Commercial Fishing – Stats and Facts

DID YOU KNOW?

In 2018, commercial fisheries, including sea and freshwater fisheries, contributed more than $3.7 billion to Canada's economy and employed 45,907 people. Fish and seafood processors, which include product preparation and packaging facilities, contributed more than $6.6 billion and employed 26,429 people that year.

Canada's commercial fisheries are important to the national economy, but they are crucial to rural coastal communities. In fact, the Canadian Council of Professional Fish Harvesters has estimated that more than 1,100 Canadian communities rely on commercial fisheries and its spinoff activities.

However, commercial fisheries are not all created equal. Commercial fisheries are as unique as the fishers that fish and the regions they fish in. The management of commercial fisheries is therefore species- and region-specific.

This paper provides an overview of Canadian commercial fisheries: East Coast, West Coast, Arctic, and freshwater. The note explores information such as the top commercially fished species of 2018, export markets and unique aspects of these fisheries.

East Coast Fisheries

- Landings, by value (2018): $3.17 billion.
- Total landings, by weight (2018): 608,331
- Number of commercial fish harvesters registered (2018): 16,332.
- Number of commercial fishing licenses issued (2018): 75,755.
- Number of vessels registered (2018): 16,079.
- In 2007, Fisheries and Oceans Canada adopted the Policy for Preserving the Independence of the Inshore Fleet in Canada's Atlantic Fisheries (PIIFCAF) to "ensure that [commercial] inshore fish harvesters remain independent, and that the benefits of fishing licenses flow to the fisher and to Atlantic coastal communities." One purpose of PIIFCAF is to strengthen the existing Fleet Separation and Owner-Operator policies. The Fleet Separation Policy keeps ownership of the fish harvesting sector separate from the processing sector by preventing processing companies from acquiring the fishing licenses of inshore vessels (those measuring less than 19.8 m or 65 ft.). The Owner-Operator Policy requires the holders of licenses for inshore vessels to be present on the boat during fishing operations.
- In 2019, the *Fisheries Act* was amended to add social, economic and cultural factors, and the preservation or promotion of the independence of license holders in commercial inshore fisheries to the list of criteria that the

Minister may consider when making a decision under the Act (section 2.5).

West Coast Fisheries

- Landings, by value (2018): $499
- Total landings, by weight (2018): 191,227
- Number of commercial fish harvesters registered (2018): 5,462.
- Number of commercial fishing licenses issued (2018): 6,182
- Number of vessels registered (2018): 2,351.
- In contrast with the East Coast's commercial fisheries licensing scheme, fishing licenses on the West Coast can be held by fishers and non-fishers alike. Commercial fishing licenses need not be fished by the license holder and it is permitted for license holders to lease their licenses to others.

Arctic Fisheries

- Arctic offshore fisheries exist off the coast of Nunavut in the Northwest Atlantic Fisheries Organization (NAFO) zones 0AB.
    - The top three species caught in zones 0AB in 2018 were Northern prawn (5,012 tonnes), Greenland halibut/turbot (3,799 tonnes) and Aesop shrimp (55 tonnes).
    - There are no processing facilities servicing the offshore fleet in the Canadian Arctic. Therefore, Arctic catches are generally processed in Newfoundland and Labrador, Nova Scotia or Greenland.
- The Nunavut Fisheries Association estimates that the offshore fishery in zones 0AB contributed $112 million to the Nunavut economy and supported nearly 1,000 jobs for Nunavummiut in 2019.
- In 2018, $40.8 million in fish and seafood were exported from Nunavut, all to the United States. However, this amount has been declining from a high of $1.37 billion in 2013, with a decrease in exports to the Asian markets.
- Arctic char is a lucrative Nunavut inshore fishery. In 2015, 72 tonnes were harvested with a market value of $1.8 million. Arctic char is processed in Rankin Inlet, Pangnirtung and Cambridge Bay.
- In 2016, the Nunavut Department of Environment released its 2016–2020 *Nunavut Fisheries Strategy* with seven priority areas: science, governance, access, capacity building, revenue generation, infrastructure and market access.

Freshwater Fisheries

- Quebec and New Brunswick also have commercial freshwater fisheries; however, given the predominance of the marine commercial fisheries in those provinces, it was impossible to extract export data for freshwater species.
    - In 2018, New Brunswick's freshwater commercial fishery consisted mainly of alewife, as well as eel with a landed value of $1.21 million.
    - In 2018, Quebec's freshwater commercial fishery consisted mainly of eel, sturgeon and catfish with a total landed value of $1.17 million.
- According to Fisheries and Oceans Canada, a freshwater commercial salmon fishery exists in British Columbia, undertaken by First Nations, as well as an Excess Salmon to Spawning Requirements (ESSR) fishery.
- Alberta's commercial fishery has been closed since 2014.
- The Freshwater Fish Marketing Corporation(FFMC), headquartered in Winnipeg, Manitoba, buys, processes, markets, stores and exports freshwater fish, through agreements with the provinces. The FFMC is currently the sole marketer of freshwater fish from the Northwest Territories. Manitoba and Saskatchewan have since opted out of the FFMC but continue to sell their fish to the corporation under contract. Ontario withdrew from the FFMC in 2011 in favor of selling its freshwater fish products on the open market.

Commercial fishing is one of the most dangerous occupations in the United States.

Many commercial fishing operations are characterized by hazardous working conditions, strenuous labor, long work hours and harsh weather. During 2000-2015, an annual average of 42 deaths occurred (117 deaths per 100,000 workers), compared with an average of 5,247 deaths (4 per 100,000 workers) among all U.S. workers. In 2015, over 9.7 billion pounds of seafood was harvested in the United States earning over $5.2 billion. Species that contributed the most to this revenue include shrimp, Pacific salmon, pollock and lobster. There are approximately 115,000 harvesters in the United States using a variety of different fishing gear and vessels.

NIOSH maintains the Commercial Fishing Incident Database (CFID), a surveillance system for workplace fatalities in the commercial fishing industry in the United States. A review of the data from 2000-2015 found that:

- 725 commercial fishermen died while fishing in the U.S.
- Nearly half of all fatalities (354, 49%) occurred after a vessel disaster
- Another 221 (30%) fatalities occurred when a fisherman fell overboard
- Another 87 (12%) fatalities resulted from an injury onboard
- The remaining 63 (9%) fatalities occurred while diving or from onshore injuries

Commercial fishing remains one of the most dangerous jobs in the nation, with a fatality rate that is 23 times higher than for all other workers.

Vessel sinkings account for half of all fishing fatalities; second is falling overboard – deaths that are largely preventable.

Today’s life jackets are not the bulky, cumbersome clunkers that most people are familiar with from childhood or have stashed in the cubbies of recreational boats. Newer models are lightweight and built right into rain bibs, or fit comfortably over or into deck gear.

“I’ve got a couple that are so comfortable that when I leave my boat, I forget I have them on,” Dzugan said.

He estimated that less than 10 percent of Alaska fishermen wear PFDs while working, whereas “a few years ago it was less than five percent.”

According to the NIOSH report, the number of falls overboard decreased on average by 3.9 percent annually during the study’s time frame. Most falls occurred on the east coast (62), followed by the Gulf of Mexico (60). Alaska ranked third with 51 deaths overall.

Alaska’s deadliest catch might surprise you – it’s the salmon drift gillnet fishery with 16 fatalities.

“When things go south on a small open boat it happens quickly,” Dzugan said. “Swamping, being hit by a wave and not being able to recover. Sometimes they are fishing alone or with just two people, often in open waters. All of those combine to have those being a particularly high risk.”

Dzugan believes wearing a PFD on deck is the number one way that fishermen can save themselves from becoming a statistic. Second is doing onboard safety drills.

“Everyone needs to know what to do in the case of an emergency. And every crew member needs to be part of the risk assessment on the boat, not just the captain,” he said. “Also, make sure your boat is watertight, keep your survival gear maintained and practice with it, and get enough sleep.”

The NIOSH report also recommends reducing fall hazards on deck and using man overboard alarms and recovery devices.

“It costs less than $100 to rig up your own floating lines to trap someone inside and tie them off to a cleat on the rail until you can get them back on the boat,” Dzugan

said.

Although fishermen have been somewhat slow to adopt preventive measures, he said there has been tremendous improvement in Alaska.

“It’s been a total cultural change. In the 1970s there was an average of about 38-40 fishing deaths a year in Alaska; it’s averaged 3.5 over the past five years,” he said. “The arc of improvement in fishing vessel safety has been a long one, but it’s been steadily upwards. I’m very optimistic.”

The fatality numbers already have skewed upwards since the data in the NIOSH report were compiled through 2016. Total U.S. fishing deaths have risen to 224, according to report author, Samantha Case of NIOSH in Anchorage. In Alaska, there were 10 fishing deaths in 2017; six were from the sinking of the crab boat *Destination* in the Bering Sea.

Salmon starts!

Alaska’s salmon season officially kicks off on May 17 with a 12-hour opener for sockeyes and kings at the Copper River.

In other fishing updates: Southeast fishery managers announced that under provisions of the Pacific Salmon Treaty, the Chinook salmon harvest is limited to 130,000 fish for all users, down 80,000 fish from last year. For trollers, the take is 95,700 kings and the May/June season will open only in a few select areas.

Fishing for lingcod in the Panhandle opens May 16 with a 310,700 catch limit.

A fishery for coonstripe and spot shrimp opened in Southeast on May 1 with a 675,000 pound quota from four districts.

Trawling for sidestripe shrimp also is underway at Prince William Sound with a nearly 113,000 pound catch quota.

Norton Sound’s red king crab fishery closed on April 30 just shy of the 50,000 pound winter harvest. The shortage will be added to the summer crab fishery for a combined total of about 300,000 pounds.

Alaska’s halibut catch was approaching 3 million pounds with Seward and Sitka leading all ports for deliveries. Sablefish catches topped 4 million pounds with Sitka in the lead for landings.

Fishing continues for all kinds of whitefish in both the Bering Sea and Gulf of Alaska.

Finally, Frankenfish is a step closer to U.S. supermarket sales. AquaBounty, the producer of the genetically engineered salmon won FDA approval last week to grow the fish in an Indiana plant it bought last year for $14 million with a goal to produce three million pounds annually. Currently, the salmon are being grown out in Panama.

A final hold up is commerce laws that don’t allow the genetically tweaked salmon to be sold in the U.S. until labeling guidelines are in place to inform consumers.

Import breaks

“Made in America” grants are available to small and medium-sized companies that have been clobbered by an influx of cheaper imports.

“Basically, if it’s a product that competes with imports and the domestic firm is losing ground and the imports are rising, the assistance can be available,” said David Holbert, executive director of the Seattle-based Northwest Trade Adjustment Assistance Center (NWTAAC).

The NWTAAC is one of 11 regional non-profits funded by the U.S. Economic Development Administration and serves companies in Washington, Oregon, Idaho and Alaska. The group has been around since the 1970s, but is not very well known, Holbert said. It began as a means to help U.S. manufacturers facing competitive disadvantages often caused by global trade deals. The program now includes businesses in other sectors, such as timber, agriculture and fishing.

The program offers matching grants of up to $75,000 to mid-sized companies aimed at helping them hire outside expertise to boost their bottom lines.

“So that’s $150,000 for projects such as website building and creating marketing tools like brochures, brands and logos, as well as quality certifications, product design, to name a few. No two are the same,” Holbert explained.

Eligible smaller businesses with less than $1 million in sales can receive up to 75 percent in matching funds for up to $30,000, meaning their output would be $7,500.

“When a company faces destructive price competition, it’s a situation where they can’t win by trying harder. They have to change. For small to medium-sized enterprises, change is often instigated by outside expertise. Generally speaking, the companies have to find their way to a customer base that values quality customization and/or rapid fulfillments,” Holbert explained.

Eligible companies need to show a drop in employment and in sales or production and other trade criteria. The Center handles all the qualifying paperwork and if approved, also helps craft a business plan focusing on what would be required for the company to succeed. A company has five years to use the funds.

“The companies select their projects and vendors. We’re not telling anyone what to do or who to hire. We’ll advise and help, but it’s your solution to your situation,” Holbert stressed.

For smaller Alaska fishing companies, more than one can apply under the umbrella of a trade association. Bering Sea crabbers, for example, long hammered by imports of Russian crab, used funds to redesign a website, create marketing materials and design a weekly newsletter.

Today, NOAA released the 11th *Fisheries Economics of the United States* report which provides the most up-to-date economic statistics on commercial and recreational fisheries as well as seafood-related businesses for each coastal state and the nation.

“In 2016, commercial and recreational saltwater fishing in the United States generated more than $212 billion in sales and contributed $100 billion to the country’s gross domestic product,” said Secretary of Commerce Wilbur Ross. “These critical industries supported 1.7 million jobs in communities across the country.”

A key piece of the latest report is the jobs, sales, income, and value added to the Gross Domestic Product by the fishing and seafood industries. This provides a measure of how sales from commercial and recreational fishing ripple through state and national economies as each dollar spent generates additional economic effects.

In a single year, economic impacts from recreational fishing grew across the board. Nationally, 9.8 million saltwater anglers took recreational fishing trips in 2016 – a 9 percent increase in anglers from 2015. Saltwater recreational fishing supported 472,000 jobs, generated $68 billion in sales impacts across the economy, and contributed $39 billion to the GDP, all metrics that increased 7 percent from 2015 measurements.

The commercial fishing and seafood industry – harvesters, processors, dealers, wholesalers, and retailers – supported 1.2 million jobs in 2016, generating $144

billion in sales impacts and adding $61 billion to the GDP. The domestic harvest produced $53 billion in sales, up 2 percent from 2015, and supported 711,000 jobs across the entire American economy. Sea scallops had the largest revenue increase in 2016, bringing in $46 million in landings revenue. The domestic lobster industry also performed well, with a $43 million increase in revenue, primarily from the harvest of lobster off the coast of Maine and New England.

KEEP IN MIND

Commercial fisheries in Ontario

Ontario's commercial fisheries contribute millions of dollars to the province's economy every year.

The Ministry of Natural Resources and Forestry sets annual quotas and issues annual licenses for the commercial harvest of fish, primarily in the Great Lakes.

There are more than 600 active commercial fishing licenses in Ontario.

In 2018, those license holders:

- caught nearly 11,000 metric tonnes of fish (about 24 million pounds)
- hauled in a catch with a dockside value of more than $44 million
- contributed $234 million (Canadian) to Ontario's economy
- processed and sold fish to food stores and restaurants in Ontario, the U.S. and around the world

Inspected for safety

Ontario's commercially harvested fish are a high-quality, valuable food source. Fish caught by the commercial fishing industry is sold at home and in international markets.

Fish destined for international markets is inspected according to rules set by the Government of Canada.

Fish caught for consumption in Ontario is inspected by the Ministry of Natural Resources and Forestry.

Founded on fishing

Commercial fishing is part of Ontario's heritage and culture. Many towns, such as Port Dover and Port Stanley on the Canadian shores of Lake Erie, were founded because of commercial fishing activities.

Today, the towns of Kingsville and Wheatley Harbour are home to some of the largest commercial freshwater fish processing centers in Canada.

Commercial fisheries management

The management of commercial fisheries is guided by the Strategic policy for Ontario's commercial fisheries (2011). It provides:

- a framework for defining commercial fisheries in Ontario and how they integrate into the management of Ontario's natural resources
- a focus for coordinating commercial fishing policies
- linkages to other natural resource strategic policies, directives, and legislation

What should I know before reading about this occupation?

This profile summarizes the common issues and duties for commercial fishing operations. It is impossible to predict all of the possible hazards a commercial fishing person may encounter. The demands can be sporadic and unpredictable with intermittent periods of intense physical and psychological stress. This summary focuses on the major job duties that most commercial fishing persons (those fishing primarily from a vessel on water) would have in common.

This document is not specific to enforcement/rescue, or diving operations. These occupations require specific training and qualifications beyond the general information provided here.

Briefly, what does a commercial fishing person do?

Main duties of a commercial fishing person include:

- Use instruments and navigation aids.
- Maintain vessel and equipment.
- Work outdoors in extreme environments.
- Lift, push, pull the catch, cargo, and objects.
- Work in the cold (e.g., weather, freezers, cold water).
- Work with machinery, including winches and other rotating equipment.
- Perform water rescue, as necessary.

What are some health and safety hazards associated with commercial fishing?

Commercial fishing is done in an extreme environment, and uses various types of equipment. Because the environment can change quickly, it is important to remain alert to any changes. Hazards include (but are not limited to):

- Working on or near water, including cold-water shock and immersion
- Drowning
- Injuries from fish spine/bones or bacteria
- Working outdoors:
- Weather (including lightning)
- Cold Environments – General, Working in the Cold, Health effects and First Aid, Temperature Conditions – Cold
- Hot Environments – Health effects and First Aid, Control Measures, Temperature Conditions – Hot
- Humidex Rating and Work
- Ultraviolent radiation (sunlight)
- Working Safely around Stinging Insects
- Diseases transmitted by insect bites, including Lyme Disease and West Nile Virus
- Working at heights, including the use of body belts, harnesses and lanyards
- Working near machinery, including using safeguards
- Working with hand tools and powered hand tools
- Chemical hazards, including following WHMIS– the Workplace Hazardous Materials Information System Noise
- Slips, trips, falls
- Working on ladders
- Work related musculoskeletal disorders
- Lifting and materials handling
- Pulling and pushing
- Damage to the boat, including fire collision, grounding, capsizing,
- Fatigue from long hours of work or shiftwork
- Food and kitchen hygiene
- Cooking safely

- Working with sharp blades or edges
- Working alone

What emergency response procedures should be in place?

All crew members show know how respond to a person overboard, fire on board, and flooding of the boat. Crew must also know how to abandon ship, and to call for help using any radios, phones, flares, or distress flag. All crew should also know the location and use of safety equipment, engine room components and controls, deck equipment and rigging, navigation equipment and electronic devices, safe use of fishing equipment, how to anchor the boat, and escape routes specific to that boat. Everyone on board the vessel should know where this equipment is stored, and how to use it. Learn exactly what specific requirements and regulations apply to your vessel.

Drills should be done at the beginning of the season, and anytime when new crew is on board. Drills can include how to abandon ship, deal with a situation (flood, fire, collision, etc.), how to put on the immersion suit, and how to rescue a person who fell overboard. Use of life jackets or personal flotation devices (PFDs) is required by law. Immersion suits are also recommended when working over cold water.

What are some general steps a commercial fishing operation should do?

- Before leaving port, inspect and test equipment including the hull of the boat, watertight doors and hatches, all alarm systems, and rescue equipment. Keep doors and hatches closed to avoid flooding.
- Keep all machinery in good repair, and make sure all guards and emergency stop devices are installed and working correctly. Regularly inspect all rescue equipment and report any damage to the vessel master. Do not wear loose-fitting clothing or dangling jewelry or rings as they may get caught in nets, lines, or machinery. Tie back long hair.
- When boarding or leaving the vessel, use the gangway or ladder. Don’t jump.
- Decks should have non-slip surfaces (except where a smooth surface is required to handle fish). Keep decks clear and uncluttered.
- Stow all ropes in coils. Tie down or stow loose equipment. Clean up spills and manage any water or ice issues to avoid slips and falls.
- Vessels with galleys and crew quarters will need to manage food and kitchen cleanliness to prevent food borne diseases, as well as knowing how to work safely with sharp blades or knives. In addition, cooking must be managed in a small space that moves with the motion of the vessel. Store utensils in racks and drawers, and use a guardrail on the stove to help stop pots and pans from moving.
- Make sure that cabins and living quarters are well ventilated, and use alarms to alert the crew (e.g., carbon monoxide detectors).
- Never stand in or around loose rope or wire to avoid getting entangled, especially when wires, ropes or nets are moving.
- Wear heavy gloves or mitts when handling wire rope and never guide wire with your hands or feet.
- Do not stand under a load or in areas where overhead equipment may swing.

What should be done for fall protection when working at heights?

Falling overboard is a serious hazard. In addition, there are times when a person has to work suspended above the deck (aloft). When working on deck or aloft take the following precautions:

- Use a lifeline when working aloft or when on deck during adverse weather conditions.
- Use a lifeline and safety belt when trap fishing.
- Wear fall protection if a person could fall about 3 metres (10 feet). Check with your jurisdiction for exact requirements.
- Make sure that no other gear you may be wearing will interfere with the self-inflating mechanism of the PFD.
- Make sure that the radar is turned off before you go aloft to avoid radiation exposure and to prevent injury from a rotating scanner. Put a “Do Not Operate Radar – Persons Working Aloft” sign on the radar control panel to alert others that someone is working aloft.
- Attach safety lanyards to all tools and parts (e.g., secure your hammer to your wrist) to prevent items from dropping and injuring those below. Raise or lower your tools by using rigging and placing the tools in a safe container.
- Use a bosun’s chair or similar device (a device with a rigid seat attached to a rope used to suspend a person to perform work) with appropriate safety harness and fall arresting gear.

What are some general safe work practices to know?

All workers should:

- Follow safe work procedures.
- Follow emergency and first aid procedures.
- Know when and how to use personal protective equipment (PPE).
- Know how to report a hazard.
- Know about WHMIS and Safety Data Sheets (SDSs).
- Follow good housekeeping