

# **APPENDIX A**

## TABLES

<b>Table 1: Historical Climate Data, NCDC Normals, Station 123418, Goshen, Indiana, 1971 - 2000</b>					
<b>Month</b>	<b>Maximum Temperature (°F)</b>	<b>Minimum Temperature (°F)</b>	<b>Mean Temperature (°F)</b>	<b>Mean Precipitation (in)</b>	<b>Mean Snowfall (in)</b>
January	31.5	17	24.3	1.84	11
February	36.1	20	28.1	1.77	8.2
March	47.6	29.2	38.4	2.73	4.7
April	60.8	38.7	49.8	3.38	1.1
May	72.5	49.2	60.9	3.39	0
June	81.3	58.8	70.1	4.05	0
July	84.5	62.8	73.7	3.49	0
August	82.3	61.1	71.7	3.97	0
September	75.8	53.6	64.7	3.58	0
October	63.8	42.9	53.4	2.89	0.4
November	49.8	33.6	41.7	2.83	4
December	36.4	23	29.7	2.67	9.9
Monthly Mean	60.2	40.8	50.5	na	na
Annual Total	na	na	na	36.59	39.3

Source: Midwest Regional Climate Center, 2007

<b>Table 2: Land Use in the Elkhart River Watershed</b>			
Huc 11	Gridcode	Land Cover Type	Acres
04050001170	0 Total	No Data	0.00
04050001180	0 Total	No Data	0.00
04050001190	0 Total	No Data	0.00
04050001200	0 Total	No Data	6.89
04050001210	0 Total	No Data	1.56
0 - No Data - Grand Total for Entire Watershed			8.45
04050001170	11 Total	Open Water	4,193.33
04050001180	11 Total	Open Water	1,696.41
04050001190	11 Total	Open Water	312.09
04050001200	11 Total	Open Water	5,207.46
04050001210	11 Total	Open Water	657.29
11 - Open Water- Grand Total for Entire Watershed			12,066.58
04050001170	21 Total	Low Intensity Residential	1,369.77
04050001180	21 Total	Low Intensity Residential	421.51
04050001190	21 Total	Low Intensity Residential	725.87
04050001200	21 Total	Low Intensity Residential	1,858.88
04050001210	21 Total	Low Intensity Residential	4,643.96
21 - Low Intensity Residential - Grand Total for Entire Watershed			9,019.98
04050001170	22 Total	High Intensity Residential	211.05
04050001180	22 Total	High Intensity Residential	29.58
04050001190	22 Total	High Intensity Residential	94.15
04050001200	22 Total	High Intensity Residential	223.66
04050001210	22 Total	High Intensity Residential	678.69
22 - High Intensity Residential - Grand Total for Entire Watershed			1,237.14
04050001170	23 Total	Commercial/Industrial/Transportation	972.45
04050001180	23 Total	Commercial/Industrial/Transportation	159.60
04050001190	23 Total	Commercial/Industrial/Transportation	411.81
04050001200	23 Total	Commercial/Industrial/Transportation	936.09
04050001210	23 Total	Commercial/Industrial/Transportation	2,251.87
23 - Commercial/Industrial/Transportation - Grand Total for Entire Watershed			4,731.81
04050001170	32 Total	Quarries/Strip Mines/Gravel Pits	112.09
04050001180	32 Total	Quarries/Strip Mines/Gravel Pits	0.00
04050001190	32 Total	Quarries/Strip Mines/Gravel Pits	0.00
04050001200	32 Total	Quarries/Strip Mines/Gravel Pits	0.00
04050001210	32 Total	Quarries/Strip Mines/Gravel Pits	0.00
32 - Quarries/Strip Mines/Gravel Pits - Grand Total for Entire Watershed			112.09
04050001170	33 Total	Transitional	23.13
04050001180	33 Total	Transitional	0.00
04050001190	33 Total	Transitional	0.00
04050001200	33 Total	Transitional	5.12
04050001210	33 Total	Transitional	13.15
33 - Transitional - Grand Total for Entire Watershed			41.39
04050001170	41 Total	Deciduous Forest	9,972.80
04050001180	41 Total	Deciduous Forest	8,369.48
04050001190	41 Total	Deciduous Forest	4,439.91
04050001200	41 Total	Deciduous Forest	7,721.61
04050001210	41 Total	Deciduous Forest	5,596.69
41 - Deciduous Forest - Grand Total for Entire Watershed			36,100.50
04050001170	42 Total	Evergreen Forest	110.02
04050001180	42 Total	Evergreen Forest	58.05
04050001190	42 Total	Evergreen Forest	17.96
04050001200	42 Total	Evergreen Forest	87.73
04050001210	42 Total	Evergreen Forest	41.49
42 - Evergreen Forest - Grand Total for Entire Watershed			315.25

<b>Table 2: Land Use in the Elkhart River Watershed</b>			
Huc 11	Gridcode	Land Cover Type	Acres
04050001170	43 Total	Mixed Forest	10.45
04050001180	43 Total	Mixed Forest	6.36
04050001190	43 Total	Mixed Forest	1.56
04050001200	43 Total	Mixed Forest	12.36
04050001210	43 Total	Mixed Forest	12.27
43 - Mixed Forest - Grand Total for Entire Watershed			42.99
04050001170	81 Total	Pasture/Hay	16,437.13
04050001180	81 Total	Pasture/Hay	12,612.82
04050001190	81 Total	Pasture/Hay	10,563.78
04050001200	81 Total	Pasture/Hay	14,807.01
04050001210	81 Total	Pasture/Hay	21,661.81
81 - Pasture/Hay - Grand Total for Entire Watershed			76,082.55
04050001170	82 Total	Row Crops	63,041.71
04050001180	82 Total	Row Crops	44,517.30
04050001190	82 Total	Row Crops	60,172.18
04050001200	82 Total	Row Crops	81,902.69
04050001210	82 Total	Row Crops	34,836.47
82 - Row Crops- Grand Total for Entire Watershed			284,470.35
04050001170	85 Total	Urban/Recreational Grasses	410.32
04050001180	85 Total	Urban/Recreational Grasses	37.81
04050001190	85 Total	Urban/Recreational Grasses	352.69
04050001200	85 Total	Urban/Recreational Grasses	474.07
04050001210	85 Total	Urban/Recreational Grasses	1,345.85
85 - Urban/Recreational Grasses- Grand Total for Entire Watershed			2,620.73
04050001170	91 Total	Woody Wetlands	5,813.87
04050001180	91 Total	Woody Wetlands	4,069.07
04050001190	91 Total	Woody Wetlands	2,424.90
04050001200	91 Total	Woody Wetlands	2,795.13
04050001210	91 Total	Woody Wetlands	1,002.42
91 - Woody Wetlands - Grand Total for Entire Watershed			16,105.39
04050001170	92 Total	Emergent Herbaceous Wetlands	1,468.78
04050001180	92 Total	Emergent Herbaceous Wetlands	1,045.75
04050001190	92 Total	Emergent Herbaceous Wetlands	432.51
04050001200	92 Total	Emergent Herbaceous Wetlands	1,050.17
04050001210	92 Total	Emergent Herbaceous Wetlands	222.38
92 - Emergent Herbaceous Wetlands - Grand Total for Entire Watershed			4,219.60
Grand Total Land Use for Entire Watershed			447,174.78

**Table 3: Land Use for HUC 04050001170**

<b>Gridcode</b>	<b>Land Cover Type</b>	<b>Acres</b>
0 Total	No Data	0.22
11 Total	Open Water	4,193.33
21 Total	Low Intensity Residential	1,369.77
22 Total	High Intensity Residential	211.05
23 Total	Commercial/Industrial/Transportation	972.45
32 Total	Quarries/Strip Mines/Gravel Pits	112.09
33 Total	Transitional	23.13
41 Total	Deciduous Forest	9,972.80
42 Total	Evergreen Forest	110.02
43 Total	Mixed Forest	10.45
81 Total	Pasture/Hay	16,437.13
82 Total	Row Crops	63,041.71
85 Total	Urban/Recreational Grasses	410.32
91 Total	Woody Wetlands	5,813.87
92 Total	Emergent Herbaceous Wetlands	1,468.78
	<b>Grand Total</b>	<b>104,147.13</b>

<b>Table 4: Land Use for HUC 04050001180</b>		
<b>Gridcode</b>	<b>Land Cover Type</b>	<b>Acres</b>
11 Total	Open Water	1,696.41
21 Total	Low Intensity Residential	421.51
22 Total	High Intensity Residential	29.58
23 Total	Commercial/Industrial/Transportation	159.60
41 Total	Deciduous Forest	8,369.48
42 Total	Evergreen Forest	58.05
43 Total	Mixed Forest	6.36
81 Total	Pasture/Hay	12,612.82
82 Total	Row Crops	44,517.30
85 Total	Urban/Recreational Grasses	37.81
91 Total	Woody Wetlands	4,069.07
92 Total	Emergent Herbaceous Wetlands	1,045.75
	Grand Total	73,023.72

**Table 5: Land Use for HUC 04050001190**

<b>Gridcode</b>	<b>Land Cover Type</b>	<b>Acres</b>
11 Total	Open Water	312.09
21 Total	Low Intensity Residential	725.87
22 Total	High Intensity Residential	94.15
23 Total	Commercial/Industrial/Transportation	411.81
41 Total	Deciduous Forest	4,439.91
42 Total	Evergreen Forest	17.96
43 Total	Mixed Forest	1.56
81 Total	Pasture/Hay	10,563.78
82 Total	Row Crops	60,172.18
85 Total	Urban/Recreational Grasses	352.69
91 Total	Woody Wetlands	2,424.90
92 Total	Emergent Herbaceous Wetlands	432.51
	<b>Grand Total</b>	<b>79,949.39</b>

<b>Table 6: Land Use for HUC 04050001200</b>		
<b>Gridcode</b>	<b>Land Cover Type</b>	<b>Acres</b>
0 Total	No Data	6.89
11 Total	Open Water	5,207.46
21 Total	Low Intensity Residential	1,858.88
22 Total	High Intensity Residential	223.66
23 Total	Commercial/Industrial/Transportation	936.09
33 Total	Transitional	5.12
41 Total	Deciduous Forest	7,721.61
42 Total	Evergreen Forest	87.73
43 Total	Mixed Forest	12.36
81 Total	Pasture/Hay	14,807.01
82 Total	Row Crops	81,902.69
85 Total	Urban/Recreational Grasses	474.07
91 Total	Woody Wetlands	2,795.13
92 Total	Emergent Herbaceous Wetlands	1,050.17
	Grand Total	117,088.88

<b>Table 7: Land Use for HUC 04050001210</b>		
<b>Gridcode</b>	<b>Land Cover Type</b>	<b>Acres</b>
0 Total	No Data	1.56
11 Total	Open Water	657.29
21 Total	Low Intensity Residential	4,643.96
22 Total	High Intensity Residential	678.69
23 Total	Commercial/Industrial/Transportation	2,251.87
33 Total	Transitional	<b>13.15</b>
41 Total	Deciduous Forest	5,596.69
42 Total	Evergreen Forest	41.49
43 Total	Mixed Forest	12.27
81 Total	Pasture/Hay	21,661.81
82 Total	Row Crops	34,836.47
85 Total	Urban/Recreational Grasses	1,345.85
91 Total	Woody Wetlands	1,002.42
92 Total	Emergent Herbaceous Wetlands	222.38
	<b>Grand Total</b>	<b>72,965.88</b>

**Table 8: Trends in Land Development: 2006 Population Estimates for Counties in the Elkhart River Watershed**

Population Estimates and Counts									Change July 1, 2000 to July 1, 2006	
	July 1, 2006	July 1, 2005	July 1, 2004	July 1, 2003	July 1, 2002	July 1, 2001	July 1, 2000	Estimates base (April 2000)	Number	Percent
<b>Indiana</b>	<b>6,313,520</b>	<b>6,271,973</b>	<b>6,226,537</b>	<b>6,196,269</b>	<b>6,154,739</b>	<b>6,125,677</b>	<b>6,091,955</b>	<b>6,080,517</b>	<b>233,035</b>	<b>3.80%</b>
Elkhart	198,105	195,362	191,629	188,976	185,859	185,448	183,549	182,791	15,314	8.40%
Kosciusko	76,541	76,072	75,531	75,324	74,931	74,829	74,235	74,057	2,484	3.40%
Lagrange	37,291	36,875	36,477	36,040	35,679	35,418	34,949	34,909	2,382	6.80%
Noble	47,918	47,448	47,154	47,022	46,938	47,093	46,438	46,275	1,643	3.60%
<b>Population Size Rank</b>										
Elkhart	6	6	6	6	6	6	6	6	5	
Kosciusko	19	19	19	19	19	19	19	19	19	
Lagrange	41	42	42	43	43	43	44	44		
Noble	29	29	30	30	30	29	28	28		

Table 9: Recreational Resources in the Elkhart River Watershed							
SITE	City	Owner	Facility Type	Ownership Type	Total Acres	Lake Name	River/Stream Name
Leesburg Little League	Leesburg		Park/Recreation Area	Municipal	4.00		
Noble Township Park/Wolf Lake Town Park	Wolf Lake	Noble Township Trustee and Park Board	Park/Recreation Area	Township	1.00		
Noble Township Community Park	Wolf Lake	Noble Township Park Board	Park/Recreation Area	Township	7.00		
Chain O'Lakes State Park	Albion	IDNR Division of State Parks and Reservoirs	Park/Recreation Area	State	2618.01	Miller Lake	
Hidden Diamonds Community Park	Albion	Albion Parks and Rec Board	Park/Recreation Area	Municipal	48.00		
Kimmell Old School Park	Kimmell		Park/Recreation Area	Public	1.00		
East Side Owen Park	Albion	Albion Parks and Rec Board	Park/Recreation Area	Municipal	1.00		
Valleyview Park	Albion	Albion Parks and Rec Board	Park/Recreation Area	Municipal	5.00		
Noble Co. 4-H Park	Albion	Noble Co. Commissioners	Park/Recreation Area	County	54.00		
Cromwell Community Park	Cromwell	Cromwell Park Board	Park/Recreation Area	Municipal	7.00		
Henry Ward Park	Syracuse	Syracuse Parks and Rec.	Park/Recreation Area	Municipal	1.92	Syracuse Lake	Turkey Creek
Vega Fields	Syracuse	Wawasee Community School Corp.	Park/Recreation Area	Public	4.00		
Crosson Mill Park	Syracuse	Syracuse Parks and Rec.	Park/Recreation Area	Municipal	1.97		Turkey Creek
Lions Youth Park	Syracuse	Calvary Church	Park/Recreation Area	Private	2.00		
Nappanee (westside) Community Park	Nappanee	Nappanee Park and Recreation Dept.	Park/Recreation Area	Municipal	6.00		
Bixler Lake Park-East Bixler Lake Wetland Nature Area	Kendallville	Kendallville Parks and Rec Dept	Park/Recreation Area	Municipal	299.00	Bixler Lake	
Sunset Park	Kendallville	Kendallville Parks and Rec Dept	Park/Recreation Area	Municipal	31.80		
Breidert Park	Kendallville	Kendallville Parks and Rec Dept	Park/Recreation Area	Municipal	0.20		
Stauffer Park- Derksen Park, McCormicks Creek Golf Course	Nappanee	Nappanee Park and Recreation Dept.	Park/Recreation Area	Municipal	293.00		McCormick Creek
Bixler Lake Park West	Kendallville	Kendallville Parks and Rec Dept	Park/Recreation Area	Municipal	23.30	Bixler Lake	
Behnman Water Tower	Elkhart	Elkhart Parks and Recreation Dept.	Park/Recreation Area	Public	0.00		
Indian Village MHP Park	Ligonier	Beth Vann	Park/Recreation Area	Private	1.00		
Noble Co. Fairgrounds, Kendallville Fair Grounds	Kendallville	Noble County Fair Association	Park/Recreation Area	County	40.00		
VFW Park	Kendallville	Kendallville VFW	Park/Recreation Area	Private	0.50		
Prentice Park	Ligonier	Ligonier Parks and Rec. Board	Park/Recreation Area	Municipal	0.60		
Wawaka Park	Wawaka		Park/Recreation Area	Municipal	6.00		
G. Martin Kenney Memorial Park	Ligonier	Ligonier Parks and Rec. Board	Park/Recreation Area	Municipal	40.00		
Gazebo Park	Ligonier	Ligonier Parks and Rec. Board	Park/Recreation Area	Municipal	0.20		
Woodlawn Park	Ligonier	Ligonier Parks and Rec. Board	Park/Recreation Area	Municipal	16.00		Elkhart River
Northside Park	Ligonier	Ligonier Parks and Rec. Board	Park/Recreation Area	Municipal	1.20		
Kelly St. Park	Rome City	Rome City Park Board	Park/Recreation Area	Municipal	12.00		
Sunnyside Park	New Paris	Town of New Paris	Park/Recreation Area	Municipal	3.00		
Lakeside Park	Rome City	Rome City Park Board	Park/Recreation Area	Municipal	17.00	Sylvan Lake	
Gaff Park, Mainland Park	Rome City	Rome City Park Board	Park/Recreation Area	Municipal	4.50		
Sycamore Park	Rome City	Rome City Park Board	Park/Recreation Area	Municipal	1.00	Not listed	
River Preserve Park	Goshen	Elkhart County Park and Recreation Dept.	Park/Recreation Area	County	1055.00		Elkhart River
Eagle Park	Millersburg	Millersburg Park and Recreation Dept.	Park/Recreation Area	Municipal	1.00		
V.R. Taylor Park	Wolcottville	Town of Wolcottville	Park/Recreation Area	Municipal	20.00		
Taylor Park, Wolcotville City Park	Wolcottville	Town of Wolcottville	Park/Recreation Area	Municipal	25.00		
Cook Station Park	Millersburg	Millersburg Park and Recreation Dept.	Park/Recreation Area	Municipal	24.00		
Wolcott Park	Wolcottville	Town of Wolcottville	Park/Recreation Area	Municipal	3.00		Little Elkhart River
Turkey Creek Site	Waterford Mills	Elkhart County Park and Recreation Dept.	Park/Recreation Area	County	23.00		Turkey Creek, Elkhart River
South Milford Ball Diamond	South Milford	South Milford	Park/Recreation Area	Municipal	2.00		
Dallas Lake Park	Wolcottville	Lagrange County Parks Dept.	Park/Recreation Area	County	96.00	Dallas Lake	
Harrison Township Park (Old Harrison Elementary School)	Wakarusa	Harrison Twp Christian School	Park/Recreation Area	Private	2.00		
Delt Church County Park	Wolcottville	Lagrange County Parks Dept.	Park/Recreation Area	County	119.00		Little Elkhart River
Goshen Millrace park, Dam Access Site, and Shoup-Parsons Woods	Goshen	Goshen Parks and Recreation Dept.	Park/Recreation Area	Municipal	40.00	Not listed	Elkhart River
David Rogers Memorial Park	Wolcottville	Lagrange County Parks Dept.	Park/Recreation Area	County	15.00		
Rieth Park	Goshen	Goshen Parks and Recreation Dept.	Park/Recreation Area	Municipal	3.00		
Burdick St. Park	Goshen	Goshen Parks and Recreation Dept.	Park/Recreation Area	Municipal	1.00		
Shanklin Park and Public Access	Goshen	Goshen Parks and Recreation Dept.	Park/Recreation Area	Municipal	90.00	Not listed	Elkhart River
New Park, Mullet Park	Goshen	Goshen Parks and Recreation Dept.	Park/Recreation Area	Municipal	15.00		Elkhart River
Thelma Shrock Little League Park	Goshen		Park/Recreation Area	Public	20.00		
Linway Lake Park	Goshen	Goshen Parks and Recreation Dept.	Park/Recreation Area	Municipal	15.00		Elkhart River
West Goshen Park, Baker Park	Goshen	Goshen Parks and Recreation Dept.	Park/Recreation Area	Municipal	2.00		
Pringle Park	Goshen	Goshen Parks and Recreation Dept.	Park/Recreation Area	Municipal	14.00		
Rogers Park	Goshen	Goshen Parks and Recreation Dept.	Park/Recreation Area	Municipal	11.00		Elkhart River
Dorothy McFarland Park	Goshen	Goshen Parks and Recreation Dept.	Park/Recreation Area	Municipal	1.00		
John O. Abshire Park	Goshen	Goshen Parks and Recreation Dept.	Park/Recreation Area	Municipal	60.00		
East Goshen Park, Dykstra Park	Goshen	Goshen Parks and Recreation Dept.	Park/Recreation Area	Municipal	2.00		
North Goshen Park (North Eighth St Park)	Goshen	Goshen Parks and Recreation Dept.	Park/Recreation Area	Municipal	1.00		
Oakridge Park	Goshen	Goshen Parks and Recreation Dept.	Park/Recreation Area	Municipal	4.00		
Walnut Park, N 5th St. Park	Goshen	Goshen Parks and Recreation Dept.	Park/Recreation Area	Municipal	2.00		
Oxbow County Park	Goshen	Elkhart County Park and Recreation Dept.	Park/Recreation Area	County	223.00		Elkhart River

SITE	City	Owner	Facility Type	Ownership Type	Total Acres	Lake Name	River/Stream Name
Elkhart Environmental Center	Elkhart	Elkhart Parks and Recreation Dept.	Park/Recreation Area	Municipal	41.00		Elkhart River
Gans Park	Elkhart	Elkhart Parks and Recreation Dept.	Park/Recreation Area	Municipal	2.00		
Studebaker Park	Elkhart	Elkhart Parks and Recreation Dept.	Park/Recreation Area	Municipal	53.85		Elkhart River
Elkhart FOP Little League Park	Elkhart		Park/Recreation Area	Public	10.00		
Baker Park	Elkhart	Elkhart Parks and Recreation Dept.	Park/Recreation Area	Municipal	10.00		
Elkhart City Plaza, Central Memorial Square	Elkhart	Elkhart Parks and Recreation Dept.	Park/Recreation Area	Municipal	1.00		
Lundquist Bicentennial Park	Elkhart	Elkhart Parks and Recreation Dept.	Park/Recreation Area	Municipal	6.00		St. Joseph River
American Park	Elkhart	Elkhart Parks and Recreation Dept.	Park/Recreation Area	Municipal	13.00		Elkhart River
Island Park	Elkhart	Elkhart Parks and Recreation Dept.	Park/Recreation Area	Municipal	7.00		St. Joseph River
Tri-County State Fish & Wildlife Area , Office and Barrel and a Half Lake Access Site	North Webster	IDNR Division of Fish and Wildlife	Fish & Wildlife Area	State	2742.74	Multiple lakes	
Tri-County State Fish & Wildlife Area	Indian Village	IDNR Division of Fish and Wildlife	Fish & Wildlife Area	State	802.95	Multiple lakes	
Wawasee State Fishing Area	Syracuse	IDNR Division of Fish and Wildlife	Fish & Wildlife Area	State	12.23	Lake Wawasee	
Norris Wetlands Conservation Area		IDNR Division of Fish and Wildlife	Fish & Wildlife Area	State	30.68		
Eagle Lake Wetland Conservation Area & Eagle Lake Access Site	Ligonier	IDNR Division of Fish and Wildlife	Fish & Wildlife Area	State	225.60	Eagle Lake	
West Lakes (elkhart) Conservation Inc. Tract		IDNR Division of Fish and Wildlife	Fish & Wildlife Area	State	5.50		Elkhart River North Branch
Rome City Wetland Conservation Area (North Branch Elkhart Wetlands)	Rome City	IDNR Division of Fish and Wildlife	Fish & Wildlife Area	State	50.00		Elkhart River, North Branch
Merry Lea Nature Preserve	Wolf Lake	Goshen College/Merry Lea Environmental Center	Dedicated Nature Preserve	Private	255.00	High Lake	
Greider's Woods Nature Preserve		IDNR Division of Fish and Wildlife	Dedicated Nature Preserve	State	10.00		
Bender Nature Preserve and Managed Area	Albion	ACRES, Inc.	Dedicated Nature Preserve	Private	91.87		
Wawasee Wetlands Nature Preserve and Wetlands Conservation Area	Syracuse	IDNR Division of Nature Preserves	Dedicated Nature Preserve	State	39.00	Lake Wawasee	
Lonidaw Nature Preserve	Kendallville	ACRES, Inc.	Dedicated Nature Preserve	Private	25.00		
Spurgeon Nature Preserve	Ligonier	ACRES, Inc.	Dedicated Nature Preserve	Private	65.00		
Hammer Wetlands Nature Preserve	Rome City	ACRES, Inc.	Dedicated Nature Preserve	Private	332.78		Elkhart River, North Branch
Leacock Woods Nature Preserve	Benton	The Nature Conservancy	Dedicated Nature Preserve	Private	21.00		Elkhart River
Olin Lake Nature Preserve	Wolcottville	IDNR Division of Nature Preserves	Dedicated Nature Preserve	State	303.00	Olin Lake	
Stone+s Trace Historical Society and Muzzle Loaders	Ligonier		Historic/Cultural Site	Public	10.00		
Gene Stratton-Porter Home State Historic Site	Rome City	IDNR Division of Museums and Historic Sites	Historic/Cultural Site	State	111.87	Sylvan Lake	
High Lake Access Site	Wolf City	IDNR Division of Fish and Wildlife	Fishing/Boating Access Site	State	2.41	High Lake	
Bear Lake Access Site	Albion	IDNR Division of Fish and Wildlife	Fishing/Boating Access Site	State	0.21	Bear Lake	
Knapp Lake Access Site	Washington Center	IDNR Division of Fish and Wildlife	Fishing/Boating Access Site	State	0.71	Knapp Lake	
Price Lake and Long Lake Access Site		IDNR Division of Fish and Wildlife	Fishing/Boating Access Site	State	0.00	Long Lake	
Bass Pond Access Site		IDNR Division of Fish and Wildlife	Fishing/Boating Access Site	State	0.00	Not listed	
Spear Lake Access Site and Nature Trail, Tri-County Fish and Wildlife Area		IDNR Division of Fish and Wildlife	Fishing/Boating Access Site	State	22.46	Spear Lake	
Shock Lake Access Site, Tri-County Fish and Wildlife Area		IDNR Division of Fish and Wildlife	Fishing/Boating Access Site	State	0.00	Shock Lake	
Upper Long Lake Access Site	Wolf Lake	IDNR Division of Fish and Wildlife	Fishing/Boating Access Site	State	2.74	Long Lake (Upper)	
Allen Lake, Rothberger Lake Access Site		IDNR Division of Fish and Wildlife	Fishing/Boating Access Site	State	0.00	Not listed	
Hammond Lake Access Site, Tri-County Fish and Wildlife Area		IDNR Division of Fish and Wildlife	Fishing/Boating Access Site	State	0.00	Hammond Lake	
Indian Village Lake Access Site	Indian Village	IDNR Division of Fish and Wildlife	Fishing/Boating Access Site	State	2.30	Indian Village Lake	
Dewart Lake Access Site	Syracuse	IDNR Division of Fish and Wildlife	Fishing/Boating Access Site	State	0.98	Dewart Lake	
Sparta Access Site	Kimmell	IDNR Division of Fish and Wildlife	Fishing/Boating Access Site	State	1.40	Sparta Lake	
Skinner Lake Access Site	Albion	IDNR Division of Fish and Wildlife	Fishing/Boating Access Site	State	1.00	Skinner Lake	
Mallard Roost Wetlands Conservation Area & Mallard Roost Access Site #3	Albion	IDNR Division of Fish and Wildlife	Fishing/Boating Access Site	State	838.21		South Branch of Elkhart River
Syracuse Lake Access Site	Syracuse	IDNR Division of Fish and Wildlife	Fishing/Boating Access Site	State	0.52	Syracuse Lake	Turkey Creek
Engle Lake Access Site	Ligonier	IDNR Division of Fish and Wildlife	Fishing/Boating Access Site	State	2.34	Engle Lake	
Diamond Lake Wetland Conservation Area & Diamond Lake Access Site	Ligonier	IDNR Division of Fish and Wildlife	Fishing/Boating Access Site	State	148.00	Diamond Lake	
Sacarider Lake Access Site	Kendallville	IDNR Division of Fish and Wildlife	Fishing/Boating Access Site	State	1.45	Sacarider Lake	
Mallard Roost Access Site #2	Ligonier	IDNR Division of Fish and Wildlife	Fishing/Boating Access Site	State	0.50		Elkhart River, North branch
Mallard Roost Access Site #1	Ligonier	IDNR Division of Fish and Wildlife	Fishing/Boating Access Site	State	13.00		Elkhart River
Little Long Lake Public Access Site		IDNR Division of Fish and Wildlife	Fishing/Boating Access Site	State	1.69	Little Long Lake	
Elkhart River, North Branch Access Site	Wawaka		Fishing/Boating Access Site	State	1.00		Elkhart River, North Branch
William T. Malle Access site (Elkhart River-Duke Bridge Access Site)	Rome City	IDNR Division of Fish and Wildlife	Fishing/Boating Access Site	State	11.43	Waldron Lake	Elkhart River, North Branch
Sylvan Lake Access Site	Rome City	IDNR Division of Fish and Wildlife	Fishing/Boating Access Site	State	2.00	Sylvan Lake	
Benton Landing Public Access Site	Benton	Elkhart County Park and Recreation Dept.	Fishing/Boating Access Site	County	0.00		Elkhart River
Cree Lake Access Site	Kendallville	IDNR Division of Fish and Wildlife	Fishing/Boating Access Site	State	1.00	Cree Lake	
Yellow Creek Lake Access Site	Wakarusa	IDNR Division of Fish and Wildlife	Fishing/Boating Access Site	State	1.00	Yellow Creek Lake	
Whitmer Lake Access site	Wolcottville	IDNR Division of Fish and Wildlife	Fishing/Boating Access Site	State	1.00	Whitmer Lake	
Atwood Lake Access Site	Wolcottville	IDNR Division of Fish and Wildlife	Fishing/Boating Access Site	State	0.68	Atwood Lake	
Westler Lake Access Site	Wolcottville	IDNR Division of Fish and Wildlife	Fishing/Boating Access Site	State	0.20	Westler Lake	
Adams Lake Access Site	Wolcottville	IDNR Division of Fish and Wildlife	Fishing/Boating Access Site	State	1.06	Adams Lake	
Messick Lake Access Site	Wolcottville	Lagrange County Parks Dept.	Fishing/Boating Access Site	County	1.00	Messick Lake	

SITE	City	Owner	Facility Type	Ownership Type	Total Acres	Lake Name	River/Stream Name
Oliver Lake Access Site	La Grange	IDNR Division of Fish and Wildlife	Fishing/Boating Access Site	State	3.50	Olin Lake	
Fish Lake (Elkhart) Access Site	Millersburg	IDNR Division of Fish and Wildlife	Fishing/Boating Access Site	State	2.08	Fish Lake	
Harper's Lake Camp	Kimmell	Frank and Emma Jean Stayer	Camping or Trailer Park	Private	31.00	Harper Lake	
Pioneer Trails Camp	Indian Village	Dave Kohlmeier	Camping or Trailer Park	Commercial	0.00		
Johnson's Fisherman Camp	Albion	Steven Johnson	Camping or Trailer Park	Private	30.00		
Cottonwood Campground	Ligonier	Paul and Vesta Romine	Camping or Trailer Park	Commercial	4.00		
Riverside Campground	Wawaka	Jasper Buck	Camping or Trailer Park	Private	4.00		Elkhart River N. Branch
Indian Lakes Campground	Wolcottville	George Clifford	Camping or Trailer Park	Commercial	70.00	Messick Lake	
Northshore Campground	Wolcottville	David Swogger	Camping or Trailer Park	Private	80.00	Blackman Lake	
Griffith's Wawasee Marina	Syracuse	Griffith Family	Marina	Commercial	5.00	Lake Wawasee	
Wawasee Slip, Inc.	Syracuse	George and Jeff Guyas	Marina	Commercial	5.00	Lake Wawasee	
Johnson Bay Marina	Syracuse		Marina	Commercial	3.00	Lake Wawasee	
Wawasee Boat Company	Syracuse	Doug Anderson	Marina	Commercial	20.00	Lake Wawasee	
Main Channel Marina	Syracuse	Gary and Glennell Webb	Marina	Commercial	4.00	Lake Wawasee	
Fish & Fun Resort	Syracuse		Marina	Commercial	1.00	Syracuse Lake	
West Lakes Boat Mart	Rome City	Bill Reynolds	Marina	Commercial	7.00	Waldron Lake	
Memorial Park (Beach), Bear Lake	Albion	East Shore Property Owners Assoc	Beach	Private	2.00	Bear Lake	
Knapp Swimming Beach	Kimmell		Beach	Public	1.00	Knapp Lake	
Waubee Lake Park	Milford	Milford Park Board	Beach	Municipal	13.00	Waubee Lake	
Weimer Memorial Park (Beach), Skinner Lake (Noble) Access Site	Albion	IDNR Division of Fish and Wildlife	Beach	County	1.00	Skinner Lake	
Hoy's Beach	Syracuse	Syracuse Parks and Rec.	Beach	Municipal	0.20	Syracuse Lake	
Syracuse Lakeside Park	Syracuse	Syracuse Parks and Rec.	Beach	Municipal	7.46	Syracuse Lake	
Diamond Lake Beach	Ligonier	Noble County	Beach	County	1.50	Diamond Lake	
Atwood Lake Beach	Wolcottville	Lagrange County Parks Dept.	Beach	County	1.00	Atwood Lake	
Fire Station Public Pool	Syracuse		Pool	Public	2.00		
Leesburg Elementary School	Leesburg	Warsaw Community Schools	School Grounds	School Corporation	8.00		
Wayne Center Elementary School	Kendallville	East Noble School Corporation	School Grounds	School Corporation	7.00		
Wolf Lake Elementary School	Wolf Lake	Central Noble Community School Corp.	School Grounds	School Corporation	8.00		
Wawasee Middle School	Syracuse	Wawasee Community School Corp.	School Grounds	School Corporation	20.00		
Central Noble Middle, High School, & Albion Elementary School	Albion	Central Noble Community School Corp.	School Grounds	School Corporation	36.00		
Milford Junior High and Elementary School	Milford	Wawasee Community School Corp.	School Grounds	School Corporation	12.00		
Wawasee High School	Syracuse	Wawasee Community School Corp.	School Grounds	School Corporation	50.00		
Syracuse Elementary School	Syracuse	Wawasee Community School Corp.	School Grounds	School Corporation	10.00		
West Noble High, Middle & Elementary Schools	Ligonier	West Noble School Corporation	School Grounds	School Corporation	135.00		
St. John Lutheran School	Kendallville		School Grounds	Private	0.50		
East Noble High School	Kendallville	East Noble School Corporation	School Grounds	School Corporation	15.00		
Nappanee Elementary School	Nappanee	Wa-nee Schools	School Grounds	School Corporation	40.00		
Kendallville Central Elementary and Middle School	Kendallville	Central Noble Community School Corp.	School Grounds	School Corporation	5.00		
North Side Elementary School	Kendallville	East Noble School Corporation	School Grounds	School Corporation	10.00		
Woodview Elementary School	Nappanee	Wa-nee Schools	School Grounds	School Corporation	25.00		
Ligonier Elementary School	Ligonier	West Noble School Corporation	School Grounds	School Corporation	12.00		
Northwood High School	Nappanee	Wa-nee Schools	School Grounds	School Corporation	100.00		
Rome City Elementary & Middle School	Rome City	East Noble School Corporation	School Grounds	School Corporation	7.00		
New Paris Elementary School	New Paris	Fairfield Community Schools	School Grounds	School Corporation	10.00		
Fairfield Jr-Sr High School	Goshen	Fairfield Community Schools	School Grounds	School Corporation	40.00		
Millersburg Elementary School	Millersburg	Fairfield Community Schools	School Grounds	School Corporation	7.00		
Wolcottville Mills Elementary School	Wolcottville	Lakeland School Corporation	School Grounds	School Corporation	4.00		
Waterford Elementary School	Goshen	Goshen Schools	School Grounds	School Corporation	7.00		
Parkside Elementary School	Goshen	Goshen Schools	School Grounds	School Corporation	4.00		
Goshen Middle School	Goshen	Goshen Schools	School Grounds	School Corporation	30.00		
Goshen High School	Goshen	Goshen Schools	School Grounds	School Corporation	20.00		
Chandler Elementary School	Goshen	Goshen Schools	School Grounds	School Corporation	3.00		
Model Elementary School and Model Park	Goshen	Goshen Schools	School Grounds	School Corporation	11.00		
West Goshen Elementary School	Goshen	Goshen Schools	School Grounds	School Corporation	4.00		
Riverdale Elementary School	Goshen	Goshen Schools	School Grounds	School Corporation	5.00		
Chamberlain Elementary School	Goshen	Elkhart Schools	School Grounds	School Corporation	8.00		
Concord South Side Elementary School	Elkhart	Concord Schools	School Grounds	School Corporation	8.00		
Concord Oxbow Elementary School	Elkhart	Concord Schools	School Grounds	School Corporation	25.00		
Concord Community High School	Elkhart	Concord Schools	School Grounds	School Corporation	76.00		
Concord Junior High School	Elkhart	Concord Schools	School Grounds	School Corporation	15.00		
Monger Elementary School	Elkhart	Elkhart Schools	School Grounds	School Corporation	3.00		
Concord East Side School	Elkhart	Concord Schools	School Grounds	School Corporation	13.00		
Mary F Beck Elementary School	Elkhart	Elkhart Schools	School Grounds	School Corporation	10.00		
Elkhart Basic Adult Education Center	Elkhart		School Grounds	Public	2.00		
Elkhart Adult Education and Play School, Rice School	Elkhart		School Grounds	School Corporation	8.00		
Elkhart Central High School	Elkhart	Elkhart Schools	School Grounds	School Corporation	44.00		

SITE	City	Owner	Facility Type	Ownership Type	Total Acres	Lake Name	River/Stream Name
Elkhart County Fairgrounds	Goshen	Elkhart County 4-H Fair and Agricultural Exhibition, Inc.	Fairground	County	160.00		
Black Pine Animal Park	Albion	Brian and Karen Bonar	Zoo	Commercial	12.50		
Oakwood Park (Inn and Conference Center)	Syracuse	Oakwood Foundation	Commercial for Profit Recreation Facility	Private	40.00	Lake Wawasee	
Cook's Miniature Golf	Elkhart		Commercial for Profit Recreation Facility	Commercial	1.00		
Camp Alexander Mack, Inc.	Milford	Church of the Brethren	Non-Profit Recreation Facility	Private	212.00	Waubee Lake	
Camp Potawatomi YMCA Camp	South Milford	Ted Heiney	Non-Profit Recreation Facility	Private	210.00		
Cindoway Shores	Syracuse		Other	Private	15.00		
Lower Long Lake Outdoor Learning Center	Wolf Lake	Noble County SWCD in memory of Dwight T. Davis	Other	Public	5.00		
Nappanee Raceway	Nappanee		Other	Commercial	10.00		
Round Lake Wetlands (Acres)	Kendallville	ACRES, Inc.	Other	Private	139.00	Round Lake	
New Paris Speedway	New Paris		Other	Commercial	20.00		
South Shore Golf Club	Syracuse	V. Richard Miller	Golf Course	Commercial	120.00		
Augusta Hills Golf Course	Albion		Golf Course	Commercial	100.00		
Big Boulder Golf Course	Milford	John Weiss	Golf Course	Private	43.00		
Wawasee Country Club	Syracuse	Don Byrd	Golf Course	Commercial	90.00		
Maxwelton Golf Course	Syracuse	Bob Carlson	Golf Course	Private	118.00		
Cobblestone Golf Course	Kendallville		Golf Course	Commercial	100.00		
Bogies to Birdies Driving Range	Kendallville		Golf Course	Commercial	10.00		
Limberlost Country Club	Rome City		Golf Course	Private	80.00		
Parmore Golf Course	New Paris	Jeffrey Turner	Golf Course	Commercial	30.00		
Larimer Greens Golf Club, Black Squirrel Golf Course	Goshen	P.A.A.T., Inc. - Tony Krebs	Golf Course	Commercial	118.00		
Old Orchard Golf Course	Elkhart		Golf Course	Commercial	130.00		
Hoss Hill Bowmen	Syracuse		Conservation Club	Private	0.00		
Kimmell Conservation club	Kimmell		Conservation Club	Private	10.00	Sparta Lake	
Goshen College	Goshen	sponsored by: the Mennonite Church	University/College Grounds	Private	135.00		

Table 10: Significant Natural Areas and Managed Lands within the Elkhart River Watershed						
Name of Property	Managing Entity of Property	Acres	Site Access Type	Site Dedicated State Nature Preserve	Area Received Federal Grant \$ from LWCF Program	Dedicated Nature Preserve
Bicentennial Park	Local- Elkhart Park Board	3.95	Open	N	Y	
Cromwell Park	Local- Cromwell Park Board	8.35	Open	N	Y	
Dallas Lake Park	Local- Lagrange County Parks & Recreation Dept.	97.09	Open	N	Y	
Derksen Farm Acq.	Local- Nappanee Park Board	56.68	Open	N	Y	
Elkhart County (Oxbow) Park	Local- Elkhart Park Board	197.60	Open	N	Y	
Island Park	Local- Elkhart Park Board	6.93	Open	N	Y	
John Derksen (Stauffer) Park	Local- Nappanee Park Board	18.71	Open	N	Y	
Kelly Street Park	Local- Rome City Park Board	13.16	Open	N	Y	
Kendallville Fairgrounds	Local- Kendallville Park Board	18.07	Open	N	Y	
Mainland Park	Local- Rome City Park Board	1.85	Open	N	Y	
Martin Kenny Memorial Park	Local- Ligonier Park Board	40.32	Open	N	Y	
Nappanee Golf Course and Park	Local- Nappanee Park Board	59.37	Open	N	Y	
Rieth Park	Local- Goshen Parks and Recreation	0.76	Open	N	Y	
Shoup- Parsons Swamp Woods	Local- Goshen Parks and Recreation	15.18	Open	N	Y	
Stuebaker Park	Local- Elkhart Park Board	73.85	Open	N	Y	
	Local- Total	611.87				
Merry Lea Environmental Center	Goshen College	879.57	Open	N	N	
Merry Lea Nature Preserve (Addition)	Goshen College	58.03	Restricted- By Permission Only	Y	N	DDA
Merry Lea Nature Preserve Central (Original)	Goshen College	111.19	Restricted- By Permission Only	Y	N	DDP
Merry Lea Nature Preserve East (Original)	Goshen College	39.72	Restricted- By Permission Only	Y	Y	DDP
	Goshen College- Total	1088.51				
Bender (Lloyd W.) Managed Area	Acres Inc.	30.97	Restricted	N	N	
Bender (Lloyd W.) Nature Preserve	Acres Inc.	60.90	Open	Y	N	DDS
Hammer (Art) Wetlands Addition	Acres Inc.	49.64	Open	N	N	
Hammer (Art) Wetlands Nature Preserve	Acres Inc.	116.31	Open	Y	N	DDO
Hammer (Art) Wetlands Nature Preserve Baker #1 Addition	Acres Inc.	3.15	Open	Y	N	DDA
Hammer (Art) Wetlands Nature Preserve Baker #2 Addition	Acres Inc.	3.41	Open	Y	N	DDA
Hammer (Art) Wetlands Nature Preserve Giant Addition	Acres Inc.	10.76	Open	Y	N	DDA
Hammer (Art) Wetlands Nature Preserve King II Addition	Acres Inc.	99.88	Open	Y	N	DDA
Hammer (Art) Wetlands Nature Preserve Lindel	Acres Inc.	48.90	Open	Y	N	DDA
Hammer (Art) Wetlands Nature Preserve Master Addition	Acres Inc.	0.73	Open	Y	N	DDA
Lonidaw Nature Preserve	Acres Inc.	28.55	Open	Y	N	DDS
Marsh Wren Nature Preserve	Acres Inc.	43.20	Restricted	Y	N	DDS
Martin Lake Nature Preserve	Acres Inc.	5.00	Open	N	N	
Round Lake Wetlands (Acres)	Acres Inc.	73.34	Open	N	N	
Spurgeon (Edna W.) Nature Preserve)	Acres Inc.	65.34	Open	Y	N	DDS
	Acres Inc.- Total	640.08				
Clock Creek	The Nature Conservancy	48.57	Restricted	N	N	
Leacock Woods	The Nature Conservancy	22.03	Open	N	N	
Olin Lake (Raber Tract TNC)	The Nature Conservancy	40.24	Restricted	N	N	
Swamp Angel Nature Preserve	The Nature Conservancy	88.31	Restricted- By Permission Only	Y	N	DDS
	The Nature Conservancy- Total	199.15				
Olin Lake Nature Preserve (Peterman Addition)	Priv-Perterman	89.01	Restricted	Y	N	DDA
	Priv-Perterman- Total	89.01				
Adams Lake Public Access Site	DNR Fish & Wildlife	1.06	Open	N	N	
Atwood Lake Public Access Site	DNR Fish & Wildlife	2.06	Open	N	N	
Bear Lake Public Access Site	DNR Fish & Wildlife	0.14	Open	N	N	
Cree Lake Public Access Site, Public Fishing Area	DNR Fish & Wildlife	0.55	Open	N	N	
Dewart Lake Public Access Site	DNR Fish & Wildlife	0.94	Open	N	N	
Eagle Lake Wetlands Conservation Area	DNR Fish & Wildlife	146.75	Open	N	N	
Fish Lake (Elkhart) Public Access Site	DNR Fish & Wildlife	2.27	Open	N	N	
Greider's Woods Nature Preserve	DNR Fish & Wildlife	9.89	Open-Notification Requested	Y	N	DDS
Indian Village Lake Public Access Site	DNR Fish & Wildlife	2.12	Open	N	N	
Knapp Lake Public Access Site	DNR Fish & Wildlife	1.00	Open	N	N	
Little Long Lake Public Access Site	DNR Fish & Wildlife	1.69	Open	N	N	
Mallard Roost Wetland Conservation Area	DNR Fish & Wildlife	862.64	Restricted	N	N	
Oliver Lake Access Site	DNR Fish & Wildlife	2.27	Open	N	N	
Rome City Wetland Conservation Area	DNR Fish & Wildlife	57.63	Open	N	N	
Sacrider Lake Public Access Site	DNR Fish & Wildlife	1.85	Open	N	N	
Skinner Lake (Noble) Public Access Site	DNR Fish & Wildlife	0.24	Open	N	N	
Skinner Lake Public Access Site	DNR Fish & Wildlife	1.32	Open	N	N	
Sparta Lake Public Access Site	DNR Fish & Wildlife	31.48	Open	N	N	
Syracuse Lake Public Access Site	DNR Fish & Wildlife	0.52	Open	N	N	
Tri-County Fish and Wildlife Area	DNR Fish & Wildlife	2425.18	Open	N	N	
Wawasee (Conklin Bay) Wetlands Conservation Area	DNR Fish & Wildlife	22.21	Open	N	N	
Wawasee Public Fishing Area	DNR Fish & Wildlife	11.85	Open	N	N	
Wawasee Wetland Conservation Area	DNR Fish & Wildlife	16.76	Open	N	N	
Wawasee Wetlands Nature Preserve	DNR Fish & Wildlife	9.35	Open	Y	N	DDS
West Lakes (Elkhart) Conservation Inc. Tract	DNR Fish & Wildlife	5.57	Open	N	N	
Westler Lake Public Access Site	DNR Fish & Wildlife	0.38	Open	N	N	
William Malle (Elkhart River- Duke) Memorial Public Access Site	DNR Fish & Wildlife	11.43	Open	N	N	
	DNR Fish & Wildlife- Total	3629.15				
Gene Stratton Porter State Historic Site	DNR State Museum and Historic Sites	11.81	Open	N	N	
	DNR State Museum and Historic Sites- Total	11.81				
Olin Lake Nature Preserve (Addition)	DNR Nature Preserves	49.89	Open	Y	Y	DDA
Olin Lake Nature Preserve (Original)	DNR Nature Preserves	124.48	Open	Y	Y	DDO
	DNR Nature Preserves- Total	174.37				
Chain O' Lakes State Park	DNR Parks & Reservoirs	2874.53	Open	N	Y	
	DNR Parks & Reservoirs- Total	2874.53				
	Grand Total	9318.48				

<b>Table 11: Natural Features within the Elkhart River Watershed</b>			
<b>Name</b>	<b>Feature</b>	<b>County</b>	<b>Quadrangle</b>
Big Island	island	Noble	Kendallville
Bishop Island	island	Noble	Kendallville
Chicken Coop Island	island	Noble	Kendallville
Conklin Bay	bay	Kosciusko	Lake Wawasee
Cook Island	island	Noble	Kendallville
Eagle Island	island	Noble	Albion
Gem Island	island	Noble	Kendallville
Hathaway Island	island	Noble	Kendallville
Johnson Bay	bay	Kosciusko	Lake Wawasee
Kale Island	island	Kosciusko	Lake Wawasee
Kerr Island	island	Noble	Kendallville
Morrison Island	island	Kosciusko	Lake Wawasee
Ogden Island	island	Kosciusko	Lake Wawasee
Round Island	island	Noble	Kendallville
Twin Island	island	Noble	Kendallville
Baby Mountain	summit	Noble	Corunna
Buzzard Hill	summit	Elkhart	Milford
Diamond Hill	summit	Noble	Ligonier
Knobs, The	summit	Noble	Ligonier
Sand Hill	summit	Noble	Stroh
Sugar Hill	summit	Elkhart	Lake Wawasee

Source: US Geological Survey

**Table 12: Trails within the Elkhart River Watershed**

Trail Name	Managing Entity of Trail Segment	Trail Type	Trail Segment Distance (miles)	County
Ox Bow County Park Outer Loop	Elkhart County Park and Recreation Dept.	Park or Forest Trail	6.10	Elkhart
Paw Paw Path	Elkhart County Park and Recreation Dept.	Park or Forest Trail	1.00	Elkhart
Whitmer Trace	Elkhart County Park and Recreation Dept.	Park or Forest Trail	1.10	Elkhart
Olin Lake Nature Preserve Trail	Division of Nature Preserves	Park or Forest Trail	1.00	LaGrange
Dallas Lake Park	LaGrange Park Board	Park or Forest Trail	0.40	LaGrange
Trail #1	Chain O'Lakes State Park	Park or Forest Trail	1.50	Noble
Trail #2	Chain O'Lakes State Park	Park or Forest Trail	1.00	Noble
Trail #3	Chain O'Lakes State Park	Park or Forest Trail	0.50	Noble
Trail #4	Chain O'Lakes State Park	Park or Forest Trail	1.00	Noble
Trail #5	Chain O'Lakes State Park	Park or Forest Trail	1.30	Noble
Trail #6	Chain O'Lakes State Park	Park or Forest Trail	2.50	Noble
Trail #7	Chain O'Lakes State Park	Park or Forest Trail	1.80	Noble
Trail #8	Chain O'Lakes State Park	Park or Forest Trail	0.50	Noble
Gene Stratton Porter Site	Gene Stratton Porter State Historic Site	Park or Forest Trail	1.00	Noble
Bixler Lake Park Trail-segment 1	Kendallville Park and Recreation Dept.	Park or Forest Trail	0.90	Noble
Bixler Lake Park Trail-segment 2	Kendallville Park and Recreation Dept.	Park or Forest Trail	2.20	Noble
Baintertown Trail-Segment 1	Elkhart County Park and Recreation Dept.	Riparian Trail	1.50	Elkhart
Levee Trail	Elkhart County Park and Recreation Dept.	Riparian Trail	4.60	Elkhart
Maple City Greenway	Goshen Park and Recreation Dept.	Tow Path	2.75	Elkhart
Maple City Greenway	Goshen Park and Recreation Dept.	Tow Path	2.00	Elkhart
Maple City Greenway	Goshen Park and Recreation Dept.	Tow Path	1.00	Elkhart
Maple City Greenway	Goshen Park and Recreation Dept.	Tow Path	3.00	Elkhart
Maple City Greenway	Goshen Park and Recreation Dept.	Tow Path	0.50	Elkhart
Miami Snowmobile Trail	Division of Outdoor Recreation	Long Distance Trail	62.00	Elkhart
Elkhart Trails	Elkhart Park and Recreation Dept.	Urban Trail	2.80	Elkhart
Elkhart Trails	Elkhart Park and Recreation Dept.	Urban Trail	1.20	Elkhart

Table 13: Soil Types within Indiana

Map Symbol	Map Unit Name	Map Symbol	Map Unit Name	Map Symbol	Map Unit Name
AahAK	Abscota loamy sand, 0-2% slopes,	MbA	Metea loamy sand, 0-2% slopes	TxuC	Tyner loamy sand, 5-10% slopes
AbhAN	Adrian muck, drained, 0-1% slopes	MbB	Metea loamy sand, 2-6% slopes	TxuD	Tyner loamy sand, 10-18% slopes
AbhAU	Adrian muck, undrained, 0-1% slopes	MbB	Martinsville sandy loam, 1-6% slopes	TxuF	Tyner loamy sand, 18-45% slopes
Ad	Adrian muck	MbC	Metea loamy sand, 6-12% slopes	Ud	Udorthents, loam
Am	Adrian muck, drained	Mc	Martisco muck	UdeA	Urban land-Bainter complex, 0-1% slopes
Ao	Aquents-Urban land complex, rarely flooded	MdB	Martinsville fine sandy loam, 2-6% slopes	UdkA	Urban land-Brady complex, 0-1% slopes
ArA	Aubbeenaubbee sandy loam, 0-2% slopes	MeA	Metea loamy fine sand, moderately slowly permeable	UdpA	Urban land-Bristol complex, 0-1% slopes
AtA	Aubbeenaubbee fine sandy loam, moderately permeable	MeB	Metea loamy fine sand, moderately slowly permeable, 2-6% slopes	UdpB	Urban land-Bristol complex, 1-5% slopes
Au	Aubbeenaubbee fine sandy loam	MeB	Metea loamy sand, 2-6% slopes	UdrA	Urban land-Bronson complex, 0-1% slopes
BaA	Blount silt loam, 0-3% slopes	MeB	Metea loamy fine sand, 2-6% slopes	UeaA	Urban land-Crosier complex, 0-3% slopes
BaaA	Bainter sandy loam, 0-1% slopes	MeC	Metea loamy fine sand, moderately slowly permeable	UeqA	Urban land-Gilford complex, 0-1% slopes
BaaB	Bainter sandy loam, 1-4% slopes	MeC	Metea loamy sand, 6-12% slopes	Uf	Udorthents-Urban land complex
BbmA	Baugo silt loam, 0-1% slopes	MfB2	Miami loam, 2-6% slopes, eroded	UfzA	Urban land-Mishawaka complex, 0-1% slopes
Bc	Barry loam	MfC2	Miami loam, 6-12% slopes, eroded	UglA	Urban land-Osolo complex, 0-1% slopes
BIA	Blount silt loam, 0-2% slopes	MfD2	Miami loam, 12-18% slopes, eroded	UgrA	Urban land-Rensselaer complex, 0-1% slopes
BlaA	Blount loam, 0-1% slopes	MfE2	Miami loam, 18-25% slopes, eroded	UgsB	Urban land-Riddles-Oshstemo complex, 1-5% slopes
BlaB	Blount loam, 1-4% slopes	MfrAN	Madaus muck, drained, 0-1% slopes	UgvA	Urban land-Tyner complex, 0-1% slopes
BIB2	Blount silt loam	MftA	Matherton loam, 0-1% slopes	UgvB	Urban land-Tyner complex, 1-5% slopes
BnB	Blount-Glynwood complex, 1-3% slopes	MgC3	Miami clay loam, 6-12% slopes, severely eroded	UgwA	Urban land-Vistula complex, 0-1% slopes
BoA	Boyer loamy sand, 0-2% slopes	MgcA	Maumee loamy sand, 0-1% slopes	UhbA	Urban land-Volinia complex, 0-1% slopes
BoB	Boyer loamy sand, 0-6% slopes	MgD3	Miami clay loam, 12-18% slopes, severely eroded	Usl	Udorthents, rubbish
BoB	Boyer loamy sand, 2-6% slopes	MhA	Miami loam, gravelly substratum, 0-2% slopes	VnxA	Vistula loamy sand, 0-1% slopes
BoC	Boyer loamy sand, 6-12% slopes	MhB2	Miami loam, gravelly substratum, 2-6% slopes, eroded	VolA	Volinia loam, 0-1% slopes
BoD	Boyer loamy sand, 12-18% slopes	MIB	Miami loam, 2-6% slopes	Wa	Walkill silt loam
BoD2	Boyer loamy sand, 12-18% slopes	MIC	Miami loam, 6-12% slopes	Wc	Washtenaw silt loam
Br	Brady sandy loam	MmbC2	Miami loam, 5-10% slopes eroded	WcnAI	Waterford loam, 0-2% slopes, frequently flooded
BrA	Bronson sandy loam, 0-2% slopes	MmbD2	Miami loam, 10-18% slopes, eroded	We	Washtenaw loam, gravelly substratum
BshA	Brady sandy loam, 0-1% slopes	MmdC3	Miami clay loam, 5-10% slopes, severely eroded	WeA	Wawasee fine sandy loam, 0-2% slopes
BteA	Brems loamy sand, 0-1% slopes	MmdD3	Miami clay loam, 10-18% slopes, severely eroded	WeB	Wawasee fine sandy loam, 2-6% slopes
BteB	Brems loamy sand, 1-4% slopes	Mn	Milford silty clay loam	WeC2	Wawasee fine sandy loam, 6-12% slopes
BtxA	Bristol loamy sand, 0-2% slopes	MoB2	Morley loam, 2-6% slopes, eroded	WeD2	Wawasee fine sandy loam, 12-18% slopes
BtxB	Bristol loamy sand, 2-5% slopes	MouA	Milford silty clay loam, 0-1% slopes	WhC3	Wawasee loam, 6-12% slopes, severely eroded
BtxC	Bristol loamy sand, 5-10% slopes	MrB2	Morley silt loam, 2-6% slopes, eroded	WhD3	Wawasee loam, 12-18% slopes, severely eroded
BtxD2	Bristol loamy sand, 10-18% slopes	Mrc2	Morley silt loam, 6-12% slopes, eroded	WIB	Wawasee fine sandy loam, 2-6% slopes
BtxE	Bristol loamy sand, 18-30% slopes	Mrc3	Miami clay loam, 6-12% slopes, severely eroded	WIC2	Wawasee fine sandy loam, 6-12% slopes, eroded
BufA	Bronson sandy loam, 0-1% slopes	MrD2	Morley silt loam, 12-18% slopes, eroded	WID2	Wawasee fine sandy loam, 12-18% slopes, eroded
BuuA	Brookston loam, 0-1% slopes	MsaA	Mishawaka sandy loam 0-1% slopes	WoaA	Williamstown loam, 0-1% slopes
Bx	Brookston silt loam	MsB	Miami-Owosso-Metea complex, 2-8% slopes	WoaC2	Williamstown loam, 5-10% slopes
BxA	Bronson sandy loam, 0-3% slopes	Msc3	Morley silty clay loam, 6-12% slopes, severely eroded	WobB	Williamstown-Crosier complex, 5-10% slopes, severely eroded
CaA	Carmi loam, 0-2% slopes	Msd	Miami-Owosso-Metea complex, 10-25% slopes	WodC3	Williamstown clay loam, 5-10% slopes, severely eroded
CcC3	Casco sandy clay loam, 8-15% slopes, severely eroded	Msd3	Morley silty clay loam, 12-18% slopes, severely eroded	Wra	Warsaw loam, 0-2% slopes
ChB	Chelsea fine sand, 1-6% slopes	MtE	Morley soils, 18-25% slopes	WrxAN	Wunabuna silt loam, 0-1% slopes
ChB	Chelsea fine sand, 2-6% slopes	MuC2	Morley, Miami, and Rawson loams, 6-12% slopes	Ws	Washtenaw silt loam
ChC	Chelsea fine sand, 6-12% slopes	MvC	Morley loam, 6-12% slopes	Wt	Whitaker loam
CIB	Coloma loamy sand, 0-6% slopes	MvkA	Morocco loamy sand, 0-1% slopes		
CIC	Coloma loamy sand, 6-12% slopes	MwzAN	Muskego muck, drained, 0-1% slopes		
CnbA	Coloma sand, 0-2% slopes	MwzAU	Muskego muck, undrained, 0-1% slopes		
CnbB	Coloma sand, 2-5% slopes	MzB	Morley-Glynwood complex, 1-4% slopes		
CnbC	Coloma sand, 5-10% slopes	NaA	Nappanee silt loam, 0-3% slopes		
CosA	Cosperville loam, 0-2% slopes	OmgA	Osolo loamy sand, 0-1% slopes		
CosB	Cosperville loam, 2-5% slopes	OmgB	Osolo loamy sand, 1-5% slopes		
CrA	Crosier loam, 0-1% slopes	OrA	Ormas loamy sand, 0-2% slopes		
CrA	Crosier loam, 0-2% slopes	OrB	Ormas loamy sand, 2-6% slopes		
CrA	Conover loam, 0-3% slopes	OrC	Ormas loamy sand, 6-12% slopes		
CrB	Crosier loam, 1-4% slopes	OsA	Oshstemo loamy sand, 0-2% slopes		
CvdA	Crosier loam, 0-1% slopes	OsB	Oshstemo loamy sand, 2-6% slopes		
CvdB	Crosier loam, 1-4% slopes	OsC	Oshstemo loamy sand, 6-12% slopes		
DcrA	Del Rey silty clay loam, 0-1% slopes	OsD	Oshstemo loamy sand, 12-18% slopes		
DdeA	Desker sandy loam, 0-1% slopes	OsE	Oshstemo loamy sand, 18-25% slopes		
DdeB	Desker sandy loam, 1-6% slopes	OtA	Oshstemo sandy loam, 0-2% slopes		
De	Del Rey silt loam	OuB	Oshstemo-Hillsdale-Chelsea complex, 3-6% slopes		
EchAN	Edwards muck, drained, 0-1% slopes	OuC	Oshstemo-Hillsdale-Chelsea complex, 6-12% slopes		
EchAU	Edwards muck, undrained, 0-1% slopes	Pa	Palms muck, drained		
Ed	Edwards muck, drained	PaaAN	Palms muck, drained, 0-1% slopes		
Em	Edwards muck	Pb	Palms muck, gravelly substratum, drained		
FoA	Fox sandy loam, 0-2% slopes	Pb	Palms muck, drained		
FoB	Fox sandy loam, 2-6% slopes	PdA	Parr loam, 0-2% slopes		
FoC2	Fox sandy loam, 6-12% slopes, eroded	Pe	Pewamo silty clay loam		
FsD2	Fox-Casco sandy loams, 12-18% slopes, eroded	Pg	Pits, gravel		
FsE2	Fox-Casco sandy loams, 18-25% slopes, eroded	PkdA	Pewamo clay loam, 0-1% slopes		
Fu	Fulton silt loam	Pm	Palms muck, drained		
GczA	Gilford sandy loam, 0-1% slopes	PrA	Parr loam, 0-2% slopes		
GdnA	Gilford mucky sandy loam, 0-1% slopes	Pt	Pewamo silty clay loam		
Gf	Gilford sandy loam, gravelly substratum	PxB	Plainfield sand, 2-6% slopes		
Gf	Gilford sandy loam	PxC	Plainfield sand, 6-12% slopes		
GlaB	Glynwood loam, 1-5% slopes	Pxo	Psammments		
GlaC	Glynwood loam, 5-10% slopes	RaB	Rawson sandy loam, 2-6% slopes		
Gm	Gilford mucky sandy loam, gravelly substratum	RaC2	Rawson sandy loam, 6-12% slopes, eroded		
GndA	Granby loamy sand, 0-1% slopes	Rb	Rensselaer loam		
Go	Gravelton loamy sand, occasionally flooded	RbA	Rawson loam, 0-2% slopes		
GocAK	Gravelton loam, 0-1% slopes, occasionally flooded	RbB	Rawson loam, 2-6% slopes		
GodAI	Gravelton loam, 0-1% slopes, frequently flooded	RdB2	Rawson, Morley, and Miami loams, 2-6% slopes, eroded		
Gp	Gravel pits	Re	Rensselaer loam		
GtA	Griswold loam, 0-2% slopes	ReyA	Rensselaer loam		
HaA	Haskins loam, 0-2% slopes	RIA	Riddles fine sandy loam, 0-2% slopes		
HaA	Haskins loam, 0-3% slopes	RIB	Riddles fine sandy loam, 2-6% slopes		
HdA	Hillsdale sandy loam, 0-2% slopes	RIC	Riddles fine sandy loam, 6-12% slopes		
HdB	Hillsdale sandy loam, 2-6% slopes	RID	Riddles fine sandy loam, 12-18% slopes		
HdC	Hillsdale sandy loam, 6-12% slopes	RopA	Riddles-Oshstemo fine sandy loams, 0-1% slopes		
He	Histosols and Aquolls	RopB	Riddles-Oshstemo fine sandy loams, 1-5% slopes		
Hh	Homer loam	RoqC2	Riddles-Metea complex, 5-10% slopes, eroded		
HhaAP	Histosols, 0-1% slopes, ponded	RoqD2	Riddles-Metea complex, 10-18% slopes, eroded		
Hm	Houghton muck	RosE	Riddles-Tyner complex, 18-30% slopes		
Ho	Homer sandy loam	RsA	Riddles sandy loam, 0-2% slopes		
Ht	Houghton muck	RsB	Riddles sandy loam, 2-6% slopes		
HtbAN	Houghton muck, drained, 0-1% slopes	RsC2	Riddles sandy loam, 6-12% slopes, eroded		
HtbAU	Houghton muck, undrained, 0-1% slopes	RsD2	Riddles sandy loam, 12-18% slopes, eroded		
Hw	Houghton muck, drained	RxB	Riddles-Ormas-Kosciusko complex, 2-6% slopes		
Hx	Houghton muck, ponded	RxC	Riddles-Ormas-Kosciusko complex, 6-12% slopes		
JaaAK	Jamestown silt loam, 0-1% slopes, occasionally flooded	ScuA	Sebewa loam, 0-1% slopes		
KimA	Kimmell loam, 0-2% slopes	SdnA	Sebewa mucky loam, 0-1% slopes		
KoA	Kosciusko sandy loam, 0-2% slopes	SdzA	Selfridge-Brems complex, 0-1% slopes		
KoB	Kosciusko sandy loam, 0-2% slopes	SdzaB	Selfridge-Brems complex, 1-4% slopes		
KoC	Kosciusko sandy loam, 6-12% slopes	Se	Sebewa loam		
KoE	Kosciusko sandy loams, 18-30% slopes	Sf	Sebewa mucky loam		
KtA	Kosciusko silt loam, 0-2% slopes	Sh	Shoals silt loam		
KxC3	Kosciusko sandy clay loam, 8-15% slopes, severely eroded	ShA	Shipshe sandy loam, 0-2% slopes		
La	Lake borders	ShB	Shipshe sandy loam, 2-6% slopes		
Ma	Marl beds	Sn	Shoals loam, gravelly substratum, occasionally flooded		
MaA	Martinsville sandy loam, 0-2% slopes	SnIA	Southwest silt loam, 0-1% slopes		
MaB	Martinsville sandy loam, 2-6% slopes	To	Toledo silty clay loam		
MaC	Martinsville sandy loam, 6-12% slopes	TxuA	Tyner loamy sand, 0-1% slopes		
Mb	Marsh	TxuB	Tyner loamy sand, 1-5% slopes		

Table 14: Major Soil Associations in the Elkhart River Watershed*			
Kosciusko County			
Soil Association	Characteristics	County Coverage	Use
Houghton-Palms	Mucky soils that are very poorly drained and formed in organic material; on uplands	9%	Used for a variety of purposes. Areas at some distance from waterbodies are used for corn or soybeans
Ormas-Kosciusko	Sandy and loamy soils that are well drained and formed in outwash deposits; on uplands	19%	Mainly used for cultivated crops, hay, or pasture. Fairly well suited for trees, and well suited to residential development, but are limited in their capacity to support septic tank absorption fields.
Shipshe-Carmi	Loamy soils that are well drained and formed in outwash deposits; on uplands	3%	Used mostly for cultivated crops and hay. Erosion is a hazard on slopes. Fairly well suited for trees and building site development.
Crosier-Barry	Loamy soils that are somewhat poorly drained and poorly drained and formed in glacial till; on uplands	8%	Mainly used for cultivated crops, hay, and pasture, but wetness and ponding can result in limitations. Soils are poorly suited or generally unsuited for building site development. Severe limitations for septic tank absorption fields.
Rensselaer-Whitaker	Loamy soils that are poorly drained and somewhat poorly drained and formed in lacustrine sediments; on uplands	5%	Used mainly for cultivated crops, hay or pasture. Wetness is the major limitation. Poorly suited for building site development.
Sebewa-Gilford	Loamy soils that are poorly drained and very poorly drained and formed in outwash deposits; on uplands	8%	Used mainly for cultivated crops, hay or pasture. Wetness is the major limitation. Poorly suited for building site development. Some areas suitable for trees.
Riddles-Wawasee	Loamy soils that are well drained and formed in glacial till; on uplands	10%	Used mainly for cultivated crops. Soils are well suited for trees and building site development.
Wawasee-Cosier-Miami	Loamy soils that are well drained and somewhat poorly drained and formed in glacial till; on uplands	28%	Used mainly for cultivated crops, with some hay and pasture. Fairly well suited to well suited for trees. Limitations exist for septic systems.

Table 14: Major Soil Associations in the Elkhart River Watershed*			
LaGrange County			
Soil Association	Characteristics	County Coverage	Use
Wawasee-Hillsdale-Conover	Nearly level to strongly sloping, well drained and somewhat poorly drained, moderately coarse textured and medium textured soils on till plains and moraines.	34%	Well suited for cultivated crops but erosion is a major hazard. Well suited for urban and residential areas.
Boyer-Oshtemo	Nearly level to moderately steep, well drained, coarse textured soils on outwash plains, valley trains, moraines and kames.	30%	Well suited to cultivated crops with low available water capacity the limitation and erosion a hazard. Well suited to urban and residential areas, although seepage of contaminants into ground water a hazard in urban areas.
Sebewa-Gilford-Homer	Nearly level, very poorly drained and somewhat poorly drained, medium textured and moderately coarse textured soils on outwash plains and valley trains.	10%	Used mainly for cultivated crops. A few swampy, un-drained areas are in woodland or pastureland. Poorly suited to residential development.
Houghton-Adrian	Nearly level, very poorly drained muck soils in digressional areas on outwash plains, till plains and moraines.	6%	Drained areas are used mostly for cropland. Corn and soybeans are the main crops, with specialty crops such as mint, blueberries, sweet corn, potatoes, and onions. Soils are poorly suited to residential development.
Blout-Pewamo	Nearly level and gently sloping, somewhat poorly drained and very poorly drained, medium textured and moderately fine textured soils on till plains.	3%	Used mainly for cultivated crops and pasture with some areas in woodland. Poorly suited for development due to wetness.

Table 14: Major Soil Associations in the Elkhart River Watershed*			
Noble County			
Soil Association	Characteristics	County Coverage	Use
Warsaw-Parr	Well drained nearly level soils that have a dominantly moderately fine textured subsoil and are moderately deep over sand and gravel; on outwash plains and uplands.	1%	Used mostly for crops including corn, soybeans and wheat. Soils may also be a source of sand and gravel.
Miami-Riddles-Brookston	Well drained and very poorly drained, nearly level to moderately steep, deep soils that have a moderately fine textured subsoil; on uplands	28%	Mostly used for croplands and pasture. Crops include corn, soybeans, wheat, and grasses and legumes for hay and pasture. Erosion is a hazard on steeper slopes, and there are limitations for septic systems.
Fox-Oshtemo	Well drained, nearly moderately steep soils that have a moderately coarse textured to moderately fine textured subsoil and are moderately deep and deep over sand and gravel; on outwash plains and uplands.	15%	Mostly used for croplands and pasture. Crops include corn, soybeans, wheat, and grasses and legumes for hay and pasture. Erosion is a hazard on steeper slopes, and there are limitations for septic systems.
Morley-Blount	Well drained to somewhat poorly drained, nearly level to moderately sloping, deep soils that have a fine textured and moderately fine textured subsoil; on uplands.	35%	Mostly used for croplands and pasture. Crops include corn, soybeans, wheat, and grasses and legumes for hay and pasture. Erosion is a hazard on steeper slopes, and limitations for septic systems is severe.
Morley-Miami	Well drained or moderately well drained, moderately sloping to moderately steep, deep soils that have a moderately fine textured or fine textured subsoil; on uplands.	6%	Used mostly for hay, pasture, and woodland. Erosion is a hazard and limitations for septic systems is severe.
Haskins-Toledo	Somewhat poorly drained and very poorly drained, nearly level, deep soils that have a moderately fine textured or fine textured subsoil; on outwash plains and uplands.	2%	Used mostly for corn, soybeans and wheat and grasses and legumes for hay and pasture. Septic system limitations are severe.
Houghton-Edwards-Adrian	Very poorly drained, nearly level mucks that are deep or moderately deep over marl or sand and gravel; in depressions on uplands or outwash plains.	10%	Drained areas are used mostly for corn and soybeans. Some specialty crops such as mint, sweet corn, potatoes, and onions are also grown. Limitations for septic systems are severe.
Homer-Sebewa	Somewhat poorly drained and very poorly drained, nearly level soils that have a moderately fine textured subsoil and are moderately deep over sand and gravel; on outwash plains.	3%	Used mostly for corn, soybeans and wheat. Limitations for septic systems are severe.

Table 14: Major Soil Associations in the Elkhart River Watershed*			
Elkhart County			
Soil Association	Characteristics	County Coverage	Use
Oshemo-Fox	Deep and moderately deep over sand and gravel, somewhat excessively drained and well-drained, coarse textured and moderately coarse textured soils that developed in loamy outwash	20%	Used mostly for corn, soybeans, small grain, and grasses and legumes for forage. Many areas near Goshen and Elkhart used for residential and industrial development. Droughtiness in an important limitation.
Riddles-Crosby-Miami	Deep, well-drained and somewhat poorly drained, moderately coarse textured and medium-textured soils that developed in loamy glacial drift	42%	Used mostly for corn, soybeans, small grain, and grasses and legumes for forage. Some areas in woodland or residential or commercial development. Erosion is an important hazard to consider.
Crosier-Brookston	Deep, somewhat poorly drained and poorly drained, medium-textured soils that developed in loamy glacial till	13%	Mostly used for crops such as corn, soybeans, small grain, and grasses and legumes for forage. Erosion is a limitation. Also has limitations for septic tank absorption fields that range from moderate to severe depending on slope.
Blount-Pewamo	Deep, somewhat poorly drained and poorly drained, medium-textured and moderately fine textured soils that developed in silty clay loam glacial till	3%	Used mostly for corn, soybeans, small grain, and grasses and legumes for forage. Wetness and erosion are limitations. Severe limitations for home sites with basements and moderate to severe limitations for septic tank absorption fields.
Volinia-Dickinson	Deep, well-drained and somewhat excessively drained, medium-textured and moderately coarse textured soils that developed in loamy outwash underlain by sand and gravel.	2%	Portions are used for residential and industrial development and are well suited for this purpose. Other areas are used for corn and soybeans. Only slight limitations for residential development and septic systems.
Carlisle-Tawas	Deep, very poorly drained, very dark colored much soils that developed in organic material	2%	Most of this association has been drained and is used predominantly for corn. Wetness and a high water table are limitations that affect the use and management of these soils. Severe limitations for septic systems and home sites.

\*Information taken from the Soil Conservation Service Soil Surveys for Kosciusko, LaGrange, Noble, and Elkhart Counties.

Elkhart County Soils Within Elkhart River Watershed			Kosciusko County Soils Within Elkhart River Watershed		
MUSYM	MAP UNIT NAME	TOTAL ACREAGE	MUSYM	MAP UNIT NAME	TOTAL ACREAGE
AahAK	Abscota loamy sand, 0-2% slopes, occasionally flooded	734.81	Ao	Aquents-Urban land complex, rarely flooded	468.08
AbhAN	Adrian muck, drained, 0-1% slopes	351.40	ArA	Aubbeenaubee sandy loam, 0-2% slopes	20.55
AbhAU	Adrian muck, undrained, 0-1% slopes	405.48	AIA	Aubbeenaubee fine sandy loam, moderately permeable substratum, 0-2% slopes	316.84
BaaA	Bainter sandy loam, 0-1% slopes	6,111.57	Bc	Barry loam	2,332.48
BaaB	Bainter sandy loam, 1-4% slopes	408.12	BIA	Blount silt loam, 0-2% slopes	172.71
BbmA	Baugo silt loam, 0-1% slopes	657.13	BnB	Blount-Glynwood complex, 1-3% slopes	77.71
BlaA	Blount loam, 0-1% slopes	3,774.05	BoB	Boyer loamy sand, 0-6% slopes	1,230.45
BlaB	Blount loam, 1-4% slopes	794.28	BoC	Boyer loamy sand, 6-12% slopes	158.25
BshA	Brady sandy loam, 0-1% slopes	5,103.23	Bp	Brady sandy loam	903.55
BteA	Brems loamy sand, 0-1% slopes	144.82	BrA	Bronson sandy loam, 0-2% slopes	1,433.85
BteB	Brems loamy sand, 1-4% slopes	40.98	CaA	Carmi loam, 0-2% slopes	2,840.39
BtxA	Bristol loamy sand, 0-2% slopes	3,966.86	CIB	Coloma loamy sand, 0-6% slopes	225.07
BtxB	Bristol loamy sand, 2-5% slopes	3,094.13	CIC	Coloma loamy sand, 6-12% slopes	44.07
BtxC	Bristol loamy sand, 5-10% slopes	1,322.83	CrA	Crosier loam, 0-1% slopes	5,055.62
BtxD2	Bristol loamy sand, 10-18% slopes	267.77	CrB	Crosier loam, 1-4% slopes	1,805.75
BtxE	Bristol loamy sand, 18-30% slopes	66.74	De	Del Rey silt loam	293.51
BuFA	Bronson sandy loam, 0-1% slopes	2,534.79	Ed	Edwards muck, drained	263.73
BuuA	Brookston loam, 0-1% slopes	11,213.27	Gf	Gilford sandy loam, gravelly substratum	518.42
CnbA	Coloma sand, 0-2% slopes	171.87	Gm	Gilford mucky sandy loam, gravelly substratum	505.88
CnbB	Coloma sand, 2-5% slopes	746.47	Go	Gravelton loamy sand, occasionally flooded	650.12
CnbC	Coloma sand, 5-10% slopes	292.67	GIA	Griswold loam, 0-2% slopes	1,201.52
CosA	Cosperville loam, 0-2% slopes	354.80	He	Histosols and Aquolls	1,243.35
CosB	Cosperville loam, 2-5% slopes	193.35	Ho	Homer sandy loam	1,775.31
CvdA	Crosier loam, 0-1% slopes	17,610.38	Ht	Houghton muck, undrained	618.58
CvdB	Crosier loam, 1-4% slopes	17,125.60	Hx	Houghton muck, drained	853.02
DcrA	Del Rey silty clay loam, 0-1% slopes	565.70	KoA	Kosciusko sandy loam, 0-2% slopes	1,999.00
DdeA	Desker sandy loam, 0-1% slopes	788.40	KoB	Kosciusko sandy loam, 0-2% slopes	1,223.40
DdeB	Desker sandy loam, 1-6% slopes	355.04	KoC	Kosciusko sandy loam, 6-12% slopes	129.45
EchAN	Edwards muck, drained, 0-1% slopes	256.15	KoE	Kosciusko sandy loam, 18-30% slopes	58.75
EchAU	Edwards muck, undrained, 0-1% slopes	61.06	KIA	Kosciusko silt loam, 0-2% slopes	66.72
GczA	Gilford sandy loam, 0-1% slopes	3,715.94	KxC3	Kosciusko sandy clay loam, 8-15% slopes, severely eroded	325.76
GdnA	Gilford mucky sandy loam, 0-1% slopes	934.87	MaA	Martinsville sandy loam, 0-2% slopes	62.08
GlaB	Glynwood loam, 1-5% slopes	276.06	MaB	Martinsville sandy loam, 2-6% slopes	50.26
GlaC	Glynwood loam, 5-10% slopes	74.26	MaC	Martinsville sandy loam, 6-12% slopes	8.33
GndA	Granby loamy sand, 0-1% slopes	10.08	MbA	Metea loamy sand, 0-2% slopes	43.06
GocAK	Gravelton loam, 0-1% slopes, occasionally flooded, brief duration	181.15	MbB	Metea loamy sand, 2-6% slopes	212.68
GodAI	Gravelton loam, 0-1% slopes, frequently flooded, long duration	2,274.39	MbC	Metea loamy sand, 6-12% slopes	52.42
HhaAP	Histosols, 0-1% slopes, ponded	302.24	MeA	Metea loamy fine sand, moderately slowly permeable, 0-2% slopes	3.57
HtbAN	Houghton muck, drained, 0-1% slopes	1,080.45	MeB	Metea loamy fine sand, moderately slowly permeable, 2-6% slopes	25.44
HtbAU	Houghton muck, undrained, 0-1% slopes	679.66	MeC	Metea loamy fine sand, moderately slowly permeable, 6-12% slopes	5.26
JaaAK	Jamestown silt loam, 0-1% slopes, occasionally flooded	42.85	MIB	Miami loam, 2-6% slopes	348.57
KimA	Kimmell loam, 0-2% slopes	1,078.57	MIC	Miami loam, 6-12% slopes	71.37
MfrAN	Madaus muck, drained, 0-1% slopes	65.85	MrC3	Miami clay loam, 6-12% slopes, severely eroded	5.15
MfIA	Matherton loam, 0-1% slopes	1,243.05	MsB	Miami-Owosso-Metea complex, 2-8% slopes	1,530.78
MgcA	Maumee loamy sand, 0-1% slopes	9.94	MsD	Miami-Owosso-Metea complex, 10-25% slopes	959.41
MmbC2	Miami loam, 5-10% slopes eroded	289.89	MvC	Morley loam, 6-12% slopes	1.14
MmbD2	Miami loam, 10-18% slopes, eroded	241.53	MzB	Morley-Glynwood complex, 1-4% slopes	119.39
MmdC3	Miami clay loam, 5-10% slopes, severely eroded	337.65	OrA	Ormas loamy sand, 0-2% slopes	2,716.40
MmdD3	Miami clay loam, 10-18% slopes, severely eroded	156.93	OrB	Ormas loamy sand, 2-6% slopes	956.26
MouA	Milford silty clay loam, 0-1% slopes	141.81	OrC	Ormas loamy sand, 6-12% slopes	214.19
MsaA	Mishawaka sandy loam 0-1% slopes	21.35	Pa	Palms muck, drained	423.76
MvkA	Morocco loamy sand, 0-1% slopes	45.46	Pb	Palms muck, gravelly substratum, drained	1,612.07
MwzAN	Muskego muck, drained, 0-1% slopes	361.77	Pe	Pewamo silty clay loam	65.27
MwzAU	Muskego muck, undrained, 0-1% slopes	48.61	Pg	Pits, gravel	195.79
OmgA	Osolo loamy sand, 0-1% slopes	363.60	Re	Rensselaer loam	1,036.33
OmgB	Osolo loamy sand, 1-5% slopes	51.54	RIA	Riddles fine sandy loam, 0-2% slopes	697.01
PaaAN	Palms muck, drained, 0-1% slopes	336.89	RIB	Riddles fine sandy loam, 2-6% slopes	3,034.55
PkdA	Pewamo clay loam, 0-1% slopes	1,639.01	RIC	Riddles fine sandy loam, 6-12% slopes	332.84
Pmg	Pits, gravel	349.18	RID	Riddles fine sandy loam, 12-18% slopes	89.38
Pxo	Psammments	595.65	RxB	Riddles-Ormas-Kosciusko complex, 2-6% slopes	987.57
ReyA	Rensselaer loam	2,857.59	RxC	Riddles-Ormas-Kosciusko complex, 6-12% slopes	426.93
RopA	Riddles-Oshemo fine sandy loams, 0-1% slopes	1,595.02	Se	Sebewa loam	5,538.60
RopB	Riddles-Oshemo fine sandy loams, 1-5% slopes	13,975.76	Sf	Sebewa mucky loam	1,631.77
RoqC2	Riddles-Metea complex, 5-10% slopes, eroded	2,935.21	ShA	Shipshe sandy loam, 0-2% slopes	4,577.74
RoqD2	Riddles-Metea complex, 10-18% slopes, eroded	361.48	ShB	Shipshe sandy loam, 2-6% slopes	449.84
RosE	Riddles-Tyner complex, 18-30% slopes	123.28	Sn	Shoals loam, gravelly substratum, occasionally flooded	1.47
ScuA	Sebewa loam, 0-1% slopes	4,358.30	To	Toledo silty clay	478.66
SdnA	Sebewa mucky loam, 0-1% slopes	18.29	Ud	Udorthents, loamy	37.09
SdzA	Selfridge-Brems complex, 0-1% slopes	578.15	Uf	Udorthents-Urban land complex	252.79
SdzaB	Selfridge-Brems complex, 1-4% slopes	411.16	W	Water	5,111.67
SnlA	Southwest silt loam, 0-1% slopes	1,324.52	Wa	Walkill silt loam	34.12
TxuA	Tyner loamy sand, 0-1% slopes	444.95	Wc	Washtenaw silt loam	158.25
TxuB	Tyner loamy sand, 1-5% slopes	549.92	We	Washtenaw loam, gravelly substratum	62.03
TxuC	Tyner loamy sand, 5-10% slopes	281.98	WIB	Wawasee fine sandy loam, 2-6% slopes	1,206.74
TxuD	Tyner loamy sand, 10-18% slopes	49.24	WIC2	Wawasee fine sandy loam, 6-12% slopes, eroded	181.82
TxuF	Tyner loamy sand, 18-45% slopes	15.36	WID2	Wawasee fine sandy loam, 12-18% slopes, eroded	20.31
Uam	Udorthents, loamy	116.15	Wt	Whitaker loam	464.58
UdeA	Urban land-Bainter complex, 0-1% slopes	1,744.45			
UdkA	Urban land-Brady complex, 0-1% slopes	237.38	Grand Total		65,306.60
UdpA	Urban land-Bristol complex, 0-1% slopes	2,810.00			
UdpB	Urban land-Bristol complex, 1-5% slopes	490.95			
UdrA	Urban land-Bronson complex, 0-1% slopes	136.26			
UeaA	Urban land-Crosier complex, 0-3% slopes	542.89			
UeqA	Urban land-Gilford complex, 0-1% slopes	230.82			
UfzA	Urban land-Mishawaka complex, 0-1% slopes	345.80			
UglA	Urban land-Osolo complex, 0-1% slopes	19.46			
UgrA	Urban land-Rensselaer complex, 0-1% slopes	182.87			
UgsB	Urban land-Riddles-Oshemo complex, 1-5% slopes	209.84			
UgvA	Urban land-Tyner complex, 0-1% slopes	348.10			
UgvB	Urban land-Tyner complex, 1-5% slopes	40.82			
UgwA	Urban land-Vistula complex, 0-1% slopes	303.26			
UhbA	Urban land-Volinia complex, 0-1% slopes	1,518.48			
Usl	Udorthents, rubbish	242.33			
VnxA	Vistula loamy sand, 0-1% slopes	1,714.55			
VolA	Volinia loam, 0-1% slopes	4,685.97			
W	Water	1,023.74			
WcnAI	Waterford loam, 0-2% slopes, frequently flooded, long duration	1,371.04			
WoaA	Williamstown loam, 0-1% slopes	302.25			
WoaC2	Williamstown loam, 5-10% slopes	1,302.51			
WobB	Williamstown-Crosier complex, 5-10% slopes, severely eroded	4,311.82			
WodC3	Williamstown clay loam, 5-10% slopes, severely eroded	166.81			
WrxAN	Wunabuna silt loam, 0-1% slopes	466.53			
Grand Total		151,209.23			

Table 15: Soils within the Elkhart River Watershed

LaGrange County Soils Within Elkhart River Watershed			Kosciusko County Soils Within Elkhart River Watershed		
MUSYM	MAP UNIT NAME	TOTAL ACREAGE	MUSYM	MAP UNIT NAME	TOTAL ACREAGE
Ad	Adrian muck	303.07	Ad	Adrian muck	1,110.35
Am	Adrian muck, drained	31.98	Am	Adrian muck, drained	777.90
BaA	Blount silt loam, 0-3% slopes	1,218.64	Au	Aubbeenaubbee fine sandy loam	702.67
BoA	Boyer loamy sand, 0-2% slopes	96.04	BIA	Blount silt loam	2,700.32
BoB	Boyer loamy sand, 2-6% slopes	955.51	BIB2	Blount silt loam	766.20
BoC	Boyer loamy sand, 6-12% slopes	644.35	BoB	Boyer loamy sand, 2-6% slopes	924.04
BoD	Boyer loamy sand, 12-18% slopes	58.02	BoC	Boyer loamy sand, 6-12% slopes	1,083.51
Bp	Brady sandy loam	62.36	BoD2	Boyer loamy sand, 12-18% slopes	1,210.39
BxA	Bronson sandy loam, 0-3% slopes	12.70	Br	Brady sandy loam	1,126.93
ChB	Chelsea fine sand, 1-6% slopes	355.54	Bx	Brookston silt loam	9,027.17
ChC	Chelsea fine sand, 6-12% slopes	315.18	CcC3	Casco sandy clay loam, 8-15% slopes, severely eroded	1,473.62
CrA	Conover loam, 0-3% slopes	3,486.28	ChB	Chelsea fine sand, 2-6% slopes	951.27
Ed	Edwards muck	410.67	ChC	Chelsea fine sand, 6-12% slopes	591.76
Gf	Gilford sandy loam	128.50	CrA	Crosier loam, 0-2% slopes	6,126.22
HaA	Haskins loam, 0-3% slopes	108.33	Ed	Edwards muck	1,251.93
HdA	Hillsdale sandy loam, 0-2% slopes	470.83	Em	Edwards muck, drained	1,943.49
HdB	Hillsdale sandy loam, 2-6% slopes	2,927.32	FoA	Fox sandy loam, 0-2% slopes	8,978.21
HdC	Hillsdale sandy loam, 6-12% slopes	953.44	FoB	Fox sandy loam, 2-6% slopes	10,702.79
Ho	Homer sandy loam	323.53	FoC2	Fox sandy loam, 6-12% slopes, eroded	4,488.41
Ht	Houghton muck	1,739.17	FsD2	Fox-Casco sandy loams, 12-18% slopes, eroded	826.28
Hw	Houghton muck, drained	385.63	FsE2	Fox-Casco sandy loams, 18-25% slopes, eroded	280.50
Hx	Houghton muck, ponded	315.46	Fu	Fulton silt loam	328.18
MbB	Martinsville sandy loam, 1-6% slopes	710.08	Gf	Gilford sandy loam	1,394.10
Mc	Martisco muck	3.69	Gp	Gravel pits	632.99
MeB	Metea loamy sand, 2-6% slopes	711.43	HaA	Haskins loam, 0-2% slopes	2,911.71
MeC	Metea loamy sand, 6-12% slopes	231.54	Hh	Homer loam	2,210.97
MoB2	Morley loam, 2-6% slopes, eroded	6.42	Hm	Houghton muck	5,871.25
NaA	Nappanee silt loam, 0-3% slopes	723.31	Ho	Houghton muck, drained	6,483.70
OsA	Oshtemo loamy sand, 0-2% slopes	147.05	La	Lake borders	330.86
OsB	Oshtemo loamy sand, 2-6% slopes	403.84	Ma	Marl beds	609.50
OsC	Oshtemo loamy sand, 6-12% slopes	266.04	Mb	Marsh	1,959.84
OsD	Oshtemo loamy sand, 12-18% slopes	23.35	MdB	Martinsville fine sandy loam, 2-6% slopes	425.56
OsE	Oshtemo loamy sand, 18-25% slopes	80.91	MeB	Metea loamy fine sand, 2-6% slopes	1,415.10
OuB	Oshtemo-Hillsdale-Chelsea complex, 3-6% slopes	57.05	MFB2	Miami loam, 2-6% slopes, eroded	10,108.58
OuC	Oshtemo-Hillsdale-Chelsea complex, 6-12% slopes	140.57	MfC2	Miami loam, 6-12% slopes, eroded	2,437.57
Pm	Palms muck, drained	350.43	MfD2	Miami loam, 12-18% slopes, eroded	197.83
PrA	Parr loam, 0-2% slopes	114.56	MfE2	Miami loam, 18-25% slopes, eroded	332.41
Pt	Pewamo silty clay loam	412.09	MgC3	Miami clay loam, 6-12% slopes, severely eroded	2,387.12
Pv	Pits, gravel	180.61	MgD3	Miami clay loam, 12-18% slopes, severely eroded	605.11
PxB	Plainfield sand, 2-6% slopes	56.15	MhA	Miami loam, gravelly substratum, 0-2% slopes	1,986.41
PxC	Plainfield sand, 6-12% slopes	30.38	MhB2	Miami loam, gravelly substratum, 2-6% slopes, eroded	2,176.02
RaB	Rawson sandy loam, 2-6% slopes	13.89	Mn	Milford silty clay loam	3,528.59
Rb	Rensselaer loam	3,459.84	MrB2	Morley silt loam, 2-6% slopes, eroded	10,801.12
Se	Sebewa loam	624.84	MrC2	Morley silt loam, 6-12% slopes, eroded	2,628.18
Ud	Udorthents, loam	407.80	MrD2	Morley silt loam, 12-18% slopes, eroded	439.21
W	Water	1,961.95	MsC3	Morley silty clay loam, 6-12% slopes, severely eroded	6,504.57
Wa	Wallkill silt loam	37.23	MsD3	Morley silty clay loam, 12-18% slopes, severely eroded	1,475.76
WeA	Wawasee fine sandy loam, 0-2% slopes	78.48	MtE	Morley soils, 18-25% slopes	1,056.50
WeB	Wawasee fine sandy loam, 2-6% slopes	3,893.00	MuC2	Morley, Miami, and Rawson loams, 6-12% slopes, eroded	617.89
WeC2	Wawasee fine sandy loam, 6-12% slopes	824.80	OsB	Oshtemo loamy sand, 2-6% slopes	3,576.79
WeD2	Wawasee fine sandy loam, 12-18% slopes	38.11	OsC	Oshtemo loamy sand, 6-12% slopes	1,778.73
WhC3	Wawasee loam, 6-12% slopes, severely eroded	233.50	OtA	Oshtemo sandy loam, 0-2% slopes	2,360.80
WhD3	Wawasee loam, 12-18% slopes, severely eroded	27.38	Pb	Palms muck, drained	995.49
Wt	Whitaker sandy loam	788.80	PdA	Parr loam, 0-2% slopes	564.39
Grand Total		32,341.70	Pe	Pewamo silty clay loam	6,050.42
			RaB	Rawson sandy loam, 2-6% slopes	2,279.53
			RaC2	Rawson sandy loam, 6-12% slopes, eroded	802.94
			RbA	Rawson loam, 0-2% slopes	845.94
			RbB	Rawson loam, 2-6% slopes	4,493.56
			RdB2	Rawson, Morley, and Miami loams, 2-6% slopes, eroded	3,414.34
			Re	Rensselaer loam	3,600.51
			RsA	Riddles sandy loam, 0-2% slopes	1,095.31
			RsB	Riddles sandy loam, 2-6% slopes	12,816.49
			RsC2	Riddles sandy loam, 6-12% slopes, eroded	4,592.21
			RsD2	Riddles sandy loam, 12-18% slopes, eroded	756.42
			Se	Sebewa loam	7,943.96
			Sh	Shoals silt loam	560.82
			To	Toledo silty clay loam	1,338.63
			W	Water	4,337.20
			Wa	Wallkill silt loam	467.02
			WrA	Warsaw loam, 0-2% slopes	1,494.47
			Ws	Washtenaw silt loam	2,780.03
			Wt	Whitaker loam	756.31
			Grand Total		198,602.87

TOTAL WATER ACREAGE COMBINED:	12,434.55
TOTAL SOILS ACREAGE COMBINED:	435,025.83
TOTAL ACREAGE COMBINED:	447,460.39

**Table 16: Highly Erodible and Potentially Highly Erodible Lands (HEL) in the Elkhart River Watershed**

County	MUSYM	Map Unit Name	Acreage
<b>HEL</b>			
Elkhart County	BtXD2	Bristol loamy sand, 10-18% slopes eroded	267.77
	MmbD2	Miami loam, 10-18% slopes eroded	241.53
	MmdD3	Miami clay loam, 10-18% slopes, severely eroded	156.93
	RoaD2	Riddles-Metea complex, 10-18% slopes, eroded	361.48
	RosE	Riddles-Metea complex, 10-18% slopes, eroded	123.28
	TxuD	Tyner loamy sand, 10-18% slopes	49.24
	TxuF	Tyner loamy sand, 18-45% slopes	15.36
	WadC3	Williamstown clay loam, 5-10% slopes, severely eroded	166.81
<b>Grand Total</b>			<b>1,382.40</b>
Kosciusko County	BoC	Boyer loamy sand, 6-12% slopes	158.25
	CiC	Coloma loamy sand, 6-12% slopes	44.07
	KoC	Kosciusko sandy loam, 6-12% slopes	129.45
	KoE	Kosciusko sandy loam, 18-30% slopes	58.75
	KxC3	Kosciusko sandy clay loam, 8-15% slopes, severely eroded	325.76
	MaC	Martinsville sandy loam, 6-12% slopes	8.33
	MbC	Metea loamy sand, 6-12% slopes	52.42
	MeC	Metea loamy fine sand, moderately slowly permeable, 6-12% slopes	5.26
	MI	Miami loam, 6-12% slopes	71.37
	MrC3	Miami clay loam, 6-12% slopes, severely eroded	5.15
	MsD	Miami-Owosso-Metea complex, 10-25% slopes	959.41
	MvC	Morley loam, 6-12% slopes	1.14
	OrC	Ormas loamy sand, 6-12% slopes	214.19
	RI	Riddles fine sandy loam, 6-12% slopes	332.84
	RID	Riddles fine sandy loam, 12-18% slopes	89.38
	RxC	Riddles-Ormas-Kosciusko complex, 6-12% slopes	426.93
	WIC2	Wawasee fine sandy loam, 6-12% slopes, eroded	181.82
WID2	Wawasee fine sandy loam, 12-18% slopes, eroded	20.31	
<b>Grand Total</b>			<b>3,084.81</b>
LaGrange County	OsD	Oshemo loamy sand, 12-18% slopes	23.35
	OsE	Oshemo loamy sand, 18-25% slopes	80.91
	WeD2	Wawasee fine sandy loam, 12-18% slopes, eroded	38.11
	WhD3	Wawasee loam, 12-18% slopes, severely eroded	27.38
<b>Grand Total</b>			<b>169.75</b>
Noble County	BoD2	Boyer loamy sand, 12-18% slopes, eroded	1,210.39
	CcC3	Casco sandy clay loam, 8-15% slopes, severely eroded	1,473.62
	FsD2	Fox-Casco sandy loams, 12-18% slopes, eroded	826.28
	FsE2	Fox-Casco sandy loams, 18-25% slopes, eroded	280.50
	MfD2	Miami loam, 12-18% slopes, eroded	197.83
	MfE2	Miami loam, 18-25% slopes, eroded	332.41
	MgC3	Miami clay loam, 6-12% slopes, severely eroded	2,387.12
	MgD3	Miami clay loam, 12-18% slopes, severely eroded	605.11
	MrD2	Morley silt loam, 12-18% slopes, eroded	439.21
	MsC3	Morley silty clay loam, 6-12% slopes, severely eroded	6,504.57
	MsD3	Morley silty clay loam, 12-18% slopes, severely eroded	1,475.76
	ME	Morley soils, 18-25% slopes	1,056.50
RsD2	Riddles sandy loam, 12-18% slopes, eroded	756.42	
<b>Grand Total</b>			<b>17,545.69</b>
<b>Total HEL Acreage for</b>			<b>22,182.65</b>

County	MUSYM	Map Unit Name	Acreage	
<b>Potential-HEL</b>				
Elkhart County	BlaB	Blount loam, 1-4% slopes	794.28	
	MmbC2	Miami loam, 5-10% slopes, eroded	289.89	
	MmdC3	Miami clay loam, 5-10% slopes, severely eroded	337.65	
	RopB	Riddles-Oshemo fine sandy loams, 1-5% slopes	13,975.76	
	RoaC2	Riddles-Metea complex, 5-10% slopes, eroded	2,935.21	
	TxuC	Tyner loamy sand, 5-10% slopes	281.98	
	UgsB	Urban land-Riddles-Oshemo complex, 1-5% slopes	209.84	
	WoaC2	Williamstown loam, 5-10% slopes, eroded	1,302.51	
<b>Grand Total</b>			<b>20,127.11</b>	
Kosciusko County	<b>Grand Total</b>		<b>0.00</b>	
LaGrange County	BaA	Blount silt loam, 0-3% slopes	1,218.64	
	BoC	Boyer loamy sand, 6-12% slopes	644.35	
	BoD	Boyer loamy sand, 12-18% slopes	58.02	
	ChC	Chelsea fine sand, 6-12% slopes	315.18	
	HdC	Hillsdale sandy loam, 6-12% slopes	953.44	
	MeC	Metea loamy sand, 6-12% slopes	231.54	
	MoB2	Morley loam, 2-6% slopes, eroded	6.42	
	OsB	Oshemo loamy sand, 2-6% slopes	403.84	
	OsC	Oshemo loamy sand, 6-12% slopes	266.04	
	OuB	Oshemo-Hillsdale-Chelsea complex, 3-6% slopes	57.05	
	OuC	Oshemo-Hillsdale-Chelsea complex, 6-12% slopes	140.57	
	Pv	Pits, gravel	180.61	
	PxC	Plainfield sand, 6-12% slopes	30.38	
	RaB	Rawson sandy loam, 2-6% slopes	13.89	
	Ud	Udarthenis, loamy	407.80	
	WeB	Wawasee fine sandy loam, 2-6% slopes	3,893.00	
	WeC2	Wawasee fine sandy loam, 6-12% slopes, eroded	824.80	
	WhC3	Wawasee loam, 6-12% slopes, severely eroded	233.50	
	<b>Grand Total</b>			<b>9,879.09</b>
	Noble County	BIB2	Blount silt loam, 2-4% slopes, eroded	766.20
BoB		Boyer loamy sand, 2-6% slopes	924.04	
BoC		Boyer loamy sand, 6-12% slopes	1,083.51	
ChC		Chelsea fine sand, 6-12% slopes	591.76	
FoB		Fox sandy loam, 2-6% slopes	10,702.79	
FoC2		Fox sandy loam, 6-12% slopes, eroded	4,488.41	
MdB		Martinsville fine sandy loam, 2-6% slopes	425.56	
MfB2		Miami loam, 2-6% slopes, eroded	10,108.58	
MfC2		Miami loam, 6-12% slopes, eroded	2,437.57	
MhB2		Miami loam, gravelly substratum, 2-6% slopes, eroded	2,176.02	
MrB2		Morley silt loam, 2-6% slopes, eroded	10,801.12	
MrC2		Morley silt loam, 6-12% slopes, eroded	2,628.18	
MuC2		Morley, Miami, and Rawson loams, 6-12% slopes, eroded	617.89	
OsB		Oshemo loamy sand, 2-6% slopes	3,576.79	
OsC		Oshemo loamy sand, 6-12% slopes	1,778.73	
RaB		Rawson sandy loam, 2-6% slopes	2,279.53	
RaC2		Rawson sandy loam, 6-12% slopes, eroded	802.94	
RbB		Rawson loam, 2-6% slopes	4,493.56	
RdB2		Rawson, Morley, and Miami loams, 2-6% slopes, eroded	3,414.34	
RsB		Riddles sandy loam, 2-6% slopes	12,816.49	
RsC2	Riddles sandy loam, 6-12% slopes, eroded	4,592.21		
<b>Grand Total</b>			<b>81,506.20</b>	
<b>Total Potential HEL Acreage for Watershed:</b>			<b>111,512.40</b>	

Table 17: Highly Erodible Landuse in the Elkhart River Watershed by County		
County Name	Acres	Percent
Elkhart County	21,509	0.16
Kosciusko County	3,084	0.02
LaGrange County	10,049	0.08
Noble County	99,052	0.74

**Table 18: Hydric Soils in the Elkhart River Watershed**

Elkhart County Hydric Soils Within Elkhart River Watershed			Kosciusko County Hydric Soils Within Elkhart River Watershed			LaGrange County Hydric Soils Within Elkhart River Watershed		
MUSYM	MAP UNIT NAME	ACREAGES	MUSYM	MAP UNIT NAME	ACREAGES	MUSYM	MAP UNIT NAME	ACREAGES
AbhAN	Adrian muck	351.40	Bc	Barry loam	2,332.48	Am	Adrian muck	31.98
AbhAU	Adrian muck	405.48	Ed	Edwards mck	263.73	Ed	Edwards muck	410.67
BuuA	Brookston loam	11,213.27	Gf	Gilford sandyloam	518.42	Gf	Gilford sandy loam	128.50
EchAN	Edwards muck	256.15	Gm	Gilford mucky sandy loam	505.88	Ht	Houghton muck	1,739.17
EchAU	Edwards muck	61.06	Go	Gravelton loamy sand	650.12	Hw	Houghton muck	385.63
GczA	Gilford sandy loam	3,715.94	He	Histosols and Aquolls	1,243.35	Hx	Houghton muck	315.46
GdnA	Gilford mucky sandy loam	934.87	Ht	Houghton muck	618.58	Mc	Martisco muck	3.69
GndA	Granby loamy sand	10.08	Hx	Houghton muck	853.02	Pm	Palms muck	350.43
GocAK	Gravelton loam	181.15	Pa	Palms muck	423.76	Pt	Pewamo silty clay loam	412.09
GodAI	Gravelton loam	2,274.39	Pb	Palms muck	1,612.07	Rb	Rensselaer loam	3,459.84
HhaAP	Histosols	302.24	Pe	Pewamo silty clay loam	65.27	Se	Sebewa loam	624.84
HtbAN	Houghton muck	1,080.45	Re	Rensselaer loam	1,036.33	Wa	Walkkill silt loam	37.23
HtbAU	Houghton muck	679.66	Se	Sebewa loam	5,538.60	<b>Grand Total</b>		<b>8,202.60</b>
MfrAN	Madaus muck	65.85	Sf	Sebewa mucky loam	1,631.77			
MgcA	Maumee loamy sand	9.94	To	Toledo silty clay	478.66			
MouA	Milford silty clay loam	141.81	Wa	Walkkill silt loam	34.12			
MwzAN	Muskego muck	361.77	Wc	Washtena silt loam	158.25			
MwzAU	Muskego muck	48.61	We	Washtenaw loam	62.03			
PaaAN	Palms muck	336.89	<b>Grand Total</b>		<b>18,026.43</b>			
PkdA	Pewamo clay loam	1,639.01						
ReyA	Rensselaer loam	2,857.59						
ScuA	Sebewa loam	4,358.30						
SdnA	Sebewa mucky loam	18.29						
<b>Grand Total</b>		<b>31,304.19</b>						

  

Noble County Hydric Soils Within Elkhart River Watershed		
MUSYM	MAP UNIT NAME	ACREAGES
Ad	Adrian muck	1,110.35
Am	Adrian muck	777.90
Bx	Brookston silt loam	9,027.17
Ed	Edwards muck	1,251.93
Em	Edwards muck	1,943.49
Gf	Gilford sandy loam	1,394.10
Hm	Houghton muck	5,871.25
Ho	Houghton muck	6,483.70
La	Lake borders	330.86
Ma	Marl beds	609.50
Mb	Marsh	1,959.84
Mn	Milford silty clay loam	3,528.59
Pb	Palms muck	995.49
Pe	Pewamo silty clay loam	6,050.42
Re	Rensselaer loam	3,600.51
Se	Sebewa loam	7,943.96
To	Toledo silty clay loam	1,338.63
Wa	Walkkill silt loam	467.02
Ws	Washtenaw silt loam	2,780.03
<b>Grand Total</b>		<b>57,464.74</b>

  

<b>TOTAL HYDRIC SOILS ACREAGES COMBINED:</b>	<b>114,997.96</b>
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**Table 19: Wetlands listed in the National Wetlands Inventory in the Elkhart River Watershed**

Attribute	Acreage
L1UBGX Total	73.85
L1UBH Total	8,954.88
L1UBHH Total	817.13
L1UBHX Total	63.42
L2AB/UBHH Total	31.80
L2AB4H Total	9.40
L2UB/ABHH Total	7.06
<b>Total Lacustrine</b>	<b>9,957.54</b>
PAB/EMF Total	8.97
PAB/UBF Total	18.41
PAB/UBG Total	8.63
PAB/UBH Total	8.74
PAB4/SS1F Total	9.17
PAB4F Total	1.48
PAB4G Total	15.47
PABF Total	7.75
PABG Total	2.23
PABH Total	1.28
<b>Total Palustrine Aquatic Bed</b>	<b>82.14</b>
PEM/ABF Total	12.27
PEM/FO1B Total	2.34
PEM/FO1BD Total	11.09
PEM/FO1C Total	257.85
PEM/FO1CD Total	33.82
PEM/FO1F Total	60.91
PEM/FO1G Total	16.46
PEM/SS1A Total	7.91
PEM/SS1B Total	14.59
PEM/SS1BD Total	24.05
PEM/SS1C Total	881.93
PEM/SS1CD Total	142.06
PEM/SS1F Total	336.66
PEM/SS1U Total	4.74
PEM/SS1UD Total	12.89
PEM/SS5AD Total	1.00
PEM/SSC Total	1.82
PEM/UBF Total	183.34
PEM/UBG Total	228.11
PEM1C Total	55.32
PEM1F Total	0.99
PEM5D Total	50.61
PEMA Total	141.60
PEMAD Total	141.60
PEMAF Total	17.31
PEMB Total	926.62
PEMBD Total	1,541.76
PEMC Total	3,726.55
PEMCD Total	1,223.69
PEMCH Total	0.50
PEMF Total	785.47
PEMFD Total	2.70
PEMFH Total	5.33
PEMG Total	0.15
PEMU Total	2,247.74
PEMUD Total	1,590.81
<b>Total Palustrine Emergent</b>	<b>14,692.59</b>
PUSA Total	2.80
PUSC Total	0.44
PUSCX Total	3.33
PUSU Total	0.32
<b>Total Palustrine Unconsolidated Shore</b>	<b>6.90</b>

Attribute	Acreage
PUB/ABG Total	12.75
PUB/EMF Total	145.93
PUB/EMG Total	102.83
PUB/EMH Total	2.41
PUB/FO1F Total	12.52
PUB/FO5F Total	6.86
PUB/FO5G Total	0.90
PUB/SS1F Total	5.61
PUBCX Total	1.43
PUBF Total	125.34
PUBFH Total	5.75
PUBFX Total	8.52
PUBG Total	332.77
PUBGH Total	99.77
PUBGX Total	249.66
PUBH Total	414.26
PUBHH Total	79.52
PUBHX Total	119.32
<b>Total Palustrine Unconsolidated Bottom</b>	<b>1,726.17</b>
PFO/EM1C Total	2.20
PFO/EMC Total	3.72
PFO/EMF Total	3.28
PFO/SS1A Total	162.00
PFO/SS1AD Total	4.67
PFO/SS1B Total	8.27
PFO/SS1BD Total	13.42
PFO/SS1C Total	4,176.38
PFO/SS1CD Total	19.46
PFO/SS1F Total	129.51
PFO1/EMA Total	15.48
PFO1/EMB Total	17.61
PFO1/EMBD Total	16.88
PFO1/EMC Total	194.60
PFO1/EMCD Total	22.21
PFO1/EMF Total	39.97
PFO1/SSC Total	3.79
PFO1/UBF Total	11.16
PFO1A Total	1,162.42
PFO1AD Total	44.03
PFO1B Total	16.84
PFO1BD Total	11.93
PFO1C Total	10,563.74
PFO1CD Total	54.23
PFO1F Total	77.49
PFO5/SS1F Total	13.29
PFO5F Total	1.17
PFO5G Total	0.30
<b>Total Palustrine Forested</b>	<b>16,790.04</b>

Attribute	Acreage
PSS/EM1B Total	21.73
PSS/EM1C Total	35.55
PSS/EM1F Total	27.04
PSS/EMC Total	9.69
PSS/FO1A Total	2.15
PSS/FO1C Total	308.56
PSS/FO1CD Total	83.10
PSS/FO1F Total	94.30
PSS/FO1UD Total	46.79
PSS/UBGH Total	2.21
PSS1/ABF Total	5.38
PSS1/EM5C Total	0.73
PSS1/EMA Total	116.17
PSS1/EMAD Total	8.86
PSS1/EMB Total	34.25
PSS1/EMBD Total	11.64
PSS1/EMC Total	1,951.51
PSS1/EMCD Total	82.49
PSS1/EMF Total	834.96
PSS1/EMUD Total	9.95
PSS1/FOF Total	3.50
PSS1/UBF Total	30.04
PSS1/UBG Total	43.65
PSS1A Total	46.32
PSS1AD Total	3.64
PSS1B Total	32.31
PSS1C Total	963.97
PSS1CD Total	10.11
PSS1E Total	1.05
PSS1F Total	112.31
PSS5/UBF Total	2.18
<b>Total Palustrine Scrub-Shrub</b>	<b>4,936.11</b>
R2UBH Total	498.02
R2UBHX Total	5.75
<b>TOTAL RIVERINE</b>	<b>503.77</b>
<b>Grand Total</b>	<b>48,695.26</b>

**Table 20: State and Federal Endangered and Threatened Species in the Elkhart River Watershed.**

Type	Common Name	Federal Classification	State Classification
Bird	American Bittern		State Endangered
Bird	Barn Owl		State Endangered
Bird	Black Tern		State Endangered
Bird	Black-crowned Night Heron		State Endangered
Bird	Henslow's Sparrow		State Endangered
Bird	King Rail		State Endangered
Bird	Least Bittern		State Endangered
Bird	Loggerhead Shrike		State Endangered
Bird	Marsh Wren		State Endangered
Bird	Osprey		State Endangered
Bird	Upland Sandpiper		State Endangered
Bird	Virginia Rail		State Endangered
Fish	Greater Redhorse		State Endangered
Fish	Lake Sturgeon		State Endangered
Insect	American Burying Beetle	Federal Endangered	
Mammal	Indiana Bat	Federal Endangered	State Endangered
Reptile	Blanding's Turtle		State Endangered
Reptile	Butler's Garter Snake		State Endangered
Reptile	Copperbelly Water Snake		State Endangered
Reptile	Eastern Massasauga	Candidate Species	State Endangered
Reptile	Spotted Turtle		State Endangered
Vascular Plant	American Scheuchzeria		State Endangered
Vascular Plant	American Water-pennywort		State Endangered
Vascular Plant	Bicknell Northern Crane's-bill		State Endangered
Vascular Plant	Bristly Sarsaparilla		State Endangered
Vascular Plant	Green Adder's-mouth		State Endangered
Vascular Plant	Highbush-cranberry		State Endangered
Vascular Plant	Horse-tail Spikerush		State Endangered
Vascular Plant	Kankake Globe-mallow		State Endangered
Vascular Plant	Mud Sedge		State Endangered
Vascular Plant	Northern Wild-raisin		State Endangered
Vascular Plant	Oakes Pondweed		State Endangered
Vascular Plant	Pale Vetchling Peavine		State Endangered
Vascular Plant	Prairie White-fringed Orchid		State Endangered
Vascular Plant	Purple Avens		State Endangered
Vascular Plant	Thinleaf Sedge		State Endangered
Vascular Plant	Wild Calla		State Endangered
Vascular Plant	Yellow-fringe Orchid		State Endangered
Vascular Plant	Bebb's Sedge		State Threatened
Vascular Plant	Beck Water-marigold		State Threatened
Vascular Plant	Fries' Pondweed		State Threatened
Vascular Plant	Great St. John's-wort		State Threatened
Vascular Plant	Herb-robert		State Threatened
Vascular Plant	Hooded Ladies'-tresses		State Threatened
Vascular Plant	Horned Bladderwort		State Threatened
Vascular Plant	Leiberg's Witchgrass		State Threatened
Vascular Plant	Slender Cotton-grass		State Threatened
Vascular Plant	Small Cranberry		State Threatened
Vascular Plant	Smooth Veiny Pea		State Threatened
Vascular Plant	Straight-leaf Pondweed		State Threatened
Vascular Plant	White-stem Pondweed		State Threatened

Table 21: V3 Sampling Station Locations								
Station #	ID Number	Stream Name	Acreage	Latitude	Longitude	Location	County	Sample Parameters
1	ERO1	Elkhart River	436,136	41°40'26.49"	85°56'38.15"	Indiana Ave.	Elkhart	WC, H, M
2	ERO2	Turkey Creek	92,974	41°26'35.53"	85°50'44.28"	CR 46	Elkhart	WC, H, M
3	ERO3	Elkhart River	247,173	41°30'15.76"	85°47'21.61"	CR 127	Elkhart	WC, H, M
4	ERO4	S. Branch Elkhart River	62,822	41°26'17.93"	85°30'14.71"	CR 600N	Noble	WC, H, M
5	ERO5	N. Branch Elkhart	101,054	41°28'17.18"	85°30'37.77"	CR 450W	Noble	WC, H, M

WC = Water  
Chemistry

H = Habitat

M = Macroinvertebrates

CR= County  
Road

<b>Table 22: Scoring Criteria for mIBI</b>					
	<b>Scoring</b>				
	<b>0</b>	<b>2</b>	<b>4</b>	<b>6</b>	<b>8</b>
HBI	> 5.63	5.06 - 5.62	4.55 - 5.05	4.09 - 4.55	< 4.08
Number of Taxa	< 7	8 - 10	11 - 14	15 - 17	> 18
Number of Individuals	< 79	80 - 129	130 - 212	213 - 349	> 350
Percent Dominant Taxa	> 61.6	43.9 - 61.5	31.2 - 43.8	22.2 - 31.1	< 22.1
EPT Index	< 2	3	4 - 5	6 - 7	> 8
EPT Count	< 19	20 - 42	43 - 91	92 - 194	> 195
EPT To Total Number	< 0.13	0.14 - 0.29	0.30 - 0.46	0.47 - 0.68	> 0.69
EPT to Chironomid	< 0.88	0.89 - 2.55	2.56 - 5.70	5.71 - 11.65	> 11.66
Chironomid Count	> 147	55 - 146	20 - 54	7 - 19	< 6
Number of Individuals/Number of Squares Sorted	< 29	30 - 71	72 - 171	172 - 409	> 410

EPT= Ephemeroptera, Plecoptera, and Tricoptera

<b>Table 23: IBI Scores Developed for Indiana</b>		
<b>Total IBI Score</b>	<b>Integrity Class</b>	<b>Attributes</b>
58-60	Excellent	Comparable to "least impacted" conditions, exceptional assemblage of species.
48-52	Good	Decreased species richness (intolerant species in particular), sensitive species present.
40-44	Fair	Intolerant and sensitive species absent, skewed trophic structure.
28-34	Poor	Top carnivores and many expected species absent or rare, omnivores and tolerant species dominant.
12-22	Very Poor	Few species and individuals present, tolerant species dominant, diseased fish frequent.
<12	No Fish	No fish captured during sampling.

Source: Karr et al. (1986)

IBI= Index of Biotic Integrity

**Table 24: V3 Macroinvertebrate Species List**

		Number of individuals				
		Station Number				
ORDER	FAMILY	1	2	3	4	5
Hydracarina- Trombidiformes		-	15	3	4	2
Pelecypoda	Corbiculidae	14	-	-	-	-
Gastropoda	Ancylidae	1	2	-	24	-
	Bithyniidae	15	-	-	-	-
	Physidae	2	-	-	-	3
Annelida	Oligochaeta	10	11	-	1	8
	Hirudinea	2	-	-	2	2
Decapoda	Cambaridae	2	3	1	-	-
Amphipoda	Gammaridae	2	32	16	65	22
Isopoda	Asellidae	-	5	-	-	1
Ephemeroptera	Caenidae	-	-	-	3	3
	Baetidae	12	26	102	5	68
	Heptageniidae	-	17	-	-	27
	Leptohyphidae	-	-	-	-	2
Coleoptera	Dytiscidae	-	-	-	1	-
	Gyrinidae	-	-	-	-	1
	Elmidae	14	3	7	-	7
	Psephenidae	2	-	-	-	-
Megaloptera	Sialidae	-	-	-	1	-
Trichoptera	Brachycentridae	16	-	-	-	-
	Helicosychidae	9	-	-	-	-
	Hydropsychidae	108	24	5	-	11
	Philopotamidae	-	9	4	-	2
Hemiptera	Belostomatidae	-	-	-	1	-
	Corixidae	-	-	-	22	2
	Naucoridae	-	-	-	4	-
	Nepidae	-	-	-	1	-
	Notonectidae	-	-	-	1	1
Plecoptera	Pteronarcidae	3	-	-	-	-
	Perlidae	4	-	-	-	-
Odonata-Anisoptera	Aeshnidae	-	-	-	-	4
	Libellulidae	-	-	-	4	-
Odonata-Zygoptera	Calopterygidae	1	2	3	-	3
	Coenagrionidae	2	3	-	35	-
Diptera	Blood-red Chironomidae	5	12	12	7	3
	Other Chironomidae	6	10	11	6	20
	Culicidae	1	-	-	9	-
	Simuliidae	12	-	-	-	-
	Tabanidae	-	5	4	1	3

<b>Table 25a: Results From Macroinvertebrate Sampling September 19 and 20, 2007</b>					
	<b>Station 1</b>	<b>Station 2</b>	<b>Station 3</b>	<b>Station 4</b>	<b>Station 5</b>
HBI	3.93	4.72	4.47	5.94	4.36
Number of Taxa	23	16	11	20	21
Number of Individuals	243	179	168	197	195
Percent Dominant Taxa	44.4	17.9	60.7	33	34.9
EPT Index	6	4	3	2	6
EPT Count	152	76	111	8	113
EPT To Total Number	0.63	0.42	0.66	0.04	0.58
EPT to Chironomid	13.82	3.46	4.83	0.62	4.91
Chironomid Count	11	22	23	13	23
Number of Individuals/Number of Squares Sorted	15.19	7.78	7	9.38	9.75

<b>Table 25b: mIBI Scoring for Stations Sampled by V3</b>					
	<b>Station 1</b>	<b>Station 2</b>	<b>Station 3</b>	<b>Station 4</b>	<b>Station 5</b>
HBI	8	4	6	0	6
Number of Taxa	8	6	4	8	8
Number of Individuals	6	4	4	4	4
Percent Dominant Taxa	2	8	2	4	4
EPT Index	6	4	2	0	6
EPT Count	6	4	6	0	6
EPT To Total Number	6	4	6	0	6
EPT to Chironomid	8	4	4	0	4
Chironomid Count	6	4	4	6	4
Number of Individuals/Number of Squares Sorted	0	0	0	0	0
Station Average	5.6	4.2	3.8	2.2	4.8

Table 26: IDEM Macroinvertebrate Data (1990, 2000)									
Station ID	Stream Name	Description	Sample Date	QHEI	mIBI	Water Temp. °C	D.O. mg/L	pH	Sp. Conductivity mhos
IDEM 1	Rock Run Creek	CR 35	8/1/2000	48	2.4	23.25	11.79	8.26	707
IDEM 2	Elkhart River	SR 5 Pigeon St	8/22/2000	72	4.2	22.15	9.56	7.73	548
IDEM 3	N. Branch Elkhart River	CR 450 W	8/23/2000	81	2.8	22.25	6.23	7.53	506
IDEM 4	Thumma Ditch	CR 125 S	8/7/1990	65	4	17	8.3	8.1	540
IDEM 5	Winebrenner Ditch	CR 250 W	8/7/1990	28	2.4	22	9.1	8.3	540
IDEM 6	Croft Ditch	SR 9 Bridge	8/7/1990	40	4.2	23	9.8	8.3	340
IDEM 7	Oviatt Ditch	CR 900 N	8/8/1990	40	3	23	6.3	7.9	390
IDEM 8	Dry Run	CR 900 N	8/8/1990	51	4.6	17.5	7.9	8	300
IDEM 9	Huston Ditch	CR 300 W	8/10/1990	63	3.4	15	8.2	7.8	30
IDEM 10	N. Fork Elkhart River	CR 450 W	8/10/1990	60	4.4	21	6.2	8	-
IDEM 11	Darkwood Ditch	US 6	8/14/1990	38	2.4	22	10	8.1	550
IDEM 12	Yellow Creek	CR 32	8/16/1990	50	5	25	13	8.5	-
IDEM 13	Hoke Ditch	At Mouth	8/16/1990	24	3.4	22	7	7.8	-
IDEM 14	Elkhart River	SR 13	8/17/1990	67	4.6	22	6.2	7.8	-
IDEM 15	Solomon Creek	CR 48	8/27/1990	56	2.2	-	-	-	-
IDEM 16	Rock Run Creek	CR 35	8/27/1990	69	4.2	-	-	-	-
IDEM 17	Dausman Ditch	CR 21	8/28/1990	38	1.6	-	-	-	-

<b>Table 27: Hoosier Riverwatch Macroinvertebrate Data (1990-2004)</b>									
<b>ID</b>	<b>Stream Name</b>	<b>Description</b>	<b>Sample Date</b>	<b>CQHEI</b>	<b>Pollution Tolerance</b>	<b>Water Temp. °C</b>	<b>D.O. mg/L</b>	<b>pH</b>	<b>Sp. Conductivity mhos</b>
330	Elkhart River	Oxbow Park, 1/2 mile east of US-33	11/3/2001	-	32	23.25	11.79	8.26	707
330	Elkhart River	Oxbow Park, 1/2 mile east of US-34	11/30/2007	71	-				
346	Elkhart River	Studebaker Park	11/21/2001	91	19	22.15	9.56	7.73	548
346	Elkhart River	Studebaker Park	1/28/2002	74	28	22.25	6.23	7.53	506
346	Elkhart River	Studebaker Park	7/6-7/2002	64	26	17	8.3	8.1	540
346	Elkhart River	Studebaker Park	12/4/2002	75	-				
346	Elkhart River	Studebaker Park	3/4/2003	76	-				
346	Elkhart River	Studebaker Park	4/8/2003	74	-				
346	Elkhart River	Studebaker Park	6/17/2003	74	46	22	9.1	8.3	540
346	Elkhart River	Studebaker Park	11/19/2004	84	24	23	9.8	8.3	340
346	Elkhart River	Studebaker Park	3/23/2005	74	13	23	6.3	7.9	390
381	Elkhart River	Canoe launch at Oxbow Park	4/25/2002	-	32	17.5	7.9	8	300
381	Elkhart River	Canoe launch at Oxbow Park	10/18/2001	-	18	15	8.2	7.8	30
381	Elkhart River	Canoe launch at Oxbow Park	10/17/2002	-	39	21	6.2	8	-
381	Elkhart River	Canoe launch at Oxbow Park	4/24/2003	-	36	22	10	8.1	550
381	Elkhart River	Canoe launch at Oxbow Park	10/16/2003	-	40	25	13	8.5	-
381	Elkhart River	Canoe launch at Oxbow Park	4/22/2004	-	25	22	7	7.8	-
381	Elkhart River	Canoe launch at Oxbow Park	10/14/2004	-	34	22	6.2	7.8	-
552	Elkhart River	US 33 at Benton	12/20/1999	-	5	-	-	-	-
554	Elkhart River	East Jackson Blvd.	12/20/2000	-	37	-	-	-	-
554	Elkhart River	East Jackson Blvd.	7/28/2000	-	34				
554	Elkhart River	East Jackson Blvd.	10/12/2000	-	29				
570	Elkhart River	CR 1175W	10/11/1999	-	18				
570	Elkhart River	CR 1175W	8/3/2000	-	25				
688	Elkhart River	200 yards in Studebaker Park	5/28/2004	-	34				
884	Elkhart River	1/4 east of US 33 in Benton	10/17/2004	49	26				

**Pollution Tolerance Score:** > 23 = Excellent, 17 - 22 = Good, 11 - 16 = Fair, < 10 = Poor

**CQHEI:** > 100 = high quality stream, > 60 = generally conducive to the existence of warmwater fauna

Table 28: City of Elkhart and IDEM IBI Data (IDEM 2005; Foy 1999-2004, Kring 2006-2007)																	
Station ID	Stream Name	Description	Total IBI Score										QHEI Total Score				
			1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
IDEM 1	Carrol Cr	US 33									34					33	
IDEM 2	Turkey Cr	CR 1250 N.									40					45	
IDEM 3	Gretzinger Ditch	CR 600 E.									34					50	
IDEM 4	Elkhart River	DS Ligonier WWTP Outfall									44					67	
IDEM 5	Omar-Neff Ditch	CR 320 W.									12					29	
IDEM 6	Rock Run Cr	CR 34									42					63	
IDEM 7	Stony Cr	CR 42									42					58	
IDEM 8	Stony Cr	CR 42									38					54	
IDEM 9	Kieffer Ditch	CR 23									36					35	
IDEM 10	Cromwell Ditch	CR 1000 E									20					40	
EC 1	Elkhart River	American Park	48	45	48						46					66	
EC 2	Elkhart River	Central High School				44	43	47				46		70			69
EC 3	Elkhart River	Middlebury St.	45	44	47				44				41		86		76
EC 4	Elkhart River	Studebaker Park (A)				46	46	46		44				78		80	
EC 5	Elkhart River	Indiana Ave.	44	47	51				50				51		86		78
EC 6	Elkhart River	EEC (A)				51	52	50				49		79			69
EC 7	Elkhart River	Hively Ave. (CR 18)	52	52	52						50					80	
EC 8	Elkhart River	Oxbow Park (B)				51	52	54				52	45	82			76
EC 9	Elkhart River	Oxbow Park	52	54	53				47						84		
EC 10	Yellow Creek	US 20 Bypass	44	43	29	28	38	31	37	34				50	70	70	
EC 11	Yellow Creek	Concord High School				32	36	35		29	38			59		67	65
EC 12	Yellow Creek	CR 32	36	34	37	36	37	37	34	33			31	52	64	62	59
EC 13	Yellow Creek	Hively Avenue (CR 18)												54			
EC 14	Swoveland Ditch	CR 21															34
EC 15	Dausman Ditch	CR 17															41
EC 16	Dausman Ditch	CR 21															52

Table 29: Fish Presence in Elkhart River Watershed 2000-2006 (IDEM 2000-2006, City of Elkhart 2000-2003, 2005-2006)																												
Species	Elkhart River							Turkey Creek				Yellow Creek							Solomon Creek			Rock Run Creek			Dry Run Creek	Stoney Creek		Berlin Court Ditch
	2000	2001	2002	2003	2004	2005	2006	2001	2002	2003	2006	2000	2001	2002	2003	2004	2005	2006	2001	2002	2003	2001	2002	2003	2002	2002	2003	2006
Chesnut Lamprey	x	x	x	x	x	x	x																					
American Brook Lamprey	x	x	x	x	x	x	x																					
Bowfin	x		x	x			x																					
Brown Trout																					x	x	x					
Rainbow Trout				x				x													x		x					
Central Mudminnow		x	x	x	x			x	x	x			x	x	x	x				x	x	x	x	x	x	x	x	x
Grass Pickerel	x	x	x	x	x			x	x	x	x		x	x						x	x	x				x		
Northern Pike	x	x	x	x	x						x																	
Muskellunge			x																									
Common Carp		x	x	x	x		x	x	x	x				x						x	x	x				x		x
Golden Shiner								x					x	x		x												
Creek Chub	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Hornyhead Chub	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x	x			x		x	x	x		x		
River Chub		x																										
Stoneroller, Central		x		x	x			x				x	x	x	x	x	x			x	x	x	x	x		x	x	x
Blacknose Dace		x					x	x	x			x	x	x	x	x	x			x	x	x	x	x	x	x	x	x
Longnose Dace														x	x													
Striped Shiner	x	x	x	x	x	x	x	x	x		x	x	x	x	x	x	x					x	x	x		x	x	x
Common Shiner	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x					x	x	x		x	x	x
Redfin Shiner	x																											
Spotfin Shiner	x	x	x	x	x	x	x		x				x															
Steelcolor Shiner	x	x	x	x	x																							
Fathead Minnow				x								x	x	x	x	x	x				x		x				x	
Bluntnose Minnow	x	x	x	x	x	x	x	x	x		x	x	x	x	x	x	x			x	x		x	x	x		x	x
Rosyface Shiner	x	x	x	x	x	x	x		x					x	x													
Sand Shiner	x	x	x	x	x		x		x					x	x													
Mimic Shiner	x	x	x	x								x	x		x													
Silverjaw Minnow	x											x	x	x	x	x	x					x	x					
Quillback				x																								
White Sucker	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			x	x	x	x	x	x	x	x	x
Spotted Sucker	x	x	x	x	x	x	x		x		x																	x
Northern Hog Sucker	x	x	x	x	x	x	x	x	x	x	x			x	x													x
Greater Redhorse *	x	x	x	x	x	x	x																					
River Redhorse *	x			x	x		x																					
Shorthead Redhorse	x	x		x																								
Black Redhorse	x						x																					
Golden Redhorse	x	x	x	x	x	x	x	x	x	x				x	x					x	x	x						
Silver Redhorse		x																										
Channel Catfish	x		x	x		x																						
Yellow Bullhead	x	x	x	x	x	x	x		x	x	x	x	x	x		x	x											x
Black Bullhead	x													x	x		x											
Brown Bullhead									x			x																
Stonecat	x	x	x	x		x																						
Tadpole Madtom		x					x	x			x			x														
Pirate Perch			x	x	x	x	x	x	x	x	x		x		x											x		
Blackstripe Topminnow				x	x		x																					

Species	Elkhart River							Turkey Creek				Yellow Creek							Solomon Creek			Rock Run Creek			Dry Run Creek	Stoney Creek		Berlin Court Ditch		
	2000	2001	2002	2003	2004	2005	2006	2001	2002	2003	2006	2000	2001	2002	2003	2004	2005	2006	2001	2002	2003	2001	2002	2003	2002	2002	2003	2006		
Brook Stickleback													x	x	x							x	x							
Hybrid Sunfish	x	x	x	x	x	x	x		x					x			x	x												
Black Crappie	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x		x												x
White Crappie	x		x																											
Rock Bass	x	x	x	x	x	x	x		x	x	x				x	x							x							
Largemouth Bass	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x			x					x		x
Smallmouth Bass	x	x	x	x	x	x	x		x	x		x	x	x	x	x	x	x						x						
Warmouth	x		x	x	x		x					x																		
Green Sunfish	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x				x	x	x				x	x	
Bluegill	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x		x	x		x	x				x	x	x
Redear Sunfish	x	x	x	x	x	x	x																							
Pumpkinseed	x	x	x	x		x	x			x		x	x	x	x								x							
Longear Sunfish	x	x	x	x	x	x	x	x	x	x	x							x												
Walleye		x		x																										
Yellow Perch			x			x								x	x															
Blackside Darter	x	x	x	x	x	x	x	x	x	x	x		x	x	x		x	x	x	x										
Logperch				x																										
Johnny Darter		x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x				x	x		
Rainbow Darter		x	x	x	x		x	x	x	x					x		x	x	x	x	x	x	x	x				x		
Orangethroat Darter		x	x	x	x			x					x	x	x			x	x	x		x								

\* Species of Concern

<b>Table 30: Habitat Results for Elkhart River on September 19-20, 2007</b>					
	<b>Station 1</b>	<b>Station 2</b>	<b>Station 3</b>	<b>Station 4</b>	<b>Station 5</b>
Substrate	16	12	16	4	16
Instream Cover	14	10	14	15	18
Channel Morphology	16	13.5	15.5	13	16.5
Riparian Zone and Bank Erosion	5.5	9	8.5	9.5	8
Pool/Glide Quality	10	9	12	8	10
Riffle/Run Quality	0	0	5	0	0
Gradient	8	8	8	6	8
Total Score	69.5	61.5	79	55.5	76.5

<b>Table 31: Water Quality Data from the Elkhart River Watershed, July 18, 2007</b>									
<b>Station</b>	<b>Time (24:00)</b>	<b>Water Temp. (°C)</b>	<b>Air Temp. (°C)</b>	<b>Turbidity (NTU)</b>	<b>Dissolved Oxygen (mg/L)</b>	<b>pH</b>	<b>Conductivity (mhos)</b>	<b>Specific Conductance (mhos)</b>	<b>Salinity (ppt)</b>
1	11:15	19.7	20.8	3.76	7.67	8.02	509	560	0.3
2	12:03	23.8	25.4	18.9	6.07	8.19	606	621	0.3
3	13:45	22.9	23	2.46	8.48	8.25	641	676	0.3
4	12:56	19.4	22.1	2.44	7.72	8.23	683	756	0.4
5	14:05	23.4	24.2	1.59	8.92	8.37	738	754	0.4

**Table 32: Water Quality Lab Samples from the Elkhart River Watershed, July 18, 2007**

<b>Station</b>	<b>Time (24:00)</b>	<b>BOD (mg/L)</b>	<b><i>E. Coli</i> (col/100ml)</b>	<b>Nitrate (mg/L)</b>	<b>Nitrite (mg/L)</b>	<b>Total Phosphorus (mg/L)</b>	<b>TSS (mg/L)</b>
1	11:15	<2	70	6.2	<0.05	<0.05	<1
2	12:03	<2	105	2.6	<0.05	<0.05	<1
3	13:45	<2	320	2.1	<0.05	<0.05	2
4	12:56	<2	230	0.56	<0.05	0.06	19
5	14:05	<2	290	1.2	<0.05	<0.05	<1

<b>Table 33: Water Quality Data from the Elkhart River Watershed, September 19, 2007-Fall Sampling</b>										
<b>Station</b>	<b>Time</b>	<b>Water Temp.</b>	<b>Air Temp.</b>	<b>Turbidity</b>	<b>Dissolved Oxygen</b>	<b>pH</b>	<b>Conductivity</b>	<b>Specific Conductance</b>	<b>Salinity</b>	<b>Flow</b>
	(24:00)	(°C)	(°C)	(NTU)	(mg/L)		(mhos)	(mhos)	(ppt)	ft <sup>3</sup> /sec
1	9:45	17.5	19	3.2	9.5	8.57	548	639	0.3	502
2	10:30	17.7	20.2	2.9	7.66	8.4	662	768	0.4	71
3	10:45	17.9	22.6	4.5	8.75	8.5	516	599	0.3	255
4	11:30	20.2	23.3	4.9	3.34	8.04	580	638	0.3	-
5	11:45	19.9	24.2	2	5.68	8.14	456	507	0.2	141

<b>Table 34: Water Quality Lab Samples from the Elkhart River Watershed, September 19, 2007</b>						
<b>Station</b>	<b>Time (24:00)</b>	<b>BOD (mg/L)</b>	<b><i>E. Coli</i> (col/100ml)</b>	<b>Nitrate (mg/L)</b>	<b>Nitrite (mg/L)</b>	<b>Total Phosphorus (mg/L)</b>
1	9:45	<2	96	1.3	<0.05	0.73
2	10:30	<2	82	1.8	<0.05	0.73
3	10:45	<2	102	1	<0.05	<0.05
4	11:30	<2	43	0.19	0.06	<0.05
5	11:45	<2	72	0.1	<0.05	0.54

Table 35: 2006 303(d) Stream Impairments within Elkhart River Watershed

WBSEID	SEGNAME	COUNTY	IMP TOTAL (Total # of impairments for ADB assessment unit (segment))	FCA HG (Waterbody is impaired for having a Fish Consumption Advisory for Mercury)	FCA PCBs (Waterbody is impaired for having a Fish Consumption Advisory for PCBs)	E. COLI (Waterbody is impaired for E. coli)	MILES (Length of NHD reach)	Length	SEGSIZE (Length of ADB assessment unit)	UNIT (m=miles)	HUC14
INJ01F5_M1009	ST. JOSEPH RIVER	ELKHART	2.0	1.0	1.0	0.0	0.7	10.3	3.9	M	04050001150050
<b>INJ01F5_M1009 Total</b>									<b>3.9</b>		
INK0154_00	ARMEY DITCH - HEADWATERS	MARSHALL	1.0	0.0	0.0	1.0	3.6	4960.5	14.4	M	07120001050040
<b>INK0154_00 Total</b>									<b>14.4</b>		
INJ01K2_T1018	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.7	1187.6	9.1	M	04050001190020
INJ01K2_T1018	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	2.5	4010.1	9.1	M	04050001190020
INJ01K2_T1018	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.7	1072.8	9.1	M	04050001190020
INJ01K2_T1018	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	1.4	2245.8	9.1	M	04050001190020
INJ01K2_T1018	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	3.9	6208.5	9.1	M	04050001190020
<b>INJ01K2_T1018 Total</b>									<b>45.7</b>		
INJ01K3_T1316	STONE CREEK AND TRIB	ELKHART	1.0	0.0	0.0	1.0	1.8	2834.1	4.2	M	04050001190030
INJ01K3_T1316	STONE CREEK AND TRIB	ELKHART	1.0	0.0	0.0	1.0	1.1	1727.3	4.2	M	04050001190030
INJ01K3_T1316	STONE CREEK AND TRIB	ELKHART	1.0	0.0	0.0	1.0	1.4	2177.5	4.2	M	04050001190030
<b>INJ01K3_T1316 Total</b>									<b>12.5</b>		
INJ01K4_T1017	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	2.4	3833.2	5.3	M	04050001190040
INJ01K4_T1017	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.1	160.6	5.3	M	04050001190040
INJ01K4_T1017	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.6	939.6	5.3	M	04050001190040
INJ01K4_T1017	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	1.3	2011.6	5.3	M	04050001190040
INJ01K4_T1017	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.2	257.8	5.3	M	04050001190040
INJ01K4_T1017	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.1	78.9	5.3	M	04050001190040
INJ01K4_T1017	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.1	142.4	5.3	M	04050001190040
INJ01K4_T1017	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.2	362.7	5.3	M	04050001190040
INJ01K4_T1017	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.1	187.3	5.3	M	04050001190040
INJ01K4_T1017	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.2	242.4	5.3	M	04050001190040
INJ01K4_T1017	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.2	250.0	5.3	M	04050001190040
<b>INJ01K4_T1017 Total</b>									<b>57.9</b>		
INJ01K6_T1317	SOLOMON CREEK AND TRIBS	ELKHART	1.0	0.0	0.0	1.0	2.1	3324.6	18.9	M	04050001190060
INJ01K6_T1317	SOLOMON CREEK AND TRIBS	ELKHART	1.0	0.0	0.0	1.0	0.1	203.0	18.9	M	04050001190060
INJ01K6_T1317	SOLOMON CREEK AND TRIBS	ELKHART	1.0	0.0	0.0	1.0	4.9	7956.4	18.9	M	04050001190060
INJ01K6_T1317	SOLOMON CREEK AND TRIBS	ELKHART	1.0	0.0	0.0	1.0	3.0	4852.6	18.9	M	04050001190060
INJ01K6_T1317	SOLOMON CREEK AND TRIBS	ELKHART	1.0	0.0	0.0	1.0	1.0	1579.0	18.9	M	04050001190060
INJ01K6_T1317	SOLOMON CREEK AND TRIBS	ELKHART	1.0	0.0	0.0	1.0	1.0	1622.2	18.9	M	04050001190060
INJ01K6_T1317	SOLOMON CREEK AND TRIBS	ELKHART	1.0	0.0	0.0	1.0	2.6	4141.3	18.9	M	04050001190060
INJ01K6_T1317	SOLOMON CREEK AND TRIBS	ELKHART	1.0	0.0	0.0	1.0	1.4	2220.4	18.9	M	04050001190060
INJ01K6_T1317	SOLOMON CREEK AND TRIBS	ELKHART	1.0	0.0	0.0	1.0	1.3	2030.8	18.9	M	04050001190060
<b>INJ01K6_T1317 Total</b>									<b>169.7</b>		
INJ01K7_T1016	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.2	311.8	11.2	M	04050001190070
INJ01K7_T1016	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.1	99.9	11.2	M	04050001190070
INJ01K7_T1016	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.2	386.9	11.2	M	04050001190070
INJ01K7_T1016	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.8	1320.4	11.2	M	04050001190070
INJ01K7_T1016	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.3	536.2	11.2	M	04050001190070
INJ01K7_T1016	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.3	501.9	11.2	M	04050001190070
INJ01K7_T1016	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.1	121.5	11.2	M	04050001190070
INJ01K7_T1016	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.1	210.2	11.2	M	04050001190070
INJ01K7_T1016	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.1	207.6	11.2	M	04050001190070
INJ01K7_T1016	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.1	84.0	11.2	M	04050001190070
INJ01K7_T1016	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.7	1189.6	11.2	M	04050001190070
INJ01K7_T1016	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	1.5	2423.8	11.2	M	04050001190070
INJ01K7_T1016	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.3	504.7	11.2	M	04050001190070
INJ01K7_T1016	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.4	595.9	11.2	M	04050001190070
INJ01K7_T1016	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.4	615.3	11.2	M	04050001190070
INJ01K7_T1016	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.3	441.1	11.2	M	04050001190070
INJ01K7_T1016	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.2	299.7	11.2	M	04050001190070
INJ01K7_T1016	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	1.1	1732.8	11.2	M	04050001190070
INJ01K7_T1016	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.1	205.2	11.2	M	04050001190070
INJ01K7_T1016	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.0	65.7	11.2	M	04050001190070
INJ01K7_T1016	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.1	74.3	11.2	M	04050001190070
INJ01K7_T1016	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.4	641.8	11.2	M	04050001190070
INJ01K7_T1016	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.1	206.9	11.2	M	04050001190070
INJ01K7_T1016	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.1	117.7	11.2	M	04050001190070
INJ01K7_T1016	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.1	146.4	11.2	M	04050001190070
INJ01K7_T1016	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.1	207.3	11.2	M	04050001190070
INJ01K7_T1016	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.3	489.5	11.2	M	04050001190070
INJ01K7_T1016	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.1	124.4	11.2	M	04050001190070
INJ01K7_T1016	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	2.7	4385.3	11.2	M	04050001190070
<b>INJ01K7_T1016 Total</b>									<b>325.1</b>		
INJ01M8_T1320	TURKEY CREEK	ELKHART	1.0	0.0	0.0	1.0	1.0	1641.7	4.9	M	04050001200080
INJ01M8_T1320	TURKEY CREEK	ELKHART	1.0	0.0	0.0	1.0	0.8	1264.6	4.9	M	04050001200080
INJ01M8_T1320	TURKEY CREEK	ELKHART	1.0	0.0	0.0	1.0	0.4	556.1	4.9	M	04050001200080
INJ01M8_T1320	TURKEY CREEK	ELKHART	1.0	0.0	0.0	1.0	2.7	4376.1	4.9	M	04050001200080
<b>INJ01M8_T1320 Total</b>									<b>19.6</b>		
INJ01MA_T1321	TURKEY CREEK	ELKHART	1.0	0.0	0.0	1.0	0.2	263.2	5.9	M	04050001200100
INJ01MA_T1321	TURKEY CREEK	ELKHART	1.0	0.0	0.0	1.0	0.1	186.4	5.9	M	04050001200100
INJ01MA_T1321	TURKEY CREEK	ELKHART	1.0	0.0	0.0	1.0	0.3	442.3	5.9	M	04050001200100
INJ01MA_T1321	TURKEY CREEK	ELKHART	1.0	0.0	0.0	1.0	0.1	82.3	5.9	M	04050001200100
INJ01MA_T1321	TURKEY CREEK	ELKHART	1.0	0.0	0.0	1.0	0.2	325.4	5.9	M	04050001200100
INJ01MA_T1321	TURKEY CREEK	ELKHART	1.0	0.0	0.0	1.0	0.3	552.6	5.9	M	04050001200100
INJ01MA_T1321	TURKEY CREEK	ELKHART	1.0	0.0	0.0	1.0	0.1	218.0	5.9	M	04050001200100
INJ01MA_T1321	TURKEY CREEK	ELKHART	1.0	0.0	0.0	1.0	2.0	3226.2	5.9	M	04050001200100
INJ01MA_T1321	TURKEY CREEK	ELKHART	1.0	0.0	0.0	1.0	0.1	83.0	5.9	M	04050001200100
INJ01MA_T1321	TURKEY CREEK	ELKHART	1.0	0.0	0.0	1.0	0.1	152.1	5.9	M	04050001200100
INJ01MA_T1321	TURKEY CREEK	ELKHART	1.0	0.0	0.0	1.0	0.4	654.4	5.9	M	04050001200100
INJ01MA_T1321	TURKEY CREEK	ELKHART	1.0	0.0	0.0	1.0	0.2	289.5	5.9	M	04050001200100
INJ01MA_T1321	TURKEY CREEK	ELKHART	1.0	0.0	0.0	1.0	0.2	257.1	5.9	M	04050001200100
INJ01MA_T1321	TURKEY CREEK	ELKHART	1.0	0.0	0.0	1.0	0.1	195.8	5.9	M	04050001200100
INJ01MA_T1321	TURKEY CREEK	ELKHART	1.0	0.0	0.0	1.0	0.0	33.8	5.9	M	04050001200100
INJ01MA_T1321	TURKEY CREEK	ELKHART	1.0	0.0	0.0	1.0	0.2	289.7	5.9	M	04050001200100
INJ01MA_T1321	TURKEY CREEK	ELKHART	1.0	0.0	0.0	1.0	0.3	458.4	5.9	M	04050001200100
INJ01MA_T1321	TURKEY CREEK	ELKHART	1.0	0.0	0.0	1.0	0.2	361.5	5.9	M	04050001200100
INJ01MA_T1321	TURKEY CREEK	ELKHART	1.0	0.0	0.0	1.0	0.2	243.9	5.9	M	04050001200100
INJ01MA_T1321	TURKEY CREEK	ELKHART	1.0	0.0	0.0	1.0	0.1	83.7	5.9	M	04050001200100
INJ01MA_T1321	TURKEY CREEK	ELKHART	1.0	0.0	0.0	1.0	0.3	537.6	5.9	M	04050001200100
INJ01MA_T1321	TURKEY CREEK	ELKHART	1.0	0.0	0.0	1.0	0.3	468.9	5.9	M	04050001200100
<b>INJ0</b>											

Table 35: 2006 303(d) Stream Impairments within Elkhart River Watershed											
WBSEGID	SEGNAME	COUNTY	IMP TOTAL (Total # of impairments for ADB assessment unit (segment))	FCA HG (Waterbody is impaired for having a Fish Consumption Advisory for Mercury)	FCA PCBS (Waterbody is impaired for having a Fish Consumption Advisory for PCBs)	E. COLI (Waterbody is impaired for E. coli)	MILES (Length of NHD reach)	Length	SEGSIZE (Length of ADB assessment unit)	UNIT (m=miles)	HUC14
INJ01N1_T1015	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	1.8	2838.2	9.1	M	04050001210010
INJ01N1_T1015	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.0	51.8	9.1	M	04050001210010
INJ01N1_T1015	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.1	97.0	9.1	M	04050001210010
INJ01N1_T1015	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.4	654.9	9.1	M	04050001210010
INJ01N1_T1015	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.0	60.4	9.1	M	04050001210010
INJ01N1_T1015	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.0	67.2	9.1	M	04050001210010
INJ01N1_T1015	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.0	25.4	9.1	M	04050001210010
INJ01N1_T1015	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	0.1	95.1	9.1	M	04050001210010
<b>INJ01N1_T1015 Total</b>									<b>118.7</b>		
INJ01N3_T1322	ROCK RUN CREEK AND TRIBS	ELKHART	1.0	0.0	0.0	1.0	1.7	2733.4	4.2	M	04050001210030
INJ01N3_T1322	ROCK RUN CREEK AND TRIBS	ELKHART	1.0	0.0	0.0	1.0	1.0	1595.6	4.2	M	04050001210030
INJ01N3_T1322	ROCK RUN CREEK AND TRIBS	ELKHART	1.0	0.0	0.0	1.0	0.9	1448.0	4.2	M	04050001210030
INJ01N3_T1322	ROCK RUN CREEK AND TRIBS	ELKHART	1.0	0.0	0.0	1.0	0.6	1028.6	4.2	M	04050001210030
<b>INJ01N3_T1322 Total</b>									<b>16.9</b>		
INJ01N4_T1014	ELKHART RIVER	ELKHART	2.0	1.0	1.0	0.0	1.2	1914.8	11.4	M	04050001210040
INJ01N4_T1014	ELKHART RIVER	ELKHART	2.0	1.0	1.0	0.0	0.2	390.2	11.4	M	04050001210040
INJ01N4_T1014	ELKHART RIVER	ELKHART	2.0	1.0	1.0	0.0	3.2	5186.0	11.4	M	04050001210040
INJ01N4_T1014	ELKHART RIVER	ELKHART	2.0	1.0	1.0	0.0	0.1	231.1	11.4	M	04050001210040
INJ01N4_T1014	ELKHART RIVER	ELKHART	2.0	1.0	1.0	0.0	0.7	1065.6	11.4	M	04050001210040
INJ01N4_T1014	ELKHART RIVER	ELKHART	2.0	1.0	1.0	0.0	0.2	366.8	11.4	M	04050001210040
INJ01N4_T1014	ELKHART RIVER	ELKHART	2.0	1.0	1.0	0.0	0.2	270.5	11.4	M	04050001210040
INJ01N4_T1014	ELKHART RIVER	ELKHART	2.0	1.0	1.0	0.0	1.9	3121.3	11.4	M	04050001210040
INJ01N4_T1014	ELKHART RIVER	ELKHART	2.0	1.0	1.0	0.0	0.9	1479.0	11.4	M	04050001210040
INJ01N4_T1014	ELKHART RIVER	ELKHART	2.0	1.0	1.0	0.0	2.1	3347.2	11.4	M	04050001210040
INJ01N4_T1014	ELKHART RIVER	ELKHART	2.0	1.0	1.0	0.0	0.2	265.7	11.4	M	04050001210040
INJ01N4_T1014	ELKHART RIVER	ELKHART	2.0	1.0	1.0	0.0	0.1	181.7	11.4	M	04050001210040
INJ01N4_T1014	ELKHART RIVER	ELKHART	2.0	1.0	1.0	0.0	0.3	457.6	11.4	M	04050001210040
<b>INJ01N4_T1014 Total</b>									<b>147.6</b>		
INJ01N6_M1008	ST. JOSEPH RIVER	ELKHART	2.0	1.0	1.0	0.0	0.4	487.8	0.3	M	04050001210060
<b>INJ01N6_M1008 Total</b>									<b>0.3</b>		
INJ01N6_T1013	ELKHART RIVER	ELKHART	3.0	1.0	1.0	1.0	5.3	8398.7	5.2	M	04050001210060
<b>INJ01N6_T1013 Total</b>									<b>5.2</b>		
INJ01M3_00	TURKEY CREEK-SKINNER/HOOPINGARNER DITCHES	KOSCIUSKO	1.0	0.0	0.0	1.0	1.1	1826.7	15.7	M	04050001200030
INJ01M3_00	TURKEY CREEK-SKINNER/HOOPINGARNER DITCHES	KOSCIUSKO	1.0	0.0	0.0	1.0	4.4	7025.8	15.7	M	04050001200030
INJ01M3_00	TURKEY CREEK-SKINNER/HOOPINGARNER DITCHES	KOSCIUSKO	1.0	0.0	0.0	1.0	3.5	5694.3	15.7	M	04050001200030
INJ01M3_00	TURKEY CREEK-SKINNER/HOOPINGARNER DITCHES	KOSCIUSKO	1.0	0.0	0.0	1.0	1.5	2471.7	15.7	M	04050001200030
INJ01M3_00	TURKEY CREEK-SKINNER/HOOPINGARNER DITCHES	KOSCIUSKO	1.0	0.0	0.0	1.0	3.6	5741.7	15.7	M	04050001200030
INJ01M3_00	TURKEY CREEK-SKINNER/HOOPINGARNER DITCHES	KOSCIUSKO	1.0	0.0	0.0	1.0	0.3	452.2	15.7	M	04050001200030
INJ01M3_00	TURKEY CREEK-SKINNER/HOOPINGARNER DITCHES	KOSCIUSKO	1.0	0.0	0.0	1.0	1.3	2094.7	15.7	M	04050001200030
<b>INJ01M3_00 Total</b>									<b>110.0</b>		
INJ01M5_T1318	TURKEY CREEK	KOSCIUSKO	1.0	0.0	0.0	1.0	1.5	2458.4	1.5	M	04050001200050
<b>INJ01M5_T1318 Total</b>									<b>1.5</b>		
INJ01M6_T1319	TURKEY CREEK	KOSCIUSKO	1.0	0.0	0.0	1.0	0.8	1293.5	1.9	M	04050001200060
INJ01M6_T1319	TURKEY CREEK	KOSCIUSKO	1.0	0.0	0.0	1.0	0.8	1290.1	1.9	M	04050001200060
INJ01M6_T1319	TURKEY CREEK	KOSCIUSKO	1.0	0.0	0.0	1.0	0.3	435.1	1.9	M	04050001200060
<b>INJ01M6_T1319 Total</b>									<b>5.6</b>		
INJ01H8_T1312	NORTH BRANCH ELKHART RIVER AND TRIBS	NOBLE	1.0	0.0	0.0	1.0	1.2	1876.3	9.5	M	04050001170080
INJ01H8_T1312	NORTH BRANCH ELKHART RIVER AND TRIBS	NOBLE	1.0	0.0	0.0	1.0	0.6	906.2	9.5	M	04050001170080
INJ01H8_T1312	NORTH BRANCH ELKHART RIVER AND TRIBS	NOBLE	1.0	0.0	0.0	1.0	1.6	2505.4	9.5	M	04050001170080
INJ01H8_T1312	NORTH BRANCH ELKHART RIVER AND TRIBS	NOBLE	1.0	0.0	0.0	1.0	1.3	2121.9	9.5	M	04050001170080
INJ01H8_T1312	NORTH BRANCH ELKHART RIVER AND TRIBS	NOBLE	1.0	0.0	0.0	1.0	0.2	249.8	9.5	M	04050001170080
INJ01H8_T1312	NORTH BRANCH ELKHART RIVER AND TRIBS	NOBLE	1.0	0.0	0.0	1.0	0.7	1119.4	9.5	M	04050001170080
INJ01H8_T1312	NORTH BRANCH ELKHART RIVER AND TRIBS	NOBLE	1.0	0.0	0.0	1.0	0.7	1066.9	9.5	M	04050001170080
INJ01H8_T1312	NORTH BRANCH ELKHART RIVER AND TRIBS	NOBLE	1.0	0.0	0.0	1.0	3.4	5418.7	9.5	M	04050001170080
<b>INJ01H8_T1312 Total</b>									<b>75.8</b>		
INJ01J4_T1313	CROFT DITCH	NOBLE	1.0	0.0	0.0	1.0	1.4	2271.2	1.4	M	04050001180040
<b>INJ01J4_T1313 Total</b>									<b>1.4</b>		
INJ01J5_T1314	SOUTH BRANCH ELKHART RIVER	NOBLE	1.0	0.0	0.0	1.0	3.0	4808.7	3.6	M	04050001180050
INJ01J5_T1314	SOUTH BRANCH ELKHART RIVER	NOBLE	1.0	0.0	0.0	1.0	0.7	1039.7	3.6	M	04050001180050
<b>INJ01J5_T1314 Total</b>									<b>7.3</b>		
INJ01J6_T1315	SOUTH BRANCH ELKHART RIVER	NOBLE	1.0	0.0	0.0	1.0	2.9	4708.7	10.8	M	04050001180060
INJ01J6_T1315	SOUTH BRANCH ELKHART RIVER	NOBLE	1.0	0.0	0.0	1.0	2.1	3415.9	10.8	M	04050001180060
INJ01J6_T1315	SOUTH BRANCH ELKHART RIVER	NOBLE	1.0	0.0	0.0	1.0	2.4	3927.3	10.8	M	04050001180060
INJ01J6_T1315	SOUTH BRANCH ELKHART RIVER	NOBLE	1.0	0.0	0.0	1.0	1.1	1767.7	10.8	M	04050001180060
INJ01J6_T1315	SOUTH BRANCH ELKHART RIVER	NOBLE	1.0	0.0	0.0	1.0	2.3	3613.1	10.8	M	04050001180060
<b>INJ01J6_T1315 Total</b>									<b>54.2</b>		
INJ01K1_T1019	ELKHART RIVER	NOBLE	1.0	0.0	0.0	1.0	3.7	5894.7	3.7	M	04050001190010
<b>INJ01K1_T1019 Total</b>									<b>3.7</b>		
<b>Grand Total</b>									<b>1326.1</b>		

**Table 36: Waterbody Impairment in the Elkhart River Watershed**

COUNTY	14-DIGIT HUC	WATERBODY SEGMENT ID	WATERBODY SEGMENT NAME	CAUSE OF IMPAIRMENT
ELKHART	4050001210010	INJ01K2_T1018	Elkhart River	<i>E. coli</i>
ELKHART	4050001190020	INJ01K2_T1018	Elkhart River	FCA for Mercury
ELKHART	4050001190020	INJ01K2_T1018	Elkhart River	FCA for PCBs
ELKHART	4050001190030	INJ01K3_T1316	Stoney Creek and Trib	<i>E. coli</i>
ELKHART	4050001190040	INJ01K4_T1017	Elkhart River	<i>E. coli</i>
ELKHART	4050001190040	INJ01K4_T1017	Elkhart River	FCA for Mercury
ELKHART	4050001190040	INJ01K4_T1017	Elkhart River	FCA for PCBs
ELKHART	4050001190060	INJ01K6_T1317	Solomon Creek and Tribs	<i>E. coli</i>
ELKHART	4050001190070	INJ01K7_T1016	Elkhart River	<i>E. coli</i>
ELKHART	4050001190070	INJ01K7_T1016	Elkhart River	FCA for Mercury
ELKHART	4050001190070	INJ01K7_T1016	Elkhart River	FCA for PCBs
ELKHART	4050001200080	INJ01M8_T1320	Turkey Creek	<i>E. coli</i>
ELKHART	4050001200100	INJ01MA_T1321	Turkey Creek	<i>E. coli</i>
ELKHART	4050001210010	INJ01N1_T1015	Elkhart River	<i>E. coli</i>
ELKHART	4050001210010	INJ01N1_T1015	Elkhart River	FCA for Mercury
ELKHART	4050001210010	INJ01N1_T1015	Elkhart River	FCA for PCBs
ELKHART	4050001210030	INJ01N3_T1322	Rock Run Creek and Tribs	<i>E. coli</i>
ELKHART	4050001210040	INJ01N4_T1014	Elkhart River	FCA for Mercury
ELKHART	4050001210040	INJ01N4_T1014	Elkhart River	FCA for PCBs
ELKHART	4050001210060	INJ01N6_T1013	Elkhart River	<i>E. coli</i>
ELKHART	4050001210060	INJ01N6_T1013	Elkhart River	FCA for Mercury
ELKHART	4050001210060	INJ01N6_T1013	Elkhart River	FCA for PCBs
ELKHART	4050001210060	INJ01N6_M1008	St. Joseph River	FCA for Mercury
ELKHART	4050001210060	INJ01N6_M1008	St. Joseph River	FCA for PCBs
KOSCIUSKO	4050001200020	INJ01P1187_00	Barrel and a Half Lake	FCA for Mercury
KOSCIUSKO	4050001200020	INJ01P1023_00	Lake Wawasee	FCA for Mercury
KOSCIUSKO	4050001200020	INJ01P1023_00	Lake Wawasee	FCA for PCBs
KOSCIUSKO	4050001200020	INJ01P1189_00	Shock Lake	FCA for Mercury
KOSCIUSKO	4050001200020	INJ01P1188_00	Spear Lake	FCA for Mercury
KOSCIUSKO	4050001200030	INJ01M3_00	Turkey Creek-Skinner/Hoopingarner Ditches	<i>E. coli</i>
KOSCIUSKO	4050001200040	INJ01P1180_00	Dewart Lake	FCA for Mercury
KOSCIUSKO	4050001200040	INJ01P1024_00	Waubee Lake	FCA for Mercury
KOSCIUSKO	4050001200050	INJ01M5_T1318	Turkey Creek	<i>E. coli</i>
KOSCIUSKO	4050001200060	INJ01M6_T1319	Turkey Creek	<i>E. coli</i>
LAGRANGE	4050001170020	INJ01P1263_00	Dallas Lake	Impaired Biotic Communities
LAGRANGE	4050001170020	INJ01P1267_00	Witmer Lake	Impaired Biotic Communities
LAGRANGE	4050001170030	INJ01P1262_00	Hackenburg Lake	Impaired Biotic Communities
LAGRANGE	4050001170030	INJ01P1261_00	Messick Lake	Impaired Biotic Communities
LAGRANGE	4050001170030	INJ01P1026_00	Olin Lake	FCA for Mercury
LAGRANGE	4050001170030	INJ01P1025_00	Oliver Lake	FCA for Mercury
LAGRANGE	4050001200020	INJ01P1128_00	Adams Lake	FCA for Mercury
NOBLE	4050001170050	INJ01P1239_00	Bixler Lake	FCA for Mercury
NOBLE	4050001170050	INJ01P1240_00	Henderson Lake	FCA for PCBs
NOBLE	4050001170060	INJ01P1248_00	Sylvan Lake	FCA for Mercury
NOBLE	4050001170080	INJ01H8_T1312	North Branch Elkhart River and Tributaries	<i>E. coli</i>
NOBLE	4050001180010	INJ01P1232_00	Long Lake	FCA for Mercury
NOBLE	4050001180040	INJ01J4_T1313	Croft Ditch	<i>E. coli</i>
NOBLE	4050001180050	INJ01J5_T1314	South Branch Elkhart River	<i>E. coli</i>
NOBLE	4050001180060	INJ01J6_T1315	South Branch Elkhart River	<i>E. coli</i>
NOBLE	4050001190010	INJ01K1_T1019	Elkhart River	<i>E. coli</i>
NOBLE	4050001200010	INJ01P1196_00	Gordy Lake	Impaired Biotic Communities
NOBLE	4050001200010	INJ01P1195_00	Hindman Lake	Impaired Biotic Communities
NOBLE	4050001200010	INJ01P1193_00	Knapp Lake	Impaired Biotic Communities
NOBLE	4050001200010	INJ01P1198_00	Village Lake	Impaired Biotic Communities

**Table 37: IDEM 303(d) Listing Methodology**

<b>Human Health Recreational Use Support (Swimmable)</b>		
<p>IDEM has two different criteria for recreational use assessments depending on the type of data set being used in making the assessment. For data sets consisting of five equally spaced samples over a 30-day period, we apply two tests, both of which are based on U.S. EPA's <i>Ambient Water Quality Criteria for Bacteria - 1986</i> (EPA440/5-84-002), which provides the foundation for Indiana's WQS for recreational use. For data sets consisting of ten (10) or more grab samples where no five (5) of which are equally spaced over a 30-day period, the 10% rule is applied. Specific criteria are provided below.</p>		
	<b>Fully Supporting</b>	<b>Not Supporting</b>
Bacteria ( <i>E. coli</i> ): at least five (5) equally spaced samples over thirty (30) days. (cfu = colony forming units)	Geometric mean $\leq 125$ cfu/100ml and no more than one sample $>576$ cfu/100ml.	Geometric mean exceeds 125 cfu/100mL.
Bacteria ( <i>E. coli</i> ): grab samples (cfu = colony forming units)	No more than 10% of measurements $>576$ cfu/100ml and no more than one (1) sample $>2400$ cfu/100ml.	More than 10% of samples $>576$ cfu/100ml or more than one (1) sample $>2,400$ cfu/100ml.
<b>Human Health Use Support – Fish Consumption (Fishable)</b>		
<p>The Indiana Fish Consumption Advisory (FCA) provides site-specific advice as well as general advice for any waterbody not specifically addressed in the FCA. FCAs are presented as advisory groups based safe eating guidelines for the amount and type of fish caught. Site-specific advisories are based on site-specific fish tissue data and indicate the advisory group associated with a given species within a given size range and identify the contaminant of concern (PCBs and/or mercury) for each. The general advice provided in the FCA states that all waters for which no site-specific advisory is provided should be assumed to be a Group 2 advisory. In addition, the Indiana FCA includes a statewide advisory for carp consumption for rivers and streams. Neither the general advice nor the statewide advisory for Carp are used to make fish consumption assessments. Only site-specific fish consumption advisories were considered in determining use support status.</p>		
	<b>Fully Supporting</b>	<b>Not Supporting</b>
Fish tissue (PCBs and mercury)	Waterbody has only a Group 1 "Unlimited Consumption" advisory.	Waterbody has one or more Groups 2, 3, or 4 "Limited Consumption" or Group 5 "Do Not Eat" advisories for any species.
<b>Aquatic Life Use Support – Lakes and Reservoirs</b>		
	<b>Fully Supporting</b>	<b>Not Supporting</b>
Indiana Department of Natural Resources surveys of the status of sport fish communities in lakes and information on trout stocking.	Supports cold water fishery, including native cisco and stocked trout, or both.	Native cisco population is gone or lake unable to support stocked trout and lake attributes, or both, appear to contribute to warm water fishery condition.

<b>Table 38: Fish Consumption Advisory Groups</b>	
<b>Group Number</b>	<b>Definition</b>
	Unrestricted Consumption
Group 1	<b>One meal per week for women who are pregnant or breast-feeding, women who plan to have children, and children under the age of 15.</b>
Group 2	Limit to one meal per week (52 meals per year) for adult males and females. <b>One meal per week for women who are pregnant or breast-feeding, women who plan to have children, and children under the age of 15.</b>
Group 3	Limit to one meal per month (12 meals per year) for adult males and females. <b>One meal per week for women who are pregnant or breast-feeding, women who plan to have children, and children under the age of 15.</b>
Group 4	Limit to one meal every 2 months (6 meals per year) for adult males and females. <b>One meal per week for women who are pregnant or breast-feeding, women who plan to have children, and children under the age of 15.</b>
Group 5	<b>No consumption (DO NOT EAT).</b>

Data from 2007 Indiana Fish Consumption Advisory

<b>Table 39: Fish Consumption Advisory by Species</b>				
<b>Species</b>	<b>Size Class (inches)</b>	<b>Contaminant</b>	<b>Advisory**</b>	<b>Waterbody Name and County</b>
Rock Bass	9+	PCBs	Group 3	Elkhart River (Elkhart)
Smallmouth Bass	17+	PCBs	Group 3	Elkhart River (Elkhart)
White Sucker	16+	PCBs	Group 3	Elkhart River (Elkhart)
Walleye	20+	Mercury	Group 3	Adams Lake (LaGrange)
Bluegill	Up to 7		Group 1	Atwood Lake (LaGrange)
Black Crappie	Up to 12		Group 1	Dewart Lake (Kosciusko)
Bluegill	Up to 8		Group 1	Dewart Lake (Kosciusko)
Northern Pike	30+	Mercury	Group 3	Dewart Lake (Kosciusko)
Bullhead	15+	PCBs	Group 2	Lake Wawasee (Kosciusko)
Carp	All	PCBs	Group 2	Olin Lake (LaGrange)
Rainbow Trout	Up to 15		Group 1	Olin Lake (LaGrange)
Carp	All		Group 1	Oliver Lake (LaGrange)
Black Crappie	Up to 8		Group 1	Skinner Lake (Noble)
Bluegill	Up to 7		Group 1	Skinner Lake (Noble)
Carp	Up to 25		Group 1	Skinner Lake (Noble)
Largemouth Bass	Up to 10		Group 1	Skinner Lake (Noble)
Yellow Bullhead	Up to 11		Group 1	Skinner Lake (Noble)
Black Bullhead	Up to 13		Group 1	Sylvan Lake (Noble)
Black Crappie	Up to 10		Group 1	Sylvan Lake (Noble)
Bluegill	Up to 8		Group 1	Sylvan Lake (Noble)
Carp	Up to 28	PCBs	Group 3	Sylvan Lake (Noble)
Carp	28+	PCBs	Group 4	Sylvan Lake (Noble)
Largemouth Bass	Up to 12		Group 1	Sylvan Lake (Noble)
Northern Pike	Up to 28		Group 1	Sylvan Lake (Noble)
Walleye	Up to 18		Group 1	Sylvan Lake (Noble)
White Sucker	Up to 15		Group 1	Sylvan Lake (Noble)
Carp	15 - 20	PCBs	Group 3	All rivers and streams
Carp	20 - 25	PCBs	Group 4	All rivers and streams
Carp	25+	PCBs	Group 5	All rivers and streams

\*Data from 2007 Indiana Fish Consumption Advisory

\*\*Any fish not specifically listed in the table above should be considered a Group 2 advisory.

**Table 40: Pollutant Loading for Each Subwatershed**

HUC 14 Code	Hydrologic Unit Name	HUC 14 - Acreage	Total Nitrogen (Lbs/Acre/Year)	Total Phosphorus (Lbs/Acre/Year)	Total Suspended Solids (Lbs/Acre/Year)	Coliform Bacteria (CFU/Acre/Year)
04050001210060	Elkhart River-Yellow Creek (lower)	9,325.9	3.3	0.5	608.8	7.2E+08
04050001210040	Elkhart River-Leedy Ditch	14,064.6	2.1	0.3	621.6	3.7E+08
04050001210020	Rock Run Creek-Hoover Ditch-Boyer Ditch	13,665.4	1.7	0.1	830.8	2.4E+08
04050001210050	Yellow Creek-Headwaters (Elkhart)	15,940.9	1.8	0.1	734.0	2.2E+08
04050001210030	Rock Run Creek-Horn Ditch	14,136.9	2.6	0.3	685.8	4.3E+08
04050001170030	Little Elkhart Creek-Messick-Oliver Lakes	10,583.9	1.7	0.1	555.0	1.8E+08
04050001210010	Elkhart River-Goshen	5,897.0	3.7	0.6	432.9	7.8E+08
04050001190030	Stony Creek-Phillips Ditch	13,013.7	2.0	0.2	645.7	2.2E+08
04050001170040	North Branch Elkhart River-Jones Lake	8,907.8	1.5	0.1	646.4	1.9E+08
04050001170020	Little Elkhart Creek-Dallas Lake	13,115.1	1.8	0.2	451.3	1.8E+08
04050001170010	Little Elkhart Creek-Tamarack-Cree Lakes	12,399.0	1.9	0.2	464.9	1.6E+08
04050001200100	Turkey Creek-Swoveland Ditch	11,747.0	2.1	0.2	602.0	2.3E+08
04050001190070	Elkhart River-Whetten Ditch	9,404.2	2.0	0.2	499.2	1.9E+08
04050001190020	Elkhart River-Ligonier	13,279.8	2.4	0.2	522.3	2.5E+08
04050001170060	Middle Branch Elkhart River-Oviatt Ditch	11,088.7	1.8	0.2	481.6	1.9E+08
04050001190040	Elkhart River-Dry Run	8,018.0	2.1	0.2	524.1	1.7E+08
04050001200090	Dausman Ditch	7,795.5	2.0	0.2	675.2	2.0E+08
04050001170080	North Branch Elkhart River-Boyd/Huston Dts	18,472.8	2.0	0.2	550.9	1.8E+08
04050001170070	Waldron Lake-Clock Creek/Dry Run	16,860.2	2.0	0.2	492.0	1.8E+08
04050001190060	Solomon Creek-Meyer/Hire Ditches	14,188.4	2.2	0.2	507.1	1.7E+08
04050001170050	Henderson Lake Ditch-Waterhouse Ditch	12,786.2	2.8	0.4	490.5	4.4E+08
04050001200080	Turkey Creek-Kieffler Ditch	11,207.4	2.2	0.2	529.4	2.0E+08
04050001190010	Elkhart River-Sparta Lake Outlet	6,906.4	2.0	0.2	507.7	2.0E+08
04050001200070	Berlin Court Ditch	11,884.7	2.6	0.3	613.6	3.5E+08
04050001180060	South Branch Elkhart River-Diamond-Eagle L	14,039.1	1.8	0.1	501.8	1.6E+08
04050001200030	Turkey Creek-Skinner/Hoopingarner Ditches	13,600.9	2.2	0.2	532.6	2.4E+08
04050001190050	Solomon Creek-Headwaters	15,156.2	2.2	0.2	511.9	1.7E+08
04050001200020	Turkey Creek-Lake Wawasee	14,270.6	1.6	0.2	299.0	2.1E+08
04050001200060	Turkey Creek-Omar Neff Ditch	11,977.8	2.3	0.2	494.6	1.6E+08
04050001180050	South Branch Elkhart River-Long Dt/Long L	8,865.8	1.7	0.1	550.6	1.8E+08
04050001180040	Croft Ditch-Skinner Lake-Rimmell Branch	15,892.3	2.0	0.2	577.5	2.2E+08
04050001200050	Turkey Creek-Coppes Ditch	14,412.9	2.3	0.2	470.7	1.7E+08
04050001200040	Wabee Lake-Dewart Lake Outlet	10,117.4	1.9	0.2	460.4	1.6E+08
04050001180010	Forker Creek-Rivir Lake-Long Lake	11,954.5	1.6	0.1	517.7	1.6E+08
04050001200010	Turkey Creek-Headwaters (Noble)	10,167.3	2.0	0.2	489.9	1.6E+08
04050001180030	South Branch Elkhart River-Muncie Lake	10,523.2	1.8	0.1	529.9	1.7E+08
04050001180020	Carrol Creek-Winebrenner Branch	11,803.3	1.9	0.2	476.3	1.7E+08

<b>Table 41: Sediment Contributing Subwatersheds</b>				
<b>HUC 14 Code</b>	<b>Subwatershed name</b>	<b>Acres</b>	<b>TSS (lbs/ac/yr)</b>	<b>tons/ac/yr</b>
4050001210020	Rock Run Creek-Hoover Ditch-Boyer Ditch	13665.6	831	0.42
4050001210050	Yellow Creek-Headwaters (Elkhart)	15941.1	734	0.37
4050001210030	Rock Run Creek-Horn Ditch	14137.1	686	0.34
4050001200090	Dausman Ditch	7795.6	675	0.34
4050001170040	North Branch Elkhart River-Jones Lake	8907.9	646	0.32
4050001190030	Stony Creek-Phillips Ditch	13013.9	646	0.32
4050001210040	Elkhart River-Leedy Ditch	14064.8	622	0.31
4050001200070	Berlin Court Ditch	11884.9	614	0.31
4050001210060	Elkhart River-Yellow Creek (lower)	9326.1	609	0.3
4050001200100	Turkey Creek-Swoveland Ditch	11747.1	602	0.3

<b>Table 42: Top 10 Subwatersheds Containing Loads from Multiple Pollutants that Rank High for the Elkhart River Watershed</b>						
<b>HUC 14 Code</b>	<b>Subwatershed name</b>	<b>Acres</b>	<b>TSS (lbs/ac/yr)</b>	<b>TP (lbs/ac/yr)</b>	<b>TN (lbs/ac/yr)</b>	<b>Pathogen/Bacteria (cnts/ac/yr)</b>
4050001210060	Elkhart River-Yellow Creek (lower)	9325.95	609	0.53	3.28	7222
4050001210040	Elkhart River-Leedy Ditch	14064.59	622	0.28	2.12	3722
4050001210030	Rock Run Creek-Horn Ditch	14136.9	686	0.31	2.57	4287
4050001210010	Elkhart River-Goshen	5897.04	433	0.62	3.71	7801
4050001200100	Turkey Creek-Swoveland Ditch	11746.96	602	0.19	2.06	2305
4050001190020	Elkhart River-Ligonier	13279.76	522	0.23	2.44	2549
4050001170050	Henderson Lake Ditch-Waterhouse Ditch	12786.15	491	0.36	2.78	4427
4050001200070	Berlin Court Ditch	11884.73	614	0.28	2.55	3547
4050001200030	Turkey Creek-Skinner/Hoopingarner Ditches	13600.9	533	0.21	2.19	2354
4050001180040	Croft Ditch-Skinner Lake-Rimmell Branch	15892.34	577	0.18	1.99	2165

<b>Table 43: Summary of Critical Area Locations within the Elkhart River Watershed</b>								
<b>Critical Area #</b>	<b>Exhibit #</b>	<b>Name</b>	<b>County(s)</b>	<b>Township(s)</b>	<b>E.Coli</b>	<b>Sediment</b>	<b>Nutrient</b>	<b>Critical Area Acreage</b>
1	38	Turkey Creek	Elkhart	Elkhart, Jackson, and Union	X	X	X	3,684
2	39	Upper Yellow Creek	Elkhart	Concord, Harrison, Olive, and Union	X	X	X	15,941
3	40	Lower Yellow Creek	Elkhart	Concord, Elkhart, and Harrison	X	X	X	5,920
4	41	Upper Rock Run Creek	Elkhart	Clinton, Elkhart, Jefferson, and Middlebury	X	X	X	13,665
5	42	Horn Ditch	Elkhart	Benton, Clinton, and Elkhart	X	X	X	11,099
6	43	Papakeechee Subwatershed & LARE Study	Kosciusko and Noble	Sparta, Tippecanoe, Turkey Creek, and Washington	X	X	X	2,957
7	44	Knapp Lake Chain & LARE Study	Kosciusko and Noble	Sparta, Turkey Creek, and Washington	X	X	X	10,167
8	45	Stony Creek	Elkhart, LaGrange, and Noble	Benton, Clinton, Eden, and Perry	X	X	X	13,014
9	46	Urban BMPs within Elkhart	Elkhart	Concord and Jefferson	X	X	X	8,779
10	47	Urban BMPs within Goshen	Elkhart	Benton, Concord, Elkhart, Jackson, and Jefferson	X	X	X	20,925
11	48	Urban BMPs within Ligonier	Noble	Perry and Sparta	X	X	X	18,412
12	49	Urban BMPs within Nappanee	Elkhart and Kosciusko	Jefferson, Locke, and Union	X	X	X	9,742
13	50	Urban BMPs within Kendallville	Noble	Allen, Jefferson, Orange, and Wayne	X	X	X	18,077
14	51	Urban BMPs within Syracuse & LARE Study	Elkhart, Kosciusko, and Noble	Benton, Jackson, Turkey Creek, and Van Buren	X	X	X	17,537
15	52	Urban BMPs within Millersburg	Elkhart, LaGrange, and Noble	Benton, Clinton, Eden, and Perry	X	X	X	12,506
16	53	Urban BMPs within Albion & LARE Study	Noble	Albion, Allen, Jefferson, and York	X	X	X	16,970
17	54	Urban BMPs within Rome City	LaGrange and Noble	Johnson, Orange, and Wayne	X	X	X	19,692
18	55	Urban BMPs within Milford	Elkhart and Kosciusko	Jackson, Jefferson, Union, and Van Buren	X	X	X	14,459
19	56	Jones Lake & surrounding area within Noble County	Noble	Elkhart and Orange	X	X	X	5,885
20	57	North)	Noble	York	X	X	X	15,422
21	58	Solomon Creek Upper Watershed & LARE Study	Elkhart, Kosciusko, and Noble	and York	X	X	X	15,156
22	59	Solomon Creek Lower Watershed & LARE Study	Elkhart and Noble	Benton and Perry	X	X	X	8,524
23	60	Golf Courses	Elkhart, Kosciusko, and Noble	(various)	-	-	X	N/A
24	61	LaGrange County Lakes & LARE Studies	LaGrange and Noble	Clearspring, Johnson, Milford, and Orange	X	X	X	11,321
25	62	Wawasee Area & LARE Study	Kosciusko and Noble	Sparta and Turkey Creek	X	X	X	7,596
26	n/a	Septic Clusters	N/A	N/A	X	-	-	N/A
<b>TOTALS:</b>					<b>25</b>	<b>24</b>	<b>25</b>	<b>297,450</b>

**Table 55a: Milestones**

**Goal 1: Sustain the financial and institutional capacity of a stakeholder group. Increase the collaboration of both urban and agricultural stakeholders to eliminate program duplication, reduce costs, and identify effective solutions.**

	<b>Short Term Milestone and Measurable Goals (through 2012)</b>	<b>Medium Range Milestone and Measurable Goals (through 2017)</b>	<b>Long Term Milestones and Measurable Goals (through 2027)</b>
<b>Objective 1: Maintain steering committee.</b>			
	Hold 20 meetings by Dec. 2012.	Hold 40 meetings by Dec. 2017.	Hold 80 meetings by Dec. 2027.
	Retain a minimum of 15 active steering committee members.	Retain a minimum of 15 active steering committee members.	Retain a minimum of 15 active steering committee members.
<b>Objective 2: Address financial sustainability.</b>			
	Establish a financial subcommittee who will coordinate with the ERRA on funding issues.	Work with the financial subcommittee to coordinate with the ERRA on funding issues.	Work with the financial subcommittee to coordinate with the ERRA on funding issues.
	Apply for two additional grants by 2012.	Apply for two additional grants by 2017; Identify five potential fund-raising events by 2017; and Identify ten potential corporate sponsors by 2017.	Apply for three additional grants by 2027; hold one fundraising event by 2027; and have two corporate sponsors by 2027.
	Increase ERRA membership by 10% by 2012.	Increase ERRA membership by an additional 10% by 2017.	Increase ERRA membership by an additional 10% by 2027.
<b>Objective 3: Address agricultural issues and concerns.</b>			
	Establish an agricultural subcommittee with representation from all four counties by 2009.	Retain an active agricultural subcommittee.	Retain an active agricultural subcommittee.
<b>Objective 4: Address urban issues and concerns.</b>			
	Establish an urban subcommittee with representation from all four counties by 2009.	Retain an active urban subcommittee.	Retain an active urban subcommittee.
<b>Objective 5: Address rural residential issues and concerns.</b>			
	Establish a rural residential task force made up of the urban, agricultural, and educational subcommittees by 2010.	Retain an active urban, agricultural, and educational subcommittee.	Retain an active urban, agricultural, and educational subcommittee.
<b>Objective 6: Educate all stakeholders.</b>			
	Establish an education subcommittee with representatives from all four counties by 2009.	Retain an active education subcommittee.	Retain an active education subcommittee.
<b>Objective 7: Involve and mobilize citizen stakeholders.</b>			
	Establish a monitoring subcommittee with representation from all four counties by 2009.	Retain an active monitoring subcommittee.	Retain an active monitoring subcommittee.
	Establish a media, marketing, and website subcommittee with representation from all four counties by 2009.	Retain an active media, marketing, and website subcommittee.	Retain an active media, marketing, and website subcommittee.
	Establish a recreation subcommittee with representation from all four counties by 2009.	Retain an active recreation subcommittee.	Retain an active recreation subcommittee.
	Establish a volunteer coordination subcommittee to assist other subcommittees with representation from all four counties by 2009.	Retain an active volunteer coordination subcommittee.	Retain an active volunteer coordination subcommittee.
<b>Objective 8: Identify and establish collaborative relationships with entities within the Elkhart River Watershed that have potential influence on water quality in order to promote protection and improvement of the Elkhart River Watershed.</b>			
	Establish a plan to initialize a local advocacy subcommittee with representation from all four counties by 2009.	Retain an active local advocacy subcommittee.	Retain an active local advocacy subcommittee.
	Establish a plan to initialize a legislative subcommittee with representation from all four counties by 2009.	Retain an active legislative subcommittee.	Retain an active legislative subcommittee.
<b>Objective 9: Communicate and participate in ongoing water quality research activities within the Elkhart River Watershed and identify research needs that are not being addressed.</b>			
	Establish a plan to initialize a research subcommittee with representation from all four counties by 2009.	Retain an active research subcommittee.	Retain an active research subcommittee.
	Establish a plan to initialize a monitoring and research subcommittee with representation from all four counties by 2009.	Retain an active monitoring and research subcommittee.	Retain an active monitoring and research subcommittee.
<b>Objective 10: Hire a full time Elkhart River Watershed coordinator.</b>			
	Prepare a written job description by 2012.	Secure funding for a full-time position by 2017.	Continue to secure funding for a full-time position through 2027.
<b>Objective 11: Establish a permanent location for activities of the Elkhart River Watershed.</b>			
	Prepare to list desired criteria for site by 2012.	List of desired criteria for site established by 2017.	Site selected and operational by 2027.

**Table 55b: Milestones**

**Goal 2: Reduce soil erosion and sedimentation so that surface water functions and aesthetics are improved and protected. By the year 2027, surface waters within the Elkhart River Watershed will comply with the Steering Committee's target based on the recommended water quality threshold of 80 mg/L total suspended solids.**

<b>Programmatic Action Plan No.</b>	<b>Short Term Milestone and Measurable Goals (through 2012)</b>	<b>Medium Range Milestone and Measurable Goals (through 2017)</b>	<b>Long Term Milestones and Measurable Goals (through 2027)</b>
<b>Objective 1: Reduce soil erosion and sedimentation from Agricultural lands.</b>			
	Promote and provide technical assistance to install appropriate BMPs.	Continue to promote and provide technical assistance to install appropriate BMPs.	Continue to promote and provide technical assistance to install appropriate BMPs.
	Identify and install demonstration sites. Identify one site where BMPs are needed by 2008. Install one demonstration projects by fall 2009. Research need for additional demonstration site(s) in other counties.	Identify one opportunity for an additional demonstration site by 2017.	Install the practice identified by 2020.
	Host one field day at the demonstration site by fall 2009. Host second field day at an appropriate site by fall 2011.	Host at least one field day every other year, highlighting a variety of BMPs, rotating throughout the four counties.	Host at least five more field days by 2027.
	Establish a cost-share program for BMP installation. Materials outlining the cost-share program will be available at each SWCD in the Elkhart River Watershed by summer 2008.	Review and modify the cost-share program, if necessary, in 2013.	Continue to promote cost-share program for BMP installation. Review and modify the cost-share program, if necessary, in 2018 and 2023.
<b>Objective 2: Reduce soil erosion and sedimentation from Urban lands.</b>			
	Promote and provide technical assistance to install appropriate BMPs.	Continue to promote and provide technical assistance to install appropriate BMPs.	Continue to promote and provide technical assistance to install appropriate BMPs.
	Identify and install demonstration sites. Identify one site where BMPs are needed by spring 2008. Install one demonstration projects by fall 2009. Research need for additional demonstration site(s) in other counties.	Identify one opportunity for an additional demonstration site by 2017.	Install the practice identified by 2020.
	Host one field day at the demonstration site by fall 2008. Host second field day at an appropriate site by fall 2010.	Host at least one field day every other year, highlighting a variety of BMPs, rotating throughout the four counties.	Host at least five more field days by 2027.
	Establish a cost-share program for BMP installation. Materials outlining the cost-share program will be available at each SWCD in the Elkhart River Watershed by summer 2008.	Review and modify the cost-share program, if necessary, in 2013.	Continue to promote cost-share program for BMP installation. Review and modify the cost-share program, if necessary, in 2018 and 2023.
	Co-sponsor one workshop for contractors on construction site erosion and sediment control by 2012.	Sponsor a workshop highlighting green stormwater practices in subdivisions.	Support a workshop highlighting green stormwater practices in subdivisions.
<b>Objective 3: Reduce soil erosion and sedimentation from Rural Residential lands.</b>			
	List causes of soil erosion and sedimentation and suggest BMPs suitable to rural residential lands by 2012.	Host a field day to address soil erosion on rural residential lands by 2017.	In 2018, evaluate the need for futher field days.
<b>Objective 4: Reduce erosion and sedimentation from banks of surface waterbodies and</b>			
	Connect people with the programs and agencies to address these issues.	Continue to connect people with the programs and agencies to address these issues.	Continue to connect people with the programs and agencies to address these issues.
<b>Objective 5: Provide education to boaters on the shoreline impact of wakes.</b>			
	Identify programs or agencies that provide boater education by end of 2008. Offer boater education courses through those agencies beginning in 2009, increasing courses by 2012. Contact one marina by 2009 to increase enrollment in the IDNR Clean Vessel Pumpout Program by 10% through 2010.	Make clean boating brochures/educational materials available at 8 public access sites (at least one in each county) by 2017. Contact one additional marina each year to increase enrollment in the IDNR Clean Vessel Pumpout Program through 2017.	Continue to connect people with the programs and agencies to address these issues. Work with each lake association in the watershed and the DNR to place signage related to the shoreline impact of wakes at 5 public access sites.

**Table 55c: Milestones**

**Goal 3: Reduce the concentration levels of *E. coli* so the primary and secondary contact waters within the watershed do not pose an adverse human health impact. By the year 2027, surface waters within the Elkhart River Watershed will comply with the Indiana State water quality standard of 235 colony forming units per 100 ml of *E. coli*.**

Programmatic Action Plan No.	Short Term Milestone and Measurable Goals (through 2012)	Medium Range Milestone and Measurable Goals (through 2017)	Long Term Milestones and Measurable Goals (through 2027)
<b>Objective 1: Reduce <i>E. coli</i> levels from Agricultural lands.</b>			
	Promote and provide technical assistance to install appropriate BMPs.	Continue to promote and provide technical assistance to install appropriate BMPs.	Continue to promote and provide technical assistance to install appropriate BMPs.
	Identify and install demonstration sites. Identify one site where BMPs are needed by 2008. Install one demonstration projects by fall 2009. Research need for additional demonstration site(s) in other counties.	Identify one opportunity for an additional demonstration site by 2017.	Install the practice identified by 2020.
	Host one field day at the demonstration site by fall 2009. Host second field day at an appropriate site by fall 2011.	Host at least one field day every other year, highlighting a variety of BMPs, rotating throughout the four counties.	Host at least five more field days by 2027.
	Establish a cost-share program for BMP installation. Materials outlining the cost-share program will be available at each SWCD in the Elkhart River Watershed by summer 2008.	Review and modify the cost-share program, if necessary, in 2013.	Continue to promote cost-share program for BMP installation. Review and modify the cost-share program, if necessary, in 2018 and 2023.
<b>Objective 2: Reduce <i>E. coli</i> from Urban lands.</b>			
	Promote and provide technical assistance to install appropriate BMPs.	Continue to promote and provide technical assistance to install appropriate BMPs.	Continue to promote and provide technical assistance to install appropriate BMPs.
	Identify and install demonstration sites. Identify one site where BMPs are needed by spring 2008. Install one demonstration projects by fall 2009. Research need for additional demonstration site(s) in other counties.	Identify one opportunity for an additional demonstration site by 2017.	Install the practice identified by 2020.
	Host one field day at the demonstration site by fall 2008. Host second field day at an appropriate site by fall 2010.	Host at least one field day every other year, highlighting a variety of BMPs, rotating throughout the four counties.	Host at least five more field days by 2027.
	Establish a cost-share program for BMP installation. Materials outlining the cost-share program will be available at each SWCD in the Elkhart River Watershed by summer 2008.	Review and modify the cost-share program, if necessary, in 2013.	Continue to promote cost-share program for BMP installation. Review and modify the cost-share program, if necessary, in 2018 and 2023.
	Investigate additional opportunities (funding and educational) to further reduce <i>E. coli</i> levels from point sources including CSOs and other Urban lands.	Continue to investigate additional opportunities (funding and educational) to further reduce <i>E. coli</i> levels from point sources including CSOs and other Urban lands.	Continue to investigate additional opportunities (funding and educational) to further reduce <i>E. coli</i> levels from point sources including CSOs and other Urban lands.
	Educate pet owners on the impacts from and appropriate disposal of pet waste through hosting educational seminars at pet stores and providing educational materials on the ERA website by 2010.	Continue to educate pet owners on the impacts from and appropriate disposal of pet waste by providing educational materials to pet owners within critical areas identified in the WMP.	Continue to educate pet owners on the impacts from and appropriate disposal of pet waste by continuing to provide educational materials to pet owners within the Elkhart River Watershed.
<b>Objective 3: Reduce <i>E. coli</i> from Rural Residential lands.</b>			
	Contact Health Departments in Elkhart, Kosciusko, LaGrange, and Noble Counties offering to assist in educating the populace on the dangers of failed septic systems or non-existent treatment systems, how to maintain septic systems, what constitutes illicit discharge, and what to do if you find one by 2008. Continue to contact and start education program with County Health Departments who have agreed to participate by 2009. Revise education program and circulate to new parts of the Elkhart River Watershed 2010 through 2012.	Be in a working relationship with all willing Health Departments. Continue to revise education program and circulate to new parts of the Elkhart River Watershed.	Be in a working relationship with all willing Health Departments. Continue to revise education program and circulate to new parts of the Elkhart River Watershed.
<b>Objective 4: Provide education on how to deal with nuisance wildlife.</b>			
	Identify key nuisance species.	Develop methods to deal with nuisance wildlife in a species specific methodology.	Connect people with the programs and agencies to address these issues.
<b>Objective 5: Provide education to boaters on proper disposal of wastes.</b>			
	Identify most common wastes disposed by boaters.	Develop methods for proper disposal of most common wastes	Connect people with the programs and agencies to address these issues.
<b>Objective 6: Reduce <i>E. coli</i> from failing or non-existent septic systems.</b>			
	Identify residents with problematic septic systems.	Develop educational materials on septic systems.	Educate residents about proper maintenance and effectiveness of septic systems.

**Table 55d: Milestones**

**Goal 4: Reduce the amount of nutrient loading (phosphorus and nitrogen) so that surface water functions and aesthetics are improved and protected. By the year 2027, surface waters within the Elkhart River Watershed will comply with the Steering Committee's target based on the recommended water quality threshold of 10 mg/L of nitrate/nitrite and 0.3 mg/L of phosphorus.**

<b>Programmatic Action Plan No.</b>	<b>Short Term Milestone and Measurable Goals (through 2012)</b>	<b>Medium Range Milestone and Measurable Goals (through 2017)</b>	<b>Long Term Milestones and Measurable Goals (through 2027)</b>
<b>Objective 1: Reduce nutrient levels from Agricultural lands.</b>			
	Promote and provide technical assistance to install appropriate BMPs.	Continue to promote and provide technical assistance to install appropriate BMPs.	Continue to promote and provide technical assistance to install appropriate BMPs.
	Identify and install demonstration sites. Identify one site where BMPs are needed by 2008. Install one demonstration projects by fall 2009. Research need for additional demonstration site(s) in other counties.	Identify one opportunity for an additional demonstration site by 2017.	Install the practice identified by 2020.
	Host one field day at the demonstration site by fall 2009. Host second field day at an appropriate site by fall 2011.	Host at least one field day every other year, highlighting a variety of BMPs, rotating throughout the four counties.	Host at least five more field days by 2027.
	Establish a cost-share program for BMP installation. Materials outlining the cost-share program will be available at each SWCD in the Elkhart River Watershed by summer 2008.	Review and modify the cost-share program, if necessary, in 2013.	Continue to promote cost-share program for BMP installation. Review and modify the cost-share program, if necessary, in 2018 and 2023.
<b>Objective 2: Reduce nutrient levels from Urban lands.</b>			
	Promote and provide technical assistance to install appropriate BMPs.	Continue to promote and provide technical assistance to install appropriate BMPs.	Continue to promote and provide technical assistance to install appropriate BMPs.
	Identify and install demonstration sites. Identify one site where BMPs are needed by spring 2008. Install one demonstration projects by fall 2009. Research need for additional demonstration site(s) in other counties.	Identify one opportunity for an additional demonstration site by 2017.	Install the practice identified by 2020.
	Host one field day at the demonstration site by fall 2008. Host second field day at an appropriate site by fall 2010.	Host at least one field day every other year, highlighting a variety of BMPs, rotating throughout the four counties.	Host at least five more field days by 2027.
	Establish a cost-share program for BMP installation. Materials outlining the cost-share program will be available at each SWCD in the Elkhart River Watershed by summer 2008.	Review and modify the cost-share program, if necessary, in 2013.	Continue to promote cost-share program for BMP installation. Review and modify the cost-share program, if necessary, in 2018 and 2023.
	Investigate additional opportunities (funding and educational) to further reduce nutrient levels from point sources including CSOs and other Urban lands.	Continue to investigate additional opportunities (funding and educational) to further reduce nutrient levels from point sources including CSOs and other Urban lands.	Continue to investigate additional opportunities (funding and educational) to further reduce nutrient levels from point sources including CSOs and other Urban lands.
	Educate pet owners on the impacts from and appropriate disposal of pet waste through hosting educational seminars at pet stores and providing educational materials on the ERA website by 2010.	Continue to educate pet owners on the impacts from and appropriate disposal of pet waste by providing educational materials to pet owners within critical areas identified in the WMP.	Continue to educate pet owners on the impacts from and appropriate disposal of pet waste by continuing to provide educational materials to pet owners within the Elkhart River Watershed.
	Educate residents and landscaping companies about the proper application of lawn fertilizers by distributing educational materials to those landscaping companies and residents within larger subdivisions located in the Elkhart River Watershed.	Continue to educate residents and landscaping companies, by distributing educational materials to those landscaping companies and residents who work or live in or near a critical area identified in the WMP, about the proper application of lawn fertilizers.	Continue to educate residents and landscaping companies about the proper application of lawn fertilizers by distributing educational materials to those landscaping companies and residents within the Elkhart River Watershed.
<b>Objective 3: Reduce nutrient levels from Rural Residential lands.</b>			
	Contact Health Departments in Elkhart, Kosciusko, LaGrange, and Noble Counties offering to assist in educating the populace on the dangers of failed septic systems or non-existent treatment systems, how to maintain septic systems, what constitutes illicit discharge, and what to do if you find one by 2008. Continue to contact and start education program with County Health Departments who have agreed to participate by 2009. Revise education program and circulate to new parts of the Elkhart River Watershed 2010 through 2012.	Be in a working relationship with all willing Health Departments. Continue to revise education program and circulate to new parts of the Elkhart River Watershed.	Be in a working relationship with all willing Health Departments. Continue to revise education program and circulate to new parts of the Elkhart River Watershed.

**Goal 4: Reduce the amount of nutrient loading (phosphorus and nitrogen) so that surface water functions and aesthetics are improved and protected. By the year 2027, surface waters within the Elkhart River Watershed will comply with the Steering Committee's target based on the recommended water quality threshold of 10 mg/L of nitrate/nitrite and 0.3 mg/L of phosphorus.**

<b>Programmatic Action Plan No.</b>	<b>Short Term Milestone and Measurable Goals (through 2012)</b>	<b>Medium Range Milestone and Measurable Goals (through 2017)</b>	<b>Long Term Milestones and Measurable Goals (through 2027)</b>
	Educate residents and landscaping companies about the proper application of lawn fertilizers by distributing educational materials to those landscaping companies and residents within larger subdivisions located in the Elkhart River Watershed. Approach WACF and LaGrange County Lake Association by 2008. Develop outreach material and begin communicating with companies offering these services by 2009. Begin education of residents 2010 through 2012.	Revise education program and materials as needed and circulate to two new parts of the Elkhart River Watershed.	Revise education program and materials as needed and circulate to two new parts of the Elkhart River Watershed.
<b>Objective 4: Provide education on how to deal with nuisance wildlife.</b>			
	Identify key nuisance species.	Develop methods to deal with nuisance wildlife in a species specific methodology.	Connect people with the programs and agencies to address these issues.
<b>Objective 5: Provide education to boaters on proper disposal of wastes.</b>			
	Identify most common wastes disposed by boaters.	Develop methods for proper disposal of most common wastes	Connect people with the programs and agencies to address these issues.
<b>Objective 6: Reduce phosphate contribution from detergents.</b>			
	Identify brands of low phosphate detergents	Advocate local stores to carry phosphate free detergents.	Continue to advocate local stores to carry phosphate free detergents.
	Collect information on phosphate detergents.	Develop educational materials on phosphate detergents.	Provide education on the hazards of using phosphate containing detergents.
<b>Objective 7: Reduce nutrient contribution from golf courses.</b>			
	Research methods and incentives to promote the use of native vegetation in the rough and turf management BMPs by corresponding with head greens-keepers and educating golfers at two golf courses within the Elkhart River Watershed by 2009. Contact three golf courses each year 2010 through 2012 to implement this program.	Continue with program until all golf courses within the Elkhart River Watershed are using proper management measures.	Continue with program until all golf courses within the Elkhart River Watershed are using proper management measures.

**Table 55e: Milestones**

**Goal 5: Increase preservation, restoration, and appreciation of open space, and maintain a proper balance between the many diverse landuses in the Elkhart River Watershed.**

<b>Programmatic Action Plan No.</b>	<b>Short Term Milestone and Measurable Goals (through 2012)</b>	<b>Medium Range Milestone and Measurable Goals (through 2017)</b>	<b>Long Term Milestones and Measurable Goals (through 2027)</b>
<b>Objective 1: Increase amount of open spaces in permanent protection status.</b>			
	Connect with land trusts and other relevant groups to promote conservation easement opportunities within critical areas identified in the WMP by spring of 2009. Develop outreach for realtors, municipalities and homeowners by 2010. Focus work on identified properties as critical by 2012.	Continue work and look for opportunities to connect existing easements.	Continue work and look for opportunities to connect existing easements.
	Locate all existing greenways and plans for future greenways within critical areas by 2010. Focus work on land identified by 2012.	Continue work and look for opportunities to connect existing greenways.	Continue work and look for opportunities to connect existing greenways.
	Promote park expansion and use of public land within critical areas identified in the WMP.	Continue to promote park expansion and use of public land within or adjacent to critical areas identified in the WMP.	Continue to promote park expansion and use of public land within the Elkhart River Watershed. Specifically, expansion of existing parks within the Elkhart River Watershed, and the promotion of new park facilities within proposed subdivision development projects.
	Identify natural resources, ecological areas, unique habitats to be preserved and protected within nine subwatersheds by 2008; nine additional subwatersheds by 2009; nine additional subwatersheds by 2010; and the remaining ten subwatersheds by 2011.	Use this list to support milestones for working in greenways and park expansion.	Use this list to support milestones for working in greenways and park expansion.
	Identify and collaborate with other groups interested in invasive species control by 2009. Target outreach at significant locations by 2011.	Continue to work with partners until all significant locations have been addressed.	Continue to work with partners until all significant locations have been addressed.
	Identify and collaborate with other groups interested in threatened and endangered species and educate the public on protection methods by 2009. Target outreach at applicable locations by 2011.	Continue to work with partners until all applicable locations have been addressed.	Continue to work with partners until all applicable locations have been addressed.
<b>Objective 2: Increase and improve open space through restoration.</b>			
	Identify areas of potential restoration within critical areas identified in the WMP.	Wetland, prairie, woodland restoration.	Continue to restore wetland, prairie, and woodland areas within the Elkhart River Watershed.
	Identify brownfield areas within critical areas identified in the WMP.	Reclamation of brownfields within critical areas identified in the WMP.	Continue the reclamation of brownfields within the Elkhart River Watershed.
	Identify floodplain areas that have been abandoned within critical areas identified in the WMP.	Assess floodplain development abandonment within critical areas identified in the WMP.	Continue floodplain development abandonment within the Elkhart River Watershed.
	Identify open areas with the most invasive species within critical areas identified in the WMP.	Manage current open spaces for invasives within critical areas identified in the WMP.	Continue to manage current open spaces for invasives within the Elkhart River Watershed.
<b>Objective 3: Increase appreciation of open space through education.</b>			
	Identify organizations for potential sponsorship.	Determine the best way to sponsor.	Sponsor Indiana Master Naturalist courses, Hoosier Riverwatch, and other opportunities.
	Identify outdoor recreation activities to promote.	Create methods to promote outdoor recreation.	Promote outdoor recreation within the Elkhart River Watershed.

**Table 55f: Milestones**

<b>Goal 6: Develop an outreach and education program that keeps stakeholders involved in issues in the watershed, and coordinate volunteer activities that benefit the health of the Elkhart River Watershed.</b>			
<b>Programmatic Action Plan No.</b>	<b>Short Term Milestone and Measurable Goals (through 2012)</b>	<b>Medium Range Milestone and Measurable Goals (through 2017)</b>	<b>Long Term Milestones and Measurable Goals (through 2027)</b>
<b>Objective 1: Establish an educational subcommittee that will provide education to the stakeholders.</b>			
	Will research and provide or create educational materials.	Continue to research and provide or create educational materials.	Continue to research and provide or create educational materials.
	Assist with the design of presentations and display materials.	Continue to assist with the design of presentations and display materials.	Continue to assist with the design of presentations and display materials.
	Coordinate field days and other educational events.	Continue to coordinate field days and other educational events.	Continue to Coordinate field days and other educational events.
	Assist the media, marketing, and website subcommittee with the development of promotional materials.	Continue to assist the media, marketing, and website subcommittee with the development of promotional materials.	Continue to assist the media, marketing, and website subcommittee with the development of promotional materials.
	Educate pet owners on the impacts from and appropriate disposal of pet waste through hosting educational seminars at pet stores and providing educational materials on the Steering Committee website.	Continue to educate pet owners on the impacts from and appropriate disposal of pet waste by providing educational materials to pet owners within critical areas identified in the WMP.	Continue to educate pet owners on the impacts from and appropriate disposal of pet waste by continuing to provide educational materials to pet owners within the Elkhart River Watershed.
	Offer to assist the Elkhart, Kosciusko, LaGrange, and Noble Counties Health Departments in educating the populace on the dangers of failed septic systems or non-existent treatment systems, how to maintain septic systems, what constitutes illicit discharge, and what to do if you find one	Continue to offer to assist the Elkhart, Kosciusko, LaGrange, and Noble Counties Health Departments in educating the populace, living in or near a critical area identified in the WMP, on the dangers of failed septic systems or non-existent treatment systems, how to maintain septic systems, what constitutes illicit discharge, and what to do if you find one.	Continue to offer to assist the Elkhart, Kosciusko, LaGrange, and Noble Counties Health Departments in educating the populace, who live in or near problematic areas within the Elkhart River Watershed, on the dangers of failed septic systems or non-existent treatment systems, how to maintain septic systems, what constitutes illicit discharge, and what to do if you find one.
	Provide education on how to deal with nuisance wildlife.	Continue to provide education on how to deal with nuisance wildlife.	Continue to provide education on how to deal with nuisance wildlife.
	Identify programs or agencies that provide boater education. Build relationships with boating community to encourage participation in educational programs such as Boater Education Courses offered by the IDNR and enrollment in the Clean Vessel Pumpout Program also sponsored by the IDNR. Visit marina's within the Elkhart River Watershed and encourage the enforcement of No Wake Zones by use of sign postings and buoys.	Holding sponsored field days at the IDNR office in Syracuse located on the south shore of Lake Wawasee.	Continue to educate boat owners on topics of lake management within the Elkhart River Watershed.
	Educate residents and landscaping companies about the proper application of lawn fertilizers by distributing educational materials to those landscaping companies and residents within larger subdivisions located in the Elkhart River Watershed.	Continue to educate residents and landscaping companies, by distributing educational materials to those landscaping companies and residents who work or live in or near a critical area identified in the WMP, about the proper application of lawn fertilizers.	Continue to educate residents and landscaping companies about the proper application of lawn fertilizers by distributing educational materials to those landscaping companies and residents within the Elkhart River Watershed.
	Provide education on the hazards of using phosphate containing detergents.	Continue to provide education on the hazards of using phosphate containing	Continue to provide education on the hazards of using phosphate containing
	Providing education to golf courses on "green" management.	Continue to provide education to golf courses on "green" management.	Continue to provide education to golf courses on "green" management.
	Assist urban subcommittee in promotion of BMPs.	Continue to assist urban subcommittee in promotion of BMPs.	Continue to assist urban subcommittee in promotion of BMPs.
	Assist agriculture subcommittee in promotion of BMPs.	Continue to assist agriculture subcommittee in promotion of BMPs.	Continue to assist agriculture subcommittee in promotion of BMPs.
	Work with local school corporations to assist with water quality education.	Continue to work with local school corporations to assist with water quality	Continue to work with local school corporations to assist with water quality
<b>Objective 2: Establish a recreation subcommittee to improve and facilitate citizen access to the waterways of the Elkhart River Watershed.</b>			
	Organize a method for bi-annual trash removal within the streams. Implement a method of soliciting volunteers by 2008. Identify areas for trash removal by 2009. Maintain trash removal activities on those areas bi-annually through 2012.	Sustain activities and increase the river miles that have a bi-annual clean-up.	Sustain activities and continue to increase the river miles that have a bi-annual clean-up.
	Organize a method for improving access for small watercraft to the Elkhart River. Implement a method of soliciting volunteers by 2008. Identify areas that can provide access for small watercraft to the Elkhart River by 2009. Maintain access on those area annually by 2012.	Sustain activities and increase the river miles that provide access for small watercraft.	Sustain activities and continue to increase the river miles that provide access for small watercraft.
	Create recreational opportunities for youth on the Elkhart River.	Continue to create recreational opportunities for youth on the Elkhart River.	Continue to create recreational opportunities for youth on the Elkhart River.
<b>Objective 3: Participate in national events that coincide with our goals.</b>			
	Participate in river clean up events within critical areas identified by the WMP.	Continue to participate in river clean up events within and adjacent to critical areas identified by the WMP.	Continue to participate in river clean up events within the Elkhart River Watershed.
	Participate in water monitoring events within critical areas identified by the WMP.	Continue to participate in water monitoring events within and adjacent to critical areas identified by the WMP.	Continue to participate in water monitoring events within the Elkhart River Watershed.
	Participate in other related events within critical areas identified by the WMP.	Continue to participate in other related events within and adjacent to critical areas identified by the WMP.	Continue to participate in other related events within the Elkhart River Watershed.

<b>Goal 6: Develop an outreach and education program that keeps stakeholders involved in issues in the watershed, and coordinate volunteer activities that benefit the health of the Elkhart River Watershed.</b>			
<b>Programmatic Action Plan No.</b>	<b>Short Term Milestone and Measurable Goals (through 2012)</b>	<b>Medium Range Milestone and Measurable Goals (through 2017)</b>	<b>Long Term Milestones and Measurable Goals (through 2027)</b>
<b>Objective 4: Establish a volunteer coordination subcommittee.</b>			
	Assist other committees in obtaining volunteers.	Continue to assist other committees in obtaining volunteers.	Continue to assist other committees in obtaining volunteers.
<b>Objective 5: Establish a local advocacy subcommittee to work with government and private organizations and to identify current local issues that impact the river/watershed.</b>			
	Identify individuals that will participate in a subcommittee for the Elkhart River Watershed.	Identify and establish collaborative relationships with entities within the watershed that have potential influence on water quality in order to promote protection and improvement of the Elkhart River Watershed.	Continue to establish collaborative relationships with entities within the watershed that have potential influence on water quality in order to promote protection and improvement of the Elkhart River Watershed.
<b>Objective 6: Establish a legislative subcommittee.</b>			
	Identify individuals that will participate in a legislative subcommittee for the Elkhart River Watershed.	Identify legislators that would be most likely to be lobbied for Elkhart River Watershed Activities.	Contact legislators and keep them informed of Elkhart River Watershed activities.
<b>Objective 7: Establish a research subcommittee to network with local universities and others doing water quality research in the Elkhart River Watershed.</b>			
	Identify individuals that will participate in a research subcommittee for the Elkhart River Watershed.	Identify local universities and other educational institutions that would be most likely to be involved in Elkhart River Watershed Activities.	Communicate and participate in ongoing water quality research activities within the Elkhart River Watershed and identify research needs that are not being addressed.
<b>Objective 8: To effectively use the print media to share and communicate past, current and future activities of the ERA with the media, public and current and potential ERA and ERRA members.</b>			
	Assist other committees with information strategies including new tri-folds, flyers and brochures. Develop relationships with local media and individual reporters.	Continue to assist other committees with information strategies including new tri-folds, flyers and brochures. Develop relationships with local media and individual reporters.	Continue to assist other committees with information strategies including new tri-folds, flyers and brochures. Develop relationships with local media and individual reporters.
	Quarterly newspaper articles about the river, testing results and pollution trends.	Continue to publish quarterly newspaper articles about the river, testing results and pollution trends.	Continue to publish quarterly newspaper articles about the river, testing results and pollution trends.
	Speaking engagements (Power Point) and at clubs, school or other groups.	Continue to organize speaking engagements (Power Point) and at clubs, school or other groups.	Continue to organize speaking engagements (Power Point) and at clubs, school or other groups.
	Develop relationships with local media and individual reporters.	Continue to develop relationships with local media and individual reporters.	Continue to develop relationships with local media and individual reporters.
<b>Objective 9: To effectively use electronic forms of media (TV and radio) to share and communicate past, current and future activities of the ERA with the media, public and current and potential ERA and ERRA members.</b>			
	Identify local media and individual reporters that would be influential within the Elkhart River Watershed.	Develop relationships with local media and individual reporters.	Assist other committees with information strategies by developing relationships with local electronic media and individual reporters.
<b>Objective 10: Create and maintain an ERA website as a clearinghouse for ERA/Elkhart River Watershed information</b>			
	This website includes: 1) an overview of who the ERA is 2) an introduction to what a watershed is and the Elkhart River Watershed 3) space for subcommittees to report on their activities, goals, and visions 4) calendar of events 5) an ftp site for efficient file sharing among members and subcommittees 6) an e-mail link for questions 7) question and answer section 8) speakers bureau.	Continue to maintain ERA website.	Continue to maintain and update ERA website.
<b>Objective 11: Assist Elkhart River Watershed coordinator in sampling biological, chemical, and physical data as monitoring efforts occur.</b>			
	Work with local agencies to provide new water quality data as they collect it.	Continue to work with local agencies to provide water quality data.	Continue to work with local agencies to provide water quality data.
<b>Objective 12: Recruit and train volunteers to monitor at a minimum, each of the 37 subwatersheds, obtaining both wet and dry weather data at each site at least twice each year, and provide continuing education opportunities for volunteer monitors.</b>			
	Provide information to the general public on the Hoosier Riverwatch volunteer monitoring program, and recruit volunteers to monitor various sites throughout the Elkhart River Watershed.	Continue to provide information to the general public on the Hoosier Riverwatch volunteer monitoring program, and recruit volunteers to monitor various sites throughout the Elkhart River Watershed.	Continue to provide information to the general public on the Hoosier Riverwatch volunteer monitoring program, and recruit volunteers to monitor various sites throughout the Elkhart River Watershed.
	Host Hoosier Riverwatch trainings in the Elkhart River Watershed at least twice a year.	Continue to host Hoosier Riverwatch trainings in the Elkhart River Watershed at least twice a year.	Continue to host Hoosier Riverwatch trainings in the Elkhart River Watershed at least twice a year.
	Physical Site Assessment: once per year, Macroinvertebrate Assessment: twice per year, Chemical Assessment: wet and dry weather, at least twice per year.	Continue physical Site Assessment: once per year, Macroinvertebrate Assessment: twice per year, Chemical Assessment: wet and dry weather, at least twice per year.	Continue physical Site Assessment: once per year, Macroinvertebrate Assessment: twice per year, Chemical Assessment: wet and dry weather, at least twice per year.
	Host additional training sessions for volunteers: advanced training and review sessions	Continue to host additional training sessions for volunteers: advanced training and review sessions	Continue to host additional training sessions for volunteers: advanced training and review sessions.
<b>Objective 13: Promote sustainable drainage practices.</b>			
	Collect contact information of Surveyor's offices and Drainage Boards	Correspond with Surveyor's offices and Drainage Boards.	Continue to correspond with Surveyor's offices and Drainage Boards.
	Collect contact information of individual land owners.	Communicate with individual land owners.	Continue to communicate with individual land owners.