

Section IX: Implementation and Evaluation

The implementation of the Little Calumet River Watershed Management Plan is designed to take place over the 20 years. This planning horizon is broken down into short, medium, and long range milestones. Each action items is only listed once despite being a measurable item for multiple goals listed. A larger version of the goals and action items presented here can be found in Appendix 18: Action Items.

Goal 1: Reduce <i>E.coli</i> levels in the Little Calumet River by reducing loads to the River to meet beneficial uses.			
	Short Term Milestones and Measurable Goals (through 2009)	Medium Range Milestone and Measurable Goals (through 2013)	Long Term Milestones and Measurable Goals (through 2028)
Action Item 1: Develop pet waste campaign			
	Locate at least three (3) areas where a pet waste educational campaign would be beneficial.	Develop database of all pet stores and begin program to educate customers regarding pet waste disposal.	Conduct 15 educational events in targeted areas to educate public regarding pet waste disposal.
Action Item 2: Develop septic system maintenance program			
	Develop septic maintenance awareness program targeted at homeowners, realtors, and health departments	Complete GIS of known septic systems by determining which buildings have or had septic systems. (Possibly based on construction date and sewer availability at that time.)	Locate, map, and inspect all known septic systems.
	Develop and utilize an existing onsite sewage disposal systems (OSDS) inventory.	Develop and implement policies that require inspection and maintenance of OSDS such as a Point of Sale Ordinance in each municipality in the watershed.	Map results of inspection in a central GIS of the watershed and in each communities GIS.
Action Item 3: Reduce <i>E.coli</i> loading from agricultural sources			
	Identify five (5) areas where wildlife and/or livestock have the greatest impact on the river.	Implement a pond/lake management campaign to reduce nuisance wildlife habitat and implement animal waste management practices by completing one (1) improvement project in each of the five (5) areas.	Add a database of areas impacted by nuisance wildlife and animal waste to each municipalities GIS as part of the pond/lake management campaign.
	Locate and map all livestock operations within the watershed.	Contact property owners of all livestock operations to discuss <i>E.coli</i> pollution prevention and animal waste management.	Install natural buffer areas between five (5) largest livestock operations and waterways.
Action Item 4: Reduce <i>E.coli</i> loading from urban sources and Install Best Management Practices (BMPs) to reduce <i>E.coli</i> loading to the River			
	Acquire land and funding to restore 400 acres between the levees to wetlands.	Complete restoration of 400 acres of wetlands between the levees.	Complete restoration of 4780 acres of wetlands.
	Identify three (3) municipalities capable of and willing to implement a Rain Garden installation program.	Install 100 Rain Gardens in the three (3) identified municipalities and add three (3) more municipalities to the programs.	Install 300 Rain Gardens in the six (6) identified municipalities and add all remaining municipalities to the programs.

	Develop Green Parking and Green Roofs ordinances in five (5) municipalities within the watershed.	Allow or Install five (5) green roofs or green parking lots within the five (5) municipalities. Develop Green Parking and Green Roofs ordinances in all remaining municipalities within the watershed.	Allow or Install twenty (20) green roofs or green parking lots within the watershed.
	Identify at least twenty (20) areas that could utilize infiltration practices such as grassed swales, infiltration basins, infiltration trenches, and bioretention and prioritize them.	Complete installation of three (3) of the twenty (20) infiltration practices.	Complete installation of ten (10) of the twenty (20) infiltration practices.
	Identify ten (10) areas that vegetated buffers would be most beneficial.	Install 500 LF of vegetated buffers in key areas.	Install 2,000 LF of vegetated buffers in key areas.
	Identify at least fifteen (15) locations for retention/detention ponds and begin land acquisition process as needed.	Complete installation of at least three (3) of the fifteen (15) retention/detention ponds.	Complete installation of at least ten (10) of the fifteen (15) retention/detention ponds.
	Identify five (5) municipalities willing to install/require storm water filtration such as bioretention, rain gardens, sand filters, filter strips, catch basin inserts, and storm water filters/separators.	Pass necessary ordinances in five (5) municipalities within the watershed for the installation of these practices and install ten (10) such practices.	Pass necessary ordinances in all municipalities within the watershed for the installation of these practices and install forty (40) such practices.
		As part of the plan update, research <i>E.coli</i> treatment strategies and determine which BMPs or other programs are most successful, and add them to the updated report.	Develop and implement an education/training program for system designers, installers and inspectors to attend.
		Implement conservation measures through the use of local ordinances that will reduce the <i>E.coli</i> loads generated during high volume stormwater resulting in CSO events	Construct BMPs throughout the watershed that will reduce the <i>E.coli</i> loads that are generated by CSO events and other sources.

Goal 2: Reduce sediment loads by source reduction strategies and, in priority subwatersheds, through the use of BMPs.			
	Short Term Milestones and Measurable Goals (through 2009)	Medium Range Milestone and Measurable Goals (through 2013)	Long Term Milestones and Measurable Goals (through 2028)
Action Item 1: Reduce sediment loads from agricultural land			
	Identify and contact at least ten (10) eligible landowners and discuss benefits of Farm Bill cost-share programs that are specific to their land; as identified in the IN NRCS Field Office Technical Guide.	Develop conservation program targeted at the landowners that agreed to participate in the Farm Bill cost-share program and enroll at least five (5) of the participants.	Continue to identify and contact landowners and enroll at least ten (10) of the participants in the Farm-Bill cost-share program in the conservation program.
Action Item 2: Reduce sediment loads from urban/rural sources.			
	Incorporate 80% TSS reduction standard into ordinances governing new developments in five (5) municipalities in the watershed.	Incorporate 80% TSS reduction standard into ordinances governing new developments in all municipalities in the watershed.	Implement structural practices that reduce the average annual TSS loadings by 80% or reduce the post-development loadings of TSS so that the average annual resulting TSS loadings are

			no greater than predevelopment TSS loadings in all municipalities.
	Identify twenty (20) locations that sediment traps could be installed.	Install five (5) sediment traps in key locations in the watersheds.	Install ten (10) sediment traps in key locations in the watersheds.
	Post Indiana Stormwater Manual and supporting storm water and erosion control ordinances to the websites of each municipality so it is readily available to developers and site planners to utilize.	Develop case studies which highlight innovative BMPs and other effective practices to share with neighboring communities and to present to targeted audiences, including stormwater managers, city engineers, developers and builders.	Create and utilize a GIS based storm water BMP tracking system in all municipalities.
	Review existing land use plans, zoning and ordinances in each municipality to see if there are any barriers to implementing "Smart Growth" principles or LID practices.	Update land use plans, zoning and ordinances to allow for "Smart Growth" and various LID practices in each municipality as needed.	Update land use plans, zoning, and ordinances in each municipality to ensure that they allow for "Smart Growth" and various LID practices.
Action Item 3: Reduce sediment loading from marina and recreational boating sources			
	Identify existing and/or proposed marinas and encourage them to participate in Indiana Clean Marina Program.	Establish no-wake zones in all marinas	Establish cost-share program for marinas to stabilize eroding shorelines preferably using vegetative measures where feasible.
	Identify five (5) areas in marinas that would benefit most from shoreline stabilization practices.	Implement measures aimed at stabilizing shorelines in at least two (2) identified areas.	Implement measures aimed at stabilizing shorelines in at least five (5) identified areas and identify five (5) more areas.
Action Item 4: Reduce sediment loading from proposed or existing hydromodification projects			
	Identify at least ten (10) areas that would benefit from channel modification to encourage sedimentation and reduce erosion.	Complete necessary modeling on five (5) of the proposed channel modification sites to evaluate the effectiveness of the plans.	Complete proposed modifications and install other BMPs as appropriate at a minimum of three (3) of the proposed sites.
	Develop a stream and riparian area restoration work plan that includes ten (10) areas for restoration and/or protection.	Implement the developed stream and riparian area restoration work plan in at least two (2) areas.	Implement the developed stream and riparian area restoration work plan in at least five (5) areas.
Action Item 5: Public and Municipality Involvement			
	Develop LID presentation that can travel and is targeted at specific audiences.	Give presentation to decision makers in all municipalities.	Conduct five (5) training workshops focused on development and the benefits of LID methods.
	Develop LID ordinances or policies to use in multiple jurisdictions	Establish LID ordinances in five (5) municipalities.	Establish LID ordinances in all municipalities.

Goal 3: Reduce nutrient loads by source reduction strategies and, in priority subwatersheds, through the use of Best Management Practices (BMPs)

	Short Term Milestones and Measurable Goals (through 2009)	Medium Range Milestone and Measurable Goals (through 2013)	Long Term Milestones and Measurable Goals (through 2028)
Action Item 1: Reduce nutrient loads from Agricultural land			
	Identify and contact at least ten (10) eligible landowners and discuss benefits of Farm Bill cost-share programs that are specific to their	Develop conservation program targeted at the landowners that agreed to participate in the Farm Bill cost-share program and enroll at least five (5)	Continue to identify and contact landowners and enroll at least ten (10) of the participants in the Farm-Bill cost-share program in the

	land; as identified in the IN NRCS Field Office Technical Guide.	of the participants.	conservation program.
Action Item 2: Reduce nutrient loads from urban/rural sources.			
	Identify ten (10) areas that grass lined channels would be most beneficial.	Install 1,000 LF of grass lined channels.	Install 5,000 LF of grass lined channel.
	Identify and develop partnerships with fertilizer manufacturers and distributors.	Develop program to offset cost and provide availability of phosphorus free fertilizer to local communities to be used on household lawns. Implement the program in at least three (3) municipalities.	Continue to make phosphorus free fertilizer available to communities through organization and cooperation with local stores to supply the fertilizer. Implement the program in all municipalities.
Action Item 3: Public and Municipality Involvement			
	Develop managed lands and homeowner outreach strategy that will educate the public about yard maintenance activities.	Conduct five (5) outreach events for homeowners and contact all golf courses within the watershed regarding maintenance activities.	Conduct fifteen (15) outreach events for homeowners and continue to work with all golf courses within the watershed regarding maintenance activities.

Goal 4: Restore, improve, and/or protect floodplains, wetlands, natural areas, and riparian corridors.			
	Short Term Milestones and Measurable Goals (through 2009)	Medium Range Milestone and Measurable Goals (through 2013)	Long Term Milestones and Measurable Goals (through 2028)
Action Item 1: Reduce habitat degradation associated with urban/rural areas.			
	Develop and adopt riparian setback ordinances that will aid in future project planning by delineating certain areas as "natural areas" in at least two (2) municipalities.	Develop and adopt riparian setback ordinances that will aid in future project planning by delineating certain areas as "natural areas" in at least five (5) municipalities.	Develop and adopt riparian setback ordinances that will aid in future project planning by delineating certain areas as "natural areas" in all municipalities.
	Develop wetland and riparian protection ordinances in local communities in at least two (2) municipalities.	Develop wetland and riparian protection ordinances in local communities in at least five (5) municipalities.	Develop wetland and riparian protection ordinances in local communities in all municipalities.
Action Item 2: Protect existing wetlands and riparian areas and restore degraded ones			
	Identify twenty (20) priority areas for restoration/mitigation that will have the greatest benefit to water quality and habitat connectivity and funding sources/partnerships to complete them.	Restore/mitigate at least two (2) of the priority areas.	Restore/mitigate at least ten(10) of the priority areas.
	Identify twenty (20) priority areas for protection, the current land owners, and potential funding sources.	Acquire through purchase or conservation easement at least two (2) of the priority areas for protection.	Acquire through purchase or conservation easement at least ten (10) of the priority areas for protection.
	Develop education and outreach material on the importance and function of wetlands and riparian areas to help protect them from adverse public impacts.	Conduct at least five (5) educational events on the importance and function of wetlands and riparian areas.	Conduct at least twenty (20) educational events on the importance and function of wetlands and riparian areas.

Goal 5: Improve public awareness/knowledge of pollutant loads, sources, and solutions, especially with regard to <i>E.coli</i>, and the impacts and risks associated with them.			
	Short Term Milestones and Measurable Goals (through 2009)	Medium Range Milestone and Measurable Goals (through 2013)	Long Term Milestones and Measurable Goals (through 2028)
Action Item 1: Promote positive/healthy locations for recreational purposes.			
	Identify gaps in public access sites and incorporate Coastal Program findings.	Work with the Health Department to increase the number and proper usage of signs regarding the current condition of the water.	Post warnings signs as needed at all public access sites.
Action Item 2: Increase public awareness and knowledge of water condition			
	Develop and implement an Adopt-A-Stream program in all municipalities within the watershed.	Develop and implement a Storm Drain Marking program in all municipalities and mark all storm drains.	Develop volunteer campaigns to involve the public in Reforestation Programs and Wetland Plantings and conduct at least five (5) events.
	Develop Project Wet (Water Education for Teachers) program.	Promote or assist in classroom programs such as Project WET (Water Education for Teachers) and conduct five (5) outdoor activities/workshops	Promote or assist in classroom programs such as Project WET (Water Education for Teachers) and conduct fifteen (15) outdoor activities/workshops
	Develop and conduct Public Service Announcements (PSAs) related to <i>E.coli</i> and recreation and develop a campaign to include educational inserts in utility bills.	Conduct five PSAs on at least three (3) local radio and television stations.	Conduct ten PSAs on at least three (3) local radio and television stations.

Goal 6: Create an active watershed alliance or conservancy district that facilitates and implements information sharing including ordinances, projects/experiences, and educational materials in a central location.			
	Short Term Milestones and Measurable Goals (through 2009)	Medium Range Milestone and Measurable Goals (through 2013)	Long Term Milestones and Measurable Goals (through 2028)
	Determine relevant players in organization and approach them for buy-in. Appoint representation from each group involved.	Host regular meetings of the alliance and develop a communication/outreach strategy to spread a consistent message.	Develop a website through coordination with local agencies.
	Approach public officials with idea and proposed structure to gain buy-in from the local communities and their administrations	Continue to gain support from the new administrations that are part of the various local communities and environmental groups across the watershed study area.	
	Develop organization structure alternatives with input of public officials and develop MOUs between jurisdictions in watershed		
	Coordinate available resources including those provided by NIRPC, IDEM, and the EPA	Develop a contiguous mapping system across political boundaries	Construct and maintain a website that is available for both general public use and municipality use.

Goal 7: Increase river corridor connectivity, river navigability, and public access sites and make the public aware

of them.			
	Short Term Milestones and Measurable Goals (through 2009)	Medium Range Milestone and Measurable Goals (through 2013)	Long Term Milestones and Measurable Goals (through 2028)
	Incorporate (into public education materials) the finding from the pending Coastal Program study regarding significant gaps in public access on sections of the river	Utilize new Coastal Program data and develop maps and web resources highlighting access sites along the Little Calumet River and its tributaries	Distribute maps and increase knowledge of web resources to general public in the communities along the Little Calumet River and its tributaries
	Identify ten (10) areas that would be most effective in improving connectivity along the river and its tributaries.	Design and construct at least two (2) projects that improve connectivity along the river.	Design and construct at least five (5) projects that improve connectivity along the river.
	Identify ten (10) areas along waterway that create the greatest obstruction in the navigability	Develop long range plan to replace structures obstructing navigability on the river.	Install at least three (3) projects that increase navigability on the river.
	Discuss culvert alternatives with state and federal highway authorities	Implement culvert alternatives as parts of other ongoing projects.	Install at least three (3) projects that increase navigability on the river.
	Identify at least ten (10) areas where a new public access site are possible and would be beneficial.	Acquire land and construct at least one (1) new public access site.	Acquire land and construct at least three (3) new public access site.