

11.0 Action Register and Schedule

Throughout the Watershed Management Plan development process the Steering Committee identified measures that could be implemented to reduce non-point pollutant loads and improve water quality. After the completion of the concerns list, problem statements, and specific goals the following actions register and schedule was organized by the 5 major problem statements. The action register for funding purposes took the 5, 10, and 30 year goal statements and compiled them by short term goals (S) as 5 year or less, and long term goals (L) as the 10 and 30 year goals.

Estimated staff time and "structural" costs were calculated for each milestone in the action register and the total cost is in Table 77 below. This was done to help organize and rationalize funding strategies and set realistic timelines about achieving the milestones listed in the Action Register, which will ultimately achieve the water quality goals.

Table 77 Action Register Cost Summary Short and Long Term

Total Cost Projection Short term and Long Term			
Task	staff	structure	Totals
Flashiness	\$12,000	\$68,000	\$80,000
Fish and Wildlife Habitat	\$127,000	\$160,000	\$287,000
Recreation Use	\$6,600	\$57,500	\$64,100
Nutrient Load	\$152,100	\$529,308	\$681,408
Sediment Load	\$1,000	\$16,595	\$17,595
ecoli load	\$1,500	\$ 2,500	\$4,000
		Grand Total	\$1,134,103
staff = interns, consultants, contract work, and additional staff time beyond base			
Estimated structure = all BMPs, materials, land acquisition, brochures, etc.			
Total Cost Projection Just Short Term 0-5 yrs.			
Task	Staff	Structure	Totals
Flashiness	\$11,500	\$68,000	\$79,500
Fish and Wildlife Habitat	\$117,000	\$10,000	\$127,000
Recreation Use	\$10,600	500	\$11,100
Nutrient Load	\$ 150,500	\$ 135,300	\$285,800
Sediment Load	\$ 1,000	\$13,500	\$14,500
ecoli load	\$1,500	\$ 2,500	\$4,000
	\$292,100	\$ 229,800	
		Grand Total	\$521,900

11.1 Flashiness

Objective: To reduce high and low flow events by 5% across the watershed according the USGS stream gages at Rensselaer and Foremen.

Action Register for Flashiness							
Goal: To reduce high and low peak flow events across the watershed.							
Strategy	Target Audience	S= < 5 yr L = >5 yr	Milestone	Cost	Item	Possible Partners	Technical Assistance
Flow of water is not hindered via log jams	See Recreation Objective 1		See Recreation Objective 1	See Recreation Objective 1		See Recreation Objective 1	See Recreation Objective 1
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	S	Identify and seek financial incentives for landowners to install drainage water management practices.	\$1,000	staff	SWCDs, DNR, TNC, NRCS, USDA, ISDA, NICHES, Purdue Extension, NWF	Purdue Extension, NRCS, and SWCD
		S	Develop an education plan including demonstration day and printed materials targeting drainage water management.		staff		
		S	Implement education plan (2014-2018).		staff		
		S	Host annual workshop or presentation for landowners highlighting the benefits of drainage water management.	\$2,000	staff		
		S	Target a drainage water management demonstration area to be installed in 2016.	\$3,000	structure		
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	S	Complete installation of demonstration two-stage ditch project in Jasper County.		staff	SWCDs, DNR, TNC, NRCS, USDA, ISDA, NICHES, Purdue Extension, NWF	SWCDs, NRCS, TNC
		S	Conduct Assessment of x-feet of 2-stage needed to benefit WQ and storage capacity at specific HUC 12 sites	\$3,000	staff		
		S	Develop an education plan including demonstration day and printed materials targeting two stage ditches.				
		S	Implement education plan (2014-2018).				
		S	Host annual workshop or presentation for landowners highlighting the benefits of two stage ditches.	\$2,500	staff		
		S	Install two examples one-half mile two-stage ditches by 2016.	\$65,000	structure		
		L	Install two stage ditches as possible through 2041.		varies		

Action Register for Flashiness							
Goal: To reduce high and low peak flow events across the watershed.							
Strategy	Target Audience	Range	Milestone	Cost		Possible Partners	Technical Assistance
Increase wetland restoration (slow water down in headwaters) by 500 acres by 2016 and by 2,000 by 2041.	Agricultural landowners and operators, Urban and rural landowners	S	Promote WRP cost-share program in 2014.				
		S	Develop a list of potential wetland restoration sites in headwater areas and conduct one-on-one meetings with individual landowners starting in 2015	\$5,000	staff		
		S	Increase awareness about existing programs and offer incentives.	\$1,000	staff		
		L	Seek financial incentives for landowner to restore wetlands.	\$500	staff		
Total cost for Flashiness Concern				\$83,000			

11.2 Fish and Wildlife Habitat

Objective: To protect and enhance fish and wildlife habitat, the steering committee would like to increase the amount of buffer within 100 ft of all streams from the current status of 20% to a target of 50%, reduce roadside mowing by 25% and replace with native habitat, restore wetland acres from the current status of 1% to a target of 4% of total land acres, improve CMIBI from current poor/fair score to a target of excellent, and CQHEI scores from current status of unhealthy to a target of healthy.

Action Register for Fish and Wildlife Habitat							
Goal: protect and enhance fish and wildlife habitat							
Strategy	Target Audience	S=< 5 yr L=>5 yr	Milestone	Cost	Item	Possible Partners	Technical Assistance
Restore natural stream habitat along the Iroquois River and its tributaries that have less than 50% buffer according to stream buffer GIS analysis.	Ag and Urban landowners along streams	S	By end of 2014 create educational and funding brochure to send to streambank landowners	\$1,000	staff	TNC, NICHES, DNR, INDOT, SWCD	TNC, NICHES, DNR, INDOT, SWCD
		S	By 2015 contact all landowners in identified areas	\$1,000	staff		
		L	By 2025, less than 10% of streams miles are unbuffered	\$10,000	structures		
By 2018, 25% of roadside ditches no longer mowed and possibly replaced turf grass with low-growing native plants.	Landowners with lawns adjacent to roads.	S	By 2015, complete assessment of roadside ditch and those that are mowing using GIS maps and	\$10,000	staff	TNC, NICHES, DNR, INDOT, SWCD, Environmental Consultants	TNC, NICHES, DNR, INDOT, SWCD
		S	By 2017, develop an education program to target landowners with mowed roadside				
		S	Implement education plan (2017-2019).				
		L	By 2020, complete assessment of roadside mowing and compare results with 2015 assessment.	\$10,000	staff		
Educate about flora and fauna in the Iroquois River	Residents of Watershed	S	By end of 2015 create educational brochure specific to fish, flora, fauna on Iroquois River	\$2,000	material	Area schools, Saint Josephs College, DNR, NICHES, TNC	
		S	Implement education plan (2015-2017).	\$2,000	staff		
Increase wetland restoration by 500 acres by 2016 and by 2,000 by 2041.	see Flashiness Objective 1	see Flashiness Objective 1	see Flashiness Objective 1	see Flashiness Objective 1	see Flashiness Objective 1	see Flashiness Objective 1	see Flashiness Objective 1

Action Register for Fish and Wildlife Habitat							
Goal: improve stream conditions so that CQHEI index is greater than 50 and Citizen IBI is "good" at all sampling sites.							
Strategy	Target Audience	S=< 5 yr L=>5 yr	Milestone	Cost	Item	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.	See Flashiness Objective 1	See Flashiness Objective 1	See Flashiness Objective 1	See Flashiness Objective 1	See Flashiness Objective 1	See Flashiness Objective 1	See Flashiness Objective 1
Create backwater areas in the Iroquois River to improve spawning habitat by 2018.	Agricultural landowners and operators	S	By 2015, complete survey of Iroquois River, Carpenter Creek, and Curtis Creek to identify potential backwater restoration locations.	\$10,000	staff	DNR, Army Corps of Engineers, IDEM Section 401 WQ Assistance	DNR, Army Corps of Engineers, Saint Joesph's College, NICHS
		S	By 2016, conduct a feasibility assessment to identify appropriate backwater habitat area.	\$30,000	staff		
		S	By 2018, obtain funding for design and construction of backwater habitat area.	\$2,000	staff		
		L	Complete backwater habitat area design and construction by 2022.	\$150,000	structure		
Increase wetland restoration by 500 acres by 2016 and by 2,000 by 2041.	see Flashiness Objective 1	see Flashiness Objective 1	see Flashiness Objective 1	see Flashiness Objective 1	see Flashiness Objective 1	see Flashiness Objective 1	see Flashiness Objective 1
Action Register for Fish and Wildlife Habitat							
Goal: improve stream conditions so that CQHEI index is greater than 60 and Citizen IBI is "good" at all sampling sites.							
Strategy	Target Audience	S=< 5 yr L=>5 yr	Milestone	Cost	Item	Possible Partners	Technical Assistance
By 2017, complete profitability analysis for farms in the 100-year floodplain.	Agricultural landowners in the 100-year floodplain	S	In 2016, identify a funding source and partner to provide profitability analysis.	\$3,000	staff	SWCD, NRCS, Purdue University or Saint Joesph's College	SWCD, NRCS, Purdue University or Saint Joesph's College
		S	By 2017, contact all agricultural landowners with land in the 100-year floodplain to offer analysis. Targeted to areas with less than 50% buffer from desktop survey	\$5,000	staff		
		S	By 2018, complete profitability analysis for interested agricultural landowners.	\$50,000	staff		
		L	By 2045, restoration plans incorporating easements are complete for agricultural land in the 100-year floodplain.		structure		
Address Active Erosion Sites with appropriate measures	Landowners	S	In 2015, identify a funding source and partner to provide profitability analysis.	\$3,000	staff	SWCD, NRCS, Purdue University or Saint Joesph's College	SWCD, NRCS, Purdue University or Saint Joesph's College
		S	resolve 3 active erosions sites as identified by 2012 Windshiled survey annually (2015-2020)	\$10,000	structure		
Total cost fo Fish Habitat Concern				\$263,000			

11.3 Recreational Use

Objective: To increase recreational use of area streams, the steering committee would like to create more access points from the current 2 to 5, increase public use of streams from less to more often, stream passage by canoe from 60% passable to 100% passable, and associated educational outreach.

Action Register for Recreational Use							
Goal: Increase public access to the Iroquois River and its tributaries from 2 to 5.							
Strategy	Target Audience	S= < 5 yr L = >5 yr	Milestone	Cost	Item	Possible Partners	Technical Assistanc
Create public access point every 5-10 miles on navigable streams	Ag landowners and farmers, Urban residents along streams,	S	By 2015 public access point downstream of Rensselaer on Iroquois River	\$1,000	staff	IDNR, NICHES, County Surveyor, Boy Scouts, Parks Departments	IDNR, County Highway Department, NICHES
		L	By 2020 upstream and downstream access point of Brook on Iroquois River			IDNR, NICHES, County Surveyor, Parks Departments	IDNR, County Highway Department, NICHES
		L	By 2025 create access point on Carpenter and Curtis Creeks			IDNR, NICHES, County Surveyor, Parks Departments	IDNR, County Highway Department, NICHES
Identify log jams hindering family friendly canoe trips along the main stem of the Iroquois River	Ag landowners and farmers, Urban residents along streams,	S	Annual float entire river to identify significant log jams and map	\$500	staff	Surveyor, (IRCD), Friends of the Iroquois	Surveyor, Iroquois River Conservancy District (IRCD), Friends of the Iroquois
		S	create google based map so public can identify sites	\$100	staff	Saint Joesph's College, Surveyor, Iroquois River Conservancy District (IRCD), Friends of the Iroquois	Saint Joesph's College, Surveyor, Iroquois River Conservancy District (IRCD), Friends of the Iroquois

Action Register for Recreational Use							
Goal: Increase public access to the Iroquois River and its tributaries from 2 to 5.							
Strategy	Target Audience	S= < 5 yr L = >5 yr	Milestone	Cost	Item	Possible Partners	Technical Assistance
Remove major log jams that hinder canoeing	Ag landowners and farmers, Urban	S	by 2016 achieve log jam free canoeing from Rensselaer to State line.	\$1,000	staff	Friends of the Iroquois, IRCD	DNR, County Surveyor, IRCD
		S	annually cable trees that have fallen into the river to avoid log jams, while preserving fish habitat	\$ 500	structure		
Create 10 miles of walking/riding trails along the Iroquois River on both sides of urban areas along the river.	Ag landowners and farmers, Urban residents along streams, Cities	L	by 2025 extend city of Rensselaer urban trails to outside city along course of river	?	?	Parks of Rensselaer, County Surveyor Office, Iroquois River Conservancy District, Friends of the Iroquois	JCEDO, NWIPCS
		L	by 2040 connect river access points via walking/riding trail	?	?	Parks of Rensselaer, County Surveyor Office, Iroquois River Conservancy District, Friends of the Iroquois	JCEDO, NWIPCS
Action Register for Recreational Use							
Goal: Increase public access to the Iroquois River and its tributaries from 2 to 5.							
Strategy	Target Audience	S= < 5 yr L = >5 yr	Milestone	Cost	Item	Possible Partners	Technical Assistance
Create and distribute recreational guide specific to Iroquois River Region	Area Businesses, Ag landowners and farmers, Urban residents along streams,	S	create recreation map sponsored by area business by 2020	\$2,000	staff	NICHES, County Surveyor, Boy Scouts, Parks Departments of Rensselaer and Brook, Chamber of Commerce, Area Businesses	Northwest Indiana Paddlers Association
		S	distribute to NW Region	\$2,000	staff	NICHES, County Surveyor, Boy Scouts, Parks Departments of Rensselaer and Brook, Chamber of Commerce, Area Businesses	Northwest Indiana Paddlers Association
Create "Safe to Paddle Iroquois River" website linked to USGS stream gage	Business, Landowners and farmers, Urban residents along	S	Website development and created by 2018	\$4,000	staff	Friends of the Iroquois, IRCD, NWIPA, Chamber of Commerces, Area Businesses	USGS, NWIPA, Saint Joe College

Action Register for Recreational Use							
Goal: Educate to change "percieved" poor water quality threats that hinder recreational use							
Strategy	Target Audience	S= < 5 yr L = >5 yr	Milestone	Cost	Item	Possible Partners	Technical Assistance
Release annual report of WQ testing	Stakeholders	S	Annual User Friendly and Informative Report	\$1,000	Staff	Saint Joesph's College, Surveyor, Iroquois River Conservancy District (IRCD), Friends of the Iroquois	Saint Joesph's College, Surveyor, NRCS, Purdue University
			Conduct Annual Hoosier River Watch Training	\$1,000	Staff	Saint Joesph's College, Surveyor, Iroquois River Conservancy District (IRCD), Friends of the Iroquois	Saint Joesph's College, Surveyor, NRCS, Purdue University
Implement Quarterly WQ outreach effort	Stakeholders	S	Develop annual education outreach plan targeting WQ and the Iroquois River	\$1,000	Staff	Saint Joesph's College, Surveyor, Iroquois River Conservancy District (IRCD), Friends of the Iroquois	Saint Joesph's College, Surveyor, NRCS, Purdue University
Distribute fish advisory information to stakeholders	Stakeholders	S	Distribute via annual and quarterly outreach	\$500	staff	Chamber of Commerce, Friends of the Iroquois, IRCD	IDNR
Total cost for Recreation Concern				\$14,600			

11.4 Nutrients

Objective: To reduce nutrient concentrations (nitrogen and phosphorus) so that monthly water quality samples, do not exceed the 1.5ppm target for nitrate and the 0.005 ppm orthophosphate target more than 20% of the time within 30 years.

Action Register for nutrient loading in the watershed:							
Goal: reduce nutrient loading to streams from agricultural lands							
Strategy	Target Audience	S = < 5 yr L = > 5 yr	Milestone	Cost	Item	Possible Partners	Technical Assistance
Increase cover crop acreage by 8,000 acres by 2016 and by 15,750 acres by 2025.	Agricultural landowners and operators	S	Continue cost-share program in 2014.			ISDA, SWCDs, NRCS, USDA, Purdue Extension	SWCDs, NRCS
		S	Create a contractors list for specific cover crop seeding in 2014.	\$ 500	structure		
		S	Develop long term cover crop strip trials tied to yield data and nitrogen use 2015-217.	\$ 4,000	structure		
		S	Host cover crop workshop in 2014 and 2016.	\$ 1,000	staff		
		S	Annually, identify additional cover crop funding options.	\$ 1,000	staff		
		S	Annually (2014-2016) implement 4,000 acres of cover crop.	\$ 28,000	structure		
Increase awareness on the use of bioreactors by 2016.	Agricultural landowners and operators, Urban and rural landowners	S	Identify and seek financial incentives for landowners to establish bioreactors.	\$ 1,000	staff	ISDA, SWCDs, NRCS, USDA, Purdue Extension	ISDA, SWCDs, NRCS, USDA, Purdue Extension
		S	Develop an education plan including demonstration day and printed materials targeting the use of				
		S	Host annual workshop or presentation for landowners highlighting the benefits of bioreactors.	\$ 1,000	staff		
		S	Target a demonstration area to be installed in 2016 and install bioreactors as possible by 2041.	\$ 9,000	structure		

Strategy	Target Audience	S = < 5 yr L = > 5 yr	Milestone	Cost	Item	Possible Partners	Technical Assistance
Increase awareness on the use of drainage water management	see Flashiness Objective 1	see Flashiness Objective 1	see Flashiness Objective 1	see Flashiness Objective 1	see Flashiness Objective 1	see Flashiness Objective 1	see Flashiness Objective 1
Increase landowner awareness on the use of two-stage ditches	see Flashiness Objective 1	see Flashiness Objective 1	see Flashiness Objective 1	see Flashiness Objective 1	see Flashiness Objective 1	see Flashiness Objective 1	see Flashiness Objective 1

Action Register for nutrient loading in the watershed							
Goal: reduce nutrient loading to streams from agricultural lands							
Strategy	Target Audience	S=<5 yr L=>5 yr	Milestone	Cost	Item	Possible Partners	Assistance
Participate in SWCD field days, agricultural customer appreciation days, and other	Ag suppliers, operators, and ag businesses	S	0-2 yrs: Develop catalog of all area SWCD field days and ag customer appreciation days. Review and/or	\$ 4,000	Staff	SWCDs, NRCS, CERES, Wilson, Coop Alliance, Ag Equipment Dealers, Vision Ag, CCA	NRCS, ISDA, SWCD
		S	2-15 yrs: Give presentation on programs or have information booth at 20% of events each year. (Rotating to	\$ 2,000	Travel		
Work with farmers and commercial applicators to adopt precision agriculture technology to reduce excess applications of	Agricultural landowners, operators, and ag businesses	S	0-2 yrs: Market Precision Ag as tiered cost-share. (Based upon other BMP adoptions). Host P.A. training.	\$ 3,500	Lightbar each	CERES, Vision Ag, Wilson Fertilizer, Coop Alliance, etc.	Agronomists, Ag Supplies, NRCS, CCAs
		S	2-15 yrs: Review new P.A. technology on annual basis. Develop adoption / cost share guidelines on new	\$ 9,000	Basic precision		
		S	Continue hosting P.A. training on annual basis.	\$ 12,000	Autoswath		
Increase farmer participation in NRCS, DNR, and other conservation programs	Agricultural landowners and operators	S	0-3 yrs: Work with agronomists and ag suppliers to strategically market program to producers. Tak applications	\$ 120,000	staff for 5 years (Ag Director)	CERES, Vision Ag, Wilson Fertilizer, Coop Alliance, etc.	Agronomists, Ag Supplies, NRCS, CCAs
		L	3-15 yrs: Continue marketing and conservation plan development. Enroll at least 2 new producers / year into				
Strategy	Target Audience	S=<5 yr L=>5 yr	Milestone	Cost		Possible Partners	Assistance
Implement BMPs to improve efficiency of irrigations systems and reduce nutrient losses through surface run-off and leaching	Agricultural landowners, operators, and ag supplies	S	0-5yrs: Strategically market program to producers. Perform uniformity test and flow monitoring on enrolled systems.	\$ 500	Irrigation Plan	CERES, Vision Ag, Wilson Fertilizer, Coop Alliance, etc.	Agronomists, Ag Supplies, NRCS, CCAs
		L	6-15 yrs: Continue marketing and conservation plan development. Enroll at least 2 new producers / year into	\$ 8	structure (cost per acre)		
		L	By year 15, developed and implemented irrigation water management plans least 50% of	\$ 3,000	structure (irrigation upgrade)		

Action Register for nutrient loading in the watershed							
Goal: Reduce / prevent nutrients from domestic animals and livestock from entering surface water							
Strategy	Target Audience	S=< 5 yr L =>5 yr	Milestone	Cost	Item	Possible Partners	Assistance
Implement structural BMPs (exclusionary fencing / watering facilities) in pastures with livestock access to surface waters. (Where applicable, enroll sites into wetland/stream restoration programs.)	Livestock Owners	S	0-3 yrs: Strategically market program to producers and landowners. Develop <u>site-specific conservation plans</u> . Enroll	\$ 5,000	Mitigation Clearing house a year	SWCDs, Regulatory Agencies, Mitigation Partners,	ISDA, NRCS
		S	2-4 yrs: Install exclusionary fencing, stream crossings & watering facilities as required	\$ 5,500	Fence/water		
		S	2-5 yrs: Develop engineering plans and secure necessary permits as required	\$ 4,000	structure (stream crossing)		
		L	6-10 yrs: Stream restoration activities	\$ 30,000	structure (restoration)		
				\$ 5,000	structure (permitting)		
Work with farmers to implement manure management/application BMPs- cover crops, PSNT testing etc.	Livestock Owners	S	0-3 yrs: Strategically market program to producers and landowners. Develop <u>site-specific Conservation Plans</u> and	\$ 1,000	structure (nutrient plan)	SWCD, FSA, NRCS, Area Agronomists and Ag businesses	SWCD, FSA, NRCS, Area Agronomists and Ag businesses
		S	1-3 yrs: Focus efforts to have manured acres utilizing a cover crop in year manure is applied		see cover crop cost share under nutrient		
		S	2-5 yrs: Install,filter strips and/or buffers. Install fencing as needed. Implement intensive and/or rotational grazing strategies	\$ 150	structure (Filter Strip/acre)		
				\$ 1,000	structure (Fence/water)		

Action Register for nutrient loading in the watershed							
Goal: Reduce / prevent nutrients from domestic animals and livestock from entering surface water							
Strategy	Target Audience	S=<5 yr L=>5 yr	Milestone	Cost	Item	Possible Partners	Assistance
Work with landowners to insure that	Livestock Owners						
Goal: Reduce/prevent nutrients from residential yards, parks and park-like areas from entering surface water.							
Strategy	Target Audience	S=<5 yr L=>5 yr	Milestone	Cost	Item	Possible Partners	Assistance
Implement buffer strip BMPs on golf courses and parks&cementerie s to eliminate/reduce fertilizer runoff.	Park and Golf Boards, Cemetery Boards and Managers	S	0-1 yrs: Work with park boards & managers to define buffer strip needs. Define implementation plan	\$ 1,500	structure (\$0.50 LF)	DNR, NRCS, TNC, Ducks Unlimited, Pheasants Forever	DNR, NRCS, TNC, Ducks Unlimited,
		S	2-15 yrs: Install buffers	\$ 150	structure (\$150/acre)	DNR, NRCS, TNC, Ducks Unlimited, Pheasants Forever	DNR, NRCS, TNC, Ducks Unlimited,
		L	Achieve 30% of stream and pond bank buffer by year 10.	\$ 150,000	structure (1,000 acres)	DNR, NRCS, TNC, Ducks Unlimited, Pheasants Forever	DNR, NRCS, TNC, Ducks Unlimited,
		L	Achieve 60% of stream and pond banks buffered by yr 15.	\$ 150,000	structure (1,000 acres)	DNR, NRCS, TNC, Ducks Unlimited, Pheasants Forever	DNR, NRCS, TNC, Ducks Unlimited,

Action Register for nutrient loading in the watershed							
Goal: Reduce/prevent nutrients from residential yards, parks and park-like areas from entering surface water.							
Strategy	Target Audience	S= < 5 yr L = >5 yr	Milestone	Cost	Item	Possible Partners	Assistance
Educate landowners in methods of lawn/landscaping care that can reduce nutrient	Lawn and Garden Care Professionals, Garden Centers, Garden	S	0-1 yr: Develop web page with downloadable fact sheets.	\$ 500	staff	TNC, Friends of the Sands, Area Businesses	TNC, Landscaping Companies, Environmental Consultants,
		S	1-2 yrs: Write articles for media. Host workshop in conjunction with rain garden workshop.	\$ 500	structure (website)		
Educate private landowners in how buffers can eliminate / reduce nutrient runoff.	Lawn and Garden Care Professionals, Garden Centers, Garden	S	0-1 yr: Develop web page with downloadable fact sheets.	\$ 1,000	structure (website)	TNC, Friends of the Sands, Area Businesses	TNC, Landscaping Companies, Environmental Consultants,
		S	1-2 yrs: Write articles for media. Host workshop in conjunction with rain garden workshop. Provide technical	\$ 1,000	staff		

Action Register for nutrient loading in the watershed							
Goal: Reduce/prevent nutrients from residential yards, parks and park-like areas from entering surface water.							
Strategy	Target Audience	S=< 5 yr L =>5 yr	Milestone	Cost	Item	Possible Partners	Assistance
Install public and private raingardens equal in volume to approximately 1% of roof and parking area runoff. Especially, targeted at Rensselaer CSO outlet # 19 watershed.	Neighborhood associations, Commercial entities, City of Rensselaer, Goodland, Brook, Church groups	S	0-2 yrs: Awareness campaign, including raingarden webpage and factsheet / flyer	\$ 500	staff	City of Rensselaer, Parks Departments, SWCD, Garden Centers, Master Gardners	ISDA, TNC, Environmental Consultants,
		S	Year 2: Host 1 st raingarden workshop / install raingarden at public facility.	\$ 500	staff		
		L	Year 5: Host 2 nd raingarden workshop / install raingarden at public facility	\$ 2,500	structure (raingarden)		
		S	2-10 yrs: Promote raingarden installations	\$ 3,000	structure (raingarden)		
Install 5 acres of pervious pavement/porous pavers 10 acres of pervious pavement by 2041.	Neighborhood associations, Commercial entities, City of Rensselaer, Brook, Kentland, Goodland, Church groups	S	Identify certified installers and create an information portal to highlight pervious pavement.	\$ 1,000	staff	City of Rensselaer, Public Utility, etc.	ISDA, NRCS, Environmental Consultants
		S	Develop education plan to highlight practice, target developers, architects, and engineers, and promote via tours		staff* see note		
		S	Implement education plan (2015-2017).		staff**		
		L	Complete economic cost/benefit analysis.	\$ 5,000	staff		
		L	Work with the Rensselaer to develop a credit incentive program.	\$ 2,000	staff		
		S	Develop a list of entities to target for pervious pavement installation.	\$ 1,000	staff		
		L	Annually (2015-2025) install 1 acre of pervious pavement.	\$ 55,000	structure (pavement)		

Action Register for nutrient loading in the watershed							
Goal: Reduce/prevent nutrients from failing septic systems from entering surface water							
Strategy	Target Audience	S=< 5 yr L =>5 yr	Milestone	Cost	Item	Possible Partners	Technical Assistance
Educate landowners with septic systems on their proper maintenance		S	0-1 yrs: Develop web page with downloadable factsheets	\$ 1,000	structure	Local septic professionals, County Boards of Health	Local septic professionals, County Boards of Health
		S	1-2 yrs: Write articles for media.	\$ 100	staff		
		S	Year 2: Host workshop. Obtain discounts from local septic care professionals as attendee take-aways	\$ 500	staff		
Work with local banks to insure septic service records and system inspection is a requirement for any home loans	Banks/Loan Offices, County Recorders, Realtors, Appraisers	S	0-1 yrs: Develop web page with downloadable factsheets. Develop form to be file with Board of Health and Buyer.	\$ 250	staff	Banks/Loan Offices, County Recorders, Realtors, Appraisers	Banks/Loan Offices, County Recorders, Realtors, Appraisers
		S	1-2 yrs: Launch awareness campaign, especially for real estate professionals.	\$ 250	staff		
		L	By year 6, 50% of all real estate transfers done with septic inspection.	\$ 250	staff		
		L	By year 10: All real estate transfers done with septic inspection	\$ 250	staff		
Goal: Reduce/prevent nutrients from failing septic systems from entering surface water							
Strategy	Target Audience	S=< 5 yr L =>5 yr	Milestone	Cost		Possible Partners	Assistance
Work with local health department to review potential list of failing septic systems and insure effective inspection of system design and installation	County Board of Health, Building Code Officials	S	0-1 yr Create list of possible failing septic systems by date of construction and geographically map.	\$ 500	staff	County Board of Health, Building Code Officials	County Board of Health, Building Code Officials
		S	0-2 yrs: Review evaluation and installation inspection requirements based on Indiana Board of Health requirements.	\$ 500	staff		

Goal: reduce/prevent nutrients from CSOs from entering surface water.							
Strategy	Target Audience	S=< 5 yr L =>5 yr	Milestone	Cost	Item	Possible Partners	Assistance
Work with businesses and landowners to insure that gutters are not connected to stormwater systems.	Urban residents and businesses	S	0-2 yrs: Review of previous disconnect campaigns. Awareness campaign, including stormwater webpage and	\$ 500	staff	Town Councils, City and County Sewage Treatment Facilities	Town Councils, City and County Sewage Treatment Facilities
		S	2-5 yrs: On-foot survey of structures	\$ 500	staff		
Install public and private raingardens equal in volume to approximately 1% of roof and parking area runoff. Especially, targeted at Rensselaer CSO outlet # 19 watershed.	See Nutrients objective 3	See Nutrients objective 3	See Nutrients objective 3	See Nutrients objective 3	See Nutrients objective 3	See Nutrients objective 3	See Nutrients objective 3
Increase awareness of individuals about the Rensselaer's CSO Long-term Control Plans.	City of Rensselaer and residents	S	Develop an education plan highlighting efforts by the city to reduce Combined Sewer Overflows to the Iroquois River.		staff* see note	City of Rensselaer	City of Rensselaer
		S	Implement education plan (2015-2017).		staff**		
		S	Support CSO implementation plans as possible.	\$ 1,000	staff		
Increase the number of trees within the urban core by 2020	City of Rensselaer and residents	S	Develop education plan highlighting the stormwater and other benefits of trees.		staff* see note	City of Rensselaer, Rensselaer Urban Forestry Council	Purdue Extension, DNR
		S	Implement education plan (2015-2018).		staff**		
		S	Coordinate and support with Rensselaer Urban Forestry Council to plant more trees	\$ 50,000	structure (trees, etc.)		
		S	Increase funding for Rensselaer Urban Forestry Council.	\$ 1,000	staff		
Total Cost of Nutrients Program				\$682,908			

11.5 E.coli

Objective: To reduce E. coli concentrations at all sites to 235 and below cfu/100mL within 30 years. As of April 2013, across the watershed 50% of E.coli samples exceed the WQ target of less than 235 cfu/100mL. To meet TMDL targets a 73% reduction in loading needs to occur across the watershed. The 10 year goal will theoretically achieve this load reduction.

Action Register for e.coli loading from the landscape:							
Goal: reduce e.coli loading to streams from agricultural lands							
Strategy	Target Audience	S= < 5 yr L = >5 yr	Milestone	Cost	Item	Possible Partners	Technical Assistance
Increase cover crop acreage	See Nutrients Objective 1		See Nutrients Objective 1	See Nutrients Objective 1	See Nutrients Objective 1	See Nutrients Objective 1	See Nutrients Objective 1
Implement structural BMPs in pastures with livestock access to surface waters.	See Nutrients Objective 2		See Nutrients Objective 2	See Nutrients Objective 2	See Nutrients Objective 2	See Nutrients Objective 2	See Nutrients Objective 2
Work with farmers to implement manure management/application BMPs	See Nutrients Objective 2		See Nutrients Objective 2	See Nutrients Objective 2	See Nutrients Objective 2	See Nutrients Objective 2	See Nutrients Objective 2
Goal: Reduce / prevent e.coli from domestic animals and livestock from entering surface water							
Increase pet owner's awareness on proper disposal of pet waste.	Pet owners, Residential apartment complexes, Pet friendly businesses, Park areas	S	Develop education plan using existing educational materials by 2015.		staff	Veterinarians, Pounds, Parks departments, etc	Veterinarians, Pounds, Parks departments, etc
		S	Implement education plan (2015-2017).		staff		
		S	Target information at pet owners using resident experts, like veterinarians.	\$1,000	staff		
		S	Provide pet owner give-aways that encourage proper pet waste disposal.	\$2,500	structure		
		S	Review existing successful pet waste programs, to replicate their successes.	\$500	staff		
Implement buffer strip BMPs on golf courses and parks&cementeries	See Nutrients objective 3		See Nutrients objective 3	See Nutrients objective 3	See Nutrients objective 3	See Nutrients objective 3	See Nutrients objective 3

Goal 2: Reduce/prevent e.coli from CSOs from entering surface water.							
Strategy	Target Audience	S=< 5 yr L =>5 yr	Milestone	Cost		Possible Partners	Technical Assistance
Work with businesses and landowners to insure that gutters are not connected to stormwater systems.	See Nutrients objective 6		See Nutrients objective 6	See Nutrients objective 6	See Nutrients objective 6	See Nutrients objective 6	See Nutrients objective 6
Install public and private raingardens equal in volume to approximately 1% of roof and parking area runoff.	see Nutrients Objective 6		see Nutrients Objective 6	see Nutrients Objective 6	see Nutrients Objective 6	see Nutrients Objective 6	see Nutrients Objective 6
Increase awareness of individuals about the Rensselaer's CSO Long-term Control Plans.	see Nutrients Objective 6		see Nutrients Objective 6	see Nutrients Objective 6	see Nutrients Objective 6	see Nutrients Objective 6	see Nutrients Objective 6
By 2020, convert 5 acres lawn to prairie or woodland along stream riparian areas.	Homeowners and businesses with large lawns	S	In 2015, identify funding mechanism to complete research on costs of lawn maintenance compared to cost of prairie or woodland restoration.	\$1,000	staff	Industrial and Commerical Businesses, Saint Joesph's College	NICHES, JF New, DNR,
		S	In 2016, work with researcher to complete lawn, prairie, and woodland cost and maintenance research.	\$15,000	staff		
		S	By 2017, complete white paper on prairie and woodland conversion and present information to watershed residents.	\$10,000	staff		
		S	Annually (2016-2019), host field day highlighting lawn or agricultural conversion to prairie or woodland.	\$3,000	materials		
		L	Annually (2015-2020), convert 1 acres of lawn to prairie or woodland.	\$100,000	structure		

Goal 3: Reduce/prevent e.coli from failing septic systems from entering surface water							
Strategy	Target Audience	S= < 5 yr L = >5 yr	Milestone	Cost	Item	Possible Partners	Technical Assistance
Educate landowners with septic systems on their proper maintenance	Landowners and Septic Contactors	S	0-1 yrs: Develop web page with downloadable factsheets	\$500	staff	Local septic professionals, County Boards of Health	Local septic professionals, County Boards of Health
		S	1-2 yrs: Write articles for media.				
		S	Year 2: Host workshop. Obtain discounts from local septic care professionals as attendee take-aways				
Work with local banks to insure septic service records and system inspection is a requirement for any home loans	See Nutrients objective 4		See Nutrients objective 4	See Nutrients objective 4	See Nutrients objective 4	See Nutrients objective 4	See Nutrients objective 4
Work with local health department to review potential list of failing	See Nutrients objective 5		See Nutrients objective 5	See Nutrients objective 5	See Nutrients objective 5	See Nutrients objective 5	See Nutrients objective 5
Total for E.coli Concern				\$ 133,500			

11.6 Sediments

Objective: Total suspended solids (TSS) such as sediment, debris, and organic matter have been identified as a problem throughout the watershed. The steering Committee would like to:

1. Reduce TSS loads from 37,929 tons/yr to 9,632 tons/yr (a 75% reduction)
 - a. 5 year goal: 25 % reduction in load
 - b. 10 year goal: 50% reduction in load
 - c. 30 year goal: 75% reduction in load
2. Reduce annual water samples that exceed target to no more than 20% of the time. Currently, 61% of the samples from across the watershed exceed the WQ target.
 - a. 5 year goal: 50% or less of samples exceed target annually
 - b. 10 year goal: 35% or less of samples exceed target annually
 - c. 30 year goal: 20% or less of samples exceed target annually
3. See your toes when standing in the water during mid and low flow conditions.

Action Register for sediment loading in the watershed:							
Goal: reduce sediment loading to streams from agricultural lands							
Strategy	Target Audience	S= < 5 yr L = >5 yr	Milestone	Cost	Item	Possible Partners	Technical Assistance
Increase cover crop acreage by 8,000 acres by 2016 and by 15,750 acres by 2025.	See Nutrients Objective 1	See Nutrients Objective 1	See Nutrients Objective 1	See Nutrients Objective 1	See Nutrients Objective 1	See Nutrients Objective 1	See Nutrients Objective 1
Increase landowner awareness on the use of two-stage ditches, implement two demonstration sites by 2016, and install as possible through 2041.	See Flashiness Objective 1	See Flashiness Objective 1	See Flashiness Objective 1	See Flashiness Objective 1	See Flashiness Objective 1	See Flashiness Objective 1	See Flashiness Objective 1
Implement agricultural BMPs to increase stormwater infiltration and minimize soil erosion as a result of surface water runoff.	Farmers and Landowners	S	0-3 yrs: Strategically market program to producers.	\$1,000	staff	SWCD, NRCS, ISDA, Agronomists and Ag-Suppliers	SWCD, NRCS, ISDA Agronomists and Ag-Suppliers
		S	Develop site-specific conservation plans.	\$1,000	structure (con plan)		
		S	Enroll at least 3 new producers / year into NRCS or BCWP programs.	\$3,000	structure (wetland per acre)		
		S	3-5 yrs: Continue marketing and conservation plan development.	\$4,500	structure (waterway)		
		S	Enroll at least 5 new producers / year into NRCS or BCWP programs.	\$5,000	structure (no-till conversion)/acre		
		L	5-15 yrs: Continue marketing and conservation plan development.	\$50	structure (crop rotation/acre)		
		L	By year 15, developed conservation plans at least once for at least 50% of agricultural acreage.	\$45	structure (cover crop/acre)		
		L	By year 15, implement BMPs on at least 50% of agricultural acreage.	\$3,000	structure (WASCOB)		
Increase farmer participation in NRCS, DNR, and other conservation programs through strategic marketing.	See Nutrients Objective 1	See Nutrients Objective 1	See Nutrients Objective 1	See Nutrients Objective 1	See Nutrients Objective 1	See Nutrients Objective 1	See Nutrient Objective 1
Address Active Erosion Sites with appropriate measures	See Fish Habitat Objective 2	See Fish Habitat Objective 2	See Fish Habitat Objective 2	See Fish Habitat Objective 2	See Fish Habitat Objective 2	See Fish Habitat Objective 2	See Fish Habitat Objective 2
Total for Sediment Concern				\$	17,595.00		