

Our File No. 2020-03-01

December 7, 2021

Mr. Jerry De Marco Commissioner of the Environment and Sustainable Development Office of the Auditor General of Canada 240 Sparks Street Ottawa, ON K1A 0CG

VIA EMAIL: petitions@oag-bvg.gc.ca

Dear Commissioner De Marco:

RE: PROTECTING HERONS AND OTHER BIRDS FROM OVERHEAD ELECTRICAL TRANSMISSION LINES AT THE ROBERTS BANK SUPERPORT NEAR DELTA, BC

On behalf of the BC Great Blue Heron Society, we hereby request that you investigate the lethal impacts of transmission lines on birds in the globally important bird habitat at the Roberts Bank Superport. We specifically request that you report on the failure of:

- Vancouver Fraser Port Authority (which governs the Superport); and
- Transport Canada (which owns and controls the Authority)

to protect the birds by ensuring that the transmission lines are moved underground.¹ Over the



¹ Note that the federal body centrally involved in this request is Vancouver Fraser Port Authority, which is effectively owned by the Crown through Transport Canada. See Port of Vancouver, "Canada Port Authorities governance," (2021), online: Port of Vancouver <<u>https://www.portvancouver.com/about-us/faq/canada_port-authority-governance-and-over</u> sight/> [https://perma.cc/G7WL-SJN8]. Moreover, the Minister of Transport issued the Letters Patent for the Port Autho rity. Certificate of Amalgamation of Port Authorities, PC 2007-1885, online: <<u>https://www.portvancouver.com/wp-conte</u> nt/uploads/2015/07/2008-Letters-Patent.pdf> [https://perma.cc/67YF-RVNX]. These letters outline "Canada Port Authority's management; and, set out the lands and waters under Canada Port Authority Management": Transport Canada, "Backgrounder on Canada's Port System," (17 October 2019), online: Transport Canada <<u>https://tc.canada.ca/e</u> n/marine/backgrounder canada-s-port-system> [https://perma.cc/EH9R-88FU]. Note that the Vancouver Fraser Port Authority is directly accountable to the federal Minister of Transport. The Authority has stated: "Like all Canada Port Authorities, the Vancouver Fraser Port Authority is accountable to the federal Minister of Transport..." [Vancouver Fraser Port Authority, "Submission in response to Transport Canada's Ports Modernization Review" (3 December 2018) at p.2]. The VFPA must submit a 5-year business plan to the Minister of Transport with any information the Minister may require (e.g., the Minister could require specific information regarding the management of risks to birds from overheard wires). <<u>https://www.portvancouver.com/wp-content/uploads/2015/07/2008-Letters-Patent.pdf</u>> at p. 10, art 4.25. The Minister of Transport can control how the VFPA conducts itself by issuing and amending letters patent that

years, this failure has led to the documented deaths of many thousands of birds.² These wholly *unnecessary* deaths contribute incrementally to the catastrophic decline in coastal bird populations caused by general environmental deterioration. Therefore, we ask that you investigate and report, pursuant to your authority under the following provisions of the *Auditor General Act:*

- Section 21.1, which endows the Commissioner with the statutory purpose of monitoring and reporting on the progress of designated government entities (including Transport Canada) towards sustainable development;³ and
- Section 23, which authorizes the Commissioner to monitor and report concerning matters that should be brought to the attention of Parliament in relation to environmental and other aspects of sustainable development, including federal compliance with the Federal Sustainable Development Strategy.⁴

Commissioner's report...

[&]quot;...specify the extent of the activities the port authority may undertake."<<u>https://tc.canada.ca/sites/default/files/migrat</u> ed/vancouverfraserportauthority.pdf>. The Minister of Transport and Governor in Council appoint 8 of the 11 Directors on the board of the VFPA - *Certificate of amalgamation of port authorities,* PC 2007-1885 (6 December 2007) C Gaz I, Vol 141 No 51, at p 6, art 4.6.

² See section 1.3 below for a discussion of the numerous bird deaths.

³ Auditor General Act, RSC 1985, c A-17, s.21.1 states:

Purpose – 21.1 In addition to carrying out the functions referred to in subsection 23(3), the purpose of the Commissioner is to provide sustainable development monitoring and reporting on the progress of designated entities towards sustainable development, which is a continually evolving concept based on the integration of social, economic and environmental concerns, and which may be achieved by, among other things, (a) the integration of the environment and the economy; (b) protecting the health of Canadians; (c) protecting ecosystems; (d) meeting international obligations; (e) promoting equity; (f) an integrated approach to planning and making decisions that takes into account the environmental and natural resource costs of different economic options and the economic costs of different environmental and natural resource options; (g) preventing pollution; and (h) respect for nature and the needs of future generations...

⁴ Auditor General Act, RSC 1985, c A-17, s.23 states:

Duty to monitor 23(1) The Commissioner shall make any examinations and inquiries that the Commissioner considers necessary in order to monitor (a) the extent to which designated entities have contributed to meeting the targets set out in the Federal Sustainable Development Strategy and have met the objectives, and implemented the plans, set out in their own sustainable development strategies laid before the Houses of Parliament under section 11 or 12 of the *Federal Sustainable* Development Act... <<u>https://laws-lois.justice.gc.c a/eng/acts/F-8.6/</u>>.

²³⁽²⁾ The Commissioner shall, on behalf of the Auditor General, report annually to Parliament concerning anything that the Commissioner considers should be brought to the attention of Parliament in relation to environmental and other aspects of sustainable development, including **(a)** the extent to which designated entities have contributed to meeting the targets set out in the Federal Sustainable Development Strategy and have met the objectives, and implemented the plans, set out in their own sustainable development strategies laid before the Houses of Parliament under section 11 or 12 of the *Federal Sustainable Development* Act; <<u>http</u> <u>s://laws-lois.justice.gc.ca/eng/acts/F-8.6/</u>>.

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Great blue heron carcass found below the Roberts Bank transmission lines. (Photo courtesy of Richard Swanston.)

INTRODUCTION

As documented below, British Columbia and global bird populations are in a catastrophic crisis.⁵ It is time for the federal government to take steps to reduce the *unnecessary* killing of birds that collide with overhead transmission lines at the internationally renowned bird habitat surrounding the Roberts Bank Superport near Delta, BC.

The Superport is located at the centre of one of the most important bird habitats on earth.⁶ "The Fraser River estuary is one of the most important ecosystems for overwintering and migrating birds in Canada, supporting large proportions of numerous species' continental or global populations."⁷ It "provides critical wintering grounds for the highest number of waterfowl and

⁵ See section 1.1 below for data that supports this strong statement.

⁶ See section 1.2 below.

⁷ Port Metro Vancouver, "Roberts Bank Terminal 2 Project Environmental Impact Statement," (2015) at 15-2, online: *Government of Canada* <<u>https://iaac-aeic.gc.ca/050/documents/p80054/101365E.pdf</u>>; Also see Birdlife International, "Boundary Bay – Roberts Bank – Sturgeon Bank (Fraser River Estuary," online: *IBC Canada* <<u>https://www.ibacanada.com</u> /mobile/site.jsp?siteID=BC017>.

shorebirds found anywhere in Canada."⁸ This estuary is home to several species listed under the *Species at Risk Act.*⁹

However, as birds make use of the estuary's UNESCO-recognized globally important wetlands, the nearby overhead transmission lines along the Roberts Bank causeway kill numerous important local and migratory birds. This has long been recognized as a serious problem. As early as 1976, the Vancouver Fraser Port Authority (VFPA) assembled an Environmental Review Panel, which recommended that the VFPA take measures to reduce the potential for bird mortality from overhead wires and stanchions.¹⁰ Yet the Roberts Bank overhead transmission lines continue to kill birds.

⁸ British Columbia, "Roberts Bank Wildlife Management Area," online: *Government of British Columbia* <<u>https://www2.g</u> ov.bc.ca/gov/content/environment/plants-animals-ecosystems/wildlife/wildlife-habitats/conservation-lands/wma/wma <u>s-list/roberts-bank</u>>.

⁹ Species at Risk Act, SC 2002, c 29, online: Justice Laws <<u>https://laws.justice.gc.ca/eng/acts/S-15.3/FullText.html</u>> [Accessed 23 March 2021]. Some notable bird species listed include the Barn Swallow (*Hirundo rustica*) – listed as Threatened and the peregrine falcon (*Falco peregrinus*) and red-necked phalarope (*Phalaropus lobatus*) are listed as Special Concern in Schedule 1 of SARA and may move into the categories of extirpated, endangered, or threatened with lack of protective action. Both the peregrine falcon and the red-necked phalarope were found to have some of the highest mortality-to-species-abundance ratios in Roberts Bank. See: Hemmera Envirochem Inc, "Roberts Bank Terminal 2 Technical Data Report Coastal Birds Effects of Overhead Transmission Lines and Vehicular Traffic on Birds" (December 2014) Prepared for Port Metro Vancouver, at p.ii , online (pdf): <<u>https://www.robertsbankterminal2.com/wpcontent/uploads/RBT2-Effects-of-Overhead-Transmission-Lines-and-Vehicular-Traffic-on-Birds-TDR.pdf</u>> [https://perma.cc/Q7M3-QAR7].

¹⁰ "The Panel considers the potential mortality of birds due to collision with wires and stanchions to be a concern and concludes that this can be mitigated." - Federal Environmental Assessment Review Office (Government of Canada), "Report of the Environmental Assessment Panel: Roberts Bank Port= Expansion," (1979) at 25, online (pdf): <<u>http://publi</u> cations.gc.ca/collections/collection_2018/acee-ceaa/En106-169-1979-eng.pdf> [Accessed 23 March 2021].

This issue was brought to the fore in 1995, when a scientific study documented that an estimated 710 birds were killed by these wires annually,¹¹ with the author claiming in retrospect that the toll may be closer to 1,000 birds per year.¹² As a result, when another environmental review panel was assembled to review a proposed new Agricultural Products Handling Facility at Pod 3 of Roberts Bank,¹³ the environmental review panel issued the following pertinent recommendation:

The panel recommends that the Vancouver Port Corporation, BC Hydro and appropriate provincial and federal government agencies **develop and implement a strategy and phase out overhead powerlines on the Roberts Bank causeway by the year 2002.**¹⁴

Although that particular Agricultural Products Handling Facility project was abandoned, the Port Authority proceeded with the expansion of Pod 3 of the Roberts Bank terminal in 1999 to develop a container facility – but they neglected to bury the transmission lines.¹⁵

Rather than burying the lines, BC Hydro installed cheaper bird diverters – which have proven ineffective, as documented in a 2014 study commissioned by the Port Authority.¹⁶ Yet, the VFPA continues to resist undergrounding the overhead transmission lines.¹⁷ Relevant to section 21.1 of the *Auditor General Act* which relates to sustainable development monitoring, ¹⁸ the VFPA's refusal to take steps necessary to have BC Hydro bury the transmission lines contradicts Transport

¹¹ "This model gave an estimate of 710 carcasses deposited through the year, with Dunlin (30%), Western Sandpipers (10%), American Wigeon (9%), Least Sandpiper (7%), and Mallard (5%) the most common species." - Alan E. Burger and Alice L.E.V. Cassidy, "Impacts of overhead transmission wires on birds at the Roberts Bank Superport in 1994-1995," (October 1995) at pp. ii-iii, online (pdf): *Roberts Bank Terminal 2* <<u>https://www.robertsbankterminal2.com/wp-content/uploads/Impacts-of-overhead-transmission-wires-on-birds-at-Roberts-Bank-in-1994-1995.pdf</u>> [https://perma.cc/RB67-369L].

¹² Alan E. Burger, the ornithologist who conducted the original 1995 study, has suggested that annual wire kills may be closer to 1,000 deaths per year. Email from Alan E. Burger to Gillian Anderson (15 March 2021) Subject: Re: Second Study as PDF.

¹³ C.J. Connaghan *et al*, "Proposed Agricultural Products Handling Facility: Report of the Project Environmental Review Panel," (21 October 1996) at e-page 5, online (pdf): *Roberts Bank Terminal* 2 <<u>https://www.robertsbankterminal2.com/</u> <u>wp-content/uploads/Proposed-Agricultural-Products-Handling-Facility-Report-1996.pdf</u>> [https://perma.cc/NAA7-8WXB].

¹⁴ C.J. Connaghan *et al*, "Proposed Agricultural Products Handling Facility: Report of the Project Environmental Review Panel," (21 October 1996) at 31, online (pdf): *Roberts Bank Terminal 2* <<u>https://www.robertsbankterminal2.com/wp-con</u> <u>tent/uploads/Proposed-Agricultural-Products-Handling-Facility-Report-1996.pdf</u>> [https://perma.cc/NAA7-8WXB]; emphasis added.

¹⁵ Hemmera Envirochem Inc, "History of Development at Roberts Bank - An Overview" (November 2004) Prepared for Vancouver Port Authority, at 16 (e-page 31), online (pdf): <<u>https://www.portvancouver.com/wp-content/uploads/2015/</u> <u>03/EA_App_AppendixA_Dec-04.pdf</u>> [https://perma.cc/L36Y-NQ85].

¹⁶ Hemmera Envirochem Inc, "Roberts Bank Terminal 2 Technical Data Report Coastal Birds Effects of Overhead Transmission Lines and Vehicular Traffic on Birds" (December 2014) Prepared for Port Metro Vancouver, at 4, 50, online (pdf): <<u>https://www.robertsbankterminal2.com/wp-content/uploads/RBT2-Effects-of-Overhead-Transmission-Lines-and-Vehicular-Traffic-on-Birds-TDR.pdf</u>> [https://perma.cc/Q7M3-QAR7].

¹⁷ See section 1.4 below.

¹⁸ Auditor General Act, RSC 1985, c A-17, s 21(c).

Canada's Sustainable Development Strategy commitment to manage programs in a manner that "promote[s]...environmentally responsible transportation."¹⁹

Therefore, we urge you to conduct an examination into the environmental impacts of these transmission lines and consider the urgent need to move these lines underground in order to protect vital bird populations, including migratory and threatened bird species.

The argument for the need to bury the overhead transmission lines at Roberts Bank will proceed as follows:

- 1. Collisions with the overhead transmission lines are contributing to a decline in the bird populations in one of the world's most significant bird habitats;
- 2. The transmission lines at Roberts Bank, as part of the cumulative effects of the Roberts Bank Superport on migratory bird mortality, are inconsistent with the Federal Sustainable Development Strategy;²⁰
- 3. The VFPA's failure to ensure that transmission lines are moved underground is inconsistent with the purpose of the *Migratory Birds Convention Act*;²¹
- 4. The presence of the overhead transmission lines at Roberts Bank is contrary to the Government of Canada's management plan for the great blue heron²² and British Columbia's recovery plan for the barn owl;²³ and
- 5. The VFPA's failure to ensure that BC Hydro move the transmission lines underground may contribute to a contravention of section 32(1) of the *Species at Risk Act*.²⁴

¹⁹ Government of Canada, "Transport Canada," (12 May 2020), online: <<u>https://tc.canada.ca/en</u>> [https://perma.cc/FD3 6-AWTA].

²⁰ Environment and Climate Change Canada (Government of Canada), "Achieving a Sustainable Future: A Federal Sustainable Development Strategy for Canada 2019 to 2022," (2019) at 78, online (pdf): *Federal Sustainable Development Strategy for Canada* <<u>https://fsds-sfdd.ca/downloads/FSDS_2019-2022.pdf</u>> [https://perma.cc/KP3M-6SDM].

²¹ Migratory Birds Convention Act, 1994, SC 1994, c 22, s 4, online: Justice Laws <<u>https://laws-lois.justice.gc.ca/eng/acts/</u> <u>m-7.01/FullText.html</u>> [Accessed 24 March 2021].

²² Environment Canada, "Management Plan for the Great Blue Heron *fannini* subspecies (*Ardea herodias fannini*) in Canada," (2016) at ii, online (pdf): *Species at Risk Act Registry* <<u>https://www.registrelep-sararegistry.gc.ca/virtual_sara/fi</u> les/plans/mp_great_blue_heron_fannini_e_proposed.pdf> [https://perma.cc/CM4V-9LTV].

²³ BC Ministry of Environment, "Recovery Plan for the Barn Owl (*Tyto alba*) in British Columbia," (March 2014) at iv, online (pdf): <<u>http://a100.gov.bc.ca/pub/eirs/finishDownloadDocument.do?subdocumentId=9701</u>> [Accessed 24 March 2021].

²⁴ Species at Risk Act, SC 2002, c 29, s 32(1), online: Justice Laws <<u>https://laws.justice.gc.ca/eng/acts/S-15.3/FullText.htm</u> [> [Accessed 23 March 2021].

1. BIRD COLLISIONS WITH ROBERTS BANK TRANSMISSION LINES CONTRIBUTE INCREMENTALLY TO A DEVASTATING DECLINE IN GLOBAL AND BC BIRD POPULATIONS

1.1 There has been a drastic decline in bird populations over the last 50 years

Global bird populations are in crisis. Between 1950 and 2010 the global population of seabirds plummeted by an alarming 70%.²⁵ In Canada, since 1970, our population of shorebirds has decreased by 40% and our population of grassland birds has declined by 60%.²⁶ There has also been a steep decline in British Columbia's coastal waterbird population over the past twenty years: the Gull population has declined by nearly 50% and the Western Grebe population has dropped by a staggering 90%.²⁷ Since 1970, we have also seen a 70-80% loss in the barn swallow population, which is now listed as threatened under the *Species at Risk Act* (SARA).²⁸ Note that Barn Swallows are the second most abundant native songbird species in the Roberts Bank area where the overhead transmission lines are located.²⁹

²⁵ Paleczny *et al*, "Population Trend of the World's Monitored Seabirds, 1950-2010" (2010) 10:6 *PLoS ONE* 1 at 1, online (pdf): *PLOS* <<u>https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0129342</u>> [https://perma.cc/89SS-K2GQ].

²⁶ Environment and Climate Change Canada, "Population Status of Canada's Migratory Birds: Canadian Environmental Sustainability Indicators" (2019) at 6, online (pdf): *Government of Canada* <<u>https://www.canada.ca/content/dam/eccc/d</u> ocuments/pdf/cesindicators/population-status-canada-migratory-birds/2019/Status-Canada-migratory-birds.pdf> [https ://perma.cc/BLV4-HVWL].

²⁷ Marc Montgomery, "Sharp Decline in Seabird population in British Columbia," *Radio Canada International* (2 March 2015) at paras 1, 8, online: *Radio Canada International* <<u>https://www.rcinet.ca/en/2015/03/02/sharp-decline-in-seabird-population-in-british-columbia/</u>> [https://perma.cc/A2CN-TP7N].

²⁸ Ivan Semeniuk, "Report paints precise picture of global bird decline," *The Globe and Mail* (20 June 2013), online: <<u>http</u> <u>s://www.theglobeandmail.com/news/national/report-paints-precise-picture-of-global-bird-decline/article12698987/</u>> [https://perma.cc/BTV6-XRFF]. Environment and Climate Change Canada, "Annex 1: Environment and Climate Change Canada's Response to the Review Panel's Information Request ECCC IR-09 and ECCC IR-10 for the Roberts Bank Terminal 2 Project," Annex to Letter from Jeff Corkum to Jocelyne Beaudet (12 February 2018) at 9 (Re: Environment and Climate Change Canada's Response to the

Review Panel's Information Request ECCC IR-09 and ECCC IR-10 for the Roberts Bank Terminal 2 Project), online (pdf): <<u>h</u> ttps://iaac-aeic.gc.ca/050/documents/p80054/121632E.pdf> [https://perma.cc/5FQY-MNGV].

²⁹ Hemmera Envirochem Inc, "Roberts Bank Terminal 2 Technical Data Report Coastal Birds Effects of Overhead Transmission

Lines and Vehicular Traffic on Birds" (December 2014) Prepared for Port Metro Vancouver, at 30, online (pdf): <<u>https://</u>

We have increasingly recognized the gravity of losing birds since Rachel Carson published *Silent Spring.*³⁰ We now know that healthy bird populations are essential to ecosystem function and that they are key indicators of environmental health.³¹ For example, birds play a key role in moving nutrients through the ecosystem.³² They also help to mitigate the negative effects of habitat destruction by encouraging the growth of beneficial flora and fauna.³³ Thriving bird populations also make invaluable contributions to society and the economy generally.³⁴ They make a critical contribution to agriculture and forestry by controlling damaging insects.³⁵ They also keep the ecosystem in balance by pollinating plants, dispersing seeds, and facilitating pest control.³⁶ Further, the traditional harvest of certain types of migratory birds is central to the culture of many Indigenous peoples in Canada, for whom these birds also represent an important food source.³⁷ Birds are also important elements of Canadian culture and identity – exemplified by the common loon on our one-dollar coin, the "loonie."³⁸

Healthy bird populations also stimulate the local economy through birding and backyard bird feeding. Annually, Canadians have a history of spending an estimated \$1.3 billion per year on wildlife viewing,³⁹ and over 400,000 visitors from across Canada and the US travel to British

[https://perma.cc/PJ5N-VCC5].

www.robertsbankterminal2.com/wp-content/uploads/RBT2-Effects-of-Overhead-Transmission-Lines-and-Vehicular-<u>Traffic-on-Birds-TDR.pdf</u>> [https://perma.cc/Q7M3-QAR7].

³⁰ Rachel Carson, *Silent Spring*, (New York: First Mariner Books, 2002).

³¹ Ecojustice, "Legal Backgrounder: Migratory Birds Convention Act (S.C. 1994, c. 22)" (May 2012) at 1, online (pdf): <<u>http</u> <u>s://www.ecojustice.ca/wp-content/uploads/2015/03/MAY-2012_FINAL_MBCA-backgrounder.pdf</u>>

³² Christopher J. Whelan, Çağan Hakkı Şekercioğlu, and Daniel G. Wenny, "Why birds matter: from economic ornithology to ecosystem services," (2015) 156 *J Ornithol* S227 at S228 (SpringerLink).

³³ Gary Stiles, "Ecological and Evolutionary Implications of Bird pollination" (1978) 18 Amer Zool 715 at 715 (JSTOR); Also see Robert J. Marquis & Christopher J. Whelan, "Insectivorous Birds Increase Growth of White Oak through Consumption of Leaf-Chewing Insects" (1994) 75:7 *Ecology* 2007-2008.

³⁴ See, for example, Christopher J. Whelan, Çağan Hakkı Şekercioğlu, and Daniel G. Wenny, "Why birds matter: from economic ornithology to ecosystem services," (2015) 156 *J Ornithol* S227 at S228 (SpringerLink).

³⁵ Christopher J. Whelan, Çağan Hakkı Şekercioğlu, and Daniel G. Wenny, "Why birds matter: from economic ornithology to ecosystem services," (2015) 156 *J Ornithol* S227 at S228 (SpringerLink).

³⁶ Ecojustice, "Legal Backgrounder: Migratory Birds Convention Act (S.C. 1994, c. 22)" (May 2012) at 1, online (pdf): <<u>http</u> <u>s://www.ecojustice.ca/wp-content/uploads/2015/03/MAY-2012_FINAL_MBCA-backgrounder.pdf</u>> [https://perma.cc/PJ 5N-VCC5].

³⁷ Luc Juillet, Aboriginal Rights and the Migratory Birds Convention: Domestic Institutions, Non-State Actors and International Environmental Governance (PhD Dissertation, Carleton University School of Public Administration, 2000) at 107, online (pdf): <<u>http://www.collectionscanada.gc.ca/obj/s4/f2/dsk3/ftp04/NQ58255.pdf</u>> [https://perma.cc/W978-MGKA]; Nature Canada, "Indigenous Peoples of the Boreal Forest: Connected to the Land, Birds, and Water" (3 April 2012), online: Nature Canada

<<u>http://naturecanada.ca/news/indigenous-peoples-of-the-boreal-forest-connected-to-the-land-birds-and-water/</u>>[http s://perma.cc/VSV4-PJR6].

³⁸ Renee Filippone, "From suspicion to pride: Canada's beloved loonie turns 30", *CBC News* (30 June 2017) online: <<u>http:</u>//www.cbc.ca/news/business/loonie-canada-dollar-30-years-1.4184788> [https://perma.cc/TY2W-39L9].

³⁹ Environment Canada, *The Importance of Nature to Canadians: Survey Highlights*, by Scott M. Meis *et al*, Catalogue No En 47-31 1/1999E (Ottawa: Environment Canada, 1999) at 51, online (pdf):

<<u>https://d1ied5g1xfgpx8.cloudfront.net/pdfs/18641.pdf</u>>[https://perma.cc/G3CK-PSYB]

Columbia to view birds.⁴⁰ Unfortunately, our ability to reap all of these benefits is hampered by the sharp decrease in global and local bird populations.

1.2 Roberts Bank is a critical habitat for migratory birds

Millions of birds migrate from Alaska to South America along the Pacific Americas Flyway every year, with many stopping for much needed rest and food at the Fraser River estuary.⁴¹ Roberts Bank is adjacent to designated wildlife management areas at the centre of the Fraser River estuary,⁴² and the area is an important nesting, feeding, resting, staging, and wintering habitat for these migratory birds.⁴³ As the Port of Metro Vancouver *Roberts Bank Terminal 2 Environmental Impact Statement* recognized:

[the] Fraser River estuary is one of the most important ecosystems for overwintering and migrating birds in Canada, supporting large proportions of numerous species' continental or global populations...⁴⁴ [It] provides critical wintering grounds for the highest number of waterfowl and shorebirds found anywhere in Canada.⁴⁵

⁴⁰ Misty MacDuffee, A.R. Rosenberger, R. Dixon, A. Jarvela Rosenberger, C.H. Fox, and P.C. Paquet (Raincoast Conservation

Foundation), "Our Threatened Coast: Nature and Shared Benefits in the Salish Sea," (2016) at 66, online (pdf): <<u>https://www.raincoast.org/wp-content/uploads/2016/01/Raincoast_Our_threatened_coast_Jan28_web.pdf</u>> [https://perma.cc/9VSS-H4VG].

⁴¹ BirdLife International, "Pacific Americas Flyway" (last accessed 29 April 2021) at 1, 3, online (pdf): *BirdLife International* <<u>http://datazone.birdlife.org/userfiles/file/sowb/flyways/1_Pacific_Americas_Factsheet.pdf</u>> [https://perma.cc/FG78-EDCX].

⁴² Golder Associates Ltd, "Wespac Tilbury Marine Jetty Project Wildlife Baseline Study" (20 March 2019) Prepared for Westpac Midstream LLC, at 8, online (pdf):

<<u>https://projects.eao.gov.bc.ca/api/document/5cb902457d80a20024c2d47a/fetch/4.8-1_Wildlife_Baseline_Study.pdf</u>> [https://perma.cc/F24Z-DD2F].

⁴³ Golder Associates Ltd, "Wespac Tilbury Marine Jetty Project Wildlife Baseline Study" (20 March 2019) Prepared for Westpac Midstream LLC, at 8, online (pdf):

<<u>https://projects.eao.gov.bc.ca/api/document/5cb902457d80a20024c2d47a/fetch/4.8-1 Wildlife Baseline Study.pdf</u>> [https://perma.cc/F24Z-DD2F].

⁴⁴ Port Metro Vancouver, "Roberts Bank Terminal 2 Project Environmental Impact Statement," (2015) at 15-2, online: *Government of Canada* <<u>https://iaac-aeic.gc.ca/050/documents/p80054/101365E.pdf</u>>; Also see Birdlife International, "Boundary Bay – Roberts Bank – Sturgeon Bank (Fraser River Estuary)," online: *IBC Canada* <<u>https://www.ibacanada.co</u> <u>m/mobile/site.jsp?siteID=BC017</u>>.

⁴⁵ British Columbia, "Roberts Bank Wildlife Management Area," online: *Government of British Columbia* <u>https://www2.g</u> <u>ov.bc.ca/gov/content/environment/plants-animals-ecosystems/wildlife/wildlife-habitats/conservation-lands/wma/wma</u> <u>s-list/roberts-bank</u>>.

Almost the entire global population of Western sandpipers pass through Roberts Bank and the surrounding area.⁴⁶ The Fraser River estuary is home to several species listed under the *Species at Risk Act*,⁴⁷ including barn owls, barn swallows, and great blue herons.⁴⁸ Other important bird species also rely on this critical habitat, including "waterfowl, sandpiper, wading birds, aquatic birds and gulls."⁴⁹

The Roberts Bank Wildlife Management Area (WMA) begins at the south arm of the Fraser River and extends southeast, almost reaching the Tsawwassen ferry terminal.⁵⁰ The WMA "supports 8% of the entire North American dunlin . . . population, 4% of the North American trumpeter swan . . . population, and 3% of the North American blackbellied plover . . . population[.]"⁵¹

This area (including "Burns Bog, Sturgeon Bank, South Arm Marshes, Boundary Bay, Serpentine, and the former 'Alaksen' Ramsar Site")⁵² has recently been designated a wetland of international importance (i.e. designated as a Ramsar site under the *Convention on Wetlands*).⁵³ However,

⁴⁶ Golder Associates Ltd, "Wespac Tilbury Marine Jetty Project Wildlife Baseline Study" (20 March 2019) Prepared for Westpac Midstream LLC, at 15, online (pdf): <<u>https://projects.eao.gov.bc.ca/api/document/5cb902457d80a20024c2d47</u> <u>a/fetch/4.8-1 Wildlife Baseline Study.pdf</u>> [https://perma.cc/F24Z-DD2F]. Also see: Maina Handmaker, "Not all Mudflats are Equal: Roberts Bank, Biofilm, and the Fate of the Western Sandpiper" (29 March 2018), online: < <u>https://whsrn.org/not-all-mudflats-are-equal-roberts-bank-biofilm-and-the-fate-of-the-western-sandpiper/</u>>.
⁴⁷ Species at Risk Act, SC 2002, c 29, online: Justice Laws <<u>https://laws.justice.gc.ca/eng/acts/S-15.3/FullText.html</u>>

[[]Accessed 23 March 2021].

 ⁴⁸ Environment and Climate Change Canada, "Annex 1: Environment and Climate Change Canada's Response to the Review Panel's Information Request ECCC IR-09 and ECCC IR-10 for the Roberts Bank Terminal 2 Project," Annex to Letter from Jeff Corkum to Jocelyne Beaudet (12 February 2018) at 9 (Re: Environment and Climate Change Canada's Response to the Review Panel's Information Request ECCC IR-09 and ECCC IR-10 for the Roberts Bank Terminal 2 Project), online (pdf): <<u>https://iaac-aeic.gc.ca/050/documents/p80054/121632E.pdf</u>> [https://perma.cc/5FQY-MNGV].
 ⁴⁹ Golder Associates Ltd, "Wespac Tilbury Marine Jetty Project Wildlife Baseline Study" (20 March 2019) Prepared for Westpac Midstream LLC, at 8, online (pdf): <<u>https://projects.eao.gov.bc.ca/api/document/5cb902457d80a20024c2d47a /fetch/4.8-1 Wildlife Baseline Study.pdf</u>>. Also see: Maina Handmaker, "Not all Mudflats are Equal: Roberts Bank, Biofilm, and the Fate of the Westpac Tilbury Marine Jetty Project Wildlife Baseline Study" (20 March 2019) Prepared for equal-roberts-bank-biofilm-and-the-fate-of-the-western-sandpiper/>. [https://perma.cc/F24Z-DD2F].
 ⁵⁰ Golder Associates Ltd, "Wespac Tilbury Marine Jetty Project Wildlife Baseline Study" (20 March 2019) Prepared for Westpac Midstream LLC, at 8, online (pdf): <<u>https://projects.eao.gov.bc.ca/api/document/5cb902457d80a20024c2d47a /fetch/4.8-1 Wildlife Baseline Study.pdf</u>> [https://perma.cc/F24Z-DD2F].

[&]quot;Roberts Bank Wildlife Management Area," online: *Government of British Columbia* <<u>https://www2.gov.bc.ca/gov/conte</u> nt/environment/plants-animals-ecosystems/wildlife/wildlife-habitats/conservation-lands/wma/wmas-list/robertsbank>.

⁵¹ Golder Associates Ltd, "Wespac Tilbury Marine Jetty Project Wildlife Baseline Study" (20 March 2019) Prepared for Westpac Midstream LLC, at 8, online (pdf): <<u>https://projects.eao.gov.bc.ca/api/document/5cb902457d80a20024c2d47a</u> /<u>fetch/4.8-1 Wildlife Baseline Study.pdf</u>> [https://perma.cc/F24Z-DD2F]; Also see the map at British Columbia, "Roberts Bank Wildlife Management Area," online: *Government of British Columbia*<<u>https://www2.gov.bc.ca/gov/conte</u> nt/environment/plants-animals-ecosystems/wildlife/wildlife-habitats/conservation-lands/wma/wmas-list/robertsbank>.

⁵² Ramsar Sites Information Service, "Fraser River Delta," online: *Ramsar Sites Information Service* <<u>https://rsis.ramsar.or</u> <u>g/ris/243</u>>.

⁵³ Ramsar Sites Information Service, "Fraser River Delta," online: *Ramsar Sites Information Service* <<u>https://rsis.ramsar.or</u> <u>g/ris/243</u>>. The Convention on Wetlands is an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. When a country accedes to the Convention, it must designate at least one wetland site as a Wetland of International Importance. Canada currently has 37 sites designated as Wetlands of International Importance (Ramsar Sites): Ramsar, "Home," online:

Roberts Bank – home to the Roberts Bank Superport – has been strategically overlooked and did not receive this designation, which many attribute to the rapidly encroaching economic development of the area.⁵⁴

Yet, activities at the Roberts Bank Superport have a substantial cumulative negative impact on bird populations.⁵⁵ Negative impacts resulting from development include habitat disturbance; effects of artificial light; increased noise from vehicle and vessel traffic; and collisions with vehicles, transmission lines, and other structures.⁵⁶ For example, artificial light from the Port attracts birds to hazards, interferes with their navigation abilities, and negatively impact migration patterns.⁵⁷ In addition, the increased noise from development can result in avoidance of the affected area, fright-flight responses, physical damage of tissues, and death.⁵⁸

Ramsar <<u>https://ramsar.org/</u>>. *Convention on Wetlands of International Importance especially as Waterfowl Habitat*, 2 February 1971, Can TS 1981/9 (21 December 1975) and Protocol amending the Convention on Wetlands of International Importance Especially as Waterfowl Habitat, 2 February 1971, Can TS, (3 December 1982), online: Ramsar <<u>https://rams</u> <u>ar.org/sites/default/files/documents/library/current_convention_text_e.pdf</u>>.

⁵⁴ Anne Murray, "Anne Murray: Ramsar designation for Fraser delta better late than never," *The Georgia Straight* (2 November 2012), online: *The Georgia Straight* <<u>https://www.straight.com/news/anne-murray-ramsar-designation-fraser-delta-better-late-never</u>>.

⁵⁵ Port Metro Vancouver, "Roberts Bank Terminal 2 Project Environmental Impact Statement," (2015) at 15-26 to 15-128, online: *Government of Canada* <<u>https://iaac-aeic.gc.ca/050/documents/p80054/101365E.pdf</u>>.

⁵⁶ Port Metro Vancouver, "Roberts Bank Terminal 2 Project Environmental Impact Statement," (2015) at 15-69 to 15-104, online: *Government of Canada* <<u>https://iaac-aeic.gc.ca/050/documents/p80054/101344E.pdf</u>>.

⁵⁷ Port Metro Vancouver, "Roberts Bank Terminal 2 Project Environmental Impact Statement," (2015) at 15-103, 15-98, 15-99, 15-80, 15-75, 15-93, 15-91, online: *Government of Canada* <<u>https://iaac-aeic.gc.ca/050/documents/p80054/1013</u> 65E.pdf>.

⁵⁸ Port Metro Vancouver, "Roberts Bank Terminal 2 Project Environmental Impact Statement," (2015) 15-69, 15-70, 15-79, 15-80, 15-87, 15-90, 15-91, 15-93, 15-94, online: *Government of Canada* <<u>https://iaac-aeic.gc.ca/050/documents/p8</u> 0054/101365E.pdf>.

1.3 The overhead transmission lines at Roberts Bank have killed thousands of birds

Collision with electrical power distribution and creation is the largest industrial source of bird mortality in Canada, resulting in approximately 18 million bird deaths per year.⁵⁹ Upon impact with wires, the birds die or suffer external and internal injuries, some of which are caused by the collision itself or from electrocution.⁶⁰ Often, these injuries do not kill the birds immediately, leading to delayed, painful, and inhumane deaths.⁶¹

The report on "Effects of Overhead Transmission Lines and Vehicular Traffic on Birds" for Roberts Bank Terminal 2 reported that "[m]ortality is often greatest where power lines cross migratory paths, occur adjacent to major avian use areas, or bisect feeding, nesting, or roosting sites."⁶² The transmission lines at Roberts Bank meet all of these criteria, particularly as the Roberts Bank causeway "bisect[s] foraging and roosting sites of waded birds."⁶³ Thus, electrocutions and collisions with the overhead transmission lines at Roberts Bank kill large numbers of birds, including numerous migratory birds and species at risk. Species killed have included "cormorants, herons, shorebirds, raptors[,] . . . [and] Caspian Terns[.]"⁶⁴

Over a period of one year from 1994-1995, scientists conducted a study that estimated these transmission lines killed approximately 710 birds.⁶⁵ A study from 2014 demonstrates that the

⁵⁹ Anna M. Calvert, "A Synthesis of Human-related Avian Mortality in Canada" (2013) 8:2 Avian Conservation and Ecology 11under the heading "Total mortality estimates," online: Avian Conservation & Ecology <<u>https://www.ace-eco.org/vol8/i</u>ss2/art11/>.

⁶⁰ Sébastien Rioux, Jean-Pierre L. Savard, & Alyssa A. Gerick, "Avian Mortalities Due to Transmission Line Collisions: A Review of Current Estimates and Field Methods with an Emphasis on Applications to the Canadian Electric Network" (2013) 8(2) *Avian Conservation and Ecology* 7 under heading "Introduction," online: *Avian Conservation & Ecology* <<u>https</u>://www.ace-eco.org/vol8/iss2/art7/>.

⁶¹ Sébastien Rioux, Jean-Pierre L. Savard, & Alyssa A. Gerick, "Avian Mortalities Due to Transmission Line Collisions: A Review of Current Estimates and Field Methods with an Emphasis on Applications to the Canadian Electric Network" (2013) 8(2) *Avian Conservation and Ecology* 7 under heading "Introduction," online: *Avian Conservation & Ecology* <<u>https</u>://www.ace-eco.org/vol8/iss2/art7/>.

⁶² Hemmera Envirochem Inc., "Roberts Bank Terminal 2 Technical Data Report: Coastal Waterbirds Shorebird Abundance and Foraging Use in the Fraser River Estuary during Migration," (December 2014) at 3, online: <<u>https://www.robertsban kterminal2.com/wp-content/uploads/RBT2-Effects-of-Overhead-Transmission-Lines-and-Vehicular-Traffic-on-Birds-TDR.</u> <u>pdf</u>> [https://perma.cc/R2QY-EZ6B].

⁶³ Hemmera Envirochem Inc., "Roberts Bank Terminal 2 Technical Data Report: Coastal Waterbirds Shorebird Abundance and Foraging Use in the Fraser River Estuary during Migration," (December 2014) at 3, online: <<u>https://www.robertsbankterminal2.com/wp-content/uploads/RBT2-Effects-of-Overhead-Transmission-Lines-and-Vehicular-Traffic-on-Birds-TDR.pdf</u>> [https://perma.cc/R2QY-EZ6B].

⁶⁴ Alan E. Burger and Alice L.E.V. Cassidy, "Impacts of overhead transmission wires on birds at the Roberts Bank Superport in 1994--1995," (October 1995) at 40, online: *Roberts Bank Terminal 2* <<u>https://www.robertsbankterminal2.c</u> <u>om/wp-content/uploads/Impacts-of-overhead-transmission-wires-on-birds-at-Roberts-Bank-in-1994-1995.pdf</u>> [https://perma.cc/RB67-369L].

⁶⁵ Alan E. Burger and Alice L.E.V. Cassidy, "Impacts of overhead transmission wires on birds at the Roberts Bank Superport in 1994-1995," (October 1995) at 62, online: *Roberts Bank Terminal 2* <<u>https://www.robertsbankterminal2.co</u> <u>m/wp-content/uploads/Impacts-of-overhead-transmission-wires-on-birds-at-Roberts-Bank-in-1994-1995.pdf</u>> [https://perma.cc/RB67-369L].

collisions with transmission lines and vehicles continue to kill an estimated 708 birds per year – with transmission line collisions constituting the bulk (62%) of the mortalities.⁶⁶ Moreover, a more recent communication with ornithologist Alan E. Burger, who did the initial 1995 report, states that the number may be closer to 1,000 birds killed by the transmission lines per year.⁶⁷ Clearly, far too many thousands of birds have been killed by the transmission lines over the last 25 years.

1.4 The Port Authority has resisted burying the transmission lines for **30** years

As early as 1979, the Environmental Assessment Panel for the Roberts Bank Port Expansion released its report recommending against the National Harbours Board's proposal to increase the size of the bulk loading facilities at Roberts Bank.⁶⁸ This early environmental assessment report "concluded that significant environmental damage and risk would result from the proposal."⁶⁹ At that time, the Panel recommended "that the expansion as proposed not be permitted to proceed," noting:

The Roberts Bank Port is in the estuary of the Fraser River which is one of the most ecologically important estuaries in North America. The Panel considers that the area merits special attention and stringent conservation measures.⁷⁰

Significantly, the Assessment Panel also recommended that that any further development "[t]ake measures to reduce the potential for bird mortality from overhead wires and stanchions."⁷¹ Since

⁶⁶ Hemmera Envirochem Inc., "Roberts Bank Terminal 2 Technical Data Report: Coastal Waterbirds Shorebird Abundance and Foraging Use in the Fraser River Estuary during Migration," (December 2014) at 50, online: <<u>https://www.robertsba</u> <u>nkterminal2.com/wp-content/uploads/RBT2-Effects-of-Overhead-Transmission-Lines-and-Vehicular-Traffic-on-Birds-TDR</u> <u>.pdf</u>> [https://perma.cc/R2QY-EZ6B]. and see Port Metro Vancouver, "Roberts Bank Terminal 2 Project Environmental Impact Statement," (2015) at 15-74 & 15-75, online: *Government of Canada* <<u>https://iaac-aeic.gc.ca/050/documents/p8</u> <u>0054/101365E.pdf</u>>

⁶⁷ Alan E. Burger has suggested that annual wire kills may be closer to 1,000 deaths per year. Email from Alan E. Burger to Gillian Anderson (15 March 2021) Subject: Re: Second Study as PDF.

⁶⁸ Federal Environmental Assessment Review Office (Government of Canada), "Report of the Environmental Assessment Panel: Roberts Bank Port Expansion," (1979), online: <<u>http://publications.gc.ca/collections/collection_2018/acee-</u> <u>ceea/En106-169-1979-eng.pdf</u>> [Accessed 23 March 2021].

⁶⁹ Federal Environmental Assessment Review Office (Government of Canada), "Report of the Environmental Assessment Panel: Roberts Bank Port Expansion," (1979) at e-page 4, online:

<<u>http://publications.gc.ca/collections/collection_2018/acee-ceaa/En106-169-1979-eng.pdf</u>> [Accessed 23 March 2021]. ⁷⁰ Federal Environmental Assessment Review Office (Government of Canada), "Report of the Environmental Assessment Panel: Roberts Bank Port Expansion," (1979) at e-page 4, online:

<<u>http://publications.gc.ca/collections/collection_2018/acee-ceaa/En106-169-1979-eng.pdf</u>> [Accessed 23 March 2021]. ⁷¹ Federal Environmental Assessment Review Office (Government of Canada), "Report of the Environmental Assessment Panel: Roberts Bank Port Expansion," (1979) at 53, online: <<u>http://publications.gc.ca/collections/collection_2018/acee-ceaa/En106-169-1979-eng.pdf</u>> [Accessed 23 March 2021].

that 1979 Assessment, the Superport has vastly expanded. But measures to protect birds have lagged.

To address the recommendations from the Assessment Panel report, the Roberts Bank Environmental Review Committee (RBERC) was established in 1980.⁷² As part of this mandate, the RBERC and BC Hydro commissioned a study to investigate the impact of the transmission line on bird mortality.⁷³ As noted above, this 1994-95 study found that an estimated 710 birds were killed due to collisions with the overhead transmission lines at Roberts Bank over the course of one year.⁷⁴

In response to this report, BC Hydro took a half-measure: they installed spiral vibration dampers that were thought to act as bird diverters, and the VFPA committed to studying the effectiveness of these dampers.⁷⁵ In 2005, interim results of a study conducted by Envirowest were released, but this study was either never completed or is not publicly available after a *Freedom of Information Act* request.⁷⁶ When asked about the effect of the transmission lines on bird mortality, the VFPA has repeatedly stated that they were conducting ongoing studies on the effectiveness of the bird diverters, as well as inquiries into appropriate mitigation measures and opportunities to reduce bird collisions with the transmission lines.⁷⁷ They also stated that this information would be released as part of the Roberts Bank Terminal 2 (RBT2) Environmental Impact Statement.⁷⁸

The results from a study on the impact of the transmission lines/vehicular traffic on bird mortality were finally published in 2014, showing that bird collisions with wires remain a major problem.

⁷² Federal Environmental Assessment Review Office (Government of Canada), "Report of the Environmental Assessment Panel: Roberts Bank Port Expansion," (1979) at 65, online: <<u>http://publications.gc.ca/collections/collection_2018/acee-ceaa/En106-169-1979-eng.pdf</u>> [Accessed 23 March 2021].

⁷³ Alan E. Burger and Alice L.E.V. Cassidy, "Impacts of overhead transmission wires on birds at the Roberts Bank Superport in 1994--1995," (October 1995) at 77, online: *Roberts Bank Terminal 2* <<u>https://www.robertsbankterminal2.c</u> om/wp-content/uploads/Impacts-of-overhead-transmission-wires-on-birds-at-Roberts-Bank-in-1994-1995.pdf> [https://perma.cc/RB67-369L].

⁷⁴ Alan E. Burger and Alice L.E.V. Cassidy, "Impacts of overhead transmission wires on birds at the Roberts Bank Superport in 1994-1995," (October 1995) at ii and 62 online (pdf): *Roberts Bank Terminal 2* <<u>https://www.robertsbankte</u> <u>rminal2.com/wp-content/uploads/Impacts-of-overhead-transmission-wires-on-birds-at-Roberts-Bank-in-1994-1995.pdf</u>> [https://perma.cc/RB67-369L].

⁷⁵ Hemmera Envirochem Inc., "Roberts Bank Terminal 2 Technical Data Report: Coastal Birds Effects of Overhead Transmission Lines and Vehicular Traffic on Birds," (December 2014) at 45, online: *Roberts Bank Terminal 2* <<u>https://ww</u> w.robertsbankterminal2.com/wp-content/uploads/RBT2-Shorebird-Abundance-and-Foraging-Use-in-the-Fraser-River-Estuary-during-Migration-TDR.pdf> [https://perma.cc/R2QY-EZ6B].

⁷⁶ ECL Envirowest Consultants Ltd, "Impacts of Overhead Transmission Wires on Birds at the Roberts Bank Causeway (Interim Report)" (27 January 2005), online: <<u>https://www.robertsbankterminal2.com/wp-content/uploads/Impacts-of-Overhead-Transmission-Wires-on-Birds-at-the-Roberts-Bank-Causeway-Interim-Report.pdf</u>> [https://perma.cc/VJH7-4F5G].

⁷⁷ See Appendix A: Deltaport Terminal, Road and Rail Improvement Project Port Metro Vancouver responses to public comments received during review of the CEAA Screening-Level Environmental Assessment Report (April 11 – May 25, 2012) at 1; See Appendix B: Port Metro Vancouver Roberts Bank Terminal 2 Project Consultation Regarding Preliminary Environmental Mitigation Concepts Small Group Meeting 2 (9 September, 2014) at 20.

⁷⁸ See Appendix B: Port Metro Vancouver Roberts Bank Terminal 2 Project Consultation Regarding Preliminary Environmental Mitigation Concepts Small Group Meeting 2 (9 September, 2014) at 20.

The new study identified 708 avian mortalities were estimated to occur on an annual basis, from transmission lines and vehicular traffic – even after installation of the touted dampers/diverters.⁷⁹

This clearly demonstrates that the bird diverters have not been effective at reducing the number of bird collisions with the Roberts Bank transmission lines, and certainly nowhere near the 80% reduction reported by BC Hydro.⁸⁰

Despite previous VFPA promises,⁸¹ there was no discussion of bird collisions with power lines and no suggestions for mitigating this effect in the Roberts Bank Terminal 2 Environmental Impact Statement.⁸²

Despite the VFPA's position that transmission line deaths are not as significant as other threats to birds, the hundreds of transmission line bird deaths per year are not trivial. Given the drastic decline in global and local bird populations, any number of *unnecessary* bird deaths is too many.

Furthermore, in *Podolsky v Cadillac Fairview Corp* [*Podolsky*], the same argument was made and rejected by the court.⁸³ Justice Green clearly stated that the death of hundreds of birds per year is not trivial:

To be clear, I do not view the death and injury of hundreds if not thousands of migrating birds as a matter of merely "trivial or minimal" import[.]⁸⁴

Therefore, The VFPA should follow through on their commitment to mitigate the effects of overhead transmission lines on bird mortality – and, this time, ensure it is done effectively by moving the transmission lines underground.

⁷⁹ Hemmera Envirochem Inc., "Roberts Bank Terminal 2 Technical Data Report: Coastal Waterbirds Shorebird Abundance and Foraging Use in the Fraser River Estuary during Migration," (December 2014) at 50, online: <<u>https://www.robertsba</u> <u>nkterminal2.com/wp-content/uploads/RBT2-Effects-of-Overhead-Transmission-Lines-and-Vehicular-Traffic-on-Birds-TDR</u> .pdf> [https://perma.cc/R2QY-EZ6B].

⁸⁰ See Appendix A: Deltaport Terminal, Road and Rail Improvement Project Port Metro Vancouver responses to public comments received during review of the CEAA Screening-Level Environmental Assessment Report (April 11 – May 25, 2012) at 1.

⁸¹ See Appendix B: Port Metro Vancouver Roberts Bank Terminal 2 Project Consultation Regarding Preliminary Environmental Mitigation Concepts Small Group Meeting 2 (9 September, 2014) at 20.

⁸² Port Metro Vancouver, "Roberts Bank Terminal 2 Project Environmental Impact Statement," (2015) at 15-75, online: *Government of Canada* <<u>https://iaac-aeic.gc.ca/050/documents/p80054/101365E.pdf</u>>.

⁸³ *Podolsky v Cadillac Fairview Corp*, 2013 ONCJ 65 at para 69, online: <<u>https://www.canlii.org/en/on/oncj/doc/2013/20</u> <u>13oncj65/2013oncj65.html?resultIndex=1</u>>.

⁸⁴ *Podolsky v Cadillac Fairview Corp*, 2013 ONCJ 65 at para 69, online: <<u>https://www.canlii.org/en/on/oncj/doc/2013/20</u> 13oncj65/2013oncj65.html?resultIndex=1>.

2.THE TRANSMISSION LINES AT ROBERTS BANK ARE INCONSISTENT WITH THE FEDERAL SUSTAINABLE DEVELOPMENT STRATEGY AND TRANSPORT CANADA'S SUSTAINABLE DEVELOPMENT STRATEGY

The VFPA, under Transport Canada, is acting in a way that is inconsistent with the *Federal Sustainable Development Strategy*⁸⁵ by refusing to take steps to ensure burial of the overhead transmission lines at Roberts Bank. Relevant to sections 21.1 and 23 of the *Auditor General Act*,⁸⁶ the effects of the Roberts Bank Superport on the migratory bird population hinder progress towards achieving the following healthy wildlife population goal that was set out in the 2019 to 2022 *Federal Sustainable Development Strategy* (FSDS):

By 2025, increase the percentage of migratory bird species whose populations sizes fall within an acceptable range—neither too low nor too high—from a baseline of 57% in 2013.⁸⁷

Furthermore, the *unnecessary* killing of birds is inconsistent with the FSDS goal of protecting migratory bird populations.⁸⁸ The FSDS commits the Government of Canada to "implement, innovate and modernize the regulatory and policy framework and tools to protect species at risk and migratory birds."⁸⁹ However this commitment is not reflected in the way that Transport Canada has allowed the VFPA to ignore the mass death of migratory birds on these transmission lines.

Transport Canada's Sustainable Development Strategy has committed to "promote a safe, secure,

⁸⁵ Environment and Climate Change Canada (Government of Canada), "Achieving a Sustainable Future: A Federal Sustainable Development Strategy for Canada 2019 to 2022," (2019) at 78, online (pdf): *Federal Sustainable Development Strategy for Canada* <<u>https://fsds-sfdd.ca/downloads/FSDS_2019-2022.pdf</u>> [https://perma.cc/KP3M-6SDM].

⁸⁶ Auditor General Act, RSC 1985, c A-17, sections 21.1 and 23.

⁸⁷ Environment and Climate Change Canada (Government of Canada), "Achieving a Sustainable Future: A Federal Sustainable Development Strategy for Canada 2019 to 2022," (2019) at 76, online (pdf): *Federal Sustainable Development Strategy for Canada* <<u>https://fsds-sfdd.ca/downloads/FSDS_2019-2022.pdf</u>> [https://perma.cc/KP3M-6SDM].

⁸⁸ Environment and Climate Change Canada (Government of Canada), "Achieving a Sustainable Future: A Federal Sustainable Development Strategy for Canada 2019 to 2022," (2019) at 78, online (pdf): *Federal Sustainable Development Strategy for Canada* <<u>https://fsds-sfdd.ca/downloads/FSDS_2019-2022.pdf</u>> [https://perma.cc/KP3M-6SDM].

⁸⁹ Environment and Climate Change Canada (Government of Canada), "Achieving a Sustainable Future: A Federal Sustainable Development Strategy for Canada 2019 to 2022," (2019) at 78, online (pdf): *Federal Sustainable Development Strategy for Canada* <<u>https://fsds-sfdd.ca/downloads/FSDS_2019-2022.pdf</u>> [https://perma.cc/KP3M-6SDM].

efficient, and environmentally responsible transportation system in Canada."⁹⁰ However, while Transport Canada provides plentiful, readily available guidance, training, procedures, and publications about managing migratory birds as a 'wildlife hazard,'⁹¹ there appears to be no readily available information about how Transport Canada – and its child, the VFPA – plans to address risks *to* birds from overhead transmission line.

We submit that Transport Canada should take more responsibility for achieving the Federal Sustainable Development Strategy goal of increasing migratory bird populations. To achieve the Transport Canada Sustainable Development Strategy goal of promoting an "environmentally responsible transportation system," Transport Canada must take steps to protect the globally significant bird populations at Roberts Bank. Transport Canada should ensure that VFPA acts to remove the lethal transmission lines at the Superport.

⁹⁰ Transport Canada, "2020 to 2023 Departmental Sustainable Development Strategy," (September 2020) at p. 2, online (pdf): *Transport Canada* <<u>https://tc.canada.ca/sites/default/files/2020-09/tc-2020-to-2023-dsds-en.pdf</u>> [https://perma.cc/8E9L-JQD4].

⁹¹ Transport Canada, "Airport Wildlife Management Training Requirements" (Last modified 21 January 2020), online: <<u>https://tc.canada.ca/en/aviation/publications/airport-wildlife-management-bulletins-tp-8240/airport-wildlife-management-bulletin-tp-8240-no-38</u>>.; Transport Canada, "Sharing the Skies: Guide to the Management of Wildlife Hazards - TP 13549" (22 September 2020), online: <<u>https://tc.canada.ca/en/aviation/publications/sharing-skies-guide-management-wildlife-hazards-tp-13549</u>>.

3. THE VFPA'S FAILURE TO ENSURE THAT THE LINES ARE MOVED UNDERGROUND IS INCONSISTENT WITH THE PURPOSE OF THE *MIGRATORY BIRDS CONVENTION ACT*

The purpose of the *Migratory Birds Convention Act* [MBCA] is "to implement the [Migratory Birds] Convention by protecting and conserving migratory birds — as populations and individual birds — and their nests."⁹² Although the current act may or may not fail to protect birds from "incidental take"⁹³, the killing of hundreds of migratory birds every year is clearly inconsistent with the *purpose* of the MBCA. For example, the annual estimated mortality numbers from around the transmission lines included 58 western sandpipers, 135 ducks, and 79 gulls,⁹⁴ all of which are protected under the MBCA.⁹⁵ The western sandpiper kills are particularly concerning since their population has declined by approximately 30% over the past ten years.⁹⁶ The Roberts Bank area is particularly critical to western sandpipers. As ornithologist Maina Handmaker has stated,

More than 95% of all Western Sandpipers stop at Roberts Bank to rest and refuel before the last leg of their long journey — a non-stop 1,000km flight. In all likelihood, every member of the entire species will use the Fraser River Estuary during some phase of their life.⁹⁷

Given that Roberts Bank supports approximately 600,000 Western sandpipers during a typical

⁹² Migratory Birds Convention Act, 1994, SC 1994, c 22, s 4, online: Justice Laws <<u>https://laws-lois.justice.gc.ca/eng/acts/</u> m-7.01/FullText.html> [Accessed 24 March 2021].

⁹³ See the comments of lawyer Janice Walton in Columbia Mountains Institute of Applied Ecology, *Avoiding Incidental Take of Bird Nests: From Law to Practice*, April 26-27, 2017 Forum proceedings, online: <<u>http://cmiae.org/wp-content/uploads/Proceedings-Incidental-Take-2017 Final.pdf</u>> and "Modernizing the Migratory Birds Convention Act: Three Necessary Reforms to Better Protect Migratory Birds" by Savannah Carr-Wilson, on file with the Environmental Law Centre.

⁹⁴ Alan E. Burger and Alice L.E.V. Cassidy, "Impacts of overhead transmission wires on birds at the Roberts Bank Superport in 1994-1995," (October 1995) at 45, online: *Roberts Bank Terminal 2* <<u>https://www.robertsbankterminal2.co</u> <u>m/wp-content/uploads/Impacts-of-overhead-transmission-wires-on-birds-at-Roberts-Bank-in-1994-1995.pdf</u>> [https://p erma.cc/RB67-369L].

⁹⁵ Government of Canada, "Birds Protected Under the Migratory Birds Convention Act," (17 July 2017), online: *Canada* <<u>https://www.canada.ca/en/environment-climate-change/services/migratory-birds-legal-protection/convention-act.html</u>>.

⁹⁶ BirdLife International, "Species factsheet: *Calidris mauri*" (2020) *Red List for birds*, online: *BirdLife International* <<u>http://datazone.birdlife.org/species/factsheet/22693376</u>>.

⁹⁷ Maina Handmaker, "Not all Mudflats are Equal: Roberts Bank, Biofilm, and the Fate of the Western Sandpiper" (29 March 2018), online: < <u>https://whsrn.org/not-all-mudflats-are-equal-roberts-bank-biofilm-and-the-fate-of-the-western-sandpiper/</u>>.

northward migration,⁹⁸ the Government of Canada has acknowledged: "Canada has a very high conservation responsibility for this species."⁹⁹

To uphold this responsibility to the western sandpiper,¹⁰⁰ honour Canada's commitment to the *Migratory Birds Convention*,¹⁰¹ and save the lives of hundreds of migratory birds each year, the VFPA must act swiftly to bury transmission lines at Roberts Bank.

⁹⁸ Port of Vancouver, "Western Sandpipers return to Roberts Bank this Spring" (1 June 2020), online: *Roberts Bank Terminal 2 Project* <<u>https://www.robertsbankterminal2.com/news-updates/western-sandpipers-return-to-roberts-bank-this-spring/</u>>.

 ⁹⁹ Government of Canada, "Western Sandpiper (*Calidris mauri*)" (2014) under heading "Summary," online:
 https://wildlife-species.canada.ca/bird-status/oiseau-bird-eng.aspx?sY=2014&sL=e&sM=a&sB=WESA.
 ¹⁰⁰ Government of Canada, "Western Sandpiper (*Calidris mauri*)" (2014) under heading "Summary," online:
 https://wildlife-species.canada.ca/bird-status/oiseau-bird-eng.aspx?sY=2014&sL=e&sM=a&sB=WESA.
 https://wildlife.species.canada.ca/bird-status/oiseau-bird-eng.aspx?sY=2014&sL=e&sM=a&sB=WESA.
 https://wildlife.species.canada.ca/bird-status/oiseau-bird-eng.aspx?sy=2014&sL=e&sM=a&sB=WESA.
 https://wildlife.species.canada.ca/bird-status/oiseau-bird-eng.aspx?sy=2014&sL=e&sM=a&sB=WESA.
 https://wildlife.species.canada.ca/bird-status/oiseau-bird-eng.aspx?sy=2014&sL=e&sM=a&sB=WESA.
 https://wildlife.species.canada.ca/bird-status/oiseau-bird-eng.aspx?sy=2014&sL=e&sM=a&sB=WESA.
 https://wildlife.species.canada.ca/bird-status/oiseau-bird-eng.aspx?sy=2014&sL=e&sM=a&sB=WESA.
 <a href="https://wildlife.species.canada.ca/bird-status/oiseau-bir

<<u>https://wildlife-species.canada.ca/bird-status/oiseau-bird-eng.aspx?sY=2014&sL=e&sM=a&sB=WESA</u>>. ¹⁰¹ Migratory Birds Convention Act, 1994, SC 1994, c 22, s 4, online: Justice Laws <<u>https://laws-</u>

lois.justice.gc.ca/eng/acts/m-7.01/FullText.html> [Accessed 24 March 2021].

4. THE PRESENCE OF OVERHEAD TRANSMISSION LINES AT ROBERTS BANK IS CONTRARY TO THE GOVERNMENT OF CANADA'S MANAGEMENT PLAN FOR THE GREAT BLUE HERON AND BRITISH COLUMBIA'S RECOVERY PLAN FOR THE BARN OWL

The western population of barn owl is designated as threatened by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).¹⁰² As a result, the BC Ministry of Environment published a recovery plan for the barn owl with the purpose of protecting or enhancing available habitat within the barn owl's range in BC.¹⁰³ The barn owl population is concentrated in the lower mainland of BC, and this species is at risk of vehicle collisions and collisions with power lines.¹⁰⁴ The Deltaport Third Berth Project Environmental Assessment Report specifically notes that VFPA studies have identified four barn owl kills that are attributed to these power lines.¹⁰⁵ Given that the breeding population is restricted to the Lower Mainland of BC and parts of the Fraser Valley, the recovery strategy has identified the priority of "limit[ing] further habitat loss, and . . . augment[ing] remaining habitat . . . to maintain existing levels of occupancy."¹⁰⁶ Failure to take steps to ensure burial of the Roberts Bank transmission lines – which have killed a number of barn owls – is contrary to the habitat commitments in the BC recovery plan for the barn owl.

The great blue heron is listed as a species of special concern under the *Species at Risk Act*, and Environment Canada published a great blue heron management plan in 2016.¹⁰⁷ The population of

¹⁰² Government of Canada, "Barn Owl *Tyto Alba*: COSEWIC Assessment and Status Report," (21 November 2011), online: *Government of Canada* <<u>https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry/cosewic-assessments-status-reports/barn-owl-2010.html</u>>.

¹⁰³ BC Ministry of Environment, "Recovery Plan for the Barn Owl (*Tyto alba*) in British Columbia," (March 2014) at iv, online (pdf): <<u>http://a100.gov.bc.ca/pub/eirs/finishDownloadDocument.do?subdocumentId=9701</u>> [Accessed 24 March 2021].

¹⁰⁴ Government of Canada, Deltaport Third Berth Project Environmental Assessment Report (2006), prepared for Vancouver Port Authority at 114 at s 7.3.3, online: <<u>https://www.projects.eao.gov.bc.ca/api/public/document/5886956</u> <u>3a4acd4014b81f235/download/Environmental%20Assessment%20Report.pdf</u>>.

¹⁰⁵ Government of Canada, Deltaport Third Berth Project Environmental Assessment Report (2006), prepared for Vancouver Port Authority at 114 at s 7.3.3, online: Projects Environmental Assessment Office <<u>https://www.projects.eao.</u> gov.bc.ca/api/public/document/58869563a4acd4014b81f235/download/Environmental%20Assessment%20Report.pdf

 ¹⁰⁶ British Columbia (Ministry of Environment), "Recovery Plan for the Barn Owl (*Tyto alba*) in British Columbia" (March 2014) at 18, online (pdf): <<u>http://a100.gov.bc.ca/pub/eirs/finishDownloadDocument.do?subdocumentId=9701</u> >.
 ¹⁰⁷ Environment Canada, "Management Plan for the Great Blue Heron *fannini* subspecies (*Ardea herodias fannini*) in Canada,"

^{(2016),} online (pdf): *Species at Risk Act Registry* <<u>https://www.registrelep-sararegistry.gc.ca/virtual_sara/files/plans/mp</u> great_blue_heron_fannini_e_proposed.pdf> [https://perma.cc/CM4V-9LTV].

the Pacific great blue heron in the Strait of Georgia is declining by an average of 2.3% per year,¹⁰⁸ and the largest Canadian colony is located in Tsawwassen,¹⁰⁹ which is adjacent to Roberts Bank. Herons are considered particularly susceptible to power line collisions due to their lack of flight agility.¹¹⁰ Indeed, Canada's *Management Plan for the Great Blue Heron* has identified the Roberts Bank causeway transmission lines as a continuing and pervasive threat to this population.¹¹¹ Approximately seven great blue herons are killed annually at Roberts Bank by collisions with transmission lines and vehicles.¹¹² This is inconsistent with the federal main objective for the great blue heron, which is

To ensure that all four recognized Pacific Great Blue Heron Conservation Regions in coastal British Columbia have **stable or locally increasing** numbers of Pacific Great Blue Herons.¹¹³

Therefore, burying the transmission lines at Roberts Bank would be a prudent and necessary step towards restoring this important great blue heron habitat and decreasing the overall mortality of this species.

¹⁰⁸ Environment Canada, "Management Plan for the Great Blue Heron *fannini* subspecies (*Ardea herodias fannini*) in Canada," (2016) at 6, online (pdf): *Species at Risk Act Registry* <<u>https://www.registrelep-sararegistry.gc.ca/virtual_sara/fi</u> les/plans/mp_great_blue_heron_fannini_e_proposed.pdf> [https://perma.cc/CM4V-9LTV].

¹⁰⁹ Government of Canada, "Great Blue Heron fannini subspecies (Ardea herodias fannini): management plan 2020," (2020) at "IUCN – CMP Threat 4. Transportation and service corridors," online: <<u>https://www.canada.ca/en/environmen</u> <u>t-climate-change/services/species-risk-public-registry/management-plans/great-blue-heron-fannini-2020.html</u>>.

¹¹⁰ Environment Canada, "Management Plan for the Great Blue Heron *fannini* subspecies (*Ardea herodias fannini*) in Canada," (2016) at 13, online (pdf): *Species at Risk Act Registry* <<u>https://www.registrelep-sararegistry.gc.ca/virtual sara/</u> files/plans/mp_great_blue_heron_fannini_e_proposed.pdf> [https://perma.cc/CM4V-9LTV].

¹¹¹ Environment Canada, "Management Plan for the Great Blue Heron *fannini* subspecies (*Ardea herodias fannini*) in Canada," (2016) at 13, online (pdf): *Species at Risk Act Registry* <<u>https://www.registrelep-sararegistry.gc.ca/virtual sara/</u> files/plans/mp great blue heron fannini e proposed.pdf> [https://perma.cc/CM4V-9LTV].

¹¹² Hemmera Envirochem Inc., "Roberts Bank Terminal 2 Technical Data Report: Coastal Birds Effects of Overhead Transmission Lines and Vehicular Traffic on Birds," (December 2014) at 47, online: *Roberts Bank Terminal 2* <<u>https://www</u> <u>w.ceaa-acee.gc.ca/050/documents/p80054/121028E.pdf</u>> [https://perma.cc/R2QY-EZ6B]; This number was cited in the federal management plan for the great blue heron. See Environment Canada, "Management Plan for the Great Blue Heron *fannini* subspecies (*Ardea Herodias fannini*) in Canada," (2016) at 13, online (pdf): *Species at Risk Act Registry* <<u>htt</u> <u>ps://www.registrelep-sararegistry.gc.ca/virtual sara/files/plans/mp great blue heron fannini e proposed.pdf</u>> [https://perma.cc/CM4V-9LTV].

¹¹³ Environment Canada, "Management Plan for the Great Blue Heron *fannini* subspecies (*Ardea herodias fannini*) in Canada," (2016) at ii, online (pdf): *Species at Risk Act Registry* <<u>https://www.registrelep-sararegistry.gc.ca/virtual sara/fi</u> les/plans/mp_great_blue_heron_fannini_e_proposed.pdf> [https://perma.cc/CM4V-9LTV] [italicized in original].

5.FAILURE TO MOVE THE WIRES UNDERGROUND RISKS CONTRAVENTION OF THE SPECIES AT RISK ACT

The *Species at Risk Act* (SARA) is an important tool in Canada's strategy for the conservation and protection of biological diversity. The purposes of this Act are

to prevent wildlife species from being extirpated or becoming extinct, to provide for the recovery of wildlife species that are extirpated, endangered or threatened as a result of human activity and to manage species of special concern to prevent them from becoming endangered or threatened.¹¹⁴

BC Hydro (or arguably the VFPA itself) could be liable under section 97(1) of SARA if there is evidence that they contravened section 32(1) by allowing transmission lines to kill bird species listed as extirpated, endangered, or threatened.¹¹⁵ Section 32(1) prohibits the taking of endangered, threatened, or extirpated species:

32 (1) No person shall kill, harm, harass, capture or take an individual of a wildlife species that is listed as an extirpated species, an endangered species or a threatened species.¹¹⁶

Section 97(1) makes those who contravene section 32(1) liable of an offence:

97 (1) (a) Every person commits an offence who contravenes subsection 32(1) or (2), section 33, subsection 36(1), 58(1), 60(1) or 61(1) or section 91 or 92¹¹⁷

Key elements of a Section 32(1) offence are discussed below. ¹¹⁸

¹¹⁴ Species at Risk Act, SC 2002, c 29, s 6, online: Justice Laws <<u>https://laws.justice.gc.ca/eng/acts/S-15.3/FullText.html</u>> [Accessed 23 March 2021].

¹¹⁵ Species at Risk Act, SC 2002, c 29, s 97(1), 32(1), online: Justice Laws <<u>https://laws.justice.gc.ca/eng/acts/S-15.3/FullT</u> <u>ext.html</u>> [Accessed 23 March 2021].

¹¹⁶ Species at Risk Act, SC 2002, c 29, s 32(1), online: Justice Laws <<u>https://laws.justice.gc.ca/eng/acts/S-15.3/FullText.ht</u> <u>ml</u>> [Accessed 23 March 2021].

¹¹⁷ Species at Risk Act, SC 2002, c 29, s 97(1), online: Justice Laws <<u>https://laws.justice.gc.ca/eng/acts/S-15.3/FullText.ht</u> <u>ml</u>> [Accessed 23 March 2021].

¹¹⁸ It should be noted that S. 32(1) does not apply on provincial lands unless the affected species is aquatic or is listed under the *Migratory Birds Convention Act: "34 (1) With respect to individuals of a listed wildlife species that is not an aquatic species or a species of birds that are migratory birds protected by the Migratory Birds Convention Act, 1994, sections 32 and 33 do not apply in lands in a province that are not federal lands unless an order is made under subsection*

5.1 Are power line collisions included under the terms "kill, harm, harass, capture, or take"?

The *actus reus* of the s. 32(1) offence involves killing, harming, harassing, capturing, or taking a species at risk.¹¹⁹ These terms are not defined in SARA or in the *Interpretation Act*. However, the case of *Podolsky v Cadillac Fairview Corp* (*Podolsky*)¹²⁰ is instructive in understanding whether power line collisions would be captured within the meaning of section 32(1).¹²¹ In *Podolsky*, the court there considered whether owners of skyscrapers with reflective surfaces that led to bird collisions could be prosecuted under section 32(1) of SARA.¹²² The Court held that the "inadvertent or accidental deaths of scheduled species fall properly within the physical definition of an offence under section 32(1) of SARA."¹²³ This interpretation is also consistent with American jurisprudence which defines 'take' as including incidental taking.¹²⁴

The lethal Roberts Bank transmission lines are clearly analogous to the lethal skyscrapers in *Podolsky* – and could arguably attract SARA liability for their owners and operators. Although the transmission lines are owned by BC Hydro, the VFPA has been actively vocal about their resistance to burying the power lines due to associated costs and logistics.

5.2 Are the transmission lines likely to kill birds which are considered "a wildlife species that is listed as an extirpated species, an endangered species or a threatened species"?

The next element of the offence is that the taking must be of a wildlife species that is listed as extirpated, endangered, or threated. The western population of barn swallows are listed as

⁽²⁾ to provide that they apply." Species at Risk Act, SC 2002, c 29, s 32(1), online: Justice Laws <<u>https://laws.justice.gc.ca/eng/acts/S-15.3/FullText.html</u>> [Accessed 23 March 2021].

¹¹⁹ Species at Risk Act, SC 2002, c 29, s 32(1), online: Justice Laws <<u>https://laws.justice.gc.ca/eng/acts/S-15.3/FullText.ht</u> <u>ml</u>> [Accessed 23 March 2021]. It should be noted that section 32(1) is a strict liability offence (as outlined in para 79 of *Podolsky*), and thus the prosecution must prove beyond a reasonable doubt that the defendants only committed the essential physical elements of the act – to find that they have committed an offence. There is no *mens rea* or criminal intent element that needs to be proven – an unintentional act can result in a contravention of s.32(1) of SARA.

¹²⁰ Podolsky v Cadillac Fairview Corp, 2013 ONCJ 65, online: <u>https://www.canlii.org/en/on/oncj/doc/2013/2013oncj65/2</u> 013oncj65.html?resultIndex=1, [Podolsky].

¹²¹ Podolsky v Cadillac Fairview Corp, 2013 ONCJ 65, online: <u>https://www.canlii.org/en/on/oncj/doc/2013/2013oncj65/2</u> 013oncj65.html?resultIndex=1.

¹²² Podolsky v Cadillac Fairview Corp, 2013 ONCJ 65, online: <<u>https://www.canlii.org/en/on/oncj/doc/2013/2013oncj65/</u> 2013oncj65.html?resultIndex=1>.

¹²³ Podolsky v Cadillac Fairview Corp, 2013 ONCJ 65 at para 85, online: <<u>https://www.canlii.org/en/on/oncj/doc/2013/20</u> 13oncj65/2013oncj65.html?resultIndex=1>.

¹²⁴ See, for example, *Babbitt v Sweet Home Chapter of Communities for Great Oregon*, 515 US 687 (1995).

threatened on Schedule 1 of SARA.¹²⁵ The Roberts Bank area provides important habitat for these species; they are the second most abundant native songbird species in the Roberts Bank area.¹²⁶ The barn swallow is at risk of colliding with these wires, as 29,343 barn swallow wire crossings were observed between May, 18 2012 and September 10, 2013.¹²⁷ These numbers indicate a high probability that the Roberts Bank transmission lines have and will continue to cause barn swallow mortality.

5.3 Does section 32(1) apply to the bird species listed above that are at risk of colliding with the transmission lines?

Section 32(1) applies on federal lands,¹²⁸ and it applies on provincial lands if the listed wildlife species is protected by the *Migratory Birds Convention Act* [MBCA].¹²⁹ Section 32(1) applies to the barn swallow because it is a migratory bird species that is protected under the MBCA.¹³⁰

¹³⁰ Species at Risk Act, SC 2002, c 29, s 34(1), online: Justice Laws <<u>https://laws.justice.gc.ca/eng/acts/S-</u>

¹²⁵ Government of Canada, "Barn Swallow (*Hirundo rustica*)," (2 February 2021), online: *SARA Registry* <<u>https://species-registry.canada.ca/index-en.html#/species/1147-790</u>>. Additionally, the peregrine falcon (*Falco peregrinus*) and rednecked phalarope (*Phalaropus lobatus*) are listed as Special Concern in Schedule 1 of SARA and may move into the categories of extirpated, endangered, or threatened with lack of protective action. Both the peregrine falcon and the red-necked phalarope were found to have some of the highest mortality-to-species-abundance ratios in Roberts Bank. See: Hemmera Envirochem Inc, "Roberts Bank Terminal 2 Technical Data Report Coastal Birds Effects of Overhead Transmission Lines and Vehicular Traffic on Birds" (December 2014) Prepared for Port Metro Vancouver, at p.ii , online (pdf): <<u>https://www.robertsbankterminal2.com/wp-content/uploads/RBT2-Effects-of-Overhead-Transmission-Lines-and</u> -<u>Vehicular-Traffic-on-Birds-TDR.pdf</u>> [https://perma.cc/Q7M3-QAR7].

¹²⁶ Hemmera Envirochem Inc, "Roberts Bank Terminal 2 Technical Data Report Coastal Birds Effects of Overhead Transmission Lines and Vehicular Traffic on Birds" (December 2014) Prepared for Port Metro Vancouver, at 30, online (p df): <<u>https://www.robertsbankterminal2.com/wp-content/uploads/RBT2-Effects-of-Overhead-Transmission-Lines-and-</u> Vehicular-Traffic-on-Birds-TDR.pdf> [https://perma.cc/Q7M3-QAR7].

¹²⁷ Hemmera Envirochem Inc, "Roberts Bank Terminal 2 Technical Data Report Coastal Birds Effects of Overhead Transmission Lines and Vehicular Traffic on Birds" (December 2014)Prepared forPort Metro Vancouver, at 21, online (pd f): <<u>https://www.robertsbankterminal2.com/wp-content/uploads/RBT2-Effects-of-Overhead-Transmission-Lines-and-Vehicular-Traffic-on-Birds-TDR.pdf</u>> [https://perma.cc/Q7M3-QAR7].

¹²⁸ Species at Risk Act, SC 2002, c 29, s 34(1), online: Justice Laws <<u>https://laws.justice.gc.ca/eng/acts/S-</u> 15.3/FullText.html> [Accessed 23 March 2021].

¹²⁹ *Migratory Birds Convention Act, 1994*, SC 1994, c 22, online: *Justice Laws* <<u>https://laws-lois.justice.gc.ca/eng/acts/m-</u> 7.01/FullText.html> [Accessed 24 March 2021].

<u>15.3/FullText.html</u>> [Accessed 23 March 2021]; *Migratory Birds Convention Act, 1994*, SC 1994, c 22, Schedule 2 s 2, online: *Justice Laws* <<u>https://laws-lois.justice.gc.ca/eng/acts/m-7.01/FullText.html</u>> [Accessed 24 March 2021]; Government of Canada, "Birds protected under the Migratory Birds Convention Act," online:*Government of Canada* <<u>https://www.canada.ca/en/environment-climate-change/services/migratory-birds-legal-protection/convention-act.html</u>>.

5.4 Could the defence of due diligence be invoked?

According to the principles of *R v Sault Ste Marie*¹³¹ and the precedent of *Podolsky*,¹³² the due diligence defence is available to avoid liability for the offence of contravening section 32(1) of SARA. In *Podolsky*, hundreds of birds were also killed annually due to collisions with buildings.¹³³ According to the court, the fact that hundreds of birds are injured and that these injuries are foreseeable "weighs heavily in the calculus of reasonable care."¹³⁴ The due diligence defence was successful in that case because the defendants had taken several mitigation measures within the three years leading up to the litigation.¹³⁵ Justice Melvyn Green opined that in this case "the defendants had committed themselves to moving forward on the bird strike problem"¹³⁶ by taking measures including implementing and maintaining a policy to address nocturnal light pollution, cooperating with a bird retrieval and rescue program, consulting with experts about the problem of avian collisions, and conducting test installations of bird deterrent treatments.¹³⁷ The Court also considered the cost of making the changes in its assessment.¹³⁸

However, it is an open question whether BC Hydro, the VFPA and others have made adequate efforts to mitigate the bird mortality caused by the transmission lines. They installed spiral vibration dampers in 1996,¹³⁹ which their own study notes to not be as effective as initially estimated.¹⁴⁰ An Environment Canada study into the effectiveness of these measures found them to be inadequate in 2010.¹⁴¹ It is not before us what other mitigating actions the VFPA, BC Hydro

¹³² Podolsky v Cadillac Fairview Corp, 2013 ONCJ 65 at para 72, online: CanLII <<u>https://www.canlii.org/en/on/oncj/doc/2</u> 013/2013oncj65/2013oncj65.html?autocompleteStr=podolsky%20v%20&autocompletePos=2>.

¹³¹ *R v Sault Ste Marie*, 1978 CanLII 11 (SCC),[1978] 2 SCR 1299, online: <<u>https://www.canlii.org/en/ca/scc/doc/1978/197</u> 8canlii11/1978canlii11.html?resultIndex=1>.

¹³³ Podolsky v Cadillac Fairview Corp, 2013 ONCJ 65 at paras 35 and 4, online: CanLII <<u>https://www.canlii.org/en/on/oncj</u>/doc/2013/2013oncj65/2013oncj65.html?autocompleteStr=podolsky%20v%20&autocompletePos=2>.

¹³⁴ *Podolsky v Cadillac Fairview Corp*, 2013 ONCJ 65 at para 94, online: *CanLII* <<u>https://www.canlii.org/en/on/oncj/doc/2</u> 013/2013oncj65/2013oncj65.html?autocompleteStr=podolsky%20v%20&autocompletePos=2>.

¹³⁵ Podolsky v Cadillac Fairview Corp, 2013 ONCJ 65 at para 95, online: CanLII <<u>https://www.canlii.org/en/on/oncj/doc/2</u> 013/2013oncj65/2013oncj65.html?autocompleteStr=podolsky%20v%20&autocompletePos=2>.

¹³⁶ *Podolsky* v Cadillac *Fairview Corp*, 2013 ONCJ 65 at para 89, online: *CanLII* <<u>https://www.canlii.org/en/on/oncj/doc/2</u> 013/2013oncj65/2013oncj65.html?autocompleteStr=podolsky%20v%20&autocompletePos=2>.

¹³⁷ *Podolsky v Cadillac Fairview Corp*, 2013 ONCJ 65 at paras 46, 92, online: *CanLII* <<u>https://www.canlii.org/en/on/oncj/d</u> oc/2013/2013oncj65/2013oncj65.html?autocompleteStr=podolsky%20v%20&autocompletePos=2>.

¹³⁸ Podolsky v Cadillac Fairview Corp, 2013 ONCJ 65 at para 91, online: CanLII <<u>https://www.canlii.org/en/on/oncj/doc/2</u> 013/2013oncj65/2013oncj65.html?autocompleteStr=podolsky%20v%20&autocompletePos=2>.

¹³⁹ Hemmera Envirochem Inc, "Roberts Bank Terminal 2 Technical Data Report Coastal Birds Effects of Overhead Transmission Lines and Vehicular Traffic on Birds" (December2014) Prepared for Port Metro Vancouver, at 4, online (pdf): <<u>https://www.robertsbankterminal2.com/wp-content/uploads/RBT2-Effects-of-Overhead-Transmission-Lines-and-Vehicular-Traffic-on-Birds-TDR.pdf</u>> [https://perma.cc/Q7M3-QAR7].

¹⁴⁰ Hemmera Envirochem Inc, "Roberts Bank Terminal 2 Technical Data Report Coastal Birds Effects of Overhead Transmission Lines and Vehicular Traffic on Birds" (December 2014) Prepared for Port Metro Vancouver, at 5, online (pdf): <<u>https://www.robertsbankterminal2.com/wp-content/uploads/RBT2-Effects-of-Overhead-Transmission-Lines-and-Vehicular-Traffic-on-Birds-TDR.pdf</u>> [https://perma.cc/Q7M3-QAR7].

¹⁴¹ The Corporation of Delta, "Council Report, Regular Meeting – Delta Terminal Project Update" (4 October 2012) at p.3, online: <<u>https://delta.civicweb.net/document/78785</u>>.

and others may have taken to demonstrate a reasonable commitment to "moving forward on the bird strike problem."¹⁴² However, installing a set of inadequate dampers may not fulfill the defence of due diligence. It is arguable that a contravention of s. 32(1) could be made out against a responsible party, if the transmission lines are not moved underground.

The possibility that federal bodies might be contributing to a breach of the *Species at Risk Act* adds to the urgency for you to act on this request.

¹⁴² *Podolsky v Cadillac Fairview Corp*, 2013 ONCJ 65 at para 89, online: *CanLII* <<u>https://www.canlii.org/en/on/oncj/doc/2</u> 013/2013oncj65/2013oncj65.html?autocompleteStr=podolsky%20v%20&autocompletePos=2>.

6.CONCLUSION

In light of the information above, we request an investigation into the impacts of the Overhead Transmission Lines on the Delta Causeway at Roberts Bank on bird mortality, and a report recommending that the transmission lines be relocated underground. The Commissioner has the authority to monitor and report on Transport Canada, and, therefore, the VFPA's progress towards sustainable development. The continuing operation of lethal overhead transmission lines is clearly hindering this progress.

The Vancouver Fraser Port Authority's failure to mitigate the extensive bird mortality caused by these transmission lines is in conflict with:

- Canada's commitment to protecting biodiversity and migratory birds;
- the Federal Sustainable Development Strategy;
- the Migratory Birds Convention Act;
- BC's recovery strategy for the barn owl; and
- Canada's management plan for the great blue heron.

It is also arguable that by failing to arrange with BC Hydro to bury these transmission lines, the Port Authority may be helping to perpetuate an offence of killing a threatened species, contrary to section 32(1) of the *Species at Risk Act*.

Therefore, the transmission lines should be buried underground, where they can no longer harm members of important bird species. We ask that you investigate and report on this matter, pursuant to sections 21.1 and 23 of the *Auditor General Act*.

Yours sincerely,

ENVIRONMENTAL LAW CENTRE

"Melissa Winterbottom"	"Christa Croos"
Melissa Winterbottom, Law	Christa Croos, Articled Student
Student	
"Ellen Campbell"	"Calvin Sandborn"
Ellen Campbell, Articled Student	Calvin Sandborn QC, Barrister and
	Solicitor



Number	Submitted by	Comment/Concern	Response
1	John Hutton	Concern that Canada imports too many goods and exports too many resources	Canada is a trading nation, and trade is one of the primary drivers of economic growth. One of the key benefits of international trade is in the jobs that it creates, locally, provincially and nationally. The location and nature of these jobs varies greatly, from logistics to manufacturing to agricultural – but all rely on the movement of goods in and out of the Pacific Gateway. Other benefits to Canadians include increased revenue to government, community amenities, and higher purchasing power.
2	John Hutton	Concern that port facilities do not pay municipal taxes, even though they place a heavy burden on roads and the environment	All terminal facilities within Port Metro Vancouver pay municipal property taxes. The terminals at Roberts Banks are one of Delta's largest taxpayers, contributing more than \$4 million in 2012 tax revenue to all levels of government. Port Metro Vancouver's mandatory Truck Licensing System (TLS) is designed to regulate truck movements, driver behaviour and to reduce truck emissions. In terms of mitigation specific to Delta, the South Fraser Perimeter Road – which will be complete by the end of 2013 – will divert container trucks leaving Deltaport, improving traffic flow, community connections, and quality of life for residents and local businesses by restricting container trucks from using Highway 17, north of Deltaport Way, and Highway 10, west of Highway 91.
3	Margaret Meggy	Request that PMV require ships to plug in while calling on Deltaport	We are endeavoring to make shore power available to container vessels that call on marine terminals at Port Metro Vancouver. Many of the Port Metro Vancouver container terminals already have design allowances that anticipate the installation of shore power. For example, the Deltaport Third Berth was specifically designed with the eventual installation of a shore power system in mind. Subject to adoption of a recognized international standard for hardware, Port Metro Vancouver anticipates the installation of shore power for container vessels in the coming years.
4	Roger Emsley	Request that PMV bury the overhead power lines on the causeway	At this time, the reduced seismic survivability and recoverability of buried power lines, and the increased cost and complexity of maintenance present significant challenges to burying these power lines. A study undertaken in 2004 suggests a reduction in bird strikes along the causeway of more than 80% compared to 1994 data. PMV is currently studying this issue to better understand the impacts of the overhead power lines on birds crossing the Roberts Bank Transmission Corridor. This includes work to assess the effectiveness of current collision countermeasures, as well as identifying opportunities to further reduce bird collisions with transmission wires and vehicular traffic.



Number	Submitted by	Comment/Concern	Response
5	Roger Emsley	Request that PMV Implement procedures for measuring increase in light spill in the areas that are now unlit	Refinements in design have occurred since posting of the draft CEAA Screening-Level Environmental Assessment Report. Specifically, the mid-causeway overpass has been relocated to the far western end of the causeway. This new location is currently an at-grade rail crossing, and as such is already lit, meaning there will be no additional lighting required. In addition, the previous mid-causeway overpass had an interchange which required a certain level of lighting. As the new causeway overpass has been reduced in size, an interchange is no longer required, and new lighting will be much less than assessed in the environmental assessment. The relocation of the overpass has also removed the need for a new railcar repair yard to be constructed east of the Deltaport Way overpass and west of the 41B overpass, thereby removing the requirement for new lighting in this previously unlit area. New lighting in the Gulf Yard will be at switching points only.
6	Roger Emsley	Request that PMV develop an inventory of existing vessels and vehicles and provide regular updates on their replacement to ensure that reductions in air pollution are achieved	In 2005, PMV was the first port in Canada to conduct an inventory of landside emissions. During that same year, the Chamber of Shipping and Environment Canada conducted an inventory of ocean-going vessels. By combining these two inventories, PMV was able to produce a comprehensive inventory of port-related emissions. These inventories are conducted every five years in conjunction with other regional and local regulators, to assess and track the impacts of port activities and guide development of mitigation programs. The air emissions inventory also forecasts emissions over a 15-year time horizon in order to assess the impact of improved technologies and emission reduction efforts. The <u>2010 Landside Emission Inventory</u> is now available on our website and the Environment Canada Marine Inventory is due to be published this summer. The next inventory will be in 2015. PMV supports the annual BC State of the Air Reporting that tracks and monitors air quality throughout the province. In addition to this, the Northwest Ports Clear Air Strategy provides annual implementation reports for ocean-going vessels, cargo-handling equipment, container trucks and rail. These reports measure actual progress made on initiatives to reduce emissions throughout the supply chain. As part of the Deltaport Third Berth Project, Port Metro Vancouver funded a new air-quality monitoring
			As part of the Deltaport Third Berth Project, Port Metro Vancouver funded a new air-quality monitoring station in Tsawwassen. This station, which is part of Metro Vancouver's regional air quality monitoring network, features state-of-the-art equipment, including ozone and particulate monitoring technologies.



Number	Submitted by	Comment/Concern	Response
			This station, as well as additional air quality studies, helps inform Port Metro Vancouver regarding emissions trends from operations at Roberts Bank.
7	Roger Emsley	Request that PMV install roadside emission monitors along Deltaport Way	Through the Truck Licence System (TLS), PMV requires all trucks that service the port to meet minimum environmental requirements to reduce the impacts on air quality. The Port does not operate any roadside emission monitors on the Deltaport causeway and works with the BC Ministry of Transportation's AirCare ON-ROAD (ACOR) program to conduct spot checks and opacity testing. As part of the Deltaport Third Berth Project, Port Metro Vancouver funded a new air-quality monitoring station in Tsawwassen. This station, which is part of Metro Vancouver's regional air quality monitoring network, features state-of-the-art equipment, including ozone and particulate monitoring technologies. This station, as well as additional air quality studies, helps inform Port Metro Vancouver regarding emissions trends from operations at Roberts Bank.
8	Roger Emsley	Request that PMV develop and implement a plan to address unsatisfactory increases in port truck traffic and to establish limits on additional truck movements through the Massey Tunnel	The Province of British Columbia and TransLink have responsibility for Provincial Highways and the Major Road Network, respectively, and the designation of truck routes. The Ministry of Transportation and Infrastructure is evaluating the Highway 99 corridor connecting Surrey and Vancouver, including the performance of the George Massey Tunnel. Port Metro Vancouver has committed to supporting this by providing any needed information on port activity and growth. Port Metro Vancouver recognizes that congestion in the George Massey Tunnel is an issue for communities and commuters, as it is for goods movers. In August 2012, Port Metro Vancouver completed a Road Traffic Distribution Report that assesses the impact of current and future port-related traffic on the local and regional road networks serving Roberts Bank. Results of the study indicate that current port-related traffic through the George Massey Tunnel only accounts for 2.0% of total AM peak- hour northbound traffic , and 1.2% of total PM peak-hour southbound traffic. With Deltaport's capacity at 2.4 million TEUs, all port-related traffic will account for less than 3% of total traffic through the George Massey Tunnel, during both the AM and PM peak hours. When South Fraser Perimeter Road is completed at the end of 2013, container trucks departing from Deltaport will be routed onto the new highway, removing them from Highway 17 north of Deltaport



Number	Submitted by	Comment/Concern	Response
			Way, and from Highway 10 west of Highway 91.
9	Roger Emsley	 Request that PMV provide: Information regarding Seaport's container forecast and container traffic projections, as well as PMV's rationale for expansion, and; A definition of the Pacific Gateway 	Port Metro Vancouver has committed to regular traffic forecast updates as part of the Container Capacity Improvement Program (CCIP). An Executive Summary of Seaport's 2011 forecast: Preliminary Container Traffic Projections for Port Metro Vancouver: 2011 to 2030, which provides preliminary reviews and projections of Port Metro Vancouver's container traffic, can be found on Port Metro Vancouver's website at: <u>http://portmetrovancouver.com/en/projects/CCIP/Resources.aspx</u> Gateway is a term which is used variously and inter-changeably by a variety of entities including the federal and provincial governments and their various departments and agencies. Generally, it is seen to cover ports and port terminals, airports, road, rail and related infrastructure components that facilitate the arrival and departure of people and goods from a region or nation. In the case of the Asia-Pacific Gateway, it primarily encompasses West Coast ports, including Port Metro Vancouver and the Port of Prince Rupert, as well as West Coast airports, including the Pacific region to and from Canada.
10	Roger Emsley	Concern that PMV is both the Responsible Authority and project proponent. This means that there is no oversight or accountability by and through an independent agency	Port Metro Vancouver has invited participation from federal agencies in the review of the CEAA Screening-Level Environmental Assessment Report, including: Environment Canada, the Department of Fisheries and Oceans, Transport Canada, Health Canada and the Canadian Transportation Agency. The comments received from Federal authorities will be incorporated into the final project permit and Environmental Conditions for Authorization for the project. While it is the case that no federal ministries have an approval function for this project, Port Metro Vancouver invited their participation to give expert advice as federal authorities and to provide an additional layer of oversight in the review process.



Number	Submitted by	Comment/Concern	Response
11	Roger Emsley	Concern that the conclusion that there are no residual effects from lighting is invalid	The primary areas which will have lighting installed as part of the Project are the overpass and the Gulf Yard. The overpass is located over an existing at-grade crossing that is currently lit, meaning that there is no additional lighting. The lighting in the Gulf Yard is simply for the switches, which are due to receive task lighting irrespective of any of the other project works. As a result of design refinements made since the posting of the draft CEAA Screening-Level Environmental Assessment Report, specifically relocation of the mid-causeway overpass, the lighting requirements for the project have decreased from what was assessed, thereby eliminating any associated lighting impacts. The conclusion that no significant residual adverse effects on surrounding areas will occur as a result of project related lighting, following implementation of proposed mitigation, remains unchanged.
12	Roger Emsley	Concern regarding the statement that there are no residual effects on agricultural lands since the project results in the loss of approximately 11 hectares of good farmland, and potentially supports the loss of more in the future	Due to refinements in design, the area of Option Lands required for the project has decreased to 8.3ha, from the approximately 10 ha that was assessed in the EA. In addition, the specific mitigation measures presented in the environmental assessment will off-set the change in use of arable Agricultural Land Reserve (ALR) land. Supplementary information was submitted to the Agricultural Land Commission (ALC) in July 2012 to fulfill the outstanding BC Agricultural Land Commission approval requirements (the Option Lands were conditionally approved for rail use in 2008). It is expected that compensation programs would be required by the ALC in order to meet their policy of a "net benefit to agriculture" when considering development projects involving ALR lands. It is important to note that every project considered by the ALC is done so independently and the ultimate compensation amount to be provided by DTRRIP would be negotiated with ALC. No residual adverse effects to agriculture are expected following implementation of the proposed mitigation and compensation measures.



Number	Submitted by	Comment/Concern	Response
13	Roger Emsley	Concern that the cumulative effects assessment fails to address the cumulative effects from increases in traffic	Cumulative effects of traffic were considered in the context of assessing potential effects associated with changes in traffic volumes, including effects to air quality, noise and vibration, and the marine environment.
14	Roger Emsley	Concern that the report omits any reference to Deltaport being located in an exposed location and subject to closure during winter storm events. The issue of winter storms and their impact on handling of the increased number of vessels that this project is designed to accommodate should have been covered and is not	 While Deltaport does occasionally suspend operation during periods of extreme weather, such as high winds, these periods are temporary, infrequent, generally of short duration, and do not have a significant impact on operations. The number of container vessels that call on Deltaport is expected to peak at 312 in 2017, and decrease thereafter. This number is well below the threshold for safe navigation of the waters surrounding Deltaport, which has special operating procedures in place with respect to the navigation of vessels in traffic separation zones. These have been developed and implemented in accordance with the International Regulations for the Prevention of Collision at Sea (ColRegs). These procedures, which include comprehensive marine VHF radio coverage and the use of a licensed Canadian pilot on board in compulsory pilotage waters, minimise the risk of a collision due to environmental conditions.
15	Roger Emsley	Concern that there is no mention of the potential to further improve Vanterm and Centerm as well as Fraser Surrey Docks	As part of the Container Capacity Improvement Program, Port Metro Vancouver is assessing potential facility upgrades throughout Lower Mainland container facilities. Both Vanterm and Centerm had significant capacity improvements made in 2005. Further container facility expansions of the Vancouver inner harbour are anticipated for the post-2030 horizon. While the schedule for these expansion plans is still uncertain, Port Metro Vancouver is performing preliminary steps, including examining the current infrastructure and undertaking planning studies to determine what upgrades might best meet forecasted requirements.



Number	Submitted by	Comment/Concern	Response
16	Roger Emsley	Request that PMV provide information regarding the Fisher Yard, specifically how it will be used and impacts on residents in the area	Fisher Yard is an additional siding for arriving and departing trains. There will not be any coupling or decoupling of cars or locomotives. Trains could be on the siding for several hours depending on mainline movements and would be either shut down or at a low idle. With mitigation measures, no residual adverse effects of noise and vibration associated with construction are anticipated. Residual adverse effects of noise during operations of the Project will be low to moderate at residential receiver locations (it is low at the receiver location nearest to Fisher Yard). The overall impact of potential residual adverse effects during operations of the DTRRIP is not anticipated to be significant.
17	Roger Emsley	Concern that, given the traffic gridlock that already exists because of the port activity, deliveries are not taking place outside of the daytime work shift	The opening of the South Fraser Perimeter Road (SFPR) in 2013/14 will significantly alter truck travel patterns to and from Deltaport. While Deltaport has successfully extended truck gate hours to diversify truck trips throughout the day, further diversification would likely require extension of operating hours by a host of other facilities within the supply chain, such as warehouses, transloading and destuffing facilities. Port Metro Vancouver continues to explore various measures to reduce truck traffic congestion.
18	Roger Emsley	Request that PMV indicate how many truck trips will use Arthur Drive	Generally speaking, container trucks do not use Arthur Drive when traveling to or from Deltaport.
19	Roger Emsley	Concern that PMV has failed to address community concerns with respect to truck traffic	Port Metro Vancouver is committed to reducing and mitigating the effects of port operations on local communities wherever possible. Understanding that container truck traffic is a prominent issue within Delta, the port has worked diligently to bring local area residents, local and provincial government, and industry together to better understand concerns and help develop solutions. As a result of the past work of the Deltaport Third Berth Project Community Liaison Committee (DCLC), as well as the ongoing efforts of the Port Communities Liaison Committee (PCLC) and the Delta Container Truck Traffic Working Group, a range of truck traffic issues have been identified and addressed. Port Metro Vancouver continues to support these initiatives, as well as other available mechanisms to address truck traffic impacts on local communities, such as the <u>Container Truck</u> <u>Efficiency Pilot Program</u> , These efforts, in conjunction with the work being undertaken on the <u>Container</u>



Number	Submitted by	Comment/Concern	Response
			<u>Trucking Strategy</u> , will help inform the development and execution of future mitigation strategies, such as the diversification of truck trip schedules, the minimization of empty truck trips and the provision of designated truck waiting areas.
20	Roger Emsley	Request that PMV organize a public meeting whose sole focus will be truck traffic and to explain how the increases in truck traffic will be handled	 Port Metro Vancouver is committed to ongoing engagement with local communities, the Corporation of Delta, the Delta Police Department and the Ministry of Transportation and Infrastructure regarding truck traffic and safety on our roads. In particular, ongoing efforts of the Port Communities Liaison Committee (PCLC) and the Delta Container Truck Traffic Working Group continue to address a range of truck traffic issues. Port Metro Vancouver's mandatory Truck Licensing System (TLS) is designed to regulate truck movements, driver behaviour and to reduce truck emissions. In addition to the mitigation provided by the TLS, Port Metro Vancouver is also exploring the following additional mitigation to reduce the impact of container trucks on communities: Diversification of Truck Trip Schedules: Efforts continue to spread out truck trips over longer hours, reducing the number of trips during peak times Truck notification and tracking system: Exploring truck notification or GPS systems to reduce the number of empty truck trips: Exploring the implementation of a dispatch system to reduce the number of empty trips and increase the efficiency of the loading and unloading of containers. Providing designated truck waiting areas: Exploring sites in the vicinity of Deltaport that would provide a designated waiting area for container trucks.
21	Roger Emsley	Request that PMV provide copies of responses from DFO and Environment Canada to the CEAA Screening-Level EA Report for DTRRIP	Any comments received from Federal Agencies providing expert advice will be incorporated into the Project Review Permit and Environmental Decision Statement for the Deltaport Terminal, Road and Rail Improvement Project. This decision statement will be made available online as soon as it is complete, expected in summer 2012.



Number	Submitted by	Comment/Concern	Response
22	Roger Emsley	Concern that PMV does not properly address the increased incidence of bird kills that is likely to result from the new overpass on the causeway	As a result of ongoing discussions with the railroads, the Deltaport Terminal operator and other project stakeholders, the mid-causeway overpass was relocated to the far western end of the causeway, closer to the terminal. As a result, the size and structure of the new overpass have been reduced. The causeway overpass clearances will be a minimum of 7.2 metres over rail tracks in accordance with American Railway Engineering and Maintenance-of-Way Association standards. Including the bridge deck, the total height will be approximately 10 metres. Notwithstanding the changes noted above, with respect to the height and location of the overpass, given that the overpass is highly visible, the risk of bird mortality associated with collisions with the actual infrastructure is extremely low.
23	Roger Emsley	Concern that the report does not address the issue of increased bird mortality that is likely to result with birds being attracted to new light sources close to the wetlands and right in the middle of farmland where birds are known to forage, which puts them at increased risk from night time hunting	With the relocation and reduction in size of the causeway overpass, there is no longer a need for a new railcar repair yard to be constructed east of the Deltaport Way overpass and west of the 41B overpass, which also removed the requirement for new lighting, service roads and shop facilities in that area. The lighting requirements for the project have decreased from what was assessed as part of the environmental assessment, thereby eliminating most lighting effects.
24	Roger Emsley	Concern that spill prevention for train re- fuelling is poor today and needs to be reviewed. Current mobile train re-fuelling	Only one of the CPR trains per day is typically fuelled at Roberts Bank, with all other locomotives being fuelled elsewhere on the CN, CPR and BNSF rail lines. All fuelling is carried out as DTL (Direct to Locomotive) fuelling by DTL fuelling contractors, operating TDG (transportation of dangerous goods) regulated fuel trucks under contract to CN and CPR. The fuel truck contractors must comply with CN and CPR DTL Fuelling Policy and Procedures. Any spill response would be provided under CN or CPR Spill Response Plans, under the co-ordination of BC Rail's Emergency Response Plan.



Number	Submitted by	Comment/Concern	Response
		uses a very small portable spill tray that is totally inadequate. In addition permanent spill kits are poorly located today – their placement in the new re-fuelling location needs to be properly planned.	DTRRIP will provide a single designated fuelling track location with positive spill containment infrastructure in the Gulf Yard. All DTL fuelling procedures and protocols will remain as-is, but will be done at the designated location with spill containment, except in instances where operational circumstances make it unfeasible.
25	Roger Emsley	Concern with the assertion that vessel traffic will only see modest increases. The estimated increase is 28 percent.	Container vessel traffic is projected to increase by 28% from 2010 levels to its anticipated peak in 2017. Vessel traffic is then projected to decrease to 2014 levels by 2025 as smaller vessels are gradually replaced by larger vessels, thereby resulting in fewer vessels calls and an overall net vessel traffic increase of only 6%.
26	Roger Emsley	Request that PMV identify the basis by which the study concluded that fine particulate matter are almost entirely related to marine vessels and CHE operations	The CEAA Screening-Level Environmental Assessment Report contains a summary of the air quality assessment conducted by SENES (2012). In the SENES report, Section 4.1.1, Table 4.1, the combined marine vessel and CHE PM2.5 local emissions for DTRRIP scenario account for more than 97% of total DTRRIP annual emissions for each time horizon. In Section 4.1.2, Table 4.2, the combined marine vessel and CHE PM2.5 regional emissions for DTRRIP account for more than 96% of total DTRRIP annual emissions. The SENES report is available on the Port Metro Vancouver website <u>here</u> .
27	Roger Emsley	Concern that truck traffic mitigation measures fail to address the traffic bottleneck – both northbound and	The Province of British Columbia and TransLink have responsibility for Provincial Highways and the Major Road Network, respectively, and the designation of truck routes. The Ministry of Transportation and Infrastructure is evaluating the Highway 99 corridor connecting Surrey and Vancouver, including the performance of the George Massey Tunnel. Port Metro Vancouver has committed to supporting this by providing any needed information on port activity and growth.



Number	Submitted by	Comment/Concern	Response
		southbound – at the Massey Tunnel. The notion that port truck traffic accounts for less than five percent through the Massey Tunnel and is therefore insignificant is fallacious, and ignores issues such as the bunching of truck traffic especially at peak periods and the increased impact that large and slow moving semi-trailers have on degrading traffic flows.	Port Metro Vancouver recognizes that congestion in the George Massey Tunnel is an issue for communities and commuters, as it is for goods movers. In August 2012, Port Metro Vancouver completed a Road Traffic Distribution Report that assesses the impact of current and future port-related traffic on the local and regional road networks serving Roberts Bank. Results of the study indicate that current port-related traffic through the George Massey Tunnel only accounts for 2.0% of total AM peak- hour northbound traffic , and 1.2% of total PM peak-hour southbound traffic. With Deltaport's capacity at 2.4 million TEUs, all port-related traffic will account for less than 3% of total traffic through the George Massey Tunnel, during both the AM and PM peak hours. When South Fraser Perimeter Road is completed at the end of 2013, container trucks departing from Deltaport will be routed onto the new highway, removing them from Highway 17 north of Deltaport Way, and from Highway 10 west of Highway 91.
28	Roger Emsley	Concern that Short Sea Shipping has not been explored sufficiently as an alternative that could alleviate the traffic nightmare that will otherwise exist with the increase in truck traffic from this project. PMV should be required to give short sea shipping priority consideration.	Port Metro Vancouver is continuing to engage with the business community to explore whether short sea shipping can be integrated with truck and rail transportation as a way of transporting containers within the Lower Mainland. The work that has been done thus far, including the Greater Vancouver Short-Sea Container Shipping Study (2005) indicates that there is not a strong enough business case for industry to move forward with short sea shipping at this time; however, we will continue to work with industry, and will continue to consider short sea shipping opportunities in the future.



Number	Submitted by	Comment/Concern	Response
29	Roger Emsley	Request that PMV come up with a detailed plan to reduce the number of containers moved on and off Deltaport by truck.	All containers that can go directly from the marine terminal to their destination by rail currently do so. The remainder of the containers leave the marine terminal by truck. The majority of these containers require additional handling and transload or redistribution, and as such are transported to a local transload facility. There they are emptied and the contents are either transferred into other marine or domestic containers, which are in turn loaded onto rail and sent east, or repacked for various local or regional markets and taken by truck to their final destination The small remainder of containers that leave the terminal by truck but do not require additional handling are simply delivered to their final destination in Western Canada or the US.

PORT METRO VANCOUVER ROBERTS BANK TERMINAL 2 PROJECT CONSULTATION REGARDING PRELIMINARY ENVIRONMENTAL MITIGATION CONCEPTS

Small Group Meeting 2 September 29, 2014

Notes from a small group meeting for the proposed Roberts Bank Terminal 2 Project, September 29, 2014, 6 :00pm – 8:00pm, at the Delta Town & Country Inn, Delta, B.C.

Attendees:	Cynthia Bodman Clifford Caprani, Citizens Against Port Expansion Peter Duffy Peter Holt Heather King
	Jeremy McCall, Nature Vancouver Margaret Meggy Anne Murray Mary Taitt, Burns Bog Conservation Coalition, Against Port Expansion
Port Metro Vancouver:	Judy Kirk, Facilitator (Kirk & Co. Consulting Ltd.) Cliff Stewart, Vice President, Infrastructure Delivery Kyle Robertson, Manager, Environmental Assessment and Permitting, Container Capacity Improvement Program
	 Charlotte Olson, Environmental Project Management Specialist, Habitat Enhancement Program Cindy McCarthy, Manager, Project Communications Pamela O'Hara, [Regulatory Manager (Hemmera) Zoe Mullard (Kirk & Co. Consulting Ltd.) Carmen Bennett, Meeting Recorder (Kirk & Co. Consulting Ltd.)

The record notes that the meeting commenced at 6:03pm

KEY THEMES:

- Some participants expressed skepticism regarding the validity of the 2014 Ocean Shipping Consultants forecast, and requested forecasts from previous years to verify the accuracy of past forecasts.
- Some participants expressed concern regarding potential Project-related effects on the environment.
- Some participants expressed concern about whether Port Metro Vancouver can enforce emissions standards or require ships to use shore power.
- Some participants expressed concern about artificial lighting at the terminal and were concerned that the proposed mitigation measures would not be effective.
- Some participants asserted that current and previous light and noise mitigation measures have not been effective and expressed concern about whether Port Metro Vancouver will implement required mitigation or whether the proposed mitigation would be successful.

(Abbreviations will be used and mean – Q: Question, A: Answer, C: Comment)

1. Welcome and Introductions – Judy Kirk

Judy Kirk welcomed participants to the meeting and noted that the session would be recorded for the purpose of checking meeting notes for accuracy. Judy explained the format of the meeting, introduced the Discussion Guide and Feedback Form, and invited participants to provide feedback by October 10, 2014. Judy then facilitated round-table introductions for representatives of Port Metro Vancouver and meeting participants.

- Q: *Mary Taitt*: Judy, have we had anything back from all the input that we have put in so far? I have not seen anything. We asked very specific questions. I remember being in this room, for example, asking the Port where it got these ridiculous statistical forecasts, because we had seen models with totally different forecasts.
- A: Judy Kirk: We will come to that in just a minute. This meeting goes until 8:00pm and we will stop at 8:00pm. I would like Cliff Stewart to begin taking us through the Discussion Guide. Mary, we will come back to your question.

2. Review of Consultation Discussion Guide – All

Cliff Stewart reviewed the introduction to the Discussion Guide, providing a description of the proposed Roberts Bank Terminal 2 Project and the role of Port Metro Vancouver. Mr. Stewart reviewed information regarding the scope and timing of the Port-led consultation process, and provided an overview of the current container forecast) (pages 2-5 of the Discussion Guide).

- A: *Cliff Stewart*: Demand moves around a bit each year depending on a variety of factors, but it generally remains in same area. The graph on page 5 shows the demand from the latest forecast. The question was asked regarding where we get this forecast from. It's a rigorous process that starts from looking at fundamental economic forecasts with Canada and its trading partners, and then builds from there on a range of issues that impact container flows relative to those economic fundamentals. On the graph there are a number of projects that have been presented in previous years, particularly Deltaport, the Deltaport Terminal, Road and Rail Improvement Project or DTRRIP, projects at Prince Rupert, and a new project at Centerm, which wasn't there the last time we met. That's a project that has become available to us as a result of the decision to exit the cruise business at the existing Ballantyne Cruise Terminal in the inner harbour. This is a project that would produce about another 600,000 TEUs of capacity, if it is approved, and would be able to produce that capacity quite a bit sooner than Terminal 2. The Centerm project is in the project definition stage and we will know probably next summer or fall whether it will proceed. Also, the graph shows some other inner harbour capacity that may become possible beyond about 2028, based on the availability of facilities that are currently being used for other purposes. So that's where the demand comes from. The forecast of capacity comes from an ongoing conversation between ourselves and Prince Rupert. On page 6 we also talk about where we generally find capacity. First of all, we want to find it in existing terminals by making them more efficient, because that is the lowest cost opportunity. The next opportunity is to expand existing terminals, such as we are doing down at Deltaport with the DTRRIP overpass, or to convert underutilized terminals that aren't currently handling containers. Finally the last choice, also the most expensive, is to build a new facility, which is the intention of the proposed Roberts Bank Terminal 2 Project.
- Q: *Mary Taitt*: Where are the outcomes, the results, of the previous three meetings?

- A: Judy Kirk: Do you mean the last three phases of consultation? Those are on the Port's website, and also generally an email is sent notifying participants.
- Q: *Mary Taitt*: So where does this go in terms of the CEA Agency process? We're talking about it being separate; what influence does it have on the CEA Agency process?
- C: *Cliff Stewart*: All of the information that we have gathered over the three and a half years that we have been working on this is made available to CEA Agency. Kirk & Co. Consulting are hired by Port Metro Vancouver to run the consultation process independent of us. After each round, they produce what's called a Consultation Summary Report, which are all available on the website. Following that, the Port produces a Consideration Memo. The Summary Report says, here's what we heard, and the Consideration Memo says what we are doing with what we heard. Those are all available on the website, and there is one for each round of consultation.
- C: Judy Kirk: Mary, I think your question was, does this information get delivered to CEA Agency. And I think Kyle, in the previous meeting you gave a response with respect to the Environmental Impact Statement (EIS).
- A: *Kyle Robertson*: The EIS is a summary of studies that we've been doing and we anticipate we will deliver that in early 2015. Within that is a section that talks about the consultation that has been conducted and what we have considered through the process. All the years of consultation will be summarized in the EIS document and delivered to CEA Agency.
- Q: *Peter Duffy*: The demonstration of need is at the root cause of this whole project. The demonstration of need relies on the analysis by Ocean Shipping Consultants. In 2011, 2012 and 2013 they had indicated their views on the need. In 2014 that has been updated, I suppose? Is it possible, on the website, to see any differences in their forecasts during those four years?
- A: *Cliff Stewart*: Those forecasts are all on the website.
- Q: *Peter Duffy*: Have they changed their forecast at all or has it been constant?
- A: *Cliff Stewart*: It went up in 2013 from 2012, then it came down in 2014 from 2013, back to around the 2012 level. So that's fairly normal with annual forecasts, it's going to move around a bit, but will be generally in the same area.
- Q: *Peter Duffy*: Because I've been in the consulting process, and we're dealing with a situation of being updated by a later report. That report I think should be available before this meeting so that we can see the forecast, based on the 2014 report.
- C: *Cliff Stewart*: This is based on 2014.
- C: *Peter Duffy*: I've always queried the validity of the forecast by one consulting firm, and I still hope, and I believe that the need, as such, is crux of the matter as whether this is needed or whether it isn't. You've been very defensive and provided a lot of information that it's needed all the time. I'm not convinced it is needed to the degree at which you have planned it, whether in fact the exact dimensions of Terminal 2 are correct, or whether it should be more or less, I think is up for consideration. I think this consultative process requires, and this type of meeting would like to have had, all the previous reports of TEUs. I'll also note on page 5 there is a maximum capacity shown that is approximately 1.2 million TEUs in excess of the maximum expected high case. This is to be a big safety play. Are you constructing to this maximum capacity, or is it that you're constructing to the high case? What is the parameter that you're using in terms of capacity?

- C: Judy Kirk: Before I ask Cliff to answer, I wonder, Kyle, if you could let Peter and others know about what the panel will do with respect to the hearing on need.
- A: *Kyle Robertson*: As Cliff indicated, the Environmental Impact Statement, the summary of our work, will go forward to an independent panel for a review. Part of that is captured in the guidelines for our assessment and includes the alternatives that need to be considered. So we need to do an assessment on alternative means of delivering the project, and alternatives to the project. We are considering that in our environmental impact statement that we will be submitting in early 2015.
- C: *Peter Duffy*: I'm sure you'll agree that the size of the project is directly related to the environmental impacts, and therefore the size of the plan and the need is directly related to any environmental impacts that may occur.
- C: Judy Kirk: I don't want to paraphrase your question Peter, but it had to do with building to the high case I think.
- A: *Cliff Stewart*: So the intention is, the base case is the target number that we are looking at, which is the red line. What a company like Ocean Shipping Consultants does when it does a forecast is to give a range of things that may occur, and says if all of those things occur, and we think this is what will happen, that's the base case, and the range of uncertainty from that perspective is the low and the high case. Our target is to try and deliver capacity as required to ensure we don't rise above the base case throughput. You'll notice that in this forecast in 2021 we will rise above the base case capacity in the event that Prince Rupert Stage 2 isn't able to be delivered sooner than 2022. If you looked at this graph and compared it to last year's forecast, you would have seen that the red line was some ways above the solid purple line – above the practical capacity. And the difference between practical capacity and maximum capacity is simply that, as in anything when you're operating at your maximum capacity, there's no ability to recover from hiccups in the system. So if there's a problem in the terminal itself, or terminals, there's no recovery capability. If there's a problem with a railroad or shipping lines and these sorts of things, as a general rule in most types of infrastructure, you try and keep some room for the problems that may occur in day-to-day life. That's the difference between practical capacity and maximum capacity. Maximum is if everything worked well in the world that we inhabit, not a theoretical world, then you could put that much capacity through, but if you were running at that level there would be nothing left for recovering from problems. The target is to have a base case be just below the practical capacity at the time that new capacity is brought on board.
- Q: Jeremy McCall: I was going to reiterate the kind of things that Peter was talking about. I'm glad to see that you have low case, base case and high case because I seem to remember at the initial consultations we just had a single case. This does help to explain the differences. It seems to me that you are building in 15% of maximum capacity at the end there in 2030, but that's above the high case; but that actually is 30% you're building at a 30% over capacity at maximum capacity for the base case, and it seems to me that's excessive. We have always thought, particularly from the work that Against Port Expansion and Roger Emsley have done, that the forecasts of capacity are excessive. It seems to me that with this chart you are virtually confirming what Roger Emsley has been saying all along, so I think that's very troubling.
- A: *Cliff Stewart*: I'm not entirely sure what Roger has been saying, but I'll be very clear about what we're saying...
- C: Jeremy McCall: It's on the Against Port Expansion website if you need to see it.

- A: *Cliff Stewart*: So what we're saying is that, for all intents and purposes, when a range of infrastructure is operating at 85% then it's full.
- C: Jeremy McCall: But here we're talking about 30%.
- A: *Cliff Stewart*: No, we're not actually. The dotted and the solid line are 15% apart.
- C: Jeremy McCall: I mean where it's gone blue to green.
- A: *Cliff Stewart*: Oh, well, in fact you probably wouldn't build the inner harbor capacity in 2028 if you were on the base case throughput.
- Q: Jeremy McCall: What is the inner harbor, the 2028 proposal? What would it include?
- A: *Cliff Stewart*: It's a potential expansion at Vanterm. It's an expansion that's not available until 2028 because of other land uses.
- Q: *Mary Taitt*: To this graph, I'm interested in what the red line and the blue line would look like from 2011. Do you have that information? Did they look back to see how good the forecast was?
- A: *Cliff Stewart*: We don't have it here but, Cindy, is the 2011 forecast on the website?
- A: *Cindy McCarthy*: I would have to check.
- C: *Kyle Robertson*: I believe it's in our Project Description.
- C: *Cliff Stewart*: Ocean Shipping Consultants has done forecasts for us from time to time over the years, and they did one in 2001. And we have the actuals. So what they did in 2001, there was only Port Metro Vancouver at that time. Prince Rupert came along later. They did a forecast of demand and you can see the actuals compared to that.
- Q: Judy Kirk: And is that true with 2011 as well?
- A: *Cliff Stewart*: We hadn't actually gone back and done it with 2011 or 2012 or 2013.
- Q: *Mary Taitt*: Why are they not included on the graph (the red and the blue)?
- A: *Cliff Stewart*: Because the gold line shows the actual throughput. All that information is available on the website, so if you're interested you can look at it there.
- C: *Mary Taitt*: I think it would have been very informative for the public to have had the red, blue and green line just to get a feel for whether this company is giving you good information.
- C: *Kyle Robertson*: In our Project Description that we submitted to CEA Agency in September, I believe in there we have the 2001 forecast versus actual. What you see is that it goes up in 2008, then we had the global economic downturn, so you see a big drop and then in 2009 or 2010 we're right back up, and from there we have been tracking to the high case scenario.
- Q: *Peter Holt*: On the environmental side, I mean we've just been talking about the scale of the expansion of the port. Does that track in a linear fashion to the actual impact on the environment? Because in most respects it is not necessarily a linear relationship. I'm not going to challenge necessarily as I think the high and the low is the normal way to do it but looking at the actual environmental mitigation, if we are on the blue line how much better off are we than if we end up on the green line? What would be the environmental mitigation should you stay to the blue line as opposed to being on the green line?

- A: *Cliff Stewart*: If I could I would like to take that and I would like to take something that Peter said earlier about not thinking that this is required. What I will remind everybody, and I've been saying this since I got involved in the project four years ago. If the base case throughput forecast is correct, then we are on the critical path to get this built. If, as we move through time, we discover that we are on the blue, low case throughput, then I think it's quite simple, the Project likely won't get built because there won't be an economic case for doing it. But we don't have the luxury of waiting to see, because it actually takes 10 years. From the time you make the decision, until you start the process, until you can actually handle a container, takes 10 years. I've been working on this full time now for 4 years, and we are at least 6 years, probably more like 10 years away. But regardless, one doesn't have the luxury of waiting to see what the future will look like and then preparing for it. So, if as we go along the forecast says it doesn't make any sense to build the project, I think it's fairly clear the project wouldn't get built until the demand had materialized to the point where there was going to be a requirement for it.
- C: Anne Murray: I'm unhappy with this graph and being offered this as some justification. I think the graph should have started a lot earlier. When you were doing the Deltaport Third Berth, we were told that Terminal 2 was not really on the horizon at all, and we were following a series of forecasts there. So I'd like to see it going further back. You've got a very unmathematical change in the slope of your curve at 2013. You've just told us that it had gone up in 2013 and back down in 2014 and I don't know why there's not some 2014 numbers on here in that case. I mean, we're almost in October so you could have upgraded it. To have that sudden change in slope, that's not the best line through those three points. Really with only three points on this side you can't even draw a proper projection curve.
- A: *Cliff Stewart*: Perhaps I could explain what you're looking at. 2011, 2012 and 2013 are actual throughputs, so that simply shows what happened.
- C: Anne Murray: Yes, I see that. I would like to see further back so as to get a correct slope so that you don't have a sudden change at 2013, with the slope suddenly taking off for all three scenarios at a steeper rate than it was going beforehand.
- Q: *Jeremy McCall*: Just to follow up on what Anne's saying, what is the average percentage increase per annum of each of those three coloured lines?
- A: *Cliff Stewart*: About 3%, 4% and 5%. It's not exactly that, but it's in that neighbourhood. If you want the exact numbers we could get that for you, or, I would suggest if you're interested in a detailed assessment, I would encourage you to have a look at the report that Ocean Shipping Consultants put together, which is online.
- C: Anne Murray: Could I suggest that at these events, which we spend a lot of our free time doing and which we feel obliged to attend to find out what's going on, could I suggest that you bring a screen and a projector so that if you say that something is on the website we can all look at it. Because, otherwise, what are we talking about half the time? Do you want me to be on my iPhone all evening checking out the website? We're here to discuss something. It's much easier if we have the material in front of us.
- C: Judy Kirk: Thank you Anne. I think both Peter Holt and Peter Duffy had their hands up indicating they had something they would like to say. What I would like to do is come to you first Peter Holt, and then in the interest of time I'd like to ask Cliff to continue on. If we want to come back to the forecast we can do that at the end of the meeting.

- Q: *Peter Holt*: I was just asking the question, and I think I know the answer, but the increases in container traffic aren't just increases in container traffic. It's true to say that more things are going in containers than before. So things like grains and that, which used to go bulk are now being containerized. Is that having a big impact on the consultants who are putting this out?
- A: *Cliff Stewart*: It's all part of the reports, which are about 200 pages long, and it looks at all those sorts of issues. It's a variety of economic and trade issues that drive the forecast, that being one of them.
- Q: *Peter Duffy*: On the graph, am I correct in assuming that in 2018 at the Centerm level, that includes Vanterm as well?
- A: *Cliff Stewart*: No, that's just Centerm. This is a project that would generate incremental capacity at Centerm, so the existing capacity of all those projects is already in that solid purple line, which is the practical capacity, and the dotted purple line, which is the maximum capacity. So those facilities capacities are in there today, getting us up to just shy of 4 million TEUs of capacity on the West Coast of Canada today, and each project either here or in Prince Rupert that has been proposed is additive to show us, if all of those projects proceed, where we will end up.
- Q: *Peter Duffy*: I understand that. What I'm saying is in constructing the graph, that you have a Centerm and a Vanterm expansion. Those are two separate things?
- A: *Cliff Stewart*: Last time you saw this, both Centerm and Vanterm were within what was called Inner Harbour in 2028, because for a variety of different reasons, neither of them could proceed until then. What we probably should have done when we pulled Centerm out and called it out specifically in 2018, we should have changed that so that 2028 said Vanterm.
- Q: *Margaret Meggy*: Is there labour unrest in the U.S. ports and how does that affect this graph for 2014?
- C: Judy Kirk: Does this forecast take into account potential labour unrest?
- C: *Margaret Meggy*: Not potential, existing.
- A: *Cliff Stewart*: The forecast wouldn't take into account anything that is actually happening this year, because the forecast builds off the actual throughput in 2013.
- Q: Mary Taitt: Specific to the graph, what's happening at Deltaport in 2015 and 2016?
- A: *Cliff Stewart*: The DTRRIP project the Deltaport Terminal Road and Rail Improvement Project has three separate components, first of which is the overpass, which is being delivered by Port Metro Vancouver and will be completed by the end of this year. That provides a first piece of capacity, and then there are two additional components of that program. One is on-terminal rail works and the other is off-terminal rail works. Those are projected to occur in 2015 for 2016 capacity, and in 2016 for 2017 capacity.
- Q: *Mary Taitt*: How do they produce the increases? How do they contribute to more millions of TEUs?
- A: *Cliff Stewart*: By freeing up or creating the ability to move more rail containers through Deltaport. So right now, Deltaport terminal capacity is limited by the amount of rail it can move.
- C: Judy Kirk: These are very good questions. In the interest of time, it's now 6:45, I'm going to ask Cliff to go through pages 7 to 12 and then we will pause for more questions or comments.

The Advantages of Roberts Bank and the Environmental Assessment Process

Cliff Stewart provided an overview of trade infrastructure at Roberts Bank, including the South Fraser Perimeter Road and the Roberts Bank Rail Corridor Program, as well as the anticipated economic benefits of the project. Cliff Stewart then gave a brief overview of the environmental assessment process for the Roberts Bank Terminal 2 Project), including the role of the CEA Agency and of valued components and intermediate components in the environmental assessment processes and how these are used to develop mitigation plans (pages 7-11 of the Discussion Guide).

- Q: Mary Taitt: What does human health include?
- A: *Cliff Stewart*: To answer that question, I will go through page 11. Intermediate components are those things through which the project might have impact on a valued component. For example, human health might be impacted through air quality, noise, light, possibly through population demographics, possibly through some of the other valued components. As an example, a couple of Project activities that would likely take place during construction would be dredging and dike construction. Those could lead to a Project effect, which is sediment re-suspension, which could have impact on intermediate components, including marine water quality and sediments. Those two intermediate components could have an impact on marine fish. Marine fish are in and of themselves a valued component, but they also could have an impact on a series of other valued components, including several types of fishing, coastal birds and predators (marine mammals), and those valued components and intermediate components interact with activities and effects.
- Q: *Cliff Caprani*: On page 8 in the graph regarding operations, it says 12,400 jobs per year. Robin Silvester was quoted in the Delta Optimist last year saying that it actually would generate 18,300 jobs per year, so that is a bit of a change in numbers. I would like to know why, if you can comment on that. And the second part of my question is, do you know how many people will actually be working on the new terminal?
- A: *Cliff Stewart*: I don't have it here but we can get it.
- Q: *Cliff Caprani*: The actual number of guys that will be working on the terminal, you don't know that?
- A: *Cliff Stewart*: I don't have an immediate number with me, but we can get it.
- C: Judy Kirk: Part one of your question was the difference in quoted job numbers.
- Q: *Cliff Caprani*: Yes, any sense of the reason for the change from 18,300 to 12,400 a year?
- A: *Cliff Stewart*: Interestingly enough, while the number of jobs has gone down significantly, the actual wages produced by them has gone up. And the answer here quite simply is that the earlier numbers were based on a much more simplistic model, which was a more generic model. Now that we're into the environmental assessment and doing much more detailed studies, a different methodology was used called the B.C. Input-Output Model, which is much more industry-specific and a much more detailed examination, which is why job numbers actually went down, but the value of the jobs went up.
- Q: *Cliff Caprani*: Can you get the answer to my other question regarding how many people will actually be employed, specifically working on the terminal how many will clock on every day.
- Q: *Heather King:* Can you give everybody an answer to that?
- A: Judy Kirk: Yes, if everyone has left their email address, we can do that.

- Q: *Margaret Meggy*: Again on the employment, 7,600 jobs, you don't know how many of those will be at the terminal? Maybe half of them, maybe a third of them? I wanted to point out that you talk about induced jobs such as farmers in Saskatchewan.
- A: *Cliff Stewart*: I just want to be clear, induced jobs are not counted in the numbers.
- Q: Margaret Meggy: What is an induced job?
- A: *Cliff Stewart*: An induced job would be a job that depends upon the wages of the direct and indirect jobs.
- C: *Margaret Meggy*: I understand. So the Port I believe uses a factor of 4:1 for direct to indirect jobs when general economics is 3:1.
- A: *Cliff Stewart*: Just to be clear this wasn't done by the Port, this was done for us.
- C: *Margaret Meggy*: The consultants at the Port use a factor of 4:1.
- C: *Kyle Robertson*: To clarify, this was a specific study on the economic effects and benefits of the Roberts Bank Terminal 2 Project specifically, so we had our own consultants conducting this work using the standard methodology that is used for many large infrastructure projects in B.C.
- C: Judy Kirk: I think what Margaret is saying is that it was a 4:1 ratio. I'm not sure what that means.
- C: *Margaret Meggy*: Direct jobs to indirect jobs. So they're magnifying the number of jobs that will be created.
- C: Judy Kirk: And do we know what the multiplier was in this model?
- A: *Cliff Stewart*: Not off hand, but it's whatever it is in the B.C. Input-Output Model. The model actually belongs to the government of British Columbia.
- Q: *Margaret Meggy*: Can I ask another question? In the environmental assessment process, what is the baseline year going to be for environmental changes?
- A: *Kyle Robertson*: We are studying existing conditions and we have a myriad of different studies that we're looking at, so they all depend on field studies, but generally it's between 2010 and 2013.
- Q: *Margaret Meggy*: When the container port was proposed and then approved, the Government of Canada promised that would be the baseline year, pre-construction of the container port. Why is it shifting and shifting?
- A: *Kyle Robertson*: The existing conditions that we characterized for each one of these valued components and the intermediate components considers trends, and those trends of how those conditions are as they are measured today capture all previous developments that have happened in the past.
- Q: *Margaret Meggy*: So you're saying that because there is this terrible pollution and noise and everything that you've done so far, that's going to be in the baseline.
- A: *Kyle Robertson*: We are required to look at the existing conditions.
- Q: *Margaret Meggy*: One more question, on page 11, I'm sorry I don't know what coastal geomorphology is.
- A: *Kyle Robertson*: That's a good example to your previous question. Coastal geomorphology is basically how sediments move within the ocean. So the currents move sediments, and the ocean

bed will change based on those movements. So if you put a new terminal there, it's going to change ocean currents, and it's dynamic. It's always going to change over time.

- Q: *Margaret Meggy*: There is currently significant erosion on Tsawwassen Beach. Is that a result of port operations and the building of the port?
- C: Judy Kirk: I'm going to ask you to hang on to that question, Margaret, and we can come back to it.
- Q: *Mary Taitt*: I would like to reiterate Cliff [Caprani's] first question about how many jobs are going to be on the terminal site, because longshoremen have told me it's going to be peanuts because it's going to be a totally automated terminal.
- C: Judy Kirk: Ok, we've got that question, Mary. Did you have one other before I move on?
- Q: *Mary Taitt*: Yes, you say that the environmental assessment is sort of all underway, and yet we've all just been contributing to the panel Terms of Reference. That's just being developed right now. So how come you've already done it, when we're still talking about what should be done for the environmental assessment.
- A: Judy Kirk: So I'll just step in on that for the process, the panel Terms of Reference is developed by CEA Agency the Canadian Environmental Assessment Agency it's not the Port.
- C: *Mary Taitt*: I know, but they dictate what the Port's got to do for an environmental assessment.
- C: Judy Kirk: But I don't want you to confuse, or confuse others, that the Terms of Reference for the panel is the same as the overall assessment. So, Cliff can you clarify?
- A: *Cliff Stewart*: Yes, perhaps if we go back to page 9. So, the way the process works, in any project, the proponent submits a Project Description. The CEA Agency looks to see whether they believe that that description is complete enough to allow them to determine if an assessment is required and, if so, what type of assessment that is. That was the first step, and that all happened around this time last year. The second step is for the CEA Agency to determine, based on that Project Description, whether or not an assessment is required and, if so, the nature of that assessment.
- C: Judy Kirk: So Mary, if I could, I think that is the first step of determining the scope and nature of the assessment, and then the panel terms of reference is in addition to that.
- A: *Cliff Stewart*: Right, so in that second box, the Environmental Impact Statement Guidelines, which were promulgated by CEA Agency about 11 months ago, and for which there was public input requested, told us what we needed to do in order to prepare our Environmental Impact Statement. So we are working on the basis of that direction from CEA Agency.
- Q: *Peter Duffy*: First of all, has the Government of Canada or Port Metro Vancouver had any discussions with the United States, Washington State or the Government of the United States, with regard to the possible environmental impact on American waters, being so close to the port?
- A: *Cliff Stewart*: They have been notified, but there hasn't been any discussion so I can't speak to that.
- Q: *Peter Duffy*: Has there been any response? What do the United States think of this project? Do they feel affected by it? Are they happy with it? Our ferries go through their waters.
- A: *Cliff Stewart*: We can't speak to that because we're not part of that conversation. You would have to ask CEA Agency whether or not there has been a response.
- Q: *Peter Duffy*: My other question is, on page 7 with regard to the Gateway Transportation

Collaboration Forum, you're talking about funding. TransLink at the moment is screaming for money and there are all sorts of problems with that. I can see the funding here is going to be an interesting event in terms of the expansion of the road network to serve an increased port of this capacity. Also, related to that, I wonder whether the Canadian Environmental Assessment Agency has got on board the possible effects to the Lower Mainland, as opposed to just locally to the Port, with regard to the effect on the inhabitants of the local mainland by the increase of traffic through them to reach the port. The truck traffic, other noise and all the pollution that this is likely to cause. Is that part of their brief, to consider that, or are they simply considering the local effect at the port? I would like to make the point that all residents in the area serving the port are likely to be affected in one way or the other, depending on the size of the project.

- A: *Cliff Stewart*: With respect to the scope of the project that they have assigned; the scope of the project is from the shoreline out to the area of new construction. The scope of assessment is for anything that originates in that and then works synergistically with it. So, on air quality for example, we look at the point beyond that footprint where the impact of the project is no longer discernable. So if there is an air quality issue arising from within the project footprint, then we follow that out to the point where it's no longer measurable other than as background for the rest of the Lower Mainland. Beyond the shore into the population areas.
- C: *Peter Duffy*: I'd like to make the point that this document is limited in its content to port issues locally, and I think a separate document should have been provided looking in detail at the downstream effects on land, and related to the amount of size of the port that is finally approved. There's a possibility that it may be more or it may be less by 2030, and we need to know in comprehensive planning between all the municipalities and local governments, and the federal government and the funding sources, what we can do and what's likely to happen.
- Q: Jeremy McCall: I'd like to make a point as a comment on what Peter just said, that, surely the panel will be looking at the cumulative impacts. And it will be looking at the cumulative impacts not only of the port itself, but on the region, going as far as Langley and even further if necessary. We certainly put that in our comments on the Terms of Reference that we put in a couple of weeks ago. My question is about the role of the B.C. Environmental Assessment Office, which was quite involved in the Deltaport Third Berth assessment. I think it was a joint review at that time. What is their role on this one? Has that been determined yet, and is it going to be joint, harmonized, or has the BC EAO deferred completely to CEA Agency on this one?
- A: *Cliff Stewart*: I can't speak for BCEAO.
- Q: Jeremy McCall: Have you spoken to them? What did they say?
- A: *Cliff Stewart*: We have spoken to them. They've said they'll be making a decision in the near future.
- C: Peter Holt: I was just going to go back to Peter's point, because I think what he was describing was basically a linear study. So at the moment the study that I can see, which is the shoreline to the actual terminal, and the impacts that might take place in that area. Air quality is a good example. The process I believe, and I'm not an expert in this, but I think I'm right in saying you require linear studies. These linear studies basically would follow the rail line and say what the impact is of all the freight that's going around, in terms of noise, for example. It depends how you actually put in the criteria for the study. You can't just have an open study and I think people recognize that. What I'm getting to is the study we have at the moment is the environmental mitigation from the shoreline to the terminal as we see it, and certainly my interests are on the environmental side of what can be done in this area within the study. I accept fully that the study isn't as expansive as one would

want. But in this respect I think we have to capture some of the good things that can be done with that thing called funding, that I think Port Metro Vancouver actually has, and we want to make sure we capture those as well as making sure that we can identify other areas where we need to be involved.

- Q: *Heather King*: I have a couple concerns and it's more on shore impacts to human health in terms of air quality, and I noticed that on Arthur Drive they had a mobile air monitoring unit that I believe Westshore Terminal had put there. We had driven by there for the last 8 months and it's no longer there. When I phoned Metro Vancouver to ask whether they have air quality studies, they don't and they don't intend to, unfortunately. So, I'm very concerned about the baseline of air quality in a variety of places. You can go on the greater Vancouver website and look at Tsawwassen to see what levels there are for sulphur oxide and things like that. Personally, as a resident and as a person trying to protect human health and air quality, I would prefer that we have a mobile air monitoring system there to look at baseline figures, in terms of the diesel. When I first began in 2008 on Council I was given current issues in Delta, and one of them was looking at Terminal 2 in terms of the number of additional trucks that would be on the road. When I looked at APE's website it said something like 600 a day, but what I had been given from the Corporation of Delta was 2,200 per day. So if you can help me understand which one, because they're quite different, in terms of the number of trucks you'll have on the road every day because of T2 once it's up and running.
- A: *Cliff Stewart*: It's certainly closer to the 2,200 than the 600.
- Q: *Heather King*: So in keeping with that, air quality is certainly affected by the quality of diesel, and a lot of these trucks are coming from North America, so I'm hopeful that diesel quality is going to be okay; but 2,200 a day is an immense increase and a detriment to air quality, so I have some concerns. I am wondering if you can perhaps help me understand how we are going to deal with that.
- C: *Cliff Stewart*: That's actually a nice segue into page 14, but I'm wondering if I can get us there through pages 12 and 13 first and then come back to that?
- C: *Heather King*: Certainly.

Proposed Environmental Mitigation Concepts

Cliff Stewart outlined the proposed mitigation concepts for light, noise and air quality (pages 12 and 13 in the Discussion Guide).

- A: *Cliff Stewart*: Air quality is obviously a very important aspect of human health, and what we have on page 14 are possible mitigations. Shore power is one of the mitigations that would have a significant impact on air quality. Trucking also has a significant impact on air quality. There's a series of either existing or potential mitigations, one of which is the truck licensing system. One of the things with that is we look to ensure the vehicles servicing the port are relatively new. By 2015 or 2016 all new trucks will be required to be the 2010 engine standard, which is the cleanest engine standard in North America. So by the time Terminal 2 comes along there will be significant reductions in emissions related to trucking, which is a concern we heard earlier. Already the truck fleet is significantly cleaner than what it was a decade ago.
- Q: *Heather King*: 100% shore power by 2020, that's marvelous. When I'm looking at the Ocean Shipping Consultants report that's on your website, it looked at the Port of Los Angeles and several other ports, and they were able to implement that and enforce it because their shipping lines had a lease with the port, and so when a lease came up they were able to enforce ship-to-shore power.

We don't have that with Port Metro Vancouver form what I understand, so your ability to enforce and to motivate is not there in terms of that. Cliff, you and I spoke the other day at the open house, but I just want to ask a few more detailed questions, as this is a complex issue. 100% by 2020 would be great, but when are you going to initiate, who is enforcing it, is it legislated, and how is that going to start?

- A: *Cliff Stewart*: It actually started a decade ago. When Centerm was expanded in the inner harbour, the civil infrastructure was put in place to allow for shore power.
- Q: Heather King: And that was for the cruise ships?
- A: *Cliff Stewart*: No, this was for the Centerm container terminal. When Deltaport was expanded for the Third Berth project, the civil infrastructure was put in place. What the Port said at that time was there is not yet an international standard nor is there really an ability to provision something that anybody would be in a position to use. Since that time, the international standard has been settled, and we're in the process now of designing or preparing a tender package to go out for both the Deltaport Third Berth and for Centerm, to allow for the provision of the electrical infrastructure that goes along with that civil infrastructure so that we're in a position for ships probably by about 2016. That is about the time we think that we will be seeing roughly half the fleet equipped to be able to plug in.
- C: Judy Kirk: I think there was an enforcement question as well.
- A: *Cliff Stewart*: At this point, from the perspective of ships that are equipped, we don't think there's going to be a requirement to do any enforcement, because as a result of work that actually grew out of standards here in Port Metro Vancouver, there is an international standard now called the Emissions Control Area, which requires ships to use the very cleanest marine diesel fuel available. It's about 90% cleaner on the basis of sulphur content than what they had been using traditionally. It's significantly more expensive; so once the shore power is available, and the ship is equipped to plug in, there is a strong economic incentive for them to plug in because they save a lot of money using hydro power versus running their generators.
- C: Margaret Meggy: In December 2011, we met in this room and I asked Mr. Stewart a question about the noise created by the generators, and he informed me that in the next year the provincial government was going to set up a standard for tightening up the amount of sulphur allowed in fuels, and every year it would get tighter and tighter, and ships that don't comply would be penalized, and by 2018 there would be no ship that was not plugged in. That gave me a huge level of comfort, I went away happy with Mr. Stewart and another falsehood that was made to me by the environmental people, and that comfort was misplaced.
- C: *Peter Duffy*: Very much on the same point as Margaret, I see on page 14, the proposed mitigation concepts are not allied with a firm recording of emissions and pollution, and there is no apparent plan for sanctions against those people who break those limits. This might cause people to shear away to ports where there aren't limits. But I believe that it's necessary for you to have an active recording for public inspection of emission standards of trucks, shipping and noise, so that these can be used in a legal process against people who break our law. Thank you.
- Q: Jeremy McCall: My question is about trucks. Cliff, what are the current rules for trucks idling on the causeway where there are sometimes very long lines of trucks delivering containers. Is there a 'no idling' rule? And what is proposed for the future?
- A: *Cliff Stewart*: I believe there is a no idling rule, but I will tell you what's being proposed for the very

near future, and that is a change in the operating model on the causeway to actually facilitate the trucks shutting their engines off. There is a change afoot, which is in the process of being constructed as part of DTRRIP to actually facilitate trucks turning off their engines. The challenge they face today is that the trucks go into the queue and they are released from the cue one truck at a time, so the queue only inches forward. So while we have a no idling policy, every time a truck moves the clock restarts in essence, which is not particularly helpful for actually getting the trucks to stop idling. So as part of the work that's being done on DTRIPP, the trucks will actually be released in batches, so they have the opportunity to stop, turn their engine off, wait, turn the engine back on, move forward and turn the engine off.

- C: Jeremy McCall: Same as at the U.S. border, which works extremely well.
- C: *Cliff Stewart*: So we expect to see that in place probably by next summer.
- Q: Anne Murray: I've got a concern about light at the port. Light is very important biologically. It has huge impacts on just about every organism that exists. I don't feel this has been properly addressed in previous expansions of the port. It's just gotten brighter and brighter from a viewing perspective. I haven't measured it, but there's an awful lot more light there than when I moved to this area 25 years ago, and this is the mouth of the Fraser River with all of its salmon, birds and life in the mudflats there, all of which must be being significantly affected by artificial night lighting. You've put down here a number of mitigation concepts. They look to be fairly similar to the ones that were put forward for the third berth, but I didn't really notice any difference. If anything it got brighter, and now we are going to have a very bright area right out in the water if this project goes ahead. What other suggestions can be made, because these look really pretty inadequate. For example, directing lighting downward I believe that's what they already do, but it hasn't lessened the amount of light.
- C: Judy Kirk: Anne, correct me if I'm wrong, but I think what you're expressing in terms of the proposed mitigation is that it will not be sufficient to deal with the lighting concerns you have.
- A: Anne Murray: Yes, I mean, I'm not an expert on this at all, but I'm looking at it in terms of there was no light out there before, and then it got brighter and brighter with previous expansions. Now you're talking about doubling it, so it's going to be doubly bright. These concepts shielding light, directing lighting downward I don't see anything new here. So maybe my question should be more specific regarding what is new here, and if there are things that can be done to mitigate it. Was anything done with the last one? Because it sure doesn't look like it.
- A: *Kyle Robertson*: We will be looking at the potential effects of changes to light from the proposed Roberts Bank Terminal 2 on wildlife in addition to the human environment as well. So we will be looking at that. Part of this process is actually to get feedback if there are new things that we are not capturing necessarily, we want to hear that. Some of the things include that there are new technologies in light as well. We're seeing that in our homes, with new light bulbs for example. But as you get this large infrastructure, there are very specific criteria for things like safety that need to be applied. But technology is catching up, and I understand already at Deltaport they're using LED lights, that are able to reduce the amount of what's called trespass light to more specific areas. And also timing of when those lights need to be on and off. So by the time this project is advanced, we expect advancing technology to also help in addressing some of those concerns; but we are always looking for new feedback on the existing conditions and what could be improved, and also how this project in itself can be improved.
- C: Anne Murray: I'm thinking it should be improved now with the existing port to show that it can be

done, because we cannot have it doubling in light out there. It's already probably wrecking the ecosystem as it is. And you say things are being done with LED lights and so on, but I'm not seeing any reduction in light. If you're only going to go back to a very early baseline, you're only going back to 2010 or 2011, you're not going to capture that change in the effects on wildlife. I just feel it's inadequate.

- C: Peter Holt: I was just going to add something to Mary's earlier comment about the projection for low sulphur fuels. I actually worked around three years ago on the fringes of that, and it sounds as though I'm defending Cliff here, but fundamentally those are very complex international rules, and there is a shortage of low sulphur fuel as well, and the shipping industry partly were very resistant to doing it. So it's been very difficult to get that timeline, but I think that timeline is there now and we will see it go worldwide and we will be the beneficiaries of that. We can still go lower maybe in reducing sulphur content, but it's a very long process, frustrating as it is.
- C: *Margaret Meggy*: The Port has lost my trust.
- A: *Mary Taitt*: It's very interesting, the questions that Anne's raising here. I remember raising the same ones for DP3, and Darrell Desjardins was sitting in your seat and said the exact same things that you did. As far as I can see, none of what he talked about has been done. My second point is, about these emissions from ships, I have talked to longshoremen and they tell me we can't attract the big wonderful techno ships here. They're not coming here. So all this about how we can deal with sulphur fuels, etc., that's not happening in the port of Vancouver. In fact, what's happening is that outfits like Evergreen send these little ships dirty little ships. They can come to Vancouver, just like you can export coal through the port of Vancouver when the U.S. turns it down, and I get the feeling that these dirty ships are going to keep on coming to Vancouver. Ships that apparently, at night, switch to the dirtiest fuel possible, because we the public can't see them.
- A: *Cliff Stewart*: The requirement to use low sulphur fuel is not a function of the size or origin of the ship. Every ship that comes into the emissions control area, anywhere within 200 nautical miles of the North American coast, is required to use that fuel.
- Q: Mary Taitt: And who is going out and checking?
- A: *Cliff Stewart*: That's a Coast Guard function and they do check randomly from time to time.
- Q: Mary Taitt: How often? What do they find?
- A: *Cliff Stewart*: I don't know. I'm not part of the Coast Guard so I can't answer that question.
- C: *Mary Taitt*: Well, I talk to longshoremen who are actually there.
- Q: *Heather King*: I've been around to senior levels of government asking questions about where we are in terms of the international standard: What's the process; where are we on that timeline? And I received this email back just before arriving here. This is from Transport Canada from one of those senior levels of office saying "The International Maritime Organization (IMO) is currently waiting on the International Organization for Standardization, and the International Electrotechnical Commission, via the Working Group on Standardization of the onshore power supply for ships at berth to finalize before deciding. Unfortunately we don't really know how close they are to this." So you were saying that they have actually decided though, that there is an international standard?
- A: *Cliff Stewart*: We are comfortable that there is, I'm not sure whether the IEC has actually accepted as the standard yet; but we are, and the shipping industry is comfortable that the standard is now *de facto* because the ships are equipping with it.

- C: *Heather King*: Their point, and I don't want to be confrontational here, but their point is that the hold-up at Deltaport is money. That's what they say here, "It's not always fiscally responsible to put in shore power if none of the client ships have the ability to use it. We would not want to impose unrealistic costs on private entities." I think they're meaning both the port and the shipping lines that come to the port. Some ships also use other technology. One port that had shore power actually backed out of using it due to expense and availability of other technology. So, I'd just like your comments on that. I'm just trying to understand, I'm not making accusations.
- A: *Cliff Stewart*: I'm not in a position to comment on an email that I haven't read from somebody that I don't know. I can just tell you that the work that we have done has indicated to us, and you mentioned having seen the OSC report, that by about 2016 they expect, based on the trends that they have seen, that about half of the fleet calling at Vancouver will be shore power equipped. Our objective is to be in a position to begin to allow those ships to plug in. It would be great if we see more demand for shore power plugs in the first couple of years, and if we have plugs available then that will enable us to move quickly to make additional plug-ins available, particularly at Deltaport and Centerm.
- Q: Heather King: And what are they talking about when they hint at the other technologies?
- A: *Cliff Stewart*: Again, I can't speak to it because I have not seen the email and don't know what it is referring to.
- Q: *Heather King*: Ok, and I have a question about cargo handling equipment, the cranes and the forklifts and other equipment at Deltaport. What powers those? Is that electric, or diesel?
- A: *Cliff Stewart*: There are electric cranes, there are diesel horizontal transport trucks, tractors and trailers. There is a whole range of equipment.
- Q: *Margaret Meggy*: I have been trying to brainstorm if there is a short-term fix to some of this. I know on your website it says that ships at anchor in English Bay are required to minimize light and noise by minimizing use of generators. I assume that means they do turn off their generators and run on battery power throughout the night. Why can't ships at dock do the same? Any battery should be able to carry the ship for several hours.
- A: *Cliff Stewart*: The ships that go to anchor in English Bay as a general rule are bulk-type vessels, so the electric power that's required there is simply to operate their housekeeping facilities, to run the lights for the crew quarters. The generators that are operating on a container ship at dock at Deltaport are actually required to run, as the primary electrical load is the refrigerated containers that are plugged in on the ship. So it's probably several orders of magnitude difference in the amount of power that's required. That's why shore power is attractive for container ships, because there is such a large amount of power that's required, and there is a significant reduction obviously in the emissions if you can shut off the generator.
- Q: *Margaret Meggy*: I can understand that, but there must be battery power that must be able to run for a number of hours. How would I find out? It seems any ship should be able to run off battery power.
- C: *Peter Holt*: If I could, I'm an ex-mariner, and there are a number of things to consider. There's the domestics, they have to use power winches, there's also safety equipment, fire pumps and things like that in case of an emergency that legally have to be kept going. The battery power that would be required for that would be enormous because of the current that would be required, and the distribution around the ship. I don't know of any ship anywhere in this area of trade that would

even have 5 percent doing anything on battery power, apart from navigation signals and things like that.

Ecosystem productivity and environmental mitigation concepts

Kyle Robertson gave an overview of ecosystem productivity and discussed the studies Port Metro Vancouver has undertaken to determine project-related effects on ecosystem productivity, coastal geomorphology, southern resident killer whales and coastal birds. Port Metro Vancouver has used an ecosystem model to understand effects on individual species and interactions between species within the system (pages 14 – 16 of the Discussion Guide).

Kyle Robertson gave an overview of habitat mitigation concepts and discussed the rationale for each of the proposed onsite habitat concepts (pages 18 – 21 of the Discussion Guide).

- Q: Margaret Meggy: What is your plan to mitigate the erosion on Tsawwassen Beach?
- A: *Kyle Robertson*: Our project is looking at the geomorphological changes and we're looking at how that might result as part of the terminal project.
- C: Judy Kirk: So if there were effects would you be proposing mitigation?
- A: *Kyle Robertson*: Yes exactly, if there were effects we would be proposing mitigation.
- Q: Margaret Meggy: When will you publish the effects?
- A: *Kyle Robertson*: This is all going to be captured in the Environmental Impact Statement in early 2015.
- Q: Margaret Meggy: And what is your baseline?
- A: *Kyle Robertson*: Again, our baseline is capturing the existing conditions, but in the case of coastal geomorphology it's a dynamic environment, so we discuss the trends that have happened in the past and what will be happening in the future.
- Q: *Margaret Meggy*: So the baseline will be 2014, is that correct?
- A: *Kyle Robertson*: 2013, I believe, for the coastal geomorphology study.
- Q: Anne Murray: For the Third Berth expansion you did some habitat creation, I understand, along the causeway. What have been the results of that? Where can I view the assessment of whether that has been successful or not?
- A: *Kyle Robertson*: Some has been successful, others have not. There is an adaptive management program that does capture those results. We are learning from some of those experiences and we are interested in feedback as well. That is available on the website but I don't have it on hand.
- Q: *Anne Murray*: Could we have a link to that part of the website? I've been trying to find it but there is an awful lot of material on the website.
- C: Judy Kirk: Cindy is that something you could find?
- A: *Cindy McCarthy*: Yes.
- Q: Anne Murray: I would specifically like to see that. Just to follow up on the same point, is that an area the public can visit to view for themselves? Because I get the impression that we're not allowed on the causeway anymore.

- A: *Cliff Stewart*: There are a couple places where you can park safely on the causeway. It is a public highway.
- Q: Anne Murray: Most habitat enhancement efforts and creating new habitat of this type around the Lower Mainland have been a very dubious success, thinking of the habitat creation on the ferry terminal, which was meant to be eelgrass and it's turned out to be salt marsh, various ones on the river and in Tsawwassen. They are well-known to people that have been studying them for years. So, what confidence do you have in being able to put mudflat, for instance, out there in the deeper water where you are putting your proposed terminal, and then eelgrass bed out there? Mother Nature might have other ideas.
- A: *Kyle Robertson*: Each of these proposals would undertake their own feasibility and effectiveness studies. I should note that where you mention the mudflat out there, where it looks like deeper water, it is really only about one metre. It's at the edge of a bench that really drops off precipitously as you get to the terminal edge, but at that level it's really not very deep. Our experts are indicating that this is feasible, and again it's conceptual at this stage and we'll continue to assess.
- Q: Anne Murray: Do you mind me asking who your experts are?
- A: *Kyle Robertson*: Hemmera is one of our lead consultants that's helping us in identifying these. They're a consultancy firm in Vancouver.
- Q: Anne Murray: And they were the same ones that did the other project?
- A: *Kyle Robertson*: They worked on Deltaport. I wasn't involved so can't speak specifically on the mitigation component of it, but they were leading some of that.
- C: Judy Kirk: Mary did you have a question?
- C: *Mary Taitt*: I'm just speechless.
- Q: *Jeremy McCall*: Just another question about the consultants, was Northwest Hydraulics involved in that? They are a very reputable firm.
- A: *Kyle Robertson*: Yes.
- C: *Cliff Stewart*: Just as a matter of interest, if you look on page 18, you'll notice that the upper left corner of the terminal is rounded now. If you go back and look at previous diagrams you will have noticed that corner of the terminal was square. That was a result of some of the work that Northwest Hydraulic Consultants did. One of the things they noted when they did their flow models was that rounding that corner would significantly improve the flow and hence reduce the potential for negative impacts on flows in that area.
- C: Jeremy McCall: Looking at your line of proposed tidal marsh on page 18, I was on Iona causeway the other day at mid-tide, with not a very big westerly wind blowing, and there's no way you would have got tidal marsh growing on the west side of the Iona Jetty. This is a similar profile, probably more exposed than Iona, so I really question whether anything can grow on that side.
- C: *Kyle Robertson*: That's great feedback.
- Q: Jeremy McCall: I also wondered if in the geomorphology Technical Advisory Group, whether they discussed the possible concept of penetrating the causeway, either inland from the existing terminals or in the two pods. Was that one of the options, and was there a consensus on that?

- A: *Cliff Stewart*: Yes, it was. The consensus was that it would likely do significant damage to intercauseway because of the amount of flow and the velocity of flow that would occur. In fact, they looked both at doing it in the existing causeway and also in the area between the existing terminal and the new terminal. The consensus was that it would be bad for the geography and for the fish as well.
- C: *Kyle Robertson*: I would just note that there is a study on our website that talks about putting a breach in the causeway and what the potential impacts would be.
- C: Jeremy McCall: I would like to look at that. I think without it you're going to get much more scarring on the left side along the causeway, but I'll look at that study. My last point is on mitigation, and I think you mention somewhere in here about offsets, and there was a previous request for comments on some of the field studies and proposals that PMV has been working on. One of particular interest to me is in the North Arm of the Fraser around the Sea Island Conservation Area, where it's proposed to exchange meadow for tidal marsh. Nature Vancouver have been the stewards of that area for more than 10 years now, and we are totally opposed to changing very good bird habitat for questionable additional tidal marsh habitat, and I'm wondering if any notice is being taken of the kind of comments that were made with respect to that type of proposed mitigation measure.
- C: *Charlotte Olson*: I think Jeremy is referring to the proposed McDonald Tidal Marsh Project, which is part of our Habitat Enhancement Program.
- C: Jeremy McCall: That's a proposed offset, I presume. We call it dis-enhancement.
- A: Charlotte Olson: We did post a Consideration Memo online, to reflect all the feedback that was received during the public engagement period for the McDonald project. The Consideration Memo is available and outlines what we heard and the actions that the Port is taking based on that input. An email did go out to all participants that attended the McDonald engagement period, with that Consideration Memo.
- C: *Margaret Meggy*: I just want to comment on the offsets. I don't know much about it. As a resident of Tsawwassen Beach, you're destroying Tsawwassen Beach and doing whatever offsets you're doing somewhere else. I think you should look at what you're doing at Tsawwassen Beach first.
- C: Judy Kirk: Ok, any final comments before we wrap up?
- C: Mary Taitt: I'm absolutely distressed. I've been involved with what's going on at Roberts Bank for the last 30 years. Just to inform people here, in 1979 there was a federal environmental assessment review panel of six experts who worked for over two years reviewing what the port was up to at that time. What the port wanted to do was this massive development on Roberts Bank. The panel said no to large sections of that, including building these pods on the north side, expanding this ship turning basin because of this problem of erosion between the two causeways, and no to widening causeway. The Minister actually said full expansion of the port would present an unacceptable threat to the Roberts Bank ecosystem. So the panel concluded that significant environmental damage and risk would result from the proposal, recommending the expansion as proposed not be permitted. However, the port has now done this. This is what then resulted in the 1990s. Two of these pods – talk about forecasts – one of them was empty for 10 years, the other was empty for 15 years. So much for their estimation of need. Then they came along and had a grain proposal for this north pod. They came up with 26 recommendations for the panel that was appointed. Four members of that panel, the Port's own panel, and just to give you a specific, one of the things they said was: the panel believes that ongoing mortality of birds is unacceptable. Specifically in their

recommendation they said that partners on Roberts Bank develop and implement a strategy to phase out overhead power lines on the Roberts Bank causeway by the year 2002. These are two processes done by six experts independently, and then the panel's own committee which had four excellent people on it. All this work has been done about how incredibly important this Roberts bank ecosystem is. What would that panel have thought about this whole extra port out here? This ecosystem is internationally recognized. It's just unbelievable that we are even contemplating more development out there. Are all these new wires to take electricity out to the new development going to be underground?

- C: Judy Kirk: I'll take Peter's comment first and then let Cliff wrap up with an answer to that.
- C: *Peter Duffy*: I'd like to go back to page 18, and a quote that we will be constructing Terminal 2 on top of intertidal and subtidal habitats. Now there's no indication as to exactly where these habitats exist, and I would like to know that in order to make some valuation of harm. Secondly, in the grey down below, you indicate that you have been proactively building habitat since 1991. I would like to know where that is. Are you in fact going to build on some of your own work? Are these areas in Deltaport or are they throughout the Port Metro Vancouver region? You should have specifics here. I think we should know these specifics before we can come to a judgment.
- C: Judy Kirk: Cliff, go ahead and then we are wrapping up. It's now 8:00.
- A: *Cliff Stewart*: So, to the first question, the intertidal habitat is essentially the causeway, until you get almost out to the new proposed terminal, and the terminal itself is substantially subtidal. So it's a question of intertidal and subtidal areas.
- C: Judy Kirk: Mary's question was are you going to bury power lines?
- A: *Cliff Stewart*: So I think the question was are there new power lines? Our understanding is that there is not a requirement for new power lines, that the existing lines are sufficient to power both the existing and future terminal. As to whether or not there is a requirement to bury the power lines, that's something that is currently being reviewed as part of the study and will be commented on in the EIS, and I don't know at this point what the findings are going to be.

Judy Kirk wrapped up the meeting, thanked participants for their questions and comments and invited participants to complete the feedback form by October 10, 2014.

The record notes that the meeting ended at 8:03pm.