

This goal was developed in response to public concerns about protection of existing conservation areas/natural areas, habitat degradation, corridor and floodplain protection and trail connections (along streams, public access sites). Several land holding stakeholders (IDNR, CILTI, TNC) participate on the Steering Committee and are interested in protecting and restoring several areas in the watershed. Water quality monitoring data also helped identify the functional role of some of the unique aspects of Big Walnut natural areas in Subwatersheds A, C, and F.

Goal 5: Develop public awareness on how individual activities and actions will/do impact the watershed.

This goal was developed in response to public concerns about the lack of public education on environmental topics. Several of the problems and sources of pollution are a direct result of limited public awareness regarding the negative impacts individuals and the collective behavior of a community can have on water quality. Awareness and education is needed regarding septic systems, water use, fertilizers, and managing animal waste. Concerns related to pollutant loads and stormwater runoff could be address using education as the primary BMP.

11.0 STRATEGIES

The Steering Committee then developed strategies to help address the project goals. The strategies are designed to help mold public outreach throughout the project and develop a work plan for various stakeholders, particularly the local Soil and Water Conservation Districts to begin targeted BMP implementation into the future. Action items associated with each strategy were identified by the Steering Committee and a rough schedule was assigned. The schedule was defined by three timeframes: 2009-2010 (immediate), 2010-2012 (near future/next grant cycle), 2012-2019 (later, planning or earlier steps required). Table 19 reflects these strategies and action items. The following section, Section 12.0, works to identify more specifically where the strategies related to Best Management Practices (BMPs) could or should be targeted based on the characteristics and water quality concerns of each priority subwatershed.

Table 19: Strategies and Actions

Goal 1: Reduce soil erosion and sediment inputs into streams that result in a 1% reduction in 5 years.					
		Schedule			
Strategy	Action Item	2009-2010	2010-2012	2012-2019	Responsible Party
Reduce sediment loads from agricultural run-off	Work with NRCS, SWCDs, and county drainage boards to identify partners in the agricultural community and communication mechanisms	✓			BWCWA Committees, SWCDs, NRCS, ISDA, FSA, Drainage Boards
	Work with NRCS and SWCDs to increase cover crop practices, no-till practices, and grassed waterway locations		✓		BWCWA Coordinator, Agricultural Liaison, and SWCDs/NRCS/ISDA
	Provide cost-share funding for education and demonstration projects		✓		BWCWA Committees and SWCDs
Reduce sediment loads from highly erodible areas	Work with NRCS and SWCD to identify areas with highly erodible soils and those areas impacted/eroded in flood events of 2008	✓			BWCWA Coordinator, Agricultural Liaison, and SWCDs/NRCS/ISDA
	Work with NRCS and SWCD to target BMP installation to areas with highly erodible soils	✓			BWCWA Committees, Agricultural Liaison, and SWCDs/NRCS/ISDA
	Identify steep grade changes in the streams and look for areas to implement floodplain improvements or high flow storage	✓			BWCWA Coordinator and SWCDs/NRCS/ISDA, possible consultant assistance

Table 19: Strategies and Actions (cont)

Goal 1: Reduce soil erosion and sediment inputs into streams that result in a 1% reduction in 5 years.					
Strategy	Action Item	Schedule			Responsible Party
		2009-2010	2010-2012	2012-2019	
Reduce sediment loads from floodplains and land adjacent to streams	Work with NRCS and SWCDs to identify areas with poor buffer widths adjacent to streams	✓			BWCWA Coordinator and SWCDs/NRCS/ISDA
	Target BMPs installation to floodplains and land adjacent to streams to help with bank stabilization and slow erosive flows		✓		BWCWA Committees, Coordinator, and SWCDs/NRCS/ISDA
Increase Rule 5 enforcement and improve SWPPP plan development and review	Get staff training in plan review and incentive or enforcement programs		✓		BWCWA Coordinator and SWCDs
	Identify partner that could help monitor and report any problem sites		✓		BWCWA Committees, Coordinator, and SWCDs
	Educate local contractors about Rule 5 and status of local water quality	✓			BWCWA Committees, Coordinator, and SWCDs

Table 19: Strategies and Actions (cont)

Goal 2: Reduce Total Phosphorus and Nitrate inputs by 20% in 5 years and Nitrate inputs by 40% in 10 years.					
Strategy	Action Item	Schedule			Responsible Party
		2009-2010	2010-2012	2012-2019	
Reduce nutrient loads from agricultural run-off	Work with NRCS, SWCDs, and county drainage boards to identify partners in the agricultural community and communication mechanisms	✓			BWCWA Committees, SWCDs, NRCS, ISDA, FSA, Drainage Boards
	Work with NRCS and SWCDs to educate agricultural landowners on fertilizer reduction and application timing practices	✓			BWCWA Committees, Agricultural Liaison, and SWCDs/NRCS/ISDA
	Provide cost-share funding for education and demonstration projects		✓		BWCWA Committees, Coordinator, and SWCDs/NRCS/ISDA
	Work with NRCS and SWCDs to increase conservation tillage practices, buffers and nutrient management planning	✓			BWCWA Committees, Agricultural Liaison, and SWCDs/NRCS/ISDA
Reduce nutrient load by increasing riparian buffers/floodplain zones and wetland acreage	Work with NRCS, SWCDs, The Nature Conservancy, CILTI, and IDNR to identify suitable areas for restoration and partners		✓		BWCWA Committees, Coordinator, and conservation partners (CILTI, IDNR, TNC, SWCDs)
	Provide cost-share funding for buffers and wetland restoration and widely market the practices to appropriate landowners		✓		BWCWA Committees, Coordinator, and SWCDs/NRCS/ISDA

Table 19: Strategies and Actions (cont)

Goal 2: Reduce Total Phosphorus and Nitrate inputs by 20% in 5 years and Nitrate inputs by 40% in 10 years.					
		Schedule			
Strategy	Action Item	2009-2010	2010-2012	2012-2019	Responsible Party
Reduce nutrient load from suburban and urban runoff	Develop and deliver education and outreach programs regarding sustainable fertilizer use		✓		BWCWA Committees, Coordinator, and SWCDs
	Identify local partners including realtors, home improvement stores, and chemical applicators that can share messages and provide phosphorus free fertilizers	✓			BWCWA Committees, Coordinator, and SWCDs
	Provide cost-share funding for education and residential demonstration projects		✓		BWCWA Committees, Coordinator, and SWCDs

Table 19: Strategies and Actions (cont)

<p>Goal 3: Reduce <i>E. coli</i> inputs such that all sample sites meet the State water quality standard of 235 cfu/100mL during base flow conditions and no more than 15% of the sites exceed the standard during storm flow conditions in 5 years. The long-term goal (10 years) is for all storm flow events to meet State water quality standards.</p>					
		Schedule			
Strategy	Action Item	2009-2010	2010-2012	2012-2019	Responsible Party
Reduce <i>E. coli</i> levels from livestock with access to streams	Work with NRCS, SWCDs, and county drainage boards to identify partners in the agricultural community and communication mechanisms	✓			BWCWA Committees, SWCDs, NRCS, ISDA, FSA, Drainage Boards
	Install livestock exclusion fencing and alternative watering sources		✓		BWCWA Committees, Agricultural Liaison, and SWCDs/NRCS/ISDA
	Continue monitoring in critical areas to further pinpoint sources and locations			✓	BWCWA Coordinator, SWCDs, and DePauw
Reduce <i>E. coli</i> levels from agricultural runoff	Work with agricultural community to promote timing of manure application to fields and alternative manure management strategies		✓		BWCWA Committees, Agricultural Liaison, and SWCDs/NRCS/ISDA
	Install buffers and wetlands via a cost share program and market their benefits		✓		BWCWA Committees, Agricultural Liaison, and SWCDs/NRCS/ISDA
	Continue monitoring in critical areas to further pinpoint sources and locations			✓	BWCWA Coordinator, SWCDs, and DePauw

Table 19: Strategies and Actions (cont)

Goal 3: Reduce <i>E. coli</i> inputs such that all sample sites meet the State water quality standard of 235 cfu/100mL during base flow conditions and no more than 15% of the sites exceed the standard during storm flow conditions in 5 years. The long-term goal (10 years) is for all storm flow events to meet State water quality standards.					
		Schedule			
Strategy	Action Item	2009-2010	2010-2012	2012-2019	Responsible Party
Reduce <i>E. coli</i> levels from failing or absent septic systems	Work with health departments to identify areas with failing or no septic systems	✓		✓	BWCWA Coordinator, SWCDs and County Health Departments
	Host septic system care and maintenance workshops		✓		BWCWA Committees, SWCDs, and County Health Departments
	Work with health departments to create an ordinance requiring all properties sold with septic systems to have an inspection done at time of sale		✓		BWCWA Coordinator, SWCDs, County Health Departments, and realtors
	Continue monitoring in critical areas to further pinpoint sources and locations		✓		BWCWA Coordinator, SWCDs, and DePauw

Table 19: Strategies and Actions (cont)

Goal 4: Protect and enhance important and unique natural aspects of Big Walnut Creek and its watershed (endangered and high quality species/natural areas).					
		Schedule			
Strategy	Action Item	2009-2010	2010-2012	2012-2019	Responsible Party
Raise public awareness of the importance of the protection/conservation of natural areas and impacts on water quality	Host fieldtrips - watershed tours, river trips through nature preserves in watershed		✓		BWCWA Committees, Coordinator, and conservation partners (CILTI, IDNR, TNC, SWCDs)
	Build on McCloud Nature Park as an example property		✓		BWCWA Committees and Hendrick County parks and SWCD
	Purchase or assist with conservation easements on important properties			✓	BWCWA Coordinator and conservation partners (CILTI, IDNR, TNC, SWCDs)
	Fund plantings outside of 100-year floodplain to get whole field plantings		✓		BWCWA Committees, NRCS and SWCDs
	Restore lands adjacent to unique resources through cost-share funding or local mitigation projects/coordination		✓		BWCWA Committees and development community
	Collect data and create case studies and/or marketing material about the impacts of the 2008 floods and role of floodplains	✓			BWCWA Committees, Coordinator, and Putnam Co SWCD

Table 19: Strategies and Actions (cont)

Goal 4: Protect and enhance important and unique natural aspects of Big Walnut Creek and its watershed (endangered and high quality species/natural areas).					
Strategy	Action Item	Schedule			Responsible Party
		2009-2010	2010-2012	2012-2019	
Raise public awareness of the importance of the protection/conservation of natural areas and impacts on water quality	Work with IDNR to hold training sessions for local interpreters/naturalists		✓		BWCWA Coordinator and IDNR
	Work with TNC, IDNR, and CILTI to promote field work days (e.g. invasive species removal, clean-ups, habitat improvements, etc.)		✓		BWCWA Committees, Coordinator, and conservation partners (CILTI, IDNR, TNC, SWCDs)
Influence landuse planning at the local and county levels	Participate and/or attend Plan Commission meetings	✓			BWCWA Coordinator and SWCD staff
	Review local planning documents and make recommendations to staff regarding protection of important natural areas	✓			BWCWA Committees and Coordinator
Document 2008 flood impacts and identify important floodplains and riparian areas	Use 2008 damage assessments to identify areas for restoration	✓			BWCWA Coordinator, NRCS, and Putnam Co SWCD
Identify important corridors for habitat	Work with CILTI, IDNR, and TNC to identify corridor management strategies and locations	✓			BWCWA Committees, Coordinator, and conservation partners (CILTI, IDNR, TNC)
	Work with DePauw University to get students involved in planning and assessment of area habitats	✓			BWCWA Coordinator and DePauw University

Table 19: Strategies and Actions (cont)

Goal 5: Develop public awareness on how individual activities and actions will/do impact the watershed.					
		Schedule			
Strategy	Action Item	2009-2010	2010-2012	2012-2019	Responsible Party
Provide "hands-on" opportunities for people to learn about individual BMPs	Host fieldtrips - watershed tours, river trips showing land use and impacts, both positive and negative		✓		BWCWA Committees, Coordinator, and conservation partners (CILTI, IDNR, TNC, SWCDs)
	Promote and provide cost-share for equipment purchase and/or rental program for self-installation of BMPs		✓		BWCWA Committees, Coordinator, Agricultural Liaison and SWCDs
	Host workshops that teach about what can be done on individual residential properties (backyard conservation)		✓		BWCWA Committees, Coordinator, and SWCDs
	Give presentation and conduct interactive activities at neighborhood meetings, local service club meetings, etc.	✓			BWCWA Coordinator and SWCDs
	Create demonstration sites on public properties with help from volunteers		✓		BWCWA Committees and conservation partners (CILTI, IDNR, TNC, SWCDs)

Table 19: Strategies and Actions (cont)

Goal 5: Develop public awareness on how individual activities and actions will/do impact the watershed.					
Strategy	Action Item	Schedule			Responsible Party
		2009-2010	2010-2012	2012-2019	
Develop an targeted educational program and materials	Conduct a statistically valid, widespread watershed survey		✓		BWCWA Committee, , Coordinator, and Purdue Univerity
	Create a logo and key messages	✓			BWCWA Committee
	Identify partnerships with other stakeholders to find new venues to educate the public about water quality issues (partner with MS4s)	✓			BWCWA Committees, , Coordinator, conservation partners (CILTI, IDNR, TNC, SWCDs), and MS4s
	Utilize the Visitor Centers and tourism community	✓			BWCWA Coordinator, counties officials, and cities/towns
	Create tangible materials based on survey findings (e.g. website tools, graphics, brochures, handouts, displays, etc.)		✓		BWCWA Committees and Coordinator
	Create and build upon school programs		✓		BWCWA Coordinator and SWCDs
Create a comprehensive septic system education program	Work with health departments to identify areas with failing or no septic systems	✓			Coordinator, SWCDs and County Health Departments
	Host septic system care and maintenance workshops		✓		BWCWA Committees and SWCDs
	Work with health departments to create an ordinance requiring all properties sold with septic systems to have an inspection done at time of sale		✓		BWCWA Committees, Coordinator, County Health Departments, Realtors
	Develop septic system exhibit for county fair (demonstrate impacts on water quality)		✓		BWCWA Committees and SWCDs