Section VIII: Goals and Indicators

To determine the types of remediation projects which would result in the greatest benefit to these watersheds, goals and objectives were developed based on the Concerns and Problem Statements previously discussed. These goals are intended to address each of the specific problem statements presented in Section V.

Problem 1: The Little Calumet River and its tributaries regularly exceed the Indiana single sample daily maximum of 235 colonies per 100 milliliters for *Escherichia coli* (*E. coli*) bacteria, thus limiting recreation, impacting downstream waters and Lake Michigan, and raising health concerns among the public.

Goal 1: Reduce *E. coli* levels in the Little Calumet River by reducing loads to the River to meet beneficial uses.

Baseline Information: The Little Calumet River and its tributaries regularly exceed the Indiana single sample daily maximum of 235 colonies per 100 milliliters for *Escherichia coli* (*E. coli*) bacteria

Short Term Target: Lower *E.coli* levels, during dry weather flows, below 235 cfu/mL with less than 10% exceedance.
Target Date: 2018

Long Term Target: Lower *E.coli* levels below 235 cfu/mL per single sample with less than one (1) exceedance in any 30 day period.
Target Date: 2028

Indicator: *E.coli* sampling results

Problem 2: The calculated Total Suspended Solids (TSS) level during high flow conditions are 8,683 ton/yr which is capable of impacting biological communities and the overall river health. The measured high flow loading rate is nearly eight (8) times higher than the calculated loading.

Goal 2: Reduce sediment loads by source reduction strategies and, in priority subwatersheds, through the use of Best Management Practices (BMPs).

Baseline Information: Land within the ACOE levee system is currently being farmed up to the banks of the Little Calumet River. This practice creates large amounts of sediment draining directly to the river during high flows.

Short Term Target: Reduce the amount of sediment being transported in the Little Calumet River by enacting, implementing, and enforcing ordinances to improve water quality in the subwatersheds.

Target Date: 2013

Long Term Target: Achieve an 80% reduction in sediment loading through the implementation of BMP's to preserve and enhance aquatic habitats in the Little Calumet River and its tributaries. This reduction would lower the calculated load to 1,700 ton/year of TSS in the entire watershed study area.
Target Date: 2018

Indicator: Sampling Results

Problem 3: The calculated nutrient levels during high flow are capable of negatively impacting the biological communities and the overall health of the river. The calculated nutrient loads were found to be 126 ton/year and 16 ton/year for total nitrogen (TN) and total phosphorus (TP), respectively. This is well below the measured levels with TP being 354 ton/year which has negatively affected the river.

Goal 3: Reduce nutrient loads by source reduction strategies and, in priority subwatersheds, through the use of Best Management Practices (BMPs).
Baseline Information: The large amount of impervious surfaces does not allow nutrients to be filtered out before entering the receiving waters.

Short Term Target: Reduce the amount of nutrients being transported in the Little Calumet River through education and outreach efforts and Low Impact Development (LID) ordinances.
Target Date: 2013

Long Term Target: Reduce nutrient loads in the Little Calumet River Watershed through the implementation of BMPs such that the calculated loadings do no exceed 12.7 ton/year of TP and 105 ton/year for TN across the entire watershed. Nutrient levels being reduced to these levels will improve the overall health of the river and positively impact the aquatic habitat that is currently limited but present in the Little Calumet River and its tributaries.
Target Date: 2028

Indicator: Sampling Results

Problem 4: Severe hydrologic manipulations have impacted the natural topography of the river and riparian areas resulting in disconnection from historic floodplains and wetlands, as well as the creation of extreme low-flow conditions in the river at certain locations.

Goal 4: Restore, improve, and/or protect floodplains, wetlands, natural areas, and riparian corridors.

Baseline Information: Many areas exist within these watersheds worth protecting, improving, and/or restoring. These areas can be used to meet other goals within this plan as well.

Short Term Target: Identify and prioritize areas to be protected, improved, and/or restored.
Target Date: 2010

Long Term Target: Protect, restore, and/or improve 2,680 acres of floodplains, wetlands, natural areas, and/or riparian corridors that are currently classified as forest or wetlands.
Target Date: 2018

Indicator: Acres of floodplains, wetlands, natural areas, riparian corridors, and natural conveyances that have been identified, protected, improved, and restored.

Problem 5: The residents and local leaders in the Little Calumet River Watershed need more information and education on their role in maintaining the overall quality of the watershed.

Goal 5: Improve public awareness/knowledge of pollutant loads, sources, and solutions, especially with regard to *E. coli*, and the impacts and risks associated with them.
Baseline Information: An adequate educational outreach program is not in place to inform the residents within these watersheds about their role in maintaining the overall quality of these watersheds.

Short Term Target: Raise awareness of watershed and water quality issues, especially urban storm water management, *E.coli* sources and risks, and septic system maintenance.
Target Date: 2013

Long Term Target: Increase public awareness of and participation in watershed improvement activities.
Target Date: 2018

Indicators: Number of residents participating in educational events.

Problem 6: A single point of contact is not in place to coordinate resources across political boundaries in the Little Calumet River Watershed.

Goal 6: Create an active watershed alliance or conservancy district that facilitates and implements information sharing including ordinances, projects/experiences, and educational materials in a central location.

Baseline Information: No one entity has the ability or authority to cross corporation boundaries in order to better share and collaborate on projects within the local communities. The alliance or conservancy district would also be responsible for allowing a central point to be contacted so that information is easily available.

Short Term Target: Identify the type and extent of entity needed to perform the necessary functions.
Target Date: 2010

Long Term Target: Establish the entity determined above.
Target Date: 2015

Indicator: Establish entity by conducting first formal meeting.

Problem 7: Public access to the river is challenging due to the highly developed state of the watershed.

Goal 7: Increase river corridor connectivity, river navigability, and public access sites and make the public aware of them.

Baseline Information: Public Access Sites are being added as part of the Army Corp of Engineers Flood Control and Recreation Project. The sites as well as other known public access sites are shown in Figure 8.1.

Short Term Target: Identify areas suitable for connectivity improvements and additional public access sites and promote existing sites.
Target Date: 2010

Long Term Target: Increase river connectivity and navigability as well as creating more public access sites along the Little Calumet River and its tributaries. The stakeholders of the Little Calumet River Watershed Management Plan should promote the increased public access sites to the river to the residents of their community.
Target Date:2018

Indicator: Number of connectivity, navigability, and access sites and projects identified, protected, improved, restored, or constructed.

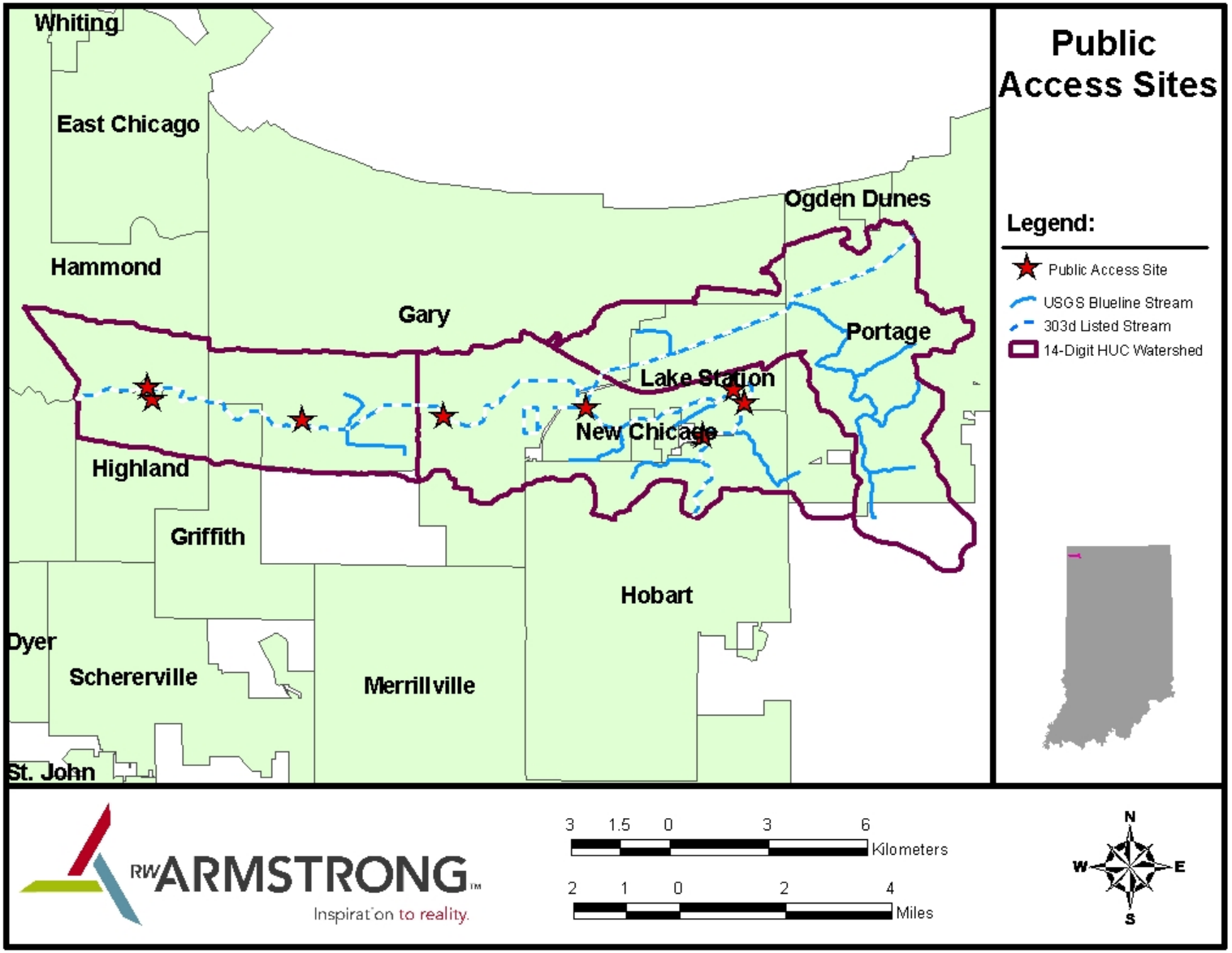

Figure 8.1: Public access sites as identified by NIRPC Greenways and Bluewyas Guide.