



Water Quality Monitoring: A Guide for Informed Decision Making

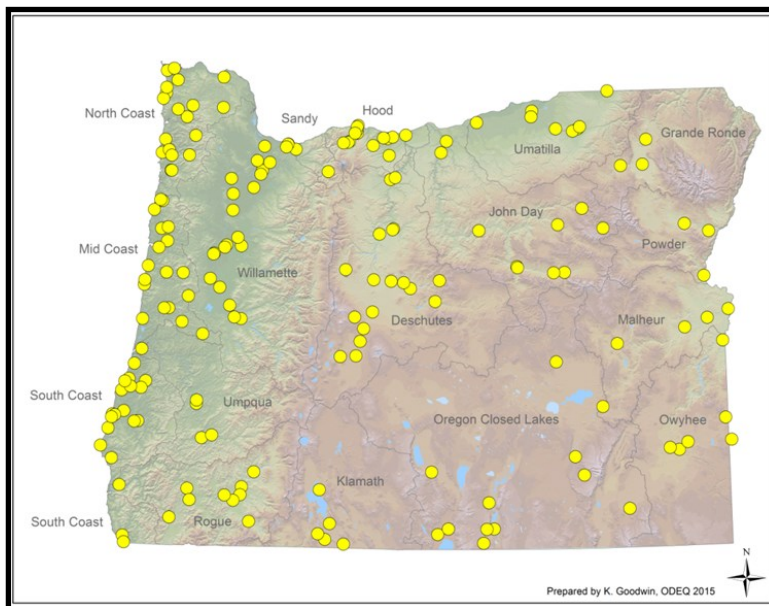
Targeted Water Quality Monitoring

About

Targeted monitoring is the intentional selection of monitoring locations, parameters or timing for sample collection and analysis. It is typically used when there are previous data, information or risk factors available to assist

in the monitoring design. Targeting the sampling location, pollutant types, timing of sampling or some combination of these factors can be an effective way to collect data that will inform a specific issue or question.

What you need to know



Where water quality problems have been previously identified, are suspected, or require an investigation, targeted monitoring can help to narrow down or identify potential pollution sources. This approach can be used to understand compliance with permits and regulations, assess environmental damages, or investigate specific pollution sources and responsibilities. Targeted monitoring can be conducted at routine sites on an ongoing basis ("fixed station" monitoring); at selected sites on an as needed basis to answer specific questions (compliance monitoring or intensive surveys); on a temporary or seasonal basis (e.g. summer sampling at bathing beaches); or on an emergency basis (such as after a spill or fish kill).

Figure 1 Targeted toxics monitoring sites in Oregon. Sites were selected using potential sources and land use factors that may influence the presence of toxic contaminants in surface water.

Targeted Water Quality Monitoring Summary

Strengths

Easily developed, implemented and communicated monitoring design.

Planning, logistics and implementation are simplified because information objectives are well defined.

Data analysis and reporting are typically less complex than other monitoring approaches.

Appropriate choice for compliance determinations, environmental damages, legal cases and investigations.

Limitations

Not appropriate for describing the water quality conditions at a landscape scale.

Information acquired cannot be used to describe conditions outside the study area.

Monitoring design is difficult to integrate with other monitoring projects and programs.

Often involves a special study which may use resources from other monitoring program areas.

Questions Addressed

Determining compliance with regulations

Mixing zone studies

Investigating pollution sources

Assessing resource damages

Determining pollutant loads

Understanding site status and trends

Table 1: The above table outlines the strengths, limitations, and products of targeted water quality monitoring.