



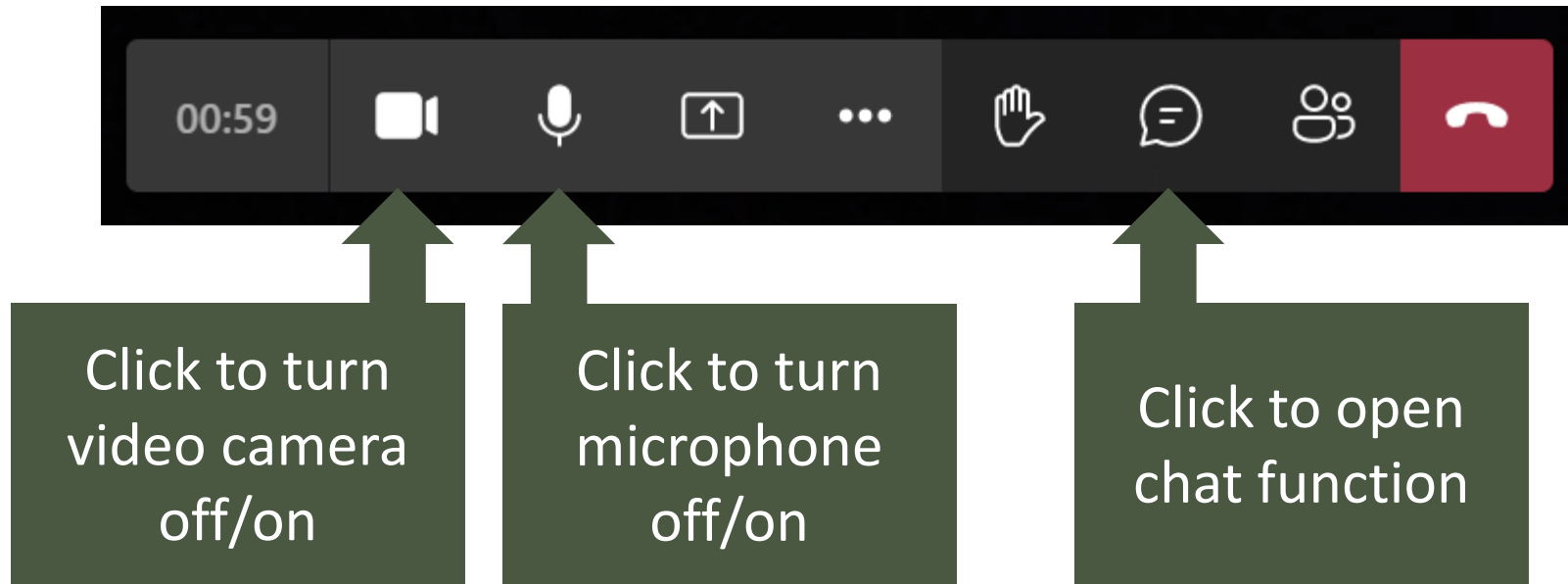
COLUMBIA RIVER BASIN
RESTORATION PROGRAM

Columbia River Basin Restoration
Program Working Group

Toxics Monitoring Subgroup Meeting

December 14, 2022

Introduction to Microsoft Teams





Monitoring Subgroup

Recommended by CRBRP Working Group

Goal of this group: support coordination and communication across toxics monitoring projects (**including CRBRP Grantees**) and programs in the Columbia River Basin; advance recommendations from the 2010 Columbia River Toxics Reduction Action Plan and the results of the 2022 Toxics Monitoring Subgroup Meetings.

Meeting Objective: Bring together current CRBRP monitoring project grantees and previous Toxics Monitoring Subgroup participants to support grantees project needs and clarify priorities moving forward



Agenda

- 1:30 Welcome, agenda review, and introductions
- 1:40 Recap of progress in 2022
- 2:00 Moving forward – feedback and next steps
- 2:15 QAPP training
- 3:00 Adjourn

Welcome & Introductions



Using the chat in Teams, please introduce yourself and identify who you represent.

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Where are you today?

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Recap of 2022 Progress

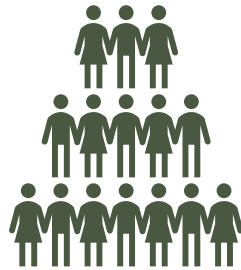


Participation in 2022 Subgroup Meetings



3 Meetings

6 hours total



Participants

34 people representing
23 entities



Meeting Info and Results

<https://www.epa.gov/columbiariver/columbia-river-basin-restoration-working-group>

<https://gaftp.epa.gov/region10/columbiariver/monitoring-subgroup/>

Meeting 1

March 2, 2022

Coordination,
gaps, and data
sharing

Topic #1: Should there be a document describing agreed upon sampling and analytical methods and concerns for Columbia River toxics monitoring? Who would prepare it?

Topic #2: What are the monitoring gaps of greatest concern?

Topic #3: We propose that toxics monitoring data be published to the EPA Exchange Network's WQX data system and that we create a new dashboard to access CRB data from the WQX.

Meeting 1

March 2, 2022

Coordination,
gaps, and data
sharing

Topic #1: *Should there be a document describing agreed upon sampling and analytical methods and concerns for Columbia River toxics monitoring? Who would prepare it?*

- **YES**, would support consistency of QAPPs and SOPs and documentation of objectives and thresholds/baselines/standards
- As long as there is **flexibility and support** to manage challenges
 - What would it take to ensure that data are comparable and interchangeable?
 - How to ensure flexibility for a variety of users?
 - Managing the volume of documents will be a large amount of work and would need to be updated periodically.
 - It is unclear who could take on that effort.

Meeting 1

March 2, 2022

Coordination,
gaps, and data
sharing

Topic #2: What are the monitoring gaps of greatest concern?

- Scope and funding—a well-defined scope will be essential to keep monitoring efforts manageable, and conditions on current funding limit the viability of longer-term monitoring.
- Other areas of concern included:
 - Source Identification
 - Contaminants of Emerging Concern
 - Other priorities include:
 - Existing monitoring design for the lower Columbia Juvenile salmonids
 - Dioxin

Meeting 1

March 2, 2022

Coordination,
gaps, and data
sharing

Topic #3: *We propose to publish data to the EPA Exchange Network's WQX data system and that we create a new dashboard to access CRB data from the WQX.*

Are you familiar with the EPA WQX and the Water Quality Portal?

0 1 2

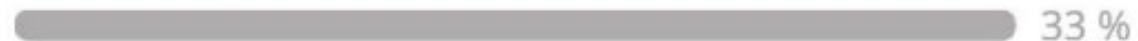
Yes, we regularly publish data using the WQX



Yes, we don't publish to the WQX, but I know someone in my organization who does use the WQX



Yes, but we don't use it or know anyone in my organization who use the WQX



No, what is the WQX?



Meeting 2

April 28, 2022

Data sharing,
emerging concerns,
contaminants of
concern list

Topic #1: Continue discussion of the data sharing proposal (i.e., that toxics monitoring data be published to the EPA Exchange Network's WQX data system and that we create a new dashboard to access CRB data from the WQX).

Topic #2: Discuss holding an annual research and emerging concerns workshop.

Topic #3: Review CRB Contaminants of Concern Framework (finalized August 2020) and discuss plan to revisit as needed.

Meeting 2

April 28, 2022

Data sharing,
emerging concerns,
contaminants of
concern list

Topic #1: Continue discussion of the data sharing proposal (i.e., that toxics monitoring data be published to the EPA Exchange Network's WQX data system and that we create a new dashboard to access CRB data from the WQX).

Would you be interested in training related to publishing data to the WQX?

014

Yes



93 %

No



7 %

Do you have reservations about using WQX for publishing these data?

014

Yes



36 %

No



64 %

Meeting 2

April 28, 2022

Data sharing,
emerging concerns,
contaminants of
concern list

If we were to build a CRB Toxics Data Dashboard to access and display data, what is the top question you would ask of the data?

(1/2)

010

- Hazard quotients
- Spatial and temporal trends
- Are concentrations of an analyte increase or decreasing through time at a particular location?
- Is this an area of concern that needs extra attention/monitoring? Is this a potential contaminant source area? Where are the datagaps (by parameter)? Is this an area of importance for aquatic species?
- Potential health risks.
- Who has done similar monitoring
- Where are the holes? (locations, analyses, etc?)
- that I can seek out for advice before I start my project?
- Spatial map - regions of concern, areas of low probability of adverse impact from toxics, areas of inconclusive data
- Are there trends over time for a specific constituent?
- Quantity comparison
- Where are toxic contaminants above aquatic life and human health benchmarks?
- Are the values comparable?
- Where?

Meeting 2

April 28, 2022

Data sharing,
emerging concerns,
contaminants of
concern list

Topic #2: *Discuss holding an annual research and emerging concerns workshop.*

- Every 2 years, in the winter, hybrid format
- Invite: SMEs, regulators, lab managers; make sure perspectives are represented e.g. Tribal, federal, state; research and regulatory

How often should we conduct a research priorities and emerging concerns workshop? 0 1 3

Annually



Every 2 years



Meeting 2

April 28, 2022

Data sharing,
emerging concerns,
contaminants of
concern list

Topic #3: Review CRB Contaminants of Concern Framework (finalized August 2020) and discuss plan to revisit as needed.

We propose to we revisit the Priority Contaminants of Concern List in 5-10 years. Do you agree yes/no?

008

Yes



No



Meeting 3

June 2, 2022

QAPPs, basinwide monitoring design, what else do you need?

Topic #1: Revisit the idea generated from the March 2022 meeting of a Columbia River Basin-wide “generalized or programmatic QAPP”.

Topic #2: Is there interest in a standardized monitoring design for the CRB to enable comparisons between geographical areas (e.g., at different spatial scales) and show changes over time (i.e., trend analyses)?

Topic #3: What else do you need to be successful in coordinating towards a coordinated Columbia River Basin-wide Toxics Monitoring Strategy?

Meeting 3

June 2, 2022

QAPPs, basinwide monitoring design, what else do you need?

Topic #1: *Revisit the idea generated from the March 2022 meeting of a Columbia River Basin-wide “generalized or programmatic QAPP”.*

- Yes, interest in help with QAPPs and the idea of generalized or programmatic QAPP

In the absence of conditions that allow a Generic, Programmatic, or Umbrella QAPP for the Basin, how can new monitoring projects improve consistency/data compatibility?

006

- Make shared text available for common DQO, analytical techniques, etc? Multiple projects can be consistent by using common analytical methods, techniques to whatever degree possible.
- Use common, established methods whenever possible.
- Seek out state projects with established QAPP programs that have already engaged in similar work
- Develop common terminology or a guidance document on common terminology.
- Standardize, to the largest sense that it makes sense to, lab and field methods
- Templates. Easy access to view other project QAPPs

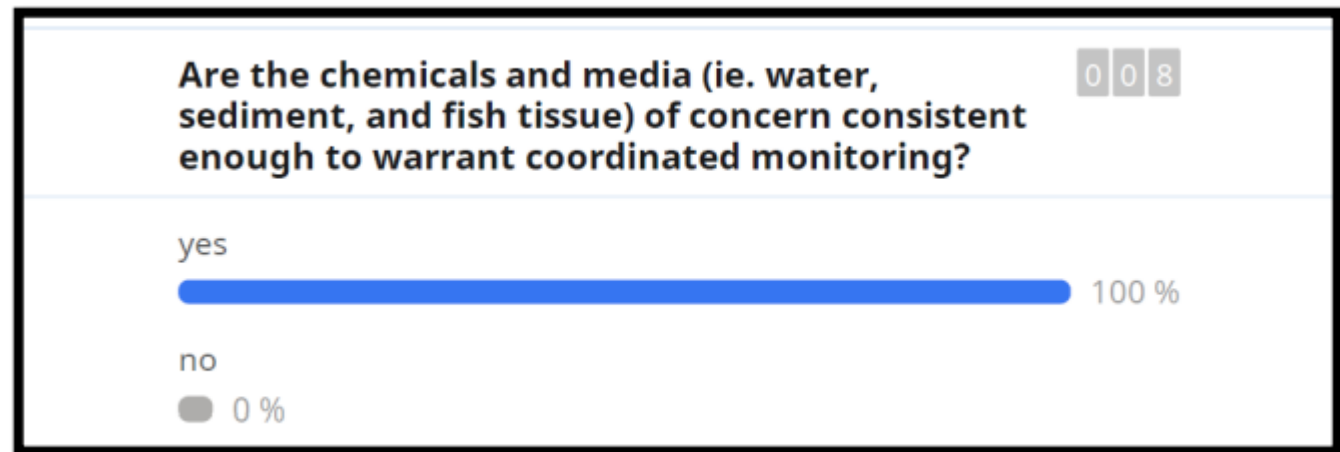
Meeting 3

June 2, 2022

QAPPs, basinwide monitoring design, what else do you need?

Topic #2: *Is there interest in a standardized monitoring design for the CRB to enable comparisons between geographical areas (e.g., at different spatial scales) and show changes over time (i.e., trend analyses)?*

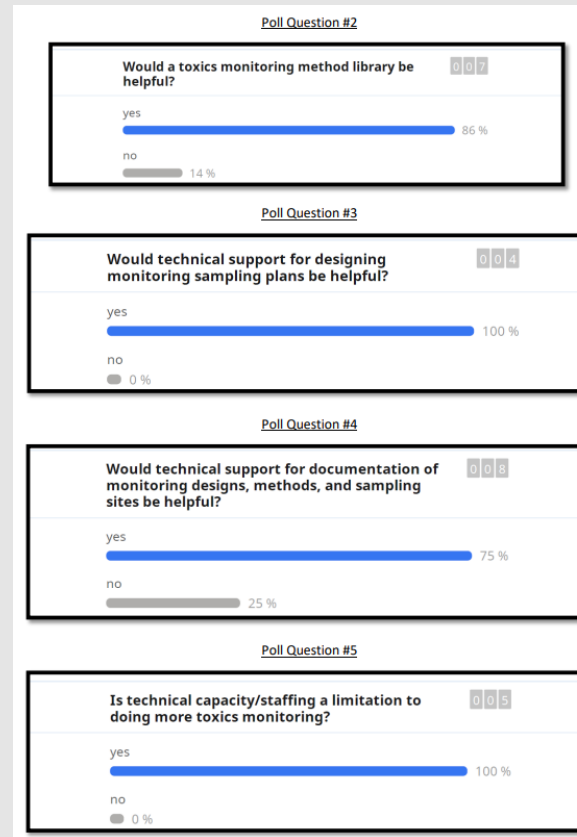
- There is interest, also concerns
- We identified some management questions that would drive the need for this



Meeting 3 June 2, 2022

QAPPs, basinwide
monitoring design,
what else do you
need?

Topic #3: What else do you need to be successful in coordinating towards a coordinated Columbia River Basin-wide Toxics Monitoring Strategy?



What type of training are you interested in? 008

- Support for developing proposals
- Data management, long-term data storage archiving
- Data Analysis (statistics) Training for monitoring for different parameters
- Which methods/ labs to choose and why? What have others learned in costs vs. Benefits vs. Issues from various laboratories?
- data/statistical analysis, especially best practices for trend identification effective outreach & communication
- QAPP, DQO development
- data visualization & communication BMPs
- Data analysis

What else would be helpful to you in your individual monitoring projects and/or for our coordination towards a Columbia River Basin-wide monitoring strategy? 005

- How can we relate data from different sources? e.g. pesticides in water vs other toxics in fish tissue - how can you interpret those findings to gain more meaning from both together than you can from either individual result?
- Who or how does the mainstream get sampled? Do individual watersheds need to sample their local mainstem sections or is someone else addressing it?
- Forum for coordination, stable funding source, help with data sharing/management and a way to access other data
- Meetings/workshops focused on results and ongoing projects. Communicating results and efforts
- a smaller river basin

Moving Forward – Feedback and Next Steps



Near term next steps

1. QAPP support – starts today!
2. We will ask you later today: what else do grantees need help with?

Training/support for...

- Developing Data Quality Objectives (DQOs)
- Selecting analytical methods
- Finding or creating SOPs for field sampling
- Developing sampling plans
- Finding a lab
- Uploading data to WQX
- Data analysis

Moving Forward – Feedback and Next Steps



Long term next steps

1. Each year, staff will support 3 meetings and 1 workshop
2. Staff will create matrix of who's doing what
3. Staff will support tasks that you identify as priorities

Moving Forward – Feedback and Next Steps



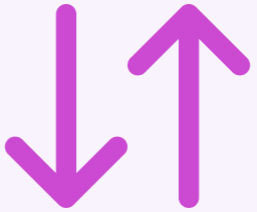
Prioritize ideas from
previous meetings

1. What's missing?
2. Rank ideas

Task Topics

1. Discuss and agree on **screening values/thresholds** for specific constituents to be monitored.
2. Develop recommendations for **common collection and analytical methods** to enable cross-project data comparisons.
3. Identify **data gaps and areas of synergy for sampling and data management**.
4. Develop a plan to continue to document and track “**who’s doing what, where, and how.**”
5. Investigate partners’ needs for **tools and resources to publish data and metadata**.
6. Investigate needs and requirements of a user interface to be built upon EPA’s WQX web services to yield a dashboard to access and display these data (“**CRB Toxics Monitoring Data Dashboard**”).
7. Investigate the development of a **Programmatic QAPP**.
8. Convene webinars to hear lessons learned from successful, large scale, long-term, toxics monitoring programs to **help inform potential funding and legislative changes**.

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Rank the task topics from most important to least important.

ⓘ Start presenting to display the poll results on this slide.

Quality Assurance Project Plans for EPA Grantees

Columbia River Monitoring

Meghan Dunn

US EPA, Region 10

QA Chemist

Laboratory Services and Applied Science Division

December 14, 2022



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What is your level of experience with QAPPs?

ⓘ Start presenting to display the poll results on this slide.

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When will sampling begin for your project?

ⓘ Start presenting to display the poll results on this slide.

Quality Assurance Project Plans for EPA Grantees

Columbia River Monitoring

Meghan Dunn

US EPA, Region 10

QA Chemist

Laboratory Services and Applied Science Division

December 14, 2022



EPA R10 QA Contacts

Regional Quality Assurance Manager (RQAM)

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QA Chemists:

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Raymond Wu, wu.raymond@epa.gov

RQAM retains overall authority to approve QAPPs, and delegates this authority to QA Chemists have delegated authority who review & sign QAPPs.

Agenda



Goal: Provide an Understanding of the QAPP process

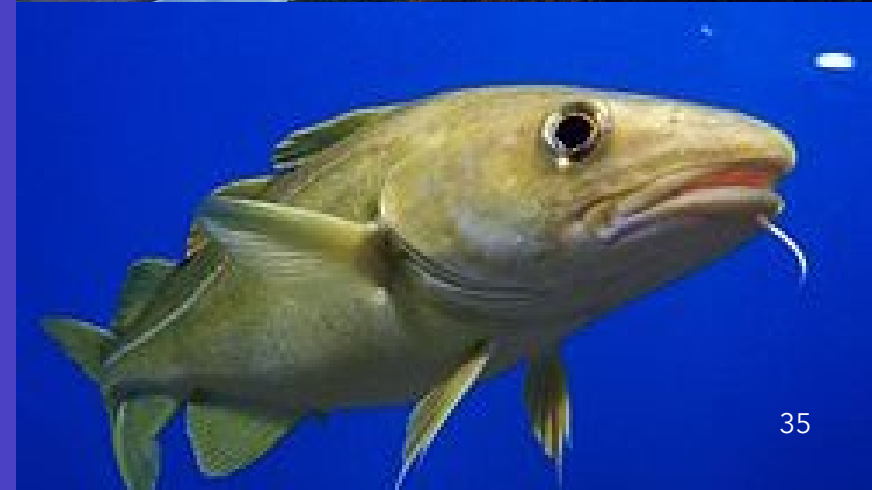
- When is a QA Project Plan (QAPP) required for a Grant?
- What is the purpose of a QAPP?
- How do we develop and write a QAPP for our Grant?
- What resources are available?
- What is the submission process?

Backstory, why we do QAPPs

What?	Who?	When?	How?	Why?
Quality Assurance Project Plan (QAPP); documents aspects of a project that uses environmental information	EPA Grantee is responsible for writing the QAPP	Depends on the complexity of the project. Recommend starting months in advance. QA review time alone is up to 3 weeks. QAPP is required <u>before</u> collection of information.	You may use EPA QAPP templates. Reference this presentation and EPA guidance.	It's required by EPA policy. It is also a planning tool to organize and document the project from start to finish.

Before the QAPP

Planning, Data Quality Objectives



When do we need a QAPP?

A QAPP is required under the Grant Regulations (40 CFR parts 30 & 31) and EPA QA Policy for projects that ***generate or collect environmental information***.

Environmental information are any measurements or information that describe environmental processes, location, or conditions; ecological or health effects and consequences; or the performance of environmental technology. Examples: monitoring data, model outputs, GIS points, etc.

Generate or Collect means the production of new information or the acquisition of existing data or information

What is the Purpose of a QAPP?

- Meets the Agency's documentation requirements
- It is a planning tool to assist grantee with
 - Determining data needs
 - Collecting the correct data to meet those needs
- Allows for flexibility; only use the planning elements critical to the project (graded approach)
- Describes how sampling & measurement uncertainty will be controlled and evaluated (assessment of data quality; usability)

How do we Develop and Write a QAPP?

Before writing a QAPP, first determine the **data quality objectives (DQOs)**

- What is the overall purpose and goal for the project?
- What question needs to be answered to achieve the project goal?
- What are the data needs required to answer the question?
- How will the data be used?



The DQO Planning Process

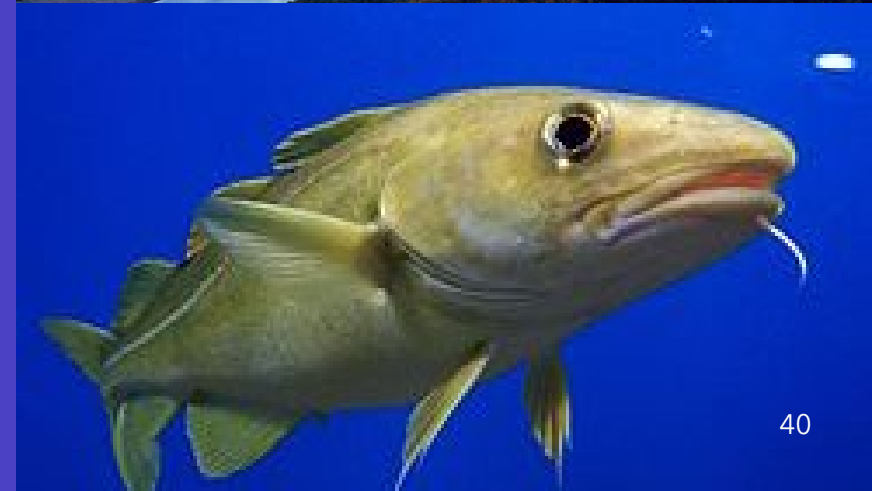
How do we Develop and Write a QAPP?

Before writing a QAPP, first determine the **data quality objectives**

- What is the overall purpose and goal for the project?
 - Goal: Educate community about an environmental issue
- What question needs to be answered to achieve the project goal?
 - Question: What is the concentration of a pollutant in the environment?
- What are the data needs required to answer the question?
 - Data needs: Determine the concentration of a pollutant in an area
- How will the data be used?
 - Intended data use: Report on the concentration of a pollutant

QAPP Resources

**We're from the government and we're
here to help**



QAPP Development Tool - Modules and Resources

<https://www.epa.gov/quality/quality-assurance-project-plan-development-tool>

Module 1: Guidance on preparing QAPPs, streamlined

Module 2: QAPP Template, word document

Module 3: Example of a completed surface water monitoring QAPP

Module 4: References and Links (more QAPP resources, supplemental technical information, analytical references for methods, data evaluation)

Module 5: Standard Operating Procedures (SOPs)

Module 6: Selecting an environmental laboratory



Related Topics: [Managing the Quality of Environmental Information](#)

[CONTACT US](#)

Quality Assurance Project Plan Development Tool

This tool contains information designed to assist in developing a Quality Assurance (QA) Project Plan that meets EPA requirements for projects that involve surface or groundwater monitoring and/or the collection and analysis of water samples. The structure of the tool is intended to step one through the thought process of planning a project, as well as to provide a framework for documenting the plan.

The tool is divided into modules as follows:





- [Module 1](#)
- [Module 2](#)
- [Module 3](#)
- [Module 4](#)

QAPP Development Tool - Analytical Methods

<https://www.epa.gov/quality/quality-assurance-project-plan-development-tool>

Analytical Methods

Analytical References

- [Handbook for Analytical Quality Control In Water and Wastewater Laboratories](#)
- 40 CFR Chapter 1, (1 July 2003); Subchapter D - Water Programs:
 - [Part 136 - Guidelines Establishing Test Procedures for the Analysis of Pollutants](#) 
 - [Part 141.23 Inorganic Chemical Sampling and Analytical Requirements](#) 
 - [Part 141.24 Organic chemicals other than total trihalomethanes, sampling and analytical methods](#) 
- Other Analytical Information Available on the Internet
 - [Analytical Methods Developed by the Office of Groundwater and Drinking Water, EPA](#)
 - [Water Science Analytical Methods, EPA](#)
 - [National Environmental Methods Index](#) 

QAPP Development Tool - SOPs

<https://www.epa.gov/quality/quality-assurance-project-plan-development-tool>

See Module 5 for SOPs (field activities)

Link to EPA's Superfund/emergency response sampling SOPs

STANDARD OPERATING PROCEDURES

Individual SOPs, by category listed below, can be downloaded in portable document format (.pdf) using the Documents tab at the top of this web page or by clicking on the individual links below:

Laboratory Activities

Mobile Laboratory

Field Instrument and Analytical Methods

Laboratory Methods

Field Activities

Field Instrument and Analytical Methods

EPA Resources - QAPP Development Tool Templates

<https://www.epa.gov/quality/quality-assurance-project-plan-development-tool>

NOTE:

Provide the project title, name of organization conducting the project, and personnel with approval authority. Approval authorities typically include project organization and regulating authorities such as EPA.

Quality Assurance Project Plan

for

<< Project Name >>

<<Affiliated Program & Associated Contract or Assistance Agreement Number>>

Prepared by

<< Tribe Name and Address >>

Prepared for

<< Regional EPA Office and Address >>

Approvals Signature (required prior to project start):

Tribal Council Elder

Date: _____

Tribe=s Project Manager

Date: _____

Tribe=s QA Officer

Date: _____

EPA Project Manager/Officer

Date: _____

EPA QA Manager/Representative

Date: _____

Table of Contents

NOTE:

List the section/subsections of the document and all figures, tables, and appendices. Provide associated section/subsection numbers and pages so that all information may be readily found in the document.

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1.7 Quality Objectives and Criteria for Measurement Data	6
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EPA Resources – Citizen Science QA Handbook and Toolkit

<https://www.epa.gov/participatory-science/quality-assurance-handbook-and-toolkit-participatory-science-projects>

An approachable resource on QAPPs, especially for what DQOs are

 An official website of the United States government [Here's how you know](#) ▼

 **EPA** United States Environmental Protection Agency



[Environmental Topics](#) ▼ [Laws & Regulations](#) ▼ [Report a Violation](#) ▼ [About EPA](#) ▼

Participatory Science

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[Participatory Science Home](#)
[Explore Projects](#)
[EPA's Equipment Loan Programs](#)
[Quality Assurance Toolkit](#)
[QA Handbook and Video Series](#)
[FAQ on Quality Assurance](#)

Quality Assurance Handbook and Toolkit for Participatory Science Projects

Participatory science—also known as citizen science, community science, volunteer monitoring, public participation in scientific research, and other terms—uses the collective strength and knowledge of the public to gather and analyze data to answer environmental and public health questions.

EPA Resources – EPA Region 10 Tribal QAPP

<https://www.epa.gov/r10-tribal/quality-assurance-project-plans-tribes-region-10>

Excellent resource for anyone writing a QAPP, Region 10 specific page

Region 10 Tribal Programs

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[Water](#)

[GAP](#)

[Training](#)

[Consultation & Coordination](#)

[Tribal Newsletter](#)

Quality Assurance Project Plans for Tribes in Region 10

On this page:

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About QAPPs

A Quality Assurance Project Plan (QAPP) is a written document that describes your plan for collecting and using environmental data. Grantees that develop QAPPs must obtain approval for the QAPP from EPA (or from states or tribes with delegated QAPP approval authority) before starting environmental data activities.

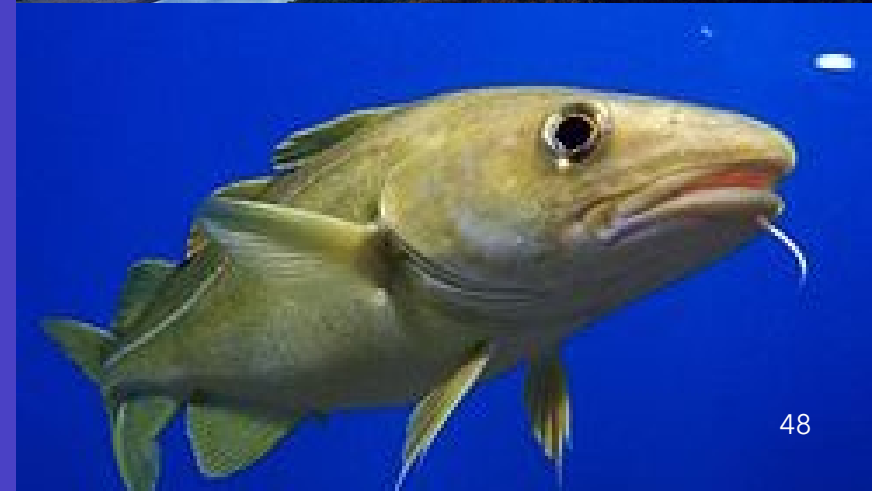
Here are a few examples of projects that typically require a QAPP:

Group Resources - TBD

- What might be helpful to develop and use internally?
 - Method library for analytical methods
 - QAPP library of approved Columbia River Monitoring QAPPs
 - QAPP template or DQO template language for Columbia River Monitoring Project types (education, research, regulatory purposes)

QAPP Components

**EPA Guidance for Quality Assurance
Project Plans, in a nutshell**



QAPP Sections

Section A - Project Management	Section B - Data Generation and Acquisition	Section C - Assessment and Oversight
A1 Title and Approval Sheet	B1 Sampling Process Design (Experimental Design)	C1 Assessments and Response Actions
A2 Table of Contents	B2 Sampling Methods	C2 Reports to Management
A3 Distribution List	B3 Sample Handling and Custody	
A4 Project/Task Organization	B4 Analytical Methods	Section D - Data Validation and Usability
A5 Problem Definition and Background	B5 Quality Control	D1 Data Review, Verification, and Validation
A6 Project/Task Description	B6 Instrument/Equipment Testing, Inspection, and Maintenance	D2 Verification and Validation Methods
A7 Quality Objectives and Criteria	B7 Instrument/Equipment Calibration and Frequency	D3 Reconciliation with User Requirements
A8 Special Training/Certifications	B8 Inspection/Acceptance of Supplies and Consumables	
A9 Documentation and Records	B9 Non-direct Measurements	
	B10 Data Management	

Major QAPP Sections

Major sections, explained

Project Management (Section A)	Setup QAPP Format (title page, table of contents, plan/data distribution list). Determine the Project Organization & Personnel.
	State the Project Goals, Problem Statement, Data Needs (<i>intended use of the data</i>), Major Project Tasks, Training & Documentation (<i>records</i>) requirements. Provide Background Information for context.
Data Generation & Acquisition (Section B)	Setup the sample design, sample handling, measurement methods, QC, test equipment procedures, data management (<i>data flow</i>).
Assessment & Oversight (Section C)	Determine how methods & procedures will be evaluated to ensure compliance during implementation and reliability of data generation.
Data Validation & Usability (Section D)	Determine how data will be assessed to see if it is correct, precise, accurate and that it meets the project goals.

Section A, Project Management

Title and Approval Sheet (A1)

- List the project title, organization(s) name and address, revision number, effective date
- Provide signature blocks for relevant parties (grantee Project Manager, EPA Project Officer, EPA QA Manager)

Table of Contents (A2)

- Include QAPP sections, tables, figures, and appendices

Distribution List (A3)

- Key personnel for project implementation and funding
- Include name, project role title or job title, organization name, email address, phone number
- Identify who will receive the QAPP

Section A, Project Management

Project / Task Organization (A4)

- List persons & their responsibilities including tasks such as sample collection, shipping, measurements, data review, data reporting, training and internal audits.
- Identify any external Contractors & their contact information (*e.g., laboratories*)

Problem Definition / Background (A5)

- State the project goals, data needs, intended data use
- Background Information (*provide context for project's data needs*)

Project / Task Description (A6)

- Summarize the major project tasks to be performed
- Provide a schedule for major milestones
- Provide a map depicting the sample & measurement locations/area (*if relevant*)

Section A, Project Management

Quality Objectives and Criteria for Measurement Data (A7)

- Provide *Precision & Accuracy* requirements for each test method based on project and testing requirements (*i.e., duplicates, spike recoveries, etc.*)
- Determine *Sensitivity* requirements (*detection limit/quantitation limits*) for the test methods as they relate to project data needs (e.g., measurements are sufficiently sensitive to detect below a project's water quality criteria)
- Document *Representativeness* of media to be sampled & measured
- Document *Comparability* of test methods used to obtain measurements
- Determine an acceptable *Completeness* objective (*as a percentage*) needed to obtain a sufficient number of measurements to achieve the project goals

Section A, Project Management

Qualification & Training of Personnel (A8)

- Describe any special training requirements for project personnel and how training records are documented and maintained (*e.g., use of sampling equipment, measurement devices, etc.*)

Documents and Records (A9)

- Determine the record keeping requirements for the project. Identify critical Project records and describe how they are maintained (*e.g., field data sheets, logbooks, QAPP, Health & Safety Plan, chain of custodies, testing results, etc.*)

Section B, Data Generation & Acquisition

Sampling Process Design (B1)

- Describe the “experimental design” and/or sampling approach based on the intended use of the data (e.g., *collect & analyze “X” number samples at certain locations in a given timeframe to represent a specific environmental condition*)

Sampling Methods (B2)

- Describe the sample collection procedures
 - Identify the type of sample collection technique used at each location
 - Indicate special sample collection requirements for test methods and any quality control samples (e.g., *trip blanks for VOCs*)
 - List out the sample equipment needed and decontamination procedures
- Identify corrective actions in case of sample loss (*determine critical samples*)

Section B, Data Generation & Acquisition

Sample Handling and Custody (B3)

- Describe the sample handling requirements including the sample container, sample preservation & holding time requirements (*test method defined*)
- Sample bottle label information (*sample ID, location, date, time, preservation*)
- Custody transfer procedures to testing lab (*Legal samples*)

Analytical Methods (B4)

- Identify the Test Methods that will meet the project data needs

Quality Control (B5)

- Describe the QC (*blanks, spikes, duplicates*) requirements and required QC limits for both field and lab QC samples (*these may be test method defined or project required as defined in Section A7*)

Section B, Data Generation & Acquisition

Instrument/Equipment Testing, Inspection, and Maintenance (B6)

- List out the testing equipment that requires maintenance & describe how maintenance is performed

Instrument/Equipment Calibration and Frequency (B7)

- List out the measurement equipment that require calibration
- Describe the method & frequency of instrument calibration and any certifications that are required (*some equipment may be sent out for calibration & certification*)

Inspection/Acceptance of Supplies and Consumables (B8)

- Identify supplies and consumables that are critical to monitoring
 - Examples: contaminant and powder free gloves, preservation vials, disposable wipes, sample bottles (*clean or sterile*), calibration standards (*w/expiration date*)

Section B, Data Generation & Acquisition

Non-Direct Measurements (B9)

- Description of existing data that will be obtained, its intended use, and your acceptance criteria

Data Management (B10)

- Description of how data is recorded, transferred, stored & retrieved
- Identify any digital systems, software and/or devices used to manage the data
- Identify & describe the reporting requirements for lab data
 - Analytical sample data
 - Quality Control results
 - Chain of Custody Records (*Legal samples*)

Section C, Assessment & Oversight

Assessments and Response Actions (C1)

- How are assessments of the sample collection, sample testing and records management processes performed for the project?
 - Independent observations of sample collection & field testing
 - Accreditation requirements for environmental testing Labs
 - Review of sample collection & testing records (e.g., field data sheets)

Reports to Management (C2)

- How is project management informed of the results of these assessments?

Section D, Data Validation & Usability

Data Review, Verification and Validation (D1)

- Describe the acceptance criteria for the review of data (*e.g., test method criteria, project specific data quality indicators, adherence to SOPs, etc.*)

Verification and Validation Methods (D2)

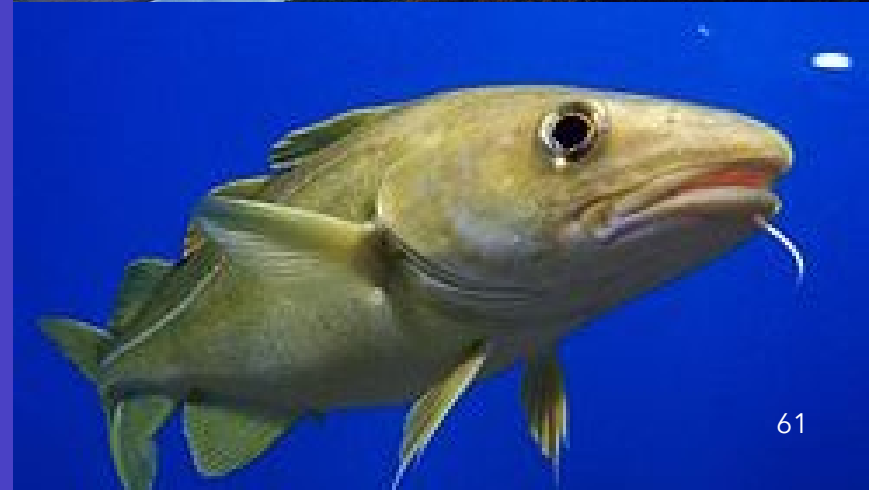
- Describe how the data review criteria will be applied to:
 - Laboratory data
 - Field measurements

Reconciliation with User Requirements (D3)

- Describe how data will be assessed prior to reporting (*e.g., minimum levels/reporting limits are sufficiently low, all required analyses are present, sample & testing requirements were met, test results not rejected by failed QC, etc.*)

QAPP Submission & Review

EPA Region 10 Process



EPA QA Review Process

1	2	3	4	5
Complete your QAPP draft & Send it to your EPA Project Officer (PO)	EPA Project Officer submits it for review to the EPA R10 QA Team A member of the QA Team picks up the QAPP for review	QA Reviewer emails comments to the grantee and EPA PO *Up to 3 weeks review time	Grantee addresses any comments in a revised draft, submits to the EPA QA Reviewer and PO	When QAPP acceptable to QA, the grantee is notified to finalize the document and collect signatures

How to Finalize the QAPP



- When the QAPP is deemed acceptable by EPA QA, you will receive an email stating it's time to finalize and sign the QAPP.
- Generate the final pdf, obtain signatures. EPA typically signs last.
- Important Note: EPA policy states **no data may be collected** until the QAPP is signed by all parties.

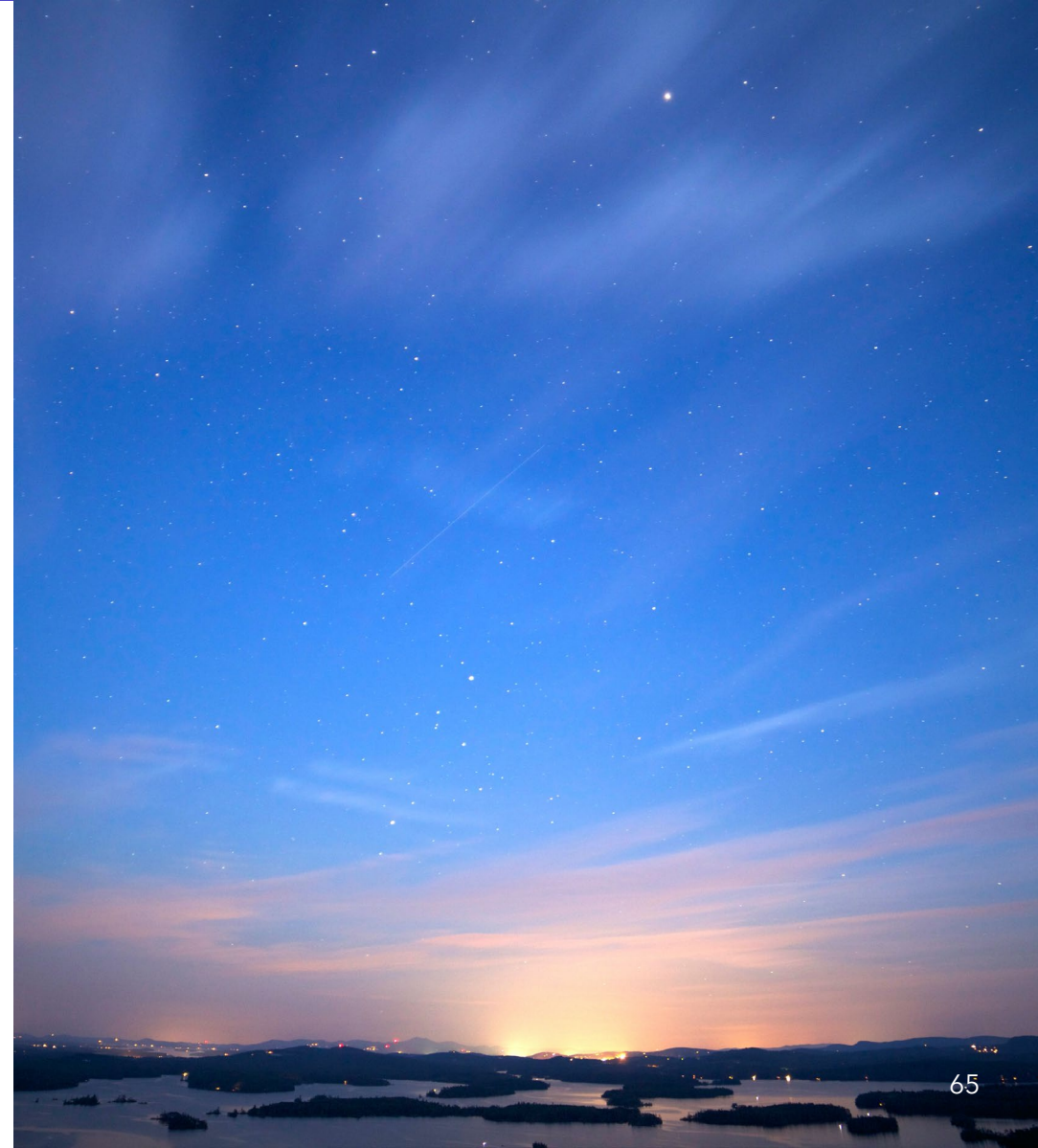


Changes to the QAPP After Signed

- Document changes to the project as laid out in the QAPP.
- Both options require QA review and signature
- QAPP Revision
 - Better suited for major changes such as data quality objectives, new analyses
- QAPP Addendum
 - Better suited for minor changes such as personnel changes, sampling locations

Summary

- QAPPs are required by EPA for grantees
- Resources and templates are available from EPA and elsewhere
- Reach out with questions or for guidance



Resources

QAPP Development Tool

<https://www.epa.gov/quality/quality-assurance-project-plan-development-tool>

EPA R10 Tribal QAPP Page (geared toward Tribal QAPP needs; excellent source of information for all)

<https://www.epa.gov/r10-tribal/quality-assurance-project-plans-tribes-region-10>

Citizen Science QA Handbook & Toolkit

<https://www.epa.gov/participatory-science/quality-assurance-handbook-and-toolkit-participatory-science-projects>





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**Thank you!
Questions?**

Training/support for...

- Developing Data Quality Objectives (DQOs)
- Selecting analytical methods
- Finding or creating SOPs for field sampling
- Developing sampling plans
- Finding a lab
- Uploading data to WQX
- Data analysis

slido



What else do grantees need help with?

ⓘ Start presenting to display the poll results on this slide.



Thanks for Joining Us!