- Number of persons who apply for cost-share opportunities
- Number of persons attending field days
- Number of persons participating in Infield Advantage due to watershed group's efforts
- Number of persons attending a "Women's Learning Circle" workshop
- Number of persons attending presentations concerning local policies and ordinances

Problem: There is currently no comprehensive system in place for engaging, educating, and connecting ecological landowners.
Goal #1, Objective #3: ***Provide education and form partnerships with Ecological Landowners***
Indicators:

- Number of persons assisted in applying for local Land Conservation Fund
- Number of acres enrolled in the Land Conservation Fund, including location (i.e., inside or outside of floodplain, etc.)
- Number of persons present at presentations about land conservation and Land Conservation Fund
- Number of persons receiving educational newsletter about Land Conservation Fund and land conservation, including location of property (i.e., inside or outside of floodplain, on highly erodible lands, etc)
- Number of persons attending land preservation forum
- Number of persons receiving educational newsletter about the importance of recharging aquifers and how preserving natural areas can help aquifer recharge, including location of property (i.e., in a location with high recharge capability)

Problem: There is currently no comprehensive system in place for engaging, educating, and connecting recreational enthusiasts.
Goal #1, Objective #4: ***Provide education and form partnerships with Recreational Enthusiasts***
Indicators:

Number of new or improved river access sites
Number of persons attending river and/or stream cleanups
Pounds of trash collected at river and/or stream cleanups
Number of persons attending canoe run event (which will start with a brief presentation about the watershed project)
Number of Category 3 and 4 logjams removed
Number of persons supporting dam removal
Number of dams removed
Number of persons using the Smart Recreation Web Guide
Number of persons volunteering at local land trust properties and local parks due to watershed group's efforts
Number of rain gardens installed in community gardens

Problem: There is currently no partnership between the watershed group and local health departments.
Goal #1, Objective #5: ***Provide education and form partnerships with Health Departments***
Indicators:

Number of health department officials that are present at meetings to share and discuss results of recent water quality sampling and possible partnership opportunities.
Number of persons receiving educational materials regarding septic system maintenance, including location of property (i.e., subwatershed)
Number of persons performing maintenance on their septic system due to the watershed group's efforts

Problem: There is currently no partnership between the watershed group and county surveyors and county drainage boards.
Goal #1, Objective #6: ***Provide education and form partnerships with County Drainage Boards/Surveyor***
Indicators:

Number of county surveyors and drainage board members that are present at meetings to share and discuss results of recent water quality sampling and possible partnership opportunities
Number of county surveyors attending 2-stage ditch or natural channel design workshops
The amount of 2-stage ditches installed (in linear feet)
The number of sites where natural channel design has been implemented
The number of students involved in BEHI/NBS assessments
The amount of streams/rivers assessed using BEHI/NBS (in linear feet)
Sediment modeling demonstrating load reduction due to 2-stage ditches and streambank stabilization projects
Miles of county drains mapped due to watershed group's efforts

Problem: There is currently a lack of understanding of public policy and county and municipal planning are impacting the watershed. There is also a lack of citizen engagement with public officials at this level.
Goal #1, Objective #7 (*Perform policy research and develop educational resources to promote citizen involvement in county/municipal planning and policy-making*)
Indicators:

Number of local officials/planning commission members attending meeting to share data and discuss sprawl and its impact on the watershed and water quality
Number of local officials attending meeting to hear watershed group's recommendations regarding ordinances, etc
Number and description of changes in local ordinances due to watershed group's efforts

16.2 Goal #2-#5: IMPROVE WATER QUALITY OF THE UPPER MISSISSINEWA RIVER AND ITS TRIBUTARIES

PROBLEMS, GOALS, AND INDICATORS
Problem: Excess nitrate has been identified as a problem.
Goal #2: The Tier I Critical Areas that have high levels of nitrate are Gray Branch, Bush Creek, and Deer Creek. Our goal is to reduce nitrate in these Tier I Critical Areas. Specific reduction goals for each TIer I critical area are listed below.
Indicators: Administrative indicators will be modeling completed using a modeling technique using the Iowa Nutrient Reduction Strategy (p. 243-244) at the end of the first round of implementation. Environmental indicators will be water quality monitoring conducted at the end of the second round of implementation. Social indicators will be the number of people applying for cost-share funds and implementing BMPs.

Gray Branch HUC 12 - Excess nitrate has been identified as a problem. Our ultimate goal is to reduce the subwatershed's average nitrate load (disregarding flow) from 251 tons per year to 38 tons per year (a 85% reduction), to reduce high flow nitrate load from 1,059 tons per year to 90 tons per year (a 91% reduction), and to reduce the subwatershed's low flow nitrate load from 49 tons per year to 12 tons per year (a 75% reduction). However, because this is not achievable in a reasonable time frame, our scaled goals are as follows:
• Reduce Gray Branch's average nitrate loading from 251 tons per year to 213 tons per year (a 15% reduction) in 15 years and to 176 tons per year (a 30% reduction) in 30 years.
• Reduce Gray Branch's average nitrate loading at high flow from 1059 to 901 tons per year (a 15% reduction) in 15 years and to 742 tons per year (a 30% reduction) in 30 years.
• Reduce Gray Branch's average nitrate loading at low flow from 49 to 41 tons per year (a 15% reduction) in 15 years and to 34 tons per year (a 30% reduction) in 30 years.

Water quality data will be used as an indicator to demonstrate progress towards this goal. Nitrate [N] will be tested for monthly at this site for one year, following the completion of the second implementation phase.

Deer Creek HUC 12 - Excess nitrate has been identified as a problem. Our ultimate goal is to reduce the subwatershed's average nitrate load (disregarding flow) from 355 tons per year to 110 tons per year (a 69% reduction), to reduce high flow nitrate load from 1,848 tons per year to 320 tons per year (a 83% reduction), and to reduce the subwatershed's low flow nitrate load from 94 tons per year to 39 tons per year (a 58% reduction). However, because this is not achievable in a reasonable time frame, our scaled goals are as follows:

• Reduce Deer Creek's average nitrate loading from 355 tons per year to 301 tons per year (a 15% reduction) in 15 years and to 248 tons per year (a 30% reduction) in 30 years.
• Reduce Deer Creek's average nitrate loading at high flow from 1848 to 1571 tons per year (a 15% reduction) in 15 years and to 1294 tons per year (a 30% reduction) in 30 years.
• Reduce Deer Creek's average nitrate loading at low flow from 94 to 80 tons per year (a 15% reduction) in 15 years and to 66 tons per year (a 30% reduction) in 30 years.

Water quality data will be used as an indicator to demonstrate progress towards this goal. Nitrate [N] will be tested for monthly at this site for one year, following the completion of the second implementation phase.

Bush Creek HUC 12 - Excess nitrate has been identified as a problem. Our ultimate goal is to reduce the subwatershed's average nitrate load (disregarding flow) from 20 tons per year to 11 tons per year (a 57% reduction) and to reduce high flow nitrate load from 139 tons per year to 20 tons per year (a 86% reduction). However, because this is not achievable in a reasonable time frame, our scaled goals are as follows:

• Reduce Bush Creek's average nitrate loading from 139 tons per year to 119 tons per year (a 15% reduction) in 15 years and to 98 tons per year (a 30% reduction) in 30 years.
• Reduce Deer Creek's average nitrate loading at high flow from 1848 to 1571 tons per year (a 15% reduction) in 15 years and to 1294 tons per year (a 30% reduction) in 30 years.

Water quality data will be used as an indicator to demonstrate progress towards this goal. Nitrate [N] will be tested for monthly at this site for one year, following the completion of the second implementation phase.

Problem: Excess TSS has been identified as a problem.
Goal #3: Gray Branch is a Tier I critical area for TSS. Our goal is to reduce TSS in this Tier I Critical Area. Specific reduction goals for Gray Branch subwatershed are listed below.
Indicator: Administrative indicators will be modeling completed using the Region 5 model (p. 224) at the end of the first round of implementation. Environmental indicators will be water quality monitoring conducted at the end of the second round of implementation. Social indicators will be the number of people applying for cost-share funds and implementing BMPs.

Gray Branch HUC 12 - Excess TSS has been identified as a problem. Our ultimate goal is to reduce the subwatershed's average flow TSS load from 2,535 tons per year to 957 tons per year (a 62% reduction) and to reduce the subwatershed's high flow TSS load from 15,511 tons a year to 2,257 tons per year (an 85% reduction). However, because this is not achievable in a reasonable time frame, our scaled goals are as follows:
• Reduce Gray Branch's average TSS loading from 2,535 tons per year to 1,901 tons per year (a 25% reduction) in 15 years and to 1,268 tons per year (a 50% reduction) in 30 years.
• Reduce Gray Branch's high flow TSS loading from 15,511 tons per year to 11,633 tons per year (a 25% reduction) in 15 years and to 7,756 tons per year (a 50% reduction) in 30 years.

Water quality data will be used as an indicator to demonstrate progress towards this goal. TSS will be tested for monthly at this site for one year, following the completion of the second implementation phase.

Problem: Excess phosphorus has been identified as a problem.
Goal #4: In Critical Areas reduce phosphorus loading by 31 tons/yr (25%) in 15 years and by 61 tons/yr (50%) in 30 years. The Tier I Critical Areas that have high levels of phosphorus are Gray Branch, Upper Big Lick Creek, and Halfway Creek. Our goal is to reduce phosphorus in these Tier I Critical Areas. Specific reduction goals for each TIer I critical area are listed below.

Indicator: Administrative indicators will be modeling completed using the Iowa Nutrient Reduction Strategy at the end of the first round of implementation. Environmental indicators will be water quality monitoring conducted at the end of the second round of implementation. Social indicators will be the number of people applying for cost-share funds and implementing BMPs.

Gray Branch HUC 12 - Excess phosphorus has been identified as a problem during high flow. Our goal is to reach the target phosphorus load within 30 years by reducing the subwatershed's high flow phosphorus load from 48 tons per year to 36 tons per year (a 25% reduction) in 15 years and to 27 tons per year (a 43% reduction) in 30 years.

Water quality data will be used as an indicator to demonstrate progress towards this goal. Total phosphorus will be tested for monthly at this site for one year, following the completion of the second implementation phase.

Halfway Creek HUC 12 - Excess phosphorus has been identified as a problem during high flow. Our goal is to reach the target phosphorus load within 30 years by reducing the subwatershed's high flow phosphorus load from 29 tons per year to 22 tons per year (a 25% reduction) in 15 years and to 18 tons per year (a 37% reduction) in 30 years.

Water quality data will be used as an indicator to demonstrate progress towards this goal. Total phosphorus will be tested for monthly at this site for one year, following the completion of the second implementation phase.

Problem: Excess E. coli has been identified as a problem.
Goal #5: In Critical Areas that have high levels of E. coli, reduce E. coli loading by 5% in 15 years and by 10% in 30 year. The Tier I Critical Area that has high levels of E. coli is Little Lick Creek.
Indicator: There is currently no available model for estimating E. coli reductions. Environmental indicators will be water quality monitoring conducted at the end of the second round of implementation. Social indicators will be the number of people applying for cost-share funds and implementing BMPs and the number of persons pledging to use BMPs.

RELATIONSHIP TO WATERSHED REDUCTION GOALS
Projects that are proposed for grant writing assistance or implementation will be selected based on the capacity to maximize the reduction of non point source pollutants (comparative to other applicants) in TIER I watershed critical areas. Applicants must be able to demonstrate pollutant reduction. The goals detailed in the Action Strategy represent both (a) the ultimate goal of reaching target pollutant concentrations identified by the monitoring committee and (b) the realistic potential for reaching a target goal:

1. Each selected project (either grant writing assistance or implementation) must advance overall subwatershed reduction goals.
2. Each cost-share project will be used as a means of tracking effectiveness to reach UMRW-P reduction goals.
3. Reduction estimation and post-installation monitoring will be used as means of determining indicators of goals achievement.

PROJECT SELECTION PROCESS
In addition to the TIER I critical area determinations, the UMRW-P has developed four priorities in determining projects to help assist with grant writing or implementation. These priorities were developed based on information gained from our inventory, analysis, source identification processes, and BMP load reduction scenarios. It should be emphasized that the prioritization of projects is not mandated but is created to serve as guidance for the UMRW-P cost-share steering committee. We will work with applicants to ensure applications are competitive and we are willing to suspend prioritization if valid arguments are made for BMP selection and location (so long as project is in critical areas).

1. Priority for lands adjacent to waterbodies
Projects will be prioritized if applicants own lands adjacent to waterbodies, especially if these lands lack sufficient buffers. Based on our source identification studies, we have concluded that within the TIER I Critical Areas boundaries, specific sites in the subwatershed lack vegetative buffers which may be functioning as gateways for water quality stressors to enter the waterways. These “gateways” are weak points in water filtration, sediment stabilization and nutrient uptake. Projects that seek to “fill these gaps” will be given priority if they address the weak points identified in the stream protection system.

2. Priority given to projects that demonstrate significant reduction in NPS pollutant loadings.
All projects that reduce NPS pollution will be considered, but projects that have greater load reduction estimates will be given preference. This “reduction needed” is based on current load calculations, target loads (Appendix R), and BMP load reduction modeling.

3. Priority given to projects that address primary sources identified through this WMP
Based on ongoing UMRW-P water quality studies we have created a table for priority BMP implementation (Table 15.3). Projects that seek to stabilize streambanks, reduce agricultural sources, and/or contribute to the reduction of E. coli, will be given priority over all projects.

4. Priority given to BMPs recommended at the Subwatershed level
Tabels 16.1-16.5 recommends BMPs at the subwatershed scale. This table will be used as priority guidance for reviewing applications. New BMPs will be added to the list if further research supports table modification.

5. *Comprehensive ranking table*
In the event that multiple cost-share applications meet priorities 1-4, the watershed comprehensive ranking table will be used to further prioritize project section. Table 14.3 ranks each tributary subwatershed and Table 14.2 ranks each mainstem subwatershed for each parameter. The individual parameter rankings are then summed and resorted/ prioritized for each grouping (tributary subwatersheds and mainstem subwatersheds) based on the comprehensive rankings.

16.3 CRITICAL AREAS AND BMPS, LISTED BY COUNTY

TABLE 16.1 | Blackford County		
Critical Area	Reason For Being Critical	Bmp Or Measure
Upper Big Lick Creek, Tier I	Nutrient levels exceed the target set by this project	Covercrops Grassed Waterway Nutrient Management Plan Filter Strips and Riparian Zones Wetland Creation/Restoration
		Check Dams- Natural Implementation Grassed Waterway Water and Sediment Control Basins Bioretention/Rain Gardens Flow Splitters Level Spreader Storm water Pond Riser Modification Swales/Vegetated Swales Water Retention Ponds retrofits
Big Lick Creek, Tier III Upper Big Lick Creek, Tier II	E. coli levels exceed the water quality standard	Manure application BMPs
		Livestock Exclusion education and partnership with health department

TABLE 16.2 | Pike Creek HUC 10 (Delaware County)		
Critical Area	Reason For Being Critical	Bmp Or Measure
Campbell Creek, Tier II	TSS levels exceed the target set by this project	Covercrops Grassed Waterway No-till Equipment Modifications Vegetated Stream bank Stabilization
		Conservation Plan Development Strip cropping Grade Stabilization Structure Check Dams- Natural Implementation Flow Splitters Level Spreader Storm water Pond Riser Modification Swales/Vegetated Swales Water Retention Ponds retrofits Wetland Creation/Restoration Water and Sediment Control Basins
Bush Creek, Tier I	Nutrient levels exceed the target set by this project	Covercrops Grassed Waterway Nutrient Management Plan Filter Strips and Riparian Zones Wetland Creation/Restoration
		Check Dams- Natural Implementation Grassed Waterway Water and Sediment Control Basins Bioretention/Rain Gardens Flow Splitters Level Spreader Storm water Pond Riser Modification Swales/Vegetated Swales Water Retention Ponds retrofits

TABLE 16.3 | Massey Creek HUC 10 (Grant County)		
Critical Area	Reason For Being Critical	Bmp Or Measure
Little Walnut, Tier II Lugar Creek, Tier III Walnut Creek, Tier III	TSS levels exceed the target set by this project	Covercrops Grassed Waterway No-till Equipment Modifications Vegetated Stream bank Stabilization 2-Stage Ditches (in Lugar and Walnut Creek only)
		Conservation Plan Development Strip cropping Grade Stabilization Structure Check Dams- Natural Implementation Flow Splitters Level Spreader Storm water Pond Riser Modification Swales/Vegetated Swales Water Retention Ponds retrofits Wetland Creation/Restoration Water and Sediment Control Basins
Barren Creek, Tier II Deer Creek, Tier I Little Deer Creek, Tier III Little Walnut, Tier II Lugar, Tier III	Nutrient levels exceed the target set by this project	Covercrops Grassed Waterway Nutrient Management Plan Filter Strips and Riparian Zones Wetland Creation/Restoration
		Check Dams- Natural Implementation Grassed Waterway Water and Sediment Control Basins Bioretention/Rain Gardens low Splitters Level Spreader Storm water Pond Riser Modification Swales/Vegetated Swales Water Retention Ponds retrofits
Barren Creek, Tier II Lugar Creek, Tier III	E. coli levels exceed the water quality standard	Manure application BMPs
		Livestock Exclusion education and partnership with health department

TABLE 16.4 | Halfway Creek HUC 10 (Jay County)		
Critical Area	Reason For Being Critical	Bmp Or Measure
Halfway Creek, Tier I	Nutrient levels exceed the target set by this project	Covercrops Grassed Waterway Nutrient Management Plan Filter Strips and Riparian Zones Wetland Creation/Restoration
		Check Dams- Natural Implementation Grassed Waterway Water and Sediment Control Basins Bioretention/Rain Gardens Flow Splitters Level Spreader Storm water Pond Riser Modification Swales/Vegetated Swales Water Retention Ponds retrofits

TABLE 16.5 | Headwaters Mississinewa River HUC 10 (Darke and Randolph counties)		
Critical Area	Reason For Being Critical	Bmp Or Measure
Little Mississinewa, Tier II Gray Branch, Tier I	TSS levels exceed the target set by this project	Covercrops Grassed Waterway No-till Equipment Modifications Vegetated Stream bank Stabilization 2-Stage Ditches
		Conservation Plan Development Strip cropping Grade Stabilization Structure Check Dams- Natural Implementation Flow Splitters Level Spreader Storm water Pond Riser Modification Swales/Vegetated Swales Water Retention Ponds retrofits Wetland Creation/Restoration Water and Sediment Control Basins
Little Mississinewa, Tier II Gray Branch, Tier I	Nutrient levels exceed the target set by this project	Covercrops Grassed Waterway Nutrient Management Plan Filter Strips and Riparian Zones Wetland Creation/Restoration
		Check Dams- Natural Implementation Grassed Waterway Water and Sediment Control Basins Bioretention/Rain Gardens low Splitters Level Spreader Storm water Pond Riser Modification Swales/Vegetated Swales Water Retention Ponds retrofits
Little Mississinewa, Tier II	E. coli levels exceed the water quality standard	Manure application BMPs
		Livestock Exclusion education and partnership with health department

TABLE 16.6 | Goal #1, Objective #1 (Build local capacity for volunteers for monitoring, etc.)

Action Item	Target Audience	Milestones	Cost	Possible Partners	Technical Assistance
Identify core narratives (involving NPS pollution and volunteer monitoring) to convey to the community. These core narrative will be based in part on our water quality results and will be distributed to the public through different mediums.	Students and adults	Within 6 months, begin partnering with Ball State University to create content for the booth.	$6,200	Ball State University	Ball State University—design and write content
		Within 6 months, partner with Ball State University to create video content	$1,100	Ball State University	Ball State University—produce video and publish to website
		By the end of year 3, publish video on watershed website.	$100		
		By the end of year 3, have a booth ready to go.	$6,200	Ball State University	Ball State University—assist in design
		By the end of year 3, have a publication completed.	$1,100	Ball State University	Ball State University—design and write content
Encourage training of interested volunteers	Volunteers	By the end of year 5, partner with Hoosier Riverwatch to host a volunteer training workshop in the watershed area	$1,700	Hoosier Riverwatch; Minnetrista; Muncie Public Library	Hoosier Riverwatch—conduct training workshop
Conduct water quality sampling	Volunteers	By the end of year 5, target sites near installed BMPs.	$22,000	Hoosier Riverwatch-trained volunteers; Cooper Audubon Society; volunteer groups; schools	Hoosier Riverwatch—will use the group's training manual and methods to conduct monitoring and seek assistance from group if needed
		Within 6 months, conduct water quality sampling as part of Delaware County SWCD well and pond testing initiative. Continue as needed.	$20,000		
		By the end of year 2, target subwatersheds where streambank erosion is suspected (Lugar and Walnut creeks and Little Mississinewa River); this should be at sub-basin level during high-flow events	$25,000		
Partner with local teachers to recruit student volunteers and encourage engagement of students of all ages.	Teachers	By the end of year 1, form a focus group to explore hindrances and opportunities. Organize meeting with local teachers to encourage teaching about watersheds and partnering to share ideas, etc.	$2,600	Local science teachers	Local science teachers—lead student groups in water quality monitoring, develop local water quality and watershed curriculum

TABLE 16.7 | Goal #1, Objective #2 (Provide education and form partnerships with Agricultural Landowners)

Action Item	Target Audience	Milestones	Cost	Possible Partners	Technical Assistance
Create a conservation farmer directory in order to identify possible partners and to encourage networking/information sharing between farmers.	Agricultural landowners	Within 6 months, begin work with NRCS, SWCD, and Purdue Agricultural Extension to identify and contact farmers who might be interested in being included in directory.	$260	NRCS, SWCDs, Purdue Extension	NRCS, SWCDs—promote directory to farmers, identify farmers who may be interested, assist with design
		By the end of year 3, create a brochure about conservation farming directory to promote it. Print 300 initially at $1.50 per sheet.	$1,230		
		Immediately begin to solicit agricultural producers who would be interested in inclusion in the directory when appropriate. This will be done at events or in one-on-one meetings.	$260	NRCS, SWCDs, Purdue Extension	NRCS, SWCDs—identify BMPs that should be included in directory
Promote cost-share opportunities	Agricultural landowners	Immediately and annually (for 30 years), partner with NRCS, SWCD, Purdue Extension Service to promote cost-share	$1,700	NRCS, SWCDs, Purdue Extension	NRCS, SWCDs—lend expertise about promotion strategies
Host field days	Agricultural landowners	By the end of years 2, 4, and 6, host a field day. Site location should be based on identified land use concerns or critical areas. A demonstration BMP should be on the site.	$3,400	NRCS, SWCDs, Purdue Extension, agricultural producers	NRCS, SWCDs—help organize and conduct field day
		Continue to promote Infield Advantage at field days and presentations.	$450	SWCDs	SWCDs—explain and share info about Infield Advantage
Hold landowner consulting forum with policy makers	Agricultural and non-agricultural landowners	By the end of year 1, explore holding a “Women’s Learning Circle” in the area	$1,500	SWCD and NRCS	SWCD and NRCS—advise about event
		If enough interest is generated, by the end of year 2 host a “Women’s Learning Circle”	$2,000	SWCD and NRCS	SWCD and NRCS—help organize event; primary leader of event
		By end of year 3, organize forum to be held independently or at a community event	$1,560	local government officials, agricultural economist	NRCS, SWCDs, Purdue Extension, government officials—assist in organizing event, share expertise at event
Conduct policy research to develop an understanding of nationwide and local policies and ordinances.	Agricultural landowners and non-agricultural landowners	By the end of year 2, complete policy research and complete a power point presentation to share findings.	$5,000	government officials, Muncie Action Planning and neighborhood groups	government officials—share expertise regarding policy
		When appropriate, give presentations concerning ordinances and seek adoption of ordinances that will enhance water quality	$1,000	government officials, Muncie Action Planning and neighborhood groups	government officials—help organize events or meetings

TABLE 16.8 | Goal #1, Objective #3 (Provide education and form partnerships with Ecological Landowners)

Action Item	Target Audience	Milestones	Cost	Possible Partners	Technical Assistance
Promote conservation of ecological lands	Non-agricultural and agricultural landowners	As projects are identified, assist with applications for Land Conservation Fund	$1,040	Red-tail Land Conservancy; Cooper Audubon Society; local planning commissions and local governments; NRCS; local colleges and universities	Red-tail Land Conservancy— advise regarding LCF and easements; NRCS— advise regarding conservation programs and enrollment in them
		As projects are identified, provide cost-share for easements	$12,000		
		Annually (for 30 years), talk to a government council and encourage conservation of ecological lands and prevention of sprawl. Promote the benefits of the Land Conservation Fund.	$1,040		
		By the end of year 3, encourage preservation of ecological areas along the river at an education event or through direct mailings	$1,040		
		If a critical mass of interested persons in reached, partner with local land preservation groups, such as Red-tail Land Conservancy, to hold a land preservation forum. Identify interested parties continuously.	$3,200		
Advocate the protection of the region's aquifers through the protection/enhancement of the region's forest-wetlands	Non-agricultural and agricultural landowners	By the end of year 4, provide education about the importance of recharging aquifers, about nature's role in this process, and about how environmental changes have altered it. Target Lugar and Walnut creeks specifically since hydric soils and D drainage in these areas are ideal for aquifer recharge.	$1, 200	Red-tail Land Conservancy; Cooper Audubon Society; local planning commissions and local governments; NRCS; local colleges and universities; Marion Utilities	Red-tail Land Conservancy— provide information and advice about land trusts, easements, conservation; NRCS—advise regarding conservation programs and enrollment in them

TABLE 16.9 | Goal #1, Objective #4 (Provide education and form partnerships with Recreational Enthusiasts)

Action Item	Target Audience	Milestones	Cost	Possible Partners	Technical Assistance
Create more river access sites	Landowners adjacent to river; conservation groups	As projects are identified, apply for grant funding	$1,600	Red-tail Land Conservancy	Red-tail Land Conservancy—assist in identifying, developing, and promoting sites
			$1,560		
Hold an annual McVey Canoe Run/Cookout/Cleanup	Volunteers, recreational enthusiasts, general public (especially residents of Farmland, Albany, Redkey, and Ridgeville)	Encourage the formation of volunteer groups by lending technical assistance if needed. Identify interested parties continuously.	$4,640	Red-tail Land Conservancy; Dunkirk News and Sun; The Star Press; Cooper Audubon Society	Red-tail Land Conservancy; Muncie Delaware Clean and Beautiful—lend expertise; assist with organizing event
Continue to seek funding for log jam removal	Landowners adjacent to river	Apply for LARE grants annually (for 30 years)	$1,560	SWCDs; county surveyors and drainage boards	Indiana DNR—advise on grant applications
Explore dam removal	Landowners adjacent to river	By the end of year 4, encourage continued community involvement through individual county meetings; discern local support for dam removal (e.g. dam in Marion)	$1,560	Army Corps of Engineers; IDEM; IDNR	Army Corps of Engineers; IDEM; IDNR—advise and assist with permits; provide guidance throughout process
		Lend expertise when requested. Facilitate forum if needed.	$1,040		
Create a Smart Recreation Web Guide with help from student volunteers	Recreational enthusiasts, schools	By the end of year 1, inventory similar publications already in existence to generate ideas.	$1,170	Ball State University; Taylor University; Indiana Wesleyan University	Ball State University; Taylor University; Indiana Wesleyan University—assist in identifying and creating content; assist with creation of web guide
		By the end of year 3, design and create the Smart Recreation Web Guide	$3,000		
Identify volunteer opportunities and coordinate a volunteer group or events	Recreational enthusiasts, schools	Within 6 months, Contact Red-tail Land Conservancy and municipal parks departments to discuss volunteer needs	$560	Red-tail Land Conservancy; municipal parks	Red-tail Land Conservancy—identify needs and develop volunteer schedule
		Within 6 months, contact stakeholders identified at meetings as possibly being interested in volunteering	$560		
		Help facilitate volunteer experience if needed	$5,200	Red-tail Land Conservancy; municipal parks	Red-tail Land Conservancy; municipal parks—train volunteers
Work with community garden organizations to achieve common goals, such as creating rain gardens or incorporating LID retrofits	Garden hobbyists	Contact Tori's Butterfly Garden Foundation, Inc. by the end of year 3 and present idea for collaborative raingarden butterfly garden; provide some cost share for project	$9,650	Tori's Butterfly Garden Foundation, Inc., Ball State Department of Landscape Architecture	Ball State Department of Landscape Architecture—advise on design

TABLE 16.10 | Goal #1, Objective #5 (Provide education and form partnerships with Health Departments)					
Action Item	**Target Audience**	**Milestones**	**Cost**	**Possible Partners**	**Technical Assistance**
Seek assistance with future E. coli sampling	Health departments	Within 3 months, contact each health department to discuss a possible sampling program.	$1,040	Local health departments	Local health departments—advise on sampling program
Share findings regarding subwatershed E. coli levels within the watershed	Health departments	Within 3 months, contact each health department and present with copy of plan	$1,140	Local health departments	NA
Partner with health departments for distribution of educational materials	Homeowners, general public	Within two years, focus on septic system maintenance at community events	$560	Local health departments	Local health departments—advise on strategies; assist in creation of material

TABLE 16.11 | Goal #1, Objective #6 (Provide education and form partnerships with County Drainage Boards/Surveyor)					
Action Item	**Target Audience**	**Milestones**	**Cost**	**Possible Partners**	**Technical Assistance**
Meet with county surveyors, drainage board members, and landowners	County surveyors and drainage boards	Within 6 months, share findings of water quality monitoring	$3,120	Landowners	NRCS—supports two-stage ditches through EQIP; FOTG CPS 582, "Open Channels"; The Nature Conservancy—power point presentations regarding two-stage ditches are available online from the TNC.
		Within 6 months, encourage the use of natural channel design and 2-stage ditches (where appropriate)	$1,040		
Conduct a BEHI/NBS of Lugar and Walnut creeks.	County surveyors, drainage boards, landowners	Continue partnership with Taylor University on this project; share findings with public officials and the general public.	$2,560	Taylor University	Taylor University—train students to do BEHI/NBS; assist with analysis
Provide 2-stage ditch and natural channel design training.	County surveyors, drainage boards, landowners	By the end of year 1, contact the NRCS and TNC to inquire about current programs; contact local surveyors to generate interest in these methods	$1.560	County surveyors, drainage boards, landowners	The Nature Conservancy—hosts workshops, presentations, and field days; contact kwamsley@tnc.org or call The Nature Conservancy at 574-946-7491; NRCS—help identify partners and strategies; provide information on 2 stage ditches
Seek funding to assist with mapping of county drains.	County planning agencies	Immediately, coordinate local funding and apply for grants	$2,080	County planning agencies; Delaware County stormwater board	County planning agencies—help identify funding opportunities; assist with applications

TABLE 16.12 | Goal #1, Objective #7 (Perform policy research and develop educational resources to promote citizen involvement in county/municipal planning and policy-making)

Action Item	Target Audience	Milestones	Cost	Possible Partners	Technical Assistance
Explore ordinances and policies for LID (low-impact development) to address stormwater runoff in urban areas.	Planning commissions	By the end of year 1, contact planning commissions in areas where sprawl is occurring (Grant County and Upland)	$3,120	Planning commissions	Planning commissions—provide information and explanations regarding ordinances
		By the end of 18 months, complete research and present recommendations to planning commissions	$3,250	Planning commissions	NA
Explore wastewater ordinances and share findings with public	Homeowners; landlords	By the end of 18 months, research ordinances regarding regional sewer districts	$3,120	Sanitary districts	Sanitary districts—provide information and explanations regarding ordinances
		By the end of 18 months, research ordinances regarding septic system upgrades with real estate transactions	$3,120		
Explore other ordinances, such as assessment rates, farm distance to stream, stream maintenance guidelines, floodplain enforcement, etc.	Landowners	Within 6 months, contact local government officials and seek assistance in researching these issues	$3,120	Drainage boards, surveyors, IDEM, IDNR	Drainage boards, surveyors, IDEM, IDNR—provide information regarding topics
Host events to educate public on ordinances and to generate public support for policy changes that would be beneficial to water quality/ecosystem quality.	General public	Within two years, organize educational event	$2,600	Local libraries	County or city officials; local health departments—help organize events; share expertise at events

TABLE 16.13 | Action Register for Gray Branch Subwatershed

Gray Branch Critical For: Total Suspended Solids, Phosphorus, and Nitrate–Tier I								
Action Item	**Target Audience**	**Milestones**	**Load Reduction - N (tons/yr)**	**Load Reduction - Phos (tons/yr)**	**Load Reduction - TSS (tons/yr)**	**Cost**	**Possible Partners**	**Technical Assistance**
Increase restored wetlands by 254 acres by 2033 and by 508 acres by 2048.	Agricultural and rural landowners	Develop cost-share program in 2018				$1,000	Red-tail Land Conservancy, IDNR and Wilbur Wright FWA managers, SWCDs, NRCS, TNC	IDNR, NRCS, SWCD—assist in identifying sites; advise on permitting, design, and installation
		Identify sites that could potentially be restored to wetlands by the end of year 1. Contact at least 8 landowners from the list annually for five years.				$6,000		
		Apply for additional grant funds for identified wetland restoration projects annually for 5 years.				$10,000		
		Enhance website with photos and descriptions of restored wetlands in the watershed annually for 5 years.				$3,000		
		Restore 17 acres of wetlands annually for 30 years.	8	0.3	364	$102,000 (3,400 annually)		
Increase restored prairies by 43 acres by 2033 and by 85 acres by 2048.	Agricultural and rural landowners	Develop cost-share program in 2018				$1,000	Red-tail Land Conservancy, IDNR and Wilbur Wright FWA managers, SWCDs, NRCS, TNC	IDNR, NRCS, SWCD—assist in identifying sites; advise on design and installation
		Identify sites that could potentially be restored to prairie by the end of year 1. Contact at least 15 landowners from the list annually for five years.				$6,000		
		Apply for additional grant funds for identified prairie restoration projects annually for 5 years.				$10,000		
		Enhance website with photos and descriptions of restored prairies in the watershed annually for 5 years.				$3,000		
		Restore 3 acres annually for 30 years	1	0.0935	111	$77,350 (2,578 annually)		
Increase the use of extended rotations by 43 acres by 2033 and by 85 acres by 2048.	Agricultural landowners	Identify landowners who may be most likely to adopt extended rotations				$2,000	NRCS, SWCD	NRCS, SWCD—advise on strategies for promoting practice
		Seek financial incentives for the adoption of extended rotations				$2,000		
		Hold field day to promote extended rotations by the end of year 3				$4,000		
		Implement 14 acres every 5 years for 30 years	1			none		

TABLE 16.13 | Action Register for Gray Branch Subwatershed (continued)

Action Item	Target Audience	Milestones	Load Reduction - N (tons/yr)	Load Reduction - Phos (tons/yr)	Load Reduction - TSS (tons/yr)	Cost	Possible Partners	Technical Assistance
Increase the use of MRTN on 8,127 acres by 2033 and on 16,254 acres by 2048.	Agricultural producers and landowners	Promote the use of MRTN at field days; promote the use of Iowa State's Corn Nitrogen Rate Calculator				$5,000	NRCS, SWCDs	NRCS, SWCDs—advise on how to promote practice
		Enhance website with information on MRTN and link to calculator by the end of year 1.				$2,500		
		Implement 542 acres of MRTN fertilizer application practice annually for 30 years	24	5.6		none		
Increase the use of cover crops by 4,063 acres by 2033 and by 8,127 by 2048.	Agricultural producers and agricultural landowners	Create a cost-share program in 2018.				$1,000	NRCS, SWCDs, Purdue Extension	NRCS, SWCDs, Purdue Extension—provide information on contractors who can seed and/or terminate cover crops, as well as information on what cover crops are successful locally; also provide list of producers who are currently using cover crops
		Create a list of contractors who seed covercrops and the methods they can use within the first 15 months.				$2,500		
		Seek additional cover crop funding annaully for 15 years.				$2,500		
		Locate land in high-traffic areas for possible demonstration plot within the first 18 months. Contact landowners to see if any are interested in having a demonstration plot on their property. Develop signage for plot within the first two years. .				$7,500		
		Enhance website with information about the various types of cover crops, seeding and termination methods, as well as videos of area producers who've had success with cover crops within the first year.				$5,000		
		Implement 271 new acres of cover crops annually for 30 years.	32	5.12	1,795	$325,081 ($10,836 annually)		
Increase the use of filter strips by 25 acres by 2033 and by 50 acres by 2048	Agricultural producers; agricultural landowners; rural landowners	Create a cost-share program in 2018.				$1,000	NRCS, SWCDs	NRCS, SWCDs—provide information about NRCS cost-share programs, explain how these programs work; provide technical information for installation
		Create a list of landowners who may want filter strips. Contact at least 15 landowners from the list annually.				$2,500		
		Seek additional funds annually				$2,500		
		Implement 1.67 acres of filter strips annually	0.1205	0.0605	33	$23,000 (770 annually)		

TABLE 16.13 | Action Register for Gray Branch Subwatershed (continued)

Action Item	Target Audience	Milestones	Load Reduction - N (tons/yr)	Load Reduction - Phos (tons/yr)	Load Reduction - TSS (tons/yr)	Cost	Possible Partners	Technical Assistance
Increase the acres under drainage water management by 1,382 by 2033 and by 2,763 by 2047.	Agricultural producers and agricultural landowners	Create a cost-share program in 2018				$1,000	NRCS, SWCDs	NRCS, SWCDs—provide information about NRCS cost-share programs, explain how these programs work; provide design guidance; provide technical information for installation; assist in identifying land suitable for DWM
		Create a list of landowners whose land is suitable for drainage water management and contact 20 people on the list annually for five years.				$2,500		
		Seek additional funds annually for 10 years.				$2,500		
		Enhance the website by adding information on drainage water management; video local producers using DWM and add videos to website within the first year.				$5,000		
		Install enough drainage water management systems to treat 92 acres annually for 30 years.	10			$331,583 ($11,053 annually)		
Increase the acres being treated by bioreactors by 81 acres by 2033 and by 163 acres by 2047.	Agricultural producers and agricultural landowners	Create a cost-share program in 2018				$1,000	NRCS, SWCDs, Ivy Tech Marion, Indiana Wesleyan, Taylor University	NRCS, SWCDs—provide design assistance; share information at workshop
		Locate land in high-traffic areas for possible demonstration bioreactor within the first 18 months. Contact landowners to see if any are interested in having a demonstration bioreactor on their property. Develop signage for the bioreactor within the first two years.				$2,500		
		Seek additional funds annually for 10 years.				$2,500		
		Hold a bioreactor workshop at the demonstration bioreactor site by the end of year 3.				$5,000		
		Enhance website by adding information on bioreactors; video the installation of the demonstration bioreactor and add video to website within the first year.				$5,000		
		Install enough bioreactors to treat 5 acres annually for 30 years.	1			$32,508 ($1,084 annually)		

TABLE 16.13 | Action Register for Gray Branch Subwatershed (continued)

Action Item	Target Audience	Milestones	Load Reduction - N (tons/yr)	Load Reduction - Phos (tons/yr)	Load Reduction - TSS (tons/yr)	Cost	Possible Partners	Technical Assistance
Increase the use of Residue and Tillage Management - No Till "in contributing areas" by 600 acres by 2033 and by 1200 acres by 2048.	Agricultural producers and agricultural landowners	Develop cost-share program in 2018				$2,000	NRCS, SWCD	NRCS, SWCD—advise on strategies for promoting practice
		Apply for additional grant funds for no-till equipment modifications annually for 10 years.				$2,000		
		Hold field day to promote no-till by the end of year 4.				$4,000		
		Implement 40 acres of no-till annually for 30 years	2.7	1.37	1600	$22,800 ($760 annually)		
Provide education about appropriate times to spread manure.	Agricultural producers	Hold an educational event regarding proper manure storage and application where CFOs are the most concentrated in 2018.				$2,500	SWCDs, NRCS	NRCS, SWCD—provide information and share expertise at educational event
		Include information in BMP brochure that is distributed to stakeholders.				NA		
		Ask 10 producers annually for five years to sign pledge to follow recommended manure storage and application methods.				$200		
		TOTAL	79.8205	12.54	3903	$1,029,322		
		Required Load Reduction for Gray Branch (from Upper Mississinewa River WMP)	213	21	1578			
		Total Load of Gray Branch	251	48	2535			
		Percent Reduction Achieved	32%	26%	153%			

TABLE 16.14 | Action Register for Halfway Creek Subwatershed

Halfway Creek Critical For: Phosphorus–Tier I								
Action Item	**Target Audience**	**Milestones**	**Load Reduction - N (tons/yr)**	**Load Reduction - Phos (tons/yr)**	**Load Reduction - TSS (tons/yr)**	**Cost**	**Possible Partners**	**Technical Assistance**
Increase the use of MRTN on 4,000 acres by 2033 and on 8,000 acres by 2048.	Agricultural producers and landowners	Promote the use of MRTN at field days; promote the use of Iowa State's Corn Nitrogen Rate Calculator				$5,000	NRCS, SWCDs	NRCS, SWCDs—advise on how to promote practice
		Enhance website with information on MRTN and link to calculator by the end of year 1.				$2,500		
		Implement 542 acres of MRTN fertilizer application practice annually for 30 years	3	3		none		
Increase the use of cover crops in "contributing areas" by 4,000 acres by 2033 and by 8,000 acres by 2048.	Agricultural producers and agricultural landowners	Develop cost-share program in 2018				$1,000	SWCDs, NRCS	IDNR, NRCS, SWCD—assist in identifying sites
		Identify land that is in "contributing areas" adjacent to waterways. Contact 15 landowners from the list annually for 5 years.				$6,000		
		Apply for additional grant funds for cover crops annually for 5 years.				$10,000		
		Implement 131 acres of cover crops annually for 30 years.	6	5	1,800	$78,500 ($2,617 annually)		
Increase the use of filter strips in "collection zones" by 18 acres by 2033 and by 36 acres by 2048.	Agricultural producers, agricultural landowners, and rural landowners	Develop cost-share program in 2018				$1,000	Red-tail Land Conservancy, IDNR and Wilbur Wright FWA managers, SWCDs, NRCS, TNC	IDNR, NRCS, SWCD—assist in identifying sites; advise on design and installation
		Create a list of landowners who may want filter strips. Contact at least 15 landowners from the list annually for 5 years.				$6,000		
		Apply for additional grant funds for filter strips annually for 5 years.				$10,000		
		Implement 2 acres of filter strips annually for 30 years	0.067	0.034	55	$16,632 ($554 annually)		

TABLE 16.14 | Action Register for Halfway Creek Subwatershed (continued)

Increase the use of no till "in contributing areas" by 3,000 acres by 2033 and by 6,000 acres by 2048.	Agricultural producers and agricultural landowners	Develop cost-share program in 2018				$2,000	NRCS, SWCD	NRCS, SWCD—advise on strategies for promoting practice
		Apply for additional grant funds for no-till equipment modifications annually for 10 years.				$2,000		
		Hold field day to promote no-till by the end of year 4.				$4,000		
		Implement 40 acres of no-till annually for 30 years	6.7	3	4794	$11,400 ($380 annually)		
		TOTAL	15.77	11.034	6,649	$156,032		
		Required Load Reduction for Halfway Creek (from Upper Mississinewa River WMP)	17	11	none			
		Total Load of Halfway Creek	43	29	341			
		Percent Reduction Achieved	37%	38%	1949%			

TABLE 16.15 | Action Register for Deer Creek Subwatershed

Deer Creek Critical For: Nitrate–Tier I								
Action Item	**Target Audience**	**Milestones**	**Load Reduction - N (tons/yr)**	**Load Reduction - Phos (tons/yr)**	**Load Reduction - TSS (tons/yr)**	**Cost**	**Possible Partners**	**Technical Assistance**
Increase restored wetlands by 487 acres by 2033 and by 975 acres by 2048.	Agricultural and rural landowners	Develop cost-share program in 2018				$1,000	Red-tail Land Conservancy, IDNR and Wilbur Wright FWA managers, SWCDs, NRCS, TNC	IDNR, NRCS, SWCD—assist in identifying sites; advise on permitting, design, and installation
		Identify sites that could potentially be restored to wetlands. Contact at least 8 landowners from the list annually for five years.				$6,000		
		Apply for additional grant funds for identified wetland restoration projects annually for 5 years.				$10,000		
		Enhance website with photos and descriptions of restored wetlands in the watershed annually for 5 years.				$3,000		
		Restore 32 acres of wetlands annually for 30 years.	18	0.49	324	$194,920 (6,497 annually)		
Increase restored prairies by 48 acres by 2033 and by 97 acres by 2048.	Agricultural and rural landowners	Develop cost-share program in 2018				$1,000	Red-tail Land Conservancy, IDNR and Wilbur Wright FWA managers, SWCDs, NRCS, TNC	IDNR, NRCS, SWCD—assist in identifying sites; advise on design and installation
		Identify sites that could potentially be restored to prairie. Contact at least 15 landowners from the list annually for five years.				$6,000		
		Apply for additional grant funds for identified prairie restoration projects annually for 5 years.				$10,000		
		Enhance website with photos and descriptions of restored prairies in the watershed annually for 5 years.				$3,000		
		Restore 3.25 acres annually for 30 years				$88,689 (2,956 annually)		

TABLE 16.15 | Action Register for Deer Creek Subwatershed (continued)

Action Item	Target Audience	Milestones	Load Reduction - N (tons/yr)	Load Reduction - Phos (tons/yr)	Load Reduction - TSS (tons/yr)	Cost	Possible Partners	Technical Assistance
Increase the use of MRTN on 4,337 acres by 2033 and on 8,674 acres by 2048.	Agricultural producers and landowners	Promote the use of MRTN at field days; promote the use of Iowa State's Corn Nitrogen Rate Calculator				$5,000	NRCS, SWCDs	NRCS, SWCDs—advise on how to promote practice
		Enhance website with information on MRTN and link to calculator				$2,500		
		Implement 289 acres of MRTN fertilizer application practice annually for 30 years	34	3		none		
Increase the use of cover crops by 2,437 acres by 2033 and by 4,873 by 2048.	Agricultural producers and agricultural landowners	Create a cost-share program in 2018.				$1,000	NRCS, SWCDs, Purdue Extension	NRCS, SWCDs, Purdue Extension—provide information on contractors who can seed and/or terminate cover crops, as well as information on what cover crops are successful locally; also provide list of producers who are currently using cover crops
		Create a list of contractors who seed covercrops and the methods they can use.				$2,500		
		Seek additional cover crop funding annually.				$2,500		
		Locate land in high-traffic areas for possible demonstration plot. Contact landowners to see if any are interested in having a demonstration plot on their property. Develop signage for plot.				$7,500		
		Enhance website with information about the various types of cover crops, seeding and termination methods, as well as videos of area producers who have had success with cover crops.				$5,000		
		Implement 162 new acres of cover crops annually for 30 years.	38	1.95	2,428	$233,904 ($7,797 annually)		
Increase the use of filter strips by 25 acres by 2033 and by 50 acres by 2048	Agricultural producers; agricultural landowners; rural landowners	Create a cost-share program in 2018.				$1,000	NRCS, SWCDs	NRCS, SWCDs—provide information about NRCS cost-share programs, explain how these programs work; provide technical information for installation
		Create a list of landowners who may want filter strips. Contact at least 15 landowners from the list annually.				$2,500		
		Seek additional funds annually				$2,500		
		Implement 1.67 acres of filter strips annually	0.1205	0.0399	52	$23,000 (770 annually)		

TABLE 16.15 | Action Register for Deer Creek Subwatershed (continued)

Action Item	Target Audience	Milestones	Load Reduction - N (tons/yr)	Load Reduction - Phos (tons/yr)	Load Reduction - TSS (tons/yr)	Cost	Possible Partners	Technical Assistance
Increase the acres under drainage water management by 828 by 2033 and by 1,657 by 2047.	Agricultural producers and agricultural landowners	Create a cost-share program in 2018				$1,000	NRCS, SWCDs	NRCS, SWCDs—provide information about NRCS cost-share programs, explain how these programs work; provide design guidance; provide technical information for installation; assist in identifying land suitable for DWM
		Create a list of landowners whose land is suitable for drainage water management and contact 20 people on the list annually				$2,500		
		Seek additional funds annually				$2,500		
		Enhance the website by adding information on drainage water management; video local producers using DWM and add videos to website				$5,000		
		Install enough drainage water management systems to treat 55 acres annually for 30 years.	15			$198,818 ($6,627 annually)		
Increase the acres being treated by bioreactors by 146 acres by 2033 and by 292 acres by 2047.	Agricultural producers and agricultural landowners	Create a cost-share program in 2018				$1,000	NRCS, SWCDs, Ivy Tech Marion, Indiana Wesleyan, Taylor University	NRCS, SWCDs—provide design assistance; share information at workshop
		Locate land in high-traffic areas for possible demonstration bioreactor. Contact landowners to see if any are interested in having a demonstration bioreactor on their property. Develop signage for the bioreactor.				$2,500		
		Seek additional funds annually				$2,500		
		Hold a bioreactor workshop at the demonstration bioreactor site.				$5,000		
		Enhance website by adding information on bioreactors; video the installation of the demonstration bioreactor and add video to website				$5,000		
		Install enough bioreactors to treat 10 acres annually for 30 years.	3			$58,476 ($1,949 annually)		

TABLE 16.15 | Action Register for Deer Creek Subwatershed (continued)								
Action Item	**Target Audience**	**Milestones**	**Load Reduction - N (tons/yr)**	**Load Reduction - Phos (tons/yr)**	**Load Reduction - TSS (tons/yr)**	**Cost**	**Possible Partners**	**Technical Assistance**
		TOTAL	108	5.48	2,804	$896,807		
		Required Load Reduction for Deer Creek (from Upper Mississinewa River WMP)	245	83*	8,354			
		Total Load of Deer Creek	355	179*	16,348			
		Percent Reduction Achieved	30%	3%	17%			

TABLE 16.16 | Action Register for Bush Creek Subwatershed

Bush Creek Critical For: Nitrate–Tier I								
Action Item	**Target Audience**	**Milestones**	**Load Reduction - N (tons/ yr)**	**Load Reduction - Phos (tons/yr)**	**Load Reduction - TSS (tons/yr)**	**Cost**	**Possible Partners**	**Technical Assistance**
Increase restored wetlands by 261 acres by 2033 and by 521 acres by 2048.	Agricultural and rural landowners	Develop cost-share program in 2018				$1,000	Red-tail Land Conservancy, IDNR and Wilbur Wright FWA managers, SWCDs, NRCS, TNC	IDNR, NRCS, SWCD—assist in identifying sites; advise on permitting, design, and installation
		Identify sites that could potentially be restored to wetlands. Contact at least 8 landowners from the list annually for five years.				$6,000		
		Apply for additional grant funds for identified wetland restoration projects annually for 5 years.				$10,000		
		Enhance website with photos and descriptions of restored wetlands in the watershed annually for 5 years.				$3,000		
		Restore 17 acres of wetlands annually for 30 years.	7	0.35	495	$194,920 (6,497 annually)		
Increase restored prairies by 261 acres by 2033 and by 521 acres by 2048.	Agricultural and rural landowners	Develop cost-share program in 2018				$1,000	Red-tail Land Conservancy, IDNR and Wilbur Wright FWA managers, SWCDs, NRCS, TNC	IDNR, NRCS, SWCD—assist in identifying sites; advise on design and installation
		Identify sites that could potentially be restored to prairie. Contact at least 15 landowners from the list annually for five years.				$6,000		
		Apply for additional grant funds for identified prairie restoration projects annually for 5 years.				$10,000		
		Enhance website with photos and descriptions of restored prairies in the watershed annually for 5 years.				$3,000		
		Restore 17 acres annually for 30 years	7	0.50	601	$88,689 (2,956 annually)		

TABLE 16.16 | Action Register for Bush Creek Subwatershed (continued)

Action Item	Target Audience	Milestones	Load Reduction - N (tons/yr)	Load Reduction - Phos (tons/yr)	Load Reduction - TSS (tons/yr)	Cost	Possible Partners	Technical Assistance
Increase the use of extended rotations by 261 acres by 2033 and by 521 acres by 2048.	Agricultural landowners	Identify landowners who may be most likely to adopt extended rotations				$2,000	NRCS, SWCD	NRCS, SWCD—advise on strategies for promoting practice
		Seek financial incentives for the adoption of extended rotations				$2,000		
		Hold field day to promote extended rotations				$4,000		
		Implement 17 acres annually for 30 years	3			none		
Increase the use of MRTN on 4,431 acres by 2033 and on 8,863 acres by 2048.	Agricultural producers and landowners	Promote the use of MRTN at field days; promote the use of Iowa State's Corn Nitrogen Rate Calculator				$5,000	NRCS, SWCDs	NRCS, SWCDs—advise on how to promote practice
		Enhance website with information on MRTN and link to calculator				$2,500		
		Implement 295 acres of MRTN fertilizer application practice annually for 30 years	9	3		none		
Increase the use of cover crops by 2,880 acres by 2033 and by 5,761 by 2048.	Agricultural producers and agricultural landowners	Create a cost-share program in 2018.				$1,000	NRCS, SWCDs, Purdue Extension	NRCS, SWCDs, Purdue Extension—provide information on contractors who can seed and/or terminate cover crops, as well as information on what cover crops are successful locally; also provide list of producers who are currently using cover crops
		Create a list of contractors who seed covercrops and the methods they can use.				$2,500		
		Seek additional cover crop funding annaully.				$2,500		
		Locate land in high-traffic areas for possible demonstration plot. Contact landowners to see if any are interested in having a demonstration plot on their property. Develop signage for plot.				$7,500		
		Enhance website with information about the various types of cover crops, seeding and termination methods, as well as videos of area producers who've had success with cover crops.				$5,000		
		Implement 192 new acres of cover crops annually for 30 years.	19	3	4,057	$233,904 ($7,797 annually)		

TABLE 16.16 | Action Register for Bush Creek Subwatershed (continued)

Action Item	Target Audience	Milestones	Load Reduction - N (tons/yr)	Load Reduction - Phos (tons/yr)	Load Reduction - TSS (tons/yr)	Cost	Possible Partners	Technical Assistance
Increase the use of filter strips by 25 acres by 2033 and by 50 acres by 2048	Agricultural producers; agricultural landowners; rural landowners	Create a cost-share program in 2018.				$1,000	NRCS, SWCDs	NRCS, SWCDs—provide information about NRCS cost-share programs, explain how these programs work; provide technical information for installation
		Create a list of landowners who may want filter strips. Contact at least 15 landowners from the list annually.				$2,500		
		Seek additional funds annually				$2,500		
		Implement 1.67 acres of filter strips annually	0.1205	0.0399	52	$23,000 (770 annually)		
Increase the acres under drainage water management by 487 by 2033 and by 975 by 2047.	Agricultural producers and agricultural landowners	Create a cost-share program in 2018				$1,000	NRCS, SWCDs	NRCS, SWCDs—provide information about NRCS cost-share programs, explain how these programs work; provide design guidance; provide technical information for installation; assist in identifying land suitable for DWM
		Create a list of landowners whose land is suitable for drainage water management and contact 20 people on the list annually				$2,500		
		Seek additional funds annually				$2,500		
		Enhance the website by adding information on drainage water management; video local producers using DWM and add videos to website				$5,000		
		Install enough drainage water management systems to treat 32 acres annually for 30 years.	4			$198,818 ($6,627 annually)		

TABLE 16.16 | Action Register for Bush Creek Subwatershed (continued)

Action Item	Target Audience	Milestones	Load Reduction - N (tons/yr)	Load Reduction - Phos (tons/yr)	Load Reduction - TSS (tons/yr)	Cost	Possible Partners	Technical Assistance
Increase the acres being treated by bioreactors by 177 acres by 2033 and by 355 acres by 2047.	Agricultural producers and agricultural landowners	Create a cost-share program in 2018				$1,000	NRCS, SWCDs, Ivy Tech Marion, Indiana Wesleyan, Taylor University	NRCS, SWCDs—provide design assistance; share information at workshop
		Locate land in high-traffic areas for possible demonstration bioreactor. Contact landowners to see if any are interested in having a demonstration bioreactor on their property. Develop signage for the bioreactor.				$2,500		
		Seek additional funds annually				$2,500		
		Hold a bioreactor workshop at the demonstration bioreactor site.				$5,000		
		Enhance website by adding information on bioreactors; video the installation of the demonstration bioreactor and add video to website				$5,000		
		Install enough bioreactors to treat 12 acres annually for 30 years.	2			$58,476 ($1,949 annually)		
		TOTAL	50	6.85	5,153	$875,807		
		Required Load Reduction for Bush Creek (from Upper Mississinewa River WMP)	147	none needed	122			
		Total Load of Bush Creek	168		641			
		Percent Reduction Achieved	30%		803%			

TABLE 16.17 | Action Register for Halfway Creek Subwatershed

Little Lick Creek Critical For: Phosphorus and E. Coli –Tier I								
Action Item	**Target Audience**	**Milestones**	**Load Reduction - N (tons/ yr)**	**Load Reduction - Phos (tons/ yr)**	**Load Reduction - TSS (tons/yr)**	**Cost**	**Possible Partners**	**Technical Assistance**
Install fencing to restrict livestock from streams. Install watering systems if needed.	Agricultural producers	Develop a cost-share program in 2018.				$1,000	SWCDs, NRCS, Purdue Extension	NRCS, SWCD—provide technical assistance in design and installation
		Contact landowners identified through desktop survey as having livestock that directly access streams.				$6,000		
		Apply for additional cost-share funds annually.				$10,000		
		Install fencing on two properties annually for 6 years.				$96,000 (6,000 annually)		
Provide education about appropriate times to spread manure.	Agricultural producers	Hold an educational event regarding proper manure storage and application where CFOs are the most concentrated in 2018.				$2,500	SWCDs, NRCS	NRCS, SWCD—provide information and share expertise at educational event
		Include information in BMP brochure that is distributed to stakeholders.				NA		
		Ask 10 producers annually to sign pledge to follow recommended manure storage and application methods.				$200		
Provide education on proper septic system maintenance.	Suburban/rural residents on septic systems	Hold an educational event regarding proper septic system maintenance in an area with a high concentration of septic systems in 2019.				$2,500	Local health departments	Local health departments—help develop brochures, assist in asking residents to pledge, provide information regarding businesses that pump septic systems and perform other maintenance and repair on septic systems.
		Include information in BMP brochure that is distributed to stakeholders.				NA		
		Ask 50 stakeholders annually to sign pledge to conduct routine maintenance on septic systems.				$1,000		

TABLE 16.17 | Action Register for Halfway Creek Subwatershed (continued)

Action Item	Target Audience	Milestones	Load Reduction - N (tons/yr)	Load Reduction - Phos (tons/yr)	Load Reduction - TSS (tons/yr)	Cost	Possible Partners	Technical Assistance
Provide education on proper pet waste disposal	Urban and suburban residents	Install an educational signs and pet waste bag dispensers at five city or suburban parks.				$2,500	Hartford City Parks Department, suburban neighborhood associations	Clean Water Indiana; local SWCD
		Include information about pet waste in urban BMP brochure that is distributed to stakeholders.				NA		
		Ask 50 stakeholders annually to sign pledge to properly dispose of pet waste.				$1,000		
Increase the use of MRTN on 4,000 acres by 2033 and on 8,000 acres by 2048.	Agricultural producers and landowners	Promote the use of MRTN at field days; promote the use of Iowa State's Corn Nitrogen Rate Calculator				$5,000	NRCS, SWCDs	NRCS, SWCDs—advise on how to promote practice
		Enhance website with information on MRTN and link to calculator by the end of year 1.				$2,500		
		Implement 542 acres of MRTN fertilizer application practice annually for 30 years	3	3		none		
Increase the use of cover crops in "contributing areas" by 4,000 acres by 2033 and by 8,000 acres by 2048.	Agricultural producers and agricultural landowners	Develop cost-share program in 2018				$1,000	SWCDs, NRCS	IDNR, NRCS, SWCD—assist in identifying sites
		Identify land that is in "contributing areas" adjacent to waterways. Contact 15 landowners from the list annually for 5 years.				$6,000		
		Apply for additional grant funds for cover crops annually for 5 years.				$10,000		
		Implement 131 acres of cover crops annually for 30 years.	6	5	1,800	$78,500 ($2,617 annually)		
Increase the use of filter strips in "collection zones" by 18 acres by 2033 and by 36 acres by 2048.	Agricultural producers, agricultural landowners, and rural landowners	Develop cost-share program in 2018				$1,000	Red-tail Land Conservancy, IDNR and Wilbur Wright FWA managers, SWCDs, NRCS, TNC	IDNR, NRCS, SWCD—assist in identifying sites; advise on design and installation
		Create a list of landowners who may want filter strips. Contact at least 15 landowners from the list annually for 5 years.				$6,000		
		Apply for additional grant funds for filter strips annually for 5 years.				$10,000		
		Implement 2 acres of filter strips annually for 30 years	0.067	0.034	55	$16,632 ($554 annually)		

TABLE 16.17 | Action Register for Halfway Creek Subwatershed (continued)

Action Item	Target Audience	Milestones	Load Reduction - N (tons/yr)	Load Reduction - Phos (tons/yr)	Load Reduction - TSS (tons/yr)	Cost	Possible Partners	Technical Assistance
Increase the use of no till "in contributing areas" by 3,000 acres by 2033 and by 6,000 acres by 2048.	Agricultural producers and agricultural landowners	Develop cost-share program in 2018				$2,000	NRCS, SWCD	NRCS, SWCD—advise on strategies for promoting practice
		Apply for additional grant funds for no-till equipment modifications annually for 10 years.				$2,000		
		Hold field day to promote no-till by the end of year 4.				$4,000		
		Implement 40 acres of no-till annually for 30 years	6.7	3	4794	$11,400 ($380 annually)		
		TOTAL	15.77	11.034	6,649	$156,032		
		Required Load Reduction for Halfway Creek (from Upper Mississinewa River WMP)	17	11	none			
		Total Load of Halfway Creek	43	29	341			
		Percent Reduction Achieved	37%	38%	1949%			

17. TRACKING EFFECTIVENESS

17.1 TRACKING EFFECTIVENESS

The success of implemented strategies shall be monitored using a variety of methods, dictated by the specific strategy or milestone being measured:

WATER QUALITY MONITORING AND MODELING
Water quality modeling and monitoring will be completed at a cost of $30,000 over two rounds of implementation (lasting a total of six years). Water quality data collected by other agencies and groups during the implementation phases will also be reviewed and analyzed. After six years, water quality goals should be 40% complete, meaning the modeled and monitored loads should be 40% of the modeled and monitored loads.

Water quality modeling will be completed after the first and second rounds of implementation (each round will last 3 years). Nitrate and phosphorus reductions will be modeled using BMP efficiencies from the Iowa Nutrient Reduction Strategy will be used to model reductions using the Project Manager's own modeling technique. Sediment reductions will be modeled using the Region 5 model.

SWCDs will track each BMP implemented along with acreage in an Excel spreadsheet—this will be used for the modeling. The Project Manager or one of the SWCDs within the UMRW-P will complete the models at a cost $2,500 each.

Following the second round of implementation, formal water quality monitoring will be conducted near the pour points of each HUC12 critical area. Sites will be sampled monthly for one year. The Project Manager or a private contractor will be contracted to conduct the monitoring, at a cost of $20,000. The parameters measured at each site will be as follows: temperature, pH, dissolved oxygen, depth, velocity, nitrate [N], total phosphorus, turbidity, TSS, and E. coli. All parameters will be measured at each site because many of the sites did not meet the target for more than one of the parameters, and many of the BMPs that will be funded can bring about reductions in a several parameters. Biological monitoring and a habitat assessment will also be conducted at each site. The water quality monitoring program will follow the QAPP used for water quality monitoring program completed for this watershed management plan, or a new QAPP will be completed. Technical assistance for the development of a new QAPP can be sought from IDEM's OWQ QA/QC Coordinator, Betty Ratcliff (ph. 317-308-3135).

A review of current water quality from other sources will be conducted at the end of each implementation phase by requesting data collected in the critical areas from the AIMS and STORET databases. Hoosier Riverwatch data will also be reviewed. All water quality data will be compiled in an Excel spreadsheet. The Project Manager or one of the SWCDs within the UMRW-P will conduct the reviews at an estimated cost of $2,500 each. Technical assistance from Jessica Faust (317-308-3190), IDEM's OWQ Watershed Specialist for this region, may be needed for obtaining data.

Modeling, monitoring, and the collection of current data from other agencies and groups should be repeated in this pattern unless a revision is made. As specified above, modeling and the review of other current data should be completed every three years. Formal water quality monitoring should be conducted every six years.

TRACKING ADMINISTRATIVE AND SOCIAL OBJECTIVES
Local NRCS and SWCDs will be asked to track (in a provided spreadsheet) those who receive cost-share funds, the practices and acreages for which the cost-share funds are distributed, the cost to install each practice, as well as the number of persons who would like to be included in the Conservation Farmer Directory. Local NRCS and SWCDs will track the number of cost-share applications they receive and also include the applicants' names, addresses, and the BMPs they were applying for in the spreadsheet. The Delaware County SWCD or the Project Manager will track attendance at field days, meetings, and other events hosted as part of implementation.

A variety of other partners will be asked to participate in tracking efforts. Local health departments will be asked to track the number of brochures that they distribute about septic system maintenance (brochures will either be created by the watershed group, supplied by the watershed group, or created as part of a joint effort). Red-tail Land Conservancy and other parks will be asked to track hours of volunteers who are volunteering as a result of the watershed group's efforts. Ball State and Taylor Universities will be asked to track the number of students working on projects for the watershed group and the number of hours spent working on the project. County surveyors will be asked to report any education or work that was influenced by the watershed group (i.e., attending a two-stage ditch workshop; two-stage ditch or stabilization project at a site prioritized through the watershed group's BEHI/NBS analysis but not funded through cost-share). Furthermore, sediment reduction estimates through these types of projects will be estimated by one of the project partners (most likely Taylor University since they are currently involved in BEHI/NBS analysis on Walnut Creek). Volunteer monitoring activity will be tracked through the Hoosier Riverwatch database.

All participating entities will also be asked to track the amount of time dedicated to each task performed. The outcomes will be weighed against the number of administrative hours to determine if certain actions are more cost-effective than others (e.g. if data shows that contacting stakeholders by phone is more effective at bringing about BMP implementation than hosting an educational event, in the future more resources may be devoted to reaching out to stakeholders by phone rather than hosting educational events).

The cost associated with all of these tracking efforts is minimal and regarded as part of task itself, which is already budgeted for in this watershed management plan. However, the creation of the Excel spreadsheet tracking form is estimated to cost $2,500. This spreadsheet will be created by the Delaware County SWCD or the Project Manager. Each of the eleven objectives list under Goal #1, *Provide Education and Form Partnerships*, and Goal #2, *Improve Water Quality of the Upper Mississinewa River and Its Tributaries*, will have a separate Excel spreadsheet. Each spreadsheet will have a separate sheet (i.e. tab at the bottom) for each action item. All partners participating in tracking outcomes will be asked to submit a copy of their spreadsheet via e-mail quarterly. Partners will be asked to participate on a voluntary basis without any financial compensation. The Excel tracking spreadsheet will be created by the Delaware County SWCD or the Project Manager once funding for the first round of implementation has been secured.

At the end of the second phase of implementation a social survey will be developed and distributed to stakeholders. The social survey will measure change in knowledge about how practices throughout the watershed impact water quality; change in attitude toward water quality and practices that can improve it; the level of awareness about the watershed group, its activities, and cost-share opportunities it promotes; and the stakeholder's level of confidence in the watershed group. The survey may measure other parameters and is not limited to these.

The Delaware County SWCD or the Project Manager will develop and distribute social surveys, enter data into an Excel spreadsheet, and analyze data. Data will be included in the final project report for the second phase of implementation. The estimated cost of the survey is $8,000.

TABLE 17.1 | Total Costs for Watershed Management Plan Goals

Goal #1, Objective #1 (Build local capacity for volunteers for monitoring, etc.)	$86,000
Goal #1, Objective #2 (Provide education and form partnerships with Agricultural Landowners)	$18,360
Goal #1, Objective #3 (Provide education and form partnerships with Ecological Landowners)	$19,520
Goal #1, Objective #4 (Provide education and form partnerships with Recreational Enthusiasts)	$32,100
Goal #1, Objective #5 (Provide education and form partnerships with Health Departments)	$2,740
Goal #1, Objective #6 (Provide education and form partnerships with County Drainage Boards/Surveyor)	$10,360
Goal #1, Objective #7 (Perform policy research and develop educational resources to promote citizen involvement in county/ municipal planning and policy-making)	$18,330
Goal #2 (In Critical Areas reduce nitrate loading by 204 tons/yr (15%) in 15 years and by 403 tons/yr (30%) in 30 years). *Assuming implementation begins in 2018.	$3,881,573.00
Goal #3 (In Critical Areas reduce TSS loading by 1,191 tons/yr (25%) in 15 years and by 2,381 tons/yr (50%) in 30 years). *Assuming implementation begins in 2018.	$148,532.00
Goal #4 (In Critical Areas reduce phosphorus loading by 31 tons/yr (25%) in 15 years and by 61 tons/yr (50%) in 30 years). *Assuming implementation begins in 2018.	$2,247,242.00
Goal #5 (In Critical Areas reduce E. coli loading by 2.6E+14 cfu/year (5%) in 15 years and by 7.87E+14 cuf/year (15%) in 30 years. *Assuming implementation begins in 2018.)	$119,200.00
Grand Total	**$6,583,957**

18. FUTURE ACTIVITY

The Project Manager will document what works well and what doesn't during the implementation phase. The Delaware County SWCD will formally review progress of the implementation phase annually, and determine if any revisions should be made to the action register of the plan. The WMP will be formally revised in 10 years by the Delaware County Soil and Water Conservation District (3641 N. Briarwood Lane Muncie, Indiana 47304 | 765. 747. 5531) and will be submitted to IDEM for approval.

ANNUAL PLAN REVISION

Because this watershed management plan has such a wide variety of goals and objectives, it is necessary to informally revise it every year based on the effectiveness of objectives, action items, and milestones. The effectiveness of each objective will be reviewed, and one of the following changes will be made if it is not viewed as effective: 1) Action Item will be removed if it is viewed as ineffective and possibly replaced with a new Action Item or 2) Milestone(s) will be removed, altered, or replaced if the Action Item is still regarded as sound but the steps identified for reaching it (i.e., Milestones) are ineffective. If certain Action Items intended to reach objectives are found to be highly effective, other Action Items that are less effective may be removed in order to focus efforts on the Action Item that is highly effective. Again, because there are so many objectives and Action Items identified in this watershed management plan, we expect that it will take at least 5 years to meet many of the administrative, educational, and social objectives, and even longer to reach water quality goals. At the end of the second round of implementation, if 80% of the action items pertaining to administrative, educational, and social objectives have been completed, then administrative, educational, and social objectives (Objectives #1-7) will be comprehensively revised. If not, then the Steering Committee should decide the next time to consider comprehensively revising the plan.

Data from the excel spreadsheets used to track the effectiveness of the plan will be compiled, summarized, and reported at Steering Committee meetings after each year of implementation has been completed. This data will aid the Steering Committee in determining the effectiveness of Action Items outlined in the Action Register.

Data from modeling and monitoring will be evaluated after each implementation phase to determine if any subwatershed water quality goals have been met. Once a goal has been met in a subwatershed, cost-share funding will no longer be directed to that subwatershed.

REVISION OF FINANCIAL COSTS OF PLAN IMPLEMENTATION

BMPs implemented through the cost-share program will be tracked in a spreadsheet. Costs of BMPs and acres treated will be recorded and used to calculate average costs per unit area treated for each BMP (or median cost per unit area). This data will be used to provide a new estimation of the financial cost to reach BMP objectives found on (see totals in Table 17.1) . While it will not immediately or necessarily replace the current estimate within the plan, it will be there for comparative purposes and may be used in future grant applications (i.e. "To date the drainage water management systems installed through cost-share programs have cost a total of x dollars and treated x acres of cropland, with an average cost of $x/acre treated). Tables displaying this data and a short explanation should be added to the plan one year after the implementation begins, and should be updated annually. Three years after implementation begins, the Steering Committee should consider if new estimates for BMP costs (#29) should be developed from current data from the cost-share program. This should be reconsidered on a three-year cycle, unless costs appear to be relatively stable, in which case revisions are not necessary until a comprehensive revision of the plan.

OTHER STEERING COMMITTEE ACTIVITIES

The Steering Committee will also continue to review and discuss the following: new non-point source pollutant concerns (e.g. zoning for a new development is pending, etc.), new watershed information (e.g., new planning efforts, such as city/county master plans, etc.), and new practices added to the Field Office Technical Guide (FOTG). Any other information relative to the watershed management plan should also be reviewed and discussed. If necessary, revisions to the plan will be made based on new information.

COMPREHENSIVE PLAN REVISION

After 10 years the watershed management plan will be comprehensively revised. Revisions will include but are not limited to supplemental water quality data collected through the tracking effectiveness strategy, the identification of any new critical areas based on water quality data collected through Hoosier Riverwatch or other monitoring efforts in the watershed, and an updated Action Register.

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