

# Agriculture and Water Quality Advisory Committee

Meeting #2

# Mission and Vision Statement

- Ecology's Mission

“Protect, preserve and enhance Washington's environment for current and future generations.”

- Ecology's Vision Statement

“Our **innovative partnerships** sustain healthy land, air and water in harmony with a strong economy.”



Director Maia Bellon

# Strategic Framework

## Vision

Our **innovative partnerships** sustain healthy land, air and water in harmony with a strong economy.

## Mission

**Protect, preserve and enhance** Washington's environment for current and future generations.

## Our Commitment

- Perform our work in a **professional and respectful manner**.
- Listen carefully and communicate in a **responsive and timely manner**.
- Solve problems through **innovative ways**.
- Build and maintain **cooperative relationships**.
- Practice **continuous improvement**.

## Goals



Protect and restore land, air and water



Prevent pollution



Promote healthy communities and natural resources



Deliver efficient and effective services

## Strategic Priorities

- Reduce and prepare for climate impacts.
- Prevent and reduce toxic threats.
- Deliver integrated water solutions.
- Protect and restore Puget Sound.

# Water Quality - Goals

- Prevent and clean up water pollution.
- Help communities make sustainable choices that reduce and prevent water quality problems.
- Provide water quality partners with technical, financial, and education assistance.

# Water Quality - Programs

- Permit Program-State Waste Discharge and NPDES
  - General Permits
  - Individual Permits
- Nonpoint Program
  - Compliance Work
  - Grant Program
  - Coordination and Education/Outreach
- TMDL Program and Water Quality Standards.
  - Water Clean-up Plans and Implementation-TMDLs
  - Surface and Groundwater Standards

# Key Authorities-Nonpoint and TMDL

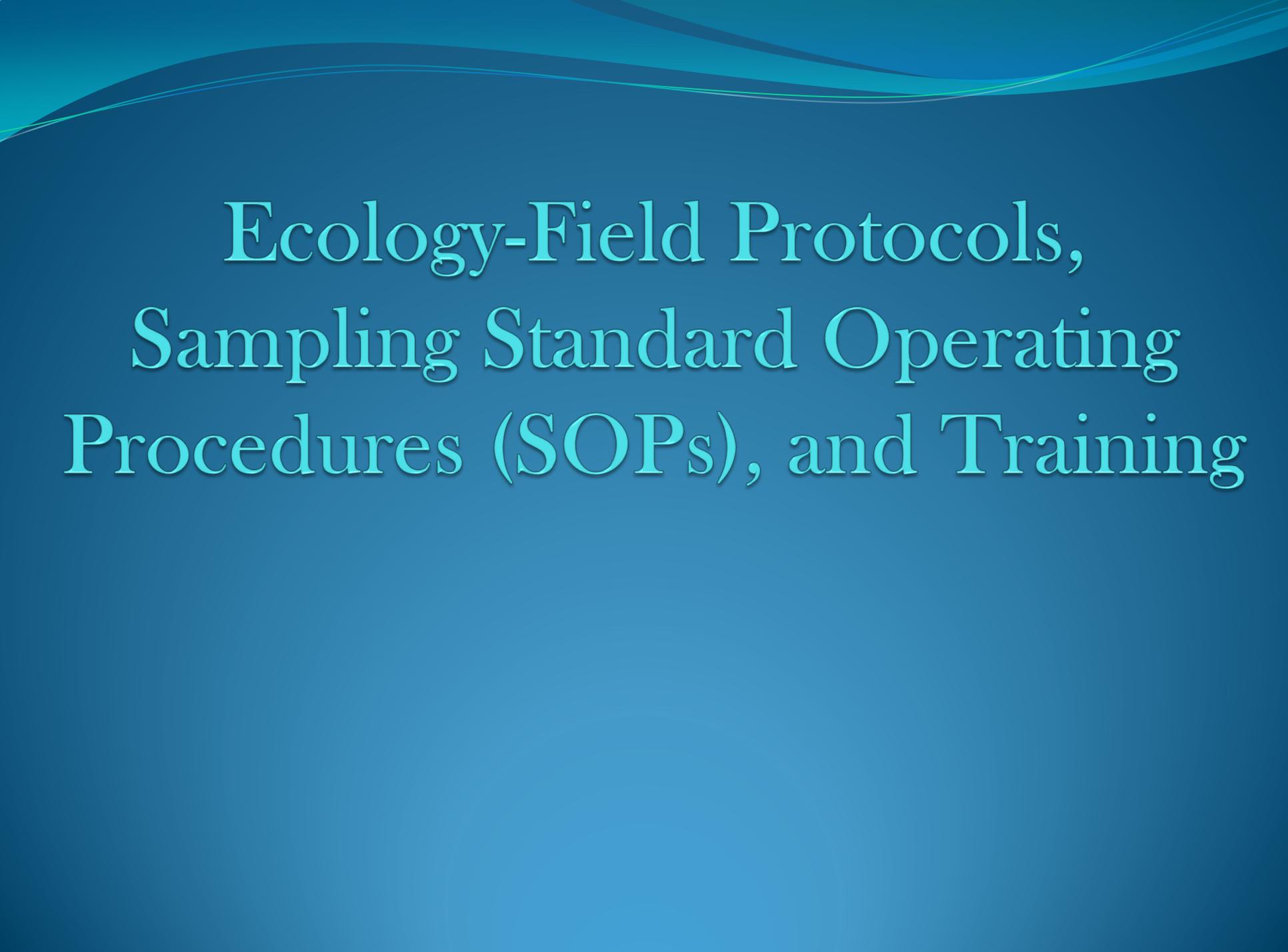
- State Law:
  - Water Pollution Control Act, Chapter 90.48 RCW
  - Surface Water Quality Standards, Chapter 173-201A WAC
  - Water Quality Standards for Ground Waters of the State of Washington, Chapter 173-200 WAC
- Federal Law:
  - Clean Water Act, 33 U.S.C. §1251 et seq.
    - Section 319-Nonpoint Program (33 U.S.C. § 1329)
    - Section 303(d), TMDLs (33 U.S.C. § 1313)
  - Coastal Zone Act Reauthorization Amendments of 1990, 16 U.S.C. §1451 et seq.

# Goals of Nonpoint and TMDL Programs

- Prevent pollution and clean up impaired watersheds.
- Compliance with authorities administered by Ecology.
- Watershed Approach—Clean up impaired water bodies.
  - Pollution Identification—Staff identify nonpoint pollution problems at specific sites.
  - Implementation—Suites of BMPs that ensure compliance with state law and compliance with the water quality standards.



# Discussion and Feedback



# Ecology-Field Protocols, Sampling Standard Operating Procedures (SOPs), and Training

# Field Protocols—Eastern Example

- Goals:
  - Safety
  - Checklist for materials
  - Organization

# Quality Assurance at Ecology

- The Department of Ecology relies on Quality Assurance (QA) to monitor, improve, and assess its scientific practices, especially those involving generation and assessment of environmental data.
- Key QA Policies:
  - Ecology Policy, Establishing Quality Assurance, Executive Policy 22-01
  - Ecology Policy, Requiring Use of Accredited Environmental Laboratories, Executive Policy 22-01
  - Coordinating the Review of Quality Assurance Project Plans prepared by Water Quality Grant and Loan Recipients, EAP/WQP Joint Procedure 2-03
  - Water Quality Policy, Assessment of Water Quality for the Clean Water Act Section 303(d), 305(b) Integrated Report and (Chapter 2) Ensuring Credible Data for Water Quality Management, *WQP Policy 1-11*

# Types of Sampling and Monitoring

- Ambient monitoring
- Stormwater
- Effectiveness monitoring
- Total Maximum Daily Load development

# Sampling SOPs

- Example - *Standard Operating Procedure for the Collection of Fecal Coliform Bacteria Samples*

Washington State Department of Ecology

Environmental Assessment Program

Standard Operating Procedures for the Collection of Fecal Coliform Bacteria Samples in Surface water

Version 2.1

Author - William J. Ward and Nuri Mathieu  
Date -

Reviewer - Mike Anderson and Trevor Swanson  
Date -

QA Approval - William R. Kammin, Ecology Quality Assurance Officer  
Date - February 9, 2011

EAP030

V1.3 Recertified 10/15/10.

APPROVED: 02/09/2011

Signatures on File.

This is a harmonized version combining SOP EAP030 and EAP012, which were both sample collection SOPs for fecal coliform bacteria.

Environmental Assessment Program

Standard Operating Procedure for the Collection of Fecal Coliform Bacteria Samples

## 1.0 Purpose and Scope

1.1 This document is the Environmental Assessment Program (EAP) Standard Operating Procedure (SOP) for the collection of freshwater samples for laboratory analysis of fecal coliform bacteria. The typical methods for fecal coliform analysis are: Standard Methods (SM) 9222D – a membrane filtration method and SM9221E-1 a most-probable number method using an EC medium. The procedures in this SOP may also be used to collect other bacteria samples such as E. coli, Enterococci, etc. Standard Methods contains alternative analytical procedures for these bacteria parameters.

1.2 This SOP includes the procedures for sample collection by hand, using a bacteria sampler, or with an extension pole. The SOP also covers sample collection from waters with high residual chlorine (treated effluent or receiving waters) or metals contamination.

1.3 Surface water can contain pathogenic (disease-causing) microorganisms. Testing water samples for the presence of all pathogenic microorganisms is expensive. Due to this high cost, Ecology tests water samples for fecal coliform bacteria, an organism used as an indicator of the potential presence of other pathogenic microorganisms.

## 2.0 Applicability

2.1 This SOP applies to the collection of bacteria samples in surface water.

## 3.0 Definitions

3.1 Ecology – Washington State Department of Ecology.

3.2 EAP – Environmental Assessment Program.

3.3 EIM – Environmental Information Management System. A searchable database developed and maintained by the Washington State Department of Ecology

3.4 Fecal coliform – A group of bacteria that inhabit the intestinal tract of warm-blooded animals and remain viable (alive and capable of infecting another organism) in freshwater for a variable period of time. The presence of fecal coliform bacteria in water indicates fecal contamination of the water by a warm-blooded animal; harmful bacteria and viruses associated with fecal contamination may also be present.

# Sampling

- Prior to sampling:
  - Contact landowner, and possibly lessee
  - Contact an Ecology approved laboratory
    - Place request
    - Order sample containers
  - Gather equipment
    - Cooler, Labels, Chain of Custody, Nitrile Gloves, Containers, Ice, Sample Pole, Camera, Field Notebook
  - Check Weather

# Sampling

- During Sampling:
  1. Fill out labels
  2. Wear gloves
  3. Sample from thalweg, or point of discharge, ensuring that there is no cross contamination
  4. Place samples in cooler containing ice
  5. Fill out chain of custody
  6. Describe event in field notebook. This includes time, date, location, parameter, number of samples, weather, attendees, unusual events or circumstances.
  7. Take samples to the lab

# Sampling

- After Sampling:
  - Obtain and review sample results
  - Next steps

# Nonpoint Field Staff Training

- Core Nonpoint Source Pollution Field Staff Training:
  - Ecology Safety Training (e.g. First Aid, CPR, and Defensive Driving)
  - Identifying Nonpoint Pollution Problems –Water Quality Program’s Nonpoint Workgroup
  - Enforcement Training-Water Quality Program’s Enforcement Workgroup

# Nonpoint Field Staff Training

- Additional Training Opportunities:
  - Tactical Communications
  - 40 Hour Hazardous Materials Course
  - Proper Functioning Condition (PFC – stream health evaluation)
  - Fluvial Geomorphology (stream function)
  - Salmon Recovery & Habitat protection
  - Riparian & Wetland Vegetation
  - Aquatic Habitat Restoration Guidelines
  - Monitoring Vegetation in Riparian Areas
  - Stream Restoration Design
  - NRCS Conservation Planning
  - Environmental Impact Assessment
  - Invasive Species Training
  - Environmental Negotiations
  - Understanding People Through Strengths



# Discussion and Feedback

# Status of Ecology Field Work

# Agriculture and Water Quality Advisory Committee

Meeting #1 Follow-up

# Watershed Evaluation Presentation

## Feedback/Questions

- How should Ecology contact producers?
- Should Ecology contact the owner or lessee? Both? How do we obtain lessee information?
- What information should Ecology include in the letters?
  - Detail on what was observed?
  - Pictures?
- What is a reasonable timeline to respond to Ecology's letters?
- What is a reasonable timeframe to address pollution issues?

# Next Steps on Substantial Potential to Pollute-Discussion

## Proposal:

- Identifying Nonpoint Pollution Problems Document
- Discussion at next meeting.
- Other thoughts?

# Topic Areas Identified by Committee Members

- **Substantial Potential to Pollute**
- **Roles and Responsibilities**
- **BMPs that meet all water quality standards**
- **Regulatory Expectations on Agriculture**
- **Recognition of good actors**
- **Intersection with Permits**
- **Funding/Water Quality Standards**
- **Viability of Agriculture**
- **Open Communication**
- **Training and Protocols**
- **Sampling and Monitoring**
- **Use of Sound Science and Science based Management**
- **Role of upland Practices**
- **Effectiveness of Compliance Efforts—More Formal Enforcement?**
- **VSP and GWAMA**
- **Salmon Habitat**
- **Technical Assistance**
- **Nitrates and drinking water**