

Habitat Restoration

Habitat restoration is increasingly a component of many remediation and development projects. This is, in part, because of its popularity as a viable option for providing compensation for contamination that has resulted in a loss of habitat resources, or for offsetting or mitigating anticipated changes in land use as a result of redevelopment. Innovative and cost-effective solutions are at the center of Windward’s habitat restoration services, and our staff are skilled in providing cost-effective and feasible options for habitat restoration.

Windward’s habitat restoration approach focuses on assessing both the historical and current conditions of potential restoration sites, considering the larger, overall context of how the restoration project will complement and benefit the conservation goals of the local government and foster good will within the local community. We then develop a design that best suits the current conditions of a site while ensuring long-term success.

Our staff are skilled in using Habitat Equivalency Analysis (HEA) to assess and compare habitat value, and in determining and negotiating potential restoration or mitigation benefits with regulatory agencies to satisfy regulatory requirements. In some cases, additional restoration credits can be “banked” for future use or for sale to other entities in search of mitigation options. Much of Windward’s success in habitat restoration stems from our long-standing relationships with natural resource trustees and our ability to accurately gauge their needs and priorities.

Karileen Restoration

Windward has provided environmental support services to Schnitzer Steel (Schnitzer) of Tacoma for the implementation of a restoration project conducted to compensate for natural resource damage (NRD) claims associated with its General Metals property located along the Hylebos Waterway. The Karileen Restoration Project has involved the creation of a 10-ac stream and wetland restoration site on the west branch of Hylebos Creek in Federal Way, Washington. Services provided by Windward have included developing a portfolio of potential project sites scaled to meet Schnitzer’s needs, working with Schnitzer staff to select the most cost-effective site, calculating potential restoration credits using the HEA model, negotiating with the Natural Resources Trustee Council (Trustees) regarding compensation, procuring permits, providing monitoring and oversight during construction, and compiling all post-restoration monitoring reports.

Each candidate restoration site was evaluated for its potential to increase ecosystem services through habitat restoration and enhancement considering factors such as hydrogeology, plant community composition, fish community composition, and connectivity with adjacent habitat areas. Site assessments were conducted at the best potential sites. Once the Karileen site had been selected, Windward worked with the Trustees, permitting jurisdictions, and local community groups to identify the best possible restoration scenario. The result was a publicly supported restoration design that would provide compensation for the NRD claims by restoring fish and wildlife habitat, in particular salmon spawning habitat.

Restoration Portfolio & Identification of Assets

Windward was retained by a confidential client to evaluate potential restoration scenarios along an urban industrial waterway in the Pacific Northwest. These restoration scenarios would be considered as compensation for potential NRD liability. Using the HEA, Windward performed a technical analysis of the NRD liability for the property, which included summarizing the restoration criteria prioritized by the natural resource trustees, and designing alternatives to maximize credit relative to those criteria. The final product was an estimate of injury to ecological resources and a portfolio of restoration alternatives that were scaled to offset the potential injury.

The analysis evaluated potential restoration scenarios from regulatory, operational, and financial perspectives, and the restoration design accounted for historical conditions, tidal fluctuations, and future use of the adjacent property. The restoration portfolio included seven potential habitat designs that maximized the existing ecological attributes of the site. The alternatives were ranked for habitat value, feasibility, and conformance with regional restoration priorities. The analysis included a summary of the methods used to quantify service loss, injury, and credit using the HEA model. The portfolio and accompanying analysis provided the client with important strategic information for evaluating the potential configuration of restoration alternatives.

Former Washington State Mill RI/FS

A former mill in Washington State, which was decommissioned in 1999, is being investigated under a state-led cleanup order; the site’s end-use is a major consideration in scoping the cleanup. Windward was engaged to conduct the marine remedial investigation/feasibility study (RI/FS), and to assess the nexus with the upland.

As part of the RI, Windward integrated multiple lines of evidence to derive an in-water conceptual site model (CSM). This CSM formed the basis of the marine RI, in which all data were compiled to present a comprehensive picture of the nature and extent of contamination, as well as a comparison to background data. For the FS, Windward used the results of the marine RI to derive preliminary cleanup standards for sediment, delineate areas of sediment remediation, and evaluate restoration alternatives. The CSM proved to be instrumental in refining the scope of the site and in defining the range of restoration alternatives; alternatives have been identified for a variety of site end-uses, from industrial to full restoration.

Windward also assisted in resolving natural resource injury liability at the site. We helped evaluate both how much habitat restoration would be needed and opportunities for habitat restoration. We also considered how these opportunities could be combined with remedial actions. Ultimately, cleanup and restoration construction will be conducted in a coordinated, efficient manner, and a release of both remedial and restoration obligations will be possible.