Library Reference 3.2

Onondaga County Department of Water Environment Protection
Tributary Audit Report

Completed on: _June 22, 2010
Completed by: Liz Moran, EcoLogic

Quality Assurance Project Plan Requirement	Comment
Sondes calibrated per written procedure and logged in bound notebook	Acceptable
Bottles pre-labeled and match planned field effort	Acceptable
Chain-of-custody accurate and complete	Acceptable. New notebooks very well organized for field effort. – traffic safety graphic nicely done
Wash blanks prepared on cleaned equipment and submitted to lab check-in prior to departure.	Acceptable (noted that sink in prep lab is not used due to carry over of trace contaminants. Procurement for installation of RO system underway
Field crews verify that all equipment is loaded into vehicles prior to departure	Acceptable. Checklists good
Schedule and sequence of sites are reviewed prior to departure	Acceptable. We conferred with Dan Walpole to coordinate working with B and A crews.
Safety precautions observed	Excellent, crews implementing recommendations from the PESH audit, new lights on truck, all wearing vests, cones in place, etc.
Field team verifies correct location prior to initiating sampling	Acceptable. Marks on bridges have been repainted (bridge at Ninemile did not take paint well).
Samples collected per QAPP	Acceptable
Duplicate sample collected	Acceptable- at outlet (Crew B)- rotates
Water mixed in churn	Acceptable
Bottles rinsed with sample water prior to filling	Acceptable (caps are also rinsed)
Field filtration SRP, TDP samples	Acceptable
Preservation in accordance with QAPP	Acceptable, verified with dip strips.
Proper equipment used for each sampling location	Acceptable
Field crews observe ambient conditions and make notes as needed	Acceptable
Field crews properly trained and understand assignments	Acceptable, very well organized and trained crews

Summary: Janaki Suryadevara and I accompanied the AMP technicians and had the opportunity to observe both crews (A and B).

We began at Ley Creek (Park St) with B crew, dunker site. The stream was vry turbid, low velocity evident- lots of duckweed. Low DO. We also drove upstream to the automated sampling

station, to consider how this station might support toe AMP revisions to document water quality impacts of the Hiawatha RTF/upstream FCF.

Next station was Harbor Brook at Hiawatha, remaining with the B crew. Sampling proceeded in accordance with the QAPP. We looked at the automated sampling site and discussed the access improvements for safety.

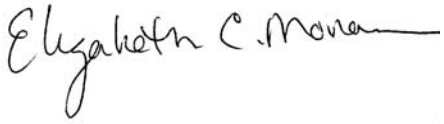
We proceeded to the Metro outfall site and met the A crew. We noted that the DO probe of the outfall seemed out of calibration- very low- this was confirmed by the results of the sonde. Dan Walpole will follow up.

We continued with the Crew A at Onondaga Creek at Kirkpatrick St. Sampling proceeded according to the QAPP at this site as well. Inner Harbor sampling continues at request of Russ Nemecek (County DOH), EcoLogic to pull these data and send to Janaki for review with Russ.

We proceeded to Nine Mile Creek, crane site- bridge paint demarking sampling locations did not hold up. Finally, we stopped at the Tributary 5A site, which is being completely altered by a dredging project to remove accumulated sediment deposit, stream banks are also disturbed.

Overall, the tributary sampling is exceptionally well-organized; sample collection and documentation followed the written protocols. The equipment is well-maintained. Staff are focused and committed to collecting representative samples.

I have no additional recommendations as a result of the June 22, 2010 tributary field audit.



Onondaga County Department of Water Environment Protection
Lake Audit Report

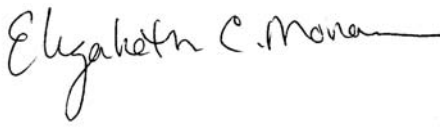
Completed on: June 29, 2010
Completed by: Liz Moran, EcoLogic

Quality Assurance Project Plan Requirement	Comment
Sondes calibrated per written procedure and logged in bound notebook	Acceptable
Bottles pre-labeled and match planned field effort	Acceptable
Chain-of-custody accurate and complete	Acceptable
Wash blanks prepared on cleaned equipment and submitted to lab check-in	Acceptable
Field crews verify that all equipment is loaded into vehicle prior to departure	Acceptable (using check list)
Schedule and sequence of sites are reviewed prior to departure	Acceptable—one crew for south deep (Dan, Chris G, Mark and Mike), second crew in Whaler for nearshore sites (Alex and Nate)
Field team verifies correct location prior to initiating sampling	Acceptable. Buoys at South Deep. Targets on shore for nearshore samples, and depth finder. Reviewed rationale for nearshore stations to be at least 1.2 m water depth
Samples collected per QAPP	Acceptable
Duplicate sample collected	Acceptable
Equipment markings maintained and legible	Acceptable
Submersible pump allowed to run for sufficient time to purge system of previous sample	Acceptable
Tube composites sampled properly	Acceptable
Depth composites determined in field using proper reasoning and reference to SOP	Acceptable. Notebook of profiles on board; did not plot- followed protocols. All the 2009 sampling depths were acceptable
Water mixed in churn at proper rate	Acceptable
Flow meter for zooplankton net tow calculations	Acceptable
Bottles rinsed with sample prior to filling	Acceptable
Field filtration SRP, TDP samples	Acceptable
Field crew discusses and reaches correct decision regarding collection of sulfide samples	Acceptable- DO declining but not zero
Preservation in accordance with QAPP	Acceptable- used goggles per PESH when preserving samples
Proper equipment used for each sampling location	Acceptable
Field crews observe ambient conditions and make notes as needed	Acceptable.
Field crews properly trained and understand assignments	Acceptable. Requested an update on state of the lake- will coordinate with Janaki

Summary: Janaki Suryadevara and I accompanied the AMP field staff on the lake sampling event. Sampling went extremely smoothly. Sample collection and handling proceeded in complete accordance with the plan and QAPP. The recommendations from 2009 and the recent PESH audit have been implemented.

Dan Walpole's organization of the equipment and paperwork is exemplary.

I have no additional recommendations as a result of the June 29, 2010 Onondaga Lake water quality sampling audit.



ANCHOR QEA

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MEMORANDUM

To:	Elizabeth C. Moran, Ph.D, EcoLogic	**Date:**	June 25, 2010
From:	Margaret H. Murphy, Ph.D, Anchor QEA	**Project:**	090582-01.04
Cc:	Files		
Re:	OCDWEP Ambient Monitoring Program audit		

On June 25, 2010, Dr. Margaret H. Murphy (Anchor QEA) conducted a quality assurance/quality control (QA/QC) audit of the Onondaga County Department Water Environment Protection's (OCDWEP) field littoral seining efforts. The purpose of the audit was to ensure that the studies were conducted as outlined in Section 6.0 of the Quality Assurance Program Plan for the Onondaga Lake Fish Sampling Program (February 2009) prepared by OCDWEP and in the SOP for Littoral Zone Young-of-Year and Juvenile Fish Bag Seine (May 2009) prepared by OCDWEP. Additionally, the audit was conducted to ensure that the data were collected in a scientifically defensible manner.

The audit was performed during the last day of the first round of juvenile seining conducted by OCDWEP staff. The OCDWEP field crew for the sampling effort consisted of Chris Gandino, Alex Studdert, Jason Shaw, and Nathan Talucci. Antonio Deskins accompanied Dr. Murphy during the audit. The attached field audit checklist provides the details of the audit.

The field audit indicated that the field crew conducted their work in a professional manner and complied with the procedures outlined in the QAPP and SOP. No discrepancies were noted during the audit.

Onondaga County Department of Environmental Protection

Onondaga Lake Ambient Monitoring Program

Audit Checklist – Juvenile Seines

Project Location:	Onondaga Lake – Willow Bay
Date(s) of Field Audit:	June 25, 2010
Time(s) of Field Audit:	0815-0900
Auditor:	MH Murphy
Field Staff:	Chris Gandino, Alex Studdert, Nathan Talucci, Jason Shaw
Weather:	partly cloudy; 65^{o}F; calm winds

Onondaga County Department of Environmental Protection

Onondaga Lake Ambient Monitoring Program

Audit Checklist – Juvenile Seines

Anchor QEA, LLC.				Page 2 of 4
General	YES	NO	NA	***COMMENTS***
Are seine sites physically marked on the shoreline?	X			Knot in tree marks starting location in Willow Bay
Are there three sites within each strata (total 15 sites)?	X			
Are seine locations documented with GPS coordinates?	X			
Equipment – was all equipment on board?				
Folder containing data and information sheets for each sample location	X			
Mark II Regular scissor grip tag gun	X			
Mark II Long Pistol Grip Tag gun	X			
Floy T-bar anchor tags	X			
Spare needles for each gun	X			
Two 50 ft. X 4 ft ¼ in. mesh bag seine	X			
Measuring board	X			
Weight scale with small basket	X			
Pre-calibrate YSI 650 MDS and YSI 600XL	X			
Scale envelopes and knife	X			
Fish holding tub	X			
Fish life chemical conditioner	X			
Waders	X			
Minnow nets	X			
Digital camera	X			
Spare batteries for camera	X			
Handheld GPS	X			
Sample containers and fixative (10% buffered formalin)	X			
Twine for net repairs	X			

Anchor QEA, LLC				Page 3 of 4
Pre-Field Collection Procedures	YES	NO	NA	***COMMENTS***
Was water quality meter calibrated?	X			
Was equipment examined for repairs prior to heading out in field?	X			
Was weather forecast reviewed to assess feasibility of sampling?	X			Sunny day forecasted
Were all field data sheets assembled prior to departure?	X			
Was QAPP and SOP reviewed prior to departure?	X			
Field Collection Procedures				
Did field crew proceed to appropriate station?	X			
Was facility code/location, date, and time recorded on the field data sheet?	X			
Were water quality data (temperature, DO, salinity, conductivity, pH, ORP) from the water surface recorded on the field data sheet?	X			
Was the bag seine stretched out on shore prior to deployment and checked for debris and holes?	X			
Were repairs made to the net or was the backup net used (after being checked for holes)?		X		Primary net was was in good condition
Was the net brought to the marked station location?	X			
Was the site assessed for the ability to seine effectively (limited macrophyte growth)?	X			Very few macrophytes observed in sample area
If it was determined that site could be sampled effectively, did one person walk the end of the seine off shore until the full length of the net was deployed perpendicular to the shoreline?			X	
Was the bag section checked to be sure it was fully deployed and not tangled?	X			
Did the offshore person sweep their brail toward shore while the onshore person held their brail stationary?	X			
Did a third person walk behind the bag end of the seine and dislodge the seine if it became stuck?	X			
Was the leadline lifted or the seine stopped to dislodge a snag? If yes, was the sample rejected?		X		
If sample was rejected did crew proceed to the next location with plans to return to current location at later time?			X	
As the offshore brail was worked to shore, were the two brails worked together to beach the seine without lifting the leadline and maintaining the integrity of the bag?	X			
Were fish picked and placed in holding tanks immediately following seine retrieval?	X			
Was the bag thoroughly checked and all debris sorted through to remove all fish from the sample?	X			
If adult fish were captured, were they identified to species, counted, data recorded on the data forms, and released back to the lake?	X			
Were representative adult bass and other selected game fish tagged with a numbered floy tag, and measured prior to release?			X	None captured

Anchor QEA, LLC	Page 4 of 4

Field Collection Procedures (Cont'd)	YES	NO	NA	COMMENTS
If adult fish were tagged, was the relevant information recorded on the data form?			X	
Were fish that were tagged in good health and not overly stressed?			X	
Was seine stretched out on shore following removal of all fish, any material (e.g., macrophytes) removed, and the net checked for holes?	X			
Was seine allowed to dry while samples were processed?	X			
Was a minimum of thirty random individuals of each life stage (YOY and juvenile) and species measured and weighed?	X			Less than 30 of each species and life stage captured
Were remaining fish mass counted based on life stage?			X	
Were YOY pumpkinseeds and bluegills grouped as *Lepomis* sp.?			X	No YOY's collected (too early in season)
Were all other fish identified to species?	X			Captured pumpkinseed, one banded killifish, one creek chub
Were all fish returned to the lake following processing?	X			
Were unknown species noted on the data forms, assigned a number, and placed in a formalin filled labeled jar for identification in the laboratory?			X	
Were species life stage determined based on the table of lengths of species life stages for June to August or September to October (depending on when sampling occurred) provided in the SOP?	X			
Were all captured fish screened for visible abnormalities?	X			
Were abnormalities recorded for individual fish and not bulk counts?	X			
Were data sheets reviewed for accuracy and completeness prior to mobilizing to the next station?	X			
Was original site not seinable or was the sample rejected due to excessive macrophytes?		X		
If original site was not seinable, was the next closest location, or back-up site, sampled and the new GPS coordinates documented in the field data sheet?			X	
If the site was changed during the first two sampling events, was this secondary site now sampled as the primary site for the rest of the season?			X	
If macrophytes were dense at the backup location, and the leadline rolled over "some" of the macrophytes – was the Data Validity Classification marked as "conditional"?			X	

OTHER COMMENTS/NOTES