

Library Reference 2.2.7

Progress toward water quality improvement: Nitrite-N. AMP 2010 Annual Report.
(Water Quality Standard)

AMENDED CONSENT JUDGMENT GOAL

Achieve compliance with the applicable ambient water quality standard to meet designated best use for survival and propagation of a warmwater fish community. Achieve desired use of aquatic life protection.

Hypotheses to be tested:	Status:
Achievement of Stage III effluent limits for ammonia results in compliance with the NYS ambient water quality standard for nitrite (warmwater fish community)	<ul style="list-style-type: none"> • Stage III effluent limits have been met for ammonia-N since 2004, after the BAF upgrade was implemented for year-round ammonia treatment. • Since 2006, Onondaga Lake has been in full compliance with NYS AWQS for nitrite-N in upper waters.

Current Conditions with Historical Comparison

Major Sources – Percent Contribution <i>(Annual Average (standard deviation))</i>	<table border="1"> <thead> <tr> <th>Time Period</th> <th>Metro Effluent Outfall 001</th> <th>Tributaries</th> </tr> </thead> <tbody> <tr> <td>1985-2003:</td> <td>75% (14%)</td> <td>25% (14%)</td> </tr> <tr> <td>2004-2009:</td> <td>38% (18%)</td> <td>62% (18%)</td> </tr> <tr> <td>2010:</td> <td>17%</td> <td>83%</td> </tr> </tbody> </table>	Time Period	Metro Effluent Outfall 001	Tributaries	1985-2003:	75% (14%)	25% (14%)	2004-2009:	38% (18%)	62% (18%)	2010:	17%	83%
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Compliance with NYS AWQS in Upper Waters	Percent of observations exceeding standard (100 µg/l): 1985-2003: 55% 2004-2009: 6% 2010: 0% Full compliance												
Factors Affecting Compliance	Metro performance, Hydrology												

Planned Load Reductions (1998 – 2012)

Metro SPDES Permit Requirement	No numerical limit for nitrite in SPDES permit; Monitor only (one sample per week)
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Monitoring and Assessment Program

Loading Estimates <i>Annual County monitoring program</i>	<ul style="list-style-type: none"> • Biweekly tributary monitoring, supplemented with samples collected during high flow conditions • Daily measurements of Metro effluent
Lake Monitoring <i>Annual County monitoring program</i>	<ul style="list-style-type: none"> • Biweekly profiles in Lake, April –Nov, UML and LWL • Additional sampling during fall mixing • Winter sampling as weather allows
Related Biological Monitoring	<ul style="list-style-type: none"> • Assessment of fish community began in 2000 • Annual zooplankton monitoring

Tools for Decision Making

Model	Onondaga Lake Water Quality Model (Anchor QEA, LLC)
NYS AWQS	100 µg/l