

Genesee River, Lower, Main Stem (0401-0001)

Impaired

Waterbody Location Information

Revised: 11/30/2016

Water Index No:	Ont 117 (portion 1)	Water Class:	B
Hydro Unit Code:	Genesee River (0413000307)	Drainage Basin:	Genesee River
Water Type/Size:	River/Stream 11.7 Miles	Reg/County:	8/Monroe (28)
Description:	from mouth to NYS Barge Canal		

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Public Bathing	Stressed	Suspected
Recreation	Stressed	Suspected
Aquatic Life	Stressed	Known
Fish Consumption	Impaired	Known

Conditions Evaluated

Habitat/Hydrology	Unknown
Aesthetics	Fair

Type of Pollutant(s) (CAPS indicate Major Pollutants/Sources that contribute to an Impaired/Precluded Uses)

Known: PRIORITY ORGANICS (PCBs), PRIORITY ORGANICS (dioxin), PESTICIDES (mirex), Nutrients (phosphorus), Silt/Sediment

Suspected: PATHOGENS

Unconfirmed: - - -

Source(s) of Pollutant(s)

Known: Urban/Storm Runoff

Suspected: TOXIC/CONTAMINATED SEDIMENT, Municipal Discharges, Other Non-Permitted Sanitary Disch, Industrial Discharges

Unconfirmed: - - -

Management Information

Management Status: Restoration/Protection Strategy Needed

Lead Agency/Office: DOW/Reg8

IR/305(b) Code: Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview

This portion of the Genesee River is assessed as an impaired waterbody due to fish consumption that is known to be impaired by priority organics (PCBs, dioxin) and pesticides (mirex) in contaminated sediment, the result of past/historic discharges. Recreational uses are also thought to be impaired by pathogen, however additional monitoring is necessary to verify this impairment. Public bathing and other recreational uses, as well as aquatic life are considered to experience minor impacts due to various pollutants from urban/storm runoff and other point and nonpoint sources in the highly-urbanized metropolitan Rochester area. Water quality at the mouth of the Genesee River is also impacted by elevated nutrient and silt/sediment loads that originate from agricultural and other nonpoint sources throughout the large rural watershed.

Use Assessment

This waterbody segment is a Class B waterbody, suitable for public bathing, general recreation use and support of aquatic life, but not as a water supply.

Fish consumption in the Lower Genesee River is impaired due to a NYS DOH health advisory that recommends eating no carp or channel catfish, and no more than one meal per month of White sucker, white perch, larger lake trout (greater than 25 inches) or larger brown trout (greater than 20 inches) because of elevated PCBs, dioxin and mirex levels. The source of this contamination is considered to be contaminated sediment, the result of past industrial activity/discharges and pesticide use. The advisory for this waterbody was first issued prior to 1998-99. (NYS DOH Health Advisories and DEC/FWMR, Habitat, January 2014)

Aquatic life is evaluated as supported but stressed based on biological sampling that shows slight impacts and sampling data showing other water quality concerns. This sampling can also be used to infer that there may be other minor impacts to recreational (fishing) uses, although more specific sampling is necessary to confirm this is the case. Additional (bacteriological) sampling is needed to more fully evaluate public bathing and other recreational uses. (DEC, DOW, BWAM, July 2014)

Water Quality Information

Biological (macroinvertebrate) assessments of the Lower Genesee in the Rochester Area were most recently conducted at various sites (below the Barge Canal, at Route 104, at Boxart Street) as part of the RIBS monitoring effort in 2014 and 2009. Sampling results reflect fair (near the mouth) to good (upstream near the canal) water quality, with the macroinvertebrate community altered from what is expected under natural conditions. Some expected sensitive species are not present and overall macroinvertebrate species richness is lower than expected. Some changes in community composition have occurred due to replacement of sensitive ubiquitous taxa by more tolerant taxa, but overall there is still balanced distribution of all expected taxa. In spite of these minor impacts, aquatic life is considered to be supported. (DEC/DOW, BWAM/SBU, January 2015)

NYSDEC Rotating Intensive Basin Studies (RIBS) Routine Network monitoring of the Genesee River in Rochester (at Genesee Docks/Boxart Street) is conducted every year. The most recent overall assessments at this site are from 1999 and 2000. Macroinvertebrate assessment showed slight impact to the invertebrate community, and fish communities are considered to be adequate. Concerns were raised at the time regarding elevated levels of metals and PAHs in biologic tissue samples and sediment samples; water column parameters of concern were limited to iron and aluminum. Toxicity testing showed significant reproductive impairment to the test organisms in one of two tests conducted. Two other locations upstream in this reach were sampled by the Stream Biomonitoring Unit in 1999; based on the resident invertebrates, water quality was determined to be slightly impacted at one location (at the Ridge Road bridge), and severely impacted at the other (immediately below the inflow of the Barge Canal). Note: The more recent assessment at the Barge Canal site reflected non-impacted conditions in 2009. (DEC/DOW, BWAR/SWAS, January 2003).

This RIBS chemical sampling as well as a number of older water quality studies that have indicated impacts to aquatic life in the river were conducted prior to the discontinuation of large industrial discharges from the Kodak Park facility and Kings Landing

Source Assessment

There are a wide range of sources that contribute pollutants to this waterbody. The highly urbanized surrounding area suggests urban/storm runoff, municipal and industrial point sources and other sanitary discharges may be contributing to impacts in the River. The Lower Genesee River is also affected by nutrient and silt/sediment loads that originate throughout the watershed.

Previously cited sources of impacts to the River that require more current reassessment include hydroelectric generating plants along the river that divert water to generate power and may have some impact on the fishery in the river (US Fish and Wildlife Service, 2001), combined sewer overflows and inactive hazardous waste sites.

Management Actions

Efforts to reduce the wastewater contribution of nutrient loadings throughout the watershed have been undertaken. A CSO abatement program uses deep tunnel storage to minimize discharges of combined sewage.

Efforts to restore and protect the waters of the Lower Genesee are intertwined with similar efforts in Lake Ontario. These efforts are coordinated by the NYSDEC Great Lakes Program. Working with stakeholders throughout the basin, the Program has developed a new, fully integrated action plan that guides restoration and conservation activities in New York's Great Lakes region. This action plan, or interim Great Lakes Action Agenda, is a multi-agency, multi-program,

and cross-region strategic plan to support innovative programs and build new partnerships at multiple levels of local, state, and federal government across the state's Great Lakes basin. The plan identifies high priority actions and focuses federal and state funding opportunities to address the most critical challenges unique to this region, including contamination clean-up, restoration of fish and wildlife, waterfront and economic development, climate change resiliency strategies, and recreation and tourism development. The Rochester Embayment Area of Concern is one of a number of major focus areas. (DEC, Great Lakes Program, July 2015)

Section 303(d) Listing

The Lower Genesee River is included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. The waterbody is included on Part 2b as an impaired water (fish consumption) needing a TMDL to address PCBs, dioxin and mirex contamination, and on Part 3a as a waterbody impaired by pathogens for which TMDL Development May be Deferred pending verification of the impairment). This waterbody was first listed (for all impairments) on the 2004 List. In 2016 the waterbody was delisted for phosphorus and silt and sediment due to reassessment.

Segment Description

This segment includes the portion of the river from the mouth at Lake Ontario, to the NYS Barge Canal. The waters of this portion of the river are Class B. Tribs to this reach/segment are listed separately.