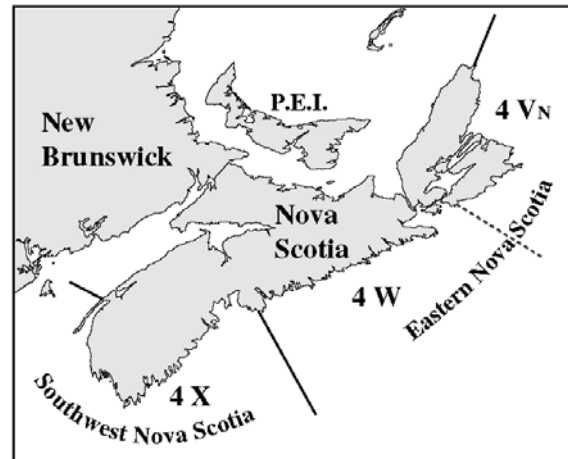




**Southwest and Eastern Nova Scotia
Blue Mussels**



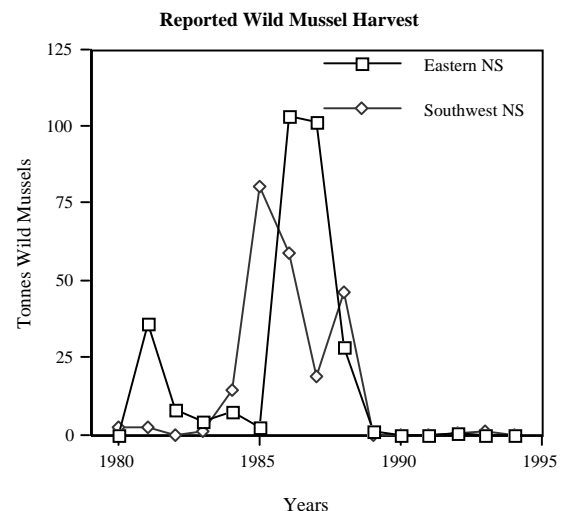
Background

Mytilus edulis and *M. trossulus* are two closely-related species of "blue" mussels occurring in eastern Canada. Populations of *Mytilus* were originally thought to be comprised entirely of *M. edulis*, but in the mid-1980s, conclusive proof was presented demonstrating the presence of *M. trossulus* in Nova Scotia. Both animals demonstrate variable shell shape and are not always distinguishable in mixed populations, however in extreme form *M. edulis* shells are higher (see left, above) and *M. trossulus* more elongate (right). Populations of both species can be found intermixed in bays on the Atlantic and Fundy waters of Nova Scotia, but apparently pure populations of each have also been identified in this range. Some evidence of natural hybridization has also been noted. *Mytilus* is found intertidally and sub-tidally to a depth of several meters on hard bottom, either as isolated groups among boulders and smaller rocks, attached to underwater structures such as pilings, navigational markers and mooring lines, or in extensive, gradually sloping beds. There are very few inshore, hard-bottom areas of Nova Scotia where these common animals are not found.

Both species undergo annual cyclic changes in meat content related to food supply and reproductive processes. In Nova Scotia, rising late winter temperatures and the beginnings of a typically rich phytoplankton bloom in late March induce the onset of mussel reproductive development which continues into May. A major spawning occurs mid May to mid June, while minor spawnings can occur in late summer or fall. Spat settlement on solid surfaces occurs five to eight weeks following spawning.

The Fishery

The harvesting, preserving and consumption of mussels that began mostly as a family-oriented pursuit, turned into a commercial venture with the advent, in the mid-1970s in Nova Scotia, of longline culture techniques for *Mytilus* which were soon adopted elsewhere in the Maritimes and Eastern Canada. Compared with cultured product, bottom-grown mussels are, because of pearls and roughened appearance of shells, regarded as an inferior product. Today, compared with aquaculture, the fishery is a marginal activity at best with very few Nova Scotians obtaining licenses for manual harvesting and resulting in relatively minor sales.



**Eastern and Southwest Nova Scotia Wild Mussel
Harvest Landings (tonnes)**

Year	80-90	1991	1992	1993	1994	1995
	Avg					
ENS	26.4	0	0.5	0	0	-
SWNS	20.3	0	0.5	1	0	-
Total	25.7	0	1.0	0	0	-

Although the majority of blue mussels harvested in Nova Scotia come from aquaculture, a very limited number of licenses for the mussel fishery are issued annually. In recent months, there have been three such licenses for Areas 4V to 4X, two of these held by lease-holding mussel culturists, one other by a solitary fisher. None of these reported landings for 1995-'96.

Because of licensing requirements for this fishery, very little of the harvest is actually reported, although 150 lb. of product were recorded in one instance in 1995 as a supplementary landing. One grower has attempted the innovative process of collecting spat on a lease in the usual aquacultural manner, allowing growth to juvenile size (~20 - 25 mm shell length), harvesting, then spreading the mussels on hard bottom for dredging, cleaning and sale at a later date. While such treatment diminishes the shiny, clean shell appearance typical of suspension-grown product and imparts roughened, slower-growing and reduced meat characteristics one finds in bottom-grown animals, the total effort expended compared with strictly aquacultural procedures is considerably less. This operation had an ambitious beginning in the mid-1980s with 5 - 8 tonnes reported landed annually until 1989, then again in two years in the early 1990s, but for various reasons this operation ceased. In 1996 there were, however, indications of commercial interests in developing a dredge fishery for deep, naturally-settled blue mussels.

Resource Status

There is nothing to indicate that the remarkably ubiquitous *Mytilus* is in any danger of being over-fished in Nova Scotia where it has been either harvested from the wild or cultivated. Observations indicate that *M. edulis* grows faster, has generally higher condition (fatness) during most of the year, and a heavier shell than *M. trossulus* making it the preferred species for aquaculture purposes and likely for hand harvesting or dredging. This genus represents a considerable resource whose maximum potential as a marketable product in this province has yet to be approached and whose numbers might well have been enhanced in a very minor way through recent aquacultural practices of suspended culture.

Outlook

While the outlook for the genus itself in Nova Scotia is excellent, the question remains as to how much of the natural resource outside of that gleaned by aquaculturists will be harvested by fishers. Notwithstanding a difference in sale price of bottom-grown versus cultured mussels, there is a growing consumer demand for the more expensive, although better quality, cultivated product. This trend became particularly evident following the domoic acid (amnesic shellfish poisoning) incident in PEI in 1987.

For more information

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