

Sea scallops (*Placopecten magellanicus*) comprise the fifth largest fishery in Canada, the vast majority of which occurs in the Maritimes. The target of the fishery is the adductor muscle (i.e., the meat) with size varying both in time and space. We use spatiotemporal models that incorporate environmental data (depth, salinity, etc.) to explore the variability in scallop meat weight (and scallop shell height) in the Bay of Fundy. These models elicit some interesting patterns regarding the condition of scallops as well as improve current estimates of scallop meat weight for this area. These results can improve science advice and lead to more sustainable management of the stock.