

# WATER QUALITY MONITORING AND ANALYSIS TRAINING

April 23 – 25, 2019

## RE-CERTIFICATION TRAINING

April 24-25, 2019

### Holiday Inn Express, Lander WY

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#### Tuesday, April 23

<b>Time</b>	<b>Item</b>	<b>Presenter</b>
<b><u>Purpose and Goals of a sampling program</u></b>		
9:00 a.m.	Introduction, Overview of training and Credible Data	<i>Cathy Rosenthal, WACD</i>
10:00 a.m.	Goals and Objectives for your water quality monitoring program	<i>Cathy R.</i>
<b><u>Watershed Characteristics</u></b>		
11:00 a.m.	Delineating Watersheds – Stream orders, mapping tools and other concepts to understand your watershed.	<i>Cathy R.</i>
12:00 p.m.	Lunch	
<b><u>Watershed Characteristics cont. &amp; Sites and Sampling</u></b>		
1:00 p.m.	Defining Purpose of Sampling, Statistical Design, Scale of Study	<i>Cathy R.</i>
2:00 p.m.	Site Selection / Sampling Location Sampling Frequency and Variable Selection	<i>EDE Consultants</i>
3:00 p.m.	Break	
3:15 p.m.	Sample Types – Purposes and Methods	<i>EDE Consultants</i>
4:00 p.m.	Sample Collection QAQC	<i>Cathy R.</i>
4:45 p.m.	Questions and Discussion	

#### Wednesday, April 24

##### **Equipment and Parameters (Physical / Chemical)**

8:00 a.m. - *EDE Consultants*

- pH, Conductivity, Temperature, Turbidity, Redox, and DO – How & Why we measure for these & what do the results mean
- *E.coli* – how to correctly sample for *E.coli* and what equipment to use
- Measuring Sediment

- Flow & Discharge – Measuring flow /stage-discharge relationships, setting up a staff gage, stilling well, and gauge height continuous measurements.

9:30 a.m. – Break

9:45 a.m. – Calibration of Equipment

*EDE Consultants*

### **Equipment and Parameters (Biological)**

10:15 a.m. Introduction to Stream Macroinvertebrates

*DEQ Staff*

12:00 a.m. Lunch

## **Start of Re-Certification Training**

### **Field Exercises**

1:00 p.m. Stream Macroinvertebrates and other physical / biological indicators

*DEQ Staff*

2:30 p.m.

- Hands on flow demonstration and staff gauge installation
- Measure flow in groups

*EDE Consultants, DEQ Staff*

3:45 p.m. Sampling day procedures

*EDE Consultants, DEQ Staff*

- Field Meters/ Probes / Other equipment
- Safety, proper handling of samples (cooler, transportation, COC)
- Break into groups and record measurements

5:00 p.m. Questions / Summation

## **Thursday, April 25**

### **Data Analysis / Interpretation, QA/QC and what's next?**

8:00 a.m. Interpret results from field measurements during field exercise.  
Data Analysis, data management

*EDE Consultants*

9:45 a.m. Break

10:00 a.m. QA/QC Process, SOPs, SAP Review

*Jillian Scott, WDEQ*

10:45 a.m. What happens next with my data? 303(d) report, etc.

*TBD*

*E.coli* Success story on the horizon – Middle Fork Popo Agie River *Dave Morneau, PACD*

11:45 p.m. Questions / Summation and Evaluation

Lunch in classroom (provided)

***Open book / note test to follow summation of training***