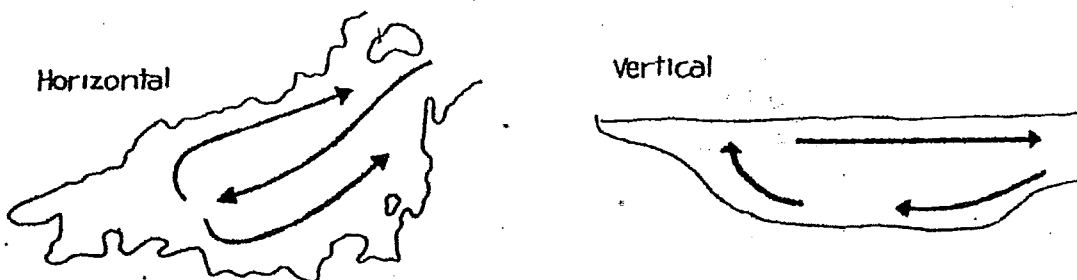


Net flushing pattern, BGB, R.Pridmore, Water Quality Centre, March 1991.

Internal circulation patterns in Big Glory Bay have not been quantified precisely, but some ideas about internal circulation were obtained from two current meters moored in the entrance to Big Glory Bay, a limited number of drogoue studies, and from depth profile measurements of N, P and chlorophyll. When velocity time series from the two current meters were filtered to remove tidal variations, a nett circulation was identified with near-surface water (0-10 m) leaving the bay and deep water entering the bay. This pattern was confirmed by depth profiles of N, P and chlorophyll along the main channel of the bay [see Rutherford *et al* (1988) figure 3 for sample locations]. Deep water entering the bay had nutrient and chlorophyll concentrations identical to those measured in Paterson Inlet, whilst outgoing water closely matched measurements made in Big Glory Bay. This nett circulation contributes significantly to the flushing of the bay (Pridmore & Rutherford 1990, page 9). Examination of all depth profiles made throughout the bay indicates the following internal circulation pattern.



During the 1989 phytoplankton bloom, patches of *Heterosigma* followed this pattern as they moved around the periphery of the bay.