

Regulatory Compliance & Performance Monitoring

Environmental regulatory compliance and permitting has become one of the most difficult challenges facing today's industries and municipalities. Windward staff understand the regulatory decision-making process, from the perspective of both the agency and the regulated party. This understanding comes from first-hand experience implementing regulations and completing compliance reports, as well as from working with regulatory agencies, local officials, and citizen groups.

Windward addresses compliance issues using an integrated understanding of local, state, and federal regulations, regulatory thresholds, case law, and up-to-date scientific rigor combined with an ability to identify the objectives behind the regulations and develop a plan that meets those objectives. Windward staff have the experience to develop project plans that minimize or eliminate potential regulatory obstacles, rather than merely anticipating regulatory responses. Through our well-established, long-standing relationships with regulatory personnel and meticulous pre-application research, agency meetings and negotiations become open and collaborative exchanges of ideas and goals, resulting in a cooperative and efficient approval process.

Tillamook Wetland Monitoring

Windward provided monitoring support to the Tillamook County Creamery Association (TCCA) in Tillamook, Oregon, for the discharge of wastewater effluent from a cheese-manufacturing facility to an adjacent TCCA-owned wetland. The effluent was discharged to the wetland area through a new outfall with four diffusers in order to reduce the impact of the treated effluent on the Wilson River. The 5-year monitoring program was a requirement of TCCA's National Pollutant Discharge Elimination System (NPDES) waste discharge permit.

Windward developed the innovative monitoring plan, which was the first of its kind to be approved in the state, and based qualitative conclusions regarding wetland functions on a quantitative sampling design. Annual monitoring assessed the hydroperiod; water quality; plant and aquatic invertebrate communities; and habitat availability and use by amphibians, reptiles, birds, and wildlife. A baseline survey assessed the function and condition of the wetland prior to construction of the outfall. Results from annual wetland monitoring events conducted during a period of nearly 5 years of wastewater discharges exhibited no significant changes from the baseline. Consequently, Windward's report concluded that wetland functions were not negatively affected by the wastewater discharge. Regulators regarded the project a success and were impressed with the quality of Windward's efforts.

Three Rivers Receiving Water Study

Windward designed and implemented a 1-year receiving water study to determine whether NPDES permit effluent limits for ammonia were needed at the Three Rivers Regional Wastewater Authority, a municipal wastewater treatment plant in Longview, Washington. The project involved developing a quality assurance project plan (QAPP) and monitoring design, both of which required the approval of Ecology. Monitoring included collecting water quality samples and continuous pH and temperature data in the Columbia River. Evaluations required a clear understanding of ammonia water quality criteria, as well as the influence of potential outliers and diurnal effects of temperature and pH, especially on chronic ammonia criteria. Windward evaluated the results, determined that the effluent presented no reasonable potential to cause or contribute to exceedances of water quality criteria, and consequently recommended that the existing ammonia effluent limits be dropped. The Washington State Department of Ecology (Ecology) approved the study report with no comments and commended Windward for the project. Windward also provided support for an underwater inspection of the plant's outfall diffuser system, using dye to aid the inspection.

Port of Seattle Long-Term Monitoring

Windward is providing environmental and engineering support services to the Port of Seattle (Port) for its Seaport properties in West Seattle and on Harbor Island. Most of the work to date has involved agency agreements facilitating the redevelopment of contaminated industrial properties as part of the Southwest Harbor Project (Terminal 5 expansion). Windward also performs environmental compliance reporting and operations and maintenance inspection activities for historical cleanup sites located within the terminal and identified by Ecology and US Environmental Protection Agency (EPA), as well as source control support for properties on the Duwamish River and Elliott Bay.

Working closely with the Port's environmental staff, Windward develops task work plans, reviews reports by other consultant teams, and serves as agency liaison for the environmental management of the Terminal 5 and Harbor Island properties. In instances when soil and groundwater may potentially be encountered, guidance documents created by Windward are used for terminal maintenance and repairs to ensure that engineered environmental controls are present and that agency-approved protocols are followed. Windward's ability to research data and reports from a variety of sources and synthesize the information in an accessible format has assisted the Port in regulatory response and business negotiations.