

Pike-Root (Waukegan) Watershed

Hydrologic Unit Code: 04040002

For more information, see the Wisconsin Department of Natural Resources' "Wisconsin's Basins" website at <http://dnr.wi.gov/org/gmu/gmu.html> and the USEPA "Surf Your Watershed" website at http://cfpub.epa.gov/surf/huc.cfm?huc_code=04040002

Watershed Groups

- Root-Pike Watershed Initiative Network — www.rootpike.wi.org
- 1000 Friends of Wisconsin — www.1kfriends.org
- Midwest Center for Environmental Science and Public Policy — www.mcespp.org
- Sustainable Racine — www.sustainable-racine.com
- The Waukegan Harbor Citizens Advisory Group — www.wkkhome.northstarnet.org/iepa/page2.html
- Mike Luba, Root-Pike River Basin Water Leader — Michael.Luba@dnr.state.wi.us

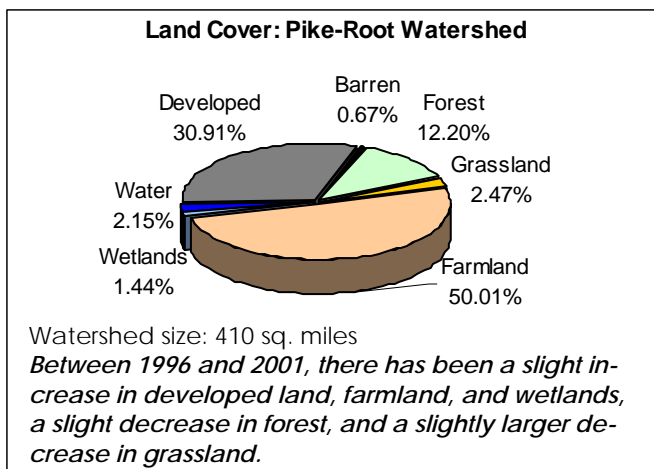
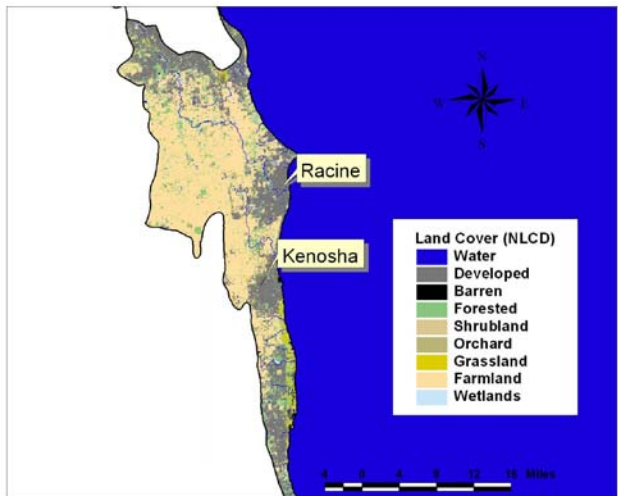
Watershed Overview

- The Pike-Root watershed covers over 410 square miles and includes major subwatersheds as the Pike River, the Root River, Oak Creek, Racine Harbor, the Waukegan River, and Waxdale Creek. The watershed has over 113 miles of shoreline on the west side of Lake Michigan.
- The watershed stretches from south of Milwaukee to north of Chicago. It includes the cities of Racine and Kenosha, Wisconsin, and Waukegan, Illinois.
- The Waukegan Harbor is an Area of Concern.
- While over 50 percent of the watershed is used for agricultural purposes, 30 percent is urbanized.
- The Waukegan River, which is part of the basin, is the only river in Illinois that flows into Lake Michigan.
- The National Heritage Inventory has documented 16 endangered, 20 threatened, and 52 special concern plant and animal species and 17 rare aquatic and terrestrial species in the watershed.
- The combined effects of the draining of the majority of wetlands and stream modifications like channel manipulation have led to degraded water and habitat quality throughout the Pike- Root Basin.
- The Nature Conservancy identified critical Lakeplain Wet-Mesic Prairie, Mesic Sand Tallgrass Prairie, Interdunal Wetland, Black Oak / Lupine Barrens and Midwest Dry-Mesic Sand Prairie at the Chiwaukee Prairie-Illinois Beach.
- Chiwaukee Prairie-Illinois Beach is an important landbird stopover site and a raptor stopover site.
- Critical species identified by the nature Conservancy at the Chiwaukee Prairie-Illinois Beach include the Pale False Foxglove and the Prairie White-fringed Orchid. Other important species identified by the Nature Conservancy include Central Cordgrass Wet Prairie, Central Cordgrass Wet Sand Prairie, Central Mesic Tallgrass Prairie, Central Water Lily Aquatic Wetland, Cinquefoil - Sedge Prairie Fen, Great Lakes Beach, Great Lakes Beachgrass Dune, Lakeplain Wet Prairie, Midwest Dry Sand Prairie, Midwest Mixed Emergent Deep Marsh, Skunk Cabbage Seepage Meadow, Tussock Sedge Wet Meadow, Blazing Star Stem Borer Moth, Forked Aster, Henslow's Sparrow, Karner Blue Butterfly, Kirtland's Snake, and Silphium Borer Moth.



Subwatersheds of the Pike-Root-Waukegan Watershed

- 0101 Wind Point-Frontal Lake Michigan
- 0102 Oak Creek
- 0201 Village of Union Grove-West Branch Root River Canal
- 0202 East Branch Root River Canal
- 0203 West Branch Root River Canal
- 0204 Root River Canal
- 0301 Village of Hales Corner-Root River
- 0302 Ryan Creek-Root River
- 0303 Husher Creek-Root River
- 0304 Hoods Creek
- 0305 Community of Husher-Root River
- 0306 City of Racine-Root River
- 0401 City of Kenosha-Frontal Lake Michigan
- 0402 Pike Creek
- 0403 Pike River
- 0501 Waukegan River-Frontal Lake Michigan
- 0502 Diversey Harbor-Frontal Lake Michigan
- 0503 Oakwoods Cemetery-Frontal Lake Michigan



Watershed Activities

- Recommendations for improving the Pike and Root River watersheds are:
 - ◊ Implement of urban nonpoint source best management practices.
 - ◊ Implement of agricultural nonpoint source best management practices, including buffer strip development.
 - ◊ Conduct baseline surveys on streams within the watershed.
 - ◊ Assess sediment delivery, sediment transport, and streambank erosion.
 - ◊ Conduct aquatic habitat and sediment assessments above and below dams on the Pike and Root Rivers.
 - ◊ Implement aquatic habitat restoration and water quality improvement practices.
 - ◊ Implement wetland restoration projects where practicable.
 - ◊ Evaluate dams for removal.
- About 1 million pounds of PCBs have been dredged from Waukegan River.

Impaired (303d) Waters

Waterbody Name	Impairment
Lake Michigan, WI	Mercury and PCB Fish Consumption Advisories, PCBs
Bender (Lake Michigan)	Bacteria
Calumet Harbor	PCBs
Chicago River	Fecal Coliform, Mercury, PCBS, Silver, Total Phosphorous
Diversey Harbor	PCBs
Dugdale	Unknown Cause
Eichelman (Lake Michigan)	Bacteria
Grant Park (Lake Michigan)	Bacteria
Lincoln Pk North Pnd, IL	Total Phosphorus, Total Suspended Solids
N. Branch Pike R., WI	Aquatic Toxicity, Fish Fills
Oak Creek, WI	Aquatic Toxicity
Pennoyer Park (Lake Michigan)	Bacteria
Pettibone Creek, IL	Alpha BHC, Arsenic, Copper, Dieldrin, Endrin, Lead, Manganese, Mercury, Nickel, PCBs, Silver, Zinc
Pettibone Creek (S. Br.), IL	Alpha BHC, Endrin, Heptachlor, PCBs
Racine Harbor, WI	Aquatic Toxicity, Metals
Root River, WI	Phosphorus, Dissolved Oxygen, Sediment
Root River Canal, WI	Dissolved Oxygen, Phosphorus, Sediment
Root River Canal W. Branch, WI	Phosphorus, Dissolved Oxygen, Sediment
Root R. From Its Mouth Upstream To The Horlick Dam In Racine, WI	PCB Fish Consumption Advisory
Sand Pond	Unknown Cause
South Shore Beach -- Lake Michigan	Bacteria
Waxdale Creek, WI	Fish Kills, Aquatic Toxicity
Washington Park Lagoon, IL	Unknown Cause
Waukegan Harbor	Arsenic, Cadmium, Chromium, Copper, Lead, PCBs, Total Nitrogen, Total Phosphorus, Zinc
Waukegan River, IL	DDT, PCBs, Total Dissolved Solids, Aldrin, Hexachlorobenzene
Waukegan River (South Branch), IL	Aldrin, Chromium, DDT, Hexachlorobenzene, Nickel, Silver, Total Nitrogen

Waukegan Harbor Area of Concern

Location

1.2 square kilometers of industrial, commercial, municipal and open lands.

Stressors and Primary Contaminants

- PCB contaminated sediments

Programs

- Superfund
- Clean Water Act #319

Clean-Up Actions

- Approximately 1 million pounds of PCBs dredged from the harbor
- Soil removal activities completed at Waukegan Manufactured Gas and Coke site in 2005; extraction and treatment of contaminated groundwater to continue at the site for several years
- Removal and disposal of large amounts of acids, bases, paints, solvents, hydraulic oil, machining oil, compressed gases, metals, sludge and PCB-containing transformer fluid from the Waukegan lake-front site

Delisting Targets

- In progress

Key Activity Needed

- Dredging
- Brownfield development
- Habitat restoration
- Coordination with RAP program for AOC delisting purposes

Challenges

- Dredging for navigation and contaminated sediment removal
- Contaminated sediment disposal
- Funding to fulfill local match for dredging and remediation projects

Next Steps

- Pursuit of a dredging plan for the removal of PCB contaminated sediments from Waukegan Harbor
- Final dredging and disposal of Waukegan Harbor sediments
- Outboard Marine Corporation building, soil and groundwater remediation
- Implementation of best management practices to reduce nonpoint source pollution and improve water quality in the Waukegan River watershed, as per the watershed plan

