COLUMBIA RIVER BASIN
RESTORATION PROGRAM

# Columbia River Basin Restoration Program Working Group

**Toxics Monitoring Subgroup Meeting 3**

**June 2, 2022**

# Monitoring Subgroup Recommended by CRBRP Working Group

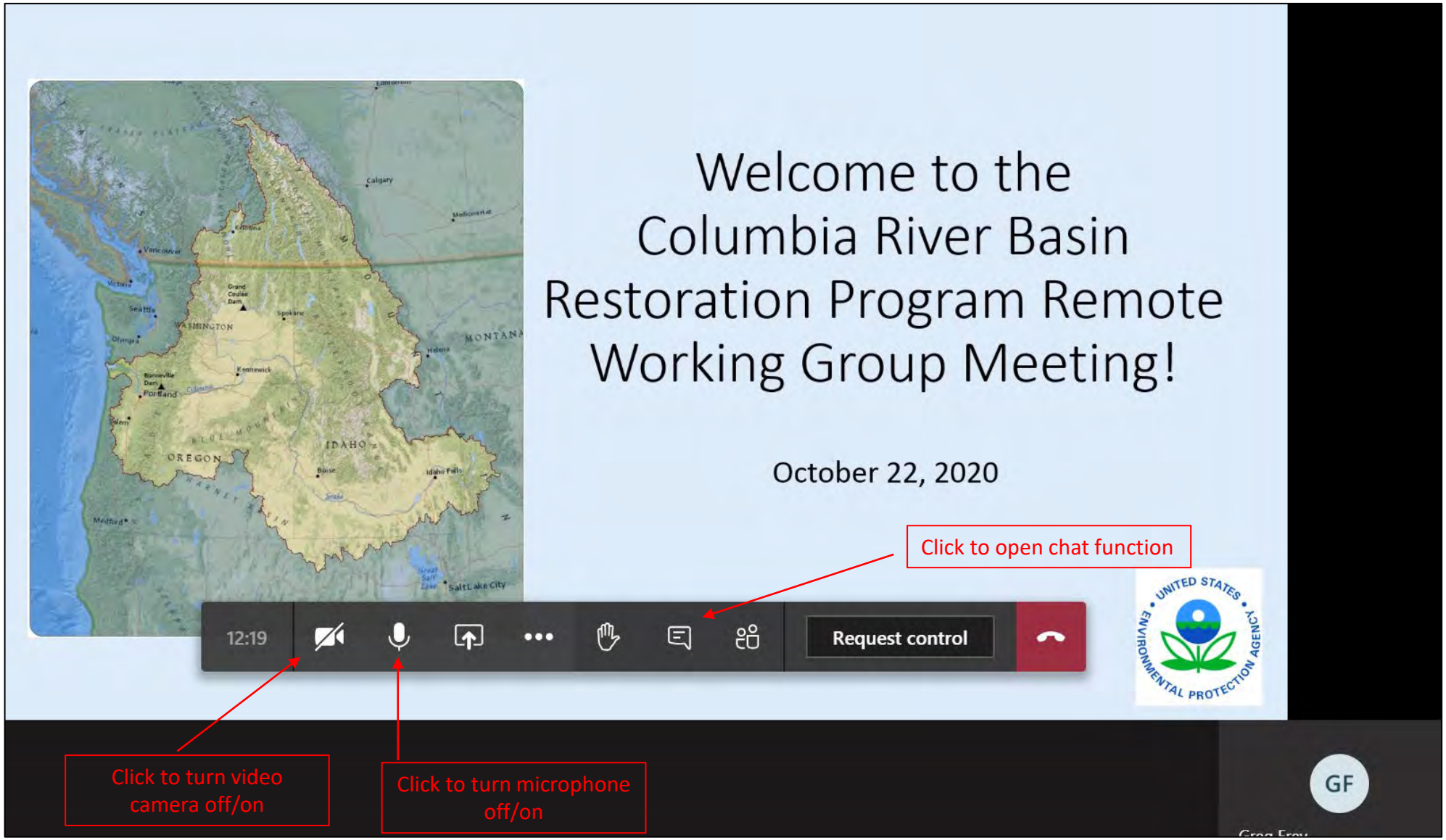
**Goal**: Advance recommendations from the 2010 Columbia River Toxics Reduction Action Plan and specifically, the June 2021 Monitoring Webinar proposal to develop a committee to guide long-term monitoring.

**Objective**: Initiate the development of a strategy for coordination of long-term monitoring of toxics and sharing of resulting data at the Columbia River Basin scale.

# Agenda

| | |
|---|---|
| 1:00 | **Welcome, Agenda Review, and Introductions** *Mary Lou Soscia (EPA), Jen Bayer (USGS), and Greg Frey (Council Oak)* |
| 1:10 | **Topic 1:** Revisit programmatic QAPP idea |
| | Presentation from Donald Brown, EPA Region 10 Regional Quality Assurance Manager |
| 2:10 | **Topic 2:** Revisit idea of standardized monitoring design |
| 2:30 | **Topic 3:** What else do you need to successfully coordinate towards a CRB-wide toxics monitoring strategy? |
| 2:50 | **Next Steps** *Mary Lou Soscia and Greg Frey* |

# Introduction to Microsoft Teams



# Welcome & Introductions

When called on, please introduce yourself and identify who you represent.

# Toxics Monitoring Subgroup Goals

1. Providing a forum to exchange toxics monitoring information, discuss challenges, and coordinate monitoring activities to complement existing CRBRP working group meetings.
2. Developing a strategy for coordinated monitoring activities across tributaries, compatible with emerging mainstem monitoring and existing estuary monitoring efforts.
3. Working to develop a shared data management system.
4. Identifying priority contaminants for future monitoring efforts.
5. Holding an annual meeting to discuss and identify research needs.

Don’t:

1. Repeat CRBRP Work Group
2. Be prescriptive

# Meeting 1

# Facilitate Development of Strategy for Monitoring 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 2

# Facilitate Development of Strategy for Monitoring and Data Sharing

**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.

# Topic 1: Quality Assurance Project Plans

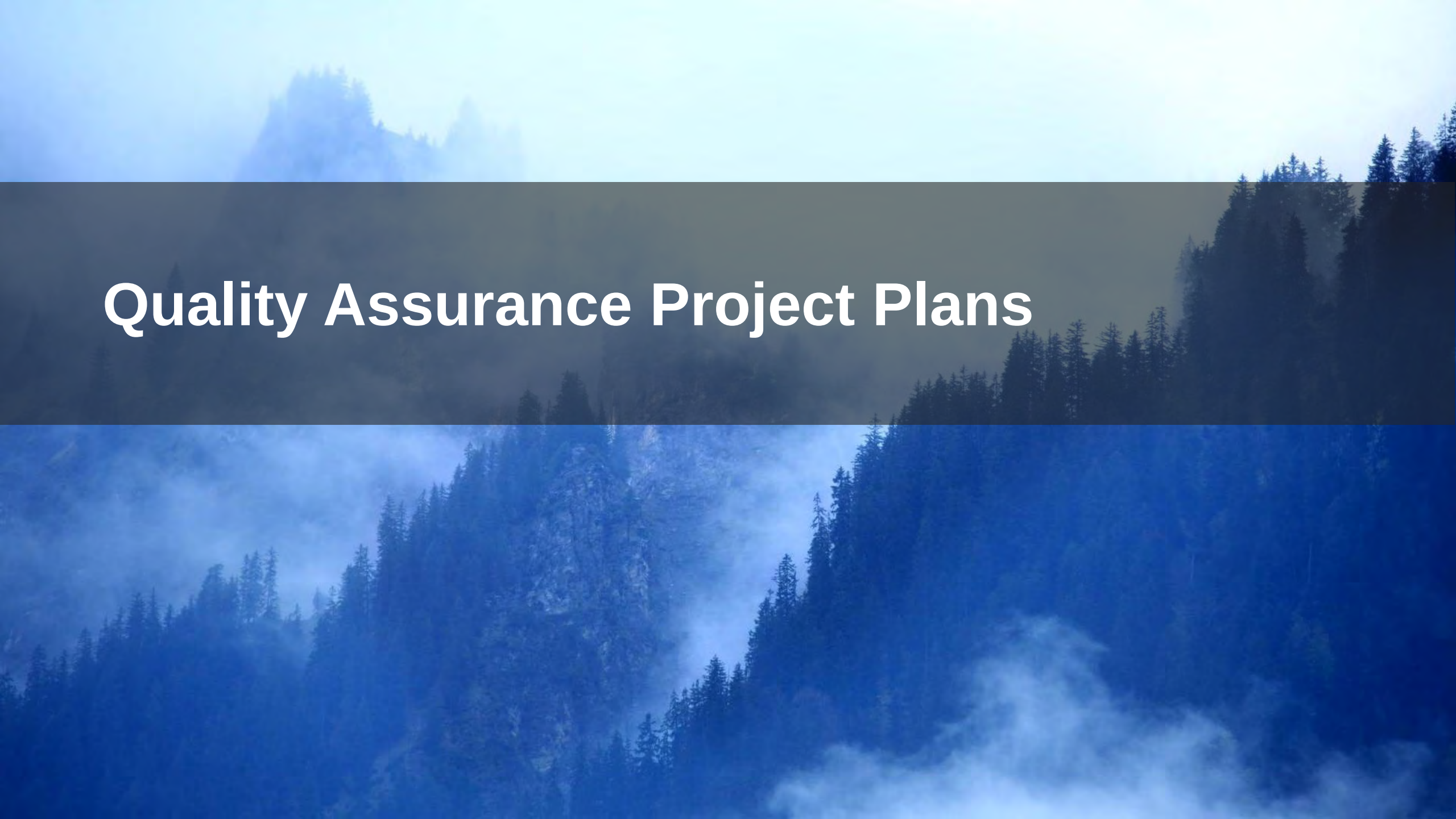
Presentation by

Donald M. Brown

Regional Quality Assurance Manager

Laboratory Services and Applied Science Division

USEPA Region 10

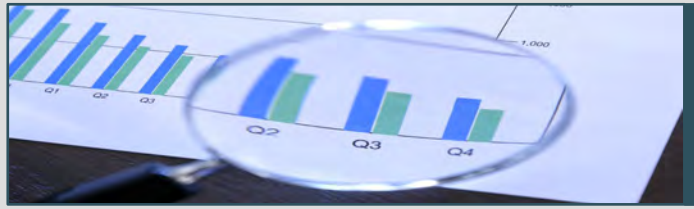


# Quality Assurance Project Plans

# This presentation gives an overview of four different types of Quality Assurance Project Plans (QAPPs)

Project QAPP

Generic QAPP




Programmatic QAPP

Umbrella QAPP

# When is a QAPP Needed?

**QAPPs required for all environmental information collection, generation, evaluation, and use activities.**

- Direct measurements of environmental parameters
- Analytical testing results
- Information on physical parameters or processes collected using environmental technologies
- Calculations or analyses of environmental information
- Information provided by models
- Information compiled or obtained by databases, software applications, decision support tools, websites, or existing literature
- Development of environmental software, tools, models, methods and applications
- Design, construction, and operation or application of environmental technology

# Project QAPP

A formal document describing in comprehensive detail the necessary quality assurance (QA), quality control (QC), and other technical activities that will be implemented to ensure the results of the work performed will satisfy the stated performance criteria.

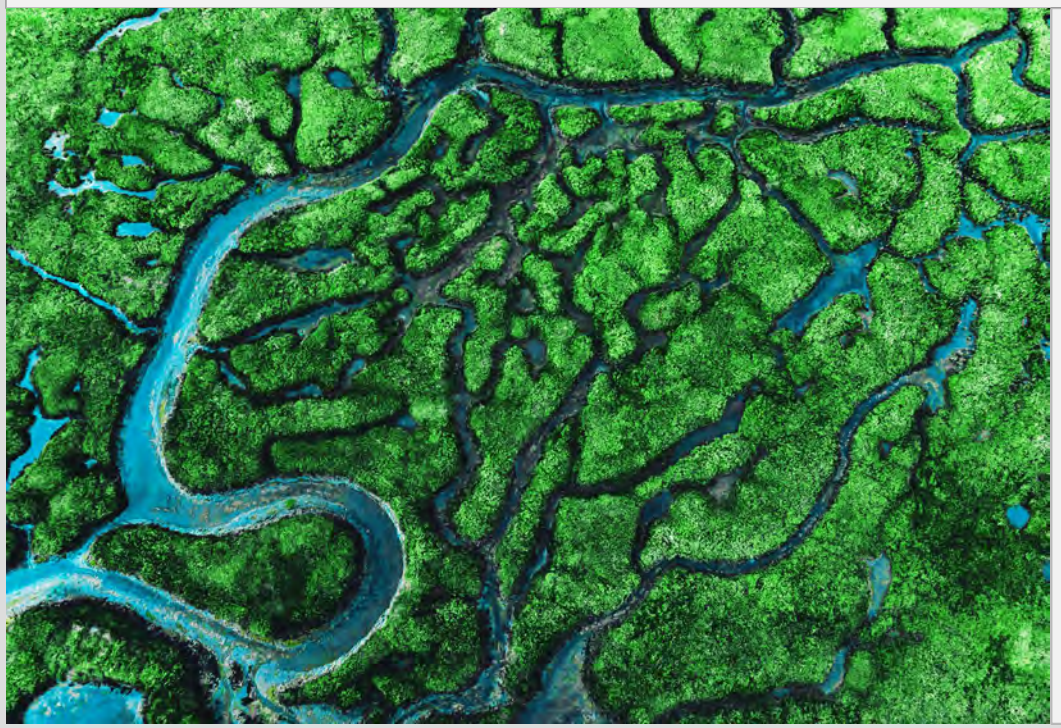
Four Elements:

- Project Management
- Data Generation & Acquisition
- Assessment & Oversight
- Data Validation and Usability

- ✓ Goals developed via systematic planning
- ✓ Usually addresses one goal, DQO, or data use
- ✓ Defined start and end dates

# Generic QAPP

An overarching plan that describes the data quality objectives and documents a comprehensive set of sampling, analysis, QA/QC, data review, and assessment procedures specific to a large program or long-term project.

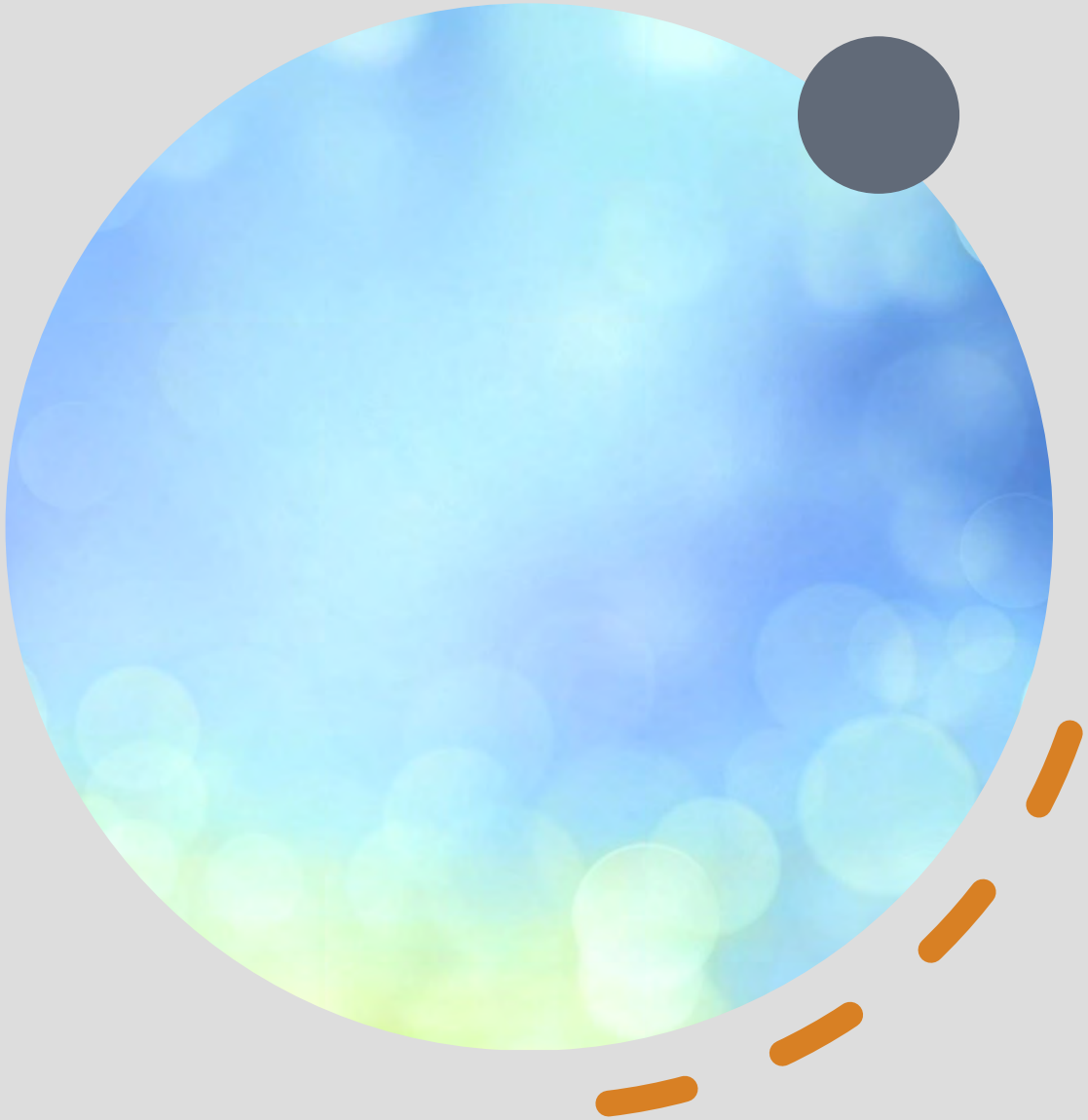


Makes sense in situations where **multiple sites, systems, or projects will be sampled under a common sampling and analysis protocol.**

# How to determine if a Generic QAPP is right for your project:

Consider whether there is sufficient consistency across the QA needs of multiple projects within a program that combining the planning into a single, generic QAPP will:

- Ensure the necessary level of quality for all projects covered by the generic QAPP
- Require less time and resources to manage with a single generic QAPP than with multiple project-specific QAPPs



# Programmatic QAPP

Establish policies that define and document the type and quantity of data needed for program-level environmental decisions and to describe the methods required for collecting, analyzing, and assessing data to support those decisions.

- ✓ Usually goals are linked to a regulation or statute
- ✓ No defined start or stop date
- ✓ Would describe QA requirements for the program

# How does a Programmatic QAPP differ from a Generic QAPP?

Associated with an environmental program

Describes policies regarding the type of grants, contracts, cooperative agreement or activities that would require QA documentation

Program goals are typically associated wth an environmental regulation

# Umbrella QAPP

Subset of a generic or programmatic QAPP in that information not covered by the parent QAPP is documented in detail in an addenda or site-specific sampling plan. The umbrella QAPP would specify the preparation, review, and approval of task- or project-specific addenda.

- ✓ Could require separate approval for each addenda by all project approvers

# Synopsis

| Project | Generic | Programmatic | Umbrella |
|---|---|---|---|
| • Defined start and stop<br>• One goal, objective, and/or DQO<br><br>*Use for an individual project* | • Common sampling and analysis protocol for all projects<br>• Similar level of quality needed for all projects<br><br>*Use when there are multiple projects that have a similar goal but there are common elements that can be referenced* | • Linked to regulation/statute<br>• Define QA requirements for how the program would operate<br><br>*Use when associating to a program or regulation* | • Addenda required for detailed project info<br>• Each addenda would need a separate approval mechanism<br><br>*Use when there are project components that would be better defined in addenda keeping in mind the umbrella portion would house common elements to the project/program* |

# Questions?

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Region 10 Quality Assurance Manager
US Environmental Protection Agency
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# What assistance do you need/wish for to develop QAPPs?

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**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?**

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# Topic 2:

Revisit the idea of coordinating existing work to develop a scientifically defensible design that includes the Basin tributaries

# Examples of What This Might Look Like

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National Aquatic Resource Surveys

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- National Aquatic Resource Surveys Home
- Background
  - Indicators
  - Manuals
  - Map of Sampled Sites
- NARS Data
  - Journal Articles
  - Applying the Data
  - Related Studies and Tools
- National Coastal Condition Assessment
- National Lakes Assessment
- National Rivers and Streams Assessment

## Manuals Used in the National Aquatic Resource Surveys

Various manuals are used to communicate the methods and guidelines for the National Aquatic Resource Surveys (NARS):

- **Field Operations Manual:** Outlines the field protocols that crews will utilize to sample sites
- **Lab Operations Manual:** Contains the methods for sample analysis
- **Quality Assurance Project Plan:** Identifies the quality control measures in place to validate the quality of the data and collection
- **Site Evaluation Guidelines:** Provides guidance on site assessment that must be done ahead of a sampling visit to ensure the site is sampleable and fits within the site requirements

On this page:

- National Coastal Condition Assessment
- National Lakes Assessment
- National Rivers & Streams Assessment
- National Wetland Condition Assessment

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## Great Lakes Monitoring

During the spring and summer, EPA's research vessel, the Lake Guardian, is used to help scientists sample water, aquatic life, sediments and air. Data gathered shows trends in water quality and aquatic life. Researchers are then able to determine the overall health of the Great Lakes ecosystem.

### Great Lakes Monitoring Programs

- Great Lakes Water Quality Monitoring Program
- Great Lakes Integrated Atmospheric Deposition Network
- Integrated Atmospheric Deposition

### EPA's Research Vessel Lake Guardian

- About the R/V *Lake Guardian*
- Ship Specifics
- Conducting Research on the R/V *Lake Guardian*

# National Aquatic Resource Surveys (NARS)

Statistical surveys designed to assess the status of and changes in quality of the nation's coastal waters, lakes and reservoirs, rivers and streams, and wetlands.

Use sample sites selected at random to provide a snapshot of the overall condition of the nation's water.

Use standardized field and lab methods to allow comparison of results from different parts of the country and between years.

EPA works with state, tribal and federal partners to design and implement NARS

# Example management questions addressed by NARS

- What percent of waters support healthy ecosystems and recreation?
- What are the most common water quality problems?
- Is water quality improving or getting worse?
- Are investments in improving water quality focused appropriately?

# Great Lakes Monitoring

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## Great Lakes Emerging Chemical Surveillance Program

The Emerging Chemical Surveillance Program screens for emerging chemicals in fish tissue according to their persistent, bioaccumulative, and/or toxic chemical properties. This element of the Great Lakes Fish Monitoring and Surveillance Program is geared toward current use chemicals, chemicals currently under regulation, and or newly identified chemicals. Information gained from this program is used to identify and guide state and federal monitoring programs. The Great Lakes Fish Monitoring and Surveillance Program uses the information to decide what contaminants might need to be monitored on a regular basis.

Types of chemicals identified through the Emerging Chemical Surveillance Program include:

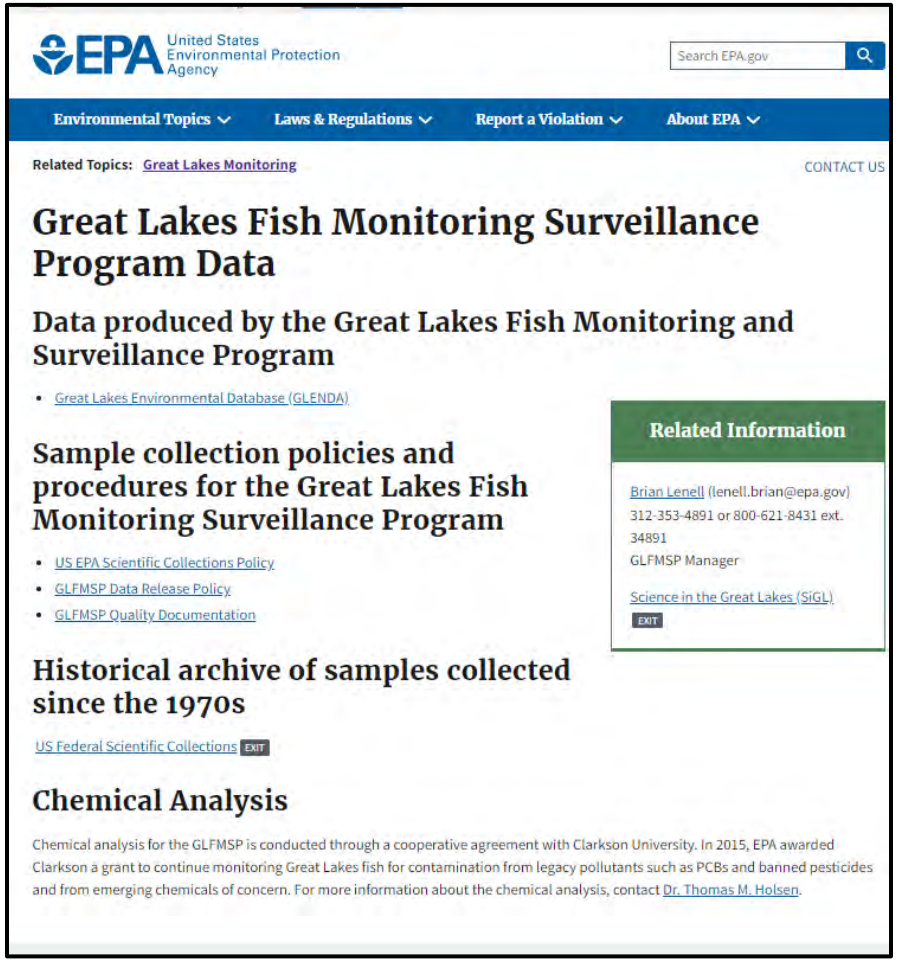
- Surfactants
- Flame Retardants
- Pharmaceuticals
- Personal Care Products
- Musks and Fragrances
- Unregulated industrial chemicals

**Related Information**

Contaminants of Emerging Concern

Assessing the health of the Great Lakes is a complex issue and involves an understanding of the chemical, physical, and biological processes within the Lakes. For this reason, the Great Lakes Fish Monitoring and Surveillance Program is including several special studies as part of the Program to help assess Great Lakes Health. Additional studies to complement the base Great Lakes Fish Monitoring and Surveillance Program work include:

- An assessment of chemicals present in individual top predators in one lake per year to compare to composite samples.



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Related Topics: Great Lakes Monitoring

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## Great Lakes Fish Monitoring Surveillance Program Data

### Data produced by the Great Lakes Fish Monitoring and Surveillance Program

- Great Lakes Environmental Database (GLENDA)

### Sample collection policies and procedures for the Great Lakes Fish Monitoring Surveillance Program

- US EPA Scientific Collections Policy
- GLFMSP Data Release Policy
- GLFMSP Quality Documentation

**Related Information**

Brian Lenell (lenell.brian@epa.gov)
312-353-4891 or 800-621-8431 ext. 34891
GLFMSP Manager

Science in the Great Lakes (SiGL) EXIT

### Historical archive of samples collected since the 1970s

US Federal Scientific Collections EXIT

### Chemical Analysis

Chemical analysis for the GLFMSP is conducted through a cooperative agreement with Clarkson University. In 2015, EPA awarded Clarkson a grant to continue monitoring Great Lakes fish for contamination from legacy pollutants such as PCBs and banned pesticides and from emerging chemicals of concern. For more information about the chemical analysis, contact Dr. Thomas M. Holsen.

# Discussion questions for Topic 2

What (if any) management questions do we have that would drive the need for a Basin-wide design? e.g.

- Comparisons between geographical areas (and/or at different spatial scales)
- Comparisons over time (are conditions getting better or worse)

Are the chemicals and media (ie. water, sediment, and fish tissue) of concern consistent enough to warrant coordinated monitoring?

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**What (if any) management questions do we have that would drive the need for a Basin-wide design?**

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**Are the chemicals and media (ie. water, sediment, and fish tissue) of concern consistent enough to warrant coordinated monitoring?**

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

**Questions for attendees:**

- Training
- Capacity/staff support
- Methods library in general
- Monitoring design support
- Design documentation
- Map of monitoring sites
- Anything else?

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# What type of training are you interested in?

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# Would a toxics monitoring method library be helpful?

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# Would technical support for designing monitoring sampling plans be helpful?

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**Would technical support for documentation of monitoring designs, methods, and sampling sites be helpful?**

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# Is technical capacity/staffing a limitation to doing more toxics monitoring?

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**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?**

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# Next steps

Contact Mary Lou Soscia or Greg Frey with questions.