

FACT SHEET

BULK FREIGHTER ANCHORAGES IN THE SOUTHERN GULF ISLANDS: HEALTH AND ENVIRONMENTAL CONCERNS

Prepared by the *South Coast Ship Watch Alliance* | 2022.10.13

Large numbers of bulk cargo ships idling at anchor are significantly impacting the Southern Gulf Islands of British Columbia and adjacent Vancouver Island. These freighters often remain for weeks, awaiting berths to load primarily coal and grain in bulk at the Port of Vancouver. There are now **33 anchorage sites** in the Southern Gulf Islands, and **the number of ships using these anchorages increased from 23 ships in 2009 to 498 ships in 2020**, a problem of inefficient ship scheduling.¹

SIGNIFICANT CONCERNS:

CONFLICT WITH PROTECTED AREAS

- Industrial anchorages are incompatible with the stated purpose of the **Islands Trust Act**, which aims to “preserve and protect the Trust Area and its unique amenities and environment.”²
- The Trust Area is “one of the most productive marine ecosystems in the world and includes the highest density of species at risk in Canada.”³
- **Fisheries and Oceans Canada** has proposed the Southern Gulf Islands as an **Environmentally and Biologically Significant Area (EBSA)**.⁴
- Industrial anchorages are also at odds with Trust Area official community plans for coastal protection.
- A **National Marine Conservation Area Reserve** has been proposed for the Trust Area by Parks Canada,⁵ and the Trust Council has called for elimination of the anchorages ⁶ which in the past had been used only rarely and mostly by smaller ships for local island harbours.
- In **common law**, a ship has the right to "incidental" anchorage anywhere unless restricted by local jurisdictions, for a “reasonable” amount of time. This is *not* a licence for a planned redirection of port traffic outside of port jurisdiction into protected zones.
- The **Canada Shipping Act** mandates the Minister of Transport to protect the environment and gives the authority to designate restricted areas.⁷

CONFLICT WITH THE PORT MANDATE

- The **Port of Vancouver** is responsible “for maintaining efficient movement of marine traffic and cargo”⁸ with a “goal of preserving and protecting our natural environment for generations to come”.⁹ This includes “climate action programs designed to help conserve energy, reduce air contaminant and greenhouse gas emissions, and promote alternative energy sources”,¹⁰ as well as “supporting species at risk”, “working to reduce underwater noise”, “preventing the spread of invasive species”, and “keeping our waterways clean”.¹¹ “Protecting the environment is part of our mandate.”¹²
- The mandate letter of the Minister of Fisheries, Oceans, and the Canadian Coast Guard expects increased “protection for marine species and ecosystems” and creation of “stronger partnerships with Indigenous and other coastal communities.” It expects completion of the Port Operations Review, which targets “promoting environmentally sustainable infrastructure and operations.”¹³

LACK OF CONSULTATION WITH FIRST NATIONS

- There has been insufficient consultation with **Coast Salish First Nations**, as noted in the August 6, 2021 letter to the Minister of Transport of which three signatories are Chiefs.¹⁴
- According to **Cowichan Tribes Chief William Seymour**, “Anchorages in these inside waters and narrow passages between islands pose an unacceptable risk to the ecological integrity that sustains our food resources, which are critical to the long-term livelihoods and well-being of our members.”¹⁵ Also, concern has been expressed regarding disturbance of ancestral burial sites.¹⁶
- **Article 29** of the **United Nations Declaration on the Rights of Indigenous Peoples**, affirmed by the **BC Declaration on the Rights of Indigenous Peoples Act**, states that “Indigenous peoples have the right to the conservation and protection of the environment and the productive capacity of their lands or territories and resources.”¹⁷

ENVIRONMENTAL DEGRADATION

- **Climate Change and Air Pollution:** A single bulk freighter ship at anchor emits some 10 tonnes of greenhouse gases per day, significantly undermining local climate action initiatives.¹⁸ Ships at anchor must often shuttle back and forth from Vancouver—over 100km each way—needlessly burning tons of fuel. These wasteful trips could be avoided with proper loading infrastructure, efficient processing, and a vessel arrival system in the Port of Vancouver.
- **Anchor Chain Scouring of the Seabed:** In the shallower waters of the Southern Gulf Islands there is significant sunlight penetration that supports rich marine ecosystems, including benthic (sea floor) marine communities. Changing winds and currents typically swing ships around their anchors within a large radius. Consequently, heavy anchor chains scour the sea floor in a wide area, and may destroy fragile sea bottom habitats while also creating far-reaching sediment plumes which could suffocate essential elements of the marine food chain.¹⁹
- **Anchor Drag, Groundings, and Collisions:** With seasonal extreme winds and currents, ships can drag anchor and 1) collide with other ships or 2) run aground with the risk of significant fuel oil spills. The most recent incident in March 2020 resulted in a hull-penetrating collision of two ships in Plumper Sound. Since 2015, there have been 102 reports of anchor dragging along our BC coastline.²⁰

- **Noise and Light Pollution:** Anchored ships operate huge diesel generators to provide the electrical power needed to maintain lighting, instrumentation, and refrigeration. The excessive noise produced is amplified by empty holds and further exacerbated by unloaded ships sitting higher in the water. Underwater noise can adversely affect behaviour, development, growth, and reproduction of a wide range of marine life, including plants. Deck safety lighting penetrates the water at night and can disrupt nightly migrations of marine organisms.^{21 22}
- **Water Pollution:** Discharge of ballast or bilge water can introduce pollutants, disease organisms, and invasive species into local waters.²³ Discharge from exhaust gas scrubbers includes “contaminants - such as cadmium, copper, mercury, and nickel and of polycyclic aromatic hydrocarbons (PAHs) - that exceed thresholds set for the protection of aquatic life.”²⁴
- **Risks to Southern Resident Killer Whales:** The unnecessary shuttling of large vessels back and forth between the Southern Gulf Islands and the Port of Vancouver amplifies the risk of collision with the declining southern resident killer whale pod. Engine noise may cause them stress, disorientation and drive them from feeding areas.²⁵

HUMAN HEALTH IMPACTS

Large idling ships transmit continuous generator noise, night lighting, and air pollution into human residential areas.

- **Environmental noise** has associations with cardiovascular disease, sleep disturbance, immune dysfunction, and deterioration of mental health.^{26 27}
- **Light pollution** has been associated with increased risk of cancer, sleep disorders, depression, anxiety, and diabetes.²⁸
- **Air quality deterioration** increases the risk of lung disease, cardiovascular disease, and cancer.²⁹
- **Water pollution:** Polycyclic aromatic hydrocarbons and heavy metals from scrubber wastewater “have a high likelihood of bioaccumulation in the marine food web, including in fish consumed by humans.”³⁰

COSTS TO THE CANADIAN ECONOMY

When a ship must remain at port for longer than the contracted period, financial penalties must be paid by the industry.

- In the 2019–2020 grain crop year, Pacific grain handlers experienced a net outlay of 40 million dollars.³¹



SOLUTIONS & TOOLS

REQUIRED SOLUTIONS:

Closure of the Southern Gulf Islands Anchorages

The 33 Southern Gulf Islands anchorages should be eliminated, as called for by First Nations, BC coastal communities, MLAs, MPs, Islands Trust Council and environmental groups.

Anchorage-free National Marine Protected Area

A **National Marine Protected Area** should be created for the Southern Gulf Islands Trust Area **that prohibits anchorages** for large commercial ships awaiting berths in the Port of Vancouver.

AVAILABLE ACTION TOOLS INCLUDE:

Vessel Arrival System

A vessel arrival marine traffic management system could provide safe sharing of essential information and approvals, allow vessels to choose optimal speeds for just-in-time arrival at port, and reduce fuel consumption, emissions,³² and turnaround times at port.

- Such systems have been implemented at other ports worldwide to minimize or eliminate anchorage requirements.³³

Increased Port Capacity:

There are opportunities to retain more ships within the Vancouver port area through use of single buoy moorings, which, in combination with a vessel arrival system, would eliminate the need for overflow anchorages in the Southern Gulf Islands.

Port Rules and Regulations

There are opportunities to **mandate specific limits for bulk freighter turnaround times at port**. This would not affect trade volume but would increase efficiency.

- Exporters need to have certainty as to what turnaround times are allowed, and be given the opportunity to develop the most realistic logistics planning for synchronizing best delivery times in export contracts to meet mandated objectives.
- Without mandated turnaround times:
 - more vessels arrive at port than can be loaded,
 - valuable port anchorages are taken away by ships waiting longer than necessary,
 - opportunities are reduced for other users at port, and
 - avoidable emissions and other environmental risks occur.
- **Financial incentives/disincentives** linked to turnaround performance at port could further enhance the competitiveness of export companies that apply advanced and responsible planning.

Supply Chain Optimization

The Port Authority and industry, with oversight from Transport Canada, could ensure that a transparent, state of the art, networked supply chain planning, management, forecasting, and scheduling system is in place and coupled with a virtual vessel arrival system.

- The scheduling of delivery time windows at port needs to realistically reflect the current capacity at port terminals.
- Early warning systems of delays in the supply chain and buildup of vessel lineups can be fully integrated into the scheduling of commodity exports.
- Overbooking the capacity of the supply chain cannot expand export volumes but creates inefficiency and environmental problems.

CONTACT

The South Coast Ship Watch Alliance

<https://nofreighteranchorages.ca/about-us/>

Contact: **Bruce McConchie**, email: bonpender2@gmail.com

Alliance Membership Organizations:

- Anchorages Concern Thetis
- Cowichan Bay Ship Watch Society
- Gabriolans Against Freighter Anchorages Society
- Ladysmith Anchorage Watch
- Plumper Sound Protection Association
- Ruxton Anchorage Watch
- Salt Spring Island: Protect The Islands Sea (PTIS)

SOURCES

- ¹ Rohner, Christoph, and Ted Fullerton. 2020. "Ship congestion at the port of Vancouver and Southern Gulf Islands. Centre for Marine Affairs, Southern Gulf Islands." <https://marineaffairs.ca/reports/anchorage-ship-congestion-rohner-fullerton-2020.pdf>
- ² Islands Trust Act, BC Laws. https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/96239_01
- ³ Luckham, Peter. 2021. Letter to the Minister of Transport. https://islandstrust.bc.ca/wp-content/uploads/2021/01/tc_2021-01-19_min-alghabra_anchorages-call-for-federal-action_itr_final.pdf
- ⁴ Fisheries and Oceans Canada. 2012. "Evaluation of Proposed Ecologically and Biologically Significant Areas in Marine Waters of British Columbia". Science Advisory Report 2012/075. <https://www.cbd.int/doc/meetings/mar/ebsa-np-01/other/ebsa-np-01-submission-canada-en.pdf>
- ⁵ Parks Canada 2018. Feasibility Study for the Proposed Southern Strait of Georgia National Marine Conservation Area Reserve. <https://www.pc.gc.ca/en/amnc-nmca/cnamnc-cnmca/dgs-ssg>
- ⁶ Luckham, Peter. 2021. Letter to the Minister of Transport. https://islandstrust.bc.ca/wp-content/uploads/2021/01/tc_2021-01-19_min-alghabra_anchorages-call-for-federal-action_itr_final.pdf
- ⁷ Canada Shipping Act:
- 136 (1) The Governor in Council may, on the recommendation of the Minister of Transport, make regulations
- (f) regulating or prohibiting the navigation, anchoring, mooring or berthing of vessels for the purposes of promoting the safe and efficient navigation of vessels and protecting the public interest and the environment.
- ⁸ <https://www.portvancouver.com/marine-operations/>
- ⁹ <https://www.portvancouver.com/environmental-protection-at-the-port-of-vancouver/maintaining-healthy-ecosystems-throughout-our-jurisdiction/>
- ¹⁰ <https://www.portvancouver.com/environmental-protection-at-the-port-of-vancouver/climate-action-at-the-port-of-vancouver/>
- ¹¹ <https://www.portvancouver.com/environmental-protection-at-the-port-of-vancouver/maintaining-healthy-ecosystems-throughout-our-jurisdiction/>
- ¹² <https://www.portvancouver.com/environmental-protection-at-the-port-of-vancouver/>
- ¹³ Government of Canada, Transport Canada. "What we heard report: Ports modernization review". <https://tc.canada.ca/en/corporate-services/consultations/what-we-heard-report-ports-modernization-review>
- ¹⁴ Letter to the Minister of Transport. 2021 August 6. Signatories Include Chief Richard Thomas, Lyackson First Nation, Chief Roxanne Harris, Stz'uminus First Nation, and Chief Michael Wyse, Snuneymuxw First Nation. <https://www.paulmanlymp.ca/post/vessel-arrival-system>
- ¹⁵ Barron, Robert. "Cowichan Tribes against anchorage of freighter vessels in local waters". *Cowichan Citizen*, November 19, 2020. <https://www.cowichanvalleycitizen.com/news/cowichan-tribes-against-anchorage-of-freighter-vessels-in-local-waters/>
- ¹⁶ Thetis Island Local Trust Committee Minutes of Regular Meeting, August 20, 2019.
- ¹⁷ Declaration on the Rights of Indigenous Peoples Act, BC Laws. <https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/19044>
- ¹⁸ Rohner, Christoph. 2020. "Daily Fuel Consumption and Greenhouse Gas Emissions by Bulk Carriers Anchoring in the Southern Gulf Islands". <https://protect-the-islands-sea.org/daily-fuel-consumption-emissions-bulk-carriers.pdf>
- ¹⁹ Table 3 in: Rohner, Christoph and Ted Fullerton. 2020. *Ship Congestion at the Port of Vancouver and Southern Gulf Islands: Green Solutions for Better Management of Vessel Arrivals and Anchorage Demand*. Centre for Marine Affairs. <https://marineaffairs.ca/reports/anchorage-ship-congestion-rohner-fullerton-2020.pdf>
- ²⁰ Transportation Safety Board of Canada. 2020. Marine Transportation Safety Investigation Report M20P0092. "Dragging Anchor and Subsequent Collision." <https://www.tsb.gc.ca/eng/rapports-reports/marine/2020/M20P0092/M20P0092.pdf>
- ²¹ Table 3: Rohner and Fullerton. *Ship Congestion at the Port of Vancouver and Southern Gulf Islands*.
- ²² Duarte, C.M., Chapuis, L., Collin, S.P., Costa, D.P., Devassy, R.P., Eguiluz, V.M., Erbe, C., Gordon, T.A., Halpern, B.S., Harding, H.R. and Havlik, M.N., 2021. "The soundscape of the Anthropocene ocean". *Science*, 371(6529).
- ²³ Table 3: Rohner and Fullerton.
- ²⁴ Port of Vancouver 2022 Introduction of exhaust gas cleaning systems (EGCS) wash water discharge requirements & introduction of standardized mooring plans for all Container Terminals. https://www.portvancouver.com/wp-content/uploads/2022/02/2022-02-07-Consideration-Report_final.pdf
- ²⁵ Table 3: Rohner and Fullerton.
- ²⁶ Díaz, J., Antonio-López-Bueno, J., Culqui, D., Asensio, C., Sánchez-Martínez, G. and Linares, C. 2021. "Does Exposure to Noise Pollution Influence the Incidence and Severity of COVID-19?". *Environmental Research*, 195, p.110766
- ²⁷ Jariwala, H.J., Syed, H.S., Pandya, M.J. and Gajera, Y.M., 2017. "Noise Pollution & Human Health: A Review". *Indoor Built Environ*, pp.1-4.
- ²⁸ Chepesiuk, Ron. 2009. "Missing the Dark: Health Effects of Light Pollution". *Environmental Health Perspectives*, 117. <https://ehp.niehs.nih.gov/doi/pdf/10.1289/ehp.117-a20>
- ²⁹ Manisalidis, I., Stavropoulou, E., Stavropoulos, A. and Bezirtzoglou, E., 2020. "Environmental and Health Impacts of Air Pollution: A Review". *Frontiers in Public Health*, 8, p.14. <https://www.frontiersin.org/articles/10.3389/fpubh.2020.00014/full>
- ³⁰ Osipova LI, Georgeff EL, Comer BR. 2021. Global scrubber washwater discharges under IMO's 2020 fuel sulfur limit. International Council on Clean Transportation. 10-2. <https://theicct.org/wp-content/uploads/2021/06/scrubber-discharges-Apr2021.pdf>
- ³¹ Quorum Corporation. March 2021. Annual Report—2019-2020 Crop Year
- ³² Jia, H., Adland, R., Prakash, V. and Smith, T., 2017. Energy efficiency with the application of Virtual Arrival policy. *Transportation Research Part D: Transport and Environment*, 54, pp.50-60.
- ³³ NBN News. "Newcastle Praised for Unique Vessel Arriving System". August 7, 2019. <https://www.nbnnews.com.au/2019/08/07/newcastle-praised-for-unique-vessel-arriving-system/>