

Library Reference 2.7.7

Progress towards water quality improvement: Nitrite-N. AMP 2009 Annual Report.  
(Water Quality Standard)

**AMENDED CONSENT JUDGMENT GOAL**

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

<b>Hypotheses to be tested:</b>	<b>Status:</b>												
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"> <li>• Stage III effluent limits have been met for ammonia-N since 2004, after the BAF upgrade was implemented for year-round ammonia treatment.</li> <li>• Since 2006, Onondaga Lake has been in full compliance with NYS AWQS for nitrite-N in upper waters.</li> </ul>												
<b>Current Conditions with Historical Comparison</b>													
Major Sources – Percent Contribution <i>(Annual Average (standard deviation))</i>	<table border="1"> <thead> <tr> <th><u>Time Period</u></th> <th><u>Metro Effluent Outfall 001</u></th> <th><u>Tributaries</u></th> </tr> </thead> <tbody> <tr> <td>1985-2003:</td> <td>75% (14%)</td> <td>25% (14%)</td> </tr> <tr> <td>2004-2008:</td> <td>41% (17%)</td> <td>59% (17%)</td> </tr> <tr> <td>2009:</td> <td>20%</td> <td>80%</td> </tr> </tbody> </table>	<u>Time Period</u>	<u>Metro Effluent Outfall 001</u>	<u>Tributaries</u>	1985-2003:	75% (14%)	25% (14%)	2004-2008:	41% (17%)	59% (17%)	2009:	20%	80%
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Compliance with NYS AWQS in Upper Waters	Percent of observations exceeding standard (100 µg/l): 1985-2003: 55% 2004-2008: 8% 2009: 0% Full compliance												
Factors Affecting Compliance	Metro performance, Hydrology												
<b>Planned Load Reductions (1998 – 2012)</b>													
Metro SPDES Permit Requirement	No numerical limit for nitrite in SPDES permit; Monitor only (one sample per week)												
<b>Monitoring and Assessment Program</b>													
Loading Estimates <i>Annual County monitoring program</i>	<ul style="list-style-type: none"> <li>• Biweekly tributary monitoring, supplemented with samples collected during high flow conditions</li> <li>• Daily measurements of Metro effluent</li> </ul>												
Lake Monitoring <i>Annual County monitoring program</i>	<ul style="list-style-type: none"> <li>• Biweekly profiles in Lake, April –Nov, UML and LWL</li> <li>• Additional sampling during fall mixing</li> <li>• Winter sampling as weather allows</li> </ul>												
Related Biological Monitoring	<ul style="list-style-type: none"> <li>• Assessment of fish community began in 2000</li> <li>• Annual zooplankton monitoring</li> </ul>												
<b>Tools for Decision Making</b>													
Model	Onondaga Lake Water Quality Model (under development by QEA, LLC)												
NYS AWQS	100 µg/l												