



Lower Allegheny River Watershed (0501000112)

Water Index Number	Waterbody Segment	Category
Pa-53 (portion 1)/P95a	Allegheny River/Reservoir (0201-0023)	Impaired Seg
Pa-53- 1 thru 6 (selected)	Minor Tribs to Allegheny Reservoir, west (0201-0027)	No Known Impacts
Pa-53- 3 thru 7 (selected)	Minor Tribs to Allegheny Reservoir, east (0201-0028)	Minor Impacts
Pa-53- 8	Quaker Run and tribs (0201-0029)	Needs Verification
Pa-53- 8-P90	Quaker Lake (0201-0030)	Minor Impacts

Allegheny Reservoir (0201-0023)

Impaired Segment

Waterbody Location Information

Revised: 07/01/2014

Water Index No: Pa-53 (portion 1)/P95a
Unit Code: 0501000112 **Class:** B
Water Type/Size: Lake 3271.1 Acres
Description: reservoir, south end, w/in NYS

Drain Basin: Allegheny River
Reg/County: Upper Allegheny
9/ Cattaraugus Co. (5)

Water Quality Problem/Issue Information

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

Conditions Evaluated

Habitat/Hydrology	Fair
Aesthetics	Fair

Type of Pollutant(s)

Known: NUTRIENTS (phosphorus), HARMFUL ALGAL BLOOMS, ALGAL/PLANT GROWTH (native)
Suspected: Metals (mercury), Acid/Base (pH)
Unconfirmed: - - -

Source(s) of Pollutant(s)

Known: Habitat Alteration
Suspected: ONSITE/SEPTIC SYSTEMS, AGRICULTURE, Municipal Discharges, Atmosph. Deposition
Unconfirmed: Urban/Storm Runoff, Other

Management Information

Management Status: Verification of Sources Needed
Lead Agency/Office: DOW/Reg 9
IR/305(b) Code: Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview

This portion of Allegheny River is assessed as an impaired waterbody due to recreational uses that are known to be impaired by nutrients and resulting algal growth. Various point and nonpoint sources in this large drainage area contribute nutrients. Public bathing use is also affected by these conditions, although additional monitoring is necessary to determine if these affects rise to the level of impairment. The aesthetic condition of the lake and associated recreational activities are also stressed by excessive aquatic vegetation and the presence of invasive plants. Fish consumption use is considered stressed due to a fish consumption advisory in Pennsylvania due to mercury levels.

Use Assessments

This waterbody is designated class B, suitable for use as a public bathing beach, general recreation use and aquatic life support, but not as a water supply.

Recreation use is evaluated as impaired due to by nutrients (phosphorus), excessive algae, poor water clarity, and harmful algal blooms. Additional bacteriological sampling is needed to more fully evaluate swimming use. Conditions suggest at least stresses to public bathing. Non-contact recreation uses (boating, fishing) may be affected by the occurrence of invasive aquatic plants (Eurasian watermilfoil). Aesthetic conditions of the lake are considered stressed by algal blooms and excessive aquatic vegetation. (DEC/DOW, BWAM/LCI, October 2013)

There are no known restrictions to aquatic life. Concerns have been noted regarding elevated pH in association with the excessive algae growth and possible low dissolved oxygen levels in the deep waters of the lake. However no impacts have been noted to either the gilt darters or muskellunge stocked in the Allegheny River or the brown trout stocked in Quaker Run. The Allegheny River and Reservoir support a warmwater fishery. Sportfish include smallmouth bass, walleye, northern pike and muskellunge, and an abundant carp population is present. (DEC/DOW, BWAM/LCI, October 2013).

There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice for all waters). However fish consumption use is considered stressed due to a fish consumption advisory in Pennsylvania that recommends limiting consumption of small mouth bass to no more than 2 meals per month due to mercury levels; this advisory is more restrictive than the New York statewide advisory.

Water quality monitoring by NYSDEC lakes programs focuses primarily on the support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and public bathing use of the lake, or to evaluate contamination from organic compounds, metals or other inorganic pollutants are not usually collected as part of these monitoring programs. Monitoring to assess public bathing use and assessments of restrictions on fish consumption are generally the responsibility of state and/or local health departments.

Water Quality Information

Allegheny Reservoir was sampled through the NYSDEC Lake Classification and Inventory (LCI) survey in 2006 and 2007 at the open water location near the OPRHP Friends boat launch. The US Army Corps of Engineers also sampled the Reservoir in 2013 in response to reports of a blue green algae bloom from OPRHP staff that was also cited on the NYSDEC HAB notification page. These data indicate that the reservoir is best characterized as eutrophic, or highly productive. Phosphorus levels in the lake typically exceed the state guidance value of 20 ug/l and elevated chlorophyll a levels are indicative of high algae levels. Lake clarity is often restricted; with water transparency at times less than what is minimally recommended for swimming beaches. Readings of pH at times exceed the state water quality standards for protection of aquatic life; although no evidence of aquatic life impairments have been documented or reported. (DEC/DOW, BWAM/LCI, October 2013)

The Reservoir experiences summer algal blooms and shows a high susceptibility for harmful algal blooms (HABs). USACE sampling in 2013 found high levels of blue green algae in Quaker Bay and Sawmill Bay, based on elevated blue green algae cell counts, resulting in posting Harmful Algae Bloom ADVISORY and CAUTION level signs at lake access points in both locations during much of the summer of 2013. (DEC/DOW, BWAM/LCI, October 2013)

Source Assessments

The specific sources of phosphorus to Allegheny Reservoir have not been identified. Possible sources of nutrient loading include residential onsite wastewater treatment (septic) systems, nonpoint source runoff from agricultural activities, municipal wastewater loading from throughout the basin, groundwater transport, stormwater runoff, and internal loading (nutrient recycling). (DEC/DOW, BWAM, October 2013)

Management Actions

No specific management actions have been identified for the waterbody, although the reservoir was added to the Section 303(d) List as a waterbody requiring the development of a TMDL in 2014. A range of general best management practices and other recommendations to restore and protect water quality in all lakes are outlined in the NYSDEC manual Diet for a Small Lake (NYSDEC/FOLA, 2009). The US Army Corps of Engineers oversees water level control in Allegheny Reservoir.

Section 303d Listing

Allegheny Reservoir is included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. The waterbody is included on Part 1 of the List as an impaired waterbody requiring development of a TMDL or other strategy to address phosphorus. This waterbody was first listed on the 2014 List. (DEC/DOW, BWAM, January 2015)

Segment Description

This segment includes the reservoir south of Cold Spring near the Route 17/I-86 bridge, within New York State. The Allegheny River/Reservoir, North segment is listed separately.

Minor Tribs to Allegheny Reservoir, west (0201-0027) No Known Impacts

Waterbody Location Information

Revised: 01/15/2015

Water Index No: Pa-53- 1 thru 6 (selected) **Drain Basin:** Allegheny River
Unit Code: 0501000112 **Class:** B **Upper Allegheny**
Water Type/Size: Lake 67.5 Miles **Reg/County:** 9/ Cattaraugus Co. (5)
Description: total length of selected tribs to reservoir, west

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Public Bathing	N/A	-
Recreation	Fully Supported	Suspected
Aquatic Life	Fully Supported	Known
Fish Consumption	Fully Supported	Unconfirmed

Conditions Evaluated

Habitat/Hydrology	Unknown
Aesthetics	Unknown

Type of Pollutant(s)

Known: - - -
Suspected: - - -
Unconfirmed: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: - - -
Unconfirmed: - - -

Management Information

Management Status: No Action Needed
Lead Agency/Office: ext/WQCC
IR/305(b) Code: Water Attaining All Standards (IR Category 1)

Further Details

Overview

These tribs to the Allegheny River are assessed as having no known impacts; all evaluated uses are considered to be fully supported. This assessment is based on sampling conducted at two tribs and is thought to be representative of the larger waterbody segment.

Use Assessment

This trib segment is a Class C,C(T),C(TS) waterbody, suitable for general recreation use and support of aquatic life, but not as a water supply or public bathing.

Aquatic life is considered to be fully supported based on biological sampling that shows generally non-impacted

conditions. Biological sampling of one streams show conditions to be in the slightly impacted range, but approaching non-impacted and with a community that is most similar to natural conditions. These sampling results can also be used to infer that there are no significant impacts to recreational (fishing) uses, although more specific sampling is necessary to confirm this is the case. (DEC/DOW, BWAM, July 2014)

There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice for all waters). Fish consumption is considered to be fully supported based on the absence of any waterbody-specific advisory, but is noted as unconfirmed since routine monitoring of contaminants in fish is limited. (NYS DOH Health Advisories and DEC/DOW, BWAM, January 2014)

Biological Sampling

Biological (macroinvertebrate) assessments of Bone Run in Onoville (Bone Run Road) and Saw Mill Run in Onoville (Saw Mill Run Road) was conducted as part of the RIBS biological screening effort in 2006. Sampling results at these sites reflect good water quality. Conditions were in the non-impacted range for Saw Mill Run indicating very good water quality. At Bone Run conditions were in the slightly impacted range but approaching non-impacted and communities were most similar to natural conditions. The macroinvertebrate community shows some beginning signs of alteration from natural conditions, some expected sensitive species are not present and overall macroinvertebrate species richness is somewhat lower than expected, but overall there is still balanced distribution of all expected taxa. Aquatic life is fully supported and there are no other apparent water quality impacts. (DEC/DOW, BWAM/SBU, January 2015)

Source Assessment

Based on the biologic community composition, water quality is reflective of minimal anthropogenic sources. Specific sources of pollutants to these tribs have not been identified. (DEC/DOW, BWAM/SBU, January 2015)

Management Action

No specific management actions have been identified or are deemed necessary for the waterbody. (DEC/DOW, BRWM, December 2014)

Section 303(d) Listing

These tribs to the Allegheny River are not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. (DEC/DOW, BWAM/WQAS, July 2014)

Segment Description

This segment includes the total length of selected/smaller tribs entering the Allegheny Reservoir from the west from the state line to/including unnamed trib (-6). Tribs within this segment, including State Line Run (-1), Sawmill Run (-2), Bone Run (-4) and Pierce Run (-5), are Class C,C(T),C(TS).

Minor Tribs to Allegheny Reservoir, east (0201-0028)

Minor Impacts

Waterbody Location Information

Revised: 01/15/2015

Water Index No: Pa-53- 3 thru 7 (selected) **Drain Basin:** Allegheny River
Unit Code: 0501000112 **Class:** B Upper Allegheny
Water Type/Size: Lake 27.1 Miles **Reg/County:** 9/ Cattaraugus Co. (5)
Description: total length of selected tribs to reservoir, east

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Public Bathing	Unassessed	-
Recreation	Stressed	Unconfirmed
Aquatic Life	Stressed	Known
Fish Consumption	Fully Supported	Unconfirmed

Conditions Evaluated

Habitat/Hydrology	Good
Aesthetics	Good

Type of Pollutant(s)

Known: - - -
Suspected: UNKNOWN POLLUTANTS (biological impacts)
Unconfirmed: Nutrients (Phosphorus)

Source(s) of Pollutant(s)

Known: - - -
Suspected: UNKNOWN SOURCE
Unconfirmed: Onsite/Septic Systems

Management Information

Management Status: Verification of Pollutants/Causes Needed
Lead Agency/Office: ext/PRHP
IR/305(b) Code: Water Attaining Some Standards (IR Category 2)

Further Details

Overview

These tribs to the Allegheny River are assessed as having minor impacts due to aquatic life that is thought to be stressed. No specific pollutants or sources have been identified. This assessment is based on sampling conducted at one trib and is thought to be representative of the larger waterbody segment.

Use Assessment

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

Aquatic life is evaluated as supported but stressed based on biological sampling that shows slight impacts. Biological

sampling of one streams show conditions to be in the slightly impacted range, but approaching non-impacted and with a community that is most similar to natural conditions. These sampling results can also be used to infer that there are no significant 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 swimming use. (DEC/DOW, BWAM, July 2014)

There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice for all waters). Fish consumption is considered to be fully supported based on the absence of any waterbody-specific advisory, but is noted as unconfirmed since routine monitoring of contaminants in fish is limited. (NYS DOH Health Advisories and DEC/DOW, BWAM, January 2014)

Biological Sampling

Biological (macroinvertebrate) assessments of Wolf Run in Cold Spring (Wolf Run Road) was conducted as part of the RIBS biological screening effort in 2011. Sampling results reflect fair to good 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)

Source Assessment

Specific sources of pollutants to the waterbody have not been identified. However the biologic community composition indicates similarity to waters with municipal/industrial inputs. Surrounding land use (state park lands) and other knowledge of the waterbody suggests possible onsite wastewater sources, but there is currently no verification of this. (DEC/DOW, BWAM/SBU, January 2015)

Management Action

No specific management actions have been identified for the waterbody. The NYS Office of Parks Recreation and Historic Preservation is responsible for the management of waters in this watershed. (DEC/DOW, BRWM, December 2014)

Section 303(d) Listing

These tribs to the Allegheny River are not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. (DEC/DOW, BWAM/WQAS, July 2014)

Segment Description

This segment includes the total length of selected/smaller tribs entering the Allegheny Reservoir from the east from the state line to/including Wolf Run (-7). Tribs within this segment, include Wolf Run (-7), are Class B,B(T), with small lower portions designated Class C,C(T).

Quaker Run and tribs (0201-0029)

Needs Verification

Waterbody Location Information

Revised: 01/15/2015

Water Index No:	Pa-53- 8	D Drain Basin:	Allegheny River	
Unit Code:	0501000112	Class:	B	
Water Type/Size:	Lake		67.5 Miles	
Description:	entire stream and tribs		Reg/County:	9/ Cattaraugus Co. (5)

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Public Bathing	Unassessed	-
Recreation	Stressed	Unconfirmed
Aquatic Life	Stressed	Unconfirmed
Fish Consumption	Fully Supported	Unconfirmed

Conditions Evaluated

Habitat/Hydrology	Good
Aesthetics	Good

Type of Pollutant(s)

Known:	- - -
Suspected:	UNKNOWN POLLUTANTS (biological impacts)
Unconfirmed:	Nutrients (Phosphorus)

Source(s) of Pollutant(s)

Known:	- - -
Suspected:	UNKNOWN SOURCE
Unconfirmed:	Onsite/Septic Systems

Management Information

Management Status:	Verification of Problem Severity Needed
Lead Agency/Office:	DOW/BWAM
IR/305(b) Code:	Water Attaining Some Standards (IR Category 2)

Further Details

Overview

Quaker Run is assessed as needing verification of impacts due to aquatic life that may be stressed. Previous sampling indicated no impacts and very good water quality but more recent screening indicates some minor impacts.

Use Assessment

Aquatic life may experience impacts, however additional sampling is needed to verify the presence of such impact. This sampling can also be used to infer that there may be minor impacts to recreational (fishing) uses, although more specific sampling is necessary to confirm this is the case. Additional sampling is also needed to more fully evaluate other recreational and swimming use. (DEC/DOW, BWAM/SBU, December 2014)

There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice for all waters). Fish consumption is considered to be fully supported based on the absence of any waterbody-specific advisory, but is noted as unconfirmed since routine monitoring of contaminants in fish is limited. (NYS DOH Health Advisories and DEC/DOW, BWAM, January 2014).

Water Quality Information

Biological (macroinvertebrate) assessments of Quaker Run in Cain Hollow (at Cain Hollow Road) were conducted in 2011, as well as in 2006 and 2007. The most recent sampling results reflect fair water quality, with the macroinvertebrate community altered from what is expected under natural conditions, with some indication of siltation and sewage impacts, although the community was also very similar to natural conditions. The previous sampling results both indicated clearly non-impacted water quality conditions. The fauna was dominated by mayflies and caddisflies with stoneflies well represented. (DEC/DOW, BWAM/SBU, January 2015)

Source Assessment

Specific sources of pollutants to Quaker Run have not been identified. Based on the biologic community composition possible source(s) of pollutants to the waterbody are siltation and sewage inputs.

Management Action

No specific management actions have been identified for the waterbody. Additional sampling to verify the level of impact is recommended. The NYS Office of Parks Recreation and Historic Preservation is responsible for the management of the waterbody and its watershed. (DEC/DOW, BWAM/SMAS, January 2015)

Section 303(d) Listing

Quaker Run is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. There are no impacts/impairments that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, January 2009)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are primarily Class B,B(T); a short reach from the mouth to the Allegheny State Park boundary is designated Class C. Tribs to this reach/segment, including Holts Run (1), Willis Creek (4), English Creek (5) and Stony Brook (7), are Class B,B(T).

Quaker Lake (0201-0030)

Minor Impacts

Waterbody Location Information

Revised: 01/15/2015

Water Index No:	Pa-53- 8-P90	Drain Basin:	Allegheny River
Unit Code:	0501000112	Class:	B(T)
Water Type/Size:	Lake		275.7 Acres
Description:	total area of entire lake		
		Reg/County:	9/ Cattaraugus Co. (5)

Water Quality Problem/Issue Information

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

Conditions Evaluated

Habitat/Hydrology	Fair
Aesthetics	Good

Type of Pollutant(s)

Known: PATHOGENS, Low D.O./Oxygen Demand, Temperature
Suspected: - - -
Unconfirmed: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: UNKNOWN SOURCE
Unconfirmed: Other Source (wildlife)

Management Information

Management Status: Verification of Sources Needed
Lead Agency/Office: ext/PRHP
IR/305(b) Code: Water Attaining All Standards (IR Category 1)

Further Details

Overview

Quaker Lake is assessed as having minor impacts due to public bathing and recreational uses that are considered to be stressed by pathogens. These impacts are a result of occasional and temporary bathing beach closures. No specific sources have been identified; waterfowl/wildlife is a possible source. There are also concerns regarding low dissolved oxygen levels and the presence of invasive species.

Use Assessments

This waterbody is designated class B(T), suitable for public bathing, general recreation use and aquatic life support, but not as a water supply. The waterbody is also designated as a cold water (trout) fishery.

Public bathing in Quaker Lake is stressed due to temporary bathing beach closures amounting to fewer than 10 days per season. Other general recreational uses in the lake (fishing, boating) are fully supported however the occurrence of invasive plant species near the swimming beach, may discourage some recreation. (DEC/DOW, BWAM, March 2014)

Aquatic life may be stressed by depressed dissolved oxygen and elevated temperatures. Hypolimnetic oxygen levels indicate occasional hypoxic conditions below a depth of 6-9 meters, but it is not known if depressed oxygen affects the stocked trout species. DEC stocks yearling brown trout and two year old brown trout annually. The trout fishery is essentially a put-and-take fishery, as there is little holdover of trout. Water quality sampling indicates that by August lake water may not be sufficiently cold and/or oxygenated to support trout. Spring and fall stocking is required to provide a trout fishery in this lake. The Bureau of Fisheries also reports abundant populations of smallmouth and largemouth bass, northern pike, bluegill, pumpkinseed, rock bass, yellow perch and brown bullhead. (DEC/DFW, Bureau of Fisheries, 2005).

Water Quality Information

Quaker Lake was sampled by the Environmental Management Bureau of New York State Office of Parks, Recreation and Historic Preservation (EMB) in 2000, 2001, 2003, and 2009 as part of their routine water quality monitoring program. There are only limited data available to analyze the trophic condition of the lake. These data indicate that the lake is best characterized as oligotrophic, or unproductive. Phosphorus levels in the lake are generally low, and although algae levels were not routinely measured, a microscopic analysis of algae samples did not indicate any blue green algae species. Lake clarity consistently exceeds minimum recommended water transparency for swimming beaches to protect swimmers safety.

The public bathing beach at Quaker Lake has had a small number of temporary closures over the last five years. The longest closure lasted 6 days in the summer of 2010. All of the beach closures were related to concern of high bacteria levels, typically associated with heavy rains. There were no water quality related beach closures during the 2011-2013 bathing seasons (OPRHP/EMB, March 2014).

Water quality monitoring by the Environmental Management Bureau's Water Quality Team focuses on environmental and public health of lakes that fall within the borders of New York State's Park System. Bacteriological samples are collected as part of this program, however contamination from organic compounds, metals and other inorganic pollutants are not usually collected as part of this monitoring program. The state and/or location health departments are ultimately responsible for assessing public bathing use and assessments of restrictions on fish consumption.

Aquatic plant surveys in 2009 show that the plant community was dominated by native plants, although the presence of Eurasian watermilfoil, particularly near the swimming beach, may threaten recreational uses and affect lake aesthetics. Historically, the lake has exhibited a lack of perennial beds of aquatic vegetation (DEC/DOW, BWAM, March 2014)

Source Assessment

The specific sources of pollutants to Quaker Lake have not been identified. Conditions in the lake are consistent with a primarily forested watershed and little to no disturbance along the shoreline. (DEC/DOW, BWAM, March 2014)

Management Actions

Quaker Lake is located within Allegany State Park, and is an artificial lake created in 1968 as an impoundment of Quaker Run. The New York State Office of Parks, Recreation and Historic Preservation is responsible for the management of the Lake and its immediate watershed. Except for the swimming area, shoreline fishing is allowed on the entire lake.

Section 303(d) List Information

Quaker Lake is not included on the current (2014) NYS Section 303(d) List of Impaired/TMDL Waters. (DEC/DOW, BWAM, January 2015)

Segment Description

This segment includes the entire lake.