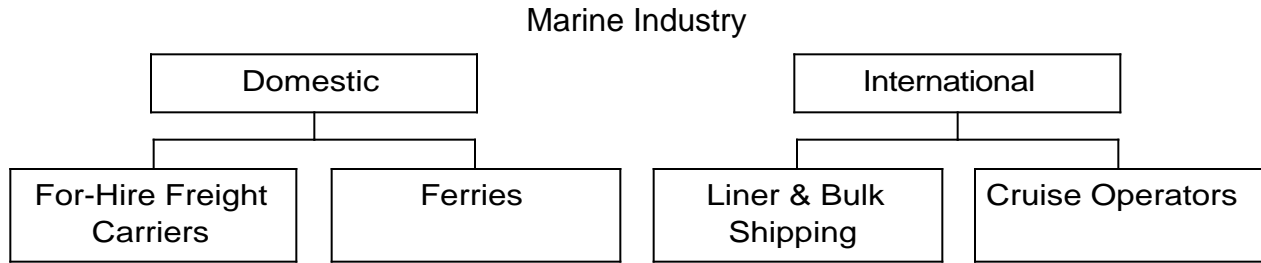


# Transportation by Water

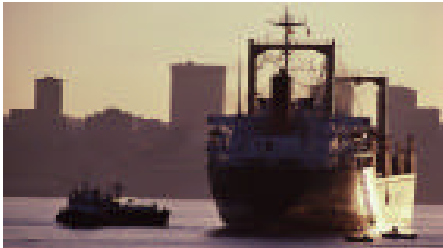
- Canada's Marine Industry (Moving Freight, Moving People)
- Running the System (Ports, Pilots, Coast Guard)
- Key Indicators



## Canada's Marine Industry



*Where nature provides the right-of-way, transportation by water is a highly efficient and low-cost way to ship freight, particularly for heavy cargoes over long distances. In 1997, Canadian ports handled 376 million tonnes of goods. Our natural waterways and deep harbours have made our system of commercial shipping possible, although it does require substantial investments in handling systems, docks, terminals, and sometimes locks, canals, and dredging to complete the marine system.*



*For passenger transportation, inland and coastal ferry services are a small but vital part of the system in Canada. Some were developed as an extension of the highway system, to link isolated communities that depend entirely on ferry service for their connection with the mainland.*

WESTAC, *Moving Forward*

## Moving Freight

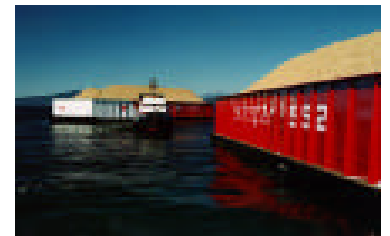
### Domestic Shipping

The Canadian merchant fleet consists of 174 vessels, most operating on the St. Lawrence Seaway. This fleet handles domestic, transborder and international trade, although the latter accounted for only 1% of the total in 1997. Dry-bulk carriers - including self-unloaders - form the backbone of the fleet (41% of the vessels) while liquid bulk carriers rank second (10%). The rest of the fleet consists of general cargo carriers.

### Tugboat Services

Tugboats are present mainly on the West Coast. The Council of Marine Carriers, which represents a large percentage of tug/barge operations in Canada, estimated its member fleet at 250 tugs and over 750 barges in 1996. This includes operators extending from the US Pacific Northwest through BC into Alaska, the Beaufort Sea, Hudson Bay and on the Fraser River and Mackenzie River Systems.

[Statistics Canada](#) estimated the revenues of the marine towing industry at nearly \$340 million in 1990, which was about 13% of total Canadian water transport revenues that year.



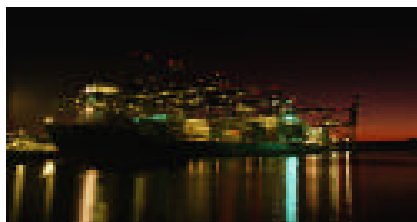
## Northern Marine Services

In northern Canada, marine activity is conducted in three areas:

- The Port of Churchill typically handles about 300,000 tonnes of commodities each year, mainly export grain. Cargo shipments consist primarily of petroleum products, building materials, vehicles, equipment and other essential supplies;
- The Mackenzie River system, extending to the Arctic coastline, is served by tug and barge services from about May to September. Bulk fuel, heavy equipment and general cargo account for the majority of cargo; and
- The Eastern Arctic sealift system is organized in order to supply remote communities. Dry cargo and bulk petroleum shipments are the two main commodities transported by the sealift system.

## International Shipping

Canada relies almost entirely on foreign vessels for international shipments, using two types of services: *bulk shipping* and *liner services*. Bulk shipping is performed mostly using chartered vessels. Liner services are offered mainly by large fleets of specialized container ships often grouped into “shipping conferences”. In 1997, nineteen conferences served Canada, five covering both coasts, twelve servicing the East Coast and two serving the West Coast. The trend in liner shipping is consolidation through mergers in the search for cost efficiencies in this highly competitive business.



### Vessel Types

Marine traffic includes general cargo ships, bulk carriers, tankers, container ships, tugboats, roll-on/roll-off automobile ferries, cruise ships, and barges. Container ships can cost more than \$100 million to build.

## **Moving People**

### Ferry Services

Canada’s ferry services are varied. Some operate under private management while others are under the responsibility of the federal or provincial governments. The types of vessels used to provide ferry services differ widely from one operator to another ranking from small cable ferries to large vessels.

### **Canadian Ferry Services, 1997**

<b>Ferry Operator</b>	<b>Service</b>	<b>Passengers (millions)</b>	<b>Vehicles (millions)</b>
British Columbia Ferry Corporation	<ul style="list-style-type: none"><li>• largest ferry operator in North America</li><li>• 40 vessels and 24 routes serving 42 ports on the BC coast</li></ul>	22.3	8.2
Government of British Columbia	<ul style="list-style-type: none"><li>• inland service</li></ul>	5.2	2.2
La Société des traversiers du Québec	<ul style="list-style-type: none"><li>• five year-round services across the St. Lawrence River within Quebec</li></ul>	5.1	1.8
Marine Atlantic	<ul style="list-style-type: none"><li>• constitutionally guaranteed ferry service between Nova Scotia and Newfoundland</li></ul>	1.0	0.5
Other providers	<ul style="list-style-type: none"><li>• 10 other providers or government-supported private operators in the Atlantic region, Ontario, Manitoba and Quebec, many of which are seasonal</li></ul>	4.6	1.7

*Source: Transportation in Canada 1998, Transport Canada*

## Cruise

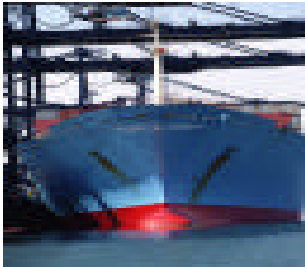
Most cruise-ship services in Canada are provided by foreign operators at both eastern and western ports. The [Port of Vancouver](#) acts as the departure point for Alaskan cruises (the third most popular cruise market in the world after the Caribbean and Europe) and serves as a stop-off point for various other cruises from the US.

In 1997, cruise-ship traffic at Canadian ports was 946,571 passengers, of which 86% originated at Vancouver. In 1998, Vancouver handled 873,102 cruise passengers.

Cruise vessels can cost more than \$400 million to build.

## **Running the System**

### Ports



The port system in Canada was restructured under the National Marine Policy announced in 1995. This policy is dramatically changing Canada's marine transportation system, including the jurisdictional structure under which Canadian ports operate. The policy called for modernization of the marine management and regulatory regime, less red tape, and greater efficiency and effectiveness in the marine sector.

A key part of the new policy is the *Canada Marine Act* (CMA), which became law in June 1998. The CMA is designed to place Canadian Port Authorities (CPAs) under one management regime with clear, consistent criteria applied coast to coast. It allows ports to operate on a more commercial basis, removing the federal government from direct port operations, and promising to give users greater say in how ports work.

Canada's ports fall into one of three categories: **National Port System (NPS) ports;** **regional/local ports;** and **remote ports** (see table below). NPS ports are those deemed vital to domestic and international trade; these are being restructured as CPAs.

### **Canadian Ports**

<b>Type</b>	<b>Characteristics</b>	<b>Status</b>
Canada Port Authorities (CPAs)	There are 18 ports considered self-sufficient and critical to domestic and international trade.	<ul style="list-style-type: none"> <li>CPAs: Fraser River, Halifax, Hamilton, Montreal, Nanaimo, North Fraser, Port Alberni, Prince Rupert, Trois-Rivières, Quebec City, Saguenay, Saint John, Sept-Îles, St. John's, Thunder Bay, Toronto, Vancouver, Windsor</li> </ul>
Remote ports	Ports in remote areas which serve the basic transportation needs of isolated communities.	<ul style="list-style-type: none"> <li>Transport Canada continues to administer these 34 remote ports in Quebec, Ontario, Manitoba and BC.</li> </ul>
Regional and local ports	Public ports other than remote facilities or CPAs.	<ul style="list-style-type: none"> <li>Transport Canada is transferring these ports to other federal departments, provincial governments, municipal authorities, or community or private interests, or is closing them.</li> <li>In 1995, there were 515 regional and local ports; by the end of 1998, 193 had still to be transferred or closed.</li> </ul>
Harbours	Smaller facilities used for commercial and recreational boating and fishing.	<ul style="list-style-type: none"> <li>Federal Department of Fisheries and Oceans administers about 1,680 harbours.</li> </ul>
Other ports	At the end of 1998, there were 87 ports: 34 provincial, 18 municipal and 35 private.	<ul style="list-style-type: none"> <li>This category will grow as the regional and local ports are transferred by Transport Canada.</li> </ul>

*Source: Transportation in Canada 1998, Transport Canada.*

## Pilotage

Marine pilotage ensures that ships move safely and efficiently in coastal waters and port areas. The marine pilot's familiarity with local waters enables mariners from elsewhere to travel in unfamiliar territory. Pilotage services in Canada are operated by four authorities: Atlantic, Laurentian, Great Lakes and Pacific. The Pilotage Act of 1972 governs the activities of these authorities, which fall under the responsibility of [Transport Canada](#). They have power to make regulations regarding the compulsory pilotage areas and the ships that are subjected to them as well as licensing qualifications and examinations.

Previously, the federal government covered deficits incurred by the pilotage authorities (however, most regions were self-sufficient). Under the Canada Marine Act, the government no longer covers deficits incurred by pilotage authorities. The CMA provides for a full review of the Pilotage Act to ensure that the efficiency, viability and safety of the system meets user expectations. The [Canadian Transportation Agency](#) was appointed to conduct the [pilotage review](#) and reported to the Minister on September 1, 1999.

## Coast Guard

The Coast Guard supports sustainable ocean management and provides a safe and environmentally sustainable marine transportation system. It provides five main services to the marine industry and the public (see table). These services are offered to the public, the fishing industry, the marine commerce sector, the recreational boaters, the Department of Fisheries and Oceans, other government agencies, and the international marine community.

### Canada Coast Guard Services

Service	Infrastructure
Marine navigation service	• Aids to navigation (e.g., light stations, communications stations, transmitter sites, land-based fixed marine aids, and floating aids)
Marine communications and traffic services	• Staffed communications centres, and remote transmitter and receiver sites
Ice-breaking services	• Ice-breaking vessels (part of fleet management infrastructure)
Rescue, safety and environmental response	• Search-and-rescue stations, rescue boats, and spill response equipment
Fleet management	• Vessels, aircraft and facilities (132 major ships, some 500 small craft/rescue boats/air cushion vessels, 32 aircraft, and bases and hangars)

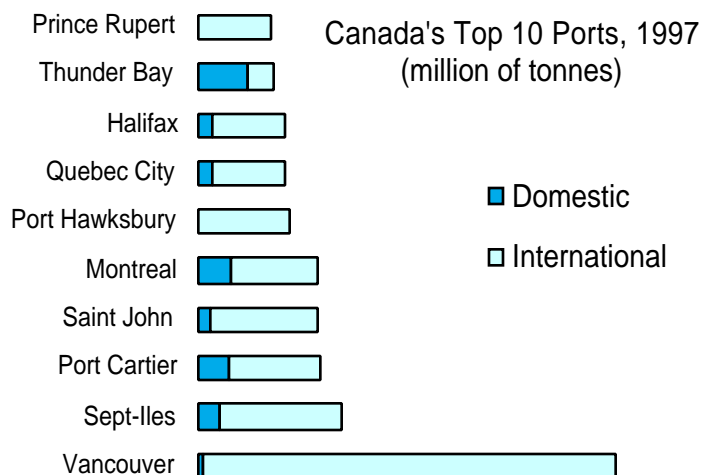
## Key Indicators

### Port Traffic

Canadian ports handled 376 million tonnes of goods in 1997. One-quarter of that volume (i.e., 93 million tonnes) were domestic shipments moving between two Canadian ports. International shipments totalled 283 million tonnes, of which two-thirds were exports and one-third imports.

### Seaway Traffic

Approximately 49 million tonnes of commodities were moved through the St. Lawrence Seaway in 1997. The main commodities were grain, iron ore, steel products, and coal, with smaller amounts of petroleum products, salt, potash and construction materials.



Source: Statistics Canada

### East-west Split

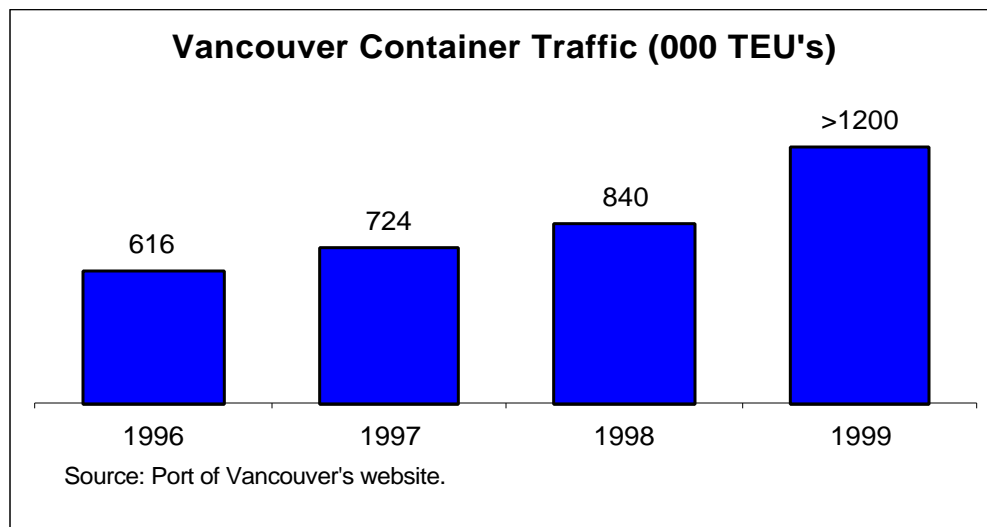
Ports located along the Great Lakes, St. Lawrence River and the Atlantic coast handle two-thirds of the volumes moving through Canadian ports; Pacific ports handle one-third.

### Fraser River Port Authority

Significant volumes moved by the towboat industry on the Pacific coast are not captured in the above port data. The traffic through Fraser Port totalled 22.2 million tonnes in 1997.

### Container Traffic

Canadian ports handled 20 million tonnes of containerized goods in 1997, most through Montreal, Vancouver and Halifax. Almost all containerized goods were general cargo—mainly machinery, equipment and miscellaneous cargo.



### Traffic by Port

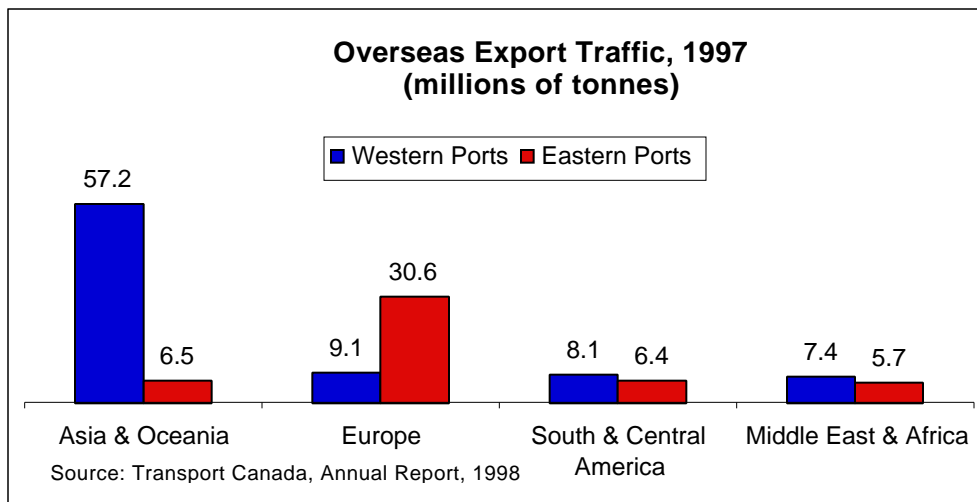
Cargo was handled at 176 Canadian ports in 1997, with the top 10 ports accounting for 61% of the total 376 million tonnes.

### Water Transport

Water transport is vital to Canada as a major trading nation, particularly for trade with countries other than the US where road and rail are not options.

In the east, 17 companies operate a Canadian merchant fleet of 105 Canadian-registered vessels, which have a maximum gross registered tonnage of over 1,000 tonnes. Most are dry-bulk and liquid-bulk vessels. They handle domestic and Canada-US traffic on the Great Lakes, along the St. Lawrence River, and on the Atlantic coast.

On the west coast, there is a fleet of 250 tugs, 750 barges, and various offshore supply ships operating in domestic trade. Towing commodities and log booms are the dominant activities.



### Selected Western Canadian Ports Commodity Profile

Top Commodities Handled in 1998  
(inbound and outbound)  
(metric tonnes)

#### Vancouver Port Authority:

Coal	Grain	Sulphur	Potash	Wood Pulp	Total Volume
28.2M	11.1M	5.2M	3.4M	3.0M	72.0M

(in addition, the port handled 840,098 TEUs of containerized traffic)

#### Prince Rupert Port Authority:

Coal and Coke	Grain	Wood Pulp	Lumber	Steel Plate	Total Volume
5.2M	2.9M	378,483	169,612	97,944	8.9M

#### Fraser River Port Authority:

Logs	General Cargo	Aggregates	Wood Chips	Lumber	Total Volume
8.9M	4.4M	3.4M	2.7M	600,400	23.8M*

\*includes tug and barge traffic (containerized traffic = 24,911 TEUs)

#### Thunder Bay Port Authority:

Grain	Coal	Potash	General Cargo	Liquid Bulk	Total Volume
7.4M	1.5M	727,408	159,224	130,123	10.0M

#### Port of Churchill:

Wheat	Oil	Copper Concentrate	x	x	Total Volume
318,411	24,940	11,378	x	x	354,729

Source: Port Statistics