



2011 Annual Quality Assurance Report

Northeast District Office

December 2011

Executive Summary

The DEP's Northeast District (NED) administers the quality assurance (QA) and surface water quality standards programs, is responsible for a number of special technical issues that includes data review, performance audit inspections for permitted facilities, training district staff for field sampling and field testing for surface water and wastewater as required by QA Rule 160-160, F.A.C., and bioassessment, and provides technical support to other departmental programs in the ecological aspects of water quality science.

During the 2011 calendar year, NED's Water Resource and Waste Management staff attended the annual DEP Standard Operating Procedure (SOP) QA training which provided field sampling techniques, documentation and data interpretation presented by the Standard and Assessment Section (SAS) in April 2011. In addition, the Solid Waste and Waste Cleanup sections are utilizing the ADaPT software for laboratory data. NED's biologists successfully participated in QA trainings for field sampling and field-testing procedures used for bioassessment and environmental chemical analyses in February, April and November 2011; performed several performance audit inspections for wastewater treatment plant facilities and contracted laboratories; and provided QA assistance to NERR. NED's Water Program presented several trainings on field sampling and testing DEP's SOPs and hands-on training to several permitted facilities in 2011. NED provided Wastewater Operator training to certified wastewater plant operators, which enables them to earn credits toward their continuing education. All training provided by NED to wastewater plant operators enable facilities to comply with permit and rule requirements and ultimately, provide further protection for the environment.

In 2012, the Northeast District plans to focus more effort on data quality and training to receive accurate data to better protect the environment, and continue conducting performance audit inspections and QA training under the guidance of the SAS.

Report of Quality Assurance Activities and Issues

1. Quality Assurance Training Activities

The District conducted or participated in various QA training activities in 2011. These involved different categories of training, as follows.

Bioassessment training

Northeast District staff participated in the SAS coordinated training for field staff performing bioassessment procedures according to DEP's SOPs. Instructors were from SAS as well as other sections within DEP.

Successfully participated in the training classes for the Stream Condition Index (SCI) sampling procedure and the Stream Habitat Assessment (HA) procedure that were conducted in April, September and November 2011. Training for the SCI and HA procedures is required by DEP's SOPs.

The Lake Vegetation Index (LVI) training for the taxonomic identification of plants (which is needed to calculate the LVI) was conducted in April 2011.

In November 2011, NED's biology staff participated in a statewide Biocriteria meeting that was held in Sarasota as part of the routine and ongoing activities conducted to facilitate training and discussion for biocriteria issues. Field and meeting-room activities addressed various QA topics for the bioassessment DEP SOPs, as well as methods development for new marine bioassessment procedures.

The section provided several internal bioassessment procedural trainings throughout the year for Northeast District staff.

Training for Water Quality & Contamination Assessment Sampling

The section provided several internal water quality sampling and field testing trainings throughout the year for SAS staff.

General Quality Assurance Training for DEP District

Northeast District staff attended the General Quality Assurance training that was presented by the SAS section in April 2011. This training was designed to address QA topics of general relevance to DEP's programs, and also included information

specifically requested by many employees. The workshops provided both classroom and “hands-on” lab and field training, and included information on the QA Directive (#972), evaluation of analytical data (data usability), approved laboratory methods, QA planning documents (for grants, contracts and research projects), field and lab audits, and DEP’s SOP sampling and field testing procedures. An additional training segment was targeted for staff responsible for follow-up strategic monitoring at water body sites listed in the “4D” category for impairment status, and focused on site reconnaissance to improve the selection of representative sampling locations and interpretation of monitoring data. A targeted classroom segment was also designed for DEP’s district staff conducting evaluations of laboratories generating data for wastewater facility permits in support of the required Performance Audit inspections at those facilities. The workshops also provided the opportunity for a coordination discussion between the district’s QA officers and SAS staff.

Drinking Water Training

All drinking water inspectors attended quality assurance training in January 2011, which included an overview of the Northeast District’s Quality Plan for Drinking Water Program, DEP’s SOPs FS 2000 & 2300, and provided hands-on water sample collection training for chlorine residual, primary and secondary contaminants, disinfection byproducts, synthetic organic contaminants, volatile organic contaminants, bacteriologicals, and lead and copper tap monitoring. Considerations were made for proper sampling techniques to ensure that the integrity of samples is maintained and that sampling performance is properly documented. The information obtained in this training is made available at all times for staff’s review. Annual reviews will be required for all potable water staff.

Staff also received training on the proper maintenance and utilization of the chlorine colorimeter (HACH Pocket Colorimeter II) procedures to analyze free and total chlorine. The meters are used regularly during field inspections, and are verified/calibrated quarterly using primary standards. Inspectors are trained in the procedure for colorimeter verification.

Drinking Water Outreach for Certified Operators

Bacteriological monitoring outreach was provided to more than 160 certified drinking water operators throughout 2011. The outreach effort involved conducting a mock field sampling, providing the operators with DEP’s SOP 2300

and troubleshooting techniques to prevent possible contamination when samples are collected.

Training for ADaPT in Waste Management

The Solid Waste Section has been trained to use ADaPT and core a subset of the Waste Cleanup staff has been trained as well.

2. Audit Activities

The section conducted a number of audits for routine and special purposes.

Performance Audits for Bioassessment Activities

Northeast District's biology sampling professionals participated in Bioassessment audits successfully and are now certified to perform Bioassessments. The Northeast District's biology professionals passed Proficiency audits for the Stream Condition Index (SCI), BioRecon, Stream Habitat Assessment (HA) and Lake Vegetation Index (LVI) that are now required by DEP's SOPs in order to submit data to DEP for these bioassessment activities.

Northeast District's biology professionals successfully participated in Stream Habitat Assessment (HA) proficiency testing that is conducted to evaluate an individual's ability to score streams according to the DEP's HA SOP, and have their scores fall within a specified range established by the median score of experts who evaluate the same benchmark streams. The HA procedure supports the interpretation of data derived from the SCI and BioRecon assessments.

The section also coordinated team proficiency testing for the Lake Vegetation Index field assessment procedure. Assessment teams were evaluated against the median score established by expert teams performing the DEP LVI SOP on the same lakes.

DEP macro invertebrate taxonomists throughout the state participated in two inter-laboratory taxonomy identification quality control exercises coordinated by the SAS biology QA coordinator. These performance audits are conducted annually to assess the ability of the Department's taxonomists to correctly identify organisms used in calculations for the Stream Condition Index (SCI), the BioRecon method, the Lake Condition Index (LCI), the Shannon-Weaver Diversity

Index and other bioassessment activities, such as those used for the evaluation of wetlands and sediment biota.

Performance Audits for wastewater compliance activity

The Northeast District conducted twelve domestic and industrial wastewater facilities performance audit inspections during 2011. Some minor deficiencies were detected during the inspections. All deficiencies were corrected on follow up inspections.

Water Quality Sampling Performance Audits

The NED's QA section conducted internal audits on its sampling teams for conformance with DEP's SOPs for surface water quality sampling. Only minor deficiencies were found, and corrective actions were initiated for all of the deficiencies.

New procedures for tracking field meter calibrations were instituted. Calibration success rates and proper documentations are tracked and published monthly. This additional feedback allows quality assurance managers to focus on potential problems for future training.

The Surface Water and Monitoring Program changed initial documentation procedures for all sampling events. This new electronic log-in procedure reduces potential transcription errors and requires a second person to review the data before it is entered into STORET.

Project Audits

The Northeast District's QA staff assisted the Bureau of Laboratories Biology Section with audits of laboratories that provide microbiology testing services to DEP under contract. The labs have been contracted to analyze samples collected by DEP's district offices on an as-needed basis. The purpose of the audits was to track sample results through the laboratory's recordkeeping system, evaluate the physical laboratory facilities, and ensure that methods, quality control and other Standard Operating Procedures were being followed as specified in the applicable DEP contract or purchase order.

In support of the section's efforts to develop new dissolved oxygen criteria for surface waters, SAS QA staff implemented a project audit of 2010 data generated for this purpose. The design of the audit was intended to enlist the watershed program. The Northeast District's QA officer participated in the "self-

audit” DEP District field sample collection and field-testing records, using a spreadsheet checklist assembled by the SAS QA staff. The selected data represented the different concentrations of dissolved oxygen measured at the district’s field sites. In addition, sample collection records for nutrients, color, and chlorophyll *a* were also audited by district staff. The laboratory data provided additional water quality information used in the study analysis.

Drinking water chlorine colorimeter verifications

NED staff received training on the proper maintenance and utilization of the chlorine colorimeter (HACH Pocket Colorimeter II) procedures to analyze free and total chlorine. Meters are used regularly during field inspections, and are verified/calibrated quarterly using primary standards. Inspectors are trained in the procedure for colorimeter verification.

3. QA Coordination

The Northeast District’s QA staff performed a number of additional tasks as part of the Section’s coordination of DEP’s Quality Assurance program as required by DEP’s QA Directive.

Technical Assistance

The district’s QA staff provided technical assistance on a variety of QA topics to DEP staff and other interested parties in support of the Department’s programs. This included assistance provided by email, phone, and attendance and presentations at meetings and teleconferences.

DEP Quality Plans

The Northeast District’s QA staff prepared a Quality Plan for the district and submitted it to the Standard and Assessment section. Quality plans formalize the procedures and criteria utilized by the work units to carry out their quality assurance responsibilities under the DEP QA Directive. The quality plans comprise part of the QA documentation that is provided to EPA in order to satisfy quality system management requirements described in DEP’s Quality Management Plan; and a subset of the quality plans are also a component of the QA documentation required for EPA-funded activities, such as those conducted for the Section 106 Grant.

4. Section QA Goals for 2012

The Northeast District's QA staff intends to accomplish the following quality assurance projects in the 2012 calendar year.

Training and Guidance

The Northeast District's QA section is planning to increase the number of audits to be performed in 2012 and streamline the reporting process for efficiency and turnaround time. This effort will include field sampling training and testing staff and wastewater plant operators.

The Drinking Water staff will be provided with the annual QA training presentation. In addition, staff plans to conduct a streamlining event to ensure that the ORACLE database is being used consistently to report all monitoring results that have been received.

The Waste Management section plans to train all employees who have not received ADaPT training. The Storage Tanks section will be included in the training, if they decide to use ADaPT.