



POSITION PAPER:

Anchorage in the Southern Gulf Islands

SOUTH COAST SHIP WATCH ALLIANCE (SCSWA)
nofreighteranchorage.ca

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The South Coast Ship Watch Alliance (SCSWA) is a coalition of community groups in and around the Southern Gulf Islands. We sound the alarm about bulk freighters anchoring in local waterways and the many negative impacts they are having on our environment, our homes, and our communities.

SCSWA humbly acknowledges that the lands and waters that encompass the Southern Gulf Islands have been unceded territory and home to Indigenous peoples since time immemorial. We wish to honour the rich history, stewardship, and cultural heritage that embody this place we all call home and join in the calls to action for truth and reconciliation.¹



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EXECUTIVE SUMMARY

The appropriation by the Port of Vancouver of anchorage sites in environmentally sensitive areas that are legally protected is completely incompatible with stated conservation goals of both port and government. These anchorages must be eliminated.

The Southern Gulf Islands and adjacent waters along Eastern Vancouver Island are “one of the most productive marine ecosystems in the world and includes the highest density of species at risk in Canada,”² and is traditional territory of several First Nations. The huge commercial ships parked at these 33 anchorages—in some cases for weeks on end—bring a multitude of environmental impacts, including anchor chain scouring of marine ecosystems, noise pollution, water pollution, air pollution and light pollution, affecting marine life and human health.³ A catastrophic fuel or oil spill can happen; introducing such a calculated risk into these islands is unacceptable.

- **Solutions are needed urgently and without delay.** It is imperative to halt ongoing environmental degradation to preserve the marine biodiversity that has made the Southern Gulf Islands a national treasure as the most valuable marine ecosystem representing the south coast of British Columbia.
- **There are known alternatives for industry and the Port of Vancouver** to organize commodity exports and marine shipping practices. The values of the Southern Gulf Islands are unique, and there are no alternatives to replace them.
- **Industry and the Port of Vancouver must take their responsibility seriously.** It is not sufficient to keep busy with introducing new programs without visible results. **Specific and measurable targets must be presented** to reduce vessel turnover time, reduce anchorage demand, and schedule the phasing out of anchorage use in the Southern Gulf Islands.
- **Continuing the current approach to improving commodity supply chains is not sufficient.** The maritime component of ship arrival needs to be fully integrated into the supply chain with two essential components:
 - (a) Virtual queueing and allowing incoming ships to optimize their **just-in-time arrival**, and
 - (b) Flexible responses and contingency plans at the back of supply chains to reduce new orders and **avoid overbooking of real supply chain capacities.**

It is feasible for the Port of Vancouver to substantially reduce greenhouse gases, protect endangered species and marine ecosystems, and respect First Nations and coastal communities. In this document, several positions on achievable solutions are presented.

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Respect Social and Cultural Priorities and Commitments

1) Meet Commitments and Mandates

We call on all levels of government and industry to abide by their stated principles, mandates, missions, and put these words into action regarding anchorages and marine conservation in the Southern Gulf Islands.

The **Port of Vancouver** has stated its vision "to be the world's most sustainable port"⁴. More specific commitments are also given by the Port: "Protecting the environment is part of our mandate,"⁵ with a "goal of preserving and protecting our natural environment for generations to come,"⁶ including "climate action programs designed to help conserve energy, reduce air contaminant and greenhouse gas emissions, and promote alternative energy sources,"⁷ "supporting species at risk," "and "preventing the spread of invasive species."⁸ The *Port Operations Review* includes "promoting environmentally sustainable infrastructure and operations," and making "Canada's major ports among the most efficient and cleanest in the world."⁹

The area impacted by freighter anchorages is in fact supposed to be protected by the **Islands Trust Act**, which was enacted to "preserve and protect the Trust Area and its unique amenities and environment."¹⁰

The mandate letter for the federal **Minister of Fisheries, Oceans, and the Canadian Coast Guard**¹¹ includes expectations of "protection for marine species and ecosystems," and "stronger partnerships with Indigenous and other coastal communities." The mandate letter for the **Minister of Environment and Climate Change** includes the directive to "move faster" on climate action.¹²

The federal Minister of Transport explained in 2018 "we have had to find temporary anchorage points. We are in a period of a one-year interim study to find a better solution."¹³ He promised "to reduce marine traffic congestion"¹⁴ and "explore ways to reduce anchorage use".¹⁵

The **BC Declaration on the Rights of Indigenous Peoples Act**¹⁶ has affirmed 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."

The **Oceans Act**¹⁷ states that "Parliament wishes to reaffirm Canada's role as a world leader in oceans and marine resource management," and that "Canada holds that conservation, based on an ecosystem approach, is of fundamental importance to maintaining biological diversity and productivity in the marine environment." The Minister of Fisheries, Oceans and the Canadian Coast Guard has stated her commitment to protecting areas beyond just those that are "easy to protect."¹⁸

The **Canadian Environmental Protection Act**¹⁹ states that the Government of Canada shall "exercise its powers in a manner that protects the environment and human health, applies the precautionary principle that, where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation." It will "take the necessity of protecting the environment into account in making social and economic decisions," "protect the environment, including its biological diversity, and human health, from the risk of any adverse effects of the use and release of toxic substances, pollutants and wastes."

The Oceans Act reaffirms the obligation to "...preserve the marine environment" ... "based on the principles of... the precautionary approach, that is, erring on the side of caution."²⁰

2) Respect First Nations: Anchorages Are Not Exempt from Reconciliation

First Nations must be allowed to determine the fate of their ancestral territories. Freighter anchorages risk degrading community health and traditional territory. Rights to protected and productive food resources and to undisturbed ancestral burial sites must be respected.

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.²¹

According to Cowichan Tribes Chief William Seymour, “Anchorage 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.”²² Concern has also been expressed regarding disturbance of ancestral burial sites.²³

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.”²⁴

3) National Interests: Priority for Long-term and Irreplaceable Values

Canada has committed to reconciliation. The Southern Gulf Islands are the ancestral home of and provide subsistence for several First Nations and should continue as such for generations to come. Anchorages for the Port of Vancouver are degrading the living quality and environment of these islands, and will bring an irreplaceable loss of resource values, quality of life and identity for First Nations.

Long-term losses and economic damages could be staggering for the Salish Sea. The ecosystems of the SGI are of fundamental importance to maintaining biological diversity and productivity in the Salish Sea, for example through a food web that originates in the shallow seabed and shorelines of these islands and provides forage fish for salmon, orcas, and humans in a large area.

More legislated national interests are at stake as in the Salish Sea biodiversity is falling, water bird numbers are plummeting, and endangered species are pushed to the brink of extinction.²⁵

The federal government must put long-term national interests first, end anchorages in these islands, and put a stop to export practices and inefficiencies that unnecessarily produce devastating amounts of greenhouse gases and are degrading the Southern Gulf Islands which have been identified as a national interest for marine conservation.

Canada committed to ‘respecting the oceans’ and ‘promotes the integrated management of oceans’ with the Oceans Act and international agreements. Integrated management means that multiple national interests are taken into consideration in a comprehensive and responsible approach.

There is no question that the economic importance of exports and shipping through the Port of Vancouver are of national interest. For Transport Canada to steamroll industrial expansion over other national interests is clearly in conflict with federal mandates and commitments.

This is particularly relevant because the inefficiencies leading to port congestion in commodity exports have been a short-term problem and have been resolved within a short time-period at other global ports.^{26 27 28 29} The crisis emerged because of a decade of unsustainable procrastination by industry, port, and Transport Canada. Alternatives are available to make commodity exports more efficient and to make better use of available opportunities within port jurisdiction. There is *no* alternative to preservation of the Southern Gulf Islands. Anchorages in the SGI are *not* a necessity to safeguard commodity exports. Ships waiting at anchor bring costly penalties for Canadian farmers. Solving the problem will bring long-term economic benefits at many levels, alongside environmental and social benefits.

4) Governance: Respect Existing Framework

Transport Canada must address problems within port jurisdiction where they originate, become more transparent, respect reconciliation with First Nations, respect environmental commitments regarding greenhouse gases and protected areas, and cease any attempts of creating a separate unilateral governance under the Shipping Act to undermine the existing and longstanding governance framework and respectful inter-jurisdictional cooperation in this area.

The **Canada Shipping Act** not only mandates the Minister of Transport to protect the environment, but also gives all necessary provisions to exclude sensitive areas from anchorage use where necessary. The Gulf Islands were recognized decades ago to require special governance in order to protect the ecological and marine values of these islands.

In 1974, the **BC Islands Trust Act** established a separate level of government with the mandate to “preserve and protect”. Two agreements were signed between the federal environment minister and the Province of BC regarding the establishment of a **National Marine Conservation Area** (NMCAR) in the Southern Gulf Islands. An agreement for a feasibility study was signed in 2003, and an agreement about proposed boundaries was signed in 2011. In 2019, several First Nations of southern Vancouver Island signed an accord to enter cooperation with Environment Canada.

During the 2010s, the number of large seagoing bulk carriers using anchorages in the SGI increased from 23 ships in 2009 to 498 ships in 2020. Transport Canada started to undermine the existing governance framework and longstanding efforts towards an integrated management plan for the marine area, with a heavy-handed and unilateral approach.

Transport Canada enacted an **Interim Protocol** under the Shipping Act in 2018 and maximized access of the Port of Vancouver to 33 anchorages in the SGI. First Nations, the provincial government, the Islands Trust, coastal communities, and NGOs have called for better solutions and expressed their frustration about the lack of meaningful consultation. The Interim Protocol gives the transport minister unchecked temporary powers, and the effects have been more akin to a “hostile takeover” and creating a status quo for the future than sincerely addressing problems as promised.

Respect the Southern Gulf Islands' Unique Environment

5) Close the Southern Gulf Islands Anchorages

The 33 Southern Gulf Islands anchorages in this area are not compatible with the stated goals of responsible environmental practices and national marine conservation goals. They should be eliminated as called for by First Nations, BC coastal communities, MLAs, MPs, the Islands Trust Council, and environmental groups.

6) Provide a Schedule with Specific Targets for Phasing Out Anchorages

Transport Canada must present a road map on how the port congestion problem will be solved and provide a reasonable time frame. Extensions of the Interim Protocol must contain specific targets on how Transport Canada will phase out anchorages in the Southern Gulf Islands over a specific number of years.

Despite promises of reduced anchorage use, the 2018 **Interim Protocol** for anchorages in the SGI was a temporary measure that brought a minimal reduction in negative effects while it allowed the port congestion problem to continue and worsen.

7) Implement Emergency Relief to Reduce Anchorage Overload

Immediate relief is needed because anchorage use in the Southern Gulf Islands started to repeatedly reach capacity. Aggregated risks and impacts near full capacity are at an emergency level that is no longer tolerable. Immediate emergency action needs to take effect without delay. This is a temporary first step towards a schedule for phasing out anchorages.

Anchorage use in the SGI has increased exponentially in recent years and is not sustainable.³⁰ What had been described as a temporary problem for overflow from the Port of Vancouver until "a better solution" can be found³¹ has now changed into integration into daily port operations without limitations. It is no longer a rare event in the SGI that full capacity of approximately 90% of anchorages is reached and then being held for weeks.

Use of the full capacity in the SGI is a novel occurrence of recent years even before COVID-19 and is not acceptable due to aggregated risks and impacts. As an emergency relief and first step, the overall maximum capacity needs to be lowered by no less than one-third. Once the total of ships occupying any anchorage in the SGI will have reached this new and lowered maximum capacity, no further vessels should be directed into this area anymore. This step is required without further delay and requires an immediate and timely response independent of the **Active Vessel Traffic Management Program**.

Contingency plans for overload are necessary anyways, whether the total maximum capacity is lowered or not. The only difference under emergency relief is that contingency plans are enacted somewhat earlier during growing ship congestion. Similar emergency reductions on local anchorage capacities have been introduced in Los Angeles and San Francisco Bay with success and without much delay, in response to intolerable numbers of anchored ships due to COVID-related supply chain problems.³²

Solutions are possible to enable this emergency relief. For example, all existing anchorage capacities within port jurisdictions need to be used seamlessly, including the ports of Vancouver, Nanaimo, and Victoria. An additional 5–10 temporary anchorages may have to be designated in Vancouver, or next to existing anchorages at the Pacific Gateway entry near Brothie Point off Victoria. These anchorages would allow minimizing vessel trips by staggering ships more efficiently before entering the Salish Sea through Haro Strait and may provide refuge for ships in distress (the MV ZIM Kingston³³ comes to mind) near supporting facilities in Victoria, but far enough from shore to allow protection of coastlines and residents.

8) Shift From Failed Mitigation to Solving Root Causes

The solution is not applying band-aids at anchorages but a full remedy of the root causes for the problem at port. Transport Canada must address the root problem with the industry and the Port of Vancouver, instead of appropriating sensitive marine areas for industrial use. The Shipping Act mandates the transport minister to protect the environment and offers the tools to restrict anchoring in sensitive marine areas.

The concept of mitigation at anchorages is flawed: it is not based on evidence but rather on wishful thinking. While mitigation can be a reasonable solution for some problems, it is not for the SGI anchorages; the Interim Protocol has instead fully failed to solve the problem these vessels produced.

It is an illusion or smoke screen that negative impacts of these anchorages can be meaningfully 'mitigated' or 'managed'. Even ships with reduced lights are still an industrial element in a natural landscape. Engines and pollution cannot be turned off. Underwater noise is booming in the narrow water spaces between islands and affecting marine life. Anchor chains are still scouring the seafloor and releasing clouds of sediment that are settling on sensitive marine habitat and organisms for considerable distances away from the source. Accidents and spills are waiting to happen.

9) Withdraw Attempted Industrial Expansion

Attempted industrial expansion for daily operations of the Port of Vancouver is not acceptable in the Southern Gulf Islands. This expansion, particularly into First Nations territory, is not legitimate. Transport Canada should find alternate solutions to its aggressive and questionable industrial expansion with anchorages in the SGI.

First Nations have used the waters of the SGI for thousands of years as part of their ancestral territories. These territories have not been ceded and are still subject to treaty negotiations.

During the 2010s, an aggressive industrial expansion was undertaken. The number of large seagoing bulk carriers using anchorages in the SGI increased from 23 ships in 2009 to 498 ships in 2020.^{34 35}

Transport Canada facilitated this industrial expansion for the Port of Vancouver outside of port jurisdiction, without meaningful consultations or environmental assessments. Several conflicting arguments were used to justify this industrial development, revealing that these actions occurred in a legal grey area, which remains open to legal challenges.

Transport Canada tried to use the term 'historical anchorages' and imply a right of use. It was first claimed that these anchorages were established in the 1970s, suggesting this happened prior to the BC Islands Trust Act. Later it was acknowledged that 'These anchorages were established under a former system of

public ports that no longer exists.’³⁶ Indeed, Transport Canada released all assets and obligations in the form of local ports and anchorages in the Gulf Islands with the Marine Act of 1998. Further scrutiny revealed that Transport Canada was unable to provide any written record of ever having established anchorages in the SGI. The only records provided for some anchorages in the mid-1990s were from the Pacific Pilotage Authority, which does *not* have a legislated mandate to designate anchorages.³⁷

Transport Canada then provided an angle of international common-law right for ships to anchor in national waters³⁸ This is problematic, however, because this right does *not* supersede national regulations. The transport minister is mandated to protect the environment by the Shipping Act and other legislation and has the necessary tools to restrict anchoring in environmentally sensitive areas of national interest.

Transport Canada went as far as claiming a common-law right because these anchorages were historically identified by vessel masters; in reality, all international and large seagoing ships entering the Salish Sea require a pilot on board to provide the lacking local expertise of vessel masters.

More significantly, common-law rights are restricted to ‘innocent use’ (free of harm) of ‘incidental’ nature, as well as for only a ‘reasonable amount of time’. The attempted industrial expansion, however, is intentional and planned, and occupation is regular, ongoing, unreasonable, and near-permanent. Such use can hardly be assumed to be ‘innocent’ in terms of potential harm to marine ecosystems and public health of residents.

Contrary to the image portrayed by Transport Canada, many of the anchorage sites were rarely used in recent decades (to the degree they were unknown to most residents because there were no ships present), and the limited use was that of smaller vessels visiting local ports.

The Port of Vancouver is now developing and re-purposing these anchorage sites for use of its daily operations. While the Marine Act prescribes environmental assessments and limits the port to its own jurisdiction, this legally murky port expansion was enabled by Transport Canada with an Interim Protocol, which gives the transport minister temporary emergency powers that would normally require parliamentary approval, and which allowed a heavy-handed approach to steamroller this industrial expansion ahead, removed from proper context.

This is only to mention a few legal aspects. Other aspects include the rights of ownership of the province over the seabed, which is being dredged by anchor scouring by what could be considered a port infrastructure. No less disturbing are potential violations of the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) and applicable provincial and federal legislation.

10) Relocate Material Offloading Sites into Port Jurisdiction

Offloading is an industrial activity that belongs to industrial zones within port jurisdiction.

At Plumper Sound, between Saturna and Pender Islands, one anchorage is designated to allow industrial activity and is used for offloading materials such as gypsum from ships to barges. These very noisy operations often extend throughout the night hours and carry multiple risks.

Despite the many letters of complaint for many years from coastal communities regarding the excess noise and light pollution, the Interim Protocol of 2018 still designated one anchorage for this purpose. Transport Canada and the Pacific Pilotage Authority state that there are no formal agreements or permits regarding this operation. Together with the Port of Vancouver, these authorities need to find solutions for sites within port jurisdiction, without posing risks to any sensitive marine ecosystems or nearby residents.

Protect Marine Environment for Future Generations

11) Designate Anchorage-free National Marine Conservation Area (NMCA)

We are now 15 years since agreements were signed into the process of designating a National Marine Conservation Area Reserve (NMCAR) for the Southern Gulf Islands. This process must be completed. It must exclude marine traffic from the Port of Vancouver, prohibit anchorages for large seagoing vessels, and discontinue any further industrialization such as offloading materials onto barges.

Parks Canada must allocate more resources and staff to the completion of this NMCAR in the SGI. The ongoing loss of biodiversity³⁹ and negative impact on ecosystems must be halted and reversed, if necessary, by interim measures.

Environment Canada has made very slow progress towards achieving the protection of this unique area. Any further delays may fall behind Transport Canada's efforts to implement temporary measures that may establish a status quo and directly harm federal commitments and targets for marine protection.

12) Protect Endangered Species: Apply SARA to Anchorages

Transport Canada expanded industrial activity in the Southern Gulf Islands without addressing the risks posed by anchorages to species listed under the Species at Risk Act (SARA). Parks Canada and the Department of Fisheries and Oceans must take action regarding this problem.

SARA has been applied to some risks posed by marine shipping to the Southern Resident Killer Whale (SRKW) population, but the risks of anchorages have largely been ignored.

Remote anchorages require unnecessary trips by empty and partially loaded ships to and from port⁴⁰. This additional traffic volume through Haro Strait and critical orca habitat poses risks (e.g., underwater noise, collisions). These trips are wasteful and can be avoided entirely by eliminating these anchorages.

Underwater noise is much louder when reflected by shallow seabed and nearby islands. Yet the effects of stationary vessels at anchor have not been effectively integrated into conservation planning in the SGI. This also applies to other endangered species listed under SARA such as the Yellow-Eye Rockfish. Numerous Rockfish Conservation Areas (RCA) have been designated in the Southern Gulf Islands, and populations have not recovered. Rockfish are territorial, colourful, long-lived (they can live 100 years or longer) and vocal. Studies have shown that these fish are exposed to noise interference by marine vessels.⁴¹

A multitude of risks exist. Pollution risks are related to spills and substances leaked from vessels. Ships at anchor drag chains along the seafloor as they move with winds and tides. They will release potential pollutants stored in sediments, which can act as toxins for endangered species such as orca and rockfish.

13) Ensure Food Security: Protect the Seabed of the Southern Gulf Islands

The provincial government has ownership of the seabed and must take a leading role among government agencies, in coordination with First Nations, by acting on its election promise to address these anchorages, complete its promised Coastal Strategy, and take the same approach with its submerged lands that have been taken with the Agricultural Land Reserve (ALR). This starts with protecting the shallow waters of the Southern Gulf Islands from industrial encroachment like the 33 anchorages for the Port of Vancouver.

Shallow coastal marine ecosystems are among the most productive habitats because sunlight penetrates only to a depth of about 50 m, and these systems are essential for many larval and juvenile stages of organisms such as clam beds or forage fish for salmon. These are essential for food chains and intact ecosystems that produce food not only for fisheries, aquaculture, and First Nations, but also for endangered species such as the Southern Resident Killer Whale population.

Industrial use for commercial anchorages of large seagoing vessels is in direct competition for these habitats, because depths of over 50 m start to exceed safe and convenient anchoring depths.⁴² These marine habitats essential for food production and food security are very rare in BC because of the province's steep topography. Only about 5% of BC's ocean waters are less than 50 m deep⁴³, arranged in small ledges along the coast and between islands. This situation is paralleled by BC's topography above sea level. In 1973, about 5% of BC's terrestrial area was identified to be suitable for farming and set aside for the Agricultural Land Reserve to give a priority to food security, and limit or exclude other uses.⁴⁴

Federally, the Department of Fisheries and Oceans (DFO) made a Blue Economy a priority and identified the Southern Gulf Islands as Ecologically and Biologically Significant Areas (EBSAs) under the Oceans Act.

14) Decision-Makers Must Consider Cumulative Effects

Decision-makers at all levels of government and industry must consider environmental risks added to this sensitive area of the Salish Sea in the appropriate context and from a cumulative perspective.

The environmental impacts of bulk freighters are additive to other sources of pollution, resulting in consequences that are magnified beyond the effect of any single stressor. For example, the SGI region is classified as a low ventilation area and "high smoke sensitivity zone,"⁴⁵ requiring industrial and domestic burning restrictions. Yet these restrictions do not apply to freighters at anchor, which can emit considerable air pollution⁴⁶ that is added to the burden of the air quality health index and undermines local emissions targets for limiting marine acidification in these islands and for climate change.⁴⁷

For decision-making to be effective, it is vital to use environmental baselines that reflect intact marine ecosystem function and structure. Western science has a limited understanding of the Salish Sea baseline prior to colonial contact 150+ years ago. It is essential to bridge this knowledge gap by using Traditional Ecological Knowledge (TEK)⁴⁸. Decisions must now be made in proper context, guided by ecosystem-based management, including traditional knowledge and cumulative effects on identified valued components.

We cannot allow that 10+ years of inaction on unassessed new impacts becomes the reduced biodiversity baseline going forward, nor can we allow shifting baselines to lead to an ever-deteriorating status quo⁴⁹. Decision-makers must stop the expansion of new impacts until they have been fully evaluated in the

proper context of ecosystems, or it will be too late to protect those very valued components that have made the Southern Gulf Islands a national priority.

15) Marine Safety: Exclude Hazardous Materials and Vessels in Distress

Damaged vessels and any cargo ship with unidentified or potentially harmful substances in containers and hulls must be excluded from entering the Southern Gulf Islands. They must be directed towards designated zones that are closer to infrastructure for technical assistance and further from sensitive shorelines and marine ecosystems designated for conservation.

Transport Canada should improve marine safety regulations and only allow ships to enter Canadian waters that are fully prepared for storms in this region. A key component of marine safety is to prevent vessel lineups at port and thus minimize the number of ships exposed to potential heavy weather.

It is a myth that anchorages in the Southern Gulf Islands offer “safe harbour” from heavy weather and storms and are therefore needed for marine safety.

In reality, strong winds are funneled between the islands and frequently cause vessels to drag their anchors. This has already resulted in multiple accidents like grounding on reefs and ship collisions in recent years. A recent Transport Safety Investigation revealed that "Between January 2015 and March 2020, a total of 102 dragging anchor occurrences along the BC coastline were reported (...). When a vessel drags anchor, it can result in a collision, a grounding, or other emergency situations."⁵⁰ In addition, shorelines are so close to all these anchorages in the SGI that vessel groundings and spill disasters are expected to happen anytime. Such calculated risks are not acceptable for these sensitive marine ecosystems.

The idea that these anchorages could offer refuge to ships in distress is flawed. The sensitive marine ecosystems of the Southern Gulf Islands and their enclosed waters close to shore are the least desirable place for damaged or burning oil tankers or other cargo ships, as demonstrated by similar devastating disasters near shore in other places of the world. Some chemicals used for firefighting have been shown to have toxic potential for aquatic life, food chains in ecosystems, and humans. The December 2021 fire on the container ship MV ZIM Kingston revealed that toxic fumes can spread for days and would directly enclose the adjacent residential areas in the Gulf Islands.⁵¹



Implement Specific Improvements for Commodity Supply Chains

16) Reduce Greenhouse Gas Emissions: Resolve Port Congestion

There is a lack of innovation at the Port of Vancouver in the reduction of greenhouse gas emissions compared to other global ports. Transport Canada, the Port of Vancouver, and the export and shipping industries ignored the growing problem for an entire decade, and they must find responsible solutions to inefficiencies causing wasteful production of greenhouse gases and anchorages posing environmental risks.

Industry and the Port of Vancouver must take climate change seriously—it is causing disasters and supply chain disruptions in British Columbia⁵²

The Port of Vancouver could eliminate on average 20% of its marine greenhouse gases by reducing wasteful and avoidable vessel lineups at anchorages. Two-thirds of freighter emissions are from parked ships that idle at anchor or at berth. Each ship at anchor produces about 10 tonnes of greenhouse gases every day.⁵³

17) Connect Maritime Components of Commerce into Supply Chain

Exporters of bulk commodities must proactively accept responsibility for preventing the pollution and environmental degradation their commerce can cause and integrate vessel arrival of their customers into logistics planning. Statements by industry about their ‘responsible and sustainable shipping’ must be translated into actions without further delay. The environmental law principle of ‘polluter pays’ must be applied. Transport Canada must facilitate integration of the maritime component of commerce into the supply chain and issue mandates or specific regulations for industry to prevent environmentally harmful export practices.

There is an underlying cause for port congestion and the anchorage problem in bulk exports of commodities in Vancouver. Most large Canadian exporters manage their supply chain only as far as port terminals as their end point. This is where most commodities change hands and are picked up by international buyers that arrive with their vessels. The gap in coordination between Canadian sellers and international buyers causes severe inefficiencies that can easily escalate into the chaos frequently plaguing the Port of Vancouver.

This problem can be compared to a seller that opens a shopping mall without any planning of how customers will arrive. Consequently, there will be traffic chaos, idling cars, and unchecked parking in surrounding residential neighbourhoods. No such proposal would be allowed by any city, yet this is how it works for commodity exports in Vancouver, because there is a gaping loophole between land-based terminal approvals and marine shipping regulations.

18) Vessel Traffic Management: Implement Just-in-Time Arrival

The Port of Vancouver mission statement declares it aspires to become the world's most sustainable port, yet it has fallen far behind other global ports after a decade of inaction and lack of innovation regarding this growing congestion problem.

Digital systems and virtual arrival procedures are the responsible alternative to replacing the wasteful and outdated practice of vessel lineups. Such systems have been implemented at other ports worldwide to minimize or eliminate anchorage requirements and reduce pollution and greenhouse gases.^{54 55 56 57}

The environmental and economic cost of inaction is no longer bearable. Industry, Transport Canada, and the Port of Vancouver must collaborate to meet responsible standards without further delay. Transport Canada must issue mandates and timelines for implementation.

Current growth in anchorage demand is neither sustainable nor acceptable. Lacking coordination of ship arrivals is a key factor leading to ship congestion.

Opportunities exist to reduce waiting times for vessels, ship congestion, and anchorage demand by better integrating the maritime component into the supply chains of bulk exports through implementation of modern Vessel Arrival Systems (VAS). Efficiency comparisons show that the need for anchorages in sensitive and protected areas could be eliminated.

A vessel arrival marine traffic management system will 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^{58 59} and turnaround times at port.

19) Supply Chain Disruptions: Develop and Implement Contingency Plans

Traffic Management with Virtual Arrival can adjust the speed of incoming vessels and buffer delays in the supply chain to some degree. This measure at the front end of the supply chain alone is not sufficient. Additional measures are necessary at the back end of the supply chain, far inland where commodities originate and at head offices of export companies.

Exporters must adapt and implement robust contingency plans and follow the positive example of some companies that are able to quickly switch to alternative supply routes, reroute ships to avoid congestion, and adjust the timing of deliveries in new sales contracts with realistic planning that avoids unnecessary and wasteful waiting for vessels in lineups.

A focus on improving physical infrastructure for commodity supply chains is not sufficient. There are two major factors causing problems:

(a) "Overbooking of the supply chain" lies in the assumption that terminals can always load at maximum capacity; **(b)** Lack of contingency planning lies in the assumption that vessel lineups are not the problem of the exporter and will always take care of themselves, since parking in public spaces along the coast are unlimited and readily available free of environmental and economic cost.

All these assumptions are incorrect, and result in unrealistic planning and the notorious problems with ship traffic chaos and environmentally harmful results.

A recent study⁶⁰ found that the real problem for port congestion is not the time of disruption itself, but rather the lack of adequate response that is causing a continuous flow of ships into the Salish Sea stacking up and snowballing into traffic chaos. Once vessel lineups form, waiting times multiply because each vessel is experiencing the combined wait of all the vessels ahead in line. In other words, there is a disconnect or lack of feedback and information flow about known problems to the backend of the supply chain, the headquarters, where new ships keep being arranged to start voyages towards Vancouver without sufficient adjustments.

20) Prepare Sustainable Responses to Extreme Climate Events

Full disruptions of supply chains are the new norm for Vancouver and must be anticipated. Industry and Transport Canada must prepare sound contingency plans for extreme disruptions, including the temporary reduction of incoming ships, to avoid harm to both the environment and the viability of the marketplace Vancouver.

Commodity exports from Vancouver have long and complex supply lines reaching across the Rockies. In contrast to container ships, bulk freighters require some anchorage space at times. The question is how procedures can be optimized so that there is sufficient anchorage space close to terminals and within port jurisdiction.

The concept of using additional anchorages in the Southern Gulf Islands to have reserve capacity for buffering unexpected events is flawed. The current approach is not a solution because it is not sustainable. The industry already has such high anchorage demands that these anchorages fill up quickly. Any further growth will simply exceed anchorage capacities even under regular conditions.

Extreme climate events are not an excuse for environmentally damaging shipping practices, for undermining national marine conservation efforts, disrespecting reconciliation with First Nations, and adding stress factors to public health in coastal communities.

The current environmentally damaging practices also unnecessarily add substantial amounts of greenhouse gases and further contribute to more frequent climate disasters in BC.⁶¹

The objective is to manage a flow and presence of a minimum number of ships needed. It is not a solution to direct polluting ships into sensitive or protected areas and allow disruptions to snowball into vessel lineups that will mean escalating, cumulative, and costly waiting times for customers. Once congestion is allowed to build up, it can take months of damage until traffic returns to normal flow.

21) Incentives for Industry: Adjust Port Rules and Regulations

The Port of Vancouver or Transport Canada must mandate specific limits for bulk carrier turnaround times at port. This will not affect trade volume but increase efficiency. Financial incentives/disincentives linked to turnaround performance at port will further enhance the competitiveness of export companies that apply advanced and responsible planning.

For the past decade, exporters and the shipping industry have not had incentives to be sufficiently concerned about reducing anchorage demand and associated environmental impacts. There is limited hope for change unless port rules or regulations of the industry are revised to address this problem.

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.

22) Improve Supply Chain Infrastructure: Enable All-Weather Loading

Infrastructure for all-weather loading must be installed at grain terminals as soon as possible. After years of delays, the government must step in if necessary and resolve the conflict, to protect other members of society and the environment from excessive and unnecessary pollution and possible damage.

Adverse weather conditions have slowed down the loading of grain ships at the Port of Vancouver during rainy periods. This has escalated numbers of ships waiting at anchor. At a port with such high precipitation in winter, infrastructure must be upgraded with technology that allows safe loading of grain ships under all weather conditions. Apparently, the process is delayed because of a labour conflict regarding safety of this equipment.⁶²

23) Create a Citizens' Oversight Board

The Port of Vancouver needs to balance input from stakeholders fairly. Industry representatives tend to dominate early consultations and decision making, while public stakeholders appear to be considered in a second-tier process with only limited options. A better system is needed to balance economic, socio-cultural, and environmental priorities.

As ship congestion and unnecessary anchorage are appropriating resources held in common by society (airsheds, seabed, and coastal ecosystems), including an area with legally designated protection of its natural environment, and because ship congestion is creating negative externalities contrary to the common good, a citizens oversight board should ideally be established as an independent watchdog with powers to monitor, investigate, and scrutinize marine traffic management practices of the Port of Vancouver as a service to the public interest. This board should be supported by complete transparency of data on traffic scheduling, including unfettered access to supply chain planning and management data. A suitable model for the board is the BC Forest Practices Board with an annual budget of \$3.8 million—a modest sum for effective oversight of port operations, considering the current outlay of demurrage fees required by delays and shuttling of cargo vessels due to inefficient port management.

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