

Appendix II – Marine Environment Assessment from Previous Work

Substrates in the small bay in Telik Inlet where the P Lake outlet stream eventually drains were dominated by very clean cobble and boulders. Some algae was observed, but in limited quantities. Benthos were not sampled due to high tide conditions, time limitations, and the coarseness of the substrate.

Dillon conducted an intensive monitoring study of three wetlands systems (Baker Lake, Repulse Bay and Chesterfield Inlet) in 1996. All three system discharged sewage directly into the wetlands treatment system, with no form of pretreatment. Percent removal was calculated for various parameters, over the length of the entire wetlands, on a mass basis. This method removed any effects due to dilution. During the spring, when frozen sewage discharged during the winter was thawing, percent removal of contaminants ranged from 8 to 100%. Low removal efficiencies were noted for total phosphorus and ammonia nitrogen. Fecal coliforms had high removal efficiencies. Removal efficiencies for total suspended solids and 5-day biological oxygen demand (BOD₅) were in the middle of the range. During the summer months, percent removals ranged from 80 to 100%, for the parameters mentioned previously (calculated on a mass basis).

These studies show that wetlands are effective at treating municipal sewage. The water quality of the discharge water should not dramatically affect the water quality in the Inlet. Additional nutrients in the wetlands channel will stimulate the growth of sedges and grasses. Monitoring studies will be undertaken to ensure this is the case.