



STATE OF MICHIGAN  
DEPARTMENT OF NATURAL RESOURCES & ENVIRONMENT  
LANSING



Water Resources Division

Water Quality Monitoring Grant Application Cover Sheet  
(Authorized by 1994 PA 451)

Type of Grant: Beach Monitoring \_\_\_\_\_ Water Quality Monitoring Yes

Project Name: Black River and Paw Paw Watersheds Pathogen Monitoring

Project Location (Primary County): Van Buren County

Watershed(s) Impacted by Project: Black River, Paw Paw, Pine, and Mill Creek Watersheds

Organization Name: Southwest Michigan Planning Commission

Organization Phone #: 269-925-1137 x25

Organization FAX #: 269-925-0228

Contact Person: Ms. Marcy Colclough, Senior Planner  
(Name) (Title)

Contact Person's E-Mail (If Available): colcloughm@swmpc.org

Organization Address: 185 E. Main Street, Ste. 701  
(Street Name and Number)  
Benton Harbor, MI 49022  
(City, Zip Code)

Duration of Project: Years: 2 Months: 0

Preferred Start Date: July / 2011 (Month/Year)

Grant Amt. Requested: \$ 48,680 + Local Match: \$ 16,274 = Project Total: \$ 64,954

Person with Grant Acceptance Authority: K. John Egelhaaf, Executive Director  
(Name) (Title)

Contact Person's Signature: [Signature]  
Michigan Department of Natural Resources and Environment  
Water Resources Division  
Project Budget  
(Authorized by 1994 PA 451)

# BLACK RIVER AND PAW PAW RIVER PATHOGEN MONITORING PROJECT

## Project Description

**A. Statement of Water Quality Concerns:** The Michigan Department of Environmental Quality (MDEQ) has developed, and the US Environmental Protection Agency (EPA) has approved, a Total Maximum Daily Load (TMDL) for *Escherichia coli* (*E. coli*) for **Pine Creek and Mill Creek**, tributaries of the Paw Paw River, located in Van Buren County, Michigan. Pine and Mill Creeks were first placed on the Section 303(d) list in 2006 for the impairment of recreational uses due to exceedances of *E. coli*. Data collected by the MDEQ documented exceedances of the total and partial body contact Water Quality Standard (WQS) for *E. coli* at all sampling locations for both Pine and Mill Creeks during the months of July through September 2005. These waterbodies have also been listed in the Paw Paw River Watershed Management Plan (WMP) as priority waters for remediation. A public meeting was held in 2008 to present the draft TMDL and at that time, monitoring was proposed to use Molecular Source Tracking (MST) analysis to determine the source of the *E. coli*. The MDEQ, however, did not have the funding to complete that analysis, and the highly disappointed public officials and concerned residents were left wondering where to focus their efforts. The data collected in the Paw Paw River Watershed during this project will be used to focus implementation efforts to remove Pine and Mill Creeks from the 303(d) list. Although not listed as an impaired waterbody in Michigan's 2010 Integrated Report, the **Black River** is a suspected source of *E. coli*, which is impairing the beaches in the City of South Haven. South Beach was closed in the summer of 2010 due to elevated levels of *E. coli*. South Haven is valued for its Lake Michigan beaches and recreational opportunities. The closing of the beaches has raised questions about the water quality in local waterbodies. South Haven has initiated projects to identify and eliminate sources of *E. coli* and reduce the chances of future beach closings. Currently, monthly water samples are being collected in dry and wet weather from the Peterson and Phoenix Drains, tributaries of the Black River, to analyze the magnitude and sources of *E. coli* contamination. Previous sampling was conducted in the summer of 2010 at several other locations throughout the City, and resulting levels were not considered to be a threat to the beach closings. Other areas outside of the City, however, are suspected sources. In the Black River Watershed, the data from the additional sampling will be used to expand the investigation to locations outside of the City and to target high risk areas for pathogen runoff. The data will be used to recommend actions to address identified sources of runoff and to remediate those sites to reduce threats to beach closures.

**B. Project Goals and Objectives:** The goals of the project are to 1) Form a Water Quality Committee to guide the project and conduct outreach and education to raise awareness of the *E. coli* issues, 2) conduct water quality monitoring to identify sources of *E. coli*, and 3) develop a realistic implementation plan to remediate the sources of *E. coli*. Objectives of the project are to create a Water Quality Committee with a diverse representation of stakeholders, develop a MDEQ-approved Quality Assurance Project Plan (QAPP), collect water samples during at least 6 events, in accordance to the QAPP, conduct QA/QC review of field and laboratory data according to QAPP approved procedures, identify probable sources of *E. coli* contamination through data analysis and interpretation, prepare and present an Implementation Plan (IP), identify and implement a set of evaluation measures for determining project success, disseminate data and monitoring results to stakeholders, and administer the grant in an efficient manner. The goals and objectives will be accomplished through the cooperation of the project partners in completing the tasks outlined in the work plan, and maintain a close working relationship with MDEQ throughout the project. Sampling results will be reported on the websites of the Watershed partners. Notification of the sampling events will be sent to the South Haven engineers, townships and others in an email, within one week of completing the data QA/QC review. The results will also be included in the Quarterly Reports submitted to MDEQ. The formats will be compatible to EPA's STORET and the MiSWMM data repositories.

**C. Background Information:** Samples will be collected in the following watersheds. The lat/long refers to the location of where Pine and Mill Creeks enter the Paw Paw River and the Black River enters Lake Michigan. Van Buren County, Paw Paw River Watershed: **Pine Creek** (42°12'55.34"N, 86°12'0.22"W), **Mill Creek**, (42°11'36.23"N, 86°15'7.24"W); Van Buren County, Black River Watershed: **Black River** (42°24'7.80"N, 86°17'5.77"W). The Peterson Drain, Phoenix Drain, and an open drain will also be sampled in the Black River Watershed.

**Number of Proposed Sampling Sites:** As shown in attached map, 5 sites are proposed to be sampled in Pine Creek Watershed, 5 sites are proposed to be sampled in Mill Creek Watershed, and 8 sites are proposed to be sampled in the Black River Watershed. Table 1 describes the waterbodies and the locations of the sampling sites.

Site ID	Waterbody	Location	Site ID	Waterbody	Location	Site ID	Waterbody	Location
#1	Pine Creek	72nd Ave.	#6	Mill Creek Tributary	77th Ave.	BR-NB	Black River	North Branch
#2	Pine Creek	64th St.	#7	Mill Creek Tributary	67th Ave.	BR-SB	Black River	South Branch
#3	Pine Creek	Private Rd.	#8	Mill Creek	Hill Rd.	BR-CF	Black River	Confluence
#4	Pine Creek	66th Ave.	#9	Mill Creek	Dan Smith Rd	BR-OF	Black River	Outflow – at Pier
#5	Pine Creek	Red Arrow Hwy	#10	Mill Creek	Watervliet	CP-OF	Celery Pond	Outflow Channel
						PE-OF	Peterson Drain	Williams St. (Outfall)
						PH-OF	Phoenix Drain	Outfall
						OD-OF	Open Drain	Outfall

**Parameters to be Monitored and Monitoring Frequency:** *E. coli* will be monitored to determine sources through MST techniques. Samples will be collected monthly, from May 1 until October 31 during dry weather conditions and 2 wet weather events, with three samples taken at each site (left bank, center of stream, right bank) to account for stream variations and to be able to calculate geometric means for each of the sampling events. The 2009 TMDL states, “possible sources of *E. coli* in Pine and Mill Creeks include runoff from pastureland and land application of manure, failing septic systems, illicit connections to storm sewers and drains, and inputs from wildlife.” Therefore, the MST analysis is important to be able to distinguish between these potential sources. Michigan State University (MSU) will use their most up-to-date methods to determine the source, and percentage of contribution from each source. The analytical method will be running the qualitative enterococci human marker and the quantitative *Bacteroides* human and bovine markers. The quantitative *Bacteroides* markers will give additional data to describe the sources.

**Past monitoring Efforts and Results:** 2005 Paw Paw River - Pine Creek Monitoring - Pine Creek was sampled for *E. coli* weekly at five stations in 2005. The 30-day geometric mean *E. coli* concentrations ranged from **386** *E. coli* per 100 ml to **6,635** *E. coli* per 100 ml. The 30-day geometric mean total body contact recreation WQS was exceeded throughout the entire sampling season at all five stations. Daily maximum concentrations ranged from **290** *E. coli* per 100 ml to **3,787,266** *E. coli* per 100 ml. With the exception of one location on one occasion, the daily maximum *E. coli* concentrations exceeded the daily geometric mean total body contact recreation WQS on every sampling event, often by several orders of magnitude. Concentrations were greater than **100,000** *E. coli* per 100 ml at multiple stations in response to rain events. (TMDL, 2009).

2005 Paw Paw River - Mill Creek Monitoring - Mill Creek and a tributary were also sampled for *E. coli* weekly at three stations 2005. The 30-day geometric mean total body contact recreation WQS was exceeded throughout the entire sampling season at all three stations. The 30-day geometric mean *E. coli* concentrations ranged from **845** *E. coli* per 100 ml to **2,696** *E. coli* per 100 ml. Daily maximum concentrations ranged from **576** *E. coli* per 100 ml to **14,428** *E. coli* per 100 ml. The 30-day geometric mean *E. coli* concentrations in the tributary ranged from **1,041** *E. coli* per 100 ml to **4,480** *E. coli* per 100 ml. Daily maximum concentrations ranged from **654** *E. coli* per 100 ml to **17,676** *E. coli* per 100 ml. *E. coli* concentrations were greater than **9,000** *E. coli* per 100 ml at all three stations for the last two sampling events, likely in response to rain events (TMDL, 2009).

2010 Black River - Tributaries Monitoring - DeLisle & Associates, LTD (DeLisle) conducted sampling of major watercourses within the City of South Haven in the summer of 2010. Results indicated high levels of *E. coli* at a few locations, with Peterson and Phoenix Drains having the highest counts of *E. coli*, ranging from 300 *E. coli* per 100 ml to 2,600 *E. coli* per 100 ml in Phoenix Drain and <100 *E. coli* per 100 ml to 8,800 *E. coli* per 100 ml in Peterson Drain.

2011 Black River – Peterson and Phoenix Drains Monitoring - South Haven and the Van Buren County Drain Commissioner are presently monitoring additional sites in the Peterson and Phoenix Drains to determine the

sources of *E. coli*. The results from the February 2011 sampling event indicated that the levels of *E. coli* are below WQS. The results of the March sampling event have not yet been received. Results are being sent to MSU for analysis, using the methods to determine the presence of human or bovine bacteria markers.

**Surrounding Environment:** Paw Paw River Tributaries (information from the 2009 TMDL) - Pine and Mill Creeks, both coldwater tributaries to the Paw Paw River, are located in Berrien and Van Buren Counties. The Pine Creek watershed includes portions of Hartford and Keeler Townships and the City of Hartford. The Mill Creek watershed includes portions of Hartford and Keeler Townships in Van Buren County and Bainbridge, Coloma, and Watervliet Townships and the City of Watervliet in Berrien County. The headwaters of both creeks have been dredged to facilitate drainage, resulting in flashy flow regimes in these agricultural watersheds (Walterhouse, 2006). United States Geological Survey 2000 land cover data indicate that the Pine Creek watershed is largely cultivated (row) crops (63 percent) while the Mill Creek watershed is approximately 61 percent cultivated (row) crops (USGS, 2001b). Possible sources of *E. coli* in Pine and Mill Creeks include runoff from pastureland and land application of manure, failing septic systems, illicit connections to storm sewers and drains, and inputs from wildlife. The City of Hartford, located at the lower end of the Pine Creek watershed, is not under a storm water discharge permit and it is not known if illicit connections to the storm sewer system are a potential source of *E. coli* to Pine Creek. The sampling conducted in 2005 found the highest daily geometric mean *E. coli* concentration (3,787,266 *E. coli* per 100 ml) occurred at the station closest to the City of Hartford, suggesting potential contributions from the community. The Hartford Dairy CAFO, under certain weather conditions, is a likely source of *E. coli* to Pine Creek. Facility records show that manure was applied to many fields in the Pine Creek watershed, and a few in the Mill Creek Watershed, preceding and during the *E. coli* sampling period (i.e., between March and September 2005). Officials from the Van Buren County Health Department indicate they have not performed septic system inspections in the Pine or Mill Creek watersheds. Wildlife contributions are also a potential source of *E. coli* to Pine and Mill Creeks. MDEQ field reconnaissance in the watershed noted ponds where waterfowl may congregate as well as the presence of deer in woodlots. In addition, the State of Michigan manages property for wildlife in upstream areas. Black River Tributaries - The 2009 Black River WMP identifies the subwatershed, Black River at Mouth, as a priority area for remediation. By identifying this as a priority area, implementation efforts are targeted so as to achieve the most benefit. South Haven has been focusing their efforts to identify sources of *E. coli* that are potentially contributing to the beach closings. A mix of land uses include mostly residential with some commercial at the upper end of the Phoenix Drain and agricultural at the upper end of the Peterson Drain. A portion of the City's sanitary sewer runs parallel to these drains along the bottom of the ravines.

**D) Organization Information:** SWMPC is the regional planning agency for Berrien, Cass and Van Buren Counties. SWMPC is committed to organize and facilitate a committee of stakeholders throughout the project period. SWMPC is also willing to utilize its website and contacts with local governments to disseminate information on the project goals, progress and accomplishments. SWMPC is interested in assisting local watershed groups in developing a long term volunteer monitoring program for the Black and Paw Paw River Watersheds. Marcy Colclough, Senior Planner, has been working on water quality issues for over 10 years on southwest Michigan. Marcy was also the project director for the Dowagiac River Watershed Project with the Cass County Conservation District from 1999-2002. She holds a Bachelor's degree in Biology and Environmental Studies from Ohio Northern University and a Master of Environmental Science Degree from Miami University, Ohio.

## **E) Partners**

**Two Rivers Coalition, Inc.** (TRC) is a citizen based group organized to continue with the implementation phase of the Black River and Paw Paw River WMPs. TRC worked closely with MDEQ during the establishment of the TMDL for Pine and Mill Creeks and with South Haven to identify potential sources of *E. coli* in the Black River and its tributaries. TRC's concern for resolving these continuing *E. coli* issues is demonstrated by the fact that four of its Board members immediately committed to participate on the Water Quality Committee for the proposed project. TRC commits to using its website and email contact list of over 550 watershed government officials, lake associations, and interested citizens, as tools to disseminate information on project goals, objectives, methods, progress and results. TRC Board members and other partners such as the Conservation Districts (Berrien and Van Buren) are interested in developing a volunteer based monitoring program for the

Paw Paw and Black River Watersheds. The **City of South Haven** has been proactive in identifying sources of *E. coli* that are contributing to the closings of their beaches. Brian Dissette, City Manager, is actively involved in pursuing water quality improvements. Larry Halberstadt, P.E., City Engineer, has provided his knowledge of the City's infrastructure to help develop water quality monitoring programs. The City is committed to protecting their public beaches and will assist this project with serving on the Water Quality Committee, providing access to sampling locations, and reviewing the implementation plan. **Fishbeck, Thompson, Carr & Huber, Inc.** (FTC&H) has over 30 years experience in watershed management. FTC&H staff members will work with SWMPC to facilitate this grant. Specifically, they will be involved in participating in meetings, developing the QAPP, conducting the water quality monitoring, and coordinating the reporting and GIS mapping activities. FTC&H has staff experienced in the development and implementation of Quality Assurance Project Plans (QAPPs). When developing a QAPP, the 24 elements defined by the USEPA are evaluated to determine which apply to the project goals, scope and objectives. This evaluation will ensure that sample collection and analysis, data storage and management, and reporting will result in data of sufficient quality to meet the project needs. The resulting QAPP provides the necessary quality control steps needed to verify that these quality system components are built into the project from the beginning. **The Water Quality, Environmental, and Molecular Microbiology Laboratory** (WQEMM), located at MSU in East Lansing, Michigan, is supervised by Joan B. Rose, Ph.D. The Rose WQEMM laboratory consist of two labs, one for general water quality testing and the second for environmental molecular microbiology assays. The WQEMM is a MDEQ preferred lab for conducting MST analyses. The **Van Buren County Drain Commissioner** (VBCDC) has supported South Haven's efforts to conduct further studies to identify sources. The VBCDC has jurisdiction over many of the waterways in both watersheds and will assist the project with identification of problem areas. The VBCDC will also serve in the Water Quality Committee and provide input on the implementation plan. The **Pokagon Band of Potawatomi Indian Tribe** has been a strong partner in many of southwest Michigan's water quality projects. They have recently hired a Water Quality Coordinator who will be actively participating in this project. Although the TMDLs do not apply to any trust lands of the Tribe located within the Paw Paw River Watershed, the Tribe is interested in being a partner in the project.

#### **F) Project Sustainability**

According to the 2009 TMDL report, future monitoring will take place as part of the MDEQ five-year rotating basin monitoring, as resources allow, once actions have occurred to address sources of *E. coli*. When these results indicate that the waterbody may be meeting WQS, sampling will be conducted at the appropriate frequency to determine if the 30-day geometric mean value of 130 *E. coli* per 100 ml, and daily maximum values of 300 *E. coli* per 100 ml and 1000 *E. coli* per 100 ml are being met. Efforts are continuing to find funding for implementation of activities for both the Paw Paw River and the Black River Watersheds. The Pokagon Band of Potawatomi Indian Tribe's Water Quality Coordinator will follow up on this effort and assist the partners with other water quality concerns in the watersheds. South Haven will continue to invest in efforts to identify and correct sources of *E. coli* that are impacting their beaches. The SWMPC will work with the Committee to assist the TRC in developing a framework for a volunteer monitoring program to continue with this project. The TRC is committed to sustaining their organization and improving water quality for as many years as needed.

**G) Evaluation:** The project will be evaluated by reporting on the progress of each task and meeting the schedule as outlined in the timeline. Successes and challenges will be reported in each quarterly report submitted to MDEQ. If the sources of *E. coli* can be identified through the MST analysis in the Pine and Mill Creeks, the project will have reached one of its goals. MDEQ approval of all the reports and plans submitted will be another indication that the project has succeeded. South Haven's goal is to have clean and open beaches and to eliminate the sources and reduce the chances of future beach closings. This project will be successful if sources can be identified and eliminated and the beaches remain open all summer. Monitoring data will be used to locate the sources of pathogens and focus efforts of remediation. SWMPC will submit field and laboratory data to MDEQ in a format suitable for entry into STORET and Michigan's data repository. SWMPC and TRC will disseminate the Monitoring Summary Report to the Water Quality Committee, MDEQ, and other interested stakeholders. SWMPC will develop and submit quarterly status reports following Water Resources (WR) guidance. Hardcopies and electronic copies of products and deliverables will be submitted with quarterly reports according to WR guidance.

## **BLACK RIVER AND PAW PAW RIVER PATHOGEN MONITORING PROJECT WORK PLAN**

### **TASK 1: CREATE WATER QUALITY COMMITTEE (10%)**

**Lead:** Southwest Michigan Planning Commission (SWMPC) - Organize a Water Quality Committee of watershed stakeholders including residents, local units of government, environmental organizations, and state agency representatives from Van Buren and Berrien Counties and the City of South Haven. Facilitate quarterly meetings to guide and direct the project. Prepare agendas, minutes, and attendance lists. **Partners:** City of South Haven (South Haven), Two Rivers Coalition (TRC), Fishbeck, Thompson, Carr & Huber, Inc. (FTC&H), Van Buren County Drain Commissioner (VBDC), Pokagon Band of Potawatomi Indian Tribe (Pokagon), and other Watershed Partners – Attend Water Quality Committee meetings and provide updates on project progress. **Products:** Agendas, minutes, and attendance lists.

### **TASK 2: DEVELOP QAPP FOR SAMPLING (5%)**

**Lead:** FTC&H – Build on existing data and approved sampling methods to develop a Quality Assurance Project Plan (QAPP) that designs a sampling regime to determine the most probable sources and causes of *E. coli* contamination. Develop and submit a draft QAPP to the MDEQ for review and approval at least 9 weeks prior to monitoring, final QAPP to follow. Monitoring will not begin without an MDEQ-approved QAPP. **Partners:** Water Quality Committee, Michigan State University's Water Quality, Environmental, and Molecular Microbiology Laboratory (WQEMM) – Provide existing data, methods and other information for QAPP and review QAPP. **Products:** Draft QAPP (1 copy to Project Administrator [PA], 3 copies to MDEQ Water Quality Analyst). Final QAPP (2 copies to PA).

### **TASK 3: CONDUCT SAMPLING (15%)**

**Lead:** FTC&H - Coordinate field staff to collect water samples between May 1 and October 31 according to MDEQ protocol and the approved QAPP. Three simultaneous water samples will be collected from each location during each dry and wet weather event. Sample collection documentation forms will be completed in the field. Samples will be transported to the WQEMM. **Partners:** Water Quality Committee – Assist field crew with logistics and communication with property owners before and during sampling. **Products:** Field data sheets, Chain-of Custody Forms.

#### **TASK 4: PERFORM QA/QC ON DATA AND INTERPRET RESULTS (5%)**

**Lead:** FTC&H – Review field and laboratory data in accordance with QAPP. Summarize and compile the final field and laboratory data sets. Summarize data for each event and make recommendations for future sampling events based on results, if modifications are warranted.

**Partners:** WQEMM – provide data in suitable formats according to QAPP. SWMPC - Submit field and laboratory data to MDEQ in a format suitable for entry into STORET and Michigan's data repository. **Products:** Sample collection documentation forms and field and laboratory data sets. Summaries of data analysis results.

#### **TASK 5: IDENTIFY SOURCES (15%)**

**Lead:** Water Quality Committee – review data summaries and other available information to identify probable sources of *E. coli* contamination. **Partners:** FTC&H – provide technical assistance with data interpretation through mapping of data, graphs, and charts as necessary.

**Products:** Visual presentation of data interpretations.

#### **TASK 6: DEVELOP AND CONDUCT AN OUTREACH AND EDUCATION PROGRAM (8%)**

**Lead:** SWMPC – Develop an *E. coli* awareness program that can be continued through TRC to become part of the organization's programming. Review and participate in the awareness program. Include pathogen sources and recommendations to reduce pathogen concentrations.

**Partners:** Water Quality Committee, South Haven, TRC, and other Watershed Partners – Incorporate awareness program into existing outreach and educational efforts. **Products:** Outreach and Educational Program, Number of participants

#### **TASK 7: PREPARE IMPLEMENTATION PLAN (12%)**

**Lead:** FTC&H – Prepare an Implementation Plan (IP) based on the results of the sampling program that recommends feasible solutions to remedy sources. The IP will 1) summarize monitoring results and determine compliance with water quality standards, 2) identify most probable sources of pathogen contamination, and 3) outline a comprehensive, effective and realistic course of action to reduce pathogen concentrations. The IP will include a short introduction to a matrix that identifies actions with specific tasks, schedules, responsible parties, and costs for each task. Submit report to the MDEQ for review and comment. **Partners:** Water Quality Committee – Review and provide input on the Implementation Plan. Assist in identifying most probable pathogen sources and recommendations to reduce pathogen concentrations.

Disseminate the Implementation Plan to MDEQ and other interested stakeholders. **Products:** Implementation Plan

#### **TASK 8: EVALUATE PROJECT (15%)**

**Lead:** SWMPC – At the beginning of the project, coordinate with the Water Quality Committee to identify a set of evaluation measures for determining project success based on the project goals/objectives. Measure will include gaining QAPP approval completion of all tasks, identified sources, and a course of action to eliminate or reduce *E. coli* sources. At the end of the project, use the evaluation measures to determine whether project goals and objectives were in fact met. Successes and challenges/lessons learned will be identified for incorporation into the Final Report. **Partners:** Water Quality Committee – Assist with development of evaluation measures. **Products:** Evaluation Measures List, Evaluation Results Summary (included in the Final Report).

#### **TASK 9: GRANT ADMINISTRATION AND CLOSE OUT (15%)**

##### **Subtask 9A: Quarterly Reporting**

**Lead:** SWMPC - Develop and submit quarterly status reports following Water Resources (WR) guidance. Hardcopies and electronic copies of products and deliverables will be submitted with quarterly reports according to WR guidance. **Partners:** Watershed Partners – Provide information to include in Quarterly Report. **Products:** Quarterly Reports

##### **Subtask 9B: Compile Final Products and Deliverables**

**Lead:** SWMPC- Develop and submit quarterly status reports following WR guidance. Hardcopies and electronic copies of products and deliverables will be submitted with quarterly reports according to WR guidance. **Partners:** Watershed Partners – Assist with collection and formatting of all products and deliverables. **Products:** Final Products and Deliverables

##### **Subtask 9C: Develop and Submit Final Report**

**Lead:** SWMPC - Develop and submit Final Report at the end of the project following WR guidance. **Partners:** Watershed Partners – Provide information for and review of Final Report. **Products:** Final Report

##### **Subtask 9D: Submit a Release of Claims Statement**

**Lead:** SWMPC- Develop and submit release of claims statement at the end of the project according to WR guidance. **Products:** Release of Claims Statement.



**TIMETABLE:**  
**Black River and Paw Paw River Pathogen Monitoring Project**

% Grantee Time	TASK	TASK AND DESCRIPTION	Year 1								Year 2							
			J, A, S Quarter 1	O, N, D Quarter 2	J, F, M Quarter 3	A, M, J Quarter 4	J, A, S Quarter 1	O, N, D Quarter 2	J, F, M Quarter 3	A, M, J Quarter 4	J, A, S Quarter 1	O, N, D Quarter 2	J, F, M Quarter 3	A, M, J Quarter 4	J, A, S Quarter 1	O, N, D Quarter 2	J, F, M Quarter 3	A, M, J Quarter 4
10%	Task 1	Create Water Quality Committee																
5%	Task 2	Develop QAPP for Sampling		D	R	R	R	F										
15%	Task 3	Conduct Sampling																
5%	Task 4	Perform QA/QC on Data and Interpret Results																
15%	Task 5	Identify Sources																
8%	Task 6	Develop and Conduct Outreach and Education Program																
12%	Task 7	Prepare Implementation Plan																
15%	Task 8	Evaluate Project																
15%	Task 9	<b>GRANT ADMINISTRATION AND CLOSE OUT</b>																
	A	Administer Grant and Submit Quarterly Reports																
	B	Compile Final Products and Deliverables																
	C	Develop and Submit Final Report																
	D	Submit a Release of Claims Statement																

\*Timetable includes time for MDEQ staff to review and comment on all draft products and deliverables.

D - Draft  
R - Review  
F - Final

Michigan Department of Environmental Quality  
Water Bureau

GRANT APPLICATION BUDGET  
(Authorized by 1994 PA 451)

(Completion of this form is required in order to receive grant consideration)

<b>Applicant Name: Southwest Michigan Planning Commission</b> <b>Project Name: Cithof South Haven Water Quality Monitoring Project</b> <b>Proposed Project Dates: July 1, 2011 to June 30, 2013</b>					
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
			GRANT AMOUNT	LOCAL MATCH AMOUNT	TOTAL
<b>STAFFING</b>					
NAME	HOURS	RATE			
Marcy Colclough, Southwest Michigan Planning Commission	350	\$ 24.00	\$ 8,000	\$ 400	\$ 8,400
	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
<b>STAFFING Subtotal</b>			\$ 8,000	\$ 400	\$ 8,400
<b>FRINGE BENEFITS (not to exceed 40%)</b>					
NAME	Salary	RATE			
Marcy Colclough, Southwest Michigan Planning Commission	\$ 8,400.00	40%	\$ 3,000	\$ 360	\$ 3,360
	0	0%	\$ -	\$ -	\$ -
	0	0%	\$ -	\$ -	\$ -
	0	0%	\$ -	\$ -	\$ -
	0	0%	\$ -	\$ -	\$ -
	0	0%	\$ -	\$ -	\$ -
<b>FRINGE BENEFITS Subtotal</b>			\$ 3,000	\$ 360	\$ 3,360
<b>STAFFING &amp; FRINGE BENEFITS Subtotal</b>			\$ 11,000	\$ 760	\$ 11,760
<b>INDIRECT RATE (not to exceed 20% Staffing and Fringe Benefits)</b>					
<b>INDIRECT COSTS</b>		RATE			
telephone, fax, office space, office supplies, rent		20%	\$ 2,200	\$ 152	\$ 2,352
<b>CONTRACTUAL SERVICES</b>					
NAME	HOURS	RATE			
City of South Haven	60	\$ 50.00	\$ -	\$ 3,000	\$ 3,000
Pokagon Band of Potawatomi Indian Tribe	50	\$ 40.00	\$ -	\$ 2,000	\$ 2,000
Two Rivers Coalition	180	\$ 20.00	\$ -	\$ 3,600	\$ 3,600
Van Buren County Drain Commissioner & other committee members	50	\$ 50.00	\$ -	\$ 2,500	\$ 2,500
MSU Water Quality, Environmental, and Molecular Microbiology Lab	18	\$ 500.00	\$ 8,000	\$ 1,000	\$ 9,000
Fishbeck, Thompson, Carr & Huber, Inc.	322	\$ 90.00	\$ 26,680	\$ 2,300	\$ 28,980
<b>CONTRACTUAL SERVICES Subtotal</b>			\$ 34,680	\$ 14,400	\$ 49,080
<b>SUPPLIES, MATERIALS, &amp; EQUIPMENT</b>					
SUPPLIES & MATERIALS (itemize)	QUANTITY	COST			
Sampling supplies (gloves, forms, bottles, pens, clipboards)	1.00	\$ 350.00	\$ 350	\$ -	\$ 350
Meeting materials (room rental, reproduction for handouts)	8.00	\$ 100.00	\$ -	\$ 800	\$ 800
			\$ -	\$ -	\$ -
			\$ -	\$ -	\$ -
<b>SUPPLIES &amp; MATERIALS Subtotal</b>			\$ 350	\$ 800	\$ 1,150
EQUIPMENT	QUANTITY	COST			
				\$ -	\$ -
				\$ -	\$ -
				\$ -	\$ -
			\$ -	\$ -	\$ -
<b>EQUIPMENT Subtotal</b>			\$ -	\$ -	\$ -
<b>SUPPLIES, MATERIALS, &amp; EQUIPMENT Subtotal</b>			\$ 350	\$ 800	\$ 1,150
<b>TRAVEL</b>					
MILEAGE	MILES	RATE			
	1200	\$ 0.510	\$ 450	\$ 162	\$ 612
	NIGHTS	RATE			
LODGING	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
MEALS	0	\$ -	\$ -	\$ -	\$ -
	0	\$ -	\$ -	\$ -	\$ -
OTHER (itemize)	0	\$ -	\$ -	\$ -	\$ -
<b>TRAVEL Subtotal</b>			\$ 450	\$ 162	\$ 612
<b>GRAND TOTALS</b>			\$ 48,680	\$ 16,274	\$ 64,954

Local Match must be at least 25% of project total which is \$ 16,238.50

Michigan Department of Environmental Quality  
Water Bureau

GRANT APPLICATION BUDGET  
(Authorized by 1994 PA 451)

(Completion of this form is required in order to receive grant consideration)

<b>Applicant Name: Southwest Michigan Planning Commission</b> <b>Project Name: Cithof South Haven Water Quality Monitoring Project</b> <b>Proposed Project Dates: July 1, 2011 to June 30, 2013</b>					
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
			GRANT AMOUNT	LOCAL MATCH AMOUNT	TOTAL
<b>SOURCES OF MATCH:</b>	<b>DOLLAR VALUE COMMITTED</b>				
Southwest Michigan Planning Commission	\$ 1,874				
City of South Haven	\$ 3,000				
Pokagon Band of Potawatomi Indian Tribe	\$ 2,000				
Two Rivers Coalition	\$ 3,600				
Van Buren County Drain Commissioner	\$ 2,500				
MSU Water Quality, Environmental, and Molecular Microbiology Lab	\$ 1,000				
Fishbeck, Thompson, Carr & Huber, Inc.	\$ 2,300				
TOTAL MATCH	\$ 16,274				



## INDEPENDENT AUDITOR'S REPORT ON FINANCIAL STATEMENTS

To the Board of Directors of the  
Southwest Michigan Planning Commission

We have audited the accompanying statement of financial position of the Southwest Michigan Planning Commission, as of December 31, 2009, and the related statements of activities, functional expenditures and cash flows for the year then ended. These financial statements are the responsibility of the Southwest Michigan Planning Commission's management. Our responsibility is to express an opinion on these financial statements based on our audit. The prior year summarized comparative information has been derived from the Organization's December 31, 2008 financial statements and, in our report dated October 12, 2009, we expressed an unqualified opinion on those financial statements.

We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion the financial statements referred to above present fairly, in all material respects, the financial position of Southwestern Michigan Planning Commission as of December 31, 2009, and the changes in its net assets and cash flows for the year then ended in conformity with accounting principles generally accepted in the United States of America.

A handwritten signature in cursive script that reads 'Schaffer &amp; Layher'.

Schaffer & Layher, PLLC  
St. Joseph, Michigan  
October 8, 2010

David Schaffer, CPA  
Michael Layher, CPA  
*Founding Partners:*  
Morris McMurray, CPA  
Raymond Marks, CPA  
Jeff Edmunds, CPA

April 1, 2011  
Project No. G110182

Mr. Gary Kohlhepp  
Michigan Department of Environmental Quality  
Water Resources Division  
P.O. Box 30458  
Lansing, MI 48909

Re: Black and Paw Paw River Water Quality Monitoring Project

Dear Mr. Kohlhepp:

Fishbeck, Thompson, Carr & Huber, Inc. (FTC&H) is pleased to send this letter of commitment to assist in monitoring water quality in the Black River and Paw Paw River watersheds. We are looking forward to continuing the efforts in improving water quality in Southwest Michigan.

FTC&H will be actively involved in assisting the Southwest Michigan Planning Commission to facilitate the grant, and provide strategic direction and technical assistance to the development of the Black River and Paw Paw River Water Quality Monitoring Project, including development of the Quality Assurance Project Plan and Geographic Information System mapping.

We look forward to the opportunity of participating in this project. Thank you for your continued support to improve water quality in the Southwest Michigan Watersheds.

If you have any questions or require additional information, please contact me at 616-464-3915 or ewogilvie@ftch.com.

Sincerely,

FISHBECK, THOMPSON, CARR & HUBER, INC.

*E. Wendy Ogilvie*

E. Wendy Ogilvie

lkj

1515 Arboretum Dr., SE  
Grand Rapids, MI  
49546  
ph: 616.575.3824  
fax: 616.575.8155  
www.ftch.com

# **MICHIGAN STATE UNIVERSITY**

April 1, 2011

Mr. Gary Kohlhepp  
Michigan Department of Environmental Quality  
Water Resources Division  
P.O. Box 30458  
Lansing, Michigan 48909

Re: Black and Paw Paw River Water Quality Monitoring Project

Dear Mr. Kohlhepp:

The Water Quality, Environmental, and Molecular Microbiology Laboratory in the Department of Fisheries and Wildlife at Michigan State University is pleased to send this letter of commitment to assist in monitoring the water quality in the Black and Paw Paw River watersheds. This is an important project to identify sources of pollutants that are impacting valued water resources.



**College of  
Agriculture and  
Natural  
Resources**

Department of  
Fisheries and  
Wildlife

13 Natural Resources  
Building  
East Lansing, MI  
48824-1222

517-355-4478  
Fax: 517-432-1699  
[www.fw.msu.edu](http://www.fw.msu.edu)

We are willing to assist the Southwest Michigan Planning Commission in the project by analyzing environmental samples for human- and bovine -specific microbial source tracking DNA markers using routine and quantitative polymerase chain reaction methods.

We are excited about the opportunity to participate in this project.

Sincerely,

A handwritten signature in black ink, appearing to read "Joanna M. Pope", followed by a horizontal line.

Joanna M. Pope, Ph.D.

Post-doctoral Research Associate, Michigan State University

# POKAGON BAND OF POTAWATOMI INDIANS

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## ADMINISTRATIVE CENTER

P.O. Box 180, Dowagiac, MI 49047

Telephone 269-782-8998 / FAX 269-782-6882

Toll Free 800-517-0777

April 1, 2011

Mr. Gary Kohlhepp  
Michigan Department of Environmental Quality  
Water Resources Division  
P.O. Box 30458  
Lansing, Michigan 48909

Re: Black and Paw Paw River Water Quality Monitoring Project

Dear Mr. Kohlhepp:

Pokagon Band Department of Natural Resources (PDNR) is pleased to send this letter of conditional commitment to assist in monitoring the water quality in the Black and Paw Paw River watersheds. We are looking forward to continuing the efforts in improving water quality in Southwest Michigan.

We are actively involved in providing assistance to the development of Watershed Management Plans and water quality projects in this area, and are willing to serve on Committees as needed. The PDNR has a water quality program and will be monitoring several water bodies on the Tribe's properties within the Paw Paw River watershed. Upon our Tribal Council approval, we will dedicate 50hrs of staff time to attend meetings, work groups, and share appropriate water quality data collected by the PDNR.

We in the Department of Natural Resources are excited about this opportunity, and look forward to participating in this project.

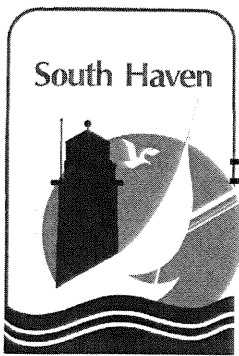
Sincerely,



**Mark H. Parrish**

Director – Department of Natural Resources  
Pokagon Band of Potawatomi Indians  
58620 Sink Rd – Dowagiac, MI 49047  
Ph: 269-782-9602  
Email: [mark.parrish@pokagonband-nsn.gov](mailto:mark.parrish@pokagonband-nsn.gov)

CC: Grant H. Poole – Water Quality Specialist, Environmental Quality Division



# City of South Haven

City Hall • 539 Phoenix Street • South Haven, Michigan 49090-1499  
Telephone (269) 637-0700 • Fax (269) 637-5319

March 31, 2011

Mr. Gary Kohlhepp  
Michigan Department of Environmental Quality  
Water Resources Division  
P.O. Box 30458  
Lansing, Michigan 48909

Re: Black and Paw Paw River Water Quality Monitoring Project

Dear Mr. Kohlhepp:

The City of South Haven is pleased to send this letter of commitment to assist in monitoring water quality in the Black and Paw Paw River watersheds. We are looking forward to continuing efforts of improving water quality in Southwest Michigan.

We are actively involved in providing assistance to the development of Watershed Management Plans and water quality projects, and are willing to serve on Committees as needed. Over the past year, the City has been actively involved in studying an ongoing *E. Coli* issue that has resulted in several beach closures during the peak tourist season. Receipt of grant funds from the Clean Michigan Initiative – Clean Water Fund will allow us to ensure a safe and healthy environment for the citizens and visitors in the South Haven area.

We are excited about the opportunity to participate in this project.

Sincerely,  
**CITY OF SOUTH HAVEN**



Brian Dissette  
City Manager





March 26, 2011

**Board of Directors**

Dave Foerster  
*President*

George L Ewbank  
*Vice-President*

Matt Meersman  
*Treasurer*

Joe Parman  
*Secretary*

Nancy Edwards

Kevin Haight

Thomas Howe

Frank Jurenka

Jean M. Ketchum

Kenneth Nesbitt

Joe Von Wahlde

Southwest Michigan Planning Commission  
185 E. Main Street, Ste 701  
Benton Harbor, MI 49022

**Re: Water Quality Monitoring Project**

The Two Rivers Coalition, Inc. (TRC) is a citizen based group working to protect the health of the Black River and Paw Paw River Watersheds through conservation, education, and advocacy. TRC has been instrumental in ensuring the recommended actions in the watershed management plans for both the Black and Paw Paw River Watersheds continue to be implemented.

We are very concerned with the E. coli issues in both the Black and the Paw Paw River Watersheds and are committed to having representation on the water quality committee for the proposed water quality monitoring project.

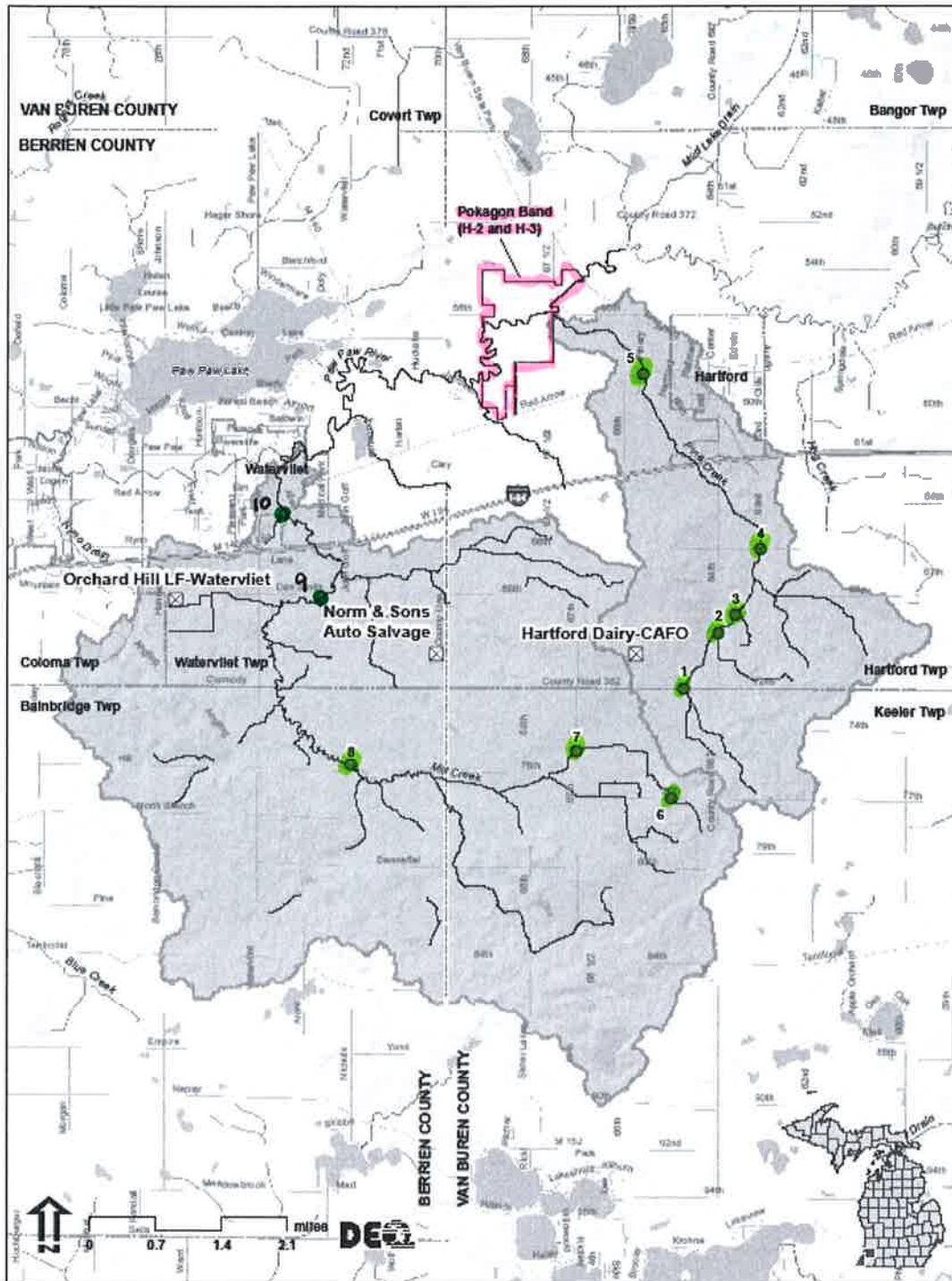
TRC urges MDEQ to fund this worthwhile project. The local economy and our quality of life depend on our water resource being clean and safe; if water quality becomes degraded this essential resource will lose its value. TRC along with the other partners will ensure that this project is successful and that the results of the monitoring will be used to implement the needed best management practices to improve water quality in southwest Michigan.

Sincerely,

Dave Foerster  
President

***Two Rivers Coalition, Inc.***

219 Paw Paw Street, Suite 301, Paw Paw, MI 49079  
[www.TwoRiversCoalition.org](http://www.TwoRiversCoalition.org)



Source: WDEQ-WB, August 2009. TMDL for E. coli for Pine and Mill Creeks, Berrien and Van Buren Counties. Figure 7. NPDES permit locations in the Pine and Mill Creeks watersheds, Berrien and Van Buren Counties, Michigan. (Pokagon Band of Potawatomi Indian Tribe property delineations obtained at <http://www.pokagon.com/environmental.htm>).

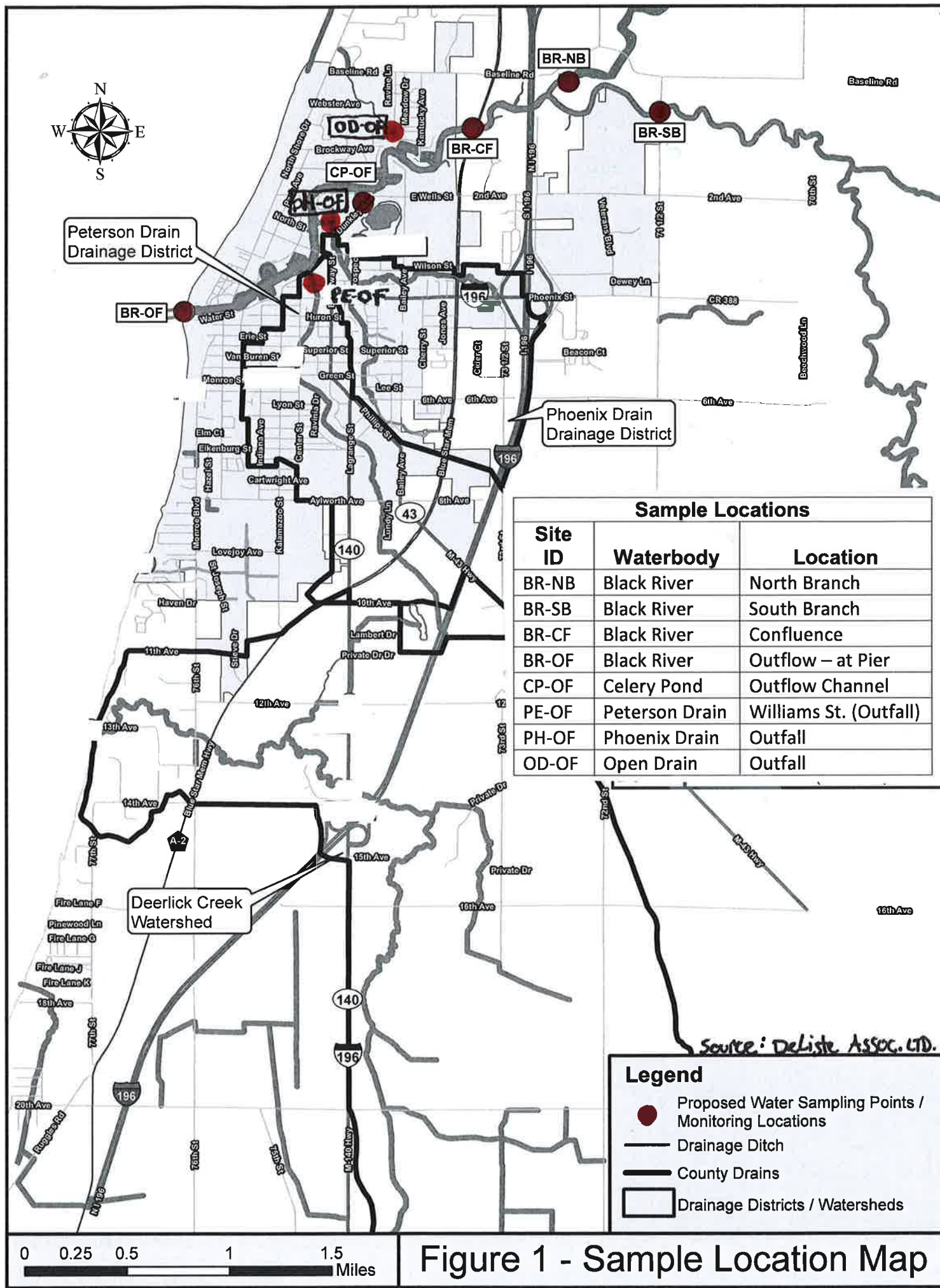


Figure 1 - Sample Location Map