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Haro Strait ship traffic – a 40% increase? - Patrick Brown

Haro Strait is a dog-legged passage between the US San Juan Islands and Canada's southern Gulf Islands. All the deep-sea ships to and from Port Metro Vancouver must travel it in both directions. And with current and proposed increases in oil tankers, bulk carriers, container ships, cruise ships, tugs and barges, and recreational and fishing vessels, Haro Strait may be facing a 40% increase in ship traffic during the next three to four years.

This means doubling the risk to island shores on both sides of the international border, that runs down the middle of the Strait.

Lying between Strait of Georgia and Strait of Juan de Fuca, Haro Strait boasts strong tidal currents, numerous nasty reefs, and tricky navigation. It's not very wide—at least from the point of view of the skipper of a ship seven hundred feet long—and the turns are sharp and tricky. Ship traffic is radio controlled from Victoria into a southbound and a northbound lane, but this two-way divided seaway is narrow enough at Turn Point that traffic controllers must restrict shipping to one direction at a time.

How Much Traffic Is There Now?

Right now, about 3,000 ships a year—each way—pass through Haro Strait, that's about twenty ships a day. They travel mostly in daylight (tankers must). Bear in mind: tides and currents, the occasional bout of stormy weather, fog, reefs, smaller vessels (particularly tugs and barges) in the area, and also that the ship does not steer awfully well, and some ships steer awfully ... and they don't have very good brakes. Some bulk carriers can take several miles to stop.

The pilots have to be good. They are; there are very few accidents, though nobody records how many near misses there are. Some measure of concern can be taken from Kinder Morgan's recommendation that their oil tankers should be surrounded by a 'safety zone' of half a kilometer fore and aft (in front and behind) and half a kilometer on each side.

What Sorts Of Ships?

About half of them are bulk carriers; they all look remarkably similar, about 700 feet long, with the bridge structure at the stern, and maybe some cargo handling gear forward. They may be in the bulk trade (which means that the entire ship is

dedicated to coal, grain, sulphur, or something that is essentially loaded or unloaded by equipment on a wharf) or 'breakbulk', which means that the ship carries lumber or other goods which must be loaded with either wharf or ship's gear.

It was a 'Capesize' bulk carrier, the 939ft *Cape Apricot*, which



lost control and demolished three hundred feet of the conveyor belt system at the Westshore coal loading berth in December 2012. It had a pilot aboard and reportedly two tugs to assist, but larger ships of this type are often underpowered, and, according to pilots, the hardest to handle.

Most general freight is handled in containers on container ships that are up to 950ft long and sometimes larger; these account for over a quarter of ship traffic into Vancouver. Containers, steel boxes mostly about 40ft long, are loaded and unloaded using specialized gantry cranes which run on tracks on the wharf. After the holds are filled, the typical container ship will have six or seven layers of containers stacked on deck.

Ferry riders will be most familiar with the three container berths immediately north of the Tsawwassen ferry terminal; there are more container berths in Burrard Inlet.

Containerized goods, of course, can be taken away from the wharf by truck or train for packing or unpacking ('stuffing' and 'destuffing' are the colourful expressions) elsewhere.

Then there are tankers, up to 'Aframax' size (750ft long);

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currently only about one per week loading at Kinder Morgan's Westridge terminal; about 190 passenger vessels per year, mainly cruise ships of all sizes; and some 300 'Ro-Ro' (roll on, roll off) ships per year carrying cars from Asia (some of these don't look like ships at all, more like big boxes with a bridge on top).

They All Carry Oil

It's not only the tankers that contain oil; all ships need fuel. The typical bulk carrier, designed for slow and economical steaming, may carry 5,000 tonnes of bunker fuel in various tanks throughout the ship. A container ship, designed for fast passages, may carry 7,000 tonnes of fuel, likely below the bridge structure at the stern. Cruise ships, which can fuel often, may carry 1,500-3,000 tonnes, depending on their size. And, of course, tankers have fuel tanks as well as their cargo. The cargo of an Aframax tanker loaded at Westridge might be close to 100,000 tonnes of crude oil.

Close to half the ships calling at Vancouver also take on fuel in the port, usually from fuel barges towed by tugs.

Spill Response

In Haro Strait, oil spill response is currently designed for a maximum of 10,000 tonnes, with a response time of 48 hours. This is probably inadequate for a fuel tank breach, and certainly inadequate for a tanker. It is the response time that is important to both the southern Gulf Islands and the San Juan Islands. Forty-eight hours is four (or more) complete tidal cycles—enough to carry spilled oil throughout all the islands. Arachne Reef, waiting for the unwary mariner on the outside of the turn at Turn Point, is about six miles from the nearest part of Salt Spring Island.

Traffic Growth Predicted

While the greatest attention has been given to the expected growth in tanker traffic—Kinder Morgan predict an additional 400 tankers per year from their 'twinning' Trans Mountain pipeline—other types of traffic are expected to grow as well. (All the estimates that follow are tentative, and should be treated with caution.)

The largest proposal is for the construction of the Gateway Pacific bulk loading facility at Cherry Point, just south of Boundary Bay in Washington State. This is forecast to load up to 487 vessels per year, mainly with coal. It's not clear what route shipping will use for access, but Rosario Strait (east of the San Juan Islands) is very narrow, and is currently used for tanker

access to refineries at Cherry Point and Anacortes. Haro Strait is a distinct possibility.

Increased loadings at other Vancouver area bulk facilities are forecast as 100 ships/year at Westshore, 176 ships/year at Neptune Terminals (on the north shore of Burrard Inlet, just east of the Lions Gate Bridge), 28 ships at the Richardson Grain terminal (in Burrard Inlet), and a possible 40 ships if the Fraser-Surrey Docks/Texada coal barge scheme goes ahead. The total, including Gateway Pacific, is over 800 additional bulk carriers.

Add to that a predicted 70 container ships/year at Deltaport (and possibly this does not allow for the Roberts Bank 2 proposal for three additional container berths).

The total is over 1,200 additional vessels in Haro Strait: a potential 40% increase.

Double The Risk: A New And Different Response

A 40% increase in traffic doubles the risk of collision or accident, simply because there are more ship-to-ship meetings. This doubles the risk of oil spills. The risk of catastrophic spills is still small—it was always small. The risk of smaller spills is significantly increased, and with the island shores close by, and the serious environmental and economic consequences of even a small quantity of oil fouling, it becomes a greater worry to Islanders on both sides of the border.

For small spills, rapid response is particularly important. The current response capability—10,000 tonnes within 48 hours, seems totally inadequate to protect island shores. Kinder Morgan has proposed that this be doubled and the response time halved—all well and good for possible tanker accidents.

The protection of the Gulf and San Juan Islands cannot be accomplished by barges of oil-spill equipment based in Burrard Inlet.

More usefully, Kinder Morgan have suggested that operational 'staging areas' be established at Sidney, Sooke, and DeltaPort (plus existing bases at Burnaby, Duncan, Esquimalt, and Nanaimo) and that ten 150-tonne 'Community Response Packages' for spilled oil capture and cleanup be located along the shipping route, in order to reduce response times. This also implies permanent community-based staffing at these locations (on the US side, a start has been made on this approach). ☞