# Work Plan Outline

## Bundle 4: Water Quality Monitoring

* **Prioritized actions:** 
  + **16 - Stream Gauges**: Fully fund, install, and monitor real-time stream gauging stations throughout the region in priority locations and times of year when they are needed most to accurately assess source water and enable innovative demand reduction actions during periods of critical ecological need.
  + **17 - Water Quality Monitoring**: Develop and implement a coordinated long-term water quality monitoring program throughout the region (e.g., source water, streams, estuaries) to improve understanding of current conditions and event-caused conditions (i.e., storm, low-flow) for nutrients, bacteria, temperature, dissolved oxygen, pH, turbidity and other specific contaminants identified by DEQ, including those that contribute to harmful algal blooms (HAB)s. Collect water samples to identify pollutant sources (location, source, practices influencing input, transport and fate of pollutants). Advocate for additional sampling in headwaters (where herbicides and pesticides are applied) and at municipality intakes.
  + **18 - Water Quality Monitoring**: Conduct comprehensive and ongoing water testing, and use results to guide best management practice implementation, restoration, etc. to address water quality impairments.
  + **17 - Volunteer Network for Water Quality Monitoring**: Develop a coordinated network of people conducting stream flow monitoring and water quality monitoring to share resources and data. Explore cost-effective ways to recruit, train and incorporate volunteers in data collection to complement the stream gaging network/activities.
* **Gaps:** 
  + Currently, both Agency funds and grants for Water Quality monitoring is limited and inconsistent, beyond DEQ’s Ambient Network.
  + Current monitoring being conducted may not have a comprehensive monitoring plan that includes QA/QC and procedures for submission of data.
  + Capacity to run a volunteer network would need to be found in an existing organization
* **Approach:** 
  + Coordination between agencies and partners conducting water quality monitoring
  + **17 - Water Quality Monitoring:** MCWPP Bundle 4 (Water Quality) Work Group Recommendations: Potential locations for establishing new and expanding existing water quality monitoring program should be identified and proposed by a panel of local stakeholders in consultation with agency personnel and subject matter experts. The review should consider at a minimum: locations of previously used local, state or federal agency monitoring sites, augmenting DEQ’s Ambient Water Quality Monitoring network (4 sites within the planning area)[[1]](#footnote-1) to (a) increase sampling frequency and (b) generate valid statistical estimates of water quality trends, and (c) assess the costs and benefits of long-term sites compared to targeted projects.
  + **18 - Water Quality Monitoring**: MCWPP Bundle 4 (Water Quality) Work Group Recommendations: Potential locations for establishing long-term, comprehensive water quality monitoring program should be identified and proposed by a panel of local stakeholders in consultation with agency personnel and subject matter experts. The review should consider at a minimum: types of data obtained from previous monitoring sites/projects, whether monitoring data already collected should be analyzed in depth prior to embarking on extensive new data collection to determine primary data gaps and assess the costs and benefits of “comprehensive” monitoring compared to targeted projects to answer specific questions in specific areas.
  + Workshops to educate and address water quality parameters
  + Social media engagement for volunteers and education
  + On-Site visits to test efficacy of best management practices
  + Conduct regular comprehensive monitoring on major source water areas in the county/planning area .Consider a rotating statistically based monitoring approach designed to collect representative data and assess seasonal water quality patterns at several source areas each year.
  + Coordinate with DEQ and monitoring partners to develop standard operating procedures and monitoring plans (DEQ’s multiple monitoring programs have extensive QA/QC documentation of procedures and DEQ’s Volunteer Monitoring Program[[2]](#footnote-2) utilizes an established QA/QC framework. Work Group Recommends utilizing these existing programs to the extent possible)
  + Proof and submit water quality monitoring data to DEQ
  + For **16 - Stream Gages:** MCWPP Bundle 4 (Water Quality) Work Group Recommendations: Apply for funding and implement the installation of stream gages on major waterways and source water areas: Potential locations for new stream gages should be identified and proposed by a panel of local stakeholders with assistance from subject matter experts. The review should consider at a minimum: locations of discontinued state or federal agency stream gage sites and staff gages, evaluation of the existing network to provide valid statistical estimates for ungauged streams (using USGS StreamStats), and cost-benefit compared to manual targeted projects (dry season/drought flow wadeable streamflow monitoring).
  + Coordinate with ODFW staff (STEP) to build a network of volunteer water quality monitors
* **Resources:**
  + **16 - Stream Gages**:
    - **USGS Streamflow (**<https://waterdata.usgs.gov/or/nwis/current/?type=flow>)
    - **OWRD Gage Station Map** (<https://www.arcgis.com/apps/mapviewer/index.html?layers=485f754e3ffc48a68663057308ce5deb>)
  + USGS StreamStats[[3]](#footnote-3)**17 - Water Quality Monitoring**:
    - **US EPA Technical Guidance for Designing a TMDL Monitoring Plan** (<https://www.epa.gov/sites/default/files/2015-07/documents/techguide_design_tmdl_effective_monitorp_123011-2.pdf>)
    - DEQ’s Water Monitoring Program (ambient, toxics, source water and other): <https://www.oregon.gov/deq/wq/Pages/WQ-Monitoring.aspx>
    - DEQ Ambient Network:
  + **18 - Water Quality Monitoring**:
    - See 17 above
  + **17 - Volunteer Network for Water Quality Monitoring**:
    - **DEQ Volunteer Monitoring Program** (https://www.oregon.gov/deq/wq/pages/wq-monitoring-volunteer.aspx)
* **Proposed activities:** 
  + **2025-2036** : Siletz Source Water Sampling, *Temperature, E. coli, TSS, TN, TP, eDNA, Pesticides* (LSWCD) 17/18
  + **2025-2030** : Upper Yaquina Water Quality Sampling, *Temperature, DO, E. coli*, *TSS, TN, TP*, *eDNA*, *Pesticides* (LSWCD) 17/18
  + **2025 - 2030 Summer** Yachats Volunteer Water Temperature Monitoring, *Temperature* (LSWCD) 17/18
  + **2025 - 2030 Summer** eDNA Monitoring (MCWC) 17/18
  + **2025 - 2050** Central Coast Estuary Monitoring *Salinity, Temperature, DO, pH, Turbidity, Chlorophyll a* (MCWC) 17/18
  + DEQ will provide a detailed set of planned and proposed monitoring activities primarily for assessment, trends and TMDLs development once the 2024 Integrated Report is finalized.

1. https://www.google.com/maps/d/u/0/viewer?hl=en&ll=44.60904245596588%2C-122.39501823633256&z=9&mid=1m6aDFqAyXQ9cglNtdhg0Cs9i3N8 [↑](#footnote-ref-1)
2. https://www.oregon.gov/deq/wq/Pages/WQ-Monitoring-Volunteer.aspx [↑](#footnote-ref-2)
3. https://www.usgs.gov/streamstats [↑](#footnote-ref-3)