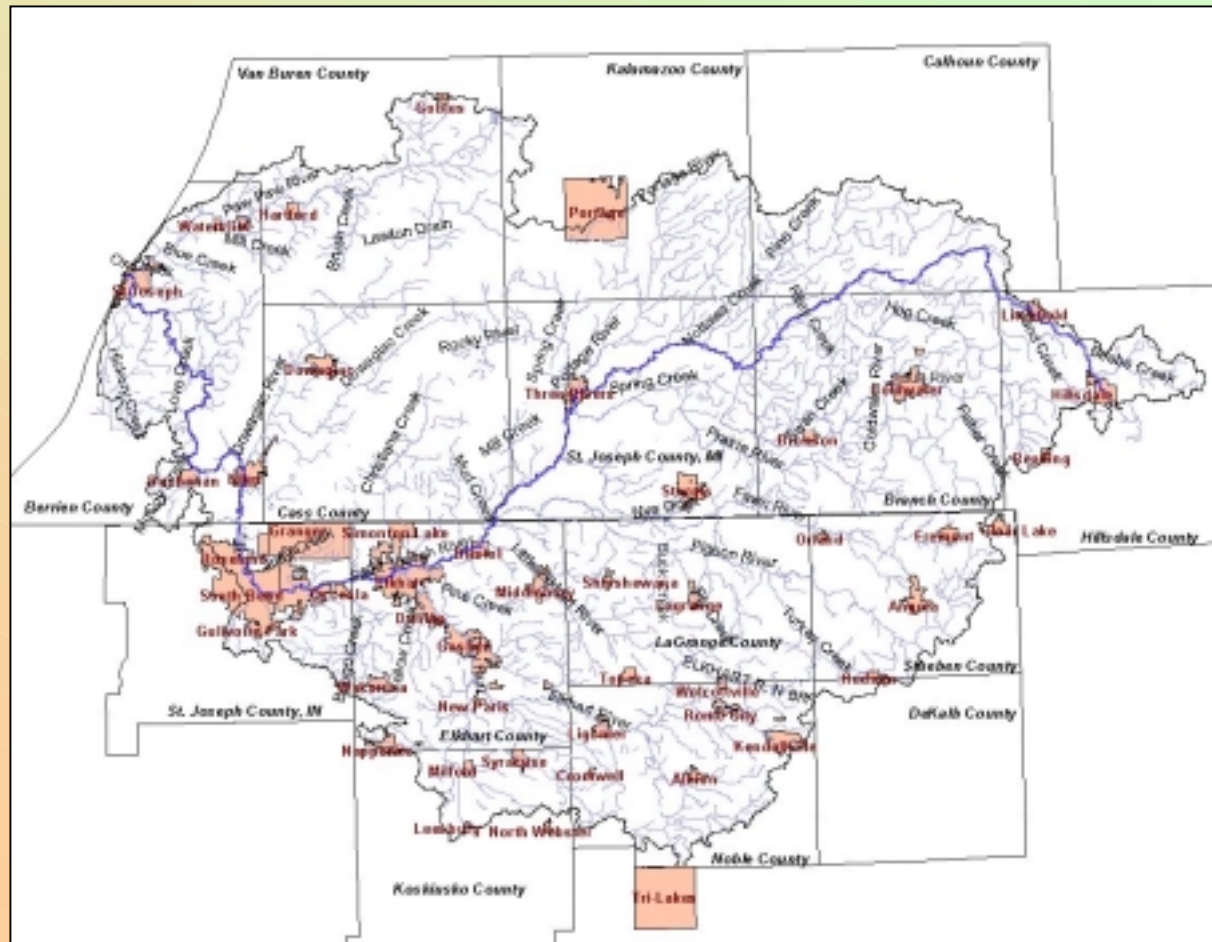


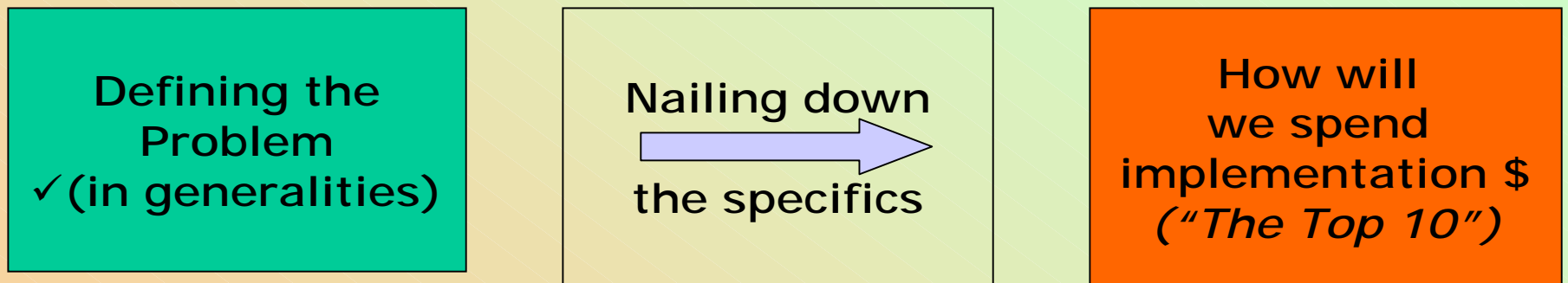
St. Joseph River Watershed 319 Project Steering Committee Meeting



February 26, 2004

Identifying Critical Areas

The Challenge...*Diminishing returns with direct requests*



Approach

Remaining Data Sources:

- *STORET data*
(consistency, recent, parameters of concern)
- Phase II community interviews
- FERC data
- *BASINS data*

Forecast Targets & work backwards:

- *Specific area concerns*
- General needs by segment
- Existing WMPs
- *Overlays of existing data*
- A specific pollutant

Stakeholder Interview Process

- ✓ **December 2003 – February 2004**
- ✓ **Conservation Districts**
 - **All counties except Berrien and DeKalb**
- ✓ **Selected NPDES Phase II Communities**
 - **Cass County, City of Elkhart, MACOG**
- ✓ **1 Health Department**
- ✓ **Potawatomi RC&D**
- ✓ **15 Interviews**
- ✓ **25 Interviewees**

Stakeholder Interview Process

- ✓ **One on One Interview format**
- ✓ **Requested published watershed reports**
- ✓ **Reviewed Designated Use Tables**
- ✓ **Solicited information on:**
 - ✓ **Programs/projects in watershed**
 - ✓ **Needs/concerns in watershed**
 - ✓ **Suggestions for WMP**

Stakeholder Interview Process

- ✓ **Major Topics Covered:**
 - ✓ **Land use planning**
 - ✓ **Education**
 - ✓ **Coordination with other jurisdictions**
 - ✓ **Subwatershed projects**
 - ✓ **Watershed protection**
 - ✓ **Threats to watershed**

Stakeholder Interview Process

✓ Prepared narrative summary of each interview

- finalized with interviewee

✓ Determined key findings from each interview

✓ Updated Designated Use Tables

St. Joseph River Watershed Section 319 Planning Grant
Interview Narratives

Name(s) Kathy Ruckham, Executive Director, Kalamazoo Conservation District
Sarah VanDelft, Watershed Manager, Rocky River Watershed (St. Joseph, Kalamazoo, Cass,
Van Buren Counties

Date January 6, 2004

Jurisdiction

The geographic scope of the interview was St. Joseph County, Michigan and the portion of Kalamazoo County in the Watershed. The counties are adjacent and include the Rocky River, Portage River, Gourdneck Creek and Nottawa Creek Subwatersheds. The St. Joseph River flows southwesterly from the northeast portion of St. Joseph County to Three Rivers. It then flows south from Three Rivers. They counties lie in the Middle and Upper River Valley Segments. The region supports the largest area of seed corn production east of the Mississippi River. Soils in the Middle Segment (western and central portions of the counties) are sandy and drain well. Soils along the eastern side of the county contain more clays and have historically been tilled. The southern portions of the City of Portage and the Villages of Schoolcraft and Vicksburg lie in Kalamazoo County. The City of Three Rivers and the Villages of Constantine, White Pigeon, Mendon, Centreville, Colon and Burr Oak lie in St. Joseph County.

Projects/beneficial watershed features

A Watershed Management Plan has been completed for the Rocky River Watershed. It has identified that the watershed contains little impairments and good riparian buffers. Fabius Township, in St. Joseph County, is in the process of completing its Master Plan which was based on a Natural Resources Inventory and wetlands inventory, in part. The plan identified scenic views, farmland preservation areas, wildlife corridors and wetland to preserve. It incorporates preexisting wetlands and floodplain ordinances. Ordinances regarding Conservation by Design were suggested for the Plan, but not incorporated into it. A St. Joseph County land use policy task force was established and produced policy recommendations regarding county-wide land use. The county has not yet determined how it will use the recommendations.

Kalamazoo County contains the Gourdneck State Game Area, approximately 9,000 acres of protected forest and wetlands. The county has also received grants to conduct extensive bacterial sampling of beaches and rivers. The City of Kalamazoo is developing a wellhead protection ordinance, which will likely be adopted by townships in the county. It restricts certain land uses within the 1-, 5- and 10-year zones of capture of well fields. It will also include restrictions on application of biosolids.

It has been noted that overapplication of phosphorus and pesticides has ceased. Management of livestock and cropping systems has improved over time. Producers are beginning to utilize the MAEAPs certification program, which involves the development of Comprehensive Nutrient Management Plans. The program is voluntary, but has seen widespread participation. It was noted that some producers do not wish to participate, but are those who are most diligent about protecting water quality in lieu of the program. The first producer

Stakeholder Interview Process

Interviews

Stakeholder interviews were conducted from December 2003 to February 2004 in order to gain an understanding of the concerns and projects in the watershed. As the watershed plan will encompass a large geographic area, interviewees whose jurisdiction covers large segments of the watershed were chosen. Interviewees included Soil and Water Conservation District representatives and NPOES Phase II Communities. The following table lists the interviewees and their geographic jurisdictions.

[Read a summary of major Round 1 interview findings.](#)

Organization	Name (s)	Jurisdiction	Indiana	Michigan
Branch Conservation District	Jennifer Taylor, Gordon Porter	Branch County	-	X
Branch-Hillsdale-St. Joseph Community Health Agency	Stephen Todd, Bob Glidden	Branch, Hillsdale, St. Joseph Counties	-	X
Cass Conservation District	Alex Bozymowski, Amy Duskovich, Mike Stickle	Cass County	-	X
Cass County Drain Commissioner	Allen Butchbaker	Cass County	-	X
City of Elkhart Public Works and Utilities	Mark Salee, Joe Foy	City of Elkhart	X	-
Elkhart Soil and Water Conservation District	Nancy Brown, Beverly Stephenson	Elkhart County	X	-
Hillsdale Conservation District	Dennis Haskins	Hillsdale County	-	X
Kalamazoo Conservation District	Kathy Buckham	Kalamazoo County	-	X
LaGrange Soil and Water Conservation District	Dona Hunter	LaGrange County	X	-
Michiana Area Council of	Karen Markowiak	Elkhart and St. Joseph Counties/ Indiana	X	-

Data available on project website at
<http://www.stjoeriver.net/wmp/interviews.htm>

Data Analysis

✓ Designated Use Tables updated:

✓ Few impairments for River Valley Segment level

✓ Table 4 becomes site specific impairments with 303(d) and 305(b) lists

✓ MI 8 uses vs. IN fishable & swimmable

✓ Include FCA as fisheries impairment?

DRAFT

**Table 4. Site Specific
Known and Suspected Pollutants and Sources**

Table 4A. Within Subwatersheds

Impaired Designated Use	Valley Segment Where Impairment Is Occurring	Pollutant Causing Impairment	Source of Pollutant
Agricultural Water Supply	Upper (Nottawa); Middle (Elkhart County)	pathogens	livestock in water bodies, septic systems, waterfowl, CSO (S)
Groundwater as Drinking Water (Desired)	Upper (Nottawa)	nitrate, pesticides, pathogens	agricultural erosion, septic systems, livestock in stream
Navigation	Middle (Coburn, Christiana); Upper (Hog)	fencing across waterways	riparian property rights issues
Warm Water Fishery	Lower (Dowagiac); Middle (Fawn, Barton Lake); Upper (Nottawa)	sedimentation (Nottawa), toxins (Barton, Fawn, Dowagiac), habitat modification (Dowagiac)	agriculture, erosion from drain maintenance, historic industrial uses of toxins, atmospheric deposition
Cold Water Fishery	Lower (Dowagiac, McKinzie, Judd); Middle (Prairie); Upper (Coldwater, Randall, Union Lakes)	channelization (Dowagiac), sedimentation (McKinzie, Judd), toxins (Dowagiac, Coldwater, Randall, Union), temperature (McKinzie)	urbanization, historic industrial uses of toxins, atmospheric deposition, landfills
Other Indigenous Aquatic Wildlife	Mouth (Ox, Pine, Paw Paw, S. Branch/Lawton Drain*); Lower (Dowagiac, Judd); Middle (Silver*, Emma Creek Tributary, Little Elkhart, Pigeon, Mather Ditch, Wisler Ditch, Rock Run Creek, Orland Tributary, Mud Creek, Yellow, 12 IN lakes: Big Otter, Seven Sisters, Messery, Lime, Lake of the Woods, North Twin, Royer, Fish, Messick, Hackenburg, Dallas, Witmer); Upper (Nottawa, Fisher, Hog)	sedimentation, loss of habitat* (also, Ox, Pigeon), ammonia (Emma), low dissolved oxygen (Mather, Mud, Orland), other inorganics (Wisler)	agriculture, erosion from drain maintenance, bank erosion, urbanization, dredging*
	Lower (Lake of the		

What we found....

- ✓ **One on one communications bring more information than meetings and reports**
- ✓ **Interviews aid in further data collection**
- ✓ **Many subwatershed projects occurred years ago. Is information still relevant or reports available?**

What we found....

✓ Conservation District work restricted primarily to county boundaries

- Subwatershed projects span boundaries (occurring mostly in Indiana, e.g., Dennis Wolheter 319 project, in MI, Rocky River 319 planning project)

- Recommend subwatershed project across state line to span that boundary

What we found....

Organize key points into categories:

- ✓ **Education**
- ✓ **Ordinances/land use**
- ✓ **Subwatershed projects**
- ✓ **Lakes**
- ✓ **Urban**
- ✓ **Agriculture**

Education

MACOG distribution of septic videos to title companies

St. Joseph County canoe trips

Idea of distributing home owner packets to Realtors

Branch County Health Department given as good example of groundwater outreach

Hillsdale Conservation District signage

What we found....

Organize key points into categories:

- ✓ **Education**
- ✓ **Ordinances/land use**
- ✓ **Subwatershed projects**
- ✓ **Lakes**
- ✓ **Urban**
- ✓ **Agriculture**

Land Use Ordinances and Rules

Differences in property values affect watershed protection, Juday Creek vs. Baugo Creek

Drainage fee distribution

\$1/acre buffer incentive in Indiana

Loss of agricultural land to residential uses

20-acre prime ag zoning in St. Joseph County, IN

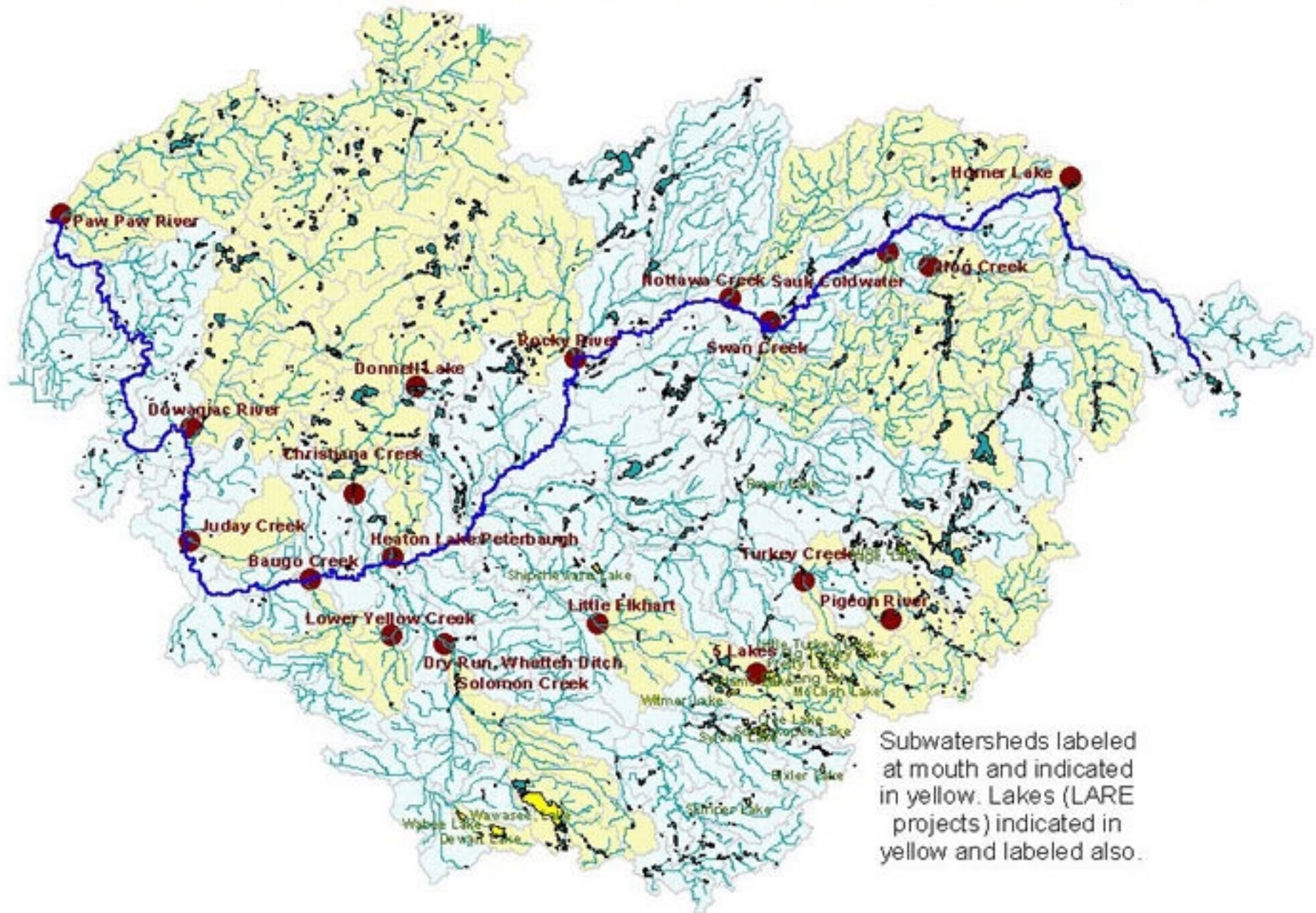
40-acre zoning in Calvin & Wayne Twps. in Cass County

Network of conservation-type buyers to agricultural land sellers

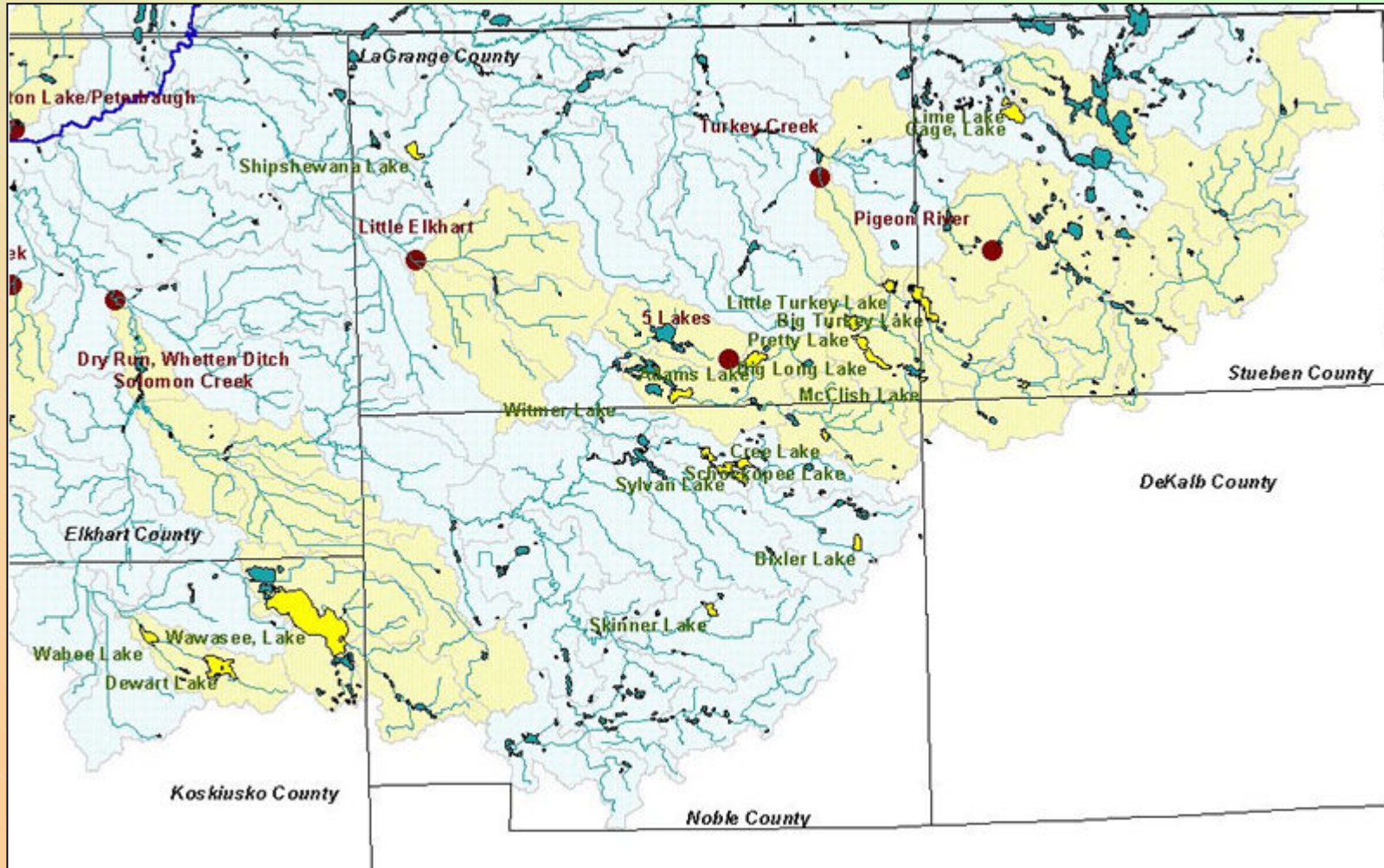
What we found...

- ✓ **Organize key points into categories:**
 - ✓ **Education**
 - ✓ **Ordinances/land use**
 - ✓ **Subwatershed projects**
 - ✓ **Lakes**
 - ✓ **Urban**
 - ✓ **Agriculture**

Historic and Current Subwatershed and Lake Projects



Lake Projects in Indiana Counties



What we found....

Organize key points into categories:

- ✓ **Education**
- ✓ **Ordinances/land use**
- ✓ **Subwatershed projects**
- ✓ **Lakes**
- ✓ **Urban**
- ✓ **Agriculture**

Amish Community

“Pasture Walks”

319 projects to develop trusting relationships

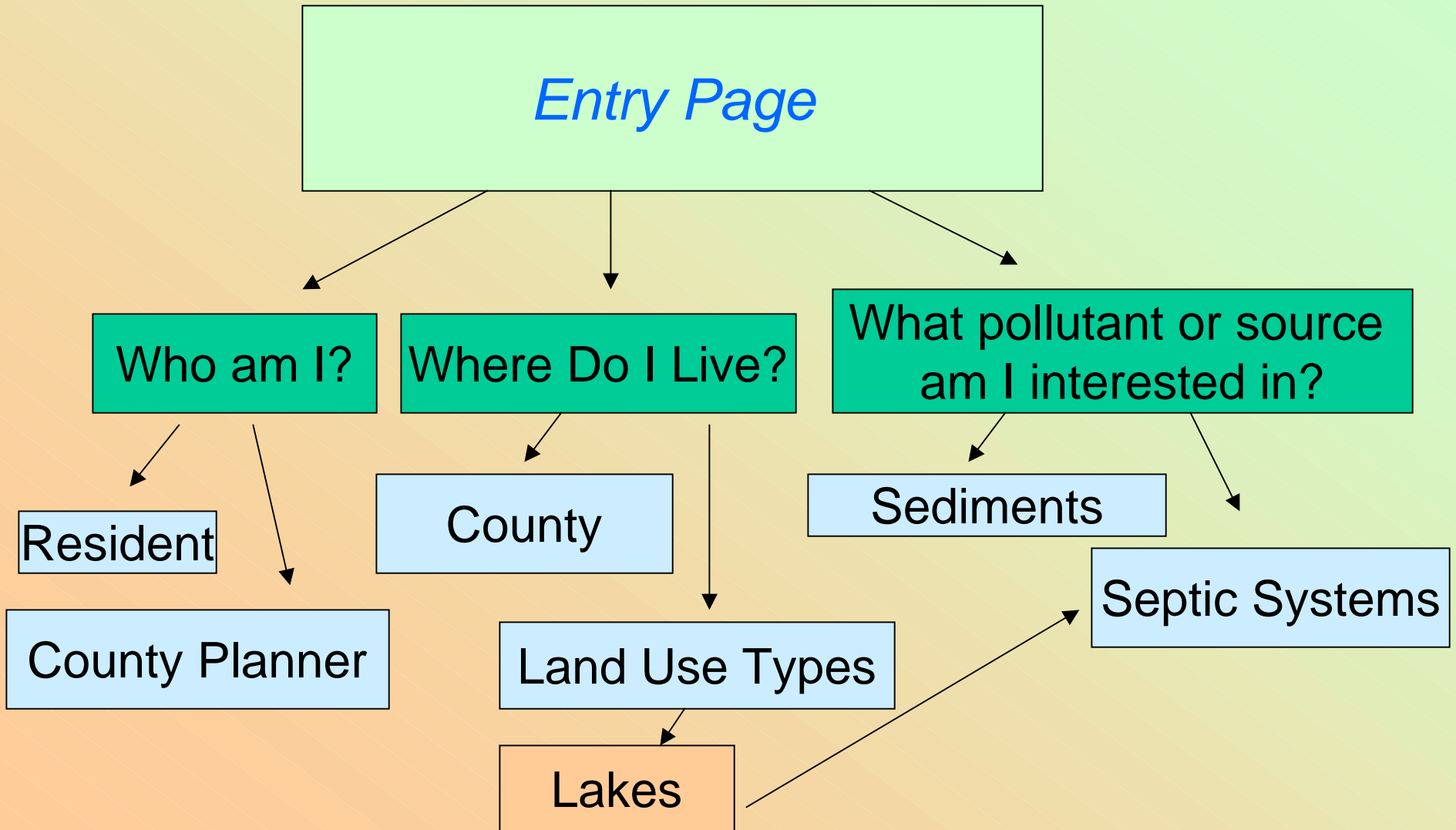
Pasturing can cause erosion

Cass County hogs facilities inside with manure management

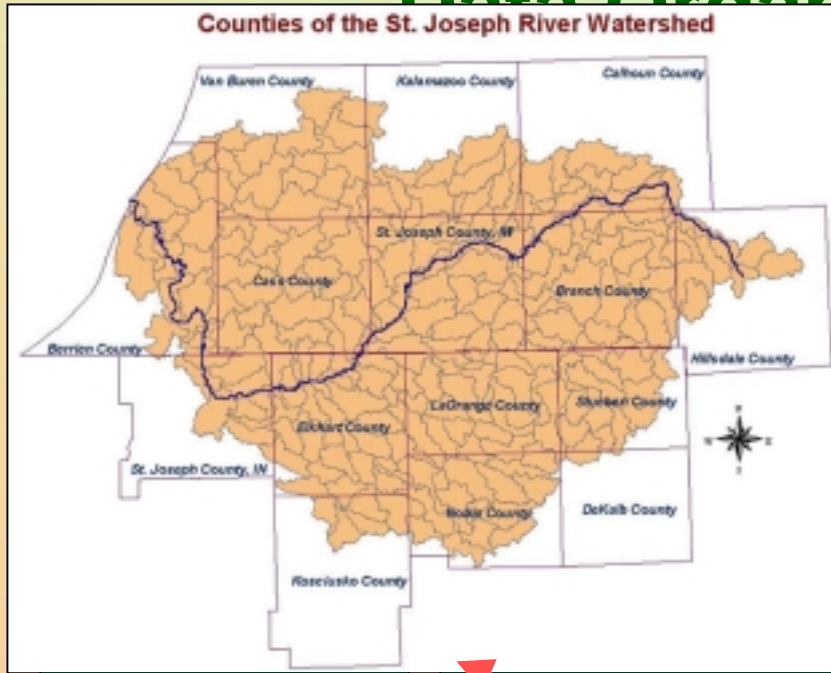
Reluctance to use federal cost-share

Provide mini-grants from non-profit organizations to fund BMPs

Data Organization



Data Organization



Page

ve?

What pollutant or source am I interested in?

Sediments

Septic Systems

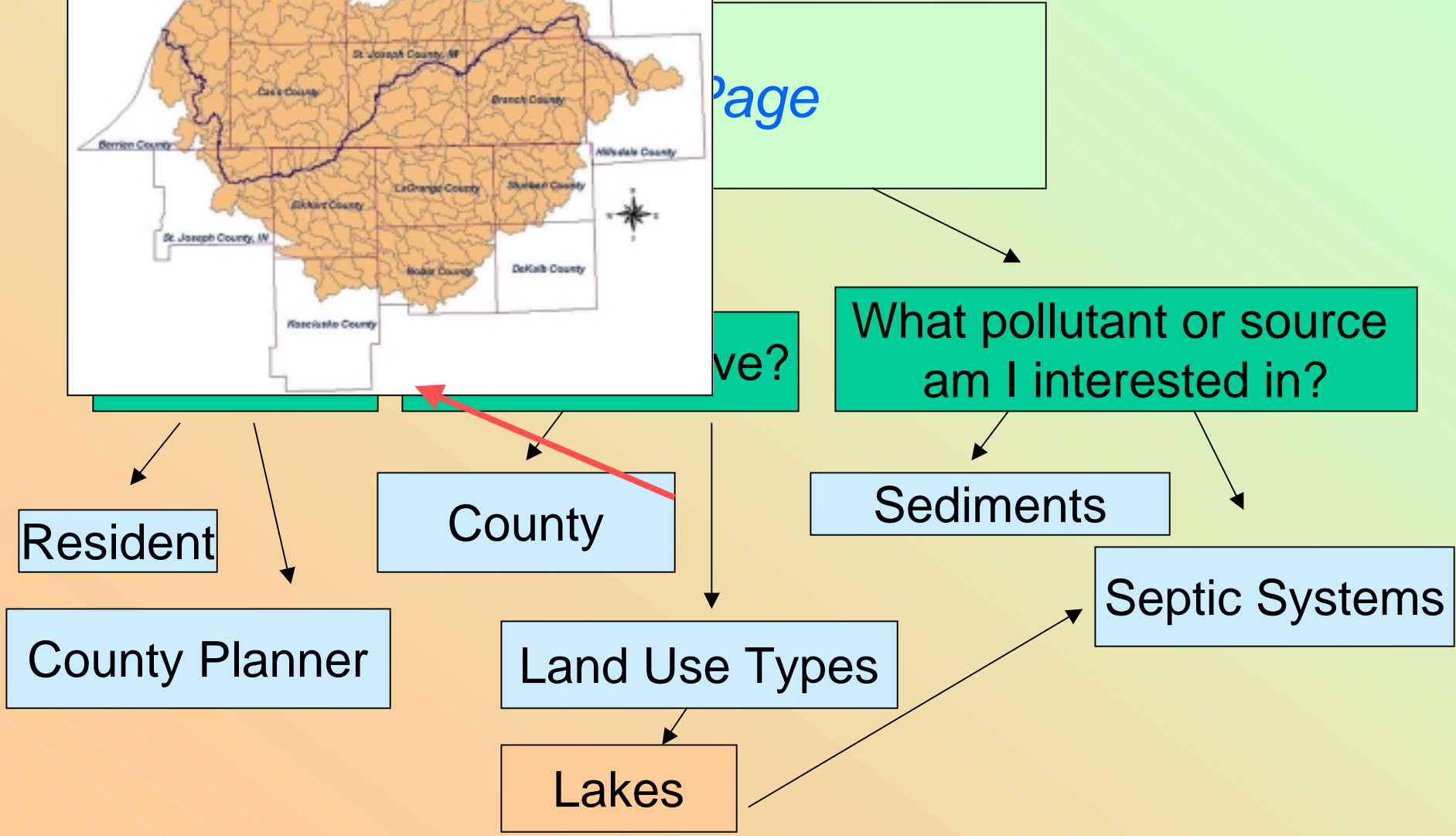
Resident

County Planner

County

Land Use Types

Lakes



zation

Table 1. Draft Watershed Concerns

Concern	Subconcern	agricultural water supply	industrial water supply	public water supply	navigation	fisheries	infectious aquatic wildlife	partial body contact	full body contact	groundwater (desired use)
Sedimentation										
	agricultural runoff					x	x	x	x	
	construction site runoff					x	x	x	x	
	stormwater runoff					x	x	x	x	
	streambank erosion					x	x	x	x	
	golf course runoff					x	x	x	x	
	road-stream crossings					x	x	x	x	
	livestock in water bodies					x	x	x	x	
	ditch/drain construction and maintenance					x	x	x	x	
	gravel road grading runoff					x	x	x	x	
Habitat Loss										
	urbanizing natural areas	x	x			x	x	x	x	x
	loss of corridors					x	x			
	lack of river set backs					x	x			
	removal of snags					x	x			
	maximum clearance of natural stream blockages					x	x			
	loss of meanders					x	x			
	loss of riparian corridors/wetlands					x	x			
	deforestation/fragmentation					x	x			
	trash & litter					x	x			

age

e?

What pollutant or source am I interested in?

Resident

County

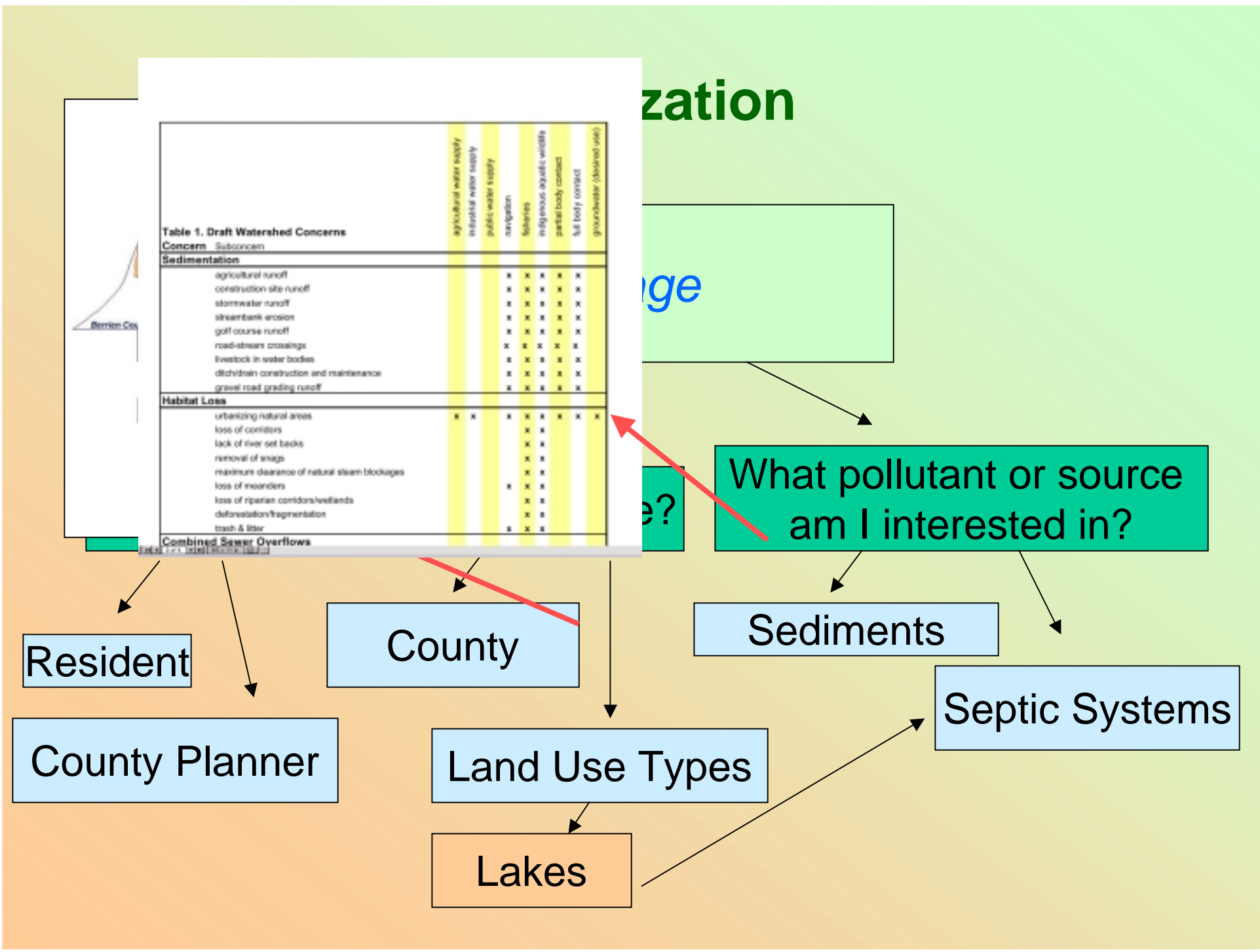
Sediments

Septic Systems

County Planner

Land Use Types

Lakes



Data Organization

- ✓ Organize data into land use categories:
 - ✓ Residential Lakes
 - ✓ Urban
 - ✓ Agriculture
 - ✓ Habitat

1

Interview Key Points

Land Use Types	Watershed Concerns	Programs	Successes	Challenges	Needs/suggestions
Agriculture	erosion, manure management, animal access	Farm Bill	Pasture Walks, Dennis Wohlheter, 319 project, Cass County hogs	watershed wide participation (Baugo), acceptance of \$ from fed govt	channel \$ through NPO, PDR, farm seller to buyer network
Urban	CSOs, lawn fertilizers, geese	WISE project	Juday Creek Task Force	eliminating CSOs, integrating impervious surfaces	homeowner kit through Realtors
Lakes	septic systems	LARE, 319	Stone/Fish Lakes, MACOG, Sewer Video	Paying costs for sewer installation	Sewer use assessment, clustered developments

Data Organization

- ✓ Organize c
- ✓ Reside
- ✓ Urban
- ✓ Agricu
- ✓ Habita

Lake community sewer status:

State	County	Township	Lake(s) and River	Status: diagnostic, feasibility, implementation, complete	Residents interested	Challenges (e.g., no local municipality, requires clustered design, awaiting funding, etc.)	Contact
IN	LaGrange	All	Boyer, Lake of the Woods, Adams	Diagnostic, walking tours considered			County Lakes Council, new County Sewer Board
IN	LaGrange, St. Joseph (MI)		Fish, Stone, Stephensona	New sewer installed, date?			County Lakes Council, new County Sewer Board
IN	Noble	All	Various in Elkhart River Watershed		Yes	No nearby treatment facilities	
IN	Stephen	Northern Chain of Lakes	Crooked and Jumbo on Fawn River	Phase installation of clustered systems	Yes	No nearby treatment facilities	Stephen Lakes Regional Waste District
IN	Stephen	Southern Chain of Lakes	Pigeon River	Discussion	Yes	No nearby treatment facilities, lower density of housing	Stephen Co. SWCD
MI	Branch	All	All		General interest and awareness		
MI	Cass		Several, including Donald Lake	New sewer installed			
MI	Hillsdale	Litchfield Township	Beebe Creek				
MI	St. Joseph		Kingso Lake	New sewer installed, date?			

Interview Key Points

Land Use Types	Watershed Concerns	Programs	Successes	Challenges	Needs/suggestions
Agriculture	erosion, manure management, animal access	Farm Bill	Pasture Walks, Dennis Wolhuter, 319 project, Cass County hogs	watershed wide participation (Baugh), acceptance of \$ from fed govt	channel \$ through NPO, PDR, farm seller to buyer network
Urban	CSOs, lawn fertilizers, geese	WISE project	Juday Creek Task Force	eliminating CSOs, integrating impervious surfaces	homeowner kit through Realtors
Lakes	septic systems	LARE, 319	Stone/Fish Lakes, MACOG, Sewer Video	Paying costs for sewer installation	Sewer use assessment, clustered developments

reorganization

St. Joseph River Watershed Sector 319 Planning Chart
 Interview Narrative

Name(s) Colin Buckman, Executive Director, Kalamazoo Conservation District
Mark MacCallum, Watershed Manager, Kalamazoo Conservation District
 Date January 3, 2012

Introduction

The geographic scope of the interview was St. Joseph County, Michigan and the portion of Kalamazoo County as the Watershed. The counties are adjacent and include the Rocky River, Potage River, Grandville Creek and Hottel Creek subwatersheds. The St. Joseph River flows southwesterly from the northeast portion of St. Joseph County to Three Rivers. It then flows south from Three Rivers. They confluence in the Middle and Upper River Valley segments. The region supports the largest area of cropland production east of the Mississippi River. Soils in the Middle Segment between and central portion of the counties are sandy and deep soil. Soils along the western side of the county contain more clays and are historically more fertile. The western portions of the City of Portage and the Villages of Edmondville and Vicksburg lie in Kalamazoo County. The City of Three Rivers and the Villages of Casselman, White Pines, Shiloh, Centerville, Odon and Blue Oaklie are in St. Joseph County.

Pre-interviewed material sources

A Watershed Management Plan has been completed for the Rocky River Watershed. It has identified that the watershed contains little open water and good riparian habitat. Edna Township, in St. Joseph County is in the process of completing its Water Plan which was based on a Natural Resources Inventory and wetland inventory report. The plan identified some wetland, forested preservation areas, middle channel and wetland to preserve. It incorporates protecting wetlands and floodplain resources. Ordinance regarding Conservation by Design was suggested for the Plan, but not incorporated into it. A St. Joseph County land acquisition task force was established and produced policy recommendations regarding county-wide land use. The county has not yet determined how it will use the recommendations.

Kalamazoo County contacted the Chesapeake State Game Area, approximately 1,000 acres of protected forest and wetlands. The county has also received grants to conduct extensive habitat sampling of headwaters and rivers. The City of Kalamazoo is developing a wetland protection ordinance, which will likely be adopted by the subwatershed county. Wetlands remain land use wetlands (i.e., 5- and 10-year zones of riparian wetlands). It will also include restrictions on application of herbicides.

It has been noted that septic sites of phosphorus and pesticides are a concern. Management of riparian and cropping systems has improved over time. Producers are beginning to utilize the NREAP, wetlands program, which involves the development of Conservation Stewardship Plans. The program is voluntary, but has seen widespread participation. It was noted that some producers do not wish to participate, but are those who are most at risk about protecting water quality in less of the program. The first problem

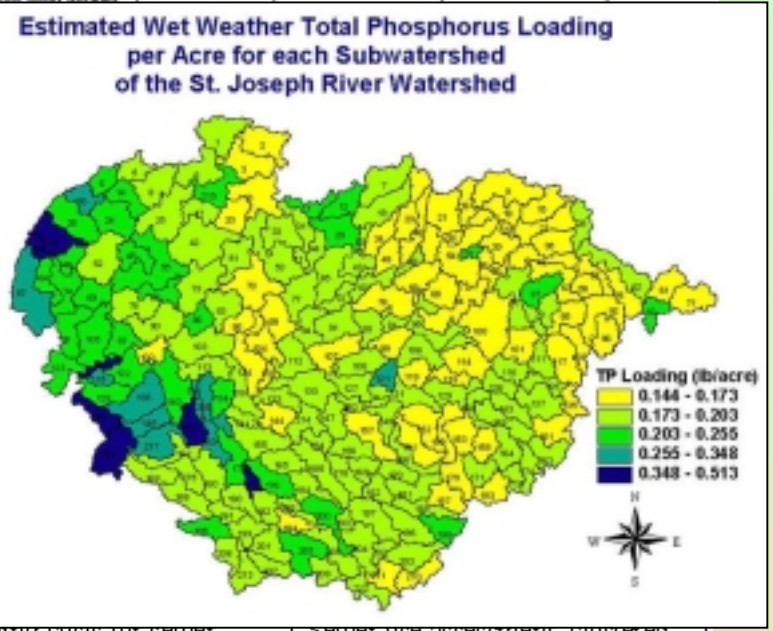
Lake community sewer status:

State	County	Township	Lake(s) and River	Status: diagnostic, feasibility, implementation complete	Resident interested	Challenges (e.g., no local municipality, requires clustered design, awaiting funding, etc.)	Contact
IN	LaGrange	All	Boyer, Lake of the Woods, Adams	Diagnostic, waiting, not considered			County Lakes Council, new County Sewer Board
IN	LaGrange, St. Joseph (MI)		Fish, Stone, Shipshewana	New sewer installed, dates?			County Lakes Council, new County Sewer Board
IN	Noble	All	Various in Edinburg River Watershed		Yes	No nearby treatment facilities	
IN	Stevens	Northern Chain of Lakes	Crooked and James on Fawn River	Phase installation of clustered systems	Yes	No nearby treatment facilities	Stevens Lakes Regional Waste District
IN	Stevens	Southern Chain of Lakes	Pigeon River	Discussion	Yes	No nearby treatment facilities, lower density of housing	Stevens Co. SWCD
MI	Branch	All	All		General interest and awareness		
MI	Cass		Several, including Donald Lake	New sewer installed			
MI	Hillsdale	Litchfield Township	Becks Creek				
MI	St. Joseph		Kings Lake				

✓ Agriculture
 ✓ Habitat

Interview Key Points

Land Use Types	Watershed Concerns	Programs	Successes
Agriculture	erosion, manure management, animal access	Farm Bill	Pasture Walks, Dennis Wohlhuter, 319 project, Cass County hogs
Urban	CSOs, lawn fertilizers, geese	WISE project	Juday Creek Task Force
Lakes	septic systems	LARE, 319	Stone/Fish Lakes, MACOG, Sewer Video



Paying costs for sewer installation
 Sewer use assessment, clustered developments

<http://www.septic.com>

ization

DRAFT

EMPIRICAL SEDIMENT AND PHOSPHORUS NONPOINT SOURCE MODEL FOR THE ST. JOSEPH RIVER WATERSHED

Prepared for:

A Section 319 Watershed Management Planning Grant

Prepared by:

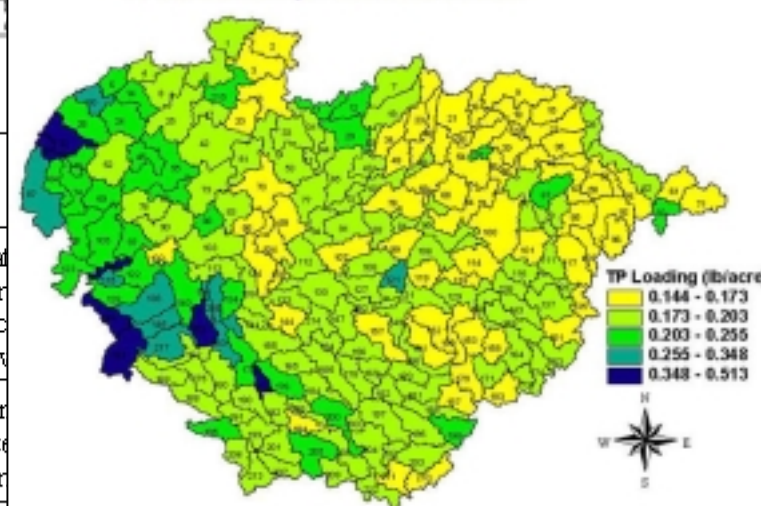
KIESER & ASSOCIATES

September 5, 2003

by sewer status:

Township	Lake(s) and River	Status: diagnostic, feasibility, implementation complete	Residents interested	Challenges (e.g., no local municipality, requires clustered design, awaiting funding, etc.)	Contact
All	Boyer, Lake of the Woods, Adams	Diagnostic, walk-ins considered			County Lakes Council, new County Sewer Board
All	Fisk, Stone, Shipshewana	New sewer installed, dates?			County Lakes Council, new County Sewer Board
All	Various in Elkhart River Watersheds		Yes	No nearby treatment facilities	
Northern Chain of Lakes	crooked and jumps on Fawn River	Phase installation of clustered systems	Yes	No nearby treatment facilities	Stevenson Lakes Regional Waste District
Southern Chain of Lakes	Pigeon River	Discussion	Yes	No nearby treatment facilities, lower density of housing	Stevenson Co. SWCD
All	All		General interest and awareness		
	Several, including Donald Lake	New sewer installed			
Litchfield Township	Becks Creek				
	Kings Lake				

Estimated Wet Weather Total Phosphorus Loading per Acre for each Subwatershed of the St. Joseph River Watershed



Successes

pasture Walks, Dennis Woltheter, 319 project, Cass County hogs

Urban	CSOs, lawn fertilizers, geese	WISE project	Juday Creek Task Force	eliminate inter-sur
Lakes	septic systems	LARE, 319	Stone/Fish Lakes, MACOG, Sewer Video	Paying costs for sewer installation

Sewer use assessment, clustered developments

Information Gaps/Future Contacts

- ✓ **Main Stem (WQ data, erosion, etc.)**

- **U.S. Corps of Engineers**
- **fishermen**
- **FOTSJR Chairpersons**

- ✓ **Habitat Protection**

- **Trout Unlimited**
- **TNC**

- ✓ **County Planners**

- ✓ **Dams/AEP**

- ✓ **Lake Associations**

- ✓ **Paw Paw River**

Why a St. Joe River Basin WMP?

- ✓ **Defining critical issues, areas (?) and workable solutions**
- ✓ **Coordination/cooperation to move larger planning efforts forward**
- ✓ **Build on/share successes and resources (data, tools, strategies...)**
- ✓ **Clearinghouse for information**
- ✓ **Platform/starting point for new initiatives (avoid “reinventing the wheel”)**
- ✓ **Gateway for leveraging implementation funding**
- ✓ **Cost-sharing (avoid duplication of efforts)**
- ✓ **A healthy basin/river requires overlapping (political and subwatershed) approaches**

Future Visions/Outcomes with the WMP

- ✓ **Permanent Friends staff (watershed coordinator) to maintain momentum**
- ✓ **Implementation of watershed management planning recommendations**
 - **Cross-jurisdictional coordination and policy**
 - **Clearinghouse vs. “bricks & mortar” projects**
- ✓ **Michigan St. Joe Basin Commission (?)**
 - **MOU with SJRBC**

Outcome of the WMP

- ✓ How does the plan address Indiana and Michigan needs, and EPA requirements?
- ✓ What is value of “critical area designation”?
- ✓ Who can use the plan?
- ✓ How do subwatershed management plans relate to the larger plan?