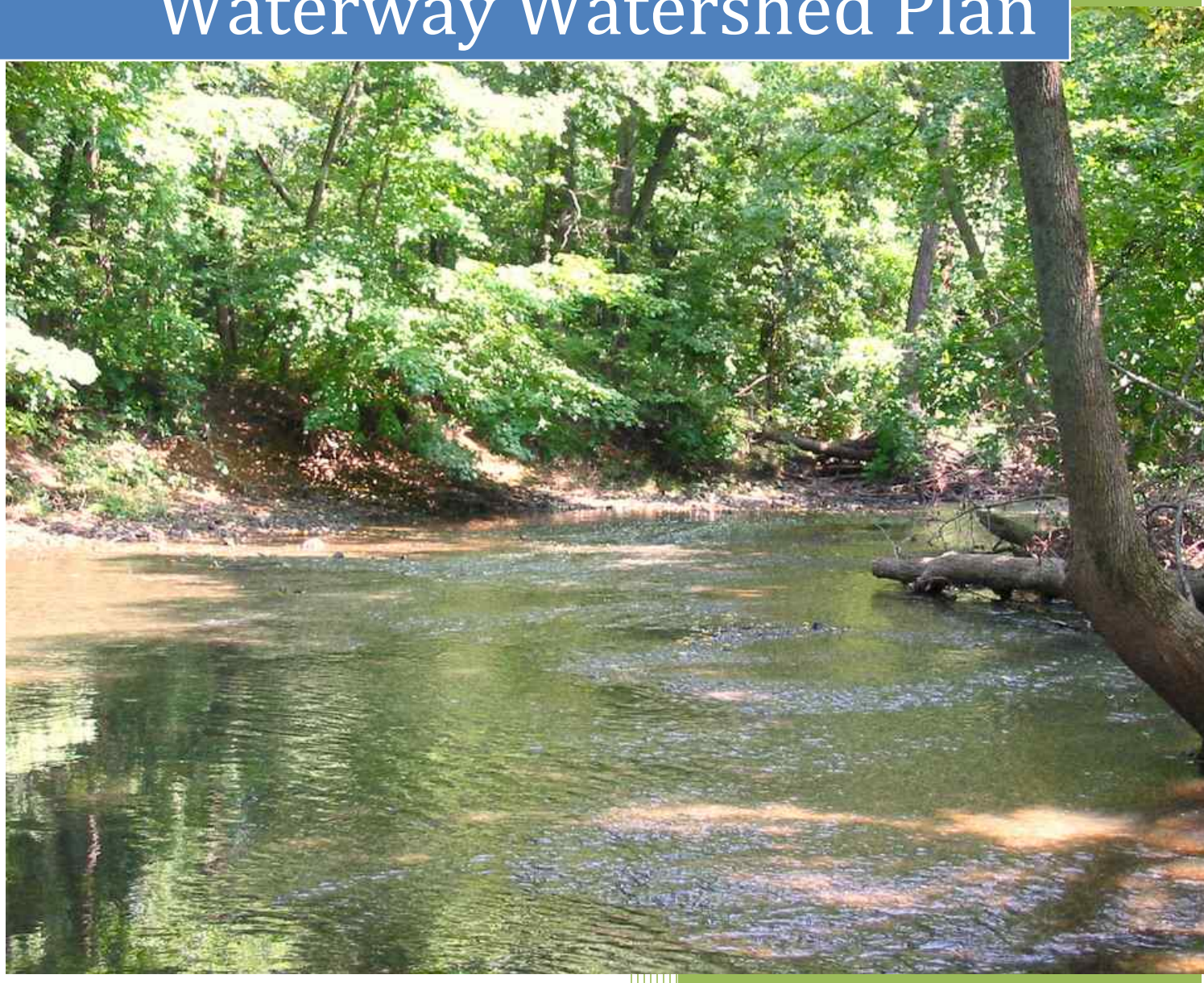
Deep River – Portage Burns Waterway Initiative

October 2016

Deep River-Portage Burns Waterway Watershed Plan



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1 Introduction

1.1 Watershed Community Initiative

Our watershed of interest is the Deep River-Portage Burns Waterway watershed (Figure 1). It is the largest of six watersheds located within the Little Calumet-Galien sub-basin, draining approximately 180 square miles of north central Lake and Porter Counties to Lake Michigan. Some the major streams located within the watershed include Deep River, Main Beaver Dam Ditch, Turkey Creek, and the Little Calumet River's West Branch. This watershed management plan is the result of numerous communities and organizations coming together to establish a framework to restore the nearly 125 miles of impaired stream within its boundaries.

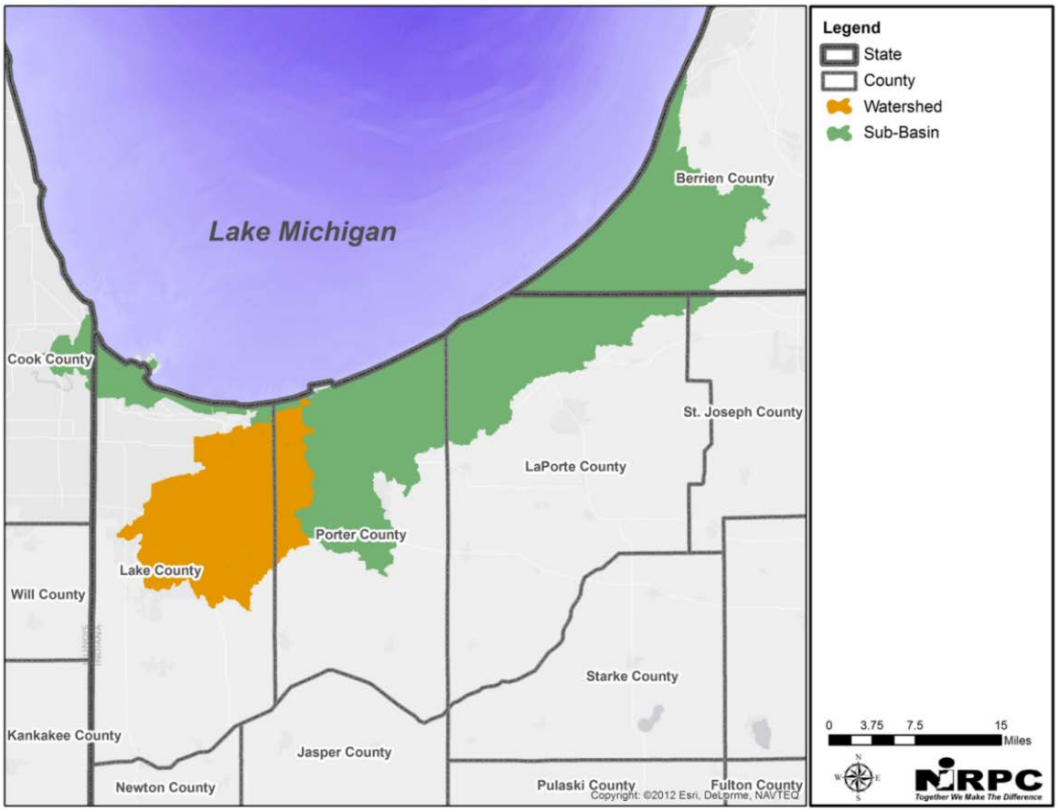

Figure 1 Watershed location

A watershed is an area of land that drains to some common point such as a location on a river. Human land use practices and activities can have a dramatic impact on the health of lakes and streams within a watershed. When rain or snowmelt moves over and through the ground it can pick up harmful pollutants and carry them to nearby lakes and streams. This is known as *polluted runoff* or *nonpoint source pollution* and it is one of the greatest threats to water quality in Northwest Indiana.

1.2 Project History

The first comprehensive planning effort to improve water quality and restore aquatic habitats in the Deep River-Portage Burns Waterway Watershed dates back to the 2002 *Deep River-Turkey Creek Watershed Management Plan.* The City of Hobart initiated the development of the *Deep River-Turkey Creek Watershed Management Plan* following a dredging project that resulted in more than 590,000 cubic yards of sediment being removed from Lake George at a cost of over two million dollars to City tax payers. Given the cost of dredging the City of Hobart realized a long-term solution was needed to reduce future sediment and nutrient loads to Lake George which threatened the City's lakefront and downtown revitalization efforts.

In 2009, the Gary Storm Water Management District led the development of a watershed management plan for the West Branch of the Little Calumet River. Originally, the intent of the project was to identify pollutant contributions to the mainstem West Branch Little Calumet River from inappropriate or failed septic systems, streambank erosion, aquatic habitat degradation and polluted runoff from land development. Eventually the project was reworked to include a watershed wide study of this problem.

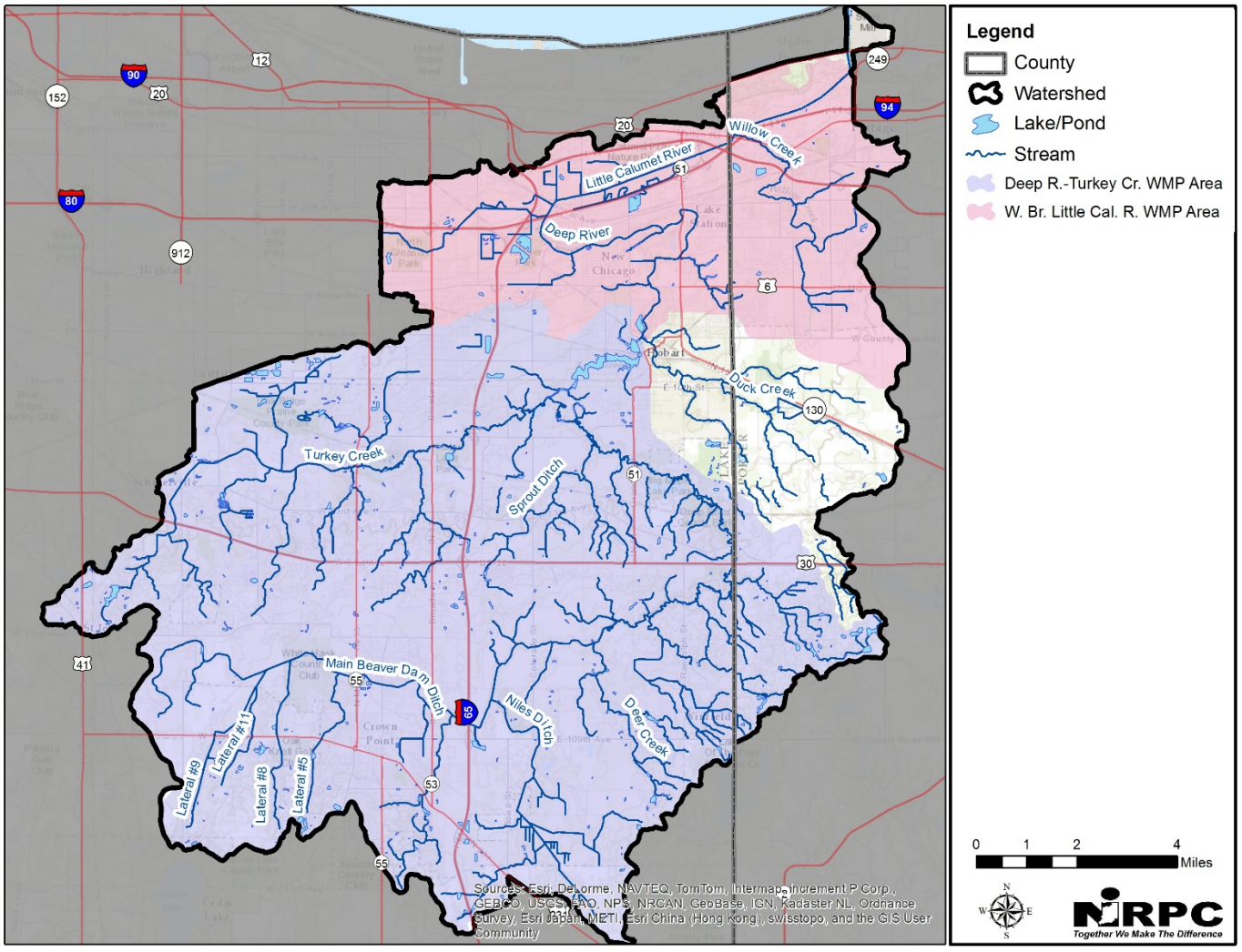

Figure 2 Previous Watershed Planning Efforts in the Current Project Area

One of the key hurdles faced by both watershed plans was that no project lead or organizational structure was set in place to coordinate implementation across multiple jurisdictions once they were completed. As a general observation, the challenge seems to have been related to capacity (resources) rather than lack of interest given the amount of time invested by stakeholders. The challenge of sustaining such efforts is not unique to Northwest Indiana.

In 2011, the Northwestern Indiana Regional Planning Commission (NIRPC) identified the Deep River-Portage Burns Waterway watershed as a priority in the *Northwest Indiana Watershed Management Framework*. The decision to include the watershed as a priority was based on persisting water quality issues, but more importantly, because stakeholders continued to express interest in reinvigorating these past efforts. With substantial changes in land use being evident and feeling that there was enough support to update the 2002 and 2009 watershed plans into a single comprehensive plan, NIRPC communicated to IDEM its intention to submit a 319 grant proposal for the 2013 funding cycle.

NIRPC began drafting some of the watershed characterization elements of the new plan in early 2012. Also knowing that more robust water quality data would be necessary to complete an update, NIRPC formalized its interest in having IDEM conduct the water quality monitoring by submitting a letter to them in June 2012 requesting that a Total Maximum Daily Load (TMDL) and baseline assessment be initiated for the watershed.

Finally, after nearly two years of developing partnerships and gathering support, a Section 319 grant application was submitted to IDEM during the fall of 2012 to facilitate the development and implementation of this watershed restoration plan. IDEM initiated the TMDL process with two public meetings in March 2013. NIRPC was notified that fall that it had been awarded the Section 319 grant.

Figure 3 summarizes the major stepping stones that lead up to this watershed restoration plans development.

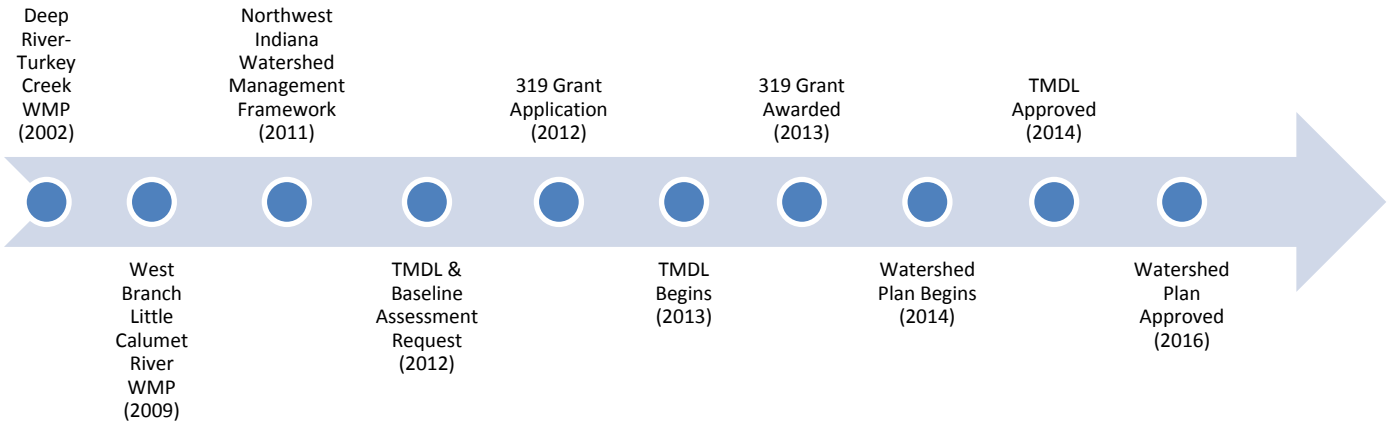

Figure 3 Project history timeline

1.3 Stakeholder Concerns & Involvement

On September 26, 2013, NIRPC sent out a press release announcing that the Deep River-Portage Burns Waterway Initiative project had been selected for funding by IDEM and that the project would officially begin in January 2014. A project kick-off meeting was held at the Hobart Community Center on January 21, 2014. NIRPC provided an overview of the four-year project and asked attendees why they value the watershed, how they use its streams and lakes, and what their initial concerns were relating to water quality and aquatic habitats. A second meeting was held on February 13, 2014 at the Lake County Soil & Water Conservation District (SWCD) in Crown Point to provide further opportunity for public input. The SWCD and Natural Resource Conservation Service (NRCS) helped promote this meeting by sending out personal invites to agricultural land owners within the watershed.

The following two tables are a summary of the responses provided by stakeholders during the public meetings held on January 21st and February 13th.

Values
• Recreational opportunities (swimming, fishing, canoeing/kayaking, bird watching, photography) • Aesthetics • Deep River is one of the few rivers in NWI that still has large sections of natural meanders • Connects so many cities • Drains to and affects Lake Michigan • Habitat/natural areas and biodiversity • Wildlife (ex. bald eagles, golden eagle, sandhill cranes) • Quality of life • Sense of place • Parks and trails • Economic and tourism • Eventually becomes our drinking water • Beauty of Lake George • Mix of agricultural and urban land uses • Agricultural production and local produce

Table 1 Stakeholder Watershed Values

Habitat Related Concerns
• Stream (fish) habitat loss • Riparian area encroachment (urban and agriculture) • Species loss (biodiversity) • Wetland loss • Wetland habitat degradation • Invasive species (aquatic and terrestrial) • Habitat loss to development • Proper habitat restoration • Lack of conserved open spaces • Need to acquire public/quasi-public riparian lands • Long-term management of habitat

Economic & Recreation Related Concerns
• Loss of recreational opportunities • Ability of residents and tourists to use waters safely for recreation • Healthy fishery (fishing) • Impaired streams- may not help to promote recreation • Loss of economic development around lake • Beach closings • Impact to tourism • Negative impact on property values • Outdoor recreational access • Financial support of restoration activities
Planning/Coordination/Management Related Concerns
• Coordination amongst municipalities, businesses, and residents • Maintenance of existing plans • "Me first" mentality community management • Lack of common goals/ manage for different (competing) outcomes • Development standards protective of watershed • Uncontrolled development in unincorporated or rural areas • Enforcement of existing regulations to protect stream health • Not enough inspection and monitoring • Loss of cropland to development • Maintenance of BMPs installed • Lack of retention/detention pond maintenance • Some absentee agricultural landowners that seem to be land speculators with less interest in investing in BMPs to protect water quality • Management of waterways strictly for drainage and not inclusive of water quality and habitat • Maintain drainage while protecting the quality of resources
Watershed Processes Related Concerns
• Drainage- ability of watershed to absorb and/or carry away excess water • Ability of watershed to clean water by removing pollutants and provide stable habitat for wildlife (green infrastructure) • Storm water storage
Storm Water Runoff (Sediment, Nutrient, & Pathogens) & Erosion Related Concerns
• Erosion and sedimentation • Excess nutrients • Increased runoff volume carrying pollutants and causing erosion • Streambank and shoreline erosion • Sediment loading from urban and agricultural areas • Dredging Lake George impacts to shoreline erosion • Sedimentation of Lake George from upstream areas • Failing septic systems • Impervious surface area • Chemicals in runoff • Areas of severe goose feces

• Construction site runoff • Parking lot runoff
Groundwater & Drinking Water Related Concerns
• Groundwater pollution (wells) • Drinking water
Floodplains/Flooding/Drainage Related Concerns
• Flooding • Reconciling need for drainage/flood control with water quality and habitat • Floodplain/floodway encroachment • People view water as “enemy” • Stream flashiness
Miscellaneous Concerns
• Soil health • Dams • Lack of public interest if conditions do not improve • Public involvement • Landowner/homeowner buy-in • Trash left behind after floodwater recede • Need to give upper reaches of watershed and subwatersheds special consideration • Combined sewer overflows (CSOs) and sanitary sewer overflows (SSOs) • Public health (water related) • Water quality impacts to Lake Michigan • Dredging Burns Ditch and Lake George

Table 2 Stakeholder Watershed Concerns

The following list provides an overview of stakeholder meetings, presentations, field day events, and webinars held through the TMDL and watershed restoration plan development process.

- March 13, 2013- TMDL kickoff meetings, Crown Point & Portage
- October 23, 2013- Deep River Monitoring Field Day, Hobart
- December 5, 2013- TMDL data meeting, Crown Point
- January 21, 2014- Initiative public meeting, Hobart
- February 13, 2014- Initiative public meeting, Crown Point
- March 6, 2014- Steering committee formation meeting, Portage
- April 18, 2014- Initiative South Shore Clean Cities webinar
- May 13, 2014- Initiative steering committee/public meeting, Portage
- July 15, 2014- Initiative steering committee/public meeting, Hobart
- August 7, 2014- Initiative presentation at NIRPC Environmental Management Policy Committee (EMPC)
- October 21, 2014- Initiative steering committee/public meeting, Gary
- February 17, 2015- Initiative steering committee/public meeting, Crown Point
- April 28, 2015- Initiative South Shore Clean Cities webinar
- June 4, 2015- Initiative presentation at NIRPC Environmental Management Policy Committee (EMPC)
- December 15, 2015 Initiative steering committee/public meeting, Portage
- March 3, 2015- Initiative presentation at NIRPC Environmental Management Policy Committee (EMPC)

1.4 Water Quality Public Survey

In 2010, the Northwestern Indiana Regional Planning Commission had a water quality survey completed to gauge the effectiveness of regional and local public outreach campaigns on water quality issues in the Northwest Indiana region.

Six hundred seven (607) landline and cellular phone interviews were completed with residents from each of the following four regions: (1) the City of Gary, (2) the Lake Michigan watershed within Lake County, (3) the Lake Michigan watershed within Porter County, and (4) municipalities outside of the Lake Michigan Basin. Interviews were conducted between October 1 and October 8, 2010. Sampling error for the entire sample is +/- 4% at a 95% confidence interval.

The following is a summary of findings from the survey. The full report is available at http://www.nirpc.org/environment/water/nirpc-water-outreach-programs/nwi-partnership-for-clean-water.aspx.

1.4.1 Resident Attitudes

Three in five residents (61%) value having clean rivers, lakes, and streams in their communities "a tremendous amount." Seven in ten residents (70%) say it's very important to look at clean water bodies. Nine in ten residents agree that the quality of local water bodies affects the quality of drinking water (90%), the quality of local water bodies affects enjoyment of water recreation activities (91%), and the quality of local rivers and stream affects whether or not local beaches remain open (90%).

The following percentages of residents think that local rivers, streams, lakes, or Lake Michigan are clean enough to:

- 42% - Boat in
- 40% - Look at
- 39% - Run or hike next to
- 38% - Picnic by
- 37% - Fish in
- 34% - Swim in

Nearly three in four residents (73%) disagree that there will be plenty of fresh water no matter what they do. More than three in four residents (77%) say their personal actions have a definite impact on water quality/quantity.

1.4.2 Resident Knowledge

Five in ten residents (50%) don't know or are unfamiliar with the term watershed, with only 8% saying they live in a watershed. One in three (33%) do not know where storm water goes after it enters a storm drain or roadside ditch. Nearly three in ten (27%) think storm water goes to a wastewater treatment plant. Slightly more than 1 in 10 (12%) think storm water that enters a storm drain goes to waterbodies with treatment. Two in five residents (42%) do not know what to do around the home to conserve/protect water.

The following percentages of residents know what to do to conserve/protect water, but:

- 25% say it's too much trouble
- 18% say it costs too much
- 8% don't think they'll make a difference

The following percentages of residents think that the following items had a great impact on the quality of water bodies:

- 79% - Motor oil, pain, and batteries
- 63% - Household water conservation
- 59% - Septic tank problems
- 56% - Lawn fertilizer
- 52% - Type of fertilizer
- 45% - Dog waste
- 37% - Lawn watering

1.4.3 Resident Actions

Regarding use and interaction with waterbodies (percentage of residents who say water bodies are clean enough for actions such as fishing, swimming, etc. are in parentheses):

- 41% of residents walked, ran, or biked trails through woods or parks near waterbodies (39%)
- 37% of residents walked, sat, or ran by waterbodies (40%)
- 25% of residents fished or hunted in or near waterbodies (37%)
- 24% of resident swam in waterbodies (34%)
- 23% of residents went boating, canoeing, or kayaking in waterbodies (42%)
- 11% of residents gave money or took actions to help conserve and preserve waterbodies

Three in four residents (75%) say they take actions most days that preserve water quality/quantity. Of the 30% of residents who have a dog, nearly one in five (18%) do not pick up the dog waste. Of the 89% of residents who have a lawn, more than two in five (42%) fertilize more than once a year.

The following percentages of residents report engaging in the following actions around the home:

- 18% - use low phosphate and slow release fertilizer
- 15% - use native landscaping
- 8% - test their soil before fertilizing
- 11%- fertilize lawn before heavy rains
- 66% (of the 11% of residents that have a septic tank) - service their septic tanks at least every 5 years
- 7% - dispose of leaves/grass clipping improperly
- 4% - dispose of motor oil improperly

1.4.4 Motivating People to do the Right Thing

In order to motivate residents to do the right thing when it comes to conserve/preserve water quality/quantity, the following percentages of residents recommend:

- 91% - teach the right actions in school
- 90% - advertise
- 74% - develop neighborhood councils

Residents rely more on television (37%), newspapers (29%), mail (27%), and water or sewer bill inserts (25%) for information about water conservation and protection. To a lesser degree residents felt that the internet (19%), signs or billboards (10%), or radio (8%) were the best way to be provided information. Fewer than 3% felt that posters at recreation areas, public meetings, classes or workshops were the best way to be provided with information.

1.5 Steering Committee

Stakeholders were invited to participate in a special meeting on March 6, 2014 to discuss the formation of a watershed steering committee to help guide the development and implementation of this watershed plan. The general consensus of the participants was to use the "potential list of stakeholders" included in the *Northwest Indiana Watershed Management Framework* as a starting point.

The steering committee is broken into general categories that include representatives from municipalities, county or regional agencies/departments/districts, environmental and conservation organizations, recreational groups, business and industry, universities, and state and federal government (Table 3). The steering committee, like the watershed plan itself, is dynamic and will likely include minor changes as the initiative moves forward.

The primary role of the Deep River-Portage Burns Waterway Initiative steering committee is to:

- Operate as a coordinating and information exchange group to help establish strategic direction and priorities for watershed restoration.
- Recommend key actions and projects needed to improve environmental conditions in the watershed.
- Seek support and resources for the initiatives/projects that it recommends.

Municipal	**Representative**
Crown Point	Vacant, Formerly Dan Niksch
Hobart	Tim Kingsland, Sergio Mendoza
Gary	Brenda Scott-Henry
Merrillville	Matt Lake
New Chicago	Alicia Barber, Lori Reno
Portage	Jenny Orsburn
County or Regional	**Representative**
County Soil & Water Conservation Districts	Julie Duttlinger (Lake Co.), Harvey Nix (Porter Co.)
County Surveyors Offices	Bill Emerson (Lake Co.), Kevin Breitzke (Porter Co.)
Lake County Parks Department	Craig Zandstra
Little Calumet River Basin Development Commission	Dan Repay
Environmental & Conservation	**Representative**
Izaak Walton League- Porter County Chapter	Jim Sweeney
The Nature Conservancy	Susan MiHalo
Save the Dunes	Vacant, Formerly Dr. Candice Smith
Shirley Heinze Land Trust	Vacant, Formerly Paul Quinlan
Sierra Club	Sandy O'Brien
Recreation	**Representative**
Northwest Indiana Paddling Association	Dan Plath, Gina Darnell
Business & Industry	**Representative**
Northwest Indiana Forum	Kay Nelson
The Wildlife Habitat Council	Daniel Goldfarb

Universities/Colleges	Representative
IL-IN Sea Grant	Leslie Dorworth
State & Federal Agencies	**Representative**
Natural Resource Conservation Service	Derek Schmitt
Indiana Department of Environmental Management	Ashley Snyder, Michelle Caldwell
Indiana Department of Natural Resources	Dorreen Carey
Indiana Dunes National Lakeshore	Dr. Charles Morris
Indiana State Department of Agriculture	Julie Morris, Jared Obrien
Urban Waters Federal Partnership	Natalie Johnson

Table 3 Steering Committee Members and Representative

* Denotes alternate representative