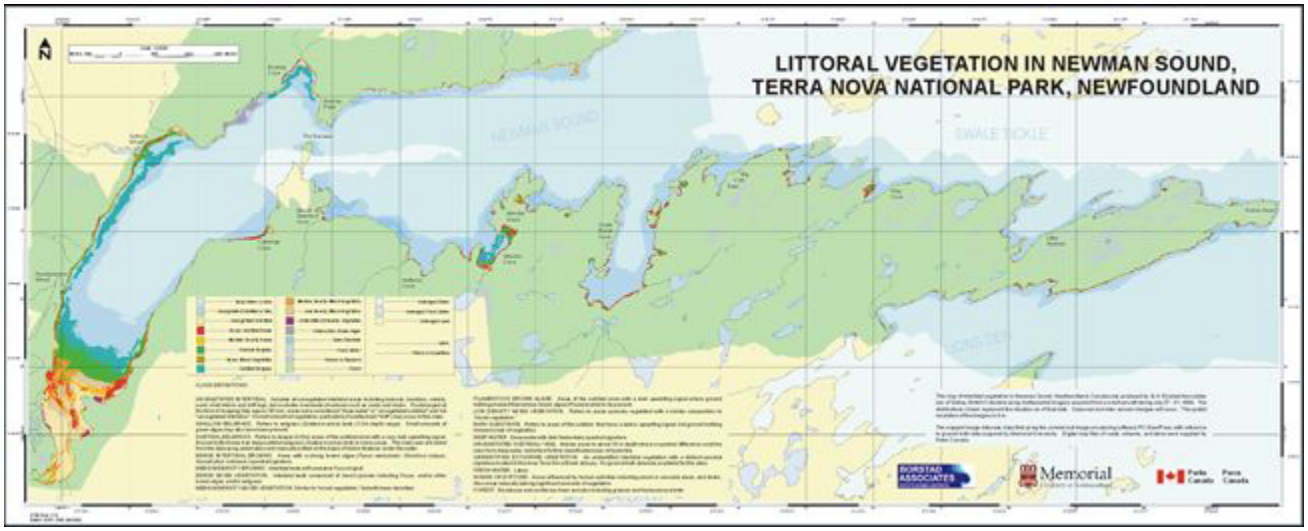
Intertidal Habitat in Terra Nova National Park

Fraser Forsyth and Gary Borstad (1999)

In 1999 under sub-contract to Memorial University of Newfoundland, Borstad Associates Ltd. conducted an airborne multispectral survey of the coastlines of Terra Nova National Park, on the east coast of Newfoundland, in eastern Canada. The purpose of the survey was to provide baseline information on intertidal habitat for the National Park in support of management of the coastline and fisheries research by Memorial. Maps were produced of nearshore habitats, which include deep water, kelp beds, shallow water [less than approximately 2 m], intertidal vegetation and unvegetated intertidal areas.



To see this map in more detail, please click here

The habitat map shown above was produced from a multispectral classification of four mosaiced flight lines, flown at low tide. The Borstad CASI was configured to spectrally differentiate marine plants on the basis of their pigmentation, and flown in a small float-plane at 11,000' altitude, to give imagery with a 4 m resolution. Ground truth observations by Memorial staff have verified the map details.

The map illustrates the distribution of intertidal vegetation is not uniform. The apparent association with the Newman River and other small creeks around the Sound is perhaps due to differences in bathymetry, bottom substrate and nutrients associated with river mouths. Unlike Prince Rupert Harbour, on the British Columbia coast the upper intertidal is scoured by ice every winter to a maximum depth of 1.5 m. Most of the eelgrass is found at depths between 1.5 m and 5 m. However, the water in Newman Sound was much clearer than in Prince Rupert Harbour and this allowed us to see submerged vegetation and shallow coastal shelf which was not possible in Prince Rupert Harbour.