

two groups of species being mixed and the deep forms found near the surface. The chief large areas of this kind are along the Laurentian channel from Cabot strait out to some distance beyond the edge of the continental shelf, the central portion of the Scotian bank, and the Bay of Fundy.

The typical northern coastal water, as we have described it, has been found by Dawson generally in the gulf of St. Lawrence, along the outer coast of Nova Scotia and around the southeastern corner of Newfoundland. The *Albatross* records show that it was present in July, 1885, on the banks off cape Race, on the Breton bank and along the Nova Scotia shore. Bigelow's results show it in the mouth of the Bay of Fundy, and Copeland's account demonstrates its presence at the bottom in Passamaquoddy bay, as at *Prince* station 4. This is in entire accord with the distribution of *S. elegans*.

In the Southern Coastal zone there are no Chaetognaths or merely small *S. elegans*. It is scarcely distinct from the northern coastal and might be taken to include the surface layers of the latter. This would give it a salinity of less than 31‰ and a summer temperature of from 10° to 20° C., although a somewhat higher salinity would not be excluded. It occurs typically in the Magdalen bay, particularly toward the south. Elsewhere it is not so typical and grades into the northern coastal water. The surface waters generally over the continental shelf approximate to the southern coastal type, except in the Bay of Fundy where the heavy tides increase the surface salinity and lower the temperature. As a result of this there is a virtual absence of small *S. elegans* in the Bay of Fundy.

The movements of this water are not indicated by the Chaetognaths, but it will be carried out of the gulf by the Cape Breton current, and perhaps also to a slight extent through the Gut of Canso. It arises by a mixture of the river water with the northern coastal, and is dissipated by mixture with the latter and with the boreal oceanic.