Status: Complete

Salt Marsh Restoration: Site 3.1

Location and Size

Salt Marsh Restoration Site 3.1 is located on Tsawwassen First Nation land in the inter-causeway area of Roberts Bank, adjacent to a sewage treatment plant. The site is located south of the intersection of Tsawwassen Drive North and Falcon Way in the Corporation of Delta, B.C. The site covers a gross area of approximately 6,170 m^2 (0.62ha).

Figure 1. Location of Salt Marsh Restoration Site 3.1 within the Tsawwassen First Nation Reserve along the Strait of Georgia in Delta, B.C.

Previous State

Prior to restoration works, the site was characterized by dense accumulations of historically deposited woody debris, mostly composed of saw-cut logs from the forestry sector. Based on aerial photo reviews, the vast majority of the woody debris had been present for 25 to 70 years before the restoration works were undertaken. The debris was observed to be smothering underlying salt marsh vegetation and had compacted the sediments preventing the associated salt marsh from achieving its full productive capacity.

Overview of Completed Project

Restoration works were undertaken in March 2013 with support from the Tsawwassen First Nation, on whose lands the works occurred, and was completed through efforts from the Tsawwassen First Nation/Matcon Joint Venture. Work involved the careful removal and proper disposal of excessive woody debris and litter with an additional clean up undertaken

in October 2013. Wildlife snags were installed to provide enhanced wildlife habitat features, including perching and roosting habitat for raptors.

The target vegetation species for recolonization includes saltgrass, pickleweed, dunegrass, other halophytic grasses, orache and various salt tolerant herbaceous species (e.g., silver burweed, gumweed, aster and dock). These salt marsh species provide an important source of primary production, nutrients and organic matter supporting a detritus-based food web utilized by a diverse assemblage of marine and estuarine species. The restored salt marsh will also provide a number of other ecological functions such as wave dampening, carbon sequestration, photosynthesis and oxygen production. Based on similar projects, it is predicted that the salt marsh will be fully functioning within 3 to 5 years.

Port Metro Vancouver will continue to annually monitor sites in its Habitat Bank to ensure that biophysical objectives are met.

Photo 1. Pre-removal orthophotograph of Site 3.1 in 2012 (Photo Credit: DeltaMap, 2012).

Photo 2. Post-removal photograph of Site 3.1 approximately four months after the restoration works (Photo Credit: W. Jans, July 2013).

Photo 3. Pre-restoration photograph of Site 3.1, view facing west (October 2012).

Photo 4. Excavator shifting woody debris toward the load-out area during restoration works (March 2013).

Photo 5. Site conditions at Site 3.1 immediately following restoration works (March 2013).

Photo 6. Inundation of Site 3.1 following restoration works during the highest tide of 2013 (December 2013).

Photo 7. Site 3.1 approximately a year and a half after log removal works (Photo Credit: G.L. Williams, August 2014).

Photo 8. Site 3.1 approximately a year and a half after log removal works (Photo Credit: G.L. Williams, August 2014).