

Executive Summary

Watershed Management Framework Development Plan
For
Lake, Porter, and La Porte Counties
In
Northwest Indiana

Prepared by the

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INTRODUCTION

Located on approximately 45 miles of the southern shore of Lake Michigan, the Northwestern Indiana Regional Planning Commission (NIRPC) region including Lake, Porter, and LaPorte counties encompasses approximately 1,513 square miles. Within this area there are two large watersheds partially lying within the three counties. The Little Calumet-Galien Basin lies in the northern portion of the counties along Lake Michigan, and the Kankakee River Basin lies to the south. NIRPC is planning for these two large water basins because they are the two which are of truly regional scale in northwest Indiana, crossing all three of the counties comprising NIRPC's planning jurisdiction.

Water quality problems can be linked to how the region has developed over the last century. The area once was home to great marshes, wetlands, meandering streams and rivers, and plant and animal diversity that we can only get a glimpse of in protected and undeveloped areas. Industrial development along Lake Michigan has left its legacy of issues behind in regional waterbodies, but it is not the only source of water quality impairments. Agricultural uses along the Kankakee River have changed the river bringing along a different set of issues. As northwest Indiana has seen population growth and development, occurrences of combined sewer overflows and sanitary sewer overflows, failing septic systems, and the loss of wetlands and open space have all increased as a result of this growth.

The Watershed Management Plan was developed as a framework for water quality improvements and planning within NIRPC's planning area. The watershed planning project that resulted in this plan began in 2001 with a group of stakeholders from Lake, Porter, and LaPorte counties representing federal, state, and local agencies, industry, agricultural and environmentalist groups, and citizens that formed the Watershed Advisory Group. The following mission statement was developed that guided the process and recommendations summarized below.

Mission Statement

To establish a watershed planning and management framework for the enhancement, restoration, and protection of water quality in Lake, Porter, and LaPorte counties through the facilitation of communication, education, and coordination among watershed stakeholders.

Little Calumet-Galien Basin

The Little Calumet-Galien Basin encompasses the northern portions of Lake, Porter, and LaPorte counties with the Valparaiso moraine being the boundary between this and the Kankakee River basin. Approximately 115 square miles or 19 percent of the Little Calumet-Galien Basin is drained by streams that flow either into the state of Illinois or Michigan. Waterbodies within this

basin ultimately flow into Lake Michigan. The northwestern part of the basin is one of the major industrial centers of the United States. Economic development and the sustainability of northwest Indiana were primarily dependent upon steel, petrochemical, energy generation, and other ancillary industrial development. Historically, northwest Indiana's most densely populated areas were near the industrial cores along Lake Michigan and in this basin. The extensive urban and industrial development has had detrimental effects on the environment and surface water resources within the basin, including Lake Michigan.

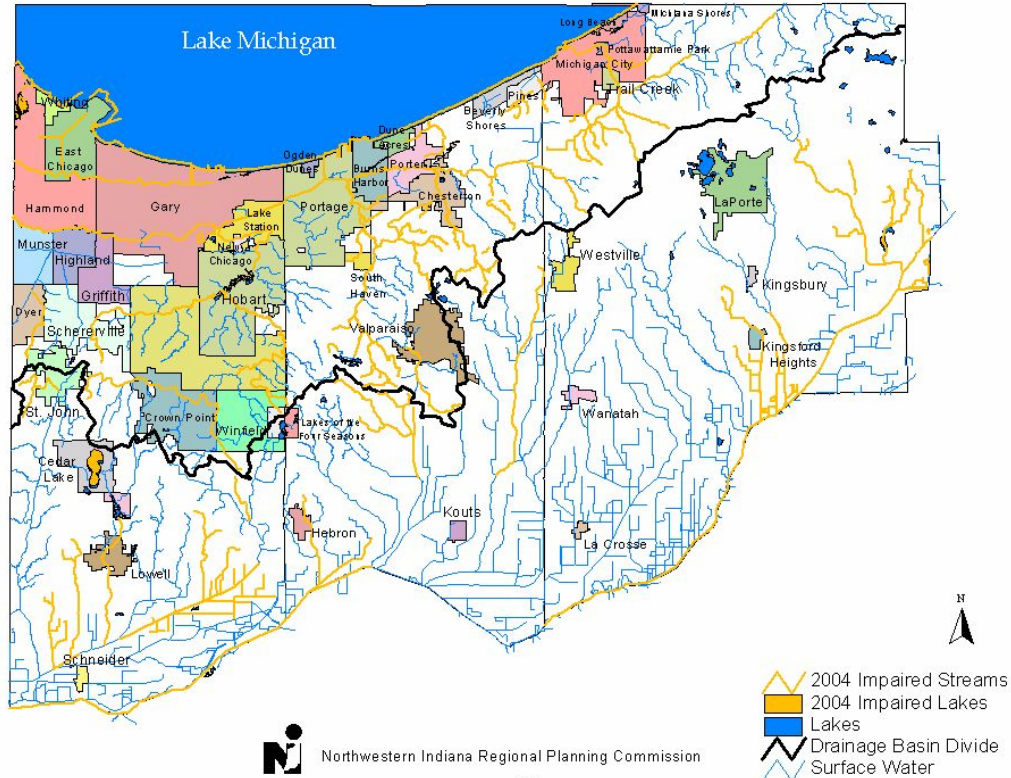
Kankakee Basin

The Kankakee River basin, as opposed to the Little Calumet-Galien, is less densely populated, has more open land, and more agricultural uses. As development and population continue to shift to the south and east, the detrimental effects that are being realized in the Little Calumet-Galien basin will be felt in this basin. For the purposes of this plan, the Kankakee River Watershed refers to the Kankakee River and its northern tributaries within the counties of Lake, Porter, and LaPorte in Indiana.

WATERSHED THREATS

The Indiana Department of Environmental Management (IDEM) completed an Integrated Water Quality Monitoring and Assessment Report for Indiana streams in 2004. Required biannually by Section 305(b) and Section 303(d) of the federal Water Pollution Control Act, the assessment provides an evaluation of whether or not waterbodies support the State's designated uses and water quality standards. A total of 60 waterbody segments are listed on the 2004 303(d) List for Impaired Waterbodies (303(d) List) for the Little Calumet-Galien (43 segments) and Kankakee River Basins (17 segments).

2004 Section 303(d) - Impaired Waterbodies



Water quality impairments for the purpose of this study were defined as those listed on the IDEM and United States Environmental Protection Agency (USEPA) approved 2004 Water Quality Impairments (303(d) list). These include:

Little Calumet-Galien Watershed

- impaired biotic communities
- fish consumption advisories for PCBs and/or mercury
- *Escherichia coli* (*E. coli*) bacteria
- cyanide
- oil and grease
- ammonia

Kankakee River Watershed

- impaired biotic communities
- fish consumption advisories for PCBs and/or mercury
- *E. coli*
- nutrients
- total dissolved solids

Problems, causes, and sources of these impairments were investigated in this study and can be grouped into three major categories: Urban and Rural, Agricultural, and Hydromodifications.

Urban and Rural Problems, Causes, and Sources

- Developing areas
- Construction sites
- On-site sewage disposal systems
- General sources
- Contaminated sites
- Roads, highways, and bridges
- Combined sewer overflows
- Sanitary sewer overflows
- Water Supply

Hydromodification Problems, Causes, and Sources

- Channel modification
- Dams
- Wetland loss
- Streambank and shoreline erosion

Agricultural Problems, Causes, and Sources

- Erosion from cropland
- Facility wastewater and runoff control from confined animal facilities
- Application of nutrients to cropland
- Pesticide application to cropland
- Grazing management

WATERSHED PLANNING PROCESS

This plan was developed using and building upon the resources provided through current regional initiatives and the IDEM Watershed Management Section, Watershed Plan Checklist, effective August 2003. The Regional Watershed Management Plan provides the framework for smaller watersheds in the three-county region of northwest Indiana to develop and implement their own watershed plan.

Many of the participants in the development of the Regional Watershed Management Plan concurrently participated in the development of the Indiana Lake Michigan Coastal Program Nonpoint Pollution Control Plan (6217 Plan). Because many of the same issues were identified during both processes, the 6217 Plan was used as a foundation for this plan as adopted by the Watershed Advisory Group. Though the 6217 Plan addresses only the Little Calumet-Galien

basin excluding the Chicago Watershed, the plan management measures are consistent with the issues identified in the Kankakee River Basin.

In order to encourage the general public's participation, NIRPC developed press releases and sent out flyers to identified stakeholders announcing the kickoff meeting for the project. All meetings were open to the public. Throughout the duration of the project, a calendar on NIRPC's website listed dates and times for relevant meetings. Other efforts were made through announcements at other meetings, the creation of the *Regional Waters* newsletter, and participation at events such as environmental fairs and conferences. Public comment sessions were held to obtain additional participation and input in the plan. A series of information sessions were held throughout the three-county area prior to the adoption of this plan by the NIRPC Commission.

GOALS AND OBJECTIVES

The 6217 Plan and the Regional Watershed Management Plan for northwest Indiana have consistently identified the same issues. In an effort to send a consistent message, the Watershed Advisory Group adopted and modified the Goals and the Objectives in the 6217 Plan.

Based on various factors including ease of implementation, agencies involved, and funding availability, the Watershed Advisory Group identified priority critical areas on which to focus efforts. Objectives to achieve the goals are grouped here by critical area. Each of the objectives detailed in the full plan is accompanied by action items (tasks), resources needed, a listing of responsible entities, costs, measures of success (indicators), and a time frame for accomplishing each objective.

Urban and Rural Goal

Implement urban and rural nonpoint source practices in northwest Indiana to the extent practicable to achieve and maintain applicable water quality standards and improve quality of life.

Critical Area 1 – New Development

Objective 1A - Ensure the reduction of pollution and stormwater associated with new development and induced changes in hydrology

Objective 1B - Encourage sound planning principles, management, and mitigation measures to protect, enhance, and restore natural resources and reduce runoff to surface waters

Objective 1C - Ensure that site-specific development designs protect, enhance, and restore natural resources and reduce runoff to surface waters

Critical Area 2 - Existing Development

Objective 2A - Ensure the decrease of pollution being discharged from existing residential and industrial facilities

Objective 2B - Reduce the amount of nonpoint source pollution from everyday residential and commercial uses and activities

Critical Area 3 - Failing On-site Sewage Systems

Objective 3A - Ensure state officials permit the use of best available technology for installation and maintenance of new onsite sewage disposal systems

Objective 3B - Reduce non-point source pollution resulting from onsite disposal system

Critical Area 4 - Roads, Highways and Bridges

Objective 4A - Ensure that state officials plan, site, and develop roads and highways away from areas classified as eco-significant and susceptible to erosion and sediment loss

Objective 4B - Ensure runoff associated with bridges is assessed and that appropriate stormwater quality measures and treatment are utilized to protect critical habitat, wetlands, fisheries, and water supplies

Objective 4C - Utilize operation and maintenance controls to reduce pollutant loadings to receiving waters from roads, highways, and bridges

Objective 4D - Runoff management systems for existing roads, highways, and bridges should identify priority pollutant reduction opportunities and schedule implementation of retrofit projects to protect impacted areas and threatened surface waters

Agricultural Goal

Implement agricultural nonpoint source practices in northwest Indiana to the extent practicable to achieve and maintain applicable water quality standards and improve quality of life.

Critical Area 1- Row Cropland With 2 percent or Greater Slopes

Objective - Minimize the delivery of sediment from agricultural lands to surface waters

Critical Area 2- Confined Animal Facilities

Objective - Minimize the discharge of contaminants from facility wastewater and stormwater runoff

Critical Area 3- Nutrients Applied to Cropland

Objective - Reduce the potential for runoff and/or leaching of nutrients applied to cropland into surface and/or groundwater

Critical Area 4- Pesticides Applied to Cropland

Objective - Reduce the potential for runoff and/or leaching of pesticides applied to cropland into surface and/or groundwater

Critical Area 5- Livestock Grazing

Objective - Reduce physical disturbance and direct loading of animal waste and/or sediment caused by grazing livestock

Hydromodification Goal

Ensure the protection of northwest Indiana's waterbodies from further impacts of hydromodification and wetland loss to meet and maintain applicable water quality standards.

Critical Area 1 – Channelization

Objective 1A - Evaluate the potential effects of proposed channelization on instream and riparian habitats

Objective 1B - Plan and design channelization to reduce undesirable impacts

Objective 1C - Develop an operation and maintenance program with specific timetables for existing modified channels which includes opportunity to restore instream and riparian habitat

Critical Area 2 – Wetland Loss

Objective 2A - Protect wetlands and riparian areas

Objective 2B - Restore and enhance wetlands and riparian areas

Critical Area 3 – Dams

Objective 3A - Construction and maintenance of dams must comply with MS4 guidelines

Objective 3B - Develop and implement a program to manage dams for the improvement of surface water quality and instream and riparian habitat

Objective 3C - Develop and implement a program to manage dams to minimize problems caused by excess water withdrawal

Critical Area 4 – Streambank and Shoreline Erosion

Objective 4A - Stabilize streambanks with vegetative materials

Objective 4B - Protect streambank and shoreline features with the potential to reduce nonpoint source pollution

SUBWATERSHED PLAN DEVELOPMENT

This plan was developed to provide a framework for subwatershed plan development. In order to develop detailed subwatershed plans that meet the USEPA/IDEM criteria for watershed plans, the following steps should be followed. (Detailed guidance is available through IDEM's Watershed Management Section - <http://www.state.in.us/idem/water/planbr/wsm/index.html>):

Task	Relationship to Regional Watershed Management Plan
Define Watershed	Use the watershed description as a general description and provide more subwatershed details.
Identify Problems & Causes	Reference and build upon appropriate sections
Identify Sources	Reference and build upon appropriate sections including providing details on each source (e.g., number of acres of corn) and an estimate of existing loads.
Identify Critical Areas	Reference and build upon appropriate sections including the development of load estimates.
Set Goals and Indicators	Build upon the goals and objectives presented with numeric goals and objectives and corresponding indicators. This should include estimates of load reductions (or target loads) needed to meet water quality standards for each pollutant or target parameter.
Choose Measures/ BMPs	Develop specific management measures/actions by subwatershed for the specific problems, causes, and sources noted including: the identification of tasks, funding sources, estimated load reductions, time frame, responsible parties, and resource needs (i.e., technical assistance and financial). In addition, the planned order of implementation of the measures should be outlined.
Monitor Effectiveness	Develop schedule of milestones and monitoring plan for specific subwatershed.

The watershed planning process was advised and supported by the following experts who participated in the Regional Watershed Advisory Group:

Name	Organization	County
Non Governmental or Industrial Groups		
Tom Anderson	Save The Dunes Council	LaPorte County
Lee Botts	Environmentalist	Lake County
Charlotte Read	Save The Dunes Council	LaPorte County
Dr. Mark Reshkin	Professor Emeritus, Indiana University	Porter County
Jeffery Edstrom	CADMUS Group	Chicago, IL
Municipalities		
Dorreen Carey	City of Gary	Lake County
Jim Meyer	City of Gary, Gary Sanitary District	Lake County
Glen Eberly	Town of Dyer	Lake County
Craig Grow	Town of Ogden Dunes	Porter County
Margorie Hefner	Town of Kouts	Porter County
Craig Hendrix	City of Portage	Porter County
Denarie Kane	City of Hobart	Lake County
Steve Truchan	City of Hobart	Lake County
Paul Panther	Town of Ogden Dunes	Porter County
Dave Pilz	City of Valparaiso	Porter County
Dan Thompkins	Town of Trail Creek	LaPorte County
Steve Yagelski	Town of Chesterton	Porter County
County and Regional Representatives		
George Van Til	Lake County Surveyor	Lake County
Dan Gossman	Lake County Surveyor's Office	Lake County
Kevin Breitzke	Porter County Surveyor	Porter County
Robert Thompson	Porter County Planning Director	Porter County
Dan Gardner	Little Calumet River Basin Commission	
Jody Melton	Kankakee River Basin Commission	
Industry		
Kay Nelson	Northwest Indiana Forum	
Doug Bley	ISG Burns Harbor	Porter County
Bill Herbert	Lake Station	Lake County
Federal and State Agencies		
Larry Osterholz	Indiana Department of Agriculture	
Chuck Walker	USDA-NRCS	Porter County
Mike Molnar	IDNR – Lake Michigan Coastal Program	
Jenny Orsburn	IDNR – Lake Michigan Coastal Program	
Martin Jaffe	IL-IN Sea Grant Program	University of Illinois Chicago
Robert McCormick	IL-IN Sea Grant Program	Purdue University – West Lafayette
Molini Goel	IDEM – Northwest Office	
Alex DaSilva	IDEM – Northwest Office	
Joe Keithly	IDEM – Northwest Office	
Eric Oliver	IDEM	
Bonnie Elifritz	IDEM	
Matt Jarvis	IDEM-NRCS Watershed Advisor	

NIRPC Coordinators		
Jennifer Gadzala	NIRPC Watershed Coordinator	(2001-2004)
Christine Owens	NIRPC Watershed Coordinator	(2004-2005)

For more information and the full report visit the NIRPC web site at <http://www.nirpc.org>.

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