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| **Metadata: Mohawk River at Rexford Bridge**  C:\HRECOS\HRECOS_logo.small.TIF**Location:** Rexford Bridge, Mohawk River ([42.851 N, 73.887 W](https://maps.google.com/maps?q=42.851132,+-73.887180&hl=en&sll=42.668084,-73.810681&sspn=0.237296,0.357399&t=h&z=17))  **Data collection period:** 08/04/2014 – present  **Parameters:** acidity, dissolved oxygen, specific conductance, turbidity,  water temperature, and water elevation\* (\*USGS). |
| *Disclaimer: HRECOS is a research project. No warranty—either express or implied—is made for any information presented by this program.* |
| **Contacts**:  Brittney Flaten, HRECOS Coordinator and Site Manager  NY State Dept. of Environmental Conservation  256 Norrie Point Way, Staatsburg, NY 12580  Phone: 845-889-4745  Email: brittney.flaten [at] dec.ny.gov |
| **Station details:**  The HRECOS water quality station at Rexford Bridge is located on the north side of the Mohawk River/Erie Canal, just downstream of the city of Schenectady. Equipment is mounted on the northerly remnants of the Rexford Aqueduct just east of the Rexford Bridge. Preliminary cross-sectional sampling at this site showed no obvious differences across the channel. Sensors are approximately 2 ft. above the riverbed.  All parameters are measured using a YSI EXO2 sonde. The following parameters are reported at this site every 15 minutes: acidity, dissolved oxygen (% saturation and mg/L), specific conductance, turbidity, water temperature, and water elevation\* (see the section titled “Sensor Specifications” for more information). Data is logged to a Campbell Scientific CR1000 datalogger and is transmitted hourly to the HRECOS database via a Raven XTV cellular modem.  \*Water elevation is measured by a USGS co-located station using an OTT Compact Bubbler System. Water level is converted from NGVD29 to NAVD88 relative to sea level (USGS gage height + 200 ft – 0.538 ft). Only 15-minute data is retained for HRECOS, but the gage records at 5-minute intervals. Original USGS data can be accessed at the following URL: <http://waterdata.usgs.gov/ny/nwis/uv/?site_no=01355475><http://waterdata.usgs.gov/ny/nwis/uv/?site_no=01355475&PARAmeter_cd=00065,00060>. |
| **Distribution terms:**  HRECOS requests that attribution be given whenever HRECOS material is reproduced and re-disseminated and the HRECOS Coordinator be notified prior to publications including any part of the data. Example citation: “Hudson River Environmental Conditions Observing System. 2012. Accessed April 13th, 2016. <http://www.hrecos.org/>.” |
| **Data Quality Assurance:**  Data collection and verification have been performed since the establishment of this station, according to the HRECOS Quality Assurance Project Plan, which is available at [www.hrecos.org](http://www.hrecos.org)  \*The level gage is maintained by the U.S. Geological Survey. Data QAQC for this parameter occurs on a different schedule than the sonde parameters (~annually, as opposed to quarterly). Verified data may have been corrected based on field measurements, sensor calibrations, sensor cleanings, and other observations using standard USGS methodology.  Unverified data is [provisional and subject to revision](http://waterdata.usgs.gov/ny/nwis/?provisional). |
| **QAQC Comment Code definitions:**  General Errors  [GIM] instrument malfunction  [GIT] instrument recording error, recovered telemetry data  [GMC] no instrument deployed due to maintenance/calibration  [GPF] power failure/low battery  [GQR] rejected due to QAQC checks  [GSM] see metadata  [GIC] no instrument deployed due to ice  [GNF] deployment tube clogged/no flow  [GOW] out of water event  Sensor Errors  [SBO] blocked optic  [STF] catastrophic temperature sensor failure  [SCF] conductivity sensor failure  [SDF] depth port frozen  [SDP] DO membrane puncture  [SDO] DO suspect  [SIC] incorrect calibration/contaminated standard  [SNV] negative value  [SPC] post calibration out of range  [SSD] sensor drift  [SSM] sensor malfunction  [SOW] sensor out of water  [SSR] sensor removed (not deployed)  [STS] turbidity spike  [SWM] wiper malfunction/loss  Comments  (CAB) algal bloom  (CAF) acceptable calibration/accuracy error of sensor  (CAP) depth sensor in water, affected by atmospheric pressure  (CBF) biofouling  (CCU) cause unknown  (CDA) DO hypoxia < 28 percent saturation  (CDB) disturbed bottom  (CDF) data appear to fit conditions  (CFK) fish kill  (CIP) surface ice present at sample station  (CLT) low tide  (CMC) in field maintenance/cleaning  (CMD) mud in probe guard  (CND) new deployment begins  (CRE) significant rain event  (CSM) see metadata  (CTS) turbidity spike  (CVT) possible vandalism/tampering  (CWD) data collected at wrong depth  (CWE) significant weather event |

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| Parameter | Units | Sensor type | Model | Range | Accuracy | Resolution | Response |
| **Acidity** | Hydrogen ion concentration (pH) | Glass combination electrode | 599702 | 0 – 14 units | ±0.1 pH units within ±10°C  of calibration temperature;  ±0.2 pH units for entire temp range | 0.01 | T63<3 sec |
| **Specific Conductivity** | microsiemens per cm (mS/cm) | 4-electrode nickel | 599870-01 | 0 – 200 mS/cm | 0-100: ±0.5% of reading or 0.001, w.i.g.; 100-200: ±1% of reading | 0.0001 to 0.01, range-dependent | T63<2 sec |
| **Dissolved oxygen** | Air saturation (%)  ¾¾¾¾  mg/L | Optical, luminescence lifetime ¾¾¾¾  Calculated | 599100-01 | 0 – 500%  ¾¾¾¾  0 – 50 mg/L | 0 – 200%: ±1%  200 – 500%: ±5%  ¾¾¾¾  0 – 20 mg/L: ±0.1 mg/L or 1% (whichever is greater);  20 – 50 mg/L: ±-5% | 0.1%  ¾¾¾¾  0.01 mg/L | T63<5 sec |
| **Turbidity** | Formazin Nephelometric Unit (FNU) | Optical, 90° scatter | 599101-01 | 0 – 4000 FNU | 0-999: 0.3 or  ±2% of reading, whichever is greater; 1000-4000: ±5% of reading | 0.01 FNU | T63<2 sec |
| **Water temperature** | Celsius (°C) | Thermistor | 599870-01 | -5 to +50°C | -5 to 35°C: ±0.01°C  35 to 50°C: ±0.05°C | 0.001°C | T63<1 sec |
| **Water elevation** | Feet/Meters | Nitrogen bubbler | OTT CBS | 0 – 50 ft (15.24 m) | 0 – 15 ft: ±0.01 ft (0.003 m);  15 – 35 ft: ±0.065%;  35 – 50 ft (0.006 m) | Max. traceable rate of change: 3 ft/minute | Vented to atmosphere (no pressure correction needed) |

**Table 1. YSI EXO2 sensor and OTT compact bubbler specifications.**