



# ANNUAL SYSTEM STATUS REPORT AND QUALITY MANAGEMENT PLAN REVIEW FY-2025

NEIWPCC

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Submitted by:

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Date

## A. YEAR IN REVIEW

### WORKPLAN REPORTING

NEIWPCCC has an EPA-funded work plan and associated resources to allow the quality assurance program manager (QAPM) to support the organizational quality management system. Activities for this effort are reported to the appropriate EPA project officer. Below is the reporting for FY-2025.

#### §106 QUALITY MANAGEMENT

NEIWPCCC Job Cost Codes: 1081-006

##### *First Quarter*

- Completed QA orientation trainings for five new employees.
- Completed Phase 2 of the annual staff QA self-assessment.
- Participated in Northeast QA Round Table virtual meeting on 11/14/2024.
- Submitted annual system status report and QMP review for FY-24 to QMSC and EPA Regions 1 & 2 on 1/6/2025.
- NEIWPCCC staff completed one QA field assessment: Q22-019 "Achieving verifiable phosphorous removal from tile drains discharging to Lake Carmi tributaries". Full report included in Appendix C.

##### *Second Quarter*

- Completed QA orientation trainings for six new employees.
- Held an in-depth QAPP training on 3/12/2025, in coordination with EPA region 1 staff, for nine LCBP staff on updated QAPP processes and determining when a QAPP is needed.
- Presented annual awareness training at NEIWPCCC's All-Staff meeting on 3/28/2025.

##### *Third Quarter*

- Completed QA orientation trainings for six new employees.
- Held an in-depth QAPP training for two LI Sound Partnership staff on 4/8/25 about QAPP review and submission processes.
- Attended EPA Northeast QA Roundtable Virtual Meeting 5/8/2025.

##### *Fourth Quarter*

- Completed QA orientation trainings for four new employees.
- NEIWPCCC staff completed five QA field assessments: Q25-015 "Mapping Oyster Presence and Potential Habitat in the Hudson River from Piermont to Yonkers"; Q24-016 "Lamoille Basin Planning: Prioritize Basin-wide Conservation and Restoration Opportunities"; Q23-008 "Long-term water quality and biological monitoring project for Lake Champlain"; Q23-010 "Cyanobacteria Monitoring on Lake Champlain"; Q25-019 "Restoring Native Plant Diversity and Habitat in Burlington's Floodplain". Full reports included in Appendix C.

### QAPP REVIEW AND APPROVAL

In FY-2025, 39 quality assurance project plans (QAPPs) were approved. A list of the QAPPs reviewed and approved is contained in Appendix B. 31 of the projects originated from the Lake Champlain Basin Program (LCBP), three from the Long Island Sound Partnership, and five originated at the Hudson River Estuary Program (HREP). In addition, there are several QAPPs

that were submitted in FY-2025 that will be approved and finalized in FY-2026. Those QAPPs will be included in next year's report.

### QA FIELD ASSESSMENTS

Six QA field assessments were performed on projects with NEIWPCCC QAPPs in FY-2025.

The field assessment reports for these projects are contained in Appendix C. The projects assessed and the dates of the assessments are:

- Q22-019- Achieving verifiable phosphorous removal from tile drains discharging to Lake Carmi tributaries, 10/10/2024.
- Q25-015- Mapping Oyster Presence and Potential Habitat in the Hudson River from Piermont to Yonkers, 7/24/2025.
- Q24-016- Lamoille Basin Planning: Prioritize Basin-wide Conservation and Restoration Opportunities, 8/4/2025.
- Q23-008- Long-term water quality and biological monitoring project for Lake Champlain, 9/12/2025.
- Q23-010- Cyanobacteria Monitoring on Lake Champlain, 9/12/2025.
- Q25-019- Restoring Native Plant Diversity and Habitat in Burlington's Floodplain, 9/19/2025.

No deviations or nonconformances were observed during the assessments of these projects.

Deviations and nonconformances were identified outside of these assessments in two instances.

- In October 2024, the QAPM issued a stop work order to SUNY Plattsburgh for LS-2024-023 for collecting data without an approved QAPP in place, as reported in their first quarterly report. After the stop work order was issued, the grantee clarified that data was relevant to the project but collected under a separate funding source. Work resumed in late October 2024.
- In July 2025, a deviation was reported by the project manager for a Stone Environmental project, Q24-003 (Estimating the Bioavailable Phosphorus Loading Avoided by Implementation of Restoration Practices). Two analyses had not been completed by the lab due to equipment failure, and samples had exceeded the hold time in the QAPP. A QAPP update was accepted by NEIWPCCC and the EPA that qualified the data for exceeding the hold time.

### QA PRESENTATIONS AND TRAINING

In FY-2025 there were several presentation and training opportunities offered in association with the quality management system. These included:

- Conducted 21 QA awareness trainings for new employees.
- Participated in Northeast QA Round Table meetings on 11/14/2025 and 5/8/2025.
- Presented annual awareness training at NEIWPCCC's All-Staff meeting on 3/28/2025.
- Held two in-depth QAPP trainings on QAPP processes with 11 staff on 3/12/2025 and 4/8/2025.

## PHASE 2 QA SELF-ASSESSMENTS

Phase 2 QA self-assessment questionnaires were distributed to 17 staff on October 16, 2025, utilizing an online survey format for response collection. These staff were contacted to complete the self-assessment questionnaire because they indicated on their 2025 performance appraisal that they were involved with environmental data operations on behalf of NEIWPCCC in FY-2025. 15 responses (83%) have been returned. The QAPM will continue efforts to increase the percentage of responses received.

## B. QUALITY SYSTEM REVIEW

### AREAS OF SUCCESS

The following activities are indicators of a well-functioning quality management system:

- Retention of QA designees.
- Implementation of processes for annual QAPP data verification and project managers' certification of QAPP annual review.
- Continuation of a high rate of QA field assessments.

### AREAS OF IMPROVEMENT

The system is performing well, and continuous improvement efforts were made in FY-2025, including:

- Better turnaround time on QAPP reviews in line with NEIWPCCC's internal goals.
- Continued development and revision of process documentation.
- Adjustment of our standard electronic filing system to provide more intuitive organization and better align with our annual data verification processes.
- Formalized process for determining QAPP requirements.

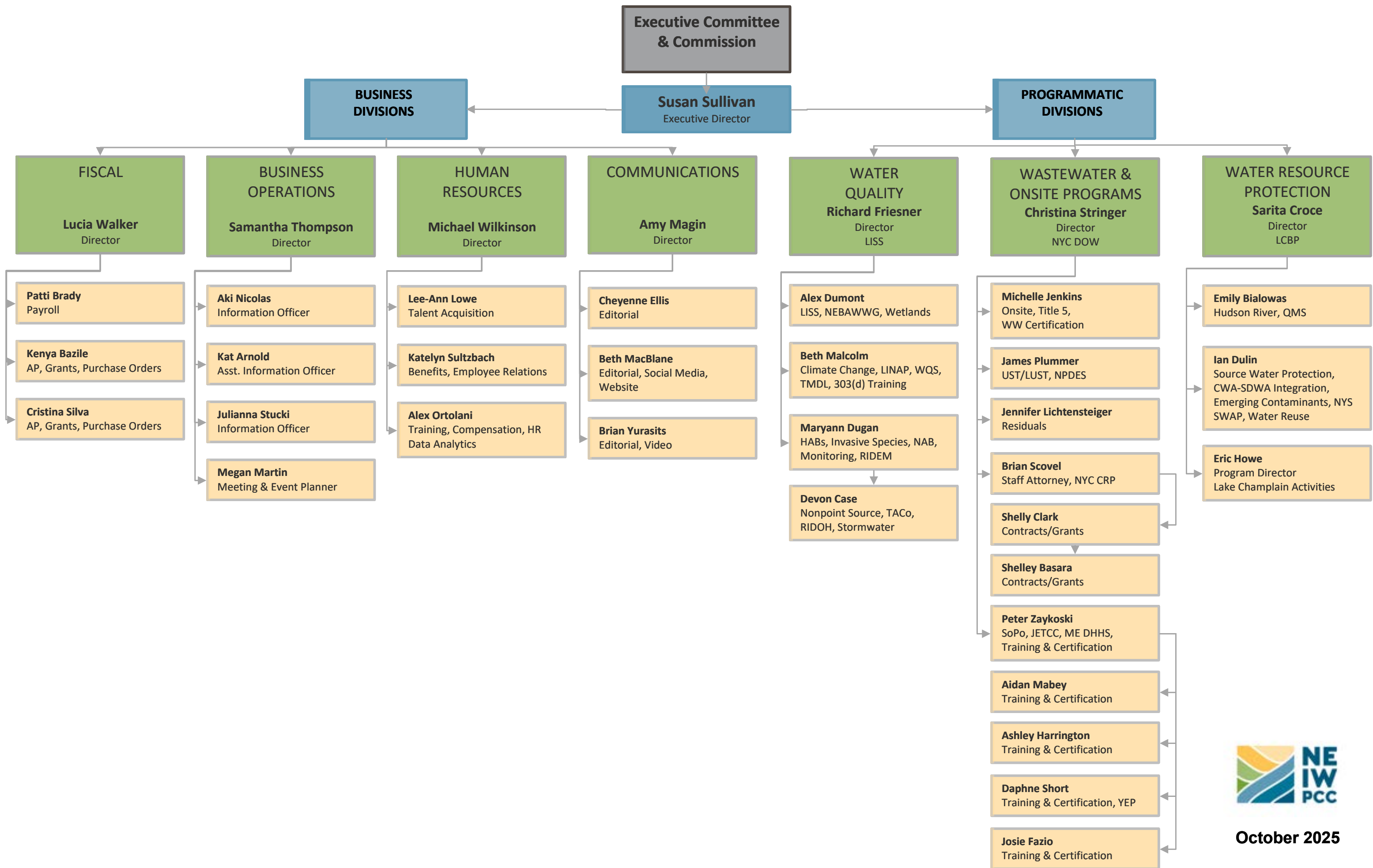
## C. GOALS FOR NEXT YEAR

- Conduct and coordinate a high rate of field assessments, engaging project managers and QAPM designees.
- Recruitment and training of new QA designees.
- Update QAPP guide for project managers and contractors based on the updated EPA standard.
- Refine documentation of processes within the quality management system.

## D. QUALITY MANAGEMENT PLAN REVIEW

As of the time of submission of this report, Version 7 of the NEIWPCCC QMP is in effect. Version 7 of the QMP was approved and signed by EPA Region 1 and 2 QA staff in October 2023.

## **APPENDIX A: NEIWPCCC ORGANIZATIONAL CHART**



**October 2025**

## **APPENDIX B: QAPP LIST FOR FY-25**

NEIWPC Project Manager	QAPP ID	QAPP Title	QAPP Reviewer	Grant Number	Date Draft QAPP Received	Date Review Completed	Date Revisions Approved	Date Final QAPP Received
Lauren Jenness Kneen	Q22-026-A1	Storm Smart 2.0 in the Winooski Conservation District	Emily Bialowas	LC00A00707-0	3/3/2025	3/25/2025	4/29/2025	5/6/2025
Meg Modley Gilbertson	Q23-021-A2	LCC Champlain Aquatic Invasive Monitoring Project	Emily Bialowas	NA23NOS4690078	5/7/2025	5/14/2025	5/14/2025	5/30/2025
Meg Modley Gilbertson	Q23-027-A2	Lake Eden Aquatic Plant Survey QAPP	Emily Bialowas	LC00A01526	6/5/2025	6/6/2025	6/9/2025	6/11/2025
Meg Modley Gilbertson	Q24-012	Aquatic Invasive Species Surveying and Mapping Within Trout Lake and Glen Lake	Peter Zaykoski	NA23NOS4690078	7/3/2024	7/19/2024	1/3/2025	4/1/2025
Lauren Jenness Kneen	Q24-014	Glens Falls Water Source Conservation Project QAPP	Emily Bialowas	LC00A01141	7/29/2024	9/17/2024	12/13/2024	1/2/2025
Mae Kate Campbell	Q24-015	Planification for the realization of ecological corridors along agricultural streams in the north-western part of the Missisquoi Bay Watershed	Matthew Vaughan	N/A - GLFC	8/27/2024	9/18/2024	1/29/2025	1/31/2025
Mae Kate Campbell and Katie Darr	Q24-016	Lamoille Basin Planning: Prioritize basin-wide Conservation and Restoration Opportunities & Strategic Conservation Plan	Emily Bialowas	LC00A01141	8/28/2024	10/15/2024	10/24/2024	10/28/2024
Matthew Vaughan	Q24-018	Framework for Monitoring Emerging Contaminants in the Lake Champlain Basin	Emily Bialowas	FY22 NOAA	9/25/2024	11/20/2025	1/30/2025	2/26/2025
Daniel Miller	Q24-019	Community Waterfront Resiliency Design and Permitting at Henry Hudson Riverfront Park, Hudson	Emily Bialowas		9/30/2024	10/9/2024	10/25/2024	10/25/2024

NEIWPC Project Manager	QAPP ID	QAPP Title	QAPP Reviewer	Grant Number	Date Draft QAPP Received	Date Review Completed	Date Revisions Approved	Date Final QAPP Received
Brittney Flaten	Q24-020	Hudson River Environmental Conditions Observing System Water Quality and Weather Station Quality Assurance Project Plan Hudson River Environmental Conditions Observing System Water Quality and Weather Station Quality Assurance Project Plan	Richard Friesner	C011814	10/9/2024	12/2/2024	1/15/2025	2/20/2025
Meg Modley Gilbertson	Q24-021	Not just a needle in a haystack: using models to understand the potential impact of a Round Goby (Neogobius melanstomus) invasioin on the Lake Champlain ecosystem	Emily Bialowas	LC00A01141	10/16/2024	2/7/2025	4/4/2025	4/7/2025
Corrie Miller	Q24-022	QUALITY ASSURANCE PROJECT PLAN: PENFIELD POND DAM REMOVAL FEASIBILITY STUDY	Emily Bialowas	BIL-4N00A01022-1	10/18/2024	12/6/2024	1/21/2025	1/29/2025
Lauren Jenness	Q24-023	Interstate Clean Water Accounting	Emily Bialowas	LC00A00707	10/21/2024	1/21/2025	5/7/2025	5/7/2025
Alexander DuMont	Q25-001	Investigating the long-term storage of viable kelp gametophytes and use of cultivated sugar kelp for seaweed turfgrass fertilizer amendment study	Emily Bialowas	LI-00A01059	11/6/2024	1/7/2025	1/7/2025	2/20/2025
Daniel Miller	Q25-002	Henry Hudson Shoreline Stabilization Project	Emily Bialowas		12/18/2024	12/18/2024	1/6/2025	1/6/2025
Lauren Jenness	Q25-003	Riparian Plantings and Early Successional Habitat Improvements	Emily Bialowas	LC00A001141	2/10/2025		4/3/2025	4/7/2025
Meg Modley Gilbertson	Q25-004	Protecting the Wood Turtle habitat in the Pike River watershed	Emily Bialowas	GLFC	2/13/2025	2/26/2025	4/1/2025	4/1/2025

NEIWPC Project Manager	QAPP ID	QAPP Title	QAPP Reviewer	Grant Number	Date Draft QAPP Received	Date Review Completed	Date Revisions Approved	Date Final QAPP Received
Mae Kate Campbell	Q25-005	Extended Monitoring of Phosphorus Filters to Evaluate Changes in Performance	Emily Bialowas	LC00A01526	2/18/2025	3/24/2025	5/7/2025	5/14/2025
Meg Modley Gilbertson	Q25-006	Monitoring invasive crustacean and mollusk communities to prevent further spread	Maryann Dugan	LC00A01526	3/5/2025	3/18/2025	4/11/2025	5/6/2025
Alex DuMont	Q25-007	Assessment of wild harvest of seaweeds as a tool to bioextract nutrients from coastal waters: Phases 1 and 2	Mae Kate Campbell	LI-00A01059	3/11/2025	6/17/2025	6/27/2025	7/3/2025
Meg Modley Gilbertson	Q25-008	Could American eel predation be a natural control for sea lamprey populations?	Emily Bialowas	NA	3/25/2025	4/17/2025	5/6/2025	5/6/2025
Matthew Vaughan, PhD	Q25-009	Nutrient loading to headwater streams in the Lake Champlain Basin: controls of forest age and management	Emily Bialowas	LC00A01141-0	3/25/2025	4/28/2025	6/20/2025	7/1/2025
Matthew Vaughan	Q25-010	Proactive Lake Assessment: Monitoring Benthic Cyanobacteria Blooms for Ecosystem and Public Health Protection in the Lake Champlain Basin	Emily Bialowas	LC00A01526	5/7/2025	6/3/2025	7/30/2025	8/1/2025
Matthew Vaughan	Q25-011	Investigation of Cyanobacterial Blooms in Inland Lakes - QAPP A	Emily Bialowas		5/1/2025	5/16/2025	5/29/2025	6/3/2025
Matthew Vaughan	Q25-012	Net phosphorus retention by non-floodplain wetlands in the Lake Champlain Basin	Emily Bialowas	LC00A01526	5/1/2025	5/12/2025	6/20/2025	6/25/2025
Corrie Miller	Q25-013	AOP Project Prioritization & Design in the Ausable Basin	Emily Bialowas	BIL 4N0A001022-1	5/5/2025	6/5/2025	7/21/2025	7/23/2025
Corrie Miller	Q25-014	Saranac River Reconnection Project - Middle North Branch	Emily Bialowas	BIL 4N0A001022-4	5/6/2025	5/30/2025	6/11/2025	6/23/2025

NEIWPC Project Manager	QAPP ID	QAPP Title	QAPP Reviewer	Grant Number	Date Draft QAPP Received	Date Review Completed	Date Revisions Approved	Date Final QAPP Received
Daniel Miller	Q25-015	Mapping Oyster Presence and Potential Habitat in the Hudson River from Piermont to Yonkers	Emily Bialowas	C011814	5/9/2025	5/20/2025	6/5/2025	6/5/2025
Sonya Vogel	Q25-016	Illicit Discharge Detection and Elimination for Saint-Armand, Quebec	Emily Bialowas	GLFC FY2024	5/19/2025	6/12/2025	6/20/2025	6/25/2025
Matthew Vaughan	Q25-017	Phosphorus load estimation from direct drainages to the Northeast Arm of Lake Champlain	Peter Zaykoski	LC00A01526	5/22/2025	6/2/2025	6/17/2025	6/24/2025
Matthew Vaughan	Q25-018	Utilizing Unoccupied Aircraft Systems (UAS) as a Rapid Assessment Tool to Identify and Prioritize Sites for Habitat and Water Quality Protection, Enhancement, and Monitoring		LC00A01141	5/22/2025	6/26/2025	7/23/2025	7/30/2025
Sonya Vogel	Q25-019	Restoring Native Plant Diversity and Habitat in Burlington's Floodplain	Emily Bialowas	LC00A01526	6/5/2025	6/26/2025	7/2/2025	7/2/2025
Matthew Vaughan	Q25-020	Land Acquisition and Conservation for Clean Water and Healthy Ecosystems in the Lake Champlain Basin	Emily Bialowas	4N00A01022	6/6/2025	7/13/2025	7/21/2025	7/23/2025
Corrie Miller	Q25-021	Trout Brook Reservoir Dam Removal Monitoring		BIL 4N0A001022-1	6/4/2025	6/26/2025	6/26/2025	6/30/2025
Mae Kate Campbell	Q25-023	Shepard Park Stormwater Reduction Project Design	Emily Bialowas	LC00A01141-0	7/10/2025	8/29/2025	9/5/2025	9/18/2025
Sonya Vogel	Q25-025	Wood Creek - Champlain Canal Subwatershed Management Plan		LC00A01526	7/24/2025	9/26/2025	9/30/2025	9/30/2025
Richard Friesner	Q25-026	Long Island Sound BMP Tracking Tool Phase II - Part 2	Emily Bialowas	LI-00A00688	8/4/2025	8/29/2025	9/17/2025	9/17/2025
Sonya Vogel	Q25-027	Remote sensing and managing soil covers to reduce soil erosion and phosphorus loadings	Emily Bialowas	GLFC FY2024	8/5/2025	8/29/2025	9/17/2025	9/19/2025

NEIWPC Project Manager	QAPP ID	QAPP Title	QAPP Reviewer	Grant Number	Date Draft QAPP Received	Date Review Completed	Date Revisions Approved	Date Final QAPP Received
James Katz	Q25-028	QUALITY ASSURANCE PROJECT PLAN FOR THE AVERY ROAD CULVERT REPLACEMENT PROJECT	Emily Bialowas	01000-183-001	8/13/2025	8/19/2025	8/20/2025	8/20/2025

**APPENDIX C: FIELD ASSESSMENT REPORTS**

# QA FIELD ASSESSMENT REPORT

**Project Title:** Achieving Verifiable Phosphorus Removal from Tile Drains Discharging to Lake Carmi Tributaries

**QAPP ID:** Q22-019

**Assessor(s):** Matthew Vaughan, PhD

On October 10, 2024, Dr. Matthew Vaughan (NEIWPCCC/LCBP Chief Scientist and Project Officer) accompanied Kip Potter (Stone Environmental) during sample collection at two tile drain filter test sites in the Lake Carmi watershed in Franklin, VT.

Sites 6 and 4 were visited and the following field activities were conducted:

- Flow-based integrated samples were retrieved from automatic ISCO sample collecting units.
- Glass vial sample bottles were filled for total phosphorus and total dissolved phosphorus analyses. Total dissolved phosphorus aliquots were filtered using 0.45 micron pore size filters.
- Field notes from the collection were recorded using the Survey123 app.

All field efforts observed were conducted in accordance with the approved quality assurance project plan (QAPP).



Kip Potter prepares to retrieve flow-based integrated sample at Lake Carmi tile drain filter study site 6.



Kip Potter takes field notes and prepares to collect samples.



Lake Carmi tile drain filter study site 4. Lower solar panels are located at the filter inlet and outlet.

# QA FIELD ASSESSMENT REPORT

**Project Title:** Long-term water quality and biological monitoring project for Lake Champlain

**QAPP ID:** Q23-008

**Assessor(s):** Matthew Vaughan, PhD

Other participants:

NEIWPCC/VTDEC: Kelsey Colbert

VTDEC: Miriam Rose, Peter Isles, PhD

SUNY Plattsburgh: Luke Myers, Chris Gilmon, Zach Cutter, Syed Aintrazi

Report:

On September 12, 2025, Dr. Matthew Vaughan (NEIWPCC/LCBP Chief Scientist and Project Officer) accompanied VTDEC and SUNY staff during sampling for the Long-term water quality and biological monitoring project for Lake Champlain (LTMP). Both teams met at Station 33 to conduct the annual joint meeting as specified in the quality assurance project plan (QAPP).

Field activities conducted during this visit included water quality sample collection, digital water quality sonde measurements, cyanobacteria tows, chlorophyll tows, zebra mussel veliger tows, and Secchi disk depth readings. After the joint meeting, Dr. Vaughan also accompanied the VTDEC team during field activities at Station 25.

All field efforts observed were conducted in accordance with the approved QAPP.



The VTDEC Lake Champlain Long-term Monitoring boat was launched from Malletts Bay.



Annual joint meeting of VTDEC and SUNY teams at Station 33.



Kelsey Colbert takes water quality measurements with a multi-parameter sonde.

# QA FIELD ASSESSMENT REPORT

**Project Title:** Cyanobacteria Monitoring on Lake Champlain

**QAPP ID:** Q23-010

**Assessor(s):** Matthew Vaughan, PhD

On September 12, 2025, Dr. Matthew Vaughan (NEIWPCC/LCBP Chief Scientist and Project Officer) accompanied Kelsey Colbert (NEIWPCC/LCBP Long-term Monitoring Biologist), Dr. Peter Isles (VTDEC Aquatic Biologist), and Miriam Rose (VTDEC Long-term Monitoring Program First Mate) during field activities for the Long-term water quality and biological monitoring project for Lake Champlain (LTMP), including cyanobacteria monitoring. Sites 33 and 25 were visited.

Field activities conducted during this visit included visual inspection of water quality following visual assessment protocols established in Section B3 of the approved quality assurance project plan (QAPP).

All field efforts observed were conducted in accordance with the approved QAPP.



Exiting Malletts Bay toward Cumberland Bay.



Category 1d conditions were observed at Station 33.



# QA FIELD ASSESSMENT DATA SHEET

**Project Title:** Lamoille Basin Planning: Prioritize Basin-wide Conservation and Restoration Opportunities

**QAPP ID:** Q24-016

**Assessor(s):** Mae Kate Campbell

**Assessment Date:** August 4, 2025

**Project Location:** The project takes place across the Lamoille River watershed in Vermont. This assessment occurred in Westford, VT.

**Project Staff:** Erin De Vries and Remy Crettol, Vermont River Conservancy (VRC)

**Brief Project Description:** This project focuses on conducting subwatershed analyses to prioritize site-specific conservation and restoration projects across the Lamoille River Basin. The project includes a desktop phase in which VRC analyzed existing data to identify priority stream reaches and parcels. The second phase of the project involves ground-truthing a subset of the identified priority parcels and gathering community input to finalize restoration plans for each sub-watershed.

**QA Assessment Summary:** I met VRC staff Erin and Remy to review the data and prioritization processes used to produce the maps that identify priority parcels for restoration from the desktop analysis phase. VRC mailed letters to landowners whose parcels were identified as potential priorities for restoration. VRC then set-up field visits with landowners who granted permission for groundtruthing activities to occur on their land and were interested in learning more about conservation opportunities.

We visited a landowner in Westford, Vermont, with a several-hundred-acre property along the banks of the Browns River (a tributary to the Lamoille River) whose property had been identified as a priority for conservation via desktop analysis. The property owner accompanied us on a tour around the property, providing historical context about high-water marks during previous flooding events, how river morphology has changed over the past 40 years, and highlighting areas of concern from her perspective – including erosion around a bridge the owners previously used for agricultural access. VRC staff took photos and field notes at various points along the river using an online field form.





*2: Erin (VRC) and the landowner at a bend in the river, discussing how recent flooding events have impacted channel morphology.*



3: Remy (VRC) taking photos and field notes documenting active river channel bank erosion.

Is there an approved QA Project Plan for the overall project and has it been reviewed by all appropriate personnel?

The QAPP was reviewed by NEIWPCC and EPA and approved on 10/24/2024.

Is a copy of the current approved QA Project Plan maintained at the site? If not, briefly describe how and where quality assurance and quality control requirements and procedures are documented at the site.

A digital copy of the QAPP is saved on the project iPad used for collecting photos and field notes.

Is the implementation of the project in accordance with the QA Project Plan?

Yes – the described desktop analyses and observed field activities were in line with the approved QAPP.

Are there deviations from the QA Project Plan? (If yes, explain)

No deviations from the QAPP were observed during the site visit.



Do any deviations from the QA Project Plan affect data quality?

N/A

Have any corrective actions been taken during the project?

No corrective actions have been taken during the project to date.

Did these corrective actions impact data quality (If yes, describe)

N/A



# QA FIELD ASSESSMENT DATA SHEET

**Project Title:** Mappin Oyster Presence and Potential Habitat in the Hudson River from Piermont to Yonkers

**QAPP ID:** 025-015 Version 2

**Assessor(s):** Daniel E. Miller

**Assessment Date:** July 24, 2025

**Project Location:** Haverstraw Bay, Hudson River, near Irvington

**Project Staff:** Tom Minett, Matt Augusto, Matt Fleisher

**Brief Project Description:** Geo-referenced benthic sampling to detect presence or absence of American Oyster in the Hudson River from Piermont to Yonkers

Is there an approved QA Project Plan for the overall project and has it been reviewed by all appropriate personnel? Yes

Is a copy of the current approved QA Project Plan maintained at the site? If not, briefly describe how and where quality assurance and quality control requirements and procedures are documented at the site. Yes, a bound copy was onboard sampling boat

Is the implementation of the project in accordance with the QA Project Plan?

Yes. All sample collection, processing and data recording procedures are consistent with the approved QAPP

Are there deviations from the QA Project Plan? (If yes, explain)

No

Do any deviations from the QA Project Plan affect data quality?

N/A

Have any corrective actions been taken during the project?

No corrective actions taken during project. The QAPP was revised to allow collection of oyster presence/absence data in samples that did not meet minimum volume criteria. Addressed in Version 2.

Did these corrective actions impact data quality (If yes, describe)

No, the corrective actions only allowed additional presence/absence data only to be collected without disqualifying samples that did not meet minimum volumes. Sediment sample requirements remained the same.



# QA FIELD ASSESSMENT DATA SHEET

**Project Title:** Restoring Native Plant Diversity and Habitat in Burlington's Floodplain

**QAPP ID:** Q25-019

**Assessor(s):** Sonya Vogel and Mae Kate Campbell

**Assessment Date:** 9/19/25

**Project Location:** Intervale Center, Burlington, VT

**Project Staff:** Zoe Richards (Burlington Wildways), Dr. Laura Hill (UVM), Duncan Murdoch (Intervale)

**Brief Project Description:** The grantee's first focus area is to trial successful native plantings in Burlington's floodplain. The second focus area is to grow local ecotypic native plants in conjunction with UVM's Plant Biology department. The third focus area is to use those locally sourced ecotypic plants to bolster ongoing restoration work in the floodplain as well as other established riparian sites in the city. Additionally, the grantee will distribute native plants at their annual Spectacular Nature Day Event, for free, to bolster habitat restoration and an understanding of its value to the larger Burlington community

## QA Assessment Summary:

Mae Kate and I met with the project team (Zoe Richards, Dr. Laura Hill, Duncan Murdoch, and summer interns Ellie and Dante) at the Intervale Center in Burlington, VT, to tour the 30 experimental plots described in the QAPP. While not included as a part of this assessment, we also visited study sites that are included in the work of the overall project, but are not under the purview of the QAPP, including the two Japanese Knotweed removal plots and the native plant garden.

To test the effectiveness of three different management strategies for herbaceous floodplain restoration, 10 sites were established using a block design in the floodplain of the Winooski River. A "block" was a designated area where the environmental conditions are relatively homogenous, in which three plots were established and were randomly assigned one of the three management strategies; control, invasive hand-pull management, or planting natives and hand-pulling invasives. Our visit did not coincide with the treatment timing (hand-pulling and native planting treatments were scheduled to occur twice per season, once at the beginning of the trial and once at the end of the growing season). However, our visit was concurrent with the monthly data collection by the summer interns.

At each of the 30 experimental plots, interns collected observational data on the vegetative state (vegetative, seeding, or flowering) and mortality of the plants within the plot. In the control and hand-pull only treatment plots, the dominant vegetative cover was goutweed (*Aegopodium podagraria*), which is a highly invasive species in this area. In the plots treated with both hand-

pull and native species planted, the vegetative cover and mortality were collected for each species planted in the plot.

The interns were both UVM students with either a background in plant biology or a keen interest in plant biology, botany, or forestry. Both said this work had sharpened their plant identification skills, but per the protocols outlined in the QAPP, the Project QA Officer, Dr. Hill, was consulted whenever they were uncertain about a species or otherwise needed further support for data collection. Interns took multiple photos of each plot during their visit which was used by Dr. Hill to verify the accuracy of the data collected.



Photo 1: View of some of the experimental test plots, each delineated with orange tape.



Photo 2: Intern Dante standing above one of the experimental to take photos and assess vegetative cover.



Photo 3: Signage along the public trail in the Intervale briefly identifying what the orange/red tape is being used for, for curious members of the public.



Photo 4: Native species that were planted are marked with flags for ease in monitoring. Here, the white flag marks cut-leaf coneflower (*Rudbeckia laciniata*) surrounded by invasive goutweed (*Aegopodium podagraria*). This summer's drought has negatively impacted the mortality of the native plants planted for this experiment, so we were happy to see this native plant doing seemingly well!



Photo 5: The native plant garden pictured here is not a part of the work being done under the QAPP, but we took the opportunity to observe another part of the project while on site. Dr. Hill and the rest of the project team are growing native species from seeds collected around Burlington (Task 2B in the approved project workplan). It was a beautiful day to be in the field, and it was wonderful to see this garden thriving. Just two years ago, this entire area was washed away by the major flooding of the Winooski River in July 2023.

Is there an approved QA Project Plan for the overall project and has it been reviewed by all appropriate personnel?

Yes.

Is a copy of the current approved QA Project Plan maintained at the site? If not, briefly describe how and where quality assurance and quality control requirements and procedures are documented at the site.

The QAPP is available electronically to all project staff. Additionally, interns and other project staff have all been trained on the parts of the QAPP relevant to their work



responsibilities. Interns collect data on the data sheets included in the QAPP, and all data collected undergoes a quality control check by Dr. Laura Hill (Project QA Officer).

Is the implementation of the project in accordance with the QA Project Plan?

Yes, the tasks are being implemented as described in the QAPP.

Are there deviations from the QA Project Plan? (If yes, explain)

There was a delay in the timing of the project as it was described in the QAPP. The process of developing a QAPP and having it approved took longer than expected for the team and delayed the start of the project a bit. Experimental plots were set up in July rather than early June per the project plan.

Do any deviations from the QA Project Plan affect data quality?

Unlikely. The discrepancy in timing is documented in the data for consideration during analysis and did not otherwise impact the plan for the project as was outlined in the QAPP.

Have any corrective actions been taken during the project?

None were described by the project team.

Did these corrective actions impact data quality (If yes, describe)

NA