



Hoosic River Watershed Association

Dedicated to the Restoration, Conservation, and Enjoyment of the Hoosic

2021 Watershed Report Card

Introduction

The following is a report card on the water quality of the Hoosic River, prepared by the Hoosic River Watershed Association (HooRWA), a private, non-profit 501(c)3 organization dedicated to the restoration, conservation, and enjoyment of the Hoosic River. HooRWA regularly evaluates the water quality of the river to supplement existing data generated by the Massachusetts Department of Environmental Protection (MA DEP) and the Vermont and New York Departments of Environmental Conservation (VT DEC and NY DEC). This information is useful for public education, water supply planning, evaluation of recreational resources, and protection of watershed habitat.

Evaluation of stream biological communities

Evaluation of biological communities is a useful, cost-effective method of providing information on degree of water quality. Stream community population attributes (number of unique taxa, tolerance to pollutants, and similarity to a regional reference stream) are used to detect or infer the water quality condition. Although a variety of biological communities may be used in stream assessments, the use of benthic macroinvertebrate (stream insect) communities is advantageous because benthic macroinvertebrates are abundant in most streams, relatively easy and inexpensive to sample, and sensitive to a wide range of environmental stressors. Also, benthic communities serve as indicators of overall, integrated water quality, including effects of intermittent discharges and lapses in treatment, synergistic effects, sediment pollution, impacts from upstream land use, and non-chemical impacts to surrounding habitat.

The structure of a macroinvertebrate community within a waterbody determines the water quality category. New York and Massachusetts have similar water quality categories and the non- and slightly impacted water quality category is considered supportive of the waterbody's expected aquatic life, whereas the moderately and severely impacted category is not, and may be considered "impaired." It should be pointed out that a slightly impacted water quality category is altered from the pristine state and fish propagation (but not survival), particularly sensitive fish like trout, may be limited.

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This publication summarizes the 2021 stream biomonitoring results and provides a brief comparison of these results to previous studies. Ten stations were sampled in 2021 following NYS DEC protocols for benthic macroinvertebrate collection, habitat assessment, and laboratory sample processing. Use of these sampling methods enables comparison and trend monitoring since all of these stations have been intermittently sampled by NYS DEC since 1983. The 2021 overall water quality of the Hoosic River, based on stream insect communities, is non to slightly impacted. Comparative analysis to previous NYS DEC data shows that most stations water quality, in 2021, is similar in pattern to the median for all previous years sampled.

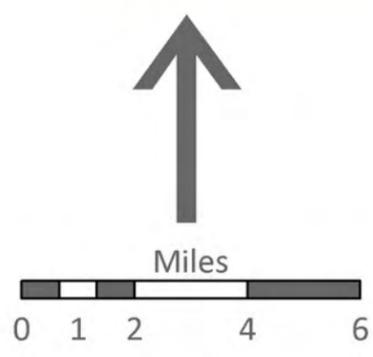
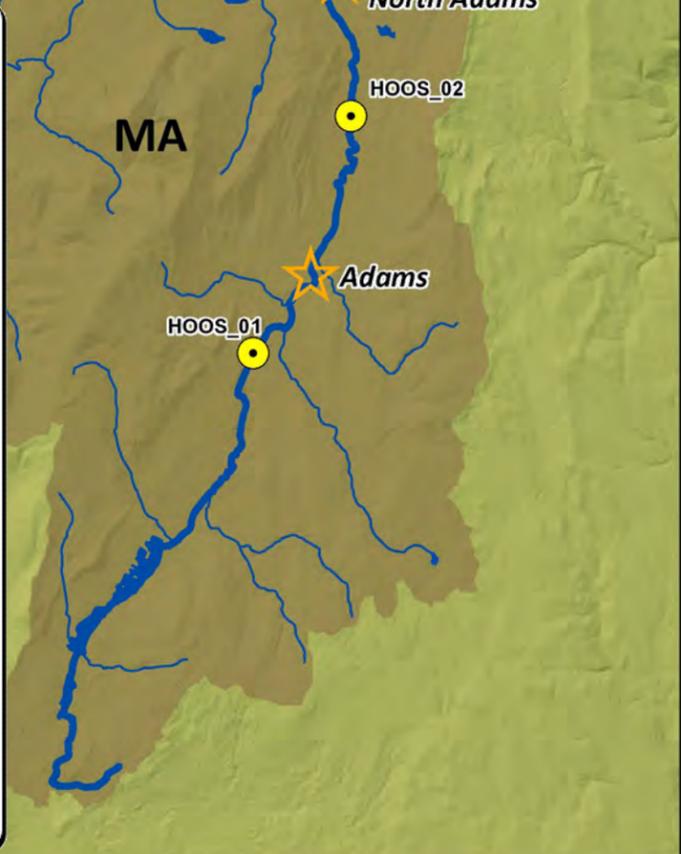
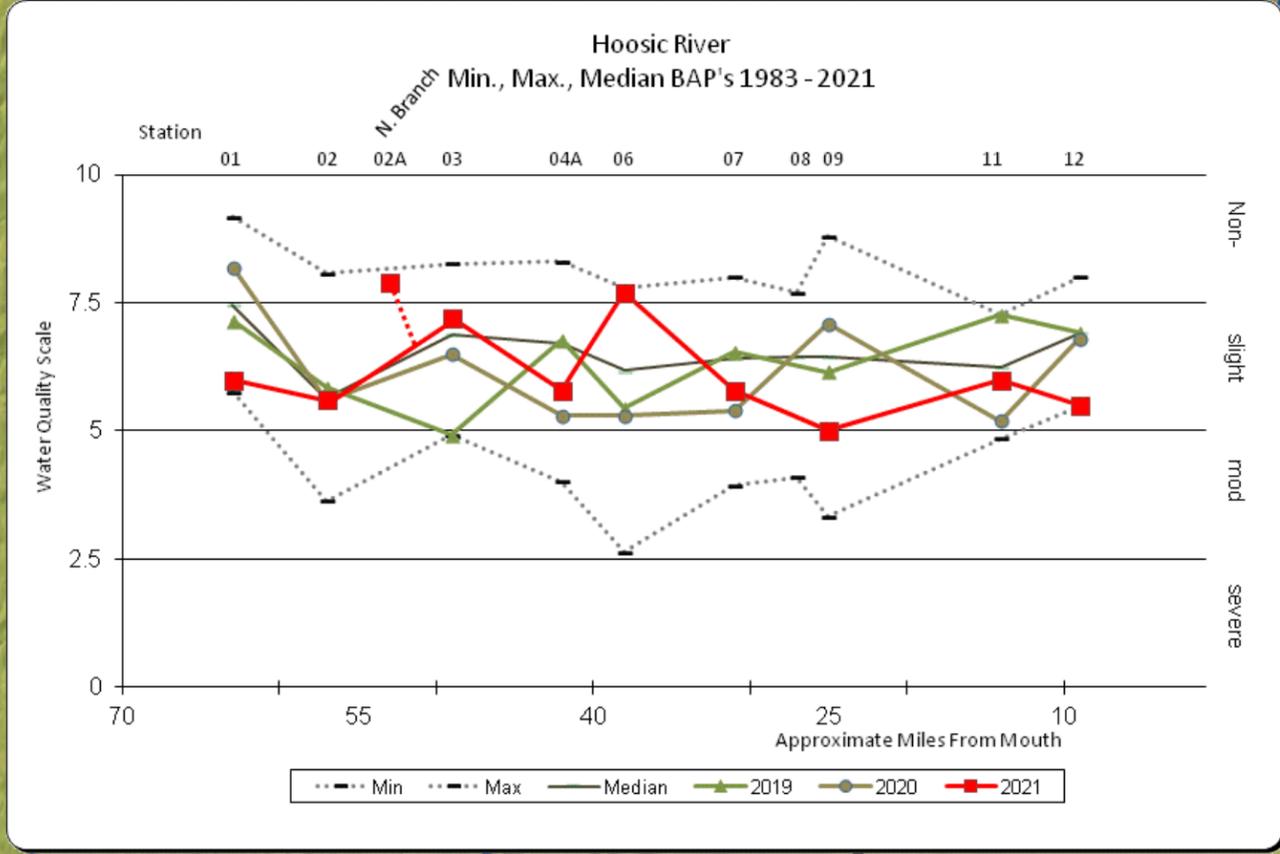
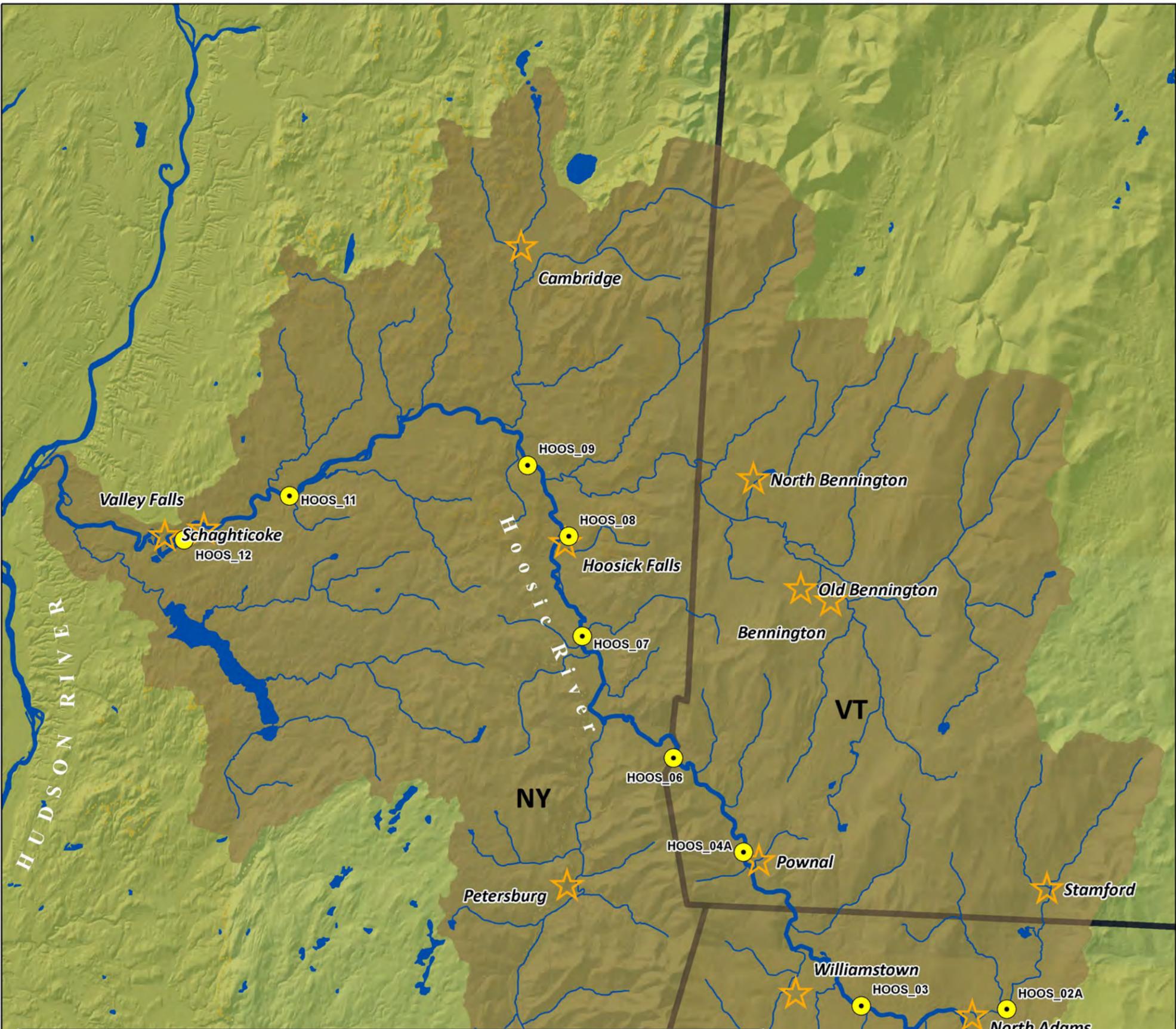
The following is a summary of the water quality conditions at 9 stations of the Hoosic River main-stem and one station on the North Branch, based on the resident benthic macroinvertebrates collected at each station (see back page). A map depicting the station locations is contained on the inside pages.

Hoosic River Watershed Association membership supports the generation of this data. Please consider becoming a member of HooRWA to enable continued monitoring of the Watershed. For additional information regarding what you can do that to make a difference in the Hoosic Watershed visit: <https://www.epa.gov/waterdata/how-my-waterway>

Hoosic River Watershed Association

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**Hoosic River
Biomonitoring Study**
Hoosic River Watershed Association

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 - Rivers
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 - Waterbodies
 - Hoosic Watershed
 - State Boundary

Stream Name (Station/State) Water quality	2021 Stream Community Assessments
Hoosic River (01/MA) Slightly impacted	This station is located just off Route 8 south of Adams, MA and just south of Phillips Hill Road. NYS DEC assessed this station in 1984 and 1986 as slightly impacted and in 1986 as non-impacted. Assessment here by HooRWA in 2006, 2011, 2012, 2014, 2016, 2017, 2019 and 2020 demonstrated slightly, non-impacted, slightly, non impacted, slightly, non, slightly, and slightly impacted water quality respectively. BAP in 2021 indicated slightly-impacted water quality.
Hoosic River (02/MA) Slightly impacted	Station HOOS 02 is located above the Hodges Cross Road (Route 8) bridge. NYS DEC first assessed this site in 1984 as non-impacted, then in 1985 and 1986 as slightly impacted. Assessment by HooRWA in 2006, 2011, 2014, 2015, 2016, 2017, 2019, and 2020 indicated slightly, moderately, slightly, moderately, moderately, slightly, slightly, and slightly impacted conditions respectively. This station is located downstream from the Adams Sewage Treatment Plant which was built in 1971 and upgraded in 2005. Water quality assessment trends continue to indicate a persistent and various fluctuation in water quality (between moderately and slightly impacted) compared to the upstream station HOOS 01. BAP in 2021 indicated slightly impacted water quality (see graph on page 3).
North Branch (02A/MA) Non-impacted	The station is located below the Beaver Street bridge in North Adams. The site was assessed by the NYS DEC in 1985 as slightly impacted and 1986 as non-impacted. HooRWA assessed the site in 2006, 2011, 2012, 2015, 2016, 2017, 2019 and 2020 as non, slightly, non, non, slightly, non,, slightly, and slightly impacted respectively. The 2021 assessment indicated non-impacted conditions.
Hoosic River (03/MA) Slightly impacted	Station HOOS 03 is located below the Galvin Road bridge in Williamstown, MA. The site was assessed by NYS DEC in 1984, 1985 and 1986, and by HooRWA in 2006, 2011, 2012, 2015, 2016, 2017 and 2019. Assessments have indicated slightly impacted water quality in years 2014, 2015, 2016, and 2020, non impacted in other years however in 2019 it was assessed as moderately impacted. The 2021 assessment indicated slightly impacted conditions.
Hoosic River (04A/VT) Slightly impacted	This station is located just below the Main Street bridge in Pownal, VT. Water quality in 1984, 1985, and 1986 was moderately, moderately and slightly impacted, respectively. HooRWA assessment here in 2006, 2011, 2012, 2014, 2015, 2016, 2017, 2019 and 2020 was non, slightly, slightly, non, non, non, slightly, slightly, and slightly impacted respectively. The 2021 assessment indicated slightly impacted conditions.
Hoosic River (06/NY) Non-impacted	Station HOOS 06 is located above Route 346 bridge near the NY/VT border. NYS DEC assessment in 1985 indicated moderately impacted water quality; assessments by NYS DEC in 1983, 1984, 1986, 2004, and 2006 and by HooRWA in 2006, 2007, 2010, 2011, and 2012 demonstrated slightly impacted water quality. In 2014 the assessment indicated non-impacted water quality for the first time. In 2015, 2016, 2017, 2019 and 2020 the water quality was assessed as slightly impacted. The 2021 assessment indicated a return to non-impacted conditions.
Hoosic River (07/NY) Slightly impacted	Station HOOS 07 is located approximately 400 meters below the Route 7 bridge, and adjacent to Route 22. The site was assessed in years 1983 – 1986, 2001, and 2004 by NYS DEC and in 2006, 2007, 2010, 2011, 2012 and 2014 by HooRWA. Water quality was slightly impacted in all years except in 1985 (moderately impacted) and 2001 and 2014 (non-impacted). The 2015, 2016, 2017, 2019, 2020 and 2021 assessment indicated slightly impacted water quality.
Hoosic River (09/NY) Slightly impacted	Station HOOS 09 is located at the end of Markers Road below Hoosick Falls, NY. The site was assessed in years 1983 – 1986, 2001, and 2004 by NYS DEC and in 2006, 2007, 2010, 2011, 2012, and 2014 by HooRWA. This station shows a great deal of variability of water quality conditions, ranging from non-impacted to moderately impacted. The assessment in 2015, 2016, 2017, 2019, 2020 and 2021 indicated slightly impacted water quality.
Hoosic River (11/NY) Slightly impacted	Station HOOS 11 is located just above Bridge Street bridge in Johnsonville, NY. The 2015, 2016, 2017, 2019, 2020 and 2021 assessment indicated slightly impacted conditions. The site was assessed in years 1984 – 1986 by NYS DEC and in 2006, 2012, and 2014 by HooRWA. This station has been consistently on the boarder between slightly and moderately impacted since 1984. Located below an impoundment with variable water releases from the dam the benthic macroinvertebrate community is likely influenced by the water releases and may not reflect genuine water quality.
Hoosic River (12/NY) Slightly impacted	Station HOOS 12 is located just off River Road in Valley Falls, NY. The site was assessed in years 1984 by NYS DEC and in 2006, 2012, 2014, 2015, 2016, 2017, 2019, and 2020 by HooRWA. As non, non, slightly, non, non, slightly, non, slightly and slightly impacted respectively. The water quality in 2021 was slightly impacted.
Summary	Comparing the 2021 water quality assessments to prior year assessments indicates, for the most part, that water quality remains similar to previous years assessments.