10.0 GOAL SETTING

Based on watershed inventory efforts; stakeholder input for concerns, problems, and sources; and watershed loading information, the following goals and strategies were developed.

10.1 Goal Statements

The steering committee wrote goals for each parameter or area of concern based on a long-term goal of meeting the target concentrations identified by the monitoring committee. In an effort to scale goals to manageable levels, a generational approach occurred. Each goal was scaled to a level of the volume of practices which could realistically be installed within a 30 year period. These scaled goals represent realistic target reductions based on current technology and funding levels. Each target lists the ultimate goal, the scaled goal, and indicators that can be measured to determine if the goal is being met. Appendix K details the volume of practices needed to meet the monitoring committee's target concentration and potential reduction possible if that volume of practices are installed.

10.1.1 Reduce Nutrient Loading

Ultimate Goal: Reduce nitrate-nitrogen inputs from 4,997,623 pounds/year to 1,047,411 pounds/year (79% reduction) and reduce phosphorus inputs from 274,046 pounds/year to 41,896 pounds/year (85% reduction) in the Region of the Great Bend of the Wabash River watershed.

Based on the volume of achievable practices (Table 49), it is likely that nitrogen reductions of 1,620,113 pounds can be achieved in 5 years (32% reduction) and 2,407,977 pounds can be achieved in 30 years (48% reduction). Likewise, phosphorus reductions of 105,788 pounds can be achieved in five years (39% reduction) and 160,145 pounds in 30 years (58% reduction). Therefore, the scaled goal is as follows:

Scaled Goal: Reduce nitrate-nitrogen loading by 48% (2,407,980 pounds) and total phosphorus loading by 58% (160,145 pounds) by 2041.

10.1.2 Reduce Sediment Loading

Ultimate Goal: Reduce soil erosion and sediment inputs to the Wabash River and its tributaries from 66,321,094 pounds/year to 13,092,633 pounds/year (80% reduction) by 2041.

Based on the volume of achievable practices (Table 49), it is likely that total suspended sediment load reductions of 20,963,750 pounds (32% reduction) can be achieved in five years, while 33,256,650 pounds (52% reduction) in sediment can be removed over 30 years. Based on these reductions the scaled goal is as follows:

Scaled Goal: Reduce total suspended solids loading by 52% (16,630 tons) by 2041.

10.1.3 Reduce *E. coli* Loading

Ultimate Goal: Reduce *E. coli* concentrations so that they do not exceed the state standard by 2041.

Based on current conditions, addressing storm flow *E. coli* concentrations is a good first step toward meeting the ultimate goal.

Scaled Goal: Reduce *E. coli* concentrations such that by 2041 the Wabash River and watershed streams exceed the state standard (235 colonies/100 ml) during no more than 20% and 50% of collected samples, respectively.

10.1.4 Improve Biological Communities
Goal: Restore natural stream habitat in the Wabash River and its tributaries so that streams meet their aquatic life use designation by 2041.

10.1.5 Protect and Enhance Natural Aspects
Goal: Protect and enhance the natural resources of the Region of the Great Bend of the Wabash River watershed.

10.1.6 Increase Public Awareness and Participation
Goal: Increase public awareness and knowledge about the Wabash River, its watershed, its water quality, and what individuals can do to improve the river by 2041.

10.1.7 Increase Public Access
Goal: Increase accessibility to the Wabash River and its riparian area by 2041.

10.2 Strategies to Reach Goals
Based on identified stakeholder concerns, water quality data, and potential sources of pollution, goal statements were developed for each problem. Implementation of policies, programs, and practices will improve water quality and watershed conditions within the Region of the Great Bend of the Wabash River watershed. The goals detailed above represent both the ultimate goal of reaching target pollutant concentrations identified by the monitoring committee and the realistic potential for reaching a target goal within a generation (30 years). For each scaled goal, which is hereafter referred to simply as a goal, a list of both short term (0-5 years) and long term (6-30 years) strategies necessary to meet the goal are detailed. Some strategies identified for individual goals may be applicable to other goals, and in such cases, these strategies are listed under each goal.

10.2.1 Reduce Nutrient Loading
Goal: Reduce nitrate-nitrogen loading by 48% (2,407,980 pounds) and total phosphorus loading by 58% (160,145 pounds) by 2041.

Strategies:
- Reduce nutrient loading to our waterways from agricultural lands
    - Increase cover crop acreage by 3,500 acres by 2016 and by 15,750 acres by 2041.
    - Increase conservation buffer by 750 acres by 2016 and by 3,375 acres by 2041.Increase the use of nutrient and pest management by 12,500 acres by 2016 and by 50,000 acres by 2041.
    - Increase landowner awareness on the use of constructed wetland cells to treat tile drain runoff by 2016.
    - Increase wetland restoration by 500 acres by 2016 and by 2,000 by 2031.
    - Increase landowner awareness on the use of drainage water management and install demonstration by 2016.
    - Increase the use of a conservation system approach including cover crop, no till, nutrient management, pesticide management, and waste utilization by 1,500 acres by 2016 and by 9,000 by 2041.
    - Target 500 acres of land in the 100 year floodplain for incentives programs that include an easement and restoration by 2016.
    - Restrict livestock access from watershed streams at all locations identified by 2016.
    - Increase landowner awareness on the use of bioreactors by 2016.

- Reduce nutrient loading to our waterways from urban runoff.
    - Construct 75 rain gardens and install 500 rain barrels by 2016 and 450 rain gardens and 3,000 rain barrels by 2041.
    - Install 20 acres of pervious pavement by 2016 and 120 acres of pervious pavement by 2041.
    - Increase awareness of land and business owners on the benefits of green roofs and install 15 green roofs by 2041.
    - Increase landowner awareness of phosphorus free fertilizer with 1,000 households phosphorus-free by 2016.
    - Increase pet owner's awareness on proper disposal of pet waste.
    - Increase the number of trees within the urban core by 3,000 by 2016.
- Continue the long-term monitoring program using both professional and volunteer monitoring options.

10.2.2 Reduce Sediment Loading

Goal: Reduce total suspended solids loading by 52% (16,630 tons) by 2041.

Strategies:

- Reduce sediment loading to our waterways from agricultural land.
    - Increase conservation buffer by 750 acres by 2016 and by 3,375 acres by 2041.
    - Increase wetland restoration by 500 acres by 2016 and by 2,000 by 2041.
    - Increase awareness of landowners on the use of two-stage ditches, implement two demonstration sites by 2016.
    - Increase no till acreage by 2,500 acres by 2016 and by 11,250 acres by 2041.
    - Increase landowner awareness about streambank stabilization options and alternatives and stabilize streambanks as possible through 2041.
    - Increase the use of grassed waterways by 16,000 feet by 2016 and by 72,000 feet by 2041.
    - Increase the use of prescribed grazing and partner practices by 250 acres by 2016.
    - Target 500 acres of land in the 100 year floodplain for incentives programs that include an easement and restoration by 2016.
    - Restrict livestock access from watershed streams at all locations identified by 2016.
- Reduce sediment loading to our waterways from urban land.
    - Construct 75 rain gardens and install 500 rain barrels by 2016 and 450 rain gardens and 3,000 rain barrels by 2041.
    - Install 16 acres of pervious pavement by 2016 and 90 acres by 2041.
    - Identify urban green infrastructure retrofit opportunities and install as possible by 2041.
- Continue the long-term monitoring program using both professional and volunteer monitoring options.

10.2.3 Reduce *E. coli* Levels

Goal: Reduce E. coli concentrations such that by 2041 the Wabash River and watershed streams exceed the state standard (235 colonies/100 ml) during no more than 20% and 50% of collected samples, respectively.

Strategies:

- Reduce E. coli loading to our waterways from agricultural land.
    - Increase conservation buffer by 750 acres by 2016 and by 3,375 acres by 2041.
    - Increase the use of nutrient and pest management by 12,500 acres by 2016 and by 50,000 acres by 2041.
    - Increase landowner awareness on the use of constructed wetland cells to treat tile drain runoff and install as possible through 2041.
    - Increase cover crop acreage by 3,500 acres by 2016 and by 15,750 acres by 2041.
    - Increase the use of a conservation system approach including cover crop, no till, nutrient management, pesticide management, and waste utilization by 1,500 acres by 2016 and by 9,000 by 2041.
    - Restrict livestock access from watershed streams at all locations identified by 2016.
- Reduce E. coli loading to our waterways from urban and suburban land.
    - Increase awareness of pet owners on proper disposal of pet waste.
    - Increase awareness of individuals about the Cities' CSO Long-term Control Plans.
    - Reduce *E. coli* loading to waterways from failing or absent septic systems by 2016.
- Continue the long-term monitoring program using both professional and volunteer monitoring options.

10.2.4 Improve Biological Conditions

Goal: Restore natural stream habitat in the Wabash River and its tributaries so that streams meet their aquatic life use designation by 2041.

Strategies:

- Identify important terrestrial and aquatic habitat corridors and develop a protection plan.
    - By 2014, identify priority areas and by 2041 protect 4,000 acres on 3 contiguous tracts to connect woodland and grassland species.
    - By 2014, contact landowners along Wabash River bluffs to discuss protection options.
    - By 2016, 25% of roadside landowners replaced turf grass with low-growing native plants.
    - By 2016, 5% of agricultural lands adopted field and stream borders.
    - By 2016, 10% of the watershed is maintained as perennial vegetation.
    - Increase wetland restoration by 500 acres by 2016 and by 2,000 by 2041.
    - By 2016, increase the use of controlled burning as a management method.
    - By 2016, convert 9 acres lawn to prairie or woodland.
- Improve instream conditions so that habitat exceeds minimum Qualitative Habitat Evaluation Index score (51) in tributaries and meets designated uses within the Wabash River.
    - By 2016, complete profitability analysis for farms in the 100-year floodplain.
    - Increase landowner awareness on the use of two-stage ditches, implement two demonstration sites by 2016, and install as possible through 2041.
    - Increase the use of grassed waterways by 16,000 feet by 2016 and by 72,000 feet by 2041.
    - Increase wetland restoration by 500 acres by 2016 and by 2,000 by 2041.
    - Replace culverts that inhibit fish passage by 2041.

  - Create backwater area in the Wabash River to improve sturgeon spawning habitat by 2018.
  - Increase landowner awareness on the use of drainage water management, install a demonstration area by 2016, and install as possible through 2041.
  - Increase the use of soil management sampling for correct fertilizer application on 20,000 acres by 2016.
- Continue the long-term monitoring program using both professional and volunteer monitoring options.

10.2.5 Protect and Enhance Natural Aspects

Goal: Protect and enhance the natural resources of the Region of the Great Bend of the Wabash River watershed.

Strategies:

- Influence comprehensive planning at local and regional levels.
  - Influence comprehensive and land use planning at local and regional levels within Fountain and Warren Counties.
  - Encourage appropriate updates to the adopted comprehensive plan for Tippecanoe County.
  - Encourage updating and implementation of the stormwater ordinances developed by members of the Tippecanoe County Partnership for Water Quality.
  - Encourage incorporation of Low Impact Development and Livable Communities principles into planning, zoning, and development.
  - Encourage the review and development of laws, rules, and regulations to ensure protection and improvement of Wabash River water quality.
  - Encourage development of a climate ready action plan for the Cities of Lafayette and West Lafayette and Tippecanoe County.
- Reduce exotic species impacts on terrestrial and aquatic biota
  - Develop a terrestrial exotic species control plan by 2016 with less than 5% exotic species coverage by 2041.
  - Develop an aquatic exotic species control plan by 2016 with less than 10% exotic species biomass by 2041.

10.2.6 Increase Public Awareness and Participation

Goal: Increase public awareness and knowledge about the Wabash River, its watershed, its water quality, and what individuals can do to improve the river by 2041.

Strategies:

- Continue development of targeted education programs and materials through 2016.
  - Conduct the Wabash Sampling Blitz twice annually (spring and fall) through 2016.
  - Continue quarterly Hoosier Riverwatch-based volunteer monitoring at 10 stream sites through 2016.
  - Continue efforts to educate stakeholders on watershed functions and their individual impact on water quality.
  - Assist with planning and implementation of Wabash Riverfest annually.
  - Work with local groups and partners to highlight the Wabash River and natural aspects of the watershed.
  - Build on existing youth education programs.
  - Increase participation in Clear-Blue-Green business certification program with certification of 10 businesses annually through 2016 and 300 businesses by 2041.

    - Develop a partner and volunteer tracking list by 2012.
- Increase awareness about natural areas, their protection, and their impact on water quality.
    - Increase access to natural areas and the Wabash River.
    - Promote hands-on opportunities to improve natural areas and the Wabash River.
    - Increase natural areas information flow to service organizations.
    - Complete Living Green segment on WLFI monthly.
    - Place high quality photographs in 20 professional offices by 2016.
    - By 2012, become a supporter of WBAA to promote water quality.
    - Hold annual fun run/walk in conjunction with spring Sturgeon spawning.
    - Reduce the volume of litter entering the Wabash River.
- Complete social indicator survey following three years of implementation to measure stakeholder's knowledge and attitudes.

10.2.7 Increase Public Access

Goal: Increase accessibility to the Wabash River and its riparian area by 2041.

Strategies:

- Increase public access to the Wabash River and its tributaries.
    - Encourage development of passive and active recreation.
    - Encourage appropriate water front development.
    - Increase water front connectivity

11.0 ACTION REGISTER

All activities to be completed as part of this watershed management plan are identified in Table 50 to Table 62. Appendix L details work to be completed annually throughout implementation. Measurement of the success of implementation is a necessary part of any watershed project. Both social indicator and water quality data will be used to measure observable changes following implementation. Figure 160 details the potential to detect a change in water quality at the 90% significance level based on water quality data collected through December 2010. These results are based on sample variability, the number of samples collected, and power required. Results suggest that a 40% change in total suspended solids can only be measured with two to four years of monitoring. In contrast, greater ability to detect change in the Wabash River is possible; however, due to an inability to change a watershed of this size it may be difficult to achieve the observable 10% change. More importantly, with four years of monitoring a 4 to 7% reduction in nitrate + nitrite could be observed in the Wabash River. More samples will also decrease the sample variance, so the actual decrease in measurable detectable difference with sample size is uncertain.

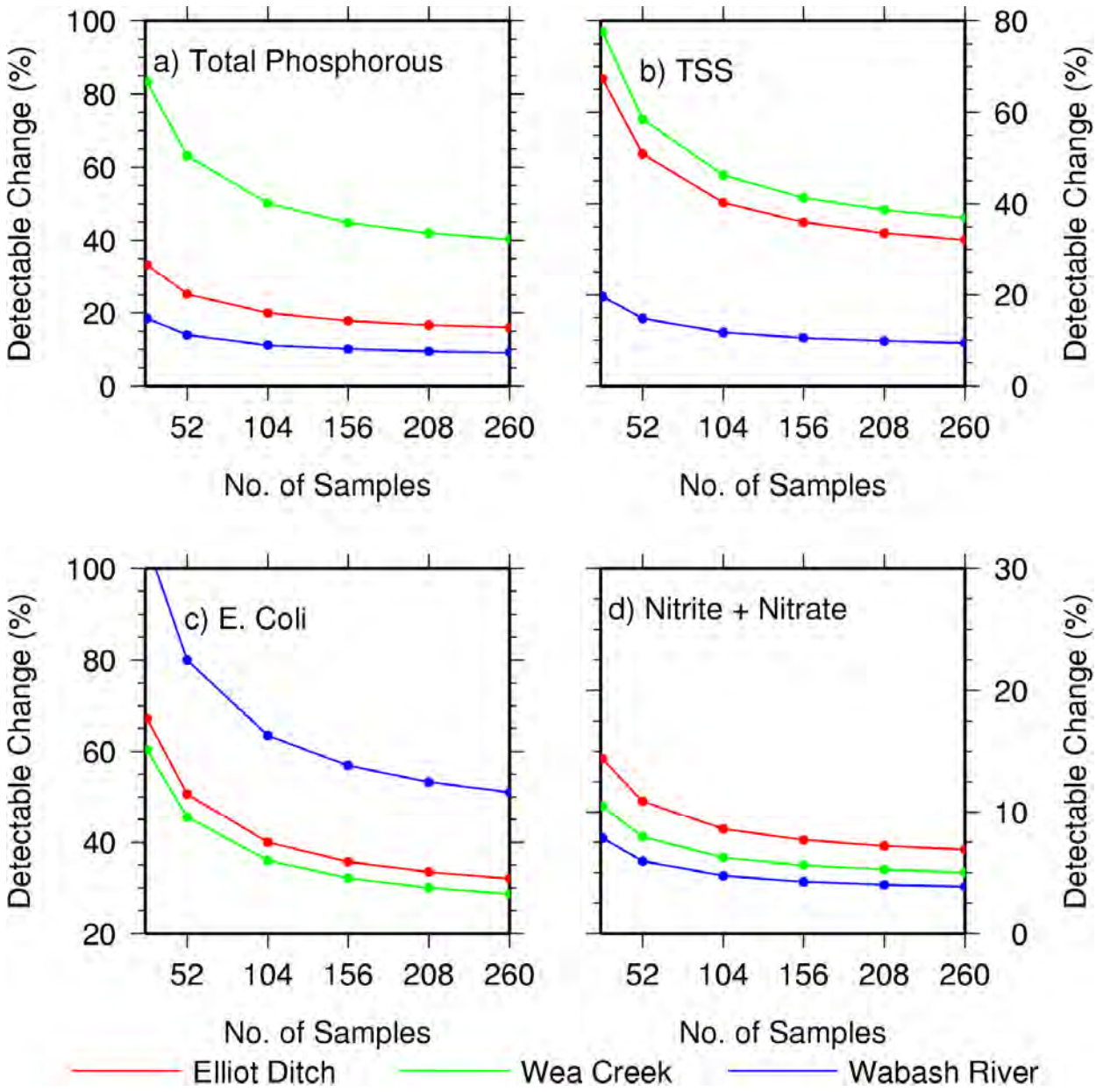

Figure 160. Detectable change (expressed as a percentage of the treatment watershed mean) relative to the number of samples collected following practice implementation for the three treatment watersheds for total phosphorus, total suspended solids, *E. coli*, and nitrate+nitrite.

11.1 Reduce Nutrient Loading

Reduce nitrate-nitrogen loading by 48% (2,193,390 pounds) and total phosphorus loading by 47% (137,715 pounds) by 2041.

Indicator of Success: Water quality, social, and administrative indicators will be used to monitor progress towards successful achievement of this goal. Water quality indicators will include monitoring orthophosphate, nitrate-nitrogen, and ammonia-nitrogen. Monitoring of total phosphorus and nitrate-nitrogen will occur as part of our paired watershed monitoring project and will occur a minimum of 260 times at our three paired watershed locations following implementation in hopes of showing a measurable change in water quality. Social indicator surveys will occur three years after implementation begins with results of these surveys compared to results observed during the planning phase of this project. Administrative indicators will be listed with each strategy below.

Table 50. Objective 1: Reduce nutrient loading to our waterways from agricultural lands.

Strategy	Target Audience	Milestone	Cost	Possible Partners	Technical Assistance
Increase cover crop acreage by 3,500 acres by 2016 and by 15,750 acres by 2041.	Agricultural landowners and operators	Develop cost-share program in 2011.	$12,500*	Wabash River RC&D, SWCDs, NRCS, USDA, Purdue Extension	SWCDs, NRCS
		Create a contractors list for specific cover crop seeding in 2012.	$500		
		Develop cover crop demonstration area highlighting various species by 2013.	$2,000		
		Host cover crop workshop in 2012 and 2014.	$1,000		
		Annually, identify additional cover crop funding options.	$1,000		
		Annually (2012-2016) implement 700 acres of cover crop.	$28,000		
Increase conservation buffer by 750 acres by 2016 and by 3,375 acres by 2041.	Agricultural landowners and operators, Urban and rural landowners	Develop cost-share program in 2011.	*see note	Wabash River RC&D, SWCDs, NRCS, USDA, Purdue Extension DNR	SWCDs, NRCS, DNR
		Develop a field day highlighting management and development of buffer habitats and host annually starting in 2012.	$5,000		
		Submit grant application for restoration and easement purchase to increase zones of protection with emphasis on partners and water monitoring in 2012.	$1,000		
		Seek financial incentives for landowners to establish field borders/buffers as well as promote existing programs/incentives (2013).	$1,000		
		Identify and map areas for comprehensive watershed inventory of conservation practices.	$5,000		
		Annually (2012-2016) implement 150 acres of buffers.	$75,000		

Strategy	Target Audience	Milestone	Cost	Possible Partners	Technical Assistance
Increase the use of nutrient and pest management by 12,500 acres by 2016 and by 50,000 acres by 2041.	Agricultural landowners and operators	Develop cost-share program in 2011.	*see note	Wabash River RC&D, SWCDs, NRCS, USDA, Purdue Extension	SWCDs, NRCS
		Host annual tour or workshop highlighting the benefits of nutrient and pest management planning.	$2,500		
		Seek financial incentives for landowners to implement nutrient and pest management (2013).	$1,000		
		Annually (2012-2016) implement 2,500 acres of nutrient and pest management.	$50,000		
Increase landowner awareness on the use of constructed wetland cells to treat tile drain runoff by 2016.	Agricultural landowners and operators, Urban and rural landowners	Identify and seek financial incentives for landowners to establish constructed wetland cells.	$1,000	Wabash River RC&D, SWCDs, TNC, NRCS, USDA, IWF, NICHES, DNR, Purdue Extension	SWCDs, NRCS, Purdue Extension
		Develop an education plan including demonstration day and printed materials targeting the use of wetland cells.	*see note		
		Implement education plan (2012-2016).	$120,000**		
		Host annual workshop or presentation for landowners highlighting the benefits of constructed wetland cells.	$1,000		
		Target a demonstration area to be installed in 2016.	$5,000		
		Install constructed wetland cells as possible by 2041.	$12,000/cell		
Increase wetland restoration by 500 acres by 2016 and by 2,000 by 2041.	Agricultural landowners and operators, Suburban and rural landowners	Develop cost-share program in 2011.	*see note	Wabash River RC&D, DNR, SWCDs, TNC, NRCS, USDA, IWF, NICHES, Purdue Extension	SWCDs, NRCS, IDNR
		Develop a list of potential wetland restoration sites and conduct 10 one-on-one meetings annually with individual landowners starting in 2012.	$5,000		
		Increase awareness about existing programs.	$1,000		
		Seek financial incentives for landowner to restore wetlands.	$1,000		
		Restore 100 acres of wetland annually from 2012-2016.	$1,500,000		
Increase landowner awareness on the use of drainage water management, install a demonstration area by 2016, and install as possible through 2041.	Agricultural landowners and operators	Identify and seek financial incentives for landowners to install drainage water management practices.	$1,000	Wabash River RC&D, SWCDs, DNR, TNC, NRCS, USDA, IWF, NICHES, Purdue Extension	SWCDs, NRCS, Purdue University
		Develop an education plan including demonstration day and printed materials targeting drainage water management.	*see note		
		Implement education plan (2012-2016).	**see note		
		Host annual workshop or presentation for landowners highlighting the benefits of drainage water management.	$1,000		
		Target a demonstration area to be installed in 2016.	$3,000		
		Install drainage water management as possible by 2041.	$3,000/ structure		

Strategy	Target Audience	Milestone	Cost	Possible Partners	Technical Assistance
Increase the use of a conservation system approach by 1,500 acres by 2016 and by 9,000 by 2041.	Agricultural landowners and operators	Develop cost-share program in 2011.	*see note	Wabash River RC&D, SWCDs, NRCS, USDA, Purdue Extension	SWCDs, NRCS
		Host annual tour or workshop highlighting the benefits of the conservation system in an operating area.	$1,000		
		Seek financial incentives for landowners to establish the system (2013).	$1,000		
		Annually (2012-2016) implement 300 acres of the conservation system (includes cover crop, no till, nutrient management, pesticide management, and waste utilization).	$36,000		
Target 500 acres of land in the 100 year floodplain for incentives programs that include an easement and restoration by 2016.	Landowners with land in floodplain	Complete mailing targeting landowners with row crop production within the 100 year floodplain by 2012.	$1,000	Wabash River RC&D, SWCDs, NRCS, USDA, Purdue Extension, IDNR, NICHES	SWCDs, NRCS
		Conduct site visits with individual landowners promoting the easement program annually starting in 2011.	$5,000		
		Complete site-based education event as possible and if interest is generated.	$1,000		
		Identify potential funding sources that supply conservation/restoration incentive and easement payment.	$1,000		
		Complete easement and restoration efforts on 100 acres of floodplain annually by 2016.	$30,000/ installation		
Restrict livestock access from watershed streams at all locations identified by 2016.	Landowners with livestock access to watershed streams	Develop cost-share program in 2011.	*see note	Wabash River RC&D, SWCDs, NRCS, USDA, Purdue Extension	Wabash River RC&D, SWCDs, NRCS, USDA, Purdue Extension
		Develop a targeted education program in 2011.	*see note		
		Implement education plan (2012-2016).	**see note		
		Develop individual livestock on-site restriction plans which may include provision of alternate water systems, livestock fencing, and rotational grazing.	$1,500		
		Annually (2012-2016) restrict livestock access from 3.5 miles of streambank.	$85,000		
Increase landowner awareness on the use of bioreactors by 2016.	Agricultural landowners and operators, Urban and rural landowners	Identify and seek financial incentives for landowners to establish bioreactors.	$1,000	Wabash River RC&D, SWCDs, TNC, NRCS, USDA, IWF, NICHES, DNR, Purdue Extension	SWCDs, NRCS, Purdue Extension
		Develop an education plan including demonstration day and printed materials targeting the use of bioreactors.	*see note		
		Host annual workshop or presentation for landowners highlighting the benefits of bioreactors.	$1,000		
		Target a demonstration area to be installed in 2016 and install bioreactors as possible by 2041.	$9,000/ reactor		

*One cost-share program and one education plan will be developed covering all strategies identified. Development costs of each plan are for one-half of the Watershed Coordinator's time for two quarters plus meeting materials.
**Implementation of the education plan includes salary for the Watershed Coordinator to implement education and outreach over five years.

Table 51. Objective 2: Reduce nutrient loading to our waterways from urban lands.

Strategy	Target Audience	Milestone	Cost	Possible Partners	Technical Assistance
Construct 75 rain gardens and install 500 rain barrels by 2016 and 450 rain gardens and 3,000 rain barrels by 2041.	Home owners, City of Lafayette, City of West Lafayette, Commercial entities, Church groups	Create media plan to highlight rain gardens and rain barrels in 2011 and 2012.	*see note	City of Lafayette, City of West Lafayette, Tippecanoe County, TCPWQ	City of Lafayette, City of West Lafayette, Tippecanoe County, TCPWQ
		Develop cost share program in 2011.	*see note		
		Develop education plan highlighting practices which will include green practices tour, utility bill inserts, and promotional materials in 2011.	*see note		
		Implement education plan (2012-2016).	**see note		
		Identify landscaping companies, roof and gutter companies, and window companies with which partnerships could be built (2011).	$1,000		
		In 2012, develop a plan to implement rain garden and rain barrel installation with identified companies.	$2,000		
		Annually (2012-2016) install 100 rain barrels and 15 rain gardens.	$155,000		
Install 20 acres of pervious pavement by 2016 and 120 acres of pervious pavement by 2041.	Neighborhood associations, Commercial entities, City of Lafayette, City of West Lafayette, Purdue University, Church groups	Identify certified installers and create an information portal to highlight pervious pavement.	$1,000	City of Lafayette, City of West Lafayette, TCPWQ, Indiana Ready Mix Concrete Association	Indiana Ready Mix Concrete Association, Certified installers
		Develop education plan to highlight practice, target developers, architects, and engineers, and promote via tours and materials.	*see note		
		Implement education plan (2012-2016).	**see note		
		Complete economic cost/benefit analysis.	$10,000		
		Work with the Cities of Lafayette and West Lafayette to develop a credit incentive program.	$2,000		
		Develop a list of entities to target for pervious pavement installation.	$1,000		
		Annually (2012-2016) install 4 acres of pervious pavement.	$175,000		
Increase awareness of land and business owners on the benefits of green roofs and install 15 green roofs by 2041.	Roof installers, Builders, Landscapers, Engineers, Developers, Commercial entities, Church groups	Develop education plan highlighting existing green roofs including green practices tour and promotional materials in 2011.	*see note	City of Lafayette, City of West Lafayette, Tippecanoe County, TCPWQ	City of Lafayette, City of West Lafayette, Tippecanoe County, TCPWQ
		Implement education plan (2012-2016).	**see note		
		Identify locations that are suitable for green roof installation in 2011.	$1,000		
		Develop cost-share program in 2011.	*see note		
		Work with developers to include green roof installation where possible.	$1,000		
		Install one green roof biennially through 2016.	$200,000		

Strategy	Target Audience	Milestone	Cost	Possible Partners	Technical Assistance
Increase landowner awareness of phosphorus free fertilizer with 1,000 households phosphorus-free by 2016.	Landowners, Commercial fertilizer applicators, Homeowners associations	Develop education plan which provides accurate information about the use of fertilizer and the need for phosphorus-based fertilizers on lawns in 2011.	*see note	Indiana Wildlife Federation, Go Greener Commission, TCPWQ, Master Gardeners	Office of the Indiana State Chemist, Purdue University Turf Management
		Implement education plan (2012-2016).	**see note		
		Educate landowners about the correct rates of fertilizer application in 2012.	$1,000		
		Encourage commercial fertilizer applicators to complete certification via the Office of the Indiana State Chemist.	$1,000		
		Promote soil testing to establish correct fertilizer application in 2012.	$1,000		
		Attend the Home and Garden Show annually to promote correct usage of fertilizer.	$2,500		
		Utilize Clear Choices, Clean Water campaign to generate 250 pledges to be p-free annually by 2016.	$500		
Increase pet owner's awareness on proper disposal of pet waste.	Pet owners, Residential apartment complexes, Pet friendly businesses, Park areas	Develop education plan using existing educational materials by 2011.	*see note	Veterinarians, Pounds, Parks departments, TCPWQ, Kennel club, Dog parks	Veterinarians, Pounds, Parks departments, TCPWQ
		Implement education plan (2012-2016).	**see note		
		Target information at pet owners using resident experts, like veterinarians.	$1,000		
		Provide pet owner give-aways that encourage proper pet waste disposal.	$2,500		
		Review existing successful pet waste programs, ala Hendricks County MS4 to replicate their successes.	$500		
Increase awareness of individuals about the Cities' CSO Long-term Control Plans.	City of Lafayette and City of West Lafayette residents	Develop an education plan highlighting efforts by the Cities of Lafayette and West Lafayette to reduce Combined Sewer Overflows to the Wabash River.	*see note	TCPWQ, Tippecanoe SWCD, WREC	City of Lafayette, City of West Lafayette
		Implement education plan (2012-2016).	**see note		
		Support CSO implementation plans as possible.	$1,000		
Increase the number of trees within the urban core by 3,000 by 2016.	Urban residents	Develop education plan highlighting the stormwater and other benefits of trees.	*see note	Tree Lafayette, West Lafayette Tree Fund	Tree Lafayette, West Lafayette Tree Fund
		Implement education plan (2012-2016).	**see note		
		Plant an additional 500 trees annually from 2012-2016.	$50,000		
		Increase funding for community tree planting groups such as Tree Lafayette and West Lafayette Tree Fund.	$1,000		
		Promote planting of trees listed on Urban Tree Guide (maintained by Cities of Lafayette and West Lafayette).	$1,000		

*One cost-share program and one education plan will be developed covering all strategies identified. Development costs of each plan are for one-half of the Watershed Coordinator's time for two quarters plus meeting materials.
**Implementation of the education plan includes salary for the Watershed Coordinator to implement education and outreach over five years.

11.2 Reduce Sediment Loading

Reduce total suspended solids loading by 40% (12,800 tons) by 2041.

Indicator of Success: Water quality, social, and administrative indicators will be used to monitor progress towards successful achievement of this goal. Water quality indicators will include monitoring total suspended solids and turbidity. Monitoring will occur as part of our paired watershed monitoring project and will occur a minimum of 260 times at three our three paried watershed monitoring locations following implementation in hopes of showing a measurable change in water quality. Social indicator surveys will occur three years after implementation begins with results of these surveys compared to results observed during the planning phase of this project. Administrative indicators will be listed with each strategy below.

Table 52. Objective 1: Reduce sediment loading to our waterways from agricultural lands.

Strategy	Target Audience	Milestone	Cost	Possible Partners	Technical Assistance
Increase conservation buffer by 750 acres by 2016 and by 3,375 acres by 2041.	Agricultural landowners and operators, Urban and rural landowners	Develop cost-share program in 2011.	*see note	Wabash River RC&D, SWCDs, NRCS, USDA, Purdue Extension, DNR	SWCDs, NRCS, DNR
		Develop a field day highlighting management and development of buffer habitats and host annually starting in 2012.	$5,000		
		Submit grant application for restoration and easement purchase to increase zones of protection with emphasis on partners and water monitoring in 2012.	$1,000		
		Seek financial incentives for landowners to establish field borders/buffers (2013).	$1,000		
		Annually (2012-2016) implement 150 acres of conservation buffers.	$75,000		
Increase wetland restoration by 500 acres by 2016 and by 2,000 by 2041.	Agricultural landowners and operators, Urban and rural landowners	Develop cost-share program in 2011.	*see note	Wabash River RC&D, NICHES, SWCDs, DNR, TNC, NRCS, USDA, IWF, Purdue Extension	SWCDs, NRCS, IDNR
		Develop a list of potential wetland restoration sites and conduct one-on-one meetings with individual landowners starting in 2012.	$5,000		
		Increase awareness about existing programs.	$1,000		
		Seek financial incentives for landowner to restore wetlands.	$1,000		
		Restore 100 acres of wetland annually from 2012-2016.	$1,500,000		
Increase no till acreage by 2,500 acres by 2016 and by 11,250 acres by 2041.	Agricultural landowners and operators	Host annual no till workshop starting in 2011.	$5,000	Wabash River RC&D, SWCDs, NRCS, USDA, Purdue Extension	SWCDs, NRCS
		Develop cost-share program in 2011.	*see note		
		Host annual no till breakfast starting in 2011.	$6,000		
		Continue to perform annual tillage transect and promote results to watershed stakeholders.	$5,000		
		Conduct site visits with landowners to promote no till.	$1,000		
		Complete 500 acres of no till annually through 2016.	$15,000		

Strategy	Target Audience	Milestone	Cost	Possible Partners	Technical Assistance
Increase awareness of landowners on the use of two-stage ditches, implement two demonstration sites by 2016.	Agricultural landowners and operators	Complete installation of demonstration two-stage ditch project in Tippecanoe County.	$0	Wabash River RC&D, SWCDs, DNR, TNC, NRCS, USDA, IWF, NICHES, Purdue Extension, Surveyors offices	SWCDs, NRCS, Purdue University
		Develop an education plan including demonstration day and printed materials targeting two stage ditches.	*see note		
		Implement education plan (2012-2016).			
		Host annual workshop or presentation for landowners highlighting the benefits of two stage ditches.	$5,000		
		Install two example 0.5 mile two-stage ditches by 2016.	$65,000		
		Install two-stage ditches as possible by 2041.	Unable to determine		
Increase landowner awareness about streambank stabilization options and alternatives and stabilize streambanks as possible through 2041.	Agricultural landowners and operators, Urban and rural landowners	Identify potential demonstration sites where low and high cost stabilization techniques can be displayed.	$1,000	Wabash River RC&D, SWCDs, NRCS, USDA, Purdue Extension, Surveyors offices, DNR	SWCDs, NRCS, DNR
		Complete installation of demonstration site highlighting low and high cost streambank stabilization options.	$100,000		
		Host a series of field and demonstration days targeting streambank stabilization installation, completed projects, and maintenance issues.	$3,000		
		Develop a cost-share program as interest is generated.	*see note		
		Identify funding sources.	$1,000		
		Stabilize streambanks as possible through 2041.	$20-100/ lineal foot		
Increase the use of grassed waterways by 16,000 feet by 2016 and by 72,000 feet by 2041.	Agricultural landowners and operators	Develop cost-share program in 2011.	*see note	Wabash River RC&D, SWCDs, NRCS, USDA, Purdue Extension	SWCDs, NRCS
		Develop a field day highlighting management and development of grassed waterways and host annually starting in 2012.	$5,000		
		Seek financial incentives for landowners to establish grassed waterways (2013).	$1,000		
		Annually (2012-2016) implement 3,200 feet of grassed waterways.	$35,000		
Increase the use of prescribed grazing or grazing management practices by 250 acres by 2016.	Agricultural landowners and operators	In 2011, develop inventory of areas currently using prescribed grazing or grazing management practices.	$1,000	Wabash River RC&D, SWCDs, NRCS, USDA, Purdue Extension	SWCDs, NRCS
		In 2012, conduct targeted mailing highlighting conservation options to livestock producers.	$1,000		
		In 2012, conduct one-on-one site visits with individual livestock producers to discuss prescribed grazing.	$1,000		
		Implement 50 acres of prescribed grazing or grazing management practices annually through 2016.	$7,500		

Strategy	Target Audience	Milestone	Cost	Possible Partners	Technical Assistance
Target 500 acres of land in the 100 year floodplain for incentives programs that include an easement and restoration by 2016.	Agricultural landowners and operators	Complete mailing targeting landowners with row crop production within the 100 year floodplain in 2011.	$1,000	Wabash River RC&D, SWCDs, NRCS, USDA, Purdue Extension, IDNR, NICHES	SWCDs, NRCS
		Conduct site visits with individual landowners promoting the easement program annually starting in 2012.	$5,000		
		Complete site-based education event as possible and if interest is generated.	$1,000		
		Identify potential funding sources that supply conservation/restoration incentive and easement payment.	$1,000		
		Complete easement and restoration efforts on 100 acres of floodplain annually by 2016.	$30,000/ installation		
Restrict livestock access from watershed streams at all locations identified by 2016.	Landowners with livestock access to watershed streams	Develop cost-share program in 2011.	*see note	Wabash River RC&D, SWCDs, NRCS, USDA, Purdue Extension	Wabash River RC&D, SWCDs, NRCS, USDA, Purdue Extension
		Develop and implement a targeted education and marketing program in 2012.	*see note		
		Implement education plan (2012-2016).	**see note		
		Develop individual on-site livestock restriction plans which may include provision of alternate water systems, livestock fencing, and rotational grazing.	$1,500		
		Annually (2012-2016) restrict livestock access from 3.5 miles of streambank.	$85,000		
Investigate opportunities to participate in Wabash River Water Quality Trading by 2016.	Agricultural and Urban Landowners, WWTP operators	Track progress on Wabash River Water Quality Trading program development as it occurs.	$1,000	City of Lafayette, City of West Lafayette, CTIC	CTIC, trading program developers
		Identify mechanisms and need for water quality trading program.	$2,000		
		Implement a water quality trading program if one is feasible, necessary, and desired by all potential partners by 2041.	Unable to determine		

*One cost-share program and one education plan will be developed covering all strategies identified. Development costs of each plan are for one-half of the Watershed Coordinator's time for two quarters plus meeting materials.
**Implementation of the education plan includes salary for the Watershed Coordinator to implement education and outreach over five years.

Table 53. Objective 2: Reduce sediment loading to our waterways from urban lands.

Strategy	Target Audience	Milestone	Cost	Possible Partners	Technical Assistance
Construct 75 rain gardens and install 500 rain barrels by 2016 and 450 rain gardens and 3,000 rain barrels by 2041.	Home owners, Cities, Commercial entities, Church groups	Develop cost share program in 2011.	*see note	City of Lafayette, City of West Lafayette, Tippecanoe County, TCPWQ	City of Lafayette, City of West Lafayette, Tippecanoe County, TCPWQ
		Develop education plan highlighting practices which will include green practices tour, utility bill inserts, and promotional materials in 2011.	*see note		
		Implement education plan (2012-2016)	**see note		
		Identify landscaping companies, roof and gutter companies, and window companies with which partnerships could be built (2011).	$1,000		
		In 2012, develop a plan to implement rain garden and rain barrel installation with identified companies.	$2,000		
		Annually (2012-2016) install 100 rain barrels and 15 rain gardens.	$155,000		
Install 16 acres of pervious pavement by 2016 and 90 acres by 2041.	Neighborhood associations, Commercial entities, Church groups	Identify certified installers and create an information portal to highlight pervious pavement installation.	$1,000	City of Lafayette, City of West Lafayette, TCPWQ, Indiana Ready Mix Concrete Association	Indiana Ready Mix Concrete Association, Certified installers
		Develop plan to highlight practice; target developers, architects, and engineers; and promote.	*see note		
		Implement education plan (2012-2016).	**see note		
		Complete economic cost/benefit analysis of pervious pavement installation.	$10,000		
		Work with the Cities of Lafayette and West Lafayette to develop a credit incentive program.	$2,000		
		Develop a list of entities to target for pervious pavement installation.	$1,000		
		Annually (2012-2016) install 4 acres of pervious pavement.	$175,000		
Identify urban green infrastructure retrofit opportunities and install as possible by 2041.	Commercial entities, Cities, County	Complete inventory of urban areas to identify watershed retrofit needs in 2011.	$10,000	City of Lafayette, City of West Lafayette, Tippecanoe County, TCPWQ	City of Lafayette, City of West Lafayette, Tippecanoe County, TCPWQ
		In 2012, complete a field assessment of potential green infrastructure retrofit sites and prioritize locations.	$5,000		
		Identify a funding source and develop a cost-share program in 2011.	*see note		
		Complete individual LID retrofit designs and installation as possible with one demonstration installed by 2016.	Variable		
		Complete individual LID retrofit designs and installation as possible by 2041.	variable		

*One cost-share program and one education plan will be developed covering all strategies identified. Development costs of each plan are for one-half of the Watershed Coordinator's time for two quarters plus meeting materials.
**Implementation of the education plan includes salary for the Watershed Coordinator to implement education and outreach over five years.

11.3 Reduce *E. coli* Levels

Reduce E. coli concentrations such that by 2041 the Wabash River and watershed streams exceed the state standard (235 colonies/100 ml) during no more than 20% and 50% of collected samples, respectively.

Indicator of Success: Water quality, social, and administrative indicators will be used to monitor progress towards successful achievement of this goal. Water quality indicators will include monitoring *E. coli*. Monitoring will occur as part of our paired watershed monitoring project and will occur a minimum of 260 times at three our three paired watershed monitoring locations following implementation in hopes of showing a measurable change in water quality. Social indicator surveys will occur three years after implementation begins with results of these surveys compared to results observed during the planning phase of this project. Administrative indicators will be listed with each strategy below.

Table 54. Objective 1: Reduce *E. coli* loading to our waterways from agricultural lands.

Strategy	Target Audience	Milestone	Cost	Possible Partners	Technical Assistance
Increase conservation buffer by 750 acres by 2016 and by 3,375 acres by 2041.	Agricultural landowners and operators, Urban and rural landowners	Develop cost-share program in 2011.	*see note	Wabash River RC&D, SWCDs, NRCS, USDA, Purdue Extension, DNR	SWCDs, NRCS, DNR
		Develop a field day highlighting management and development of buffer habitats and host annually starting in 2012.	$5,000		
		Submit grant application for restoration and easement purchase to increase zones of protection with emphasis on partners and water monitoring in 2012.	$1,000		
		Seek financial incentives for landowners to establish field borders/buffers (2013).	$1,000		
		Identify and map areas for comprehensive watershed inventory of conservation practices	$75,000		
		Annually (2012-2016) implement 150 acres of conservation buffers.	$75,000		
Increase landowner awareness on the use of constructed wetland cells to treat tile drain runoff and install as possible through 2041.	Agricultural landowners and operators	Identify and seek financial incentives for landowners to establish constructed wetland cells.	$1,000	Wabash River RC&D, SWCDs, TNC, NRCS, USDA, IWF, NICHES, Purdue Extension, DNR	SWCDs, NRCS, Purdue Extension
		Develop an education plan including demonstration day and printed materials targeting the use of wetland cells.	*see note		
		Implement education plan (2012-2016).	$5,000		
		Host annual workshop or presentation for landowners highlighting the benefits of constructed wetland cells.	$1,000		
		Target a demonstration are to be installed in 2016.	$12,000		
		Install constructed wetland treatment cells as possible through 2041.	$12,000/cell		

Strategy	Target Audience	Milestone	Cost	Possible Partners	Technical Assistance
Increase the use of nutrient and pest management by 12,500 acres by 2016 and by 50,000 acres by 2041.	Agricultural landowners and operators	Develop cost-share program in 2011.	*see note	Wabash River RC&D, SWCDs, NRCS, USDA, Purdue Extension	SWCDs, NRCS
		Host annual tour or workshop highlighting the benefits of nutrient and pest management planning.	$5,000		
		Seek financial incentives for landowners to implement nutrient and pest management (2013).	$1,000		
		Annually (2012-2016) implement 2,500 acres of nutrient and pest management.	$500,000		
Increase cover crop acreage by 3,500 acres by 2016 and by 15,750 acres by 2041.	Agricultural landowners and operators	Develop cost-share program in 2011.	*see note	Wabash River RC&D, SWCDs, TNC, NRCS, USDA, IWF, NICHES, Purdue Extension	SWCDs, NRCS, Purdue Extension
		Create a contractors list for specific cover crop seeding in 2012.	$500		
		Develop cover crop demonstration area highlighting various species by 2013.	$2,000		
		Host cover crop workshop in 2012 and 2014.	$1,000		
		Annually, identify additional cover crop funding options.	$1,000		
		Annually (2012-2016) implement 700 acres of cover crop.	$28,000		
Increase the use of a conservation system approach by 1,500 acres by 2016 and by 9,000 by 2041.	Agricultural landowners and operators	Develop cost-share program in 2011.	*see note	Wabash River RC&D, SWCDs, NRCS, USDA, Purdue Extension	SWCDs, NRCS
		Host annual tour or workshop highlighting the benefits of the conservation system in an operating area.	$1,000		
		Seek financial incentives for landowners to establish the system (2013).	$1,000		
		Annually (2012-2016) implement 300 acres of the conservation system (includes cover crop, no till, nutrient management, pesticide management, and waste utilization).	$36,000		
Restrict livestock access from watershed streams at all locations identified by 2016.	Landowners with livestock access to watershed streams	Develop cost-share program in 2011.	*see note	Wabash River RC&D, SWCDs, NRCS, USDA, Purdue Extension	Wabash River RC&D, SWCDs, NRCS, USDA, Purdue Extension
		Develop a targeted education and marketing program in 2012.	*see note		
		Implement education plan (2012-2016).	**see note		
		Develop individual on-site livestock restriction plans which may include provision of alternate water systems, livestock fencing, and rotational grazing.	$1,500		
		Annually (2012-2016) restrict livestock access from 3.5 miles of streambank.	$85,000		

*One cost-share program and one education plan will be developed covering all strategies identified. Development costs of each plan are for one-half of the Watershed Coordinator's time for two quarters plus meeting materials.
**Implementation of the education plan includes salary for the Watershed Coordinator to implement education and outreach over five years.

Table 55. Objective 2: Reduce *E. coli* loading to our waterways from urban and suburban lands.

Strategy	Target Audience	Milestone	Cost	Possible Partners	Technical Assistance
Increase awareness of pet owners on proper disposal of pet waste.	Pet owners, Residential apartment complexes, Pet friendly businesses, Park areas	Develop education plan using existing educational materials by 2011.	*see note	Veterinarian, Pounds, Parks department, TCPWQ, Kennel club, Dog parks	Veterinarians, Pounds, Parks departments, TCPWQ
		Implement education plan (2012-2016).	**see note		
		Target information at pet owners using resident experts, like veterinarians.	$1,000		
		Provide pet owner give-aways that encourage proper pet waste disposal.	$2,500		
		Review existing successful programs, like that of the Hendricks County MS4 to replicate their successes.	$500		
Increase awareness of individuals about the Cities' CSO Long-term Control Plans.	City of Lafayette and City of West Lafayette residents	Develop an education plan highlighting efforts by the Cities of Lafayette and West Lafayette to reduce Combined Sewer Overflows to the Wabash River.	*see note	TCPWQ, Tippecanoe SWCD, WREC	City of Lafayette, City of West Lafayette
		Implement education plan (2012-2016).	**see note		
		Support CSO implementation plans as possible.	$1,000		
Reduce *E. coli* loading to waterways from failing or absent septic systems by 2016.	Residential property owners outside of sewered areas	Develop an education plan using existing educational materials by 2011.	*see note	Health Department, TCPWQ, APC	Health Department, TCPWQ, APC
		Implement education plan (2012-2016).	**see note		
		Host septic system care and maintenance workshops annually.	$5,000		
		Work with the health department to identify areas of failing or absent septic systems.	$2,500		
		Work with the health department to create an ordinance requiring all properties sold with a septic system to require an inspection at the time of sale.	$10,000		
		Develop a strategy to reduce septic system impacts to the Wabash River.	$30,000		

*One cost-share program and one education plan will be developed covering all strategies identified. Development costs of each plan are for one-half of the Watershed Coordinator's time for two quarters plus meeting materials.
**Implementation of the education plan includes salary for the Watershed Coordinator to implement education and outreach over five years.

11.4 Improve Biological Communities

Restore natural stream habitat in the Wabash River and its tributaries so that streams meet their aquatic life use designation by 2041.

Indicator of Success: Water quality, social, and administrative indicators will be used to monitor progress towards successful achievement of this goal. Water quality indicators will include monitoring fish, macroinvertebrate, and habitat at ten locations twice annually following implementation. Social indicator surveys will occur three years after implementation begins with results of these surveys compared to results observed during the planning phase of this project. Administrative indicators will be listed with each strategy below.

Table 56. Objective 1: Identify important terrestrial and aquatic habitat corridors and develop a protection plan.

Strategy	Target Audience	Milestone	Cost	Possible Partners	Technical Assistance
By 2014, identify priority areas and by 2041 protect 4,000 acres on 3 contiguous tracts to connect woodland and grassland species.	Landowners within target corridors	In 2011, partner organizations hold series of meetings to identify habitats necessary to key umbrella species (red-headed woodpecker, bobwhite, box turtle, shovelnose sturgeon, mussels, and small stream fish).	$5,000	Tippecanoe County Parks, NICHES, DNR, TNC	Tippecanoe County Parks, NICHES, DNR, TNC
		By 2012, identify threats from human recreation and development.	$3,000		
		By 2014, complete land protection map identifying target corridors.	$5,000		
		By 2041, complete corridor protecting 4,000 acres in a maximum of three contiguous tracts.	Unable to determine		
By 2014, contact landowners along Wabash River bluffs to discuss protection.	Riparian landowners	In 2012, contact landowners from West Lafayette to Kickapoo Creek on river right to inform them about USDA programs for umbrella species protection.	$2,000	Tippecanoe County Parks, NICHES, DNR	Tippecanoe County Parks, NICHES, DNR
		In 2013, contact all landowners from West Lafayette to Attica on river left to inform them about USDA programs for umbrella species protection.	$2,000		
By 2016, 25% of roadside landowners replaced turf grass with low-growing native plants.	Landowners with lawns adjacent to roads.	By 2012, complete assessment of roadside mowing using GIS maps and random spot checks.	$10,000	DNR, SWCDs	DNR, SWCDs
		By 2013, develop an education program to target landowners with mowed roadsides.	*see note		
		Implement education plan (2014-2016).	**see note		
		By 2016, complete assessment of roadside mowing and compare results with 2012 assessment.	$10,000		

Strategy	Target Audience	Milestone	Cost	Possible Partners	Technical Assistance
By 2016, 5% of agricultural lands adopted field and stream borders.	Agricultural producers	By 2012, complete assessment of field and stream borders using GIS maps and random on-the-ground spot checks.	$10,000	SWCDs, DNR	SWCDs, DNR
		By 2013, develop an education program to target agricultural landowners without field borders.	*see note		
		Implement education plan (2012-2016).	**see note		
		By 2016, complete assessment of field and stream borders and compare results with 2012 assessment.	$10,000		
By 2016, 10% of the watershed is maintained as perennial vegetation.	Watershed landowners	By 2012, complete assessment of vegetation using GIS maps and random on-the-ground spot checks.	$10,000	Purdue University, DNR	Purdue University, DNR
		By 2013, develop and implement education program to increase perennial vegetation throughout the watershed.	*see note		
		Implement education plan (2014-2016).	**see note		
		By 2016, complete assessment of vegetation and compare results with 2012 assessment.	$10,000		
Increase wetland restoration by 500 acres by 2016 and by 2,000 by 2041.	Agricultural landowners and operators, Urban and rural landowners	Develop cost-share program in 2011.	*see note	Wabash River RC&D, NICHES, SWCDs, DNR, TNC, NRCS, USDA, IWF, PU Extension	SWCDs, NRCS, IDNR
		Develop a list of potential wetland restoration sites and conduct one-on-one meetings with individual landowners starting in 2012.	$5,000		
		Increase awareness about existing wetland programs.	$1,000		
		Seek financial incentives for landowner to restore wetlands.	$1,000		
		Restore 100 acres of wetland annually from 2012-2016.	$1,500,000		
By 2016, increase the use of controlled burning as a management method.	Landowners with habitat where controlled burning is needed	Identify a funding mechanism to promote controlled burning by 2012.	$1,000	SWCDs, NICHES, DNR	SWCDs, NICHES, DNR
		By 2013, work with local officials to developed controlled burning plans and ordinances, as needed.	$5,000		
		Annually (2014-2016), host controlled burn workshop for grassland and oak woodland systems.	$5,000		
		Develop an education plan to promote awareness of controlled burns and the accessibility of DNR equipment to the public for private controlled burns.	*see note		
		Implement education plan (2012-2016).	**see note		

Strategy	Target Audience	Milestone	Cost	Possible Partners	Technical Assistance
By 2016, convert 9 acres lawn to prairie or woodland.	Homeowners and businesses with large lawns	In 2012, identify funding mechanism to complete research on costs of lawn maintenance compared to cost of prairie or woodland restoration.	$1,000	Purdue University, SWCD, Industrial/ Commercial entities	Purdue University, SWCD
		In 2013, work with researcher to complete lawn, prairie, and woodland cost and maintenance research.	$15,000		
		By 2014, complete white paper on prairie and woodland conversion and present information to watershed residents.	$10,000		
		Annually (2014-2016), host field day highlighting lawn or agricultural conversion to prairie or woodland.	$3,000		
		Annually (2014-2016), convert 3 acres of lawn to prairie or woodland.	$100,000		

*One cost-share program and one education plan will be developed covering all strategies identified. Development costs of each plan are for one-half of the Watershed Coordinator's time for two quarters plus meeting materials.
**Implementation of the education plan includes salary for the Watershed Coordinator to implement education and outreach over five years.

Table 57. Objective 2: Improve instream conditions so that habitat exceeds minimum Qualitative Habitat Evaluation Index score (51) in tributaries and meets designated uses within the Wabash River.

Strategy	Target Audience	Milestone	Cost	Possible Partners	Technical Assistance
By 2016, complete profitability analysis for farms in the 100-year floodplain.	Agricultural landowners in the 100-year floodplain	In 2011, identify a funding source and partner to provide profitability analysis.	$3,000	SWCD, NRCS, Purdue University AgEcon professor	SWCD, NRCS, Purdue University AgEcon professor
		By 2013, contact all agricultural landowners with land in the 100-year floodplain to offer analysis.	$5,000		
		By 2016, complete profitability analysis for interested agricultural landowners.	$50,000		
		By 2041, restoration plans incorporating easements are complete for agricultural land in the 100-year floodplain.	Unable to determine		
Increase wetland restoration by 500 acres by 2016 and by 2,000 by 2041.	Agricultural landowners and operators, Urban and rural landowners	Develop cost-share program in 2011.	*see note	Wabash River RC&D, SWCDs, DNR, TNC, NRCS, USDA, IWF, NICHES, Purdue Extension	SWCDs, NRCS, IDNR
		Develop a list of potential wetland restoration sites and conduct one-on-one meetings with individual landowners starting in 2012.	$5,000		
		Increase awareness about existing programs.	$1,000		
		Seek financial incentives for landowner to restore wetlands.	$1,000		

Strategy	Target Audience	Milestone	Cost	Possible Partners	Technical Assistance
Increase landowner awareness on the use of two-stage ditches, implement two demonstration sites by 2016, and install as possible through 2041.	Agricultural landowners and operators	Complete installation of demonstration two-stage ditch project in Tippecanoe County.	$0	Wabash River RC&D, SWCDs, DNR, TNC, NRCS, USDA, IWF, NICHES, Purdue Extension, Surveyors offices	SWCDs, NRCS, Purdue University
		Develop an education plan including demonstration day and printed materials targeting two stage ditches.	*see note		
		Implement education plan (2012-2016).	**see note		
		Host annual workshop or presentation for landowners highlighting the benefits of two stage ditches.	$5,000		
		Install two example one-half mile two-stage ditches by 2016.	$65,000		
		Install two stage ditches as possible through 2041.	Unable to determine		
Increase the use of grassed waterways by 16,000 feet by 2016 and by 72,000 feet by 2041.	Agricultural landowners and operators	Develop cost-share program in 2011.	*see note	Wabash River RC&D, SWCDs, NRCS, USDA, Purdue Extension	SWCDs, NRCS
		Develop a field day highlighting management and development of grassed waterways and host annually starting in 2012.	$5,000		
		Seek financial incentives for landowners to establish grassed waterways (2013).	$1,000		
		Annually (2012-2016) implement 3,200 feet of grassed waterways.	$35,000		
Replace culverts that inhibit fish passage by 2041.	Highway department	By 2012, complete survey of all stream culverts to identify those that inhibit free fish passage.	$1,500,000	Highway department, Surveyors office, County commissioners, Volunteers	Highway department, Surveyors office, County commissioners
		By 2016, develop a plan to replace culverts that inhibit fish passage.	$10,000		
		By 2041, complete replacement of culverts as road and bridge upgrades occur so that no culverts within the watershed inhibit free fish passage.	Unable to determine		
Create backwater area in the Wabash River to improve spawning habitat by 2018.		By 2012, complete survey of Wabash River to identify potential backwater restoration locations.	$10,000	DNR, Army Corps of Engineers, Purdue University AFS	DNR, Army Corps of Engineers, Purdue University AFS
		By 2014, conduct a feasibility assessment to identify appropriate backwater habitat area.	$30,000		
		By 2016, obtain funding for design and construction of backwater habitat area.	$2,000		
		Complete backwater habitat area design and construction by 2018.	$150,000		

Strategy	Target Audience	Milestone	Cost	Possible Partners	Technical Assistance
Increase landowner awareness on the use of drainage water management, install a demonstration area by 2016, and install as possible through 2041.	Agricultural landowners and operators	Identify and seek financial incentives for landowners to install drainage water management practices.	$1,000	Wabash River RC&D, SWCDs, DNR, TNC, NRCS, USDA, IWF, NICHES, Purdue Extension	SWCDs, NRCS, Purdue University
		Develop an education plan including demonstration day and printed materials targeting drainage water management.	*see note		
		Implement education plan (2012-2016).	**see note		
		Host annual workshop or presentation for landowners highlighting the benefits of drainage water management.	$3,000		
		Target a drainage water management demonstration area to be installed in 2016.	$3,000/ structure		
Increase the use of soil management sampling for correct fertilizer application on 20,000 acres by 2016.	Agricultural landowners and operators	In 2011, develop a cost-share program for use by producers as needed.	Unable to determine	Wabash River RC&D, SWCDs, DNR, TNC, NRCS, USDA, IWF, NICHES, Purdue Extension	Wabash River RC&D, SWCDs, DNR, TNC, NRCS, USDA, IWF, NICHES, Purdue Extension
		By 2012, develop an education program using targeted mailings and individual meetings.	*see note		
		Implement education plan (2013-2016).	**see note		
		Starting in 2012, work with 10 producers annually to develop individual solutions involving equipment conversion and/or contract soil sampling with recognized Technical Service Providers.	$10,000		
		Increase the use of soil management sampling to ensure correct fertilizer application on 4,000 acres annually (2012-2016).	$50,000		

*One cost-share program and one education plan will be developed covering all strategies identified. Development costs of each plan are for one-half of the Watershed Coordinator's time for two quarters plus meeting materials.
**Implementation of the education plan includes salary for the Watershed Coordinator to implement education and outreach over five years.

11.5 Protect and Enhance Natural Aspects

Protect and enhance the natural resources of the Region of the Great Bend of the Wabash River watershed.

Indicator of Success: Social and administrative indicators will be used to monitor progress towards successful achievement of this goal. Social indicator surveys will occur three years after implementation begins with results of these surveys compared to results observed during the planning phase of this project. Administrative indicators will be listed with each strategy below.

Table 58. Objective 1: Encourage comprehensive planning at local and regional levels targeting improved water quality in the Wabash River.

Strategy	Target Audience	Milestone	Cost	Possible Partners	Technical Assistance
Influence comprehensive planning at local and regional levels within Fountain and Warren Counties.	Communities within Fountain, Warren and Tippecanoe Counties	By 2013, review current status of comprehensive planning for towns, cities, and counties.	$3,000	APC, Cities, Towns, Counties, Consultants, WREC	APC, Consultants, Counties, Planning with POWER
		Mentor communities and counties to complete planning as needed.	$10,000		
		By 2015, determine a mechanism and need for making updates to planning documents resulting in incorporation of current conditions and planning efforts into a comprehensive, county-wide document.	$5,000		
		By 2041, comprehensive plans throughout the watershed are in sync with plans to protect and improve water quality in the Wabash River and its tributaries.	$500,000		
Encourage appropriate updates to the adopted comprehensive plan for Tippecanoe County.	Communities within Fountain, Warren and Tippecanoe Counties	By 2011, review status of the Tippecanoe County comprehensive plan.	$5,000	APC, Cities, Towns, Counties, Consultants, WREC	APC, Consultants, County, Planning with POWER
		In 2012, identify timeline for updating or revising the Tippecanoe County comprehensive plan.	$2,000		
		By 2041, the Tippecanoe County comprehensive plan will be in sync with local and regional plans to protect and improve water quality in the Wabash River and its tributaries.	$250,000		
Encourage updating and implementation of the stormwater ordinance and technical standards developed by TCPWQ.	Developers, engineers, construction companies, TCPWQ	By 2012, complete update of the stormwater ordinance and technical standards	$5,000	TCPWQ, APC, WREC, IDEM	TCPWQ, IDEM, Planning with POWER
		Annually, review stormwater ordinance and technical standards.	$2,000		
		Annually, host workshop and/field day to present ordinance and technical standards to developers, neighborhood associations, and government employees.	$5,000		
		By 2041, stormwater ordinance is integrated into planning and development in a proactive manner.	$10,000		

Strategy	Target Audience	Milestone	Cost	Possible Partners	Technical Assistance
Encourage incorporation of LID and LC principles into planning, zoning, and development.	Developers, real estate brokers, attorneys, cities, counties, agencies	Annually, highlight installed Low Impact Development and Livable Communities practices to residential land owners.	$5,000	TCPWQ, Permitting offices, neighborhood associations, developers, designers, planners, bankers, Greater Lafayette Commerce	TCPWQ, Permitting offices, developers, designers, planners, Greater Lafayette Commerce, Planning with POWER
		Annually, host workshop and/or field day to present LID and LC principles to developers, neighborhood associations, and government employees.	$5,000		
		By 2014, incorporate Low Impact Development and Livable Communities practices into comprehensive plan.	$10,000		
		By 2041, LID and LC practices are integral in planning and development throughout the watershed.	$50,000		
Encourage the review and development of laws, rules and regulations to ensure protection and improvement of Wabash River water quality.	Local, state, and federal government	By 2013, complete comprehensive review of laws, rules, and regulations to determine degree of protection for water quality in the Wabash River and its tributaries.	$10,000	APC, WREC, SWCD, Cities, TCPWQ	APC, WREC, SWCD, Cities, TCPWQ, IDEM, Planning with POWER
		By 2015, develop mechanism for updating laws, rules, and regulations to protect and improve water quality in the Wabash River and its tributaries.	$5,000		
Encourage development of a climate ready action plan for the Cities of Lafayette and West Lafayette and Tippecanoe County by 2016.	Cities, County, Purdue University	By 2012, investigate options for funding and completion of climate ready action plan.	$1,000	City of Lafayette, City of West Lafayette, Tippecanoe County, Purdue University	City of Lafayette, City of West Lafayette, Tippecanoe County, Purdue University
		By 2013, obtain funding and personnel to complete climate ready action planning.	$1,000		
		By 2016, complete development of climate ready action plan.	Unable to determine		

Table 59. Objective 2: Reduce exotic species impacts on terrestrial and aquatic biota.

Strategy	Target Audience	Milestone	Cost	Possible Partners	Technical Assistance
Develop a terrestrial exotic species control plan by 2016 with less than 5% exotic species coverage by 2041.	Government, NGO, Private landowners Government, NGO, Private landowners	Identify a funding mechanism to develop a terrestrial exotic species control plan in 2011.	$2,000	Purdue University, SWCDs, West Central Cooperative Weed Management Association, volunteers	Purdue University, SWCDs, West Central Cooperative Weed Management Association
		Map the extent of terrestrial exotic species by 2015.	$15,000		
		Develop a control plan for identified terrestrial exotic species by 2016.	$30,000		
Develop a aquatic exotic species control plan by 2016 with less than 10% exotic species biomass by 2041.	Government, NGO, Private landowners	Identify a funding mechanism to develop a terrestrial exotic species control plan in 2011.	$2,000	Purdue University, SWCDs, West Central Cooperative Weed Management Association, volunteers	Purdue University, SWCDs, West Central Cooperative Weed Management Association
		Map the extent of terrestrial exotic species by 2015.	$15,000		
		Develop a control plan for identified terrestrial exotic species by 2016.	$30,000		

11.6 Increase Public Awareness and Participation

Increase public awareness and knowledge about the Wabash River, its watershed, its water quality, and what individuals can do to improve the river by 2041.

Indicator of Success: Social and administrative indicators will be used to monitor progress towards successful achievement of this goal. Social indicator surveys will occur three years after implementation begins with results of these surveys compared to results observed during the planning phase of this project. Administrative indicators will be listed with each strategy below.

Table 60. Objective 1: Continue development of targeted education programs and materials through 2016.

Strategy	Target Audience	Milestone	Cost	Possible Partners	Technical Assistance
Conduct the Wabash Sampling Blitz twice annually (spring and fall) through 2016.	Community volunteers, Businesses, Charter schools, Youth groups, Scout groups	Conduct twice annual sampling blitzes through 2016.	$50,000	Purdue University, City of Lafayette, City of West Lafayette, Community Organizations	Purdue University Soils Lab, TCPWQ Educator, Tippecanoe County Educator
		Develop education component for the sampling blitz (2012) and implement in concert with each sampling blitz.	$5,000		
		Develop annual planned dates for the sampling blitz to include it on annually-printed community calendars (ala League of Women Voters).	$500		
		Continue preparation of subwatershed maps following sampling to highlight results and changes in water quality.	$500		
		Develop a list of kid-friendly sample sites and ensure that sampling methods are adapted to encourage children's participation.	$500		
		Consider developing an adopt-a-site option for groups to sample during each event.	$1,000		
		Identify opportunities for businesses to participate in the blitz via employee sharing or other options.	$1,000		
		Evaluate event and determine remediation of the event annually and at the end of 2016.	$5,000		
Continue quarterly Hoosier Riverwatch-based volunteer monitoring at 10 stream sites through 2016.	Community volunteers, Businesses, Charter schools, Youth and Scout groups	Continue annual training and consider retraining volunteers as needed.	$2500	Purdue University, City of Lafayette, City of West Lafayette, Community Organizations	Hoosier Riverwatch-certified trainer, IDNR Hoosier Riverwatch program staff
		Continue recruiting volunteer monitors.	$3,000		
		Profile volunteers and their monitoring efforts on partner websites and through marketing effort.	$2,500		
		Complete quarterly sampling at 10 sites through 2016.	$40,000		
Assist with planning and implementation of Wabash Riverfest annually.	Residents, River enthusiasts	Expand participation in Wabash Riverfest by increasing community attendance by 10% annually.	$25,000	Wabash Riverfest planning committee	Wabash Riverfest planning committee
		Work with the Wabash Riverfest planning committee to plan and implement the event annually.			

Strategy	Target Audience	Milestone	Cost	Possible Partners	Technical Assistance
Share and communicate past, current, and future activities on a regular basis through 2016.	Community members targeted by each identified strategy	Complete updates to the WREC website quarterly and provide that information to partners for update to their websites as well.	$5,000	Purdue University, City of Lafayette, City of West Lafayette, Tippecanoe County, TCPWQ, County SWCDs, Community organizations, Greater Lafayette Chamber, Riverfest Planning Committee	Purdue University, City of Lafayette, City of West Lafayette, Tippecanoe County, TCPWQ, County SWCDs
		Host semi-annual public meetings or events at which the public can comment on watershed efforts.	$10,000		
		Develop a message for county fairs annually and attend county fairs for Fountain, Tippecanoe, and Warren counties on an annual basis. Attend additional county fairs as appropriate.	$25,000		
		Create pamphlets, brochures, and marketing materials as needed and distribute through partner organizations, on websites, and via direct mailings and meetings.	$10,000		
		Create press releases quarterly or as needed.	$1,000		
		Identify potential topics and participate in WLFI Green segments for both morning and noon news at least once annually.	$250		
		Attend Spring Fest, Latino Fest, Lafayette, West Lafayette, and Purdue farmers markets, Mosey Down Mainstreet and other festivals and events to promote efforts and events.	$10,000		
		Provide information to existing newsletter publishers including Tippecanoe SWCD, Warren SWCD, Fountain SWCD, Native Roots, Tippecanoe Partnership for Water Quality, and others as identified.	$5,000		
		Explore the potential and need for a semi-annual or quarterly newsletter in paper and electronic format and produce as determined through 2016.	$5,000		
Build on existing youth education programs.	School groups, youth-targeted groups	Partner with the Tippecanoe SWCD to host a booth at Ag Days annually.	$5,000	Tippecanoe SWCD, TCPWQ, Wabash River RC&D	Tippecanoe SWCD, TCPWQ, Wabash River RC&D
		Assist Tippecanoe SWCD with storm drain stenciling program.	$1,000		
		Assist TCPWQ and county educators as needed.	$5,000		
		Investigate the potential for a youth-based Wabash River float trip (ala Arrowhead Country RC&D) and implement annually as possible.	$10,000		
		Assist with annual Make A Splash event.	$5,000		

Strategy	Target Audience	Milestone	Cost	Possible Partners	Technical Assistance
Continue efforts to educate stakeholders on watershed functions and their individual impact on water quality.	Community members targeted by each identified strategy	Continue to explore the possibility of the installation of two educational kiosks addressing water quality, collected data, and general Wabash River information adjacent to the river and develop kiosk materials by 2016.	$100,000	Purdue University, City of Lafayette, City of West Lafayette, SWCDs, TCPWQ, Go Greener Commission, Consultants, Web developers, School groups	Purdue University, City of Lafayette, City of West Lafayette, SWCDs, TCPWQ, Go Greener Commission, Consultants, Web developers, School groups
		Annually, create one walking tour, one Google Earth tour, and quarterly podcasts highlighting unique features, green practices, unique features (natural areas, parks), and activities in the watershed from 2013-2016.	$10,000		
		By 2016, develop TippEcoNow to provide a source of information highlighting green practices, provide individual property information, and a property-specific design tool to reduce stormwater impacts and increase habitat availability.	$250,000		
		Develop an educational poster program which highlights unique aspects of the Wabash River, identify businesses at which posters can be placed, and develop and post posters on a quarterly basis by 2013.	$10,000		
Work with local groups and partners to highlight the Wabash River and natural aspects of the watershed.	Community members targeted by each identified strategy	Work with the Tippecanoe Arts Federation to partner with their events and unveilings on the pedestrian bridge or near the Wabash River.	$2,000	Tippecanoe Arts Federation, Community groups organizing local festivals, video developers, marketers	Tippecanoe Arts Federation, Community groups organizing local festivals, video developers, marketers
		Explore opportunities to partner with community events and festivals (Taste of Tippecanoe, Dancing in the Streets, Octoberfest, Jazz Fest, Feast of the Hunters Moon, etc.) to highlight the Wabash River.	$2,000		
		Develop videos targeted at adult community groups (20 minutes) and kids groups (10 minutes) and create list of potential partner groups at which presentation could occur.	$10,000		
		Provide information to neighborhood associations to highlight connectivity to the Wabash River as information is available.	$2,000		

Strategy	Target Audience	Milestone	Cost	Possible Partners	Technical Assistance
Increase participation in Clear-Blue-Green business certification program with certification of 10 businesses annually through 2016 and 300 businesses by 2041.	Commercial entities, Greater Lafayette Chamber, Tippecanoe County residents	Involve certified Clear-Blue-Green businesses in community events as leaders in promoting green ideals in Tippecanoe County.	$1,000	Greater Lafayette Chamber, Clear-Blue-Green Committee, Go Greener Commission, local media	Greater Lafayette Chamber, Clear-Blue-Green Committee, Go Greener Commission, local media
		Increase exposure of the Clear-Blue-Green certification program and certified businesses.	$3,000		
		Certify and additional 50 businesses through the Clear-Blue-Green program by 2016.	$5,000		
		Expand certification program to include a certification for green builders offering green services and products.	$3,000		
		Create Clear-Blue-Green website to be a green hub of resources for businesses and residents in Tippecanoe County.	$10,000		
Develop a partner and volunteer tracking list by 2012.	Community members targeted by each identified strategy	Develop a list of potential partner groups and identify a contact within each group by 2011.	$3,000	Cities, counties, community groups	Cities, counties, community groups
		Identify a method of contacting partner groups and approach each potential partner to explore opportunities.	$5,000		
		Develop a volunteer tracking database and utilize this to track volunteer involvement by 2012.	$8,000		

Table 61. Objective 2: Increase awareness about natural areas, their protection, and their impact on water quality.

Strategy	Target Audience	Milestone	Cost	Possible Partners	Technical Assistance
Increase access to natural areas and the Wabash River.	Nature enthusiast, Children, Residents	In 2011, identify partner organizations which host nature tours, field trips, and river trips.	$2,000	NICHES, DNR, SWCDs, TCPWQ, Evonik, Subaru	NICHES, DNR, SWCDs, TCPWQ, Evonik, Subaru
		In 2011, work with identified partners and Nature Notes to develop an annual calendar and post to central website.	$5,000		
		In 2011, begin voyageur canoe trips on the Wabash River and host no less than 20 trips annually.	$12,500		
Hold annual fun run/walk in conjunction with spring Sturgeon spawning.	Runners and walkers	In 2011, identify a route for 5K or 10K run/walk along the Wabash Heritage Trail.	$1,000	Triathlon club, Running club, Purdue AFS	Running club
		In 2012, host first annual Sturgeon Run.	$5,000		

Strategy	Target Audience	Milestone	Cost	Possible Partners	Technical Assistance
Promote hands-on opportunities to improve natural areas and the Wabash River.	Nature enthusiast, Children	In 2011, identify partner organizations which host field days, work days, and clean-up events.	$2,000	NICHES, DNR, SWCDs, TCPWQ	NICHES, DNR, SWCDs, TCPWQ
		Annually, identify partner opportunities to promote field days throughout the watershed and post to a central website or calendar.	$5,000		
		Annually, identify partner work days for river clean-up, exotic species control, or habitat restoration opportunities.	$5,000		
Increase natural areas information flow to service organizations.	Service organizations	In 2011, create a list of service organizations throughout the watershed.	$3,000	DNR, NICHES, SWCD	DNR, NICHES, SWCD
		Annually, meet with two service organizations to present information on water quality, agricultural practices, natural land preservation, or the Wabash River.	$5,000		
		Request assistance from service organizations on natural areas maintenance, Wabash River clean-up events, Sampling Blitz, or other volunteer opportunities.	$1,000		
		Recognize service groups for their participation by honoring the most active group relative to natural areas conservation and improvement and/or volunteerism.	$2,000		
Place high quality photographs in 20 professional offices by 2016.	People using professional services	In 2011, identify and hire a photographer to develop a natural areas and Wabash River-based portfolio.	$5,000	WREC, NICHES, TCPWQ, Tippecanoe Arts Foundation	photographers
		In 2012, identify 10 professional offices for photograph placement and complete placement in 2013.	$2,000		
		By 2016, identify a total of 20 professional offices for photograph placement and complete placement.	$2,000		
		Annually, rotate photographs to maintain fresh views of natural resources.	$3,000		
By 2012, become a supporter of WBAA to promote water quality.	WBAA listening audience	In 2011, identify a funding mechanism to purchase weekly spots on WBAA.	$2,200	TCPWQ, Go Greener Commission, identified partners	WBAA staff
		In 2012, develop a calendar of weekly water quality messages.	$5,000		
		In 2012, identify partners to assist with message development and delivery.	$2,000		
		Complete weekly water quality message for WBAA through 2016.	$5,000		

Strategy	Target Audience	Milestone	Cost	Possible Partners	Technical Assistance
Reduce the volume of litter entering the Wabash River.	Children, Landowners	Create an educational campaign focused on covering trash cans, not littering, and picking up litter in 2011.	*see note	TCPWQ, Detrash the Wabash organizers	TCPWQ
		Implement education plan (2012-2016).	**see note		
		Encourage commercial and governmental entities to maintain best management practices that remove litter from stormwater.	$3,000		
		Create a stormwater BMP tour highlighting practices that remove litter.	$3,000		
		Participate in Detrash the Wabash, Clean Sweep, Tox Away, and Boiler Blast to encourage litter removal and recycling.	$3,000		

*One cost-share program and one education plan will be developed covering all strategies identified. Development costs of each plan are for one-half of the Watershed Coordinator's time for two quarters plus meeting materials.
**Implementation of the education plan includes salary for the Watershed Coordinator to implement education and outreach over five years.

11.7 Increase Public Access

Increase accessibility to the Wabash River and its riparian area by 2041.

Indicator of Success: Social and administrative indicators will be used to monitor progress towards successful achievement of this goal. Social indicator surveys will occur three years after implementation begins with results of these surveys compared to results observed during the planning phase of this project. Administrative indicators will be listed with each strategy below.

Table 62. Objective 1: Increase public access to the Wabash River and its tributaries by 2041.

Strategy	Target Audience	Milestone	Cost	Possible Partners	Technical Assistance
Increase water front and city connectivity.	Core business district, cities, county, neighborhood associations	Begin addressing opportunities to address identified barriers including Brown Street Bridge reconstruction, Mascouten Park Bridge construction, Harrison Bridge pedestrian safety improvements, Rail bridge pedestrian/bike promenade, and improved pedestrian and bike access along US 231 bridge.	Costs to be determined as designs are completed	Friends of Downtown, Cities, County, City Bus, PU University, Ivy Tech, Greater Lafayette Commerce, Historic Centennial Neighborhood	Friends of Downtown, Cities, County, City Bus, PU University, Ivy Tech, Greater Lafayette Commerce, , Historic Centennial Neighborhood
		By 2015, work with the target audience to identify barriers between neighborhoods and the Wabash River.			
		By 2041, full connectivity of neighborhoods and the core downtown business district is achieved.			

Strategy	Target Audience	Milestone	Cost	Possible Partners	Technical Assistance
Encourage development of passive and active recreation.	County and local government, USACE, DNR, Riparian landowners	As possible, expand the Wabash Heritage Trail to create trail adjacent to the Wabash River throughout the length of Tippecanoe County.	Costs to be determined as designs are completed	Local, county, state government, NICHES, Banks of the Wabash, WRHCC	DNR, USACE, Local and county government, engineers, designers
		As possible, create water access sites at locations identified in the Greenway Master Plan including: Delphi, boat basins adjacent to Williamsburg on the Wabash, and Cicott Park.			
		As possible, create limited-access paddler put-in/take out at Trailhead Park, J. Frederick Hoffman Memorial Nature Area, Pretty Prairie Road, Amphitheatre Park, Overlook Park, and Wildcat Creek.			
		By 2015, complete master plan for River Road Scenic Byway.			
		By 2041, complete implementation of Greenway Master Plan and River Road Scenic Byway master plan.			
Encourage appropriate water front development.	Developers, real estate brokers, attorneys, cities, counties, agencies	Annually, host field day and/or workshop to educate the target audience on potential development opportunities.	Costs to be determined as designs are completed	Developers, real estate brokers, attorneys, cities, counties, agencies, Greater Lafayette Commerce, Historic Centennial Neighborhood Association	Developers, real estate brokers, attorneys, cities, counties, agencies, Greater Lafayette Commerce, Historic Centennial Neighborhood Association
		As possible, protect or acquire properties within the floodplain or adjacent to the Wabash River.			
		As possible, reconfigure the Lafayette Golf Course and Lyboult Fields to remove them from the floodway.			
		As possible, develop the basins adjacent to Williamsburg on the Wabash for recreational use.			
		By 2014, incorporate the WREC corridor master plan into community development planning and use this plan as a check and balance on development adjacent to the river.			
		By 2041, appropriate developments which acknowledge and embrace the Wabash River are in place.			

12.0 TRACKING EFFECTIVENESS

The overall success of a watershed management plan depends up on the implementation of action items as outlined by the watershed management plan goals. Below are measureable success indicators or milestones which will help stakeholders in the Region of the Great Bend of the Wabash River watershed track their progress and aid in updating and revising the Watershed Management Plan as goals, objectives, and strategies are met. All of the goals are designed for a 30-year implementation schedule. Regular water quality monitoring, social indicator surveys, and tracking of administrative successes associated with objectives and strategies is necessary to help realize actual water quality targets. Indicators identified below will be tracked and reported on a quarterly basis.

12.1 Indicator Tracking

Measuring stakeholder successes toward goals and assessing progress toward the vision of the Wabash River is vital. The following details concrete milestones for stakeholders to complete as they work towards each goal. Interim measures or indicators will help stakeholders evaluate their progress towards chosen goals. For each goal, a series of indicators are detailed below. Indicator tracking will be completed by the Wabash River Enhancement Corporation. To request information on the status of progress towards goals, contact the Wabash River Enhancement Corporation at 200 N. 2nd Street Lafayette, Indiana 47901 or via phone at (765) 520-8505.

12.1.1 Water Quality Indicators

Water quality indicators are measurements of water chemistry, instream biota, or instream and riparian habitat. As part of our effort to show a measureable change in water quality, water chemistry monitoring within our three monitored subwatersheds will continue. Samples will be collected weekly or bi-weekly as funding allows with sampling occurring X times following project implementation. Continuous flow monitoring and field data collection of dissolved oxygen, temperature, pH, conductivity, and turbidity will continue for a minimum of three years. Instream biota monitoring of the fish and macroinvertebrate community will occur twice annually at ten locations within the watershed. Habitat assessments using the Qualitative Habitat Evaluation Index at each project site where instream habitat are affected will be monitored prior to installation and six months following installation. Water quality indicators will be used to identify the following:

- Statistically significant changes in water chemistry between planning and implementation phase water quality.
- Changes in macroinvertebrate and fish populations.
- Changes in pre-installation and post-installation instream and riparian habitat.

Water quality indicators will be tracked using a water quality database. This database will contain historic data and data collected during the planning phase of this project. Data will be updated quarterly and reported to the steering and monitoring committees on a quarterly basis. Monitoring will follow the program developed as part of the planning phase and will be completed by Purdue University and the U.S. Geological Survey as funding permits. Costs associated with continuous monitoring, water chemistry sample collection, and biological monitoring are $223,000 for three years.

12.1.2 Social Indicators

Social indicators provide information about stakeholder awareness, attitudes, capacity, and behaviors that directly affect water quality improvement and protection. Social indicators will be used as follows:

- Changes in knowledge about the Wabash River, conservation, and land practices.
- Changes in attitudes towards actions which can be used to improve watershed health and water quality.

- Changes in awareness about watershed activities, concerns, and accomplishments.
- Changes in participation in watershed and Wabash River activities.
- Participation in cost-share and education programs.

Social indicator data will be tracked in a planning phase and post-implementation survey reports. If possible, comparisons of these data will be generated. Surveys will be completed by Purdue University three years after implementation begins and will cost $20,000. Results will be reported to the steering and education committees when data are available.

12.1.3 Administrative Indicators

Administrative indicators provide information that water quality and social indicator data cannot. These indicators are effectively "bean counting" and are used to track program participation, strategy completion, and goal attainment. Administrative indicators will be used to track the following:

- Attendance at workshops and field days.
- Emails sent, read, and responses received.
- Conservation practice installation including anticipated load reduction, size, and timing.
- Photo monitoring of installed practices.
- Media hits (newspaper stories, radio stories, website hits).
- Number of educational materials distributed.

Administrative indicators will be tracked using a database in which date of activity, number of attendees/participants, and an activity description will be recorded. Installed practices will be tracked in a project database using Geographic Information Systems. Administrative indicator tracking will occur as part of the cost-share and education programs and will be completed by the WREC watershed coordinator. Data will be reported to the steering committee no less than annually with updates to the database occurring quarterly.

12.2 Future Considerations

There are several considerations stakeholders should keep in mind as they implement the Region of the Great Bend of the Wabash River Watershed Management Plan. Many of these considerations are noted in the proceeding sections of this text, but due to their importance, they warrant reiteration.

12.2.1 Water Quality Monitoring

An active water quality monitoring program will continue within the Region of the Great Bend of the Wabash River watershed. Water chemistry monitoring will occur at each of the three tributary stream sample sites used to develop this plan in an effort to show changes in water quality based on the paired watershed model. Upstream-downstream monitoring of the Wabash River is slated to continue in an effort to further identify changes in Wabash River water quality due to the impact o Greater Lafayette. Biological monitoring and volunteer monitoring will continue at the twelve sites used to develop this plan.

The monitoring committee will be convened annually to discuss results of water quality monitoring and to provide recommendations to the steering committee for watershed management plan refinements. The following will be considered at annual monitoring committee meetings:

- Have implemented best management practices been effective in improving water quality?
- Should a different suite of best management practices be used?
- Have water quality goals been achieved?
- Have water quality goals changed?

- Has the density of exotic species changed?

12.2.2 Social Indicator Monitoring

As detailed above, monitoring of social indicators will occur three years after implementation begins. Additional social indicator surveys will be scheduled during each phase of implementation. The education committee will be convened following each survey to review results and identify changes in social indicator data. After each social indicator assessment, the following will be considered at annual education committee meetings:

- Are watershed stakeholders more informed about water quality concerns and watershed issues?
- Have methods for distributing information to stakeholders been effective?
- Have the desired uses of the Wabash River and its tributaries changed?

12.2.3 Permits, Easements, and Agreements

Permission to implement any on-the-ground implementation project must be obtained from property owners prior to installation occurring. Likewise, any instream or near-stream restoration activities will likely require permits. All permits will be obtained by the Wabash River Enhancement Corporation prior to any work beginning.

12.2.4 Installed Practice Monitoring

Annually, a practice technical committee will be convened to review installed best management practices and successes or failures of installed practices. Members from the following organizations will be contacted and asked to serve on this committee: Soil and Water Conservation District personnel, Natural Resource Conservation Service personnel, The Nature Conservancy staff, County surveyors, IDEM representatives, IDNR representatives, County Health Department staff, City of Lafayette engineering and parks department staff, City of West Lafayette engineering and parks department staff, Tippecanoe Partnership for Water Quality, Purdue University Physical Facilities staff, Tippecanoe County Parks Department staff, and NICHES Land Trust staff. Other members will be invited as identified. The board will meet annually to review the following:

- Location and number of best management practices installed.
- Annual plans for best management practice installation.
- Potential areas for collaboration on best management practice installation.
- Grant funding opportunities and potential project targets.

12.2.5 Plan Tracking

Each strategy will be tracked on a quarterly basis. Work completed towards each strategy will be documented in a tracking database which will include scheduled and completed activities, numbers of individuals attending or efforts completed toward each objective, and load calculations or monitoring results for each goal, objective, and strategy. Overall project progress will be tracked by measureable items such as workshops held, BMPs installed, meetings held, etc. Load reductions will be calculated for each BMP installed. These values and associated project details including BMP type, location, length of conservation commitment, easement, size, cost, installer, and more will be tracked over time in a single database. Individual landowner contacts and information will be tracked for both identified and installed projects.

12.2.6 Plan Revision

The steering committee of the Region of the Great Bend of the Wabash River watershed will continue to meet on a regular basis for the purpose of plan implementation. Annually, this committee will review findings of the education, monitoring, and implementation committees. The steering committee will review project efforts according to the management plan's goals, objectives, and strategies no less than every five years.

This watershed management plan is meant to be a living document. Revisions and updates to the plan will be necessary as stakeholders begin to implement the plan and as stakeholders become more active in implementing the plan. The Wabash River Enhancement Corporation will be responsible for holding and revising the Region of the Great Bend of the Wabash River Watershed Management Plan as appropriate based on stakeholder feedback.

This plan may be adapted or blended with other watershed management plans to effectively create living documents which cover larger-scale projects and capitalize on potential shared resources.

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