

UPPER RIVER RAISIN RIPARIAN PROTECTION  
PROJECT

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Quality Assurance Project Plan  
Upper River Raisin Riparian Protection Project  
#2010-0022

Susan Lackey, Project Manager 734-302-5263

Julia Kirkwood, DEQ Project Administrator

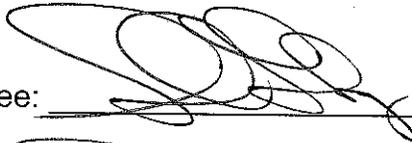
Prepared by: Susan A. Lackey, Executive Director  
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August 30, 2011

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**Signatures:**

For the Grantee:



8/20/11

Susan A. Lackey, Executive Director

Date

Prepared by:

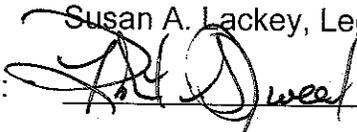


8/30/11

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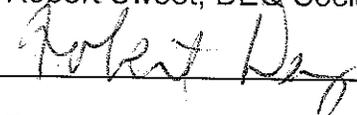


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Robert Sweet, DEQ Social Monitoring Specialist

Date

For the State:



9/16/11

Robert Day, DEQ NPS Unit Chief

Date

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# Project Information and Management

## Overview of the project

### Project Roles and Responsibilities

The table below provides an overview of key persons involved in the project and their respective affiliations: With respect to Legacy Land Conservancy's internal project chain-of-command, Susan Lackey, executive director, will have overall responsibility for the management of the Social Indicators Survey Project. Anna Wadhams will implement the survey, and be responsible for the development of the survey instrument and its distribution, as well as follow up and data entry. Dana Wright will have long term custody of the data and be responsible for its integration into the larger River Raisin Riparian Project.

| Name                     | Project Role                       | Organization   | Project Responsibilities  |
|--------------------------|------------------------------------|--|---|
| Robert Sweet             | State social monitoring specialist | Michigan Department of Environmental Quality   | Review of QAPP, liaison to SIDMA  |
| Julia Kirkwood           | State Project Administrator        | Michigan Department of Environmental Quality   | Grant oversight, contact for overall project  |
| Susan Lackey             | Project Manager                    | Legacy Land Conservancy  | Contact regarding survey administration issues  |
| Anna Wadhams             | Information Coordinator            | Legacy Land Conservancy  | Contact regarding survey administration issues and data quality; data management during project Data entry? |
| Dana Wright              | Data Manager                       | Legacy Land Conservancy  | Data management - long term   |
| River Raisin Partnership | Project Oversight                  | Raisin Valley Land Trust, River Raisin Watershed Council, Lenawee County Soil Conservation District, Legacy Land Conservancy, MDEQ | General oversight and assistance in addressing conflicts and data issues as may arise from time to time.    |

*The information and education goal of the project is:*

- 1) To collect baseline information on the capacity, skills, knowledge, values, beliefs, and behaviors of targeted landowners with regard to watershed issues.
- 2) To develop landowner information meetings and other targeted materials to the interests of targeted landowners.
- 3) To develop stewardship workshops that address the interests of targeted landowners.

## **Purpose of the Study**

The social data collected for this project is intended to develop indicators to serve both as short term measures to evaluate the effectiveness of educational programs developed under this project, and to assist in developing effective outreach and education programs that will move targeted landowners toward enhanced stewardship and permanent land protection.

## **Problem Definition and Rationale**

The River Raisin Riparian Implementation Project is one of the first active attempts to implement the recently approved River Raisin Watershed Plan. The purpose of this program is to protect important lands that influence the quality of this relatively clean portion of the river, and ensure that it does not slide into deterioration. A second component of the project is stewardship education, aimed at large landowners in the targeted watersheds. This component acknowledges that land protection without stewardship will not yield the desired results, and that in many instances a commitment to land protections begins with active landowner stewardship and an understanding of the importance of their land.

The social indicators survey will provide the project team with reliable information on the current state of knowledge and opinion in targeted landowners. The follow up survey will serve as an indicator of whether educational techniques have changed opinion and improved knowledge of the watershed and the importance of landowner actions to water quality.

Data collection will be for socio-behavioral information. Non-Point Source (NPS) projects involve the interaction of humans with their natural environment. Developing appropriate programs to change and improve this interaction requires an understanding of the attitudes and behaviors of important, targeted audiences. Evaluating the effectiveness of these programs requires a baseline of information and tracking of attitudinal

NPS problems are, by their very definition and nature, difficult to remediate rapidly. Human behavior changes slowly, and even when new practices are adopted, may take some time to show up in measurably improved water quality. Measuring the change in people's attitudes, as well as their behaviors and openness to new behaviors, can provide a proxy for the eventual changes that will take place as a result of these actions.

This process is exacerbated in projects such as the Upper Raisin Riparian Protection Project. In the first instance, the project focuses on *preventing* non-point pollution caused by land fragmentation, as well as encouraging improved practices that will alleviate existing sources of pollution. In the second instance, the very act of permanent land protection itself often takes a number of years to come to fruition, causing its own latency challenges.

The use of social indicators to measure near term changes in attitude and action provide water quality managers with two useful sets of data: First, the pre-implementation data can help

managers develop programs that address the identified challenges in a way that resonates with the targeted landowners. Second, this pre-implementation data provides a benchmark from which to evaluate the success of these programs in changing attitudes and behaviors -- changes that should ultimately result in the desired water quality benefits.

## Project Task Description

Below is a breakdown of major tasks for the project.

| Benchmarks                      | Task description  | Start date | Completion |
|---------------------------------|---|------------|------------|
| Assemble information for survey | Identify target landowners and obtain addresses   | 3/1/11     | 5/1/11     |
| Develop questionnaire           | Work with MDEQ/SIDMA to develop questionnaire   | 7/1/11     | 8/30/11    |
| Pre-intervention survey         | Distribute the survey to targeted landowners (include necessary practices to ensure adequate response rate) | 8/30/11    | 10/30/11   |
| Data return and recording       | Enter returned survey data into SIDMA   | 8/30/11    | 10/30/11   |
| Data analysis                   | Review results and develop recommendations based on same  | 11/1/11    | 11/30/11   |
| Post-intervention survey        | Distribute survey to targeted landowners  | 4/1/2013   | 6/30/2013  |
| Data Analysis                   | Review results and evaluate program effectiveness; adopt changes for ongoing implementation                 | 7/1/2013   | 9/30/2013  |
| Reporting                       | Data summary and analysis will be incorporated into the final project report                                | 9/30/13    | 10/30/13   |

## Quality Objectives

Data quality for this project should be sufficient to inform the planning, development, and amendment of information and education efforts for reducing non point source pollution. Quality objectives are listed below:

- Questionnaire is easily completed by users.
- Data provide valid identification of issues of concerns and attitudes of an appropriate targeted audience;
- Returned questionnaires are recorded, free of substantial errors;
- Data is compatible with similar projects for wider, regional applications and analysis;
- Survey is replicable fully or in part, for a post-intervention follow up survey.
- Analytical methods are appropriate for the type of data and provide information that contributes to progress on project goals.

## ***Special Training***

This project will use the SIDMA system. Legacy staff will receive appropriate training through MDEQ and other SIDMA resources in order to adequately take advantage of the system and its tools.

Susan Lackey has previously received training from the University of Wisconsin Extension in the principles of conducting survey research, and has conducted numerous community surveys for various planning projects.

Anna Wadhams has been employed as a watershed educator, and in that role has extensive experience in program evaluation.

The Legacy team also has the advisory support of Robert Marans, PhD, who for many years has been affiliated with the University of Michigan's Institute for Social Research.

## **Study Design and Analysis**

### ***Questions the study will answer***

The data collected for this project is intended to provide both an intermediate measure for the purpose of performance review, and information to assist in developing outreach strategies for both workshops and land protection information. The data obtained from this survey will help identify levels of awareness, attitudes toward stewardship and land protection, particularly as these items relate to non-point source pollution and the River Raisin watershed.

Topics considered will include:

- Connections between storm water and pollution
- The community's level of concern about pollution
- Individual practices that contribute to non point pollution
- Individual characteristics and barriers to behavior change
- Understanding of the role between stewardship and water quality
- Interest in and attitudes toward permanent land protection

Questions have been designed to provide information that can be used to measure the following:

- Increased awareness of relevant recommended practices in critical areas;
- Changed attitudes to facilitate desired behavior change in critical area;
- Increased capacity to leverage resources in critical areas;
- Increased capacity to support appropriate practices in critical areas;
- Increased adoption of practices to maintain or improve water quality in critical areas;
- Increase knowledge of and commitment to permanent land protection;
- Increase efficiency and effectiveness in delivery of information to the public.

### ***Study design***

As mentioned, this project will be using the Social Indicator Planning and Evaluation System (SIPES) for nonpoint source management. SIPES uses a pre-post research design, looking for changes in the data between the two different time periods encompassing the implementation project. This project will use the pre-data collected to develop a strategy for communicating with targeted landowners, and to develop workshops and other means of communicating with landowners in a manner that addresses their concerns and interests. Post-data will be used to evaluate the success of educational activities undertaken during the course of the grant, and to guide future, ongoing, activities in the watershed.

### **Sampling method and number of samples**

This project will survey a sample of the approximately 750 targeted landowners in the project area before and after outreach efforts are implemented. The sample size will be 627 landowners, randomly selected from among the 750 targeted landowners.

The targeted landowners have been identified through a GIS process identifying critical factors for watershed protection. Names and addresses have been obtained through parcel information from county equalization offices and similar sources. This information is currently available in Legacy Land Conservancy offices.

The critical factors are as follows:

- All parcels are located within the targeted Upper River Raisin watershed area.
- Parcels are either adjacent to or contain rivers, lakes or wetlands.
- All parcels are greater than 20 acres.
- At least 50% of the property is categorized as 'high priority' based on the presence of pre-settlement vegetation.
- Property adjacent to already protected lands.

## Sample period and method of implementation

The first survey will be distributed in late summer 2011 and the second survey will be distributed after completion of the outreach efforts in the spring of 2013.

The survey process will be a modified five-wave mailing. The instrument will be a mailed questionnaire, although follow-up after the second survey mailing may occur by phone. Respondents will also be given the option to complete the survey on-line through SIDMA. Identification numbers included in the mailed survey packet will be required to access SIDMA and will be cross referenced with returned mail surveys to ensure that duplication does not occur.

The survey will be administered using the following steps:

- Step 1: Send an initial postcard to notify the homeowner that they will be receiving a survey and that it is important they complete and return it.
  - Returned letters will be dropped and replaced on the master list of recipients.
- Step 2: One to two weeks after the introduction letter is mailed the survey itself will be delivered along with an accompanying letter and pre-paid return envelope.
- Step 3: One to two weeks after the survey is delivered, a reminder post card explaining the importance of filling out the survey will be sent.
  - Three to four weeks after the survey was sent out a second survey will be mailed out.
  - A final remainder letter will be mailed out a week to two weeks after the second survey is delivered. Respondents that return surveys or take them online will have their names removed from the follow-up list and will not be contacted again.

Phone calls will be made to recipients only if a 40% or better response rate is not received. Note: Legacy Land Conservancy will forward all survey related correspondence, including the survey itself, postcards and letters, to the State Social Monitoring Specialist for approval prior to distribution. This flexibility will provide the survey team with the ability to adapt to new information as it becomes available, and thereby ensure the greatest likelihood of response.

All survey responses will be anonymous and confidential. Each targeted landowner will be assigned a unique identifier. Survey responses will be tied back to the identifier ONLY. The original list will be maintained on a password protected portion of the Legacy Land Conservancies computer server system, accessible only to key staff members. All staff will be given specific directions regarding the confidentiality of information and identification of respondents, and this information will not be shared with any other advisors or committee members.

## ***How data will be analyzed and interpreted***

The SIDMA report presents the frequency of the results and the averages for each survey question. The report also produces calculated scores for the social indicators. Average values for each question provide a quick and easy way to understand how respondents answered each question. The SIDMA report provides an idea of the overall strengths and weaknesses of the watershed. Are people familiar with the practices you are hoping to have installed? Does the population as a whole understand the sources and consequences of the pollutants of concern? These are the sorts of questions answered by frequency and average data.

While the averages will help identify characteristics that may facilitate or impede practice adoption for your watershed, it may miss important trends that can help focus future efforts. The SIDMA report will also help to find important relationships in the survey results.

The first analysis of the survey results is based on practice adoption. SIDMA examines the results for those who have already adopted a given practice. The analysis will help identify the key traits of respondents who overcame barriers to practice adoption. Next SIDMA compares those who have adopted a practice to those who are willing to adopt (wta) a practice, those who will consider adoption (maybe) and respondents not willing to adopt a practice (Nwta). Again, SIDMA will present the relationships that appear important based on the survey results. Since this part of the analysis compares different stages of adoption (adopted, wta, maybe, & nwta) it answers different questions. Is there an identifiable group that is more likely to adopt a given practice (such as farmers with more acreage)? Do those who have already adopted a riparian buffer believe financial assistance is more or less important than those who have not adopted one already? By comparing these different groups a picture of which factors are most likely to lead to adoption will be better understood.

Additionally, SIDMA reports Pearson's Chi-square tests to look at relationships between two different variables. Briefly, this test examines if one variable exerts an influence on another variable. For example, are larger farms more or less concerned about practice cost than smaller farms? Are longer-term residents more or less knowledgeable about a practice of interest? Pearson's chi-square test can help us answer these types of questions. This will be done automatically. The SIDMA report will present the relationships SIDMA flagged as potentially important.

The pre-project survey results will be used to establish social outcomes. SIDMA broadly defines **Social Outcomes** as *the social changes needed to bring about and sustain the environmental conditions you are trying to achieve in your project area*. These outcomes will address the changes in awareness, attitudes, capacity, constraints, and behaviors that will help achieve the project's environmental goals and management objectives. These social changes are outcomes

that project activities hope to achieve and will guide both current and future implementation activities conducted by the project partners in the Upper River Raisin watershed.

Additionally, the comparison of the pre-and-post surveys will provide valuable guidance to the partners, both in evaluating the success of the initial project, and in providing guidance for future activities in the project area.

## **Project Data**

### **Overview**

#### **Key Resources for Data Development**

The primary resource for the project is The Social Indicator Planning and Evaluation System (SIPES) for Nonpoint Source Management: A Handbook for Projects in the USEPA Region 5 and the Social Indicators Data Management and Analysis (SIDMA) on-line tool. The regional team that developed the SIPES will also provide support for pilot projects.

Further, the state NPS program has agreed to support this project's effort with social indicators development in the following ways:

- Ensure that data is collected using the SIPES protocols (see data quality).
- Consider long-term monitoring approaches for tracking social indicator data.

#### **Validity and Acceptance of Data**

For the purposes of this study, data will be valid and acceptable if it is deemed to meet the quality objectives outlined in the Project Information section. This determination will be made by Legacy Land Conservancy based on checks to the data described in the Data Quality section. For many of the objectives, it will be a qualitative assessment based on tests and feedback from described processes.

#### **Data Generation and Acquisition**

##### **Sampling versus Census**

Based on an approximate target landowner population of approximately 750 properties a sample size of 627 is necessary for a 95% confidence level and +/-5% margin of error, based on recommendations included in the Social Indicators handbook. With the "five wave" methodology suggested for SIDMA a target return rate of 40%, or 254 responses, is expected.

##### **Bias and Representation**

A sample method is being used and there are concerns with representation that the project will need to address. Concerns include under coverage of certain members of the population, nonresponse bias, and voluntary response bias. For example, what if the survey method used systematically biases a higher response rate for a particular group within the population? Clearly,

when surveying a sub-population, it is important to get as many people to respond as possible without biasing a certain segment. The project will ensure maximum survey response through five waves of the mail, the option to complete the survey on-line and if need be through phone contact. Non-response bias is assessed by local staff, familiar with the demographics of the area. Answers will be screened by the River Raisin Partnership to determine if any subgroups have been over represented by the voluntary participants.

While these biases are inherent in any survey of this nature, the landowners represented in this survey are quite homogeneous and voluntary response bias should be limited.

## ***Data Quality***

### **Performance criteria for information and data sensitivity**

#### ***Questionnaire and Indicators***

This project will be using the Social Indicator Planning and Evaluation System (SIPES) for nonpoint source management. As such, the survey instrument that is part of the system is designed to measure awareness, attitudes, and behaviors related to water quality in general, and non point source water quality issues in particular. Because the questions and indicators are generally prescribed by the SIPES system, no additional testing of questions will be completed. However, the actual survey instrument will be tested with representatives of the target landowner area to ensure that it is comprehensible, and of an appropriate length. These representatives will be individuals known to Legacy Land Conservancy and other team members, and recruited specifically for the purpose of testing the instrument.. As such, neither confidentiality nor anonymity can be assured, and these surveys will NOT be part of the pre-survey data set.

#### ***Data Recording, Compatibility, and Analysis***

To ensure that returned questionnaires recorded are free of substantial errors, SIDMA has checks built into the system. These are outlined in the Quality Control Section below. Data aggregation was a key concern in development of the SIPES. Using the SIPES protocols, instruments, and tools generates data that is both comparable to previous data collected for the project, but also other projects in the state and in the region. This is achieved through using the SIPES handbook, which provides consistent steps for projects to follow, and the SIDMA tool, which provides a means for developing a uniform instrument for data collection and consistency in data handling. For analysis of the data, SIDMA generates a comparison of pre and post scores for all of the survey questions and all of the indicators

## Quality Control - Data Review, Verification, and Validation

### **Criteria**

Again, given the type of data that will be collected, questionable and/or outlier data will be examined and rejected or validated through review. Legacy Land Conservancy staff will make this determination, with input from the balance of the River Raisin Partnership. Unresolved or highly technical issues will be discussed with Legacy volunteers who are emeritus faculty at the University of Michigan Institute of Social Research.

### **Quality control process and correction procedures**

The questionnaire that will be used for collecting social data for this project is part of the SIPES. SIPES has included reverse-coded questions to check for *user* errors. Also, surveys returned will be manually checked for outliers and questionable data. When a check on the reverse-coded items on returned questionnaires reveals flawed survey responses or unreasonable responses (outliers), then that survey will be removed from the calculations and analysis.

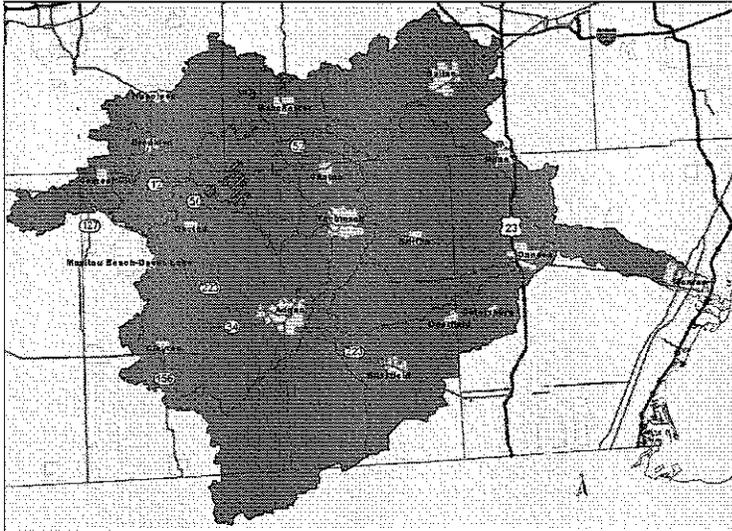
Not all surveys will be clearly 'flawed' or 'acceptable.' Like Florida ballots, some will have stray marks or marks that fall between two answers. In evaluating these surveys, staff will use their best judgment as to the intention of the respondent. If that intention cannot be gleaned, the question will not be counted. Every attempt will be made to utilize each survey returned. However, if more than 25% of the questions are unanswered or indiscernible, the survey will be discarded.

To ensure minimum data *entry* errors, the Social Indicators Data Management and Analysis (SIDMA) includes data cleaning features. Since accurate data entry is essential to ensuring good data analysis, SIDMA will prompt users if it detects errors during data entry. It also includes a verification function. For every ten surveys entered, SIDMA will randomly select one for data verification. This survey data will be re-entered. If there is greater than a 1% difference between the two surveys then all ten will be flagged for further checking, and if not, all will be considered quality checked.

Significant issues with user-errors or outliers will be reported to Susan Lackey, Project Manager. This may present problems with the usability of the data, and will be determined on a case-by-case basis. Also, issues with low response rates that do not respond to techniques to increase audience response identified in the SIDMA handbook will need to be assessed individually

# Upper River Raisin Riparian Protection Survey

Prepared and Distributed by the River Raisin Partnership



# Upper River Raisin Riparian Protection Survey

## Rating of Water Quality

Overall, how would you rate the quality of the water in your area?

|  | Poor                  | Okay                  | Good                  | Don't Know            |
|--|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. For canoeing / kayaking / other boating | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. For eating locally caught fish          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. For swimming                            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4. For picnicking and family activities    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5. For fish habitat                        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 6. For scenic beauty                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

## Your Water Resources

1. Of these activities, which is the most important to you?

- For canoeing / kayaking / other boating
- For eating locally caught fish
- For swimming
- For picnicking and family activities
- For fish habitat
- For scenic beauty

2. Do you know where the rain water goes when it runs off of your property?

- No
- Yes

3. If you answered 'Yes' above, where does your rain water drain to?

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## Your Opinions

Please indicate your level of agreement or disagreement with the statements below.

|   | Strongly Disagree     | Disagree              | Neither Agree nor Disagree | Agree                 | Strongly Agree        |
|---|-----------------------|-----------------------|----------------------------|-----------------------|-----------------------|
| 1. The way that I care for my lawn and yard can influence water quality in local streams and lakes. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>      | <input type="radio"/> | <input type="radio"/> |
| 2. Using recommended management practices on farms improves water quality.                          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>      | <input type="radio"/> | <input type="radio"/> |
| 3. It is my personal responsibility to help protect water quality.                                  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>      | <input type="radio"/> | <input type="radio"/> |
| 4. It is important to protect water quality even if it slows economic development.                  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>      | <input type="radio"/> | <input type="radio"/> |
| 5. My actions have an impact on water quality.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>      | <input type="radio"/> | <input type="radio"/> |

# Upper River Raisin Riparian Protection Survey

|  | Strongly Disagree     | Disagree              | Neither Agree nor Disagree | Agree                 | Strongly Agree        |
|--|-----------------------|-----------------------|----------------------------|-----------------------|-----------------------|
| 6. I would be willing to pay more to improve water quality (for example: though local taxes or fees.     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>      | <input type="radio"/> | <input type="radio"/> |
| 7. I would be willing to change the way I care for my lawn and yard to improve water quality.            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>      | <input type="radio"/> | <input type="radio"/> |
| 8. I would be willing to change management practices to improve water quality.                           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>      | <input type="radio"/> | <input type="radio"/> |
| 9. The quality of life in my community depends on good water quality in local streams, rivers and lakes. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>      | <input type="radio"/> | <input type="radio"/> |

## Water Impairments

Below is a list of water pollutants and conditions that are generally present in water bodies to some extent. The pollutants and conditions become a problem when present in excessive amounts. In your opinion, how much of a problem are the following water impairments in your area?

|  | Not a Problem         | Slight Problem        | Moderate Problem      | Severe Problem        | Don't Know            |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. Sedimentation (dirt and soil) in the water                    | <input type="radio"/> |
| 2. Nitrogen  | <input type="radio"/> |
| 3. Phosphorus  | <input type="radio"/> |
| 4. Bacteria and viruses in the water (such as E.coli / coliform) | <input type="radio"/> |
| 5. Oil and grease.   | <input type="radio"/> |
| 6. Ammonia   | <input type="radio"/> |
| 7. Atrazine  | <input type="radio"/> |
| 8. Invasive aquatic plants and animals                           | <input type="radio"/> |
| 9. Flow Alteration   | <input type="radio"/> |
| 10. Habitat alteration harming local fish                        | <input type="radio"/> |

## Sources of Water Pollution

The items listed below are sources of water quality pollution across the country. In your opinion, how much of a problem are the following sources in your area?

|  | Not a Problem         | Slight Problem        | Moderate Problem      | Severe Problem        | Don't Know            |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. Soil erosion from farm fields                   | <input type="radio"/> |
| 2. Soil erosion from shorelines and/or streambanks | <input type="radio"/> |
| 3. Phosphorus                                      | <input type="radio"/> |

# Upper River Raisin Riparian Protection Survey

|  | Not a Problem         | Slight Problem        | Moderate Problem      | Severe Problem        | Don't Know            |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 4. Manure from farm animals                              | <input type="radio"/> |
| 5. Droppings from geese, ducks and other waterfowl       | <input type="radio"/> |
| 6. Grazing-related sources                               | <input type="radio"/> |
| 7. Timber harvesting/residue management                  | <input type="radio"/> |
| 8. Land development or redevelopment                     | <input type="radio"/> |
| 9. Channelization of streams                             | <input type="radio"/> |
| 10. Upstream impoundment of water                        | <input type="radio"/> |
| 11. Removal of riparian vegetation                       | <input type="radio"/> |
| 12. Streambank or shoreline modification/destabilization | <input type="radio"/> |
| 13. Drainage/filling of wetlands                         | <input type="radio"/> |
| 14. Outputs from marinas and/or recreational boats       | <input type="radio"/> |
| 15. Wildlife   | <input type="radio"/> |

## Consequences of Poor Water Quality

Poor water quality can lead to a variety of consequences for communities. In your opinion, how much of a problem are the following issues in your area?

|   | Not a Problem         | Slight Problem        | Moderate Problem      | Severe Problem        | Don't Know            |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. Contaminated drinking water                | <input type="radio"/> |
| 2. Polluted swimming areas                    | <input type="radio"/> |
| 3. Contaminated fish                          | <input type="radio"/> |
| 4. Loss of desirable fish species             | <input type="radio"/> |
| 5. Reduced beauty of lakes or streams         | <input type="radio"/> |
| 6. Reduced opportunities for water recreation | <input type="radio"/> |
| 7. Excessive aquatic plants or algae          | <input type="radio"/> |
| 8. Lower property values                      | <input type="radio"/> |

## Practices to Improve Water Quality

Please indicate which statement most accurately describes your level of experience with each practice listed below.

|                              | Not relevant for my property | Never heard of with it | Somewhat familiar not using it | Know how to use it;   | Currently use it      |
|------------------------------|------------------------------|------------------------|--------------------------------|-----------------------|-----------------------|
| 1. Create wetland            | <input type="radio"/>        | <input type="radio"/>  | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> |
| 2. Restore natural channel   | <input type="radio"/>        | <input type="radio"/>  | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> |
| 3. Stabilize natural channel | <input type="radio"/>        | <input type="radio"/>  | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> |

# Upper River Raisin Riparian Protection Survey

|   | Not relevant for my property | Never heard of with it | Somewhat familiar not using it | Know how to use it;   | Currently use it      |
|---|------------------------------|------------------------|--------------------------------|-----------------------|-----------------------|
| 4. Protect streambanks and/or shorelines with vegetation              | <input type="radio"/>        | <input type="radio"/>  | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> |
| 5. Conservation Tillage, including no-till, strip-till and ridge till | <input type="radio"/>        | <input type="radio"/>  | <input type="radio"/>          | <input type="radio"/> | <input type="radio"/> |

## Specific Constraints of Practices

Forest Management Plan: A plan describing methods for timber management, harvest and culture that also protects wildlife habitat, watersheds, aesthetics and endangered and threatened plant and animal species.

1. How familiar are you with this practice?

- Not relevant
- Never heard of it
- Somewhat familiar with it
- Know how to use it; not using it
- Currently use it

2. If the practice is not relevant, please explain why.

3. Are you willing to try this practice?

- Yes or already do
- Maybe
- No

How much do the following factors limit your ability to implement this practice?

|  | Not at all            | A little              | Some                  | A lot                 | Don't Know            |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 4. Don't know how to do it                       | <input type="radio"/> |
| 5. Time required                                 | <input type="radio"/> |
| 6. Cost  | <input type="radio"/> |
| 7. The features of my property make it difficult | <input type="radio"/> |
| 8. Insufficient proof of water quality benefit   | <input type="radio"/> |
| 9. Desire to keep things the way they are        | <input type="radio"/> |
| 10. Physical or health limitations               | <input type="radio"/> |
| 11. Hard to use with my farming system           | <input type="radio"/> |
| 12. Lack of equipment                            | <input type="radio"/> |

# Upper River Raisin Riparian Protection Survey

**Wetlands Restoration/Enhancement:** Reestablishing or improving a low-lying area of land that is saturated with moisture especially when regarded as the natural habitat of wildlife.

13. How familiar are you with this practice?

- Not relevant
- Never heard of it
- Somewhat familiar with it
- Know how to use it; not using it
- Currently use it

14. If the practice is not relevant, please explain why.

15. Are you willing to try this practice?

- Yes or already do
- Maybe
- No

How much do the following factors limit your ability to implement this practice?

|   | Not at all            | A little              | Some                  | A lot                 | Don't Know            |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 16. Don't know how to do it                       | <input type="radio"/> |
| 17. Time required                                 | <input type="radio"/> |
| 18. Cost  | <input type="radio"/> |
| 19. The features of my property make it difficult | <input type="radio"/> |
| 20. Insufficient proof of water quality benefit   | <input type="radio"/> |
| 21. Desire to keep things the way they are        | <input type="radio"/> |
| 22. Physical or health limitations                | <input type="radio"/> |
| 23. Hard to use with my farming system            | <input type="radio"/> |
| 24. Lack of equipment                             | <input type="radio"/> |

**Declining Habitat Restoration/Management:** Restoring a rare or declining habitat by establishing plants native to the ecosystem, keeping out invasive species and maintaining ecological benefits

25. How familiar are you with this practice?

- Not relevant
- Never heard of it
- Somewhat familiar with it
- Know how to use it; not using it
- Currently use it

# Upper River Raisin Riparian Protection Survey

26. If the practice is not relevant, please explain why.

27. Are you willing to try this practice?

- Yes or already do
- Maybe
- No

How much do the following factors limit your ability to implement this practice?

|   | Not at all            | A little              | Some                  | A lot                 | Don't Know            |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 28. Don't know how to do it                       | <input type="radio"/> |
| 29. Time required                                 | <input type="radio"/> |
| 30. Cost  | <input type="radio"/> |
| 31. The features of my property make it difficult | <input type="radio"/> |
| 32. Insufficient proof of water quality benefit   | <input type="radio"/> |
| 33. Desire to keep things the way they are        | <input type="radio"/> |
| 34. Physical or health limitations                | <input type="radio"/> |
| 35. Hard to use with my farming system            | <input type="radio"/> |
| 36. Lack of equipment                             | <input type="radio"/> |

## Making Decisions for my Property

In general, how much does each issue limit your ability to change your agricultural management practices?

|  | Not at all            | A little              | Some                  | A lot                 | Don't Know            |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. Personal out-of-pocket expense  | <input type="radio"/> |
| 2. Lack of government funds for cost share   | <input type="radio"/> |
| 3. My own physical abilities   | <input type="radio"/> |
| 4. Not having access to the equipment that I need  | <input type="radio"/> |
| 5. Lack of available information about a practice  | <input type="radio"/> |
| 6. No one else I know is implementing the practice   | <input type="radio"/> |
| 7. Concerns about reduced yields   | <input type="radio"/> |
| 8. Approval of my neighbors  | <input type="radio"/> |
| 9. Don't want to participate in government programs  | <input type="radio"/> |
| 10. Requirements or restrictions of government programs  | <input type="radio"/> |
| 11. Possible interference with my flexibility to change land use practices as conditions warrant | <input type="radio"/> |
| 12. Don't know where to get information and/or assistance about those practices                  | <input type="radio"/> |

# Upper River Raisin Riparian Protection Survey

|   | Not at all            | A little              | Some                  | A lot                 | Don't Know            |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 13. Environmental damage caused by practice                               | <input type="radio"/> |
| 14. Legal restrictions on my property                                     | <input type="radio"/> |
| 15. I do not own the property   | <input type="radio"/> |
| 16. Concerns about resale value   | <input type="radio"/> |
| 17. Not being able to see a demonstration of the practice before I decide | <input type="radio"/> |
| 18. The need to learn new skills or techniques                            | <input type="radio"/> |

## About Your Farm Operation

1. Please select the option that best describes who generally makes management decisions for your operation.

- Me alone or with my spouse
- Me with my family partners (siblings, parents, children)
- Me with the landowner
- Me with the tenant
- Me and my business partner
- Someone else makes the decision for the operation
- Other

2. Please estimate the total tillable acreage (owned and/or rented) of your farming operation this year.

3. This year, how many acres of corn do you manage? If none, please enter a zero. \_\_\_\_\_

4. This year, how many acres of soybeans do you manage? If none, please enter a zero. \_\_\_\_\_

5. This year, how many acres of pasture do you manage? If none, please enter a zero. \_\_\_\_\_

6. This year, how many acres of conservation set aside / CRP do you manage? If none, please enter a zero.

7. This year, how many acres of forest / woodland do you manage? If none, please enter a zero.

8. This year, how many acres of other crops do you manage? If none, please enter a zero. \_\_\_\_\_

9. If you provided acreages of "other" crops above, please specify what crops those acres represent:

10. How many years have you been farming? (Please enter years) \_\_\_\_\_

11. How many dairy cattle, including heifers and young stock, are part of your farming operation? If none, please enter a zero. \_\_\_\_\_

12. How many beef cattle, including young stock, are part of your farming operation? If none, please enter a zero. \_\_\_\_\_

# Upper River Raisin Riparian Protection Survey

13. How many hogs are part of your farming operation? If none, please enter a zero. \_\_\_\_\_

14. Does the property you manage touch a stream, river, lake, or wetland?

- Yes
- No

## Attitudes About Conservation

**Stewardship (Caring for and Improving Your Land) is an Important Element in Ensuring Water Quality. Please Check the Statements That Best Reflect Your Opinions About Stewardship**

- I need more education in order to be confident about caring for my land
- I would like to do more stewardship, but require financial assistance
- Mother Nature will determine what happens on my land, regardless of what I do

**Please Indicate Your Level of Awareness of the Following Stewardship Organizations Working in the River Raisin Area:**

|   | Not at all            | A little              | Some                  | A lot                 |
|---|-----------------------|-----------------------|-----------------------|-----------------------|
| Stewardship Network   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Natural Resource Conservation Service   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Jackson/Lenawee/Washtenaw Conservation District<br>(please circle all that apply) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

**Please Check the Statement(s) that best reflect your opinions about land conservation:**

- I would like to ensure my land is permanently protected for future generations
- I would consider temporarily protecting my land
- I would be interested in protecting my land if I were paid for its protection
- I would be interested in protecting my land if it didn't interfere with my agricultural use of my land

**Please Indicate Your Level of Awareness of the Following Stewardship Organizations Working in the River Raisin Area:**

|                                       | Not Aware             | Somewhat Aware        | Very Aware            | Not Sure              |
|---------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Legacy Land Conservancy               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Raisin Valley Land Trust              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| The Nature Conservancy                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Washtenaw County Parks and Recreation | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

# Upper River Raisin Riparian Protection Survey

## About You

1. Do you make the home and lawn care decisions in your household?
  - Yes
  - No
2. What is your gender?
  - Male
  - Female
3. What is your age?
4. What is the highest grade in school you have completed?
  - Some formal schooling
  - High school diploma/GED
  - Some college
  - 2 year college degree
  - 4 year college degree
  - Post-graduate degree
5. What is the approximate size of your residential lot?
  - 1/4 acre or less
  - More than 1/4 acre but less than 1 acre
  - 1 acre to less than 5 acres
  - 5 acres or more
6. Do you own or rent your home?
  - Own
  - Rent
7. How long have you lived at your current residence (years)? \_\_\_\_\_
8. Which of the following best describes where you live?
  - In a town, village, or city
  - In an isolated, rural, non-farm residence
  - Rural subdivision or development
  - On a farm
9. In addition to your residence, which of the following do you own or manage? (Check all that apply)
  - An agricultural operation
  - Forested land
  - Rural recreational property
  - None of these
10. Do you use a professional lawn care service?
  - Yes, just for mowing
  - Yes, for mowing and fertilizing
  - Yes, for mowing, fertilizing, and pest control
  - No

# Upper River Raisin Riparian Protection Survey

11. Where are you likely to seek information about soil and water conservation issues?

(Check all that apply)

- Newsletters/brochure/factsheet
- Internet
- Radio

If yes, please specify station(s): \_\_\_\_\_

- Workshops/demonstrations/meetings
- Conversations with others
- Trade publications/magazines
- None of the above

12. Do you regularly read a local newspaper?

- Yes
- No

13. If you regularly read a local newspaper, please list the name

## Information Sources

People get information about water quality from a number of different sources. To what extent do you trust those listed below as a source of information about soil and water?

|   | Not At all               | Slightly                 | Moderately               | Very Much                | Am not familiar          |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. Environmental groups                                     | <input type="checkbox"/> |
| 2. Farm Bureau  | <input type="checkbox"/> |
| 3. Fertilizer representatives                               | <input type="checkbox"/> |
| 4. Crop consultants   | <input type="checkbox"/> |
| 5. Other landowners / friends                               | <input type="checkbox"/> |
| 6. River Raisin Watershed Council                           | <input type="checkbox"/> |
| 7. Michigan State University Extension                      | <input type="checkbox"/> |
| 8. Michigan Department of Agriculture and Rural Development | <input type="checkbox"/> |
| 9. Michigan Department of Environmental Quality             | <input type="checkbox"/> |
| 10. Jackson County Conservation District                    | <input type="checkbox"/> |
| 11. Lenawee County Conservation District                    | <input type="checkbox"/> |
| 12. Washtenaw County Conservation District                  | <input type="checkbox"/> |

13. If you receive water quality information from environmental groups, please list these groups below

# Upper River Raisin Riparian Protection Survey

14. If you receive water quality information from other sources, please specify

## Thank You

1. Please use the space below for any additional comments about this survey or water resources in your community.

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**Social Survey QAPP Review Sheet**

Reviewed By: R. Sweet



9/16/2011

| Review Criteria  | Page(s)           | Comment   |
|--|-------------------|---|
| <b>1. Title and Signature Page</b>   |                   |   |
| a. Survey Name<br>b. Project Name and Tracking Code Number<br>c. Grantee Organization Name<br>d. Survey Author and Organization<br>e. Date and/or version number<br>f. Signature Block -<br>i. Prepared by:<br>ii. For the Grantee:<br>iii. Reviewed by:<br>iv. For the State: | Title             | All required information is included  |
| <b>2. Table of Contents</b>  |                   |   |
| Section headings with page numbers   | 2                 | "Study Design" is on page 8, not 7 as indicated   |
| <b>3. Distribution List</b>  |                   |   |
| Individuals and organizations that will receive copies of the final QAPP and any updates   | 3                 |   |
| <b>4. Responsibilities and Organization</b>  |                   |   |
| a. Table for quick reference including names and contact information (phone numbers/email addresses) and brief statement of responsibilities for each key individual   | 4                 |   |
| b. Identify individuals and organizations, along with their specific responsibilities  | 4                 | Narrative at top of page and table  |
| c. Brief description of the project organization and work flow   | 4                 | Narrative at top of page 4 is summary, details as appropriate in later sections                           |
| d. Optional - Project Organizational Chart showing lines of authority and reporting responsibilities   | NA                |   |
| <b>5. Problem definition and background</b>  |                   |   |
| a. Brief description of the overall project the social monitoring is supporting  | 5                 | First paragraph of Problem Definition   |
| b. Brief statement of any other pertinent background information or history  | various           | additional information is include were appropriate  |
| c. Defined purpose - what question(s) will be answered through this social monitoring effort/how will the information be used  | 4 thru 8          | Goals are listed on bottom of page 4, Problem Definition section page 5 & 6 and study Design pages 7 & 8. |
| <b>6. Description of the monitoring tasks and timeline</b>   |                   |   |
| a. Step wise summary of work to be performed including interim and final products  | 6                 | Table   |
| b. Narrative description or time line indicating start and end dates for each step or product  | 6, 8, 9, 10, & 13 | Table includes time line details are covered in narrative portions on indicated pages.                    |
| c. Discussion of resource or time constraints, if applicable   | NA                | Only constrained by larger project  |
| <b>7. The goals and objectives of the work including data quality objectives</b>   |                   |   |
| a. Performance/measurement criteria identified for all information to be collected   | 6 & 7, 9 thru 13  |   |
| b. Discusses precision   | 11 & 13           |   |
| c. Addresses bias and representativeness   | 11                |   |
| d. Describes the need for comparability  | 8                 |   |
| e. Discusses desired method sensitivity  | 11                |   |
| <b>8. Sampling design and rationale (experimental design)</b>  |                   |   |
| a. Type and number of survey instruments   | 8                 | Two samples of 627 administered pre and post I&E efforts  |
| b. Survey methodology  | 8 & 9             |   |
| c. Target audience is appropriate as identified in WMP or through the watershed planning process   | 8                 | Lower portion of page   |
| d. Description of the demographics of the sample(s)  | 8                 | Lower portion of page   |
| e. Population and sample size  | 8                 | Lower portion of page   |
| f. Rationale for the design  | 5                 |   |
| <b>9. Special training or certification</b>  |                   |   |
| a. Identifies any project personnel with pertinent specialized training or certifications  | 7                 |   |
| b. Identifies any specialized training or certification needs and how they will be met   | 7                 |   |

|   |           |  |
|---|-----------|--|
| <b>10. Project QA/QC assessment and response procedures</b>   |           |  |
| a. Data Collection  | 12 and 13 |  |
| b. Data Entry   | 12 and 13 |  |
| <b>11. Statistical analysis</b>   |           |  |
| a. Describes the statistical analysis and methodology that will be used                                 | 10 & 11   | SIDMA based  |
| <b>12. Data and document management and reporting procedures</b>  |           |  |
| a. Briefly summarizes report format and content   | 10        | SIDMA reports  |
| b. Identifies location and storage time for project information including records stored electronically | X         | Covered under project contract - grantee file for 5 years post project |
| <b>13. The Survey Instrument(s)</b>   |           |  |
| a. Includes clear instructions  | X         | Included in cover letters  |
| b. Includes all required sections and questions   | X         | All required elements are included                                     |
| c. Includes identified/appropriate pollutants/sources/causes from the Watershed Plan/planning process   | X         | Yes  |
| d. Custom questions are appropriate and tied to the Watershed Plan/planning process                     | S-9       | Custom questions are included and are appropriate                      |
| e. Anonymity is maintained  | 9         | Described in implementation section                                    |