

Options for Reducing Anchorage Demand: Efficiency Targets & Port Rules

Ships commonly use anchorages before loading bulk commodities such as grain and coal at the Port of Vancouver. Too many ships waiting at anchor are not a sign of positive growth. They are the result of inefficiencies in the export process that lead to long vessel lineups at port, which translate into serious economic and environmental costs.^[1]

Solutions to the problem of port congestion and expanding anchorage use have been promised by the Minister of Transport.^[2,3]

WHY REDUCE SHIP NUMBERS WAITING AT ANCHOR?

Greenhouse Gas Emissions: The Port of Vancouver could eliminate about 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.^[4] Each ship at anchor produces about 10 tonnes of greenhouse gases every day^[5]. Increasing efficiency has both economic and environmental benefits.

First Nations Rights: Recent expansion of anchorage use into the Southern Gulf Islands by bulk carriers destined for the Port of Vancouver is opposed by First Nations^[6], and is not consistent with legislation regarding the Declaration on the Rights of Indigenous Peoples.^[7,8,9] Local governments, coastal communities, environmental organizations, and the provincial government, have all called for elimination of these anchorages in these sensitive waters of the Salish Sea.^[10,11,12]

Significant Conservation Areas: Environmental effects of anchored bulk carriers are severe.^[4] Anchorage use is not compatible with the following longstanding conservation efforts for the sensitive area of the Southern Gulf Islands: A proposed National Marine Conservation Area (NMCA)^[13,14], Ecologically and Biologically Significant Areas (EBSAs) identified by DFO under provision of the Oceans Act^[15], the Islands Trust Act Trust Area protection mandate^[16], and coastal protection zones of official community plans and bylaws. The Port of Vancouver, with a mission to be the world's most sustainable port,^[17] should support federal efforts and commitments^[18] towards marine conservation by reducing vessel lineups and avoid using this area for industrial purposes such as anchorages for bulk carriers.

Accidents & Spills, Endangered Killer Whales: Remote anchorages require unnecessary trips by empty and partially loaded ships from and to port^[4]. This additional traffic volume through Haro Strait and critical orca habitat is wasteful and could be avoided entirely. Less traffic means less pollution, lower risk of accidents, and economic benefits.

Economic benefits: Delayed loading of a single bulk carrier costs the Canadian economy US\$ 11,000 to US\$15,000 per day, depending on vessel size^[1,4,19]. Reducing waiting time for ships at anchor saves fuel, gives prairie farmers better grain profits, and makes the market place Vancouver more attractive with reliable, efficient, and greener export services.^[4]

Growth in export volume does not need to translate into longer vessel lineups and anchorage demand, if efficiency concerns are addressed.^[4] Lack of federal government action to address the growing problem has raised widespread criticism, including from other levels of government and the shipping industry that is running out of anchorage space with unsustainable efficiency levels at port.^[6,10-12,20]

The Minister of Transport has been called upon to improve the situation at the Port of Vancouver, not only by providing good policy but also by setting efficiency mandates.^[21] Such targets could be defined either by industry initiatives, improved port rules, or government regulation.

At present, the content of specific targets or efficiency mandates is unclear. For industry success, more certainty is preferable, and transparency about time scales of implementation of mandates are essential.

The following brief overview discusses options for possible mandates and targets that may improve efficiency and address measurable targets for reducing anchorage demand to be met by the industry.

1. Mandate to Reduce Vessel Lineup

In 2008, following an accident of an anchored bulk freighter in Newcastle NSW, the Australian Transport Safety Bureau issued recommendations both to the Port Authority and the Coal Export Company involved.^[22,23]

The Australian Government recognized the problems of excessive vessel lineups and “The significant public benefit of enhanced safety that results from a reduced queue”. The recommendation was to implement “systems [that] have proved effective in reducing the queue in the past and, consequently, reduced the risks to ships, the port and the environment.”

In Vancouver, the industry has been reluctant to adopt the proven Newcastle solution of a Vessel Arrival System (VAS) because of multiple supply chains that are complex.^[24]

Please note that the Australian Government issued recommendations both to the port authority and an individual company. A more comparable situation in Vancouver may be addressing an export company with high anchorage demand individually, for example coal operations at Roberts Bank.

If individual export companies already have advanced logistics systems in place to address their more complex supply chains, the participation in a centralized VAS could be voluntary, with the alternative of meeting specific targets with internal company-owned logistics for optimizing vessel arrival.

2. Pre-Loading Day Limit

The following specific efficiency targets follow the example of Newcastle, NSW.

Contact with the port authority is required 14 days in advance, and the vessel can give virtual notice of readiness and will receive information for optimizing its arrival at port.^[25]

The system will penalize ships if they stay longer than 48 hrs in an anchorage at Newcastle, by either (a) demoting their priority in the queue; (b) issuing a warning; or (c) denying future access to port for serious offenders.^[25]

In practical terms, this means that ships should not approach the port and use anchorages unless they are 48 hrs or less before loading.

Time targets would obviously have to be evaluated for Vancouver. The targets could be implemented in steps over several years, and may be different for specific commodities or supply chains.

The advantage is that the problem is approached right at the root cause (vessel arrival not in synchrony with deliveries at terminal). Disadvantages are the need for an integrated port VAS. There are also practical aspects to be resolved, such as what backup system will be used if ships fail inspections (e.g. need for fumigation), and responses for ships seeking shelter in adverse weather conditions.

3. Overall Day Limit

Another approach could be regular access of arriving vessels to pilotage services and anchorages as before, but with a financial penalty in place to discourage excessive stays.

The difference would be in a limit on the total days that vessels are allowed to stay in port and vicinity before paying penalty fees for each day of overstay. Such fees would be similar to demurrage in a contract, but paid to the port authority.

These fees could be handled similarly to a neutral tax, by crediting the revenue back to more efficient users with shorter stays below prescribed limits. This would make exporters and products more competitive.

The advantage would be that there is no need for a complex arrival system at the gateway, which makes logistics easier and rules are more of an incentive than a prohibition.

The system could be fairly simple by only requiring the port to tally up the time between a vessel requires pilotage services when entering the gateway and when it is ready to leave, and collection of fees through the same channels that other fees are charged.

Disadvantages may be that the system is not directly aimed at the root cause. Overall day limits at port are not easy to identify (possible loopholes may have to be closed successively).

Day limits before fees are charged may have to be implemented stepwise over time, and may be specific to commodities or supply chains. Ideally, the system would be applied through adaptive management, which implies that the system is altered stepwise until the desired targets of anchorage reduction are achieved.

4. Incremental Efficiency Fees Payable by Terminals

A variation of option (3) above would be a fee that applies to terminals. Annual or monthly fees to the port authority would be in proportion to the cumulative anchorage time of vessels loaded at the specific terminal.

This fee could also be handled like a neutral tax and would give an incentive for efficient supply chains to be more competitive.

5. Port Targets for Reduction of Greenhouse Gases

Emissions from anchored ships are among the easiest to eliminate without cost to the economy. Although the approach is indirect, such emission targets would likely lead to reduced anchorage demand.

If fees are introduced by the port authority, they could also be re-invested for access to shore power for bulk carriers at berth. These emissions are also very high (an estimated 10% of port emissions) and likely easier to eliminate than other sources of pollution.

6. Port Targets for Annual Anchorage Days, or Reduction in Available Anchorages

Such targets describe desired results and outcomes. They are measurable objectives that are important for monitoring.

If used for mandated targets this means that the approach is broad and umbrella-like, leaving the more specific ways of how to solve the problem entirely to the port authority and/or industry. Targets would have to be defined in steps over several years.

Advantages of this umbrella approach are unleashing innovation and respecting autonomy of industry stakeholders to do business and comply with targets in their own preferred way.

The disadvantage is in the risk that problems and failures may occur in identifying and executing necessary steps to bridge the gap to reach compliance.

Schedules and Roadmaps Towards Anchorage-free Areas

No matter what option for improving efficiency are chosen, defining time-specific steps and schedules are essential for achieving mandated targets.

Please note that setting efficiency targets does not have to be any part of government regulation. Efficiency mandates can be adopted as an industry initiative to allow fair and efficient access to limited resources such as anchorages.

Efficient solutions to set such targets may include agreements in stakeholder working groups, possibly assisted by an expert panel.

By addressing the problem with cooperative planning and pro-active schedules, disruptions can be avoided both for the industry and for the implementation of anchorage-free areas such as NMCAs, and achieve solutions that will bring lasting benefits and confirm Canada's international reputation for efficiency in exports and for achieving cultural and environmental commitments.

References:

- [1] Trevor D. Heaver and Christoph Rohner: Is Bill C-250 the solution for tackling too many ships at anchor? Vancouver Sun, 04-Jan-2021.
<https://vancouver.sun.com/opinion/trevor-d-heaver-and-christoph-rohner-is-bill-c-250-the-solution-for-tackling-too-many-ships-at-anchor>
- [2] Marc Garneau, Minister of Transport (2017): “By working closely with those who are most impacted, we are taking action to make maritime information more available and to reduce marine traffic congestion.” 16-Nov-2017,
https://www.canada.ca/en/transport-canada/news/2017/11/government_of_canada_to_improve_local_maritime_situational_awareness.html
- [3] Marc Garneau, Minister of Transport (2018): “We are in a period of a one-year interim study to find a better solution.” 20-Sep-2018, <https://openparliament.ca/debates/2018/9/20/alistair-macgregor-2/>
- [4] Rohner, C. and T. Fullerton. 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, Southern Gulf Islands, 2020.
www.marineaffairs.ca
- [5] Rohner, C. Daily Fuel Consumption and Greenhouse Gas Emissions by Bulk Carriers Anchoring in the Southern Gulf Islands. Centre for Marine Affairs, Southern Gulf Islands, 2020.
- [6] Cowichan Tribes against anchorage of freighter vessels in local waters. Cowichan Valley Citizen, 19-Nov-2020.
<https://www.bclocalnews.com/news/cowichan-tribes-against-anchorage-of-freighter-vessels-in-local-waters/>
- [7] BC Declaration on the Rights of Indigenous Peoples Act.
<https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/19044>
- [8] Government of Canada: Implementing the United Nations Declaration on the Rights of Indigenous Peoples in Canada.
<https://www.justice.gc.ca/eng/declaration/index.html>
- [9] BC Treaty Commission. <http://www.bctreaty.ca>
- [10] Islands Trust Calls on Ottawa to Reduce and Ultimately Eliminate Freighter Anchorages.
http://www.islandstrust.bc.ca/media/346491/2018-10-it_anchorage-statement_final.pdf
- [11] No Freighter Anchorages: BC’s Southern Gulf Islands face a serious environmental threat.
<https://nofreighteranchorages.ca/>
- [12] BC NDP will address Freighter Anchorages if re-elected. NDP Press release, 17-Oct-2020.
https://mailchi.mp/bcndp/a-john-horgan-government-will-demand-immediate-action-on-freighter-anchorage-say-bc-ndp-candidates?utm_campaign=NewsletterOctober182020
- [13] Islands Trust Council. National Marine Conservation Area Reserve Advocacy.
<http://www.islandstrust.bc.ca/trust-council/advocacy/marine-environment/national-marine-conservation-area-reserve-advocacy/>
- [14] Parks Canada. What we heard: National marine conservation areas policy and regulations (July 2020).
<https://www.pc.gc.ca/en/amnc-nmca/consultation/entendu-heard>
- [15] Fisheries and Oceans Canada, Pacific Region (2013). Evaluation of proposed ecologically and biologically significant areas in marine waters of British Columbia. DFO Science Advisory Report 2012/075.
<https://waves-vagues.dfo-mpo.gc.ca/Library/348081.pdf>
- [16] BC Islands Trust Act.
https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/96239_01

- [17] Fisheries and Oceans Canada: Reaching Canada's marine conservation targets.
<https://www.dfo-mpo.gc.ca/oceans/conservation/plan/index-eng.html>
- [18] Port of Vancouver: Mission, vision and values.
<https://www.portvancouver.com/about-us/vision-mission/>
- [19] Quorum Corporation. Annual Reports. <http://grainmonitor.ca/>
- [20] Robert Lewis-Manning: Ships at anchor: Not so hidden lessons from railway blockades. Vancouver Sun, 26-Feb-2020.
<https://vancouversun.com/opinion/robert-lewis-manning-ships-at-anchor-not-so-hidden-lessons-from-railway-blockades>
- [21] Paul Manly, MP: Marine Transportation. House of Commons, Adjournment Proceedings, 19-Nov-2020.
<https://openparliament.ca/debates/2020/11/19/paul-manly-2/>
- [22] Australian Transport Safety Bureau (2008). Recommendation MR20080018, issued to: Newcastle Port Corporation. 23-May-2008.
<http://www.atsb.gov.au/publications/recommendations/2008/MR20080018.aspx>
- [23] Australian Transport Safety Bureau (2008). Recommendation MR20080019, issued to: Port Waratah Coal Services. 23-May-2008.
<http://www.atsb.gov.au/publications/recommendations/2008/MR20080019.aspx>
- [24] Chamber of Shipping BC. Anchorages in British Columbia FAQs.
<https://shippingmatters.ca/anchorages-in-british-columbia-faqs/>
- [25] Port of Newcastle: Vessel Arrival System Rules (2019).
<https://www.portauthoritynsw.com.au/media/3723/vessel-arrival-system-rules.pdf>