Commercial Fisheries: Invertebrate Sector 2006

January 2006

Invertebrate fisheries make up the largest component of the fishery in Nova Scotia. In 2004, the landed value of invertebrate fisheries was $ 596 million, which accounted for over 80% of the overall landed value from all species. Of the invertebrate species, lobster, snow crab, shrimp and scallops account for $582 million. Other important invertebrate fisheries include clams, bloodworms, rock & Jonah crab and sea urchins.

Lobster *(Homarus americanus)*

The lobster industry is the backbone of the fishing industry and the main economic engine that drives the economy in many coastal communities. There are approximately 3400 licences in the province distributed among 14 Lobster Fishing Areas (map attached). Seasons vary, but generally they occur in the spring before lobster molt or in the fall after they've finished. In 2004, lobster landings were valued at $323 million and accounted for 46% of the value of all fish landed in Nova Scotia.

The inshore lobster fishery accounts for over 90% of overall lobster landings. It is managed by effort controls such as seasons, trap limits, prohibition on egg bearing females, minimum carapace sizes, etc., which vary between LFAs according to local conditions. Typically, inshore lobster fishermen are owner/operators and use boats under 45 feet in length, either Cape Island or Northumberland style. Wooden or wire traps that are baited with herring, mackerel or crabs are deployed individually or in multi-trap trawls.

There is a much smaller offshore fishery conducted by two companies (8 licences) in LFA 41. This fishery uses larger vessels, over 65 feet in length, and is managed by a quota (720 tonnes) along with a minimum carapace size and prohibition on egg bearing females.

Overall lobster landings in Atlantic Canada peaked in the early 1990s and have declined or stabilized in most areas since that time. The largest landings , by a wide margin come from LFA 34 in SWNS. Landings there rose dramatically from 1990 to 2000/01 but have been slowly declining in recent years. They still remain well above historic landings.

Scallops *(Placopecten magellanicus)*

Scallops are fished by mobile vessels that tow scallop rakes along the sea floor. Scallops are shucked, a process that removes the meat, which is then sold fresh or frozen. Scallops are exported around the world to countries such as US, France, UK, Taiwan and Hong Kong. The US is the largest importer of Canadian scallops accounting for 80-90% of exports. There are two main fisheries in the province, the offshore and Bay of Fundy. Smaller inshore fisheries also occur along the Atlantic coast (Baccaro Point to Cape North) and in the Gulf of St. Lawrence.

The largest scallop fishery is the offshore fishery which occurs on the offshore banks along the Atlantic coast (e.g. George's Bank, Brown's Bank). There are 28 vessels, all over 65", active in the fishery on a year round basis. Licences are owned by offshore fishing companies. In recent years, the Total Allowable Catch has ranged from 4000 - 6000 tonnes.

The Bay of Fundy fishery has more participants than the offshore fleet, but significantly lower landings. The fishery is divided into three fleets that have different management rules. Both New Brunswick and Nova Scotia licence holders are active in this fishery; however, the largest landings are by the traditional Digby fleet.

The Digby (Full Bay) Fleet is comprised of independent owner/operators and company owned vessels. With the introduction of Individual Transferable Quotas (ITQs) in 1997, licence ownership has been concentrated in the hands of companies and individuals who own several licences. A dramatic decline in the number of active vessels has also occurred from 99 to approximately 30-40 vessels.

Landings peaked in the late 1980s and were very poor until 2001. Strong recruitment pulses in waters off Digby, near the Mid Bay line, resulted in significant increases in the Total Allowable Catch in 2001 and 2002. The total Bay of Fundy TAC in 2001 was approximately 1000 tonnes. That biomass has been fished down and the TAC has declined each year since.

The inshore fishery along the Atlantic coast has had generally poor landings for many years and is generally considered a supplemental fishery. However, the discovery of new lucrative grounds in an area that had not been fished recently, generated significant controversy in 2001/02. The inshore licence holders and the Full Bay Fleet share access to these new grounds.

The Gulf of St. Lawrence fishery is conducted jointly with P.E.I. fishermen. Most fishermen hold licences for other species; individual scallop landings are typically small and are complimentary to other fishing activities such as lobstering. There are no quotas and the fishery is managed by effort controls.

The overall value of the scallop fishery in 2004 was $101 million.

Shrimp *(Pandalus borealis)*

Shrimp fishing is conducted by mobile vessels that tow shrimp trawls along the ocean bottom. The cold water shrimp, Pandalus borealis are most often found in cold deep water with rich, organic, muddy bottoms.

There are two main components to the shrimp fishery. The northern fishery takes place off Canada's east coast from Baffin Island to Newfoundland. There are 17 licences fished by 13 modern factory freezer trawlers. Nova Scotia companies own, or are contractually involved, with all of the 17 offshore licences. These companies also fish other quota holders' shrimp on a contract basis and/or buy quota to fish. The economic benefits for Nova Scotia companies involved in this fishery are significant; however, it is difficult to estimate actual dollar values because of the complex and private business arrangements. The overall TAC in 2001 & 2002 was 110,000 tonnes with a landed value of $230 million. The TAC has remained steady near 150,000 tonnes in recent years; most of theTAC is landed in Newfoundland.

The Scotian Shelf shrimp fishery takes place in waters off eastern Cape Breton, primarily in the Louisbourg, Canso and Misaine holes. It is managed by quotas and the TAC is shared between Scotia-Fundy (Nova Scotia) based vessels (75%) and Gulf (New Brunswick) vessels (25%). There are 23 Scotia-Fundy and 6 Gulf licence holders. The season is open year round, however, most fishing occurs from mid-March to July. The TAC is expected to be 5000 tonnes in 2006 and may increase to 6-7000 tonnes in 2007/08. The estimated value of the fishery is $4-6 million.

In addition to the mobile fisheries, there is also an inshore trap fishery that uses baited wire mesh traps similar to a lobster fishery. This fishery was developed by inshore fishermen in Guysborough and Richmond Counties. Most of the 13 licences are concentrated in Chedabucto Bay. Management is by effort controls such as limited number of licences and trap limits, however, a harvesting cap is also in place. Most activity occurs in the fall and winter when catch rates are the highest. The estimated value of this fishery is $400,000 - $500,000.

Snow Crab *(Chionoecetes opilio)*

There are two primary snow crab fisheries in the province, one in the Gulf of St. Lawrence and the other off of eastern Cape Breton and mainland Nova Scotia. For management purposes, the fishery is divided into Crab Fishing Areas (sea map of snow cran areas). Snow crab is fished with baited traps that are larger than lobster traps and either square, conical or pyramidal in shape. Depending on the shell appearance and meat quality, crab is sold live, frozen leg sections or as packaged meat.

Beginning in the mid 1990s snow crab stocks in most areas grew to reach historically high biomass levels and TACs by the late 1990s. Prices also rose and the snow crab fishery became vitally important in most areas of eastern Nova Scotia. In 2002, the industry generated a total value of approximately $103 million. In recent years declines in the TAC and price have hit the industry hard. Fishermen have experienced significant declines in income from the fishery and processing companies are facing challenges related to markets and pricing. The estimated value of the industry was $50-60 million in 2005.

Other invertebrates species such as clams, blood worms, rock crab, Jonah crab, and sea urchins are fished commercially in the province and are economically important in the communities where they occur.

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Other sites of interest:

- Invertebrates Species Sheets - DFO

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