

# Scope of Work to summarize nearshore<sup>1</sup> bacteria data for the Regional Stormwater Monitoring Program (RSMP)

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## Background

The Regional Stormwater Monitoring Program (RSMP) status and trends monitoring element contains a nearshore marine nearshore monitoring effort focused on urban growth areas (UGAs) of Puget Sound.

The Stormwater Work Group (SWG) decided the RSMP pooled fund monitoring would not be used to collect bacteria samples, but rather to conduct a data and gap analysis based on existing marine bacteria monitoring programs in the Puget Sound. This decision was recommended by the SWG Pooled Resources Oversight Committee and formally made (in June 2014) by the SWG based (1) on the number of groups collecting fecal indicator bacteria data collected in the Puget Sound, and (2) the high cost estimates of a regional probabilistic monthly bacteria monitoring program.

## Purpose

Conduct a data and gap analysis of programs conducting bacterial nearshore marine monitoring in the Puget Sound.

## Description of tasks

**Task 1.** Identify organizations and governments that may have nearshore marine bacteria data.

Solicit the following organizations or governments to determine if they have collected nearshore marine bacteria data for Puget Sound in the past five years:

- State Agencies
- Counties
- Local Health Departments
- WWTPs
- Cities
- Conservation Districts
- Tribes
- Volunteer Organizations such as Surfriders and Beach Watchers.

**Deliverable 1. 1.** A table of the list of organizations and names of individuals contacted.

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<sup>1</sup> Nearshore as defined by for the draft RSMP bacteria QAPP, 2015: Fecal indicator sampling that occurs along a linear transect parallel to the shoreline and perpendicular from the target coordinate at roughly calf deep (approximately 1-2 feet of depth). Because the water level varies, the targeted area is the intertidal zone, defined as elevations above 0 meters mean lower low water (MLLW). If the coordinates preclude beach entry, or sampling is from a small boat, the site may be extended to a depth of -1.8 meters (6 feet or 1 fathom) MLLW.

**Task 2.** Collect bacteria monitoring program information (meta-data) for each responsive entity and compile the supplied data. This effort is intended to characterize the current level of effort to monitor for fecal indicator concentrations in the Puget Sound.

The information to be gathered includes:

- Fecal Indicator type (fecal coliform, enterococcus, and E.coli) and analytical method
- Location of sampling (sub-regions): Hood Canal, south Sound, central Sound, north Sound, strait of Juan de Fuca and San Juan Islands.
- Sampling period (e.g. seasons)
- Sampling objectives (e.g. swimming safety, storm events)
- Data quality
- Data location
- Data availability for the last 5 years

Deliverable 2.1. A summary table with cover memo describing the monitoring program information collected above. This will be brought to the PRO-C for check-in and decision to proceed to Task 3.

Deliverable 2.2. A map of locations and regions showing where data is plentiful or poor.

**Task 3.** Assemble and analyze the nearshore fecal indicator data that is collected within the nearshore areas along UGAs.

With a decision to move forward from the SWG after seeing Task 2 deliverables, bacteria data analysis will be conducted for the urbanized areas of Puget Sound (in the nearshore along UGAs). Data analysis is limited to data sets that are collected under credible programs, as determined by their methodology. An analysis of data outside of the UGAs is not part of this project scope of work. The data analysis will include summary statistics of fecal concentrations in UGAs of Puget Sound. The initial focus areas are a few sub-regions of Puget Sound where results could be easily categorized. Data may also be categorized by population density (low-med-high).

**\*\*Optional\*\*** Identify data points collected within 24hrs of rain events (LOE not included in Table 1).

Deliverable 3.1. A summary memo comparing data among the programs, coverages, and summary stats where data programs do exist, and bacterial nearshore data gaps identified in the Puget Sound UGA and sub-regions.

Deliverable 3.2. A presentation to the SWG at the end of the project.

Deliverable 3.3. Develop fact sheet from RSMP template (~approximately 2 pages) to communicate results of project to general audiences. Will be posted online.

**Table 1. Tasks, Timeline, and Hours for the Data and Gap Analysis of bacterial nearshore marine monitoring in the Puget Sound.**

Tasks	Anticipated Due Date	Hours
Task 1. Develop list organizations to contact	February 1, 2016	40
Task 2. Survey organizations, assemble program information and data	May 15, 2016	150
Task 3. Analyze bacteria monitoring data, write memo, 2pager	November 30, 2016	320
Total Level of Effort		510
Ecology Rate for NRS3 (~75/hr)		\$38,250