



Hoosic River Watershed Association

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

2014 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. It also provides information on water quality conditions of streams and rivers that have not been assessed within MA, NY, and VT. The data supports stream segment designated use classification upgrades.

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 2014 stream biomonitoring results and provides a brief comparison of these results to previous studies. Eleven stations were sampled in 2014 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 overall water quality of the Hoosic River, based on stream insect communities, is non impacted. Comparative analysis to previous NYS DEC data shows that water quality has improved appreciably since 1997 and that overall the water quality in 2014 is the highest documented trend for the Hoosic main stem (see graph page 3).

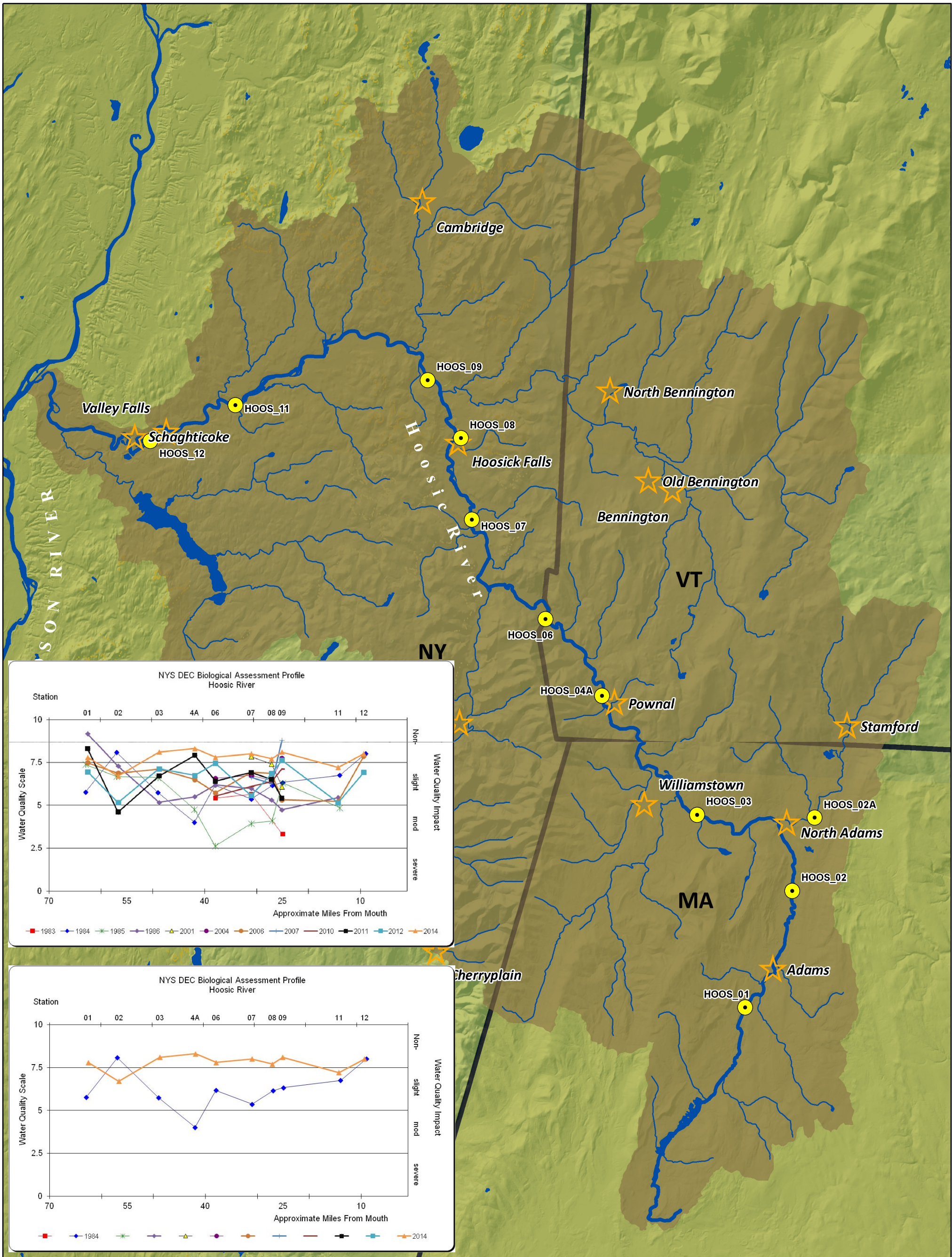
Following is a summary of the water quality conditions at 10 stations of the Hoosic River mainstem and one station on the North Branch, based on the resident benthic macroinvertebrates collected at each station (see back page) and a map depicting the station locations (inside pages).

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: http://water.epa.gov/action/adopt/earthday_index.cfm

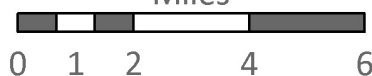
Hoosic River Watershed Association

<http://hoorwa.org/>

P.O. Box 667 Williamstown, MA 01267 Phone: 413.458.2742 Email: office@hoorwa.org



Miles



Hoosic River
Biomonitoring Study
Hoosic River Watershed Association

Stream Name (Station/State) Water quality	2014 Stream Community Assessments
Hoosic River (01/MA) Non 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, and 2012 demonstrated slightly, non-impacted, and slightly impacted water quality respectively. BAP in 2014 indicated non-impacted water quality.
Hoosic River (02/MA) Slightly impacted	Station HOOS 02 is located above the Hodges Cross Road (Route 8) bridge. Benthic community metrics indicated slightly impacted conditions. NYS DEC first assessed this site in 1984 as non-impacted, then in 1985 and 1986 as slightly impacted. Assessment by HoorWA in 2006 and 2011 indicated slightly and moderately 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 indicate a persistent decline in water quality at this station (see graph on page 3).
North Branch (02A/MA) Slightly 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, and 2012 as non, slightly, and non impacted respectively. The 2014 assessment indicated slightly impacted conditions. (This station is not shown on the graph.)
Hoosic River (03/MA) Non 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, and 2012. All assessments have indicated slightly impacted water quality however the 2014 assessment indicated non-impacted water quality.
Hoosic River (04A/VT) Non 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, and 2014 was non, slightly, slightly, and non-impacted respectively. Water quality improvement over time has been attributed to waste water treatment improvements in Pownal, VT. (See the HoorWA 2006 Bioassessment Report).
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 documented time.
Hoosic River (07/NY) Non 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, and 2012 by HoorWA. Water quality was slightly impacted in all years except in 1985 (moderately impacted) and 2001 (non-impacted). The 2014 assessment indicated non-impacted water quality.
Hoosic River (08/NY) Non impacted	Station HOOS 08 is located approximately 200 meters below the Church Street bridge in Hoosick Falls, NY. The site was assessed in years 1984–1986, 2001, and 2004 by NYS DEC and in 2006, 2007, 2010, 2011, and 2012 by HoorWA. Water quality was slightly impacted in all years except in 1985, which indicated moderately impacted conditions. In 2014, and for the first documented time, water quality was assessed as non-impacted.
Hoosic River (09/NY) Non 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, and 2012 by HoorWA. This station shows a great deal of variability of water quality conditions, ranging from non-impacted to moderately impacted. The assessment in 2014 indicated non-impacted water quality.
Hoosic River (11/NY) Slightly impacted	Station HOOS 11 is located just above Bridge Street bridge in Johnsonville, NY. The 2014 assessment indicated slightly impacted conditions. The site was assessed in years 1984 – 1986 by NYS DEC and in 2006 and 2012 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) Non 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, and 2014 by HoorWA. As non, non, slightly, and non-impacted respectively.
Summary	Comparing the 2014 water quality assessment category for each station to prior year assessments indicates that the water quality remains similar at stations HOOS 01 and 02. From HOOS 02 downstream, on the mainstem of the Hoosic River, there is notable improvement in several of the stations water quality. It is noteworthy that six of these stations reach their highest ever documented water quality assessment scores and that HoorWA’s water quality monitoring program are documenting these water quality trends (see graphs on page 3).