

Timeline of regulatory and technological changes affecting BC fisheries.

Date(s)	Event
1950-1954	<p>1950: Otter trawls, drum seiners introduced, purse seining mechanized using hydraulic systems. American fleet begins to enter BC waters in numbers.</p> <p>1952: International North Pacific Fisheries Commission established.</p> <p>1953: Canada/US Convention for the Preservation of the Halibut Fishery of the Northern Pacific Ocean and Bering Sea signed.</p> <p>1954: Voluntary trawl logbook program improves collection of catch statistics for Pacific Ocean perch, other rockfish.</p>
1955-1959	<p>c1955: Nylon, polyester used in net construction. Echo-sounders integrated into fleet.</p>
1960-1964	<p>c1960 Larger trawl vessels in use. Spawning channel construction, flow control projects and hatchery programs initiated to improve salmon production. Rockfish fishery begins.</p> <p>1961: Foreign catch now includes sablefish. Foreign vessels required to carry licence.</p> <p>1964: Territorial Sea and Fishing Act (international jurisdiction).</p> <p>1965: USSR fleet enters BC waters. Canadians groundfish trawl begins in earnest.</p>
1965-1969	<p>c1966: Japanese fleet enters BC waters.</p> <p>1967: Rockfish records begin. Improved technology to preserve fish at sea (e.g., quick freezing). Long-range navigation systems (LORAN) in use.</p>
1970-1974	<p>c1970: Fishers report greater variety of rockfish species (misreporting may have occurred to avoid restrictive regulations). Freezers enable market for less valuable species for use in processed foods (e.g., imitation crab, scallops).</p> <p>1971: Large area fishery closure in Queen Charlotte Sound to reduce foreign fishing for POP.</p>
1975-1979	<p>c1975: Polish fleet enters BC waters. Average vessel size doubled since 1940, now up to 60 tonnes. Trawl fishery shifts away from POP to other species.</p> <p>1976: Limited entry to groundfish trawl established using trip limits.</p> <p>1977: Canada extends fisheries jurisdiction to 200 nautical miles under Economic Exclusive Zone (EEZ). Soviet and Japanese rockfish catches cease. Salmonid Enhancement Program begins. A change in British Columbia Fishing Regulations [1888] prohibits natives from selling catch commercially.</p> <p>Late 1970s: Salmon aquaculture begins in BC on Sunshine Coast and NE coast of Vancouver Island.</p> <p>1978: Annual quotas applied to groundfish fishery.</p> <p>1979: Department of Fisheries and Oceans established, implements license limitations, total allowable catches, species/area/time closures and trip limits to control harvest of groundfish.</p>
1980-1984	<p>c1980: Global Positioning System use begins. Rock-hoppers/tickle chains used to reduce habitat damage and bycatch in trawl fleet. Most foreign fishing ends in EEZ. Increasing engine power and fiberglass hull designs for salmon gillnet fleet results in shorter "soak" times and reduces bycatch.</p> <p>1980: Groundfish trawl advisory committee formed. Vessel trip limits and area quotas imposed on yellowtail rockfish fisheries; quota applied on rock sole. Misreporting and discards in rockfish fishery increase in response to new regulations.</p> <p>1981: Amendment to BC Fishing Regulations restricts number and species caught by aboriginals for food, social, and ceremonial purposes. New techniques improve age determination of major groundfish species.</p> <p>1982: US ceases rockfish catch.</p> <p>1983: Quota for widow rockfish implemented.</p>
1985-1989	<p>1985: Salmon Enhancement Plan integrated into Pacific Region Salmon Resource Management Plan. Fisheries Act introduced, gives DFO authority to close fisheries for conservation. Canada ratifies Canada/US Pacific Salmon Treaty of 1984.</p>

	<p>1986: Commercial fishery for widow rockfish begins.</p> <p>1987: First quota for lingcod introduced. DFO initiates Pacific Regions Fisheries Observer Program to monitor trawl offloading, collect data for research and enforcement; observer coverage contracted for foreign and domestic vessels in EEZ.</p> <p>1989: Observer coverage extended offshore to seamount fisheries.</p> <p>Late 1980s and 1990s: Salmon prices fall due to increasing aquaculture production, high yields in Alaskan salmon fisheries. Commercial size limit for lingcod increased to 65 cm in Strait of Georgia.</p>
1990	<p>Sparrow decision affirms Aboriginal right to fish under 1982 Constitution Act. Individual transferable quota (ITQ) established for sablefish fishery. Annual quotas for English sole and vessel trip quotas for petrale sole applied. Commercial lingcod fishery closed in area Strait of Georgia. Dockside monitoring with 100% coverage of landings initiated for ITQ sablefish fishery. Weedlines used in gillnet fishery to reduce steelhead bycatch. Use of sorting grids begins.</p>
1991	<p>Joint Canada/US commitment to reduce halibut bycatch through International Pacific Halibut Commission. BC initiates individual vessel quota system for halibut. Voluntary 140 mm cod-end mesh size suggested by 1991 Pacific groundfish trawl management plan for Pacific cod fishery (78 mm mesh size legislated). Dockside monitoring initiated for halibut IVQ fishery. Recreational lingcod fishery size limit of 65 cm imposed.</p>
1992	<p>TAC and trip limits imposed on Hecate Strait Pacific cod fishery. DFO cooperates with Department of National Defence to conduct air surveillance patrols of North Pacific looking for high seas drift netting. Canada/US salmon agreements under the 1984 Pacific Salmon Treaty expire leading to competitive harvesting. Aboriginal Fishing Strategy established in response to Sparrow decision. Pilot Sales Program permits limited commercial catch for natives to reduce poaching. DFO issues permits for commercial aboriginal salmon fisheries in Port Alberni, Lower Fraser R., Skeena R. under the Aboriginal Fishing Strategy. 1992 Fraser R. sockeye fishery an "environmental disaster"; Pearse-Larkin report commissioned to investigate link to AFS. Pacific license retirement plan initiated.</p>
1993	<p>North Pacific Fisheries Commission dissolved, replaced by Convention for the Conservation of Anadromous Stocks in the North Pacific Ocean. Sustainable Fisheries Program launched by DFO to conserve Skeena R. salmonids, includes steelhead observer program. Previously unrestricted widow and canary rockfish receive coast-wide quotas and trip limits. Quota for lingcod introduced. Aboriginal Communal Fishing Licenses Regulations approved.</p>
1994	<p>Misreporting reduced by mandatory dock-side monitoring program now in place for majority of groundfish trawl fisheries. UN Law of the Sea enters into force (ratified by Canada 2003).</p>
1995	<p>Directed fishery for petrale sole discontinued coast-wide. IPHC regulation requires halibut to be dressed before offloading, allows halibut bycatch in Pacific cod and sablefish fisheries to be kept. Staged reduction of halibut trawl bycatch mortality. Mesh size regulation for rock sole fishery to minimize juvenile mortality. 140 mm mesh size for Pacific cod trawl fishery now legislated. Under 1992 Pilot Sales Program, commercial licenses granted to three lower mainland First Nations bands on lower Fraser River. UN Food and Agriculture Organization draft "Code of Conduct for Responsible Fisheries," adopted by Canada. Groundfish trawl fishery suspended mid-season (TAC exceeded), hook and line limited. Voluntary buy-back of commercial fishing licenses announced. To improve data collection, BC Sport Fishing Regulations prohibits on-sea canning. Restrictions on west coast Vancouver Island, Strait of Georgia coho stocks due to conservation concerns.</p>
1996	<p>New sport fishery limits introduced for many previously regulated species; higher fines for offences under BC Sport Fishing Regulations. Canada Oceans Act passed: recognizes Canada's ocean jurisdiction, guidelines for integrated management and consolidates federal fisheries responsibilities. Amended coastal fisheries protection regulations require foreign fishing vessels to notify DFO on passage through BC waters. New aerial surveillance pilot project augments DFO's enforcement capabilities, improves collection of commercial fisheries effort statistics. Public consultation begins for groundfish IVQ allocations. IPHC increases recreational halibut limit in Strait of Georgia, prohibits halibut fletching (filleting) at sea. Lingcod size limit increased from 65cm near Queen Charlotte Is. and west coast Vancouver Is. Trawl catch for Pacific cod in Hecate Strait limited to bycatch only, IVQs implemented. IVQs implemented for dover sole (replace area quotas) and English sole. New Groundfish</p>

	<p>Management Plan includes mandatory on-board observer program for groundfish trawl (replaces limited observer program of 1987) and caps on bycatch for trawlers. IVQ scheme stimulates large increase in the number of active trawlers (probably increasing illegal sales and high grading practices). BC government places 6 year moratorium on new salmon aquaculture (net pen) operations.</p>
1997	<p>Major changes to groundfish trawl regulation sets comprehensive IVQ scheme for 25 groundfish species; allocates IVQ holders 80% of TAC (formalized 1998). Pacific halibut management plan reallocates halibut IVQ. Groundfish Development Authority (GDA) formed to protect non-quota shareholders. Limited entry established for groundfish hook and line. Delgamuukw decision affirms Aboriginal right to fish commercially. Quota for lingcod introduced. Large decline in salmon prices due to expansion of aquaculture, particularly in Norway and Chile. Retention/possession of coho, chinook and steelhead disallowed for all seine fisheries.</p>
1998	<p>Industry develops Canadian Code of Conduct for Responsible Fisheries under new Pacific Fisheries Adjustment and Restructuring Program. Selective Fishing Program initiated by DFO: 5% of salmon TAC allocated to improve selectivity; experimental fisheries authorized for data collection and aboriginal fisheries using fish wheels, weirs, beach seine, and other methods; gear modifications to reduce coho bycatch mortality mandated through licensing conditions 1998-2002 (includes: revival tanks; shorter nets and soak times for gillnetters; brailing with dip nets for seiners, knot-less mesh to reduce abrasion, plastic escape holes to release undersized fish; barbless hooks for trollers); this reduces coho bycatch mortality from 60% to 5%. New Coho Response Team seeks new methods to reduce bycatch. Fisheries Renewal BC established to coordinate resources for habitat enhancement under Pacific Salmon Endowment Fund and Pacific Salmon Treaty. IPHC issues new halibut logbooks to improve in-season data collection. DFO and BC Wildlife Federation create first fishery officer-dog team trained for fisheries enforcement. 10% observer coverage implemented for lower Strait of Georgia commercial troll fleet. DFO releases "A new direction for Pacific Salmon Fisheries," reinforcing commitment to developing selective fishing. BC Fisheries Survival Coalition organizes large protest fishery on Fraser R. to protest native-only fisheries.</p>
1999	<p>DFO pilots satellite technology to collect real-time catch data, also biological, oceanographic data. Groundfish trawl fleet now composed of 142 licensed vessels, of which ca. 88 recorded landings. DFO observer program extended to hook and line halibut fisheries and rockfish fisheries. Rockfish Protected Areas implemented and rockfish discarding prohibited. Size limit for recreational lingcod increased to 65 cm off West Vancouver Island. BC recreational fishers required to supply catch records. Joint Canada/US commitment to restore salmon habitat, improve management under 1985 Pacific Salmon endowment funds totalling \$200 million CDN established. Additional selective fishing experiments in Juan de Fuca Strait. Supreme Court Marshall decision affirms rights of Maritime aboriginal groups to fish in pursuit of "moderate livelihood." Canadian Environmental Protection Act passed, includes additional marine protection provisions and addresses land-based marine pollution concerns.</p>
2000	<p>Nis'ga treaty ratified, includes exclusive aboriginal fishing rights. Groundfish trawlers accept voluntary area closures to protect Hexactinellida sponge reefs. Environment Canada announces National Programme of Action to reduce land-based marine pollution in response to UNEP Global Plan of Action. Additional DFO funding strengthens fishery enforcement.</p>
2001	<p>UN Fish Stocks Agreement ratified by Canada in 1999, goes into effect. DFO extends observer coverage to all groundfish hook and line fisheries. IPHC allows limited filleting of halibut while at sea. To aid data collection, halibut fishers keep log books throughout season, rather than surrendering books at each off-loading. Race Rocks established as Canada's first Marine Protected Area under Oceans Act.</p>
2002	<p>Moratorium lifted, permits for new Atlantic salmon net-pens issued. DFO announces Rockfish Conservation Strategy, including planned Rockfish Conservation Areas, which are extension of Rockfish Protected Areas. Pacific Scientific Advice Review Committee (PSARC) document reports unfavourable lingcod recovery, therefore commercial closure maintained for Strait of Georgia, recreational closure commences. Fraser River coho listed as "endangered" by the Committee on the Status of Endangered Wildlife in Canada. Coast-wide commercial fishery closure for sablefish. Areas surrounding Hexactinellida sponge reefs closed to commercial trawling by annual regulations and area under review for designation as Marine Protected Area. Fisheries Renewal BC ceases operation.</p>

2003	Species at Risk Act (SARA) comes into effect. Green/shortnose sturgeon and Bocaccio rockfish listed as “threatened” by SARA. Pink Salmon Action Plan began in Broughton Archipelago to address poor returns at north end of Vancouver Is., including investigation of mortality factors, such as sea lice infections.
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Source: Ainsworth and Pitcher 2004, Appendix Table A.1.