



Sharing the water with large commercial ships at the Port of Vancouver

Frequently asked questions

General overview

With more than 16,000 hectares of water serving approximately 3,200 large commercial ships per year, along with additional traffic from recreational boaters, the Port of Vancouver is both vast and busy.

As the federal agency responsible for the stewardship of these waters, our role as a Canada Port Authority is to manage marine navigational safety for these ships. As a result, we receive several questions about the type of trade activity on the waters within the port.

What type of ships come through the port?

Since the Port of Vancouver handles the most diversified range of cargo of any port in North America, there is a range of ships that can be seen in the harbour at any given time. They may be in transit or anchored at one of 20 anchorages in English Bay, eight in the inner harbor, and five beyond the Second Narrows and into Indian Arm. Ships will anchor while they wait their turn to unload or load cargo at a specific port terminal.

Here are the kinds of ships you can expect to see in the port:

- **Container ships** carry containers that hold imported consumer goods, such as food, pharmaceuticals, medical and safety products, and other household products, and exported resources, such as specialty grains, fruit, seafood, meat, B.C. wine or beer, and others
- **Cruise ships** are large passenger ships mainly used for vacationing
- **Bulk carriers** transport unpackaged dry or liquid cargo, such as coal and grains, which are poured directly into the ship's cargo holds
- **Automobile carriers**, also known as roll-on/roll-off (RORO or ro-ro) ships, carry wheeled cargo, such as cars or trucks, that are driven on and off or transferred by a platform vehicle
- **Breakbulk carriers** carry cargo, such as forest products and steel pipes, loaded individually onto the ship, rather than in bulk or containers
- **Tankers** transport liquid, such as petroleum products, various chemicals, or food products like canola oil, in double-hulled ships that require special tug assistance and other safety measures

How do ships communicate with one another?

Sound and light signals

In addition to the normal sights and sounds of an industrial port, ships use sound signals and deck lights for safety. The [Convention on the International Regulations for Preventing Collisions at Sea](#) (COLREGs) published by the International Maritime Organization sets out the navigational rules around the use of sound and light signals for commercial and recreational ships at sea. For example, when ships are in

sight of one another, they can alert other ships in advance of maneuvering. This can be done with either sound and light signals or a combination of the two, such as:

- One short horn blast or light flash means “I am altering my course to starboard”
- Two short horn blasts or light flashes means “I am altering my course to port”
- Three short horn blasts or light flashes means “I am operating astern propulsion”

Ships in transit or at anchor are also required to signal their position to other ships in periods of reduced visibility caused by fog, snow, or rain. These rules differ depending on the level of visibility and the type of ship.

Flags

Despite the availability of more modern methods of communication, ships can communicate with one another on the water using flags.

There is one flag for each letter of the alphabet and numbers one through 10. Ships use flags to spell out short messages, and when used individually or in combination, they can represent special meanings. For example, the letter Q is represented by a yellow flag. When a ship flies a yellow flag, it is declaring itself healthy and requests “free pratique”—also known as permission for a ship to enter a port, disembark, and commence operations—allowing it to be boarded and inspected by officials. Another example is the letter B represented by a red flag. Ships are required to fly the red flag when they are refueling. This flag can also mean the ship is taking on or discharging dangerous goods. At night, when flags are not visible, mast lights are used instead.

Merchant ships often fly a house flag identifying which company owns the ship. Visiting ships might fly a courtesy flag in foreign waters as a token of respect, which is smaller than the ship’s national flag.

Ballast water

Why do ships carry ballast water?

Ballast water is defined as any solid or liquid that is brought on board a vessel to increase its balance, stability, and trim. If the ship is travelling without cargo, or has dropped off some cargo at one port and is on route to its next port of call, ballast may be taken on board to achieve the required safe operating conditions. This includes keeping the ship deep enough in the water to ensure the propeller and rudder operate efficiently. Ships can also release ballast water when they take on cargo at the next port.

When can ships release ballast water?

Mid-ocean ballast exchange that occurs 200 nautical miles from shore, in waters that are at least 2,000 metres deep, currently provides the best available option to reduce the risk of introducing and transferring alien species. The Port of Vancouver was the first in North America to prohibit in-port ballast water exchange without prior mid-ocean exchange.

Under the current Canadian regulations by Transport Canada, all ships entering Canadian waters must exchange ballast water outside of the exclusive economic zone. For the Port of Vancouver, this zone is located off the west coast of Canada in the Pacific Ocean.

How do ships clean their anchors?

Ship operators wash their anchors while they are being hoisted to avoid moving contaminants from one harbour to another, and to reduce the risk of crew injury from flying residue. Ships pump seawater from

the ocean to clean mud and debris from the anchor and its chain. Anchor shackles are marked with different colour paint so the crew can tell how much chain is out of the water.

People often confuse ship operations like the cleaning of anchors in English Bay with the release of ballast water. A deep-sea ship is continuously suctioning seawater for various onboard systems. For example, aside from cleaning, seawater is also used to cool a ship's main engine and generators. Once the water flows through the pipes and cools the equipment, it is discharged.

What do harbour patrol officers do?

Our Operations Centre monitors all marine activities within the port's jurisdiction 24 hours a day, seven days a week. Our office staff, harbour patrol officers, and security team monitor activities within our jurisdiction, communicate with other agencies, and help coordinate response efforts in emergency situations.

Every ship entering the port may be subject to a visit from a port authority harbour patrol officer. During a visit on board, the harbour patrol officer may ask the captain to see certain documents and may issue orders to accomplish certain tasks. These will generally relate to the sealing of over-side discharge valves, refueling, and overall compliance with all other required practices and procedures in our [Port Information Guide](#). The harbour patrol officers will also, upon request, provide the ship's master with important information about the port.

When it comes to recreational boating, harbour patrol officers help maintain the safety on the water. They do this by patrolling for safety and escorting large commercial ships through busy waterways to ensure there is maximum fluidity and recreational safety especially in congested areas. We also provide education and guidance on our special operating requirements to recreational boaters. Our safe boating practices keep recreational boaters and others safe on waters.