

# DELTAPORT THIRD BERTH EXPANSION PROJECT

## RESPONSE TO COMPREHENSIVE STUDY REPORT



Shorebirds in Fraser Estuary: Sanderling and a few dunlin. ©Anne Murray 2006

Comments filed with the Canadian Environmental Assessment Agency under Section 22(2) of the *Canadian Environmental Assessment Act*, SC 1992, c. 37, in response to the Comprehensive Study Report prepared by Fisheries and Oceans Canada and Environment Canada on July 5, 2006

Comments made and filed by  
**BOUNDARY BAY CONSERVATION COMMITTEE**  
September 1, 2006

*This version contains some minor editing that was not contained in the September 1 document as submitted to CEAA.*

### **Acknowledgements**

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This submission was prepared by Jill H. McIntyre, Barrister & Solicitor, with assistance from Susan Jones and Dr. Mary Taitt of the Boundary Bay Conservation Committee, and Roger Emsley, a concerned citizen.

**“Ours to Preserve by Hand and Heart”**

## **Executive Summary**

### **Purpose of this Report**

This submission is filed by the Boundary Bay Conservation Committee with the Canadian Environmental Assessment Agency under Section 22(2) of the *Canadian Environmental Assessment Act* (S.C. 1992, c.37) "CEAA". It provides detailed comments in response to the Comprehensive Study Report dated July 5, 2006 prepared by the Department of Fisheries and Oceans and Environment Canada on the Deltaport Third Berth Project (Project).

Two major points are made throughout the submission: First, that the Project, if approved, will cause significant adverse environmental effects that cannot be justified in the circumstances; second, that the comprehensive study report contains so many fundamental flaws and omissions that it does not meet the requirements of the CEAA.

### **Project Description**

The Project was proposed by the Vancouver Port Authority (the Proponent) to expand the existing Deltaport Container Terminal (Deltaport) at Roberts Bank in Delta, British Columbia to increase its capacity by 44%.

The Project consists of construction and operation of a caisson-supported wharf to accommodate an additional berth and approximately 22 ha of fill to accommodate an expanded container storage yard. The Project also includes dredging to deepen the existing ship channel and create a tug moorage area adjacent to the terminal. Rail upgrades are proposed within existing rail rights-of-way and upgrades to existing roads and highways have also been proposed. If approved, construction on the Project is expected to take about 32 months to complete.

### **Location of Project**

The Project is located adjacent to the Fraser River Estuary, which ranks globally in its ecological value for fish and wildlife, providing habitat to hundreds of species of resident and migratory birds. The Project is also situated in the Georgia Basin, which is the subject of a multi-partnered initiative involving Environment Canada referred to as the Georgia Basin Action Plan aimed at improving sustainability in the Georgia Basin.

The community of Delta is adjacent to the Project. Delta is situated in the fertile Fraser delta where agriculture still accounts for more than half the land use. It is also a suburb within commuting distance of Vancouver. The community is linked to Vancouver by road through a four-lane tunnel under the Fraser River, which

switches to a counter flow lane at peak commuting times to assist with congestion through the tunnel. Road and rail infrastructure are not sufficient to handle the increased road and rail traffic from the Project.

### **Purpose of the Project**

The purpose of the Project is to provide additional container terminal facilities. The Proponent predicts that North American container volumes will grow at a rate greater than the economy through 2020. According to the Comprehensive Study Report, the Project also constitutes a significant component of the federal *Pacific Gateway Strategy* announced in October 2005.

BBCC analyzed the capacity figures presented in the Comprehensive Study Report and found that those figures did not account for all port capacity in Vancouver, and did not account for any port capacity in Prince Rupert, which is geographically and ecologically a preferable option for expanded port facilities. Taking all existing and planned capacity into account, BBCC shows that there is no need for this Project, even if growth forecasts relied upon in the Comprehensive Study Report were accurate. BBCC also shows that those growth forecasts are likely highly optimistic, as they do not take into account a tripling in the price of oil since the forecasts were made, and did not allow for the current uncertainty in the world economy.

BBCC also points out that the British Columbia government states that the productivity of British Columbia ports are less than half of those in Europe and Asia, based on capacity per square meter. Greater productivity of all existing port facilities should be explored before construction of new facilities.

### **Significant Adverse Effects**

Both the Province and the Federal Government have repeatedly recognized the unique and fragile ecosystem of the Fraser estuary and the Georgia Basin. The Province and Environment Canada are currently involved in programs aimed at protecting the health of the Fraser estuary from human modifications and habitat loss, and Environment Canada is working with American counterparts to protect the Georgia Basin from environmental pollution from ocean going vessels. These two ongoing initiatives serve only to reinforce BBCC's submission that the ecological damage done by the Project will be substantial.

The Project will result in changes to geomorphology, water quality, sediment quality, and destruction of 55 acres of marine environment. These changes would have effects on shorebirds, migrating birds and all types of marine life.

The Project contemplates accommodating ships as long as three football fields, with a 14.5-meter draught (the area below sea level), which is about the height of a four-story building. If the Project is approved, these huge ships would be

navigating through the Strait of Juan de Fuca and Georgia Strait, powered by engines generating 100,000 horsepower and drawing 1660 gallons per hour of diesel oil. The noise from the enormous engines would affect fish and marine mammals, and the potential for collision with marine mammals, particularly the endangered Southern Resident Killer Whales is of great concern to BBCC.

Air quality would significantly deteriorate as a result of the Project. During the predicted 32 month construction period, and likely during operation, the levels of harmful PM2.5 (fine particulate matter) would increase beyond levels found to be acceptable by the Greater Vancouver Regional District. Operation of the Project would increase greenhouse gases at a time when Canada is attempting to reduce them. The size and number of ocean-going vessels, which have been found to be a significant source of air pollution in the lower mainland, would increase.

The Project would result in increased rail traffic through Delta, resulting in more noise and more vehicular delays at crossings. The Project would significantly increase the amount of truck traffic through Delta and over major connector routes that are already at capacity. The Comprehensive Study Report, instead of assessing the adequacy of road and rail transportation and the cumulative effects the Project would have on road and rail transportation, takes the position that transportation issues would be addressed through the environmental process ongoing for the South Fraser Perimeter Road. The Comprehensive Study Report fails to acknowledge that approval of this Project, when there is inadequate infrastructure in place to support it, would in turn enhance justification for the South Fraser Perimeter Road simply because the Project would tax the existing infrastructure beyond its capacity.

The Comprehensive Study Report accepts that mitigation measures, including a vague document entitled "Owner's Commitments", an Adaptive Management Strategy and a Habitat Compensation Plan, would be sufficient to mitigate the effects of this development on one of the most sensitive ecological zones in North America, and on the surrounding community. BBCC submits that those uncertain and unproven methods would not mitigate the environmental effects of this Project, and the Comprehensive Study Report contains no assurance that they would.

A number of major concerns raised by the public were not addressed by the Comprehensive Study Report, including some of the issues set out above, as well as concerns about the transparency of the environmental assessment process.

Finally, BBCC submits that the effects of this Project on the endangered Southern Resident Killer Whales require Canada to notify the United States under the International Convention on Transboundary Environmental Impact Assessment, to which Canada is a signatory. No such notification was given.

This Project and the Comprehensive Study Report fall far short of the standards set by the CEAA for the Minister to approve it. **BBCC urges the Minister to issue an environmental assessment decision under subsection 23(1) of the CEAA that the Project is likely to cause significant adverse environmental effects.**

In the alternative, BBCC urges the Minister to defer making the environmental assessment decision and request Department of Fisheries and Oceans and Environment Canada or the Proponent (Vancouver Port Authority) to provide the information shown to be missing in the Comprehensive Study Report and address the public concerns that were not addressed.

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# **DELTAPORT THIRD BERTH EXPANSION PROJECT**

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## **1 Background**

The Project is proposed by the Vancouver Port Authority (the Proponent) to expand the existing Deltaport Container Terminal (Deltaport) at Roberts Bank in Delta, British Columbia, to increase the Port's capacity by 44%.

The Project consists of construction and operation of a caisson-supported wharf to accommodate an additional berth and approximately 22 ha of fill to accommodate an expanded container storage yard. The Project also includes dredging to deepen the existing ship channel and create a tug moorage area adjacent to the terminal. Rail upgrades are proposed within existing rail rights-of-way and upgrades to existing roads and highways have also been proposed. If approved, construction on the Project is expected to take about 32 months to complete.

The Project triggers a federal Environmental Assessment (EA) under the Canadian Environmental Protection Act (CEAA) because Fisheries and Oceans Canada (DFO) and Environment Canada (EC) will be required to issue statutory or regulatory approvals for various aspects of the Project. Those approvals, which include an authorization under subsection 35(2) of the Fisheries Act authorizing destruction of fish habitat, and a permit under subsection 127(1) of the CEAA for disposal of the dredging material at sea, are listed on the Law List Regulations of CEAA [SOR/94-636]. An EA is also required under the Canada Port Authority Environmental Assessment Regulations [SOR/99-318].

The Project type is included in subsection 28(c) of the Appendix to the Comprehensive Study List Regulations [SOR/94-638], which requires a comprehensive study for:

*"28. The proposed construction, decommissioning or abandonment of ....*

*(c) a marine terminal designed to handle vessels larger than 25 000 DWT unless the terminal is located on lands that are routinely and have been historically used as a marine terminal or that are designated for such use in a land-use plan that has been the subject of public consultation."*

The Project triggered a provincial EA under the Environmental Assessment Act [SBC 2002, c. 43]. The provincial and the federal processes have been harmonized.

The Proponent gave notice of its intent to apply for an environmental assessment certificate under the Provincial Act in early 2003. The provincial process is now complete.

The preparation of the CSR by DFO and EC began the final stage in the federal environmental assessment process. This document is filed under Subsection 22(2) of the CEAA to provide comment on the CSR dated July 5, 2006<sup>1</sup>.

The opportunity to file comments on the CSR under subsection 22(2) is the final opportunity in the environmental assessment process for public input into the environmental assessment process. At the end of the public consultation period, the Minister is required to take action under Section 23 of the CEAA, which reads as follows:

*“23(1) The Minister shall, after taking into consideration the comprehensive study report and any comments filed pursuant to subsection 22(2), refer the project back to the responsible authority for action under section 37 and issue an environmental assessment decision statement that*

- (a) sets out the Minister’s opinion as to whether, taking into account the implementation of any mitigation measures that the Minister considers appropriate, the project is or is not likely to cause significant adverse environmental effects; and*
- (b) sets out any mitigation measures or follow-up program that the Minister considers appropriate, after having taken into account the views of the responsible authorities and other federal authorities concerning the measures and program.*

*(2) Before issuing the environmental assessment decision statement, the Minister shall, if the Minister is of the opinion that additional information is necessary or that there are public concerns that need to be further addressed, request that the federal authorities ...or the proponent ensure that the necessary information is provided or actions are taken to address those public concerns.”*

The CSR is thus the focus of this submission.

The Boundary Bay Conservation Committee (BBCC) was established in 1988 to enhance public awareness and appreciation of the global significance of Boundary Bay in British Columbia. BBCC has worked with many groups to

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<sup>1</sup> Fisheries and Oceans Canada, Environment Canada. Deltaport Third Berth Expansion Project: Comprehensive Study Report. July 5, 2006. [<http://www.ceaa-acee.gc.ca>]

obtain protection and recognition for wildlife and habitats in the Fraser River Estuary ecosystem.

Throughout the environmental assessment of this Project, BBCC provided written comments about the effect this Project will have on the environment in general and the Pacific Flyway and Fraser River estuary ecosystem in particular. BBCC submits that the Project will cause significant and irreversible environmental damage that cannot be justified in the circumstances.

## **2 Introduction**

The CSR for the Project indicates that the Project has received qualified support from DFO and EC.

Throughout the environmental assessment process BBCC, together with many other groups and individuals, raised concerns about the lack of need for this Project and the unsuitability of the location for the Project. The CSR does not address those concerns, which are:

1. This area is not suitable for increased port capacity because it is not near any industrial land and it is not adequately served by road and rail infrastructure;
2. This area is not suitable for increased port capacity because it is a naturally shallow port;
3. This area is not suitable for increased port capacity because the globally significant Fraser River Delta, Roberts Bank ecosystem and the Pacific Flyway will be significantly adversely affected.

Two major points are made throughout the submission: First, that the Project, if approved, will cause significant adverse environmental effects that cannot be justified in the circumstances; second, that the CSR contains so many fundamental flaws and omissions that it does not meet the requirements of the CEEA. These points, while separate, are inextricably linked and some overlap inevitably occurs.

More specifically, putting those objections within the context of the Project itself:

- there is no need for the Project;
- the Project is likely to cause significant adverse environmental effects to the fragile Roberts Bank ecosystem, the marine environment in the Georgia Basin, and the environment in general;

- those significant adverse environmental effects will not be mitigated by the measures proposed in the CSR;
- those significant adverse environmental effects cannot be justified in the circumstances.

And in terms of the CEAA and the CSR in particular:

- the CSR contains a faulty analysis of the need for the Project;
- the CSR does not consider a substantial amount of credible scientific and environmental information that shows that the Project is likely to cause significant adverse environmental effects to the fragile Roberts Bank ecosystem and the marine environment in general, and fails to consider the cumulative environmental effects of the Project;
- the CSR does not adequately address overwhelming public concern about the Project;
- the CSR does not meet CEAA's requirement for sustainable development;
- the CSR contains no effective follow-up program that will address environmental damage attributable to the ecosystem;
- the CSR does not address the issue of Canada's obligation under the Transboundary EIA Convention to notify the United States of the Project, which is likely to cause a significant adverse effect on the endangered Southern Resident Killer Whales;

For those reasons, the CSR does not meet the requirements of the CEAA. The Minister is required to make the environmental assessment decision on the basis of the CSR together with any comments filed pursuant to subsection 22(2).

On the basis of the information set out in this submission, together with other public comments, BBCC urges the Minister to issue an environmental assessment decision under subsection 23(1) of the CEAA that the Project is likely to cause significant adverse environmental effects that cannot be justified in the circumstances.

In the alternative, BBCC urges the Minister to defer making an environmental assessment decision and request DFO and EC under subsection 23(2) to provide the information shown to be missing in the CSR as well as address the public concerns that were not addressed in it.

### **3 Comments on the Project**

This part of the submission sets out comments with respect to the Project itself and its likely environmental effects. Deficiencies in the CSR are, for the most part, dealt with in the next section of this submission.

BBCC submits that there is no need for the Project and that it is likely to cause significant adverse effects that cannot be justified in the circumstances.

#### **3.1 Project Description**

Before turning to the environmental effects of the Project, it is necessary to set out in more detail what the Project involves, in terms of its construction and operation. That description will form a basis for the discussion of the environmental effects of the Project.

##### **3.1.1 Construction**

The Notice of Commencement issued under the CEAA on November 17, 2005 reads as follows:

*“The principal components of the proposed Deltaport Third Berth Project consist of construction of a fill area of approximately 20 hectares (50 acres) of land for an expanded container storage yard and the construction of a new wharf structure for the creation of a third ship berth. Dredging operations will be required to deepen the existing ship channel, adjacent to the new wharf structure, to deepen the existing ship turning basin and for the removal of geotechnically incompetent materials that will be directed to ocean disposal. Ancillary project components include the creation of a tug moorage area adjacent to the north side of the new wharf, relocation of a safety boat launch currently located on the north side of Deltaport, and the addition of approximately 7,000 meters (23,000 feet) of rail track, which includes the extension of the Gulf siding arrival/departure tracks from east of Arthur Drive to 64th Street in Delta (within the BC Rail right-of-way) The operation of the Deltaport Third Berth facility includes an increase in associated marine traffic (container vessels and tugs). The increase in terminal loading and unloading equipment (ship-to-shore gantry cranes, rubber tire gantries, rail mounted gantries, tractor trailers), and increase in associated road and rail traffic.”*

The Project is planned to handle a range of vessels, including the largest 10,000 twenty-foot equivalent unit (TEU) ships currently being considered for the trans-Pacific container trade.(CSR p.10)

Construction would take approximately 32 months. As stated in the Notice of Commencement, the Project involves dredging for the caissons to support the third berth, construction of approximately 22 hectares of new land, and dredging of a ship's channel. More than 850,000 cubic meters of material will be dredged, some of which will be used for fill and the rest of it disposed of at the Roberts Bank designated disposal at sea site. There will be a loss of marine habitat of at least 22 hectares.

The Project also involves improvements to terminal infrastructure, including a paved container yard, 24 reefer towels, buildings, high mast lighting towers, electrical power and communications systems, parking and rails for ship to shore gantry cranes. New cranes and gantries would be needed. The existing tug moorage area will be relocated, and rail improvements on the causeway will be needed.

### **3.1.2 Operation**

The Project would increase the capacity of Deltaport from its current 900,000 TEU per year to a forecast 1.3 million TEU per year, an increase in capacity of 400,000 TEU. The Project will accommodate ships as large as 10,000 TEU, about twice the average size of ships now docking at Deltaport.



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Look for the people on the deck.

China Ocean Shipping Corporation (Cosco) started to use a 9,500 TEU ship this year: The Cosco Ghangzhou above has a length of 350.56 m, a beam of 42.8 m, and a capacity of about 9500 TEU. Its speed is 25.4 knots. ([www.cosco.com](http://www.cosco.com)) This is approximately three times the length of an American football field, a similar width to a football field, and a depth similar to the height of a four-story building.

### **3.2 There is No Need for the Project**

Paragraph 16(1)(e) of the CEAA requires that a comprehensive study report address “the need for the project”. The Operational Policy Statement issued under the CEAA Act in October 1998, defines “need for and alternatives to the project” as follows:

*"Need for" the project is defined as the problem or opportunity the project is intending to solve or satisfy. That is, "need for" establishes the fundamental rationale for the project.*

The CSR does not directly address the issue of whether there is a need for the Project, but considers the option for the Proponent to “do nothing”. The CSR states:

*“The first alternative VPA considered was to “do nothing” beyond the current productivity increases at the Vanterm and Centerm terminals. This would limit container terminal capacity in the Port of Vancouver to 2.2 million TEU.” (CSR, p. 38)*

This is not the case. If VPA “did nothing” in respect of the Third Berth Project, the container terminal capacity in the Port of Vancouver would be 3.3 million TEU in 2010, and would increase after that. That figure is based on information provided by the Proponent. The discrepancy of 1.1 million TEU is more than the planned capacity of the Third Berth Project. The discrepancy arises out of the Proponent’s failure to account for all port capacity in Vancouver.

#### **3.2.1 Existing and Planned Port Capacity**

The Proponent justifies the Project by totaling the actual and planned capacity of the Ports of Vancouver and comparing that capacity with forecasted demand. In calculating capacity, however, the Proponent counts only the 2003 capacities of Centerm, Vanterm and Deltaport. The CSR adopts those forecasts. After removing data about size and depth, which are not important for this discussion, Table 7 of the CSR (page 38) shows the following data, which came from the Proponent:

<b>Terminal</b>	<b>2003 Capacity (TEUs)</b>
Centerm	340,000
Vanterm	435,000
Deltaport	900,000
<b>Total</b>	<b>1,675,000</b>

The table fails to account for VPA's plans to convert the Lynnterm terminal from forest products to containers. (CSR p. 39) According to the Proponent's Application Lynnterm may be developed in two stages, providing 420,000 TEU by 2010 and 800,000 by 2014.

The table also fails to account for the Fraser River Port, which is owned by the Fraser River Port Authority. The CSR states that improvements at the Fraser River Docks will increase capacity at that terminal to 400,000 TEUs by 2005, up to 600,000 TEUs by 2010, and 700,000 by 2020. (CSR p. 40)

Further, according to information now on the Proponent's website ([www.portvancouver.com](http://www.portvancouver.com)), expansion projects on both Centerm and Vanterm have been completed. The current capacity of Centerm is 780,000 TEUs and the current capacity of Vanterm is 600,000 TEUs.

A more accurate chart, incorporating the above information, but not including the third berth Project, is as follows:

<b>Existing and Planned Container Capacity (TEU's/Year)</b>				
<b>Terminal</b>	<b>2003 Capacity</b>	<b>Existing 2006 capacity</b>	<b>2010 Capacity (forecast)</b>	<b>2014 - 2020 Capacity (forecast)</b>
Centerm	340,000	780,000	780,000	780,000
Vanterm	435,000	600,000	600,000	600,000
Deltaport	900,000	900,000	900,000	900,000
Lynnterm			420,000	800,000
Fraser River	251,000	400,000	600,000	700,000
<b>Total Vancouver</b>	<b>1,926,000</b>	<b>2,680,000</b>	<b>3,300,000</b>	<b>3,780,000</b>



## **Prince Rupert**

Environmental approvals have been granted, and construction is currently underway to expand Prince Rupert's Port Capacity to 500,000 TEU. Plans are to expand the terminal to allow capacity of 2.0 million TEU by 2010. ([www.rupertport.com](http://www.rupertport.com))

Phase 1 of the Prince Rupert port expansion was subject to a lower level of review than this Project, an environmental screening process, which found there to be no significant environmental effects. The location of Prince Rupert's port, in comparison to that of this Project, poses far fewer environmental issues, and because of that there is not indication that Phase 2 of Prince Rupert's Port development will be delayed for environmental reasons.

Prince Rupert's Port is a preferred substitute for Vancouver's. The bulk of the trade through the port is with Asia: Prince Rupert is 800 miles, or thirty-six hours shipping time, closer to Asia than Deltaport. Considering that the Super PanaMax container ships burn over 1500 gallons of oil per hour, 36 hours of shipping time represents a considerable saving. In addition, ships traveling to the Prince Rupert port are not required to maneuver the high traffic areas of the southern straits.

Prince Rupert has the significant added advantage of the shortest land-sea link to Asia and the deepest natural harbour in North America. Without dredging, the Prince Rupert Port will be able to accommodate the large 10,000 TEU vessels.

Most of the containers arriving at Deltaport are shipped to the east: existing rail connections from Prince Rupert to the east are in place and able to support additional capacity, and there is no need for the trains to travel through a densely populated area.

A chart showing the existing and planned capacity of all British Columbia ports, but not including the third berth Project, is as follows:

<b>Terminal</b>	<b>2010 Capacity</b>	<b>2014 – 2020 Capacity</b>
Centerm	780,000	780,000
Vanterm	600,000	600,000
Deltaport	900,000	900,000
Lynnterm	420,000	800,000
Fraser River	600,000	700,000
<b>Total Vancouver</b>	<b>3,300,000</b>	<b>3,780,000</b>
Prince Rupert	2,000,000	2,000,000
<b>Total B.C. West Coast</b>	<b>5,300,000</b>	<b>5,780,000</b>

Together, the five docks, with Prince Rupert, and without the Third Berth will have a total capacity of 5.3 million TEU by 2010 and 5.8 million TEU by 2014.

### **3.2.2 Demand**

In preparation for the environmental assessment process, the Proponent undertook a market study to project container traffic and demand over the next decades. The Proponent forecast container demand for the Vancouver Port Area, but did not factor Prince Rupert into its demand forecasts, or separately forecast demand for the Port of Prince Rupert. The logical conclusion is that the forecasts for demand must include demand for the Port of Prince Rupert.

The following forecasts, in TEUs, for the Vancouver Port Area, are set out in Table 6 in the CSR: (page 37)

Year	Basis	Low	<b>Base</b>	High
2003	Actual	1.8	<b>1.8</b>	1.8
2005	Projected	2.0	<b>2.1</b>	2.2
2010	"	2.8	<b>3.1</b>	3.5
2015	"	3.6	<b>4.3</b>	5.1
2020	"	4.7	<b>5.3</b>	6.6

The above forecasts are based on growth rates that are very questionable, and will be discussed below, but even if the growth rates were as significant as the Proponent forecasts, there will be sufficient capacity to meet demand well into 2020.

### **3.2.3 Capacity is sufficient to meet demand**

Data shows that there will be more than sufficient port capacity in the Province without the Third Berth to meet the Proponent's forecast demand well into 2020. These forecasts use the "base case" Projected Demand as forecast by the Proponent, which are based on a 6.6% annual growth rate, compounded annually. That growth rate is likely highly inflated, as will be discussed below.

<b>British Columbia Projected Container Capacity and Demand (TEU / year)</b>					
	2003 actual	2005 actual	2010 planned	2014 expectation	2020 expectation
Capacity Without third berth	1,900,000		5,300,000	5,700,000	5,800,000 <sup>2</sup>
Demand without third berth	1,800,000	2,100,000	3,100,000	4,300,000	5,300,000
<b>Surplus capacity without third berth</b>			<b>1,800,000</b>	<b>1,300,000</b>	<b>500,000</b>

Another factor affecting demand additional port facilities is efficiency. The British Columbia government states in its British Columbia Ports Strategy of March 2005 that B.C. Ports produce about 1,000 TEU/metre of berth/year. World best practices achieve 2,500 TEU/m/year. (Appendix B) Greater efficiencies would negate, or postpone into the far distant future the need for new facilities.

### **3.2.4 Inflated Growth Rates**

The following are the Growth Rates, in % per year, shown in Table 6 in the CSR, as used by the Proponent to forecast the above growth, with emphasis added to show the figures used by the Proponent. (Table 6, page 37)

		Low	<b>Base</b>	High
2003-05	"	7.0%	<b>8.9%</b>	11.5%
2005-10	"	6.5%	<b>8.2%</b>	9.7 %
2010-20	"	5.3%	<b>5.4%</b>	6.4%
2003-20	"	5.8%	<b>6.6%</b>	8.0%

There is a great deal of uncertainty surrounding the growth rates of container traffic, because the historical growth rates have followed no consistent pattern. Historical data presented by the Proponent on page 114 of its application (figure 3.6), shows annual container shipment growth rates fluctuate wildly. The variances in growth rates are no doubt attributable to a variety of market forces, none of which were analyzed in making the forecasts.

If there is any trend in growth rates, it could be argued that the last four years show the growth rates to be steadily declining, as shown in the chart below.

<sup>2</sup> This includes an additional 100,000 TEU to account for increased capacity in the Fraser Docks, accordance with p. 40 of the CSR, which states that the Fraser Surrey Docks will grow to 700,000 TEU by 2020.

<b>Year</b>	<b>Basis</b>	<b>VPA</b>	<b>Fraser</b>	<b>Total</b>	<b>% growth</b>
<b>2000</b>	Actual	1.16	.067	1.23	
<b>2001</b>	Actual	1.15	.05	1.12	(-3%)
<b>2002</b>	Actual	1.46	.10	1.56	30%
<b>2003</b>	Actual	1.59	.25	1.8	14%
<b>2004</b>	Actual	1.67	.32	2.0	11%
<b>2005</b>	Actual	1.77	.35	2.1	6%

Sources: 2000 – 2003, Table 3.2, p. 112, Proponent's Application; 2003 – 2005, Annual Reports, VPA and Fraser Port Authority

One major factor that was not considered in the Proponent's optimistic growth rate forecasts was the increase in the price of oil. The Proponent's market forecasts were done in 2003: The price of a barrel of oil in July 2006 was more than triple what it was in September 2003. Increases in the price of oil are devastating to the shipping industry, because the cost of oil constitutes a high component of the cost of shipping. At a certain level, the costs of shipping goods add so much to the price of the goods that the goods are no longer competitively priced in the market. As a consequence, fewer goods are shipped.

Growth of the magnitude forecast by the Proponent is not likely to occur if the price of oil stays at its current level or continues to climb.

Another crucial factor in forecasting demand for container shipping is the world economy in general, and the U.S., Canadian and Asian economies in particular. There are signs of trouble in those economies.

Because there will be sufficient capacity to meet demand even with growth rates of 6.6% annually, if, as BBCC expects, those growth rates turn out to be overly optimistic because of increases in the price of oil or economic downturns, the province will have a significant excess capacity of container facilities. Recognizing the lead-time for a Project of this magnitude, and the lack of demand shown for the Project at this time, the Project could be reassessed in five years. This would provide more than sufficient lead time to allow additional capacity to be available past 2020 if found to be necessary, and would also allow time for proper environmental studies to be done on the area in question. The lack of those studies is dealt with in Part 4 of this submission.

### **3.3 The Project Will Cause Significant Adverse Environmental Effects**

The habitat and wildlife values of the Roberts Bank ecosystem have global recognition in the declaration of the Fraser River Estuary as a Globally Significant Important Bird Area and a Hemispheric Site in the Western Hemisphere Shorebird Reserve Network. The foreshore of Roberts Bank and the adjacent area is coded red under the Fraser River Estuary Management Plan (FREMP), which is the most sensitive coding, as the area is critically sensitive fish habitat. The land surrounding the port is primarily residential and agricultural.

When, in the past, port expansion has been subject to a full scientific screening process, plans were found to pose “unacceptable threats” to the Roberts Bank ecosystem. A Federal Environmental Assessment Panel in 1979 found that “The extent and ecological significance of the Fraser River estuary, particularly its use by fish and wildlife, make it Unique in North America”.

Despite that finding, the Proponent was allowed to further develop the port area. The Proponent now seeks to further increase the size of the port.

Since 1979, container ships have expanded in size, scientific knowledge about how ecosystems function has increased immeasurably, global warming has become a pressing issue, and the population of the community surrounding Deltaport has grown. Deltaport has caused, and is continuing to cause, significant damage to the Roberts Bank ecosystem.

Advances in our scientific knowledge, deteriorations in the global environment, traffic congestion in the area and documented changes resulting from past developments in the area make this Project even more unacceptable than it was when it was fully examined by a federal Environment Assessment Panel 35 years ago.

#### **3.3.1 Ecosystem**

It is common knowledge that tampering with one part of an ecosystem can profoundly affect the functioning of the entire ecosystem. This can set off a chain of events that can damage it irreversibly. While it is important to assess the effects of the Project on the individual components of the ecosystem, that assessment must be put in the context of the complex interrelationship and delicate balance found in all ecosystems, and in this one in particular.

The Project is located at the estuary of the Fraser River. The Fraser estuary is the most important salmon-producing river in the world and is designated globally as an Important Bird Area (IBA). The area of Project is designated as a hemispheric site in the Western Hemisphere Shorebird Reserve Network

Program. The adjoining land is fertile agricultural land.

Eelgrass, crabs, macro invertebrates, fish, the sand and mud flats, the birds, the marine mammals, the insects and amphibians all form part of the system on which each depends for survival. Because of the complexity of the system, it is impossible to determine the extent of the environmental damage that will be done by destroying marine habitat of 22 hectares (an area sufficient for over 300 homes on good size lots) in this area. BBCC is certain that the effects will be significant and irreversible.

Environment Canada (EC) has recognized the fragile state of the system in the past. Among other initiatives, EC identified a need for improvement in management of the salmon fishery in the Fraser estuary and is undertaking research to improve sustainability in the Georgia Basin. Unfortunately, the findings in the CSR indicate that EC did not assess this Project with the same level of concern it has expressed in the past about the ecology of the Fraser River estuary and Georgia Basin. ([www.pyr.ec.gc.ca/georgiabasin/Index\\_e.htm](http://www.pyr.ec.gc.ca/georgiabasin/Index_e.htm))

### **3.3.2 Geomorphology**

850,000 cubic meters will be dredged from the ocean floor to build this Project. A great deal of this material will be “disposed of” elsewhere in Roberts Bank. This represents a huge disruption of the geomorphology in the area, which has still not recovered from the original construction of Deltaport.

The Proponent’s Cumulative Assessment amended Chapter 23 states:

*“The construction of this port facility [Deltaport] has altered coastal geomorphology processes. This in turn has altered the proportion of marine habitats in the vicinity of the terminal. These changes have altered the resources available to other marine species: reduction in shallow sub-tidal habitat and consequent changes to invertebrates, fish and birds. These changes are ongoing and the area surrounding the terminal has yet to reach equilibrium.”*

The Proponent acknowledges that Deltaport altered the coastal geomorphology processes in a significant and as yet undetermined manner. It logically flows that a further disruption of 850,000 cubic meters of dredging **in combination with** the changes that occurred as a result of Deltaport is highly likely to significantly affect the geomorphology.

### **3.3.3 Water Quality**

BBCC has concerns about water quality issues both during construction and as a result of alterations to the ecosystem that will occur during and after construction.

According to the CSR (Figure 4, p. 15) construction of this Project would involve six months of “mobilizing the dredge” and six months of dredging. Placing the fill into the new terminal area will begin after the dredge is “mobilized” and take the better part of 2 years. BBCC expects that all of these activities will impact water quality, including sediment and eutrophication. These effects will be immediate and constant for almost three years, through breeding cycles of all species in the area.

The CSR acknowledges that agency reviewers

*“Identified that potential ecosystem changes, related or unrelated to the DP3 Project, are occurring or could occur, and that the current level of scientific understanding of potential marine eutrophication processes at Roberts Bank is inadequate.” (p. 59, CSR)*

It is clear that past developments have affected water quality to a significant extent, and this one will contribute to the damage that has been done.

### **3.3.4 Marine Environment**

The Project would result in the permanent loss of approximately 22 hectares of marine habitats that include 5 hectares of eelgrass habitat, 300 square meters of salt marsh habitat and ten hectares of intertidal mudflat and 6.9 hectares of sub tidal mudflat. (p. 73) It is impossible to ascertain, much less set out, the extent of the environmental damage that will result from this. BBCC is certain that the damage will be significant.

Destruction of the marine environment will affect countless species, which in turn will affect the species that depend on the affected species for nutrition. The Proponent did not properly study those effects (EC, Technical Comments April 2005, p. 24) It is clear that the Project will put increased pressure on salmon stocks, both by affecting their nursery area and their food supply. Many pacific salmon stocks on the west coast are depleted or at risk of depletion. A large and crucial “nursery area” for Dungeness crabs will be destroyed.

The Project will increase noise levels in the marine environment both during construction and during operation. Noise levels during both stages are of concern to BBCC, as noise will affect fish and marine mammals, including the endangered Southern Resident Killer Whales.

Noise from the construction of the Project, increased amount of vessel traffic and increased size of vessels (discussed more specifically below in relation to marine mammals) and the noise from the operation of the Third Berth are likely to impact fish:

*“This implies fish sensitivity to most, if not all, of the spectrum of [noise] emissions from large vessel traffic, and thus the potentiality of consequences similar to those faced by marine mammals, that could similarly impinge on individual and population survival, including masking of biologically important sound, auditory tissue damage (threshold shifting), avoidance of otherwise suitable habitat, and chronic stress”. (EDC, p. 18)*

## **Construction**

Construction would take almost three years. During that time the marine environment will be filled with the sounds of dredging and pile driving. Engine noises, vessel traffic (to transfer the fill from the dredged area to the dump area) and an unknown host of other noises will be constant. The trauma resulting to marine life from these noises over that period of time will not be assessed until long after construction has been completed, and will never be completely known, because the state of scientific knowledge in this area is such that we know there are affects, but we don't know exactly what they are.

One study found that humpback whales that were exposed to construction noises estimated at 209dB at the source showed “no significant change in behaviour despite some extremely high, acute received sound levels.” However, over the subsequent two years, humpback entanglements in gill nets with sonic deterrence devices spiked dramatically. (EDC 2004, p.16)

*“The researchers suggest that the explosions resulted in threshold shifting sufficient to significantly impinge on the whales' ability to acoustically detect gill nets. While underwater explosions are dramatically different in acoustic character compared to large vessel traffic, the research of Todd et al. reveal that cetaceans, or at least humpbacks, may not flee from biologically important habitat despite physiologically traumatic sound levels.” (EDC, 16)*

## **Operation – Noise and Collisions**

Construction noise and noise from marine traffic are certain to impact marine mammals. The Proponent's application acknowledges that Southern Resident Killer Whales are susceptible to acoustic pollution from shipping and construction, and that disturbances caused by marine traffic may be a potential cause of decline in this population.

There is sufficient worldwide concern about the effects of shipping noise on marine mammals that the National Oceanic and Atmospheric Administration (NOAA) held an international symposium in 2004 dealing specifically with the issue that problem. Entitled “Shipping Noise and Marine Mammals: A Forum for Science, Management and Technology”. The report of that conference is found [www.shippingnoiseandmarinemammals.com](http://www.shippingnoiseandmarinemammals.com). Here is an excerpt:



*"Noise exposure may result in a range of effects on auditory and non-auditory systems.... Signals of interest may be "masked" (or interfered with) by the presence of noise. More intense or prolonged exposure may result in either temporary or permanent changes in hearing sensitivity. Noise may also induce direct physical trauma to non-auditory structures, or, in fish, increase egg mortality."*

The Project is designed to accommodate very large ships. These large ships will be noisier than the smaller ones.

*"Sound levels from cargo ships and tankers are approximately related to speed, burden, capacity and length. Large container vessels, freighters and tankers ranging from 135 m. to 337 m generate peak source sound levels from 169 to approximately 200 decibels between 8 Hz and 430Hz." (EDC, P. 10)*

Studies have shown that large cargo vessels individually produce significant sound emissions and that are within the hearing and vocalization range of Orcas. Killer whales vocalize with each other and use echolocation to navigate and find food. The increase in noise from the increase in horsepower of the larger vessels will be devastating for marine mammals, including the endangered southern resident killer whales, whose ability to echolocate will be affected by the noise.

### **Collisions**

A 10,000 TEU vessel will be as long as three foot ball fields, will have a draught equivalent to the height of a four-story building and be powered by engines with 100,000 horsepower. Photographs are found elsewhere in this submission. The size of these vessels increases the risk of marine mammal collision.

When the increased size is considered in conjunction with the projected 8% increase in vessel traffic, combined with the projected increase in other marine traffic, including B.C. Ferries and recreational traffic, the risk of collisions with marine mammals are significant. The risk of collision is of particular concern to BBCC because of the endangered Southern Resident Killer Whales.

### **These effects cannot be mitigated**

Concerns about the effects this Project would have on the marine environment were raised by EC during the assessment:

*"Vancouver Port Authority has stated that the [Project] will not have significant environmental (ecological) impacts on Roberts Bank. EC does not share this view for the following reasons:*

- *the footprint for the development and the proposed mitigation, will directly impact productive habitat for migratory birds and other biota;*
- *the studies presented in support of the finding of no significant ecological impacts do not provide sufficient evidence to support that conclusion. As already discussed, the conclusions are based on data and analyses for which there exist major flaws;*
- *perhaps most importantly, the evidence cannot show that the project footprint impacts will not act cumulatively with historical changes to the bank that have resulted from construction of the Deltaport and ferry causeways.” [EC, Technical comments, April 2005 p. 24]*

To address those concerns, mitigation measures were incorporated in the CSR, but they will not be effective to mitigate the effects on the marine environment.

A major component of the mitigation measure is the Habitat Compensation Plan, included as an appendix to the CSR. There are no details to the Habitat Compensation Plan in the CSR. The CSR states that the details have not been determined. However the Plan includes creation of only 6.7 hectares near the destroyed habitat. The balance of “compensation” comes from enhancement of other habitat (9.5 hectares) and “offsite compensation” of a minimum 7.5 hectares in the Fraser estuary. (CSR p 76/77).

It is difficult to see how mere enhancements to existing habitats can replace destroyed habitats. It is also difficult to see how creation of “off site” habitat will help marine life in the destroyed area. From the perspective of BBCC there would be a net loss of habitat in the area of more than 15 hectares. This, combined with the unproven success of species reestablishing themselves in new habitat show that the loss of habitat will be significant and irreversible.

Other mitigation measures set out in the CSR will be ineffective to address the effects on marine life. For example:

- the “relocation of juvenile crabs” is dependent on the effort put into locating such crabs, and is of little effect for crabs of an insufficient size to be detected and identified. No standards or targets are offered as to the number of juvenile crabs to be relocated;
- the provision for the environmental monitor to be given “authority to stop noise generating construction equipment” if a pod of killer whales is sighted within 7.5 km. of the Project site is not workable. The mitigation measure does not require the monitor to stop noisy construction in such circumstances, but merely allows a monitor, under contract to the Proponent, discretion to do so. It is highly unlikely that an “independent” environmental monitor would risk losing an environmental monitoring

contract by exercising discretion to stop work on the Project for an indefinite time, at substantial cost to the Proponent, because of sighting a pod of killer whales;

- the provision aimed at reducing the risk of boat collision with marine mammals is vague in the extreme and will have no effect on actual practice. It states; “the Owner and the Terminal Operator will work with BC Pilots to develop an education and awareness program about marine mammals and have pilots of vessels transiting to Roberts Bank steer away from observed marine mammal pods when vessel safety is not compromised.”

### **3.3.5 Waterfowl/seabirds**

The significance and global importance of this area for waterfowl and seabirds was encapsulated very well by EC in its Technical Comments made in conjunction with the EA:

*“Species of note occurring in the Roberts Bank area include Brant Geese (both Black Brant and the more vulnerable Western High Arctic (WHA) or grey-bellied subspecies), much of the world’s population of Western Sandpiper, about 10% of the world population of the coastal subspecies of Great Blue Heron, and a few hundred Caspian Terns. All of these species are of high conservation concern because of either small or declining populations. Both the Black and WHA Brant sub-species have declined in recent years and there is much concern over the conservation of their winter populations throughout the Pacific Flyway. The heron’s reproductive success has dropped by about 50% over the past decade largely from eagle disturbances of colonies. About 400 pairs nest on the TFN lands and feed in eelgrass meadows between the jetties. The subspecies of heron at Roberts Bank is *Ardea herodias fannini*, which is largely confined to the Strait of Georgia and Puget Sound. In addition, the banks support tens of thousands of other waterfowl and shorebirds, thousands of grebes and loons, and hundreds of seabirds.*

*In recognition of the significance of the Fraser River Estuary and Delta, including Robert’s Bank, the area was designated as a premier Important Bird Area in Canada in 2000 (IBA 2000), and most recently as a Hemisphere Site for shorebirds under the Western Hemisphere Shorebird Reserve Network (WHSRN 2004). These designations represent the highest level of importance in each of the respective programs, and highlight the significance of the Delta and Robert’s Bank at an international level.” (EC, April 2005, p 17-18)*

The CSR states that 34 bird species listed as either federally or provincially at risk potentially occur within the study area.(80) In addition to the species not considered at risk, the CSR states that 18 species of shorebirds, 10 species of dabbling duck, ten species of diving duck, 12 species of piscivorous diving birds, brant goose, snow goose, Canada goose, trumpeter swan and nine species of gulls were identified in the study area.

The scope of this submission does not lend itself to a full discussion of all the species that will be affected by the Project, but even a brief examination of the most numerous shorebird on the Pacific Coast of North America, the western sandpiper, raises red flags for the environmental damage that will result from this Project. The western sandpiper is only one of the hundreds of species found in the area, and is the most numerous at the current time.

### **Western Sandpiper**

The entire world population (3.6 million) of western sandpipers migrates along the British Columbia Coast. Hundreds of thousands briefly stop in the Georgia Basin. Annual counts of the bird made by Environment Canada show significant and steady declines in both the spring migration and fall migration since Environment Canada started monitoring the count in 1992. Reasons for this decline are attributed generally to the degradation of migratory stop over areas and the effects of El Nino in 1991 and 1997.

Within the Georgia Basin, Environment Canada cites changes to the Fraser River delta as a potential factor in the declining population:

*“Fraser River delta changes have included habitat loss due to port facilities on Roberts Bank and urbanization of farmland. Roberts Bank has also been affected by ferry and port causeways which have altered nutrient distribution to the mud flats from the Fraser River. ...*

*The Fraser River delta is one of the six major links in the chain of migration stopover/refueling sites in western North America and is crucial to the survival and sustainability of this shorebird [the western sandpiper].”*

*(www.ecoinfo.org/env\_ind/region/wsandpiper/wsandpiper\_e.cfm)*

Recent research has shown that perhaps 25 to 50% of the western sandpiper's diet comes from “biofilm”, surface microorganisms. Since 2001, researchers have known that what sandpipers feed on “is more precisely tuned to particular conditions on the [Roberts] Bank than was originally thought.” (Science and the Environment Bulletin, March/April 2001, [www.ec.gc.ca/science](http://www.ec.gc.ca/science))

*“Like most of the shoreline along the Strait of Georgia, Roberts Bank has seen significant reduction, disruption and pollution from coastal development over the past four decades. Yet, despite the fact that it is an*

*internationally important bird habitat, the Bank is currently under no legal protection as a wildlife area. It is home to giant ferry and port terminals that service thousands of ships per year – each vessel carrying fuel, oil and other products that could have devastating impacts if they were spilled. As a surface feeder, the Western Sandpiper is particularly susceptible to heavy metals and other pollutants from industrial sources.*

*The Bank has also been affected by the construction of two large human-made causeways that support the ferry and port terminals. These have blocked the natural flow of nutrients from the Fraser River onto the Bank, and thereby altered the invertebrate communities and disrupted the biofilm. Hence, mudflat feeders, such as the Western Sandpiper, seem to have been pushed into a much-reduced area. The future of the Bank is further threatened by the fact that 700 hectares of agricultural land along its shore are now the subject of development proposals that could have significant environmental impacts on the mudflats.” [Environment Canada, Science and the Environment Bulletin, March/April 2001]*

Environment Canada has in the past clearly recognized the global significance of the area as a bird habitat, the damage done by past projects and the threats of future development. Research on the importance of biofilm in the diet of the western sandpiper shows that this Project will have significant negative impact on the still abundant, but rapidly diminishing population of this bird.

There is no reason to suspect that future mitigation measures will be more successful than past attempts. For that reason, the Adaptive Management Strategy, as discussed in greater detail elsewhere in this submission, is not sufficient to deal with the effects of the construction and operation of the Project on the waterfowl and seabirds.

### **3.3.6 Terrestrial Wildlife and Vegetation**

Traffic along Deltaport Way is projected to increase by about 30%. Significantly increased traffic along Deltaport Way increases the risk of bird kills as well as the risk of introduction of invasive vegetation and mammal species. The increased traffic also increases the risk of spills and contaminants being released into the terrestrial vegetation. BBCC submits that these risks will increase proportionally to the traffic increase, and that these risks are substantial and unacceptable.

### **3.3.7 Air Quality**

Air quality will be significantly adversely affected by this Project. The data in the CSR shows some of these effects but not all of them. Data in the CSR shows that levels of PM2.5 will be in excess of GVRD standards, that greenhouse gases will increase and that carbon monoxide will increase substantially.

In addition to those concerns, air quality will be impacted by this Project in large measure by factors that were not assessed during the EA. Those factors include:

- increased pollution from the increased number and size of ocean going vessels contemplated by this Project;
- increased pollution throughout the lower mainland of increased vehicle traffic necessary for the increased capacity;
- increased pollution throughout the lower mainland of increased rail traffic necessary for the increased capacity;
- increased pollution on Highways 17 and 99 because of traffic congestion attributable to the increased vehicular traffic and the inability of the highways to absorb that traffic.

### **PM2.5 (Fine Particulate Matter)**

The CSR shows that the levels of PM2.5 will exceed GVRD's standards during construction of the Project.(CSR Table 24, page 116) GVRD sets criteria of 25 micrograms/day as a 24 hour average. CSR p. 112). Since the construction period is predicted to last for almost three years, this will have a significant effect on air quality.

In addition, based on the Proponent's own figures contained in the Environmental Assessment Application, rather than the CSR, it is highly likely that the PM2.5 levels will also exceed the GRVD standards during operation of the terminal.

PM2.5 is an extremely serious, proven health hazard. The B.C. Lung Association states that: "The potential benefit of a 10 percent improvement in ambient PM 2.5 could be in the order of \$1.19 billion." (State of the Air in BC Report, 2005, p. 2) This Project is significantly contributing to the levels of PM2.5 found in the air.

The CSR minimizes the effect of exceeding the GVRD standard of PM2.5 during construction on the basis that the GVRD standards are more stringent than others. The Project is in the GVRD and should comply with its standards.

More disturbing is that in its Application, the Proponent's tables contained different base amounts and different projected amounts for PM2.5. Table 13.18 on p. 454 of the Proponent's application contains the same headings as the Table 27 in the CSR. However, both the "existing baseline" values for PM2.5 and the "Project Operation 2011" values for PM2.5 are different: The

Proponent's application (Table 13.18) shows these values to be 24 and 25 respectively. The CSR shows these values to be 23 and 23. No explanation is given for the difference in both the baseline measurements and the projected measurements. By the Proponent's application, the operation of the Project will result in PM2.5 values just at the GVRD levels. When cumulative effects are factored in, the values will exceed those levels.

It is noteworthy that during the course of the environmental assessment, the Proponent dropped its commitment to comply with GVRD air quality standards.

### **Marine vessels**

Recent research has shown that ocean-going vessels are a significant contributor of emissions, responsible for 33 percent of SO<sub>2</sub> emissions in the Georgia Basin-Puget Sound and 22% of the NO<sub>x</sub> emissions in the area through which the container ships will travel.

*"The most recent emissions inventory, completed in 2000, documents the beginning of a change in important sources in the Georgia Basin airshed. Marine vessels account for 22 per cent of the NO<sub>x</sub> emissions, with light-duty vehicles responsible for 23 per cent. Marine vessels are the largest single source of SO<sub>2</sub> in the airshed emitting 33 per cent of the SO<sub>2</sub> emissions."  
(Characterization of the Georgia Basin-Puget Sound Airshed Report, p. 32).*

*"It has recently been recognized that **emissions from marine vessels are a significant contributor to total air emissions in the Basin and will exceed those from automobiles in the Lower Fraser Valley by 2010.** Ocean-going vessels emit tonnes of smog-producing chemicals and other air pollutants each year. Because of the rapid and continued increase in ship traffic, and because many land-based pollution sources are being regulated while marine sources have not been, **the rate of increase in air pollution from ships exceeds that from other sources. Ocean-going vessels are a significant contributor of emissions of NO<sub>x</sub>, SO<sub>x</sub> and PM in both BC and Washington.**" (Airshed Report, page 90)(emphasis added)*

This research was done in conjunction with Environment Canada. The above findings were made in 2002, when the container ships plying the Georgia Strait were much smaller than those contemplated by this Project. A small container ship is 24,000 horsepower, and the larger ones in use today might be 65,000 horsepower. The new 10,000 TEU ships have 100,000 horsepower and burn 1660 gallons of heavy fuel consisting of 1.5% to 5% sulfur, each hour. ("Ship Source Air Emissions", Chamber of Shipping, British Columbia.)

Considering that ocean going vessels at their current size account for 22% of the NO<sub>x</sub> emissions in the area studied, and there is no reason to expect that the area studied (the Georgia Basin-Puget Sound) should present any differently than the

Local Study Area, the larger sized vessels will significantly increase this figure.



## **Road and Rail Traffic**

As set out earlier, the Proponent forecasts this Project to result in an increase in passenger car traffic from 2100 to 2600 movements per day; an increase in truck traffic from 2100 to 2600 movements per day; and an increase in train traffic from 3 per day to 6 per day; the trains will be longer than they are now.

No measurements were made of the increased traffic, the increased delays as a result of the increased traffic, the increased train traffic and the increased delays as a result of the increased train traffic in making its assessment of the effects of this Project. With those values included, the Project's effect on air quality increases drastically. It is common knowledge that idling engines are devastating for air quality. The increased road and rail traffic will not only add more vehicles, it will exacerbate the existing congestion on the highways.

## **Greenhouse Gases**

The proponent's application states that this Project will contribute by .2% to the Lower Fraser Valley's greenhouse gas CO<sub>2</sub> and .3% to the greenhouse gas N<sub>2</sub>O, taken on a 2000 baseline measurement. (Application Table 13.22, Page 465). This forecast does not include the greenhouse gases attributable to:

- the increased marine traffic;
- the increased road traffic; and
- the increased rail traffic

that will result from the Project. It is submitted that a .2% or a .3% increase in greenhouse gases over the entire lower Fraser Valley is a significant environmental effect in and of itself, particularly when Canada has made a commitment to reduce greenhouse gases. When the additional effects are factored in, the effects are even more significant.

## **Effects**

Even without including the major (unmeasured) effects on air quality of this Project on air in the surrounding area, that is, the effects attributable to the ships themselves and the increased traffic, the numbers show the effects of this Project on air quality to be significant. In addition to showing an increase in PM<sub>2.5</sub> and greenhouse gases, the CSR shows that, as a percentage of the total 2011-projected baseline for Deltaport, Westport and B.C. Ferries, carbon monoxide from this Project will increase the total amount of carbon monoxide in the air by 44%. (Table 28 CSR p. 117)

The numbers look even more drastic when viewed as a percentage increase from Deltaport itself: This Project will increase carbon monoxide emissions from

Deltaport by 120% over their current levels.

The CSR does not contain effective mitigation measures, because most of the effects are attributable to the operation itself, and cannot be effectively mitigated. That issue is addressed more fully in the next part of this submission.

### **3.3.8 Traffic**

Traffic from Deltaport is already the source of many complaints from the public. As stated earlier, the Proponent predicted that by 2012, truck traffic would increase from 1800 to approximately 2400 trips per day by 2012. This represents a significant increase of more than 33%, from 1800 to 2400. Passenger vehicle traffic will increase from 2100 to 2600 movements per day. This means that operation of the Port will put a significant amount of additional strain on Highway 17 and 99, which are already crowded. Most of this increase will be from large trucks carrying containers.

Although the CSR states that the Project would require an additional 3 trains per day over the current number of 6, and that they would be “longer”, the CSR does not state how long the current trains are now, or how long they would get.

One Delta resident states that vehicle traffic waits for from 8 to 15 minutes for one of these container trains to pass at a rail crossing. An increased number of trains with increased length will result in increased emissions from the trains as well as from the cars that must wait for them at crossings. It is common knowledge that idling cars have a substantial negative effect on the environment, both in terms of particulate matter and increased greenhouse gases.

### **3.3.9 Noise**

The CSR notes that “most members of the public voiced concern over increased rail noise along the rail corridor and truck noise along Highway #17”. (CSR p. 136)

The Proponent considers truck noise not to be as significant because the container terminal operates between 7:30 a.m. and 4:00 p.m. (p. 135). Elsewhere in the report, the Proponent commits to “the implementation of extended terminal gate operating hours” to reduce traffic congestion. (p. 130) So, while at one time proposing extended terminal hours as a mitigation effect to deal with air quality, the Proponent relies on existing terminal hours as justification that noise will not increase. The CSR does not deal with this anomaly nor examine the effects of extended hours on noise in the surrounding community.

To address the noise effects associated with trains, the mitigation measures set

out in the CSR amount to little more than establishing a committee to address noise to develop a noise management plan. The noise from the trains going in and out of Deltaport is a source of annoyance at the current time. The number of trains going in and out of Deltaport will increase to 21, and the combined length of trains is expected to increase. (p. 135) A “noise management plan” will not have any significant effect on noise coming from the trains.

The significant increase in traffic resulting from the Project will increase the noise in the community. The mitigation measures in the CSR are limited to changes in signaling on Highway 17, implementation of a high occupancy vehicle lane, and monitoring of noise. None of these mitigation measures will mitigate the effects of a 33% increase in truck traffic.

### **3.3.10 Lighting**

The Proposed Project would require expansion of the Deltaport lighting system. There would be three new gantry cranes along the waterfront, which would have their own lighting. (CSR p. 145) Lighting from the existing Deltaport is a source of annoyance to people living within sight of the port. During the assessment process, DFO raised concerns about how the lighting may affect fish migration and behavior. Specific concerns were raised by DFO about night lighting facilitating nocturnal predation on juvenile salmon by visual predators (piscivorous birds). BBCC shares those concerns.

The port cannot be expected to operate in the dark, and none of the mitigation measures involve a decrease in the amount of light generated by the operation of the Project.

### **3.3.11 Accidents**

The Proponent states that because the number of vessel calls will increase by only 8%, there is “no increased risk of ship collisions or grounding events involved with the additional container ships associated with the Project.”

BBCC submits that:

- notwithstanding that there has not been a previous incident of collision or grounding associated with Deltaport’s previous operation, there is a probability that such an incident will occur. The CSR does not address the devastating effects on the ecosystem should such an incident occur or provide for a plan of action to address such an incident;
- the bigger ships to be used at Deltaport will increase the likelihood of accidents. The CSR does not address the likelihood of accidents arising from the reduced maneuverability of the large vessels.

BBCC accepts that there have been no incidents of collision or grounding associated with Deltaport. This does not negate the possibility that such an incident could occur, and if it did it would be devastating not only for the Roberts Bank ecosystem, but potentially the whole southern coast. Marine incidents involving container ships occur. The most well known incident occurred in 1992 off the coast of New Jersey. The M/V Santa Clara 1 lost 21 containers, four of which contained arsenic trioxide. In January of 2006, a container ship was split in half after it collided in heavy fog with a cargo vessel near the Peruvian port of Callao. This accident involved one of the larger ships (495 foot), similar to the kind that the Proponent sees docking at the Deltaport. Luckily, the container ship that was split in half in that incident was not carrying any potentially hazardous cargo, so the damage was limited to the capacity of the ship's fuel tanks.

An increase in vessel traffic of only 8% when examined in the context of the larger ships necessary to achieve a vessel increase of that amount with an increase in capacity of more than 40%, combined with projections for B.C. Ferries traffic to increase by 42% and assumptions that the amount of recreational boat traffic will continue to increase along with the population, is much more significant.

If a 44% increase in capacity results in an increase in the number of vessels of only 8%, it is clear that the Proponent expects the average size of the vessels to be close to 50% larger than the average vessel currently docking at Deltaport.

Larger vessels are less maneuverable and will take much longer to stop in an emergency. They also carry proportionally more oil and containers, which makes the consequences of an accident that much more significant.

An increase in vessel size, combined with an increase in ferry and recreational boat traffic will result in an increased risk of accidents and malfunctions.

### **3.4 Mitigation**

#### **3.4.1 Adaptive Management Strategy**

The Adaptive Management Strategy (AMS) was developed during the assessment process out of findings by RAs that the Project would cause significant adverse effects. There were also concerns that the effects of the project could not be accurately forecast.

The AMS adopted by and forming part of the CSR gives the rationale for its development as follows:

*“During the environmental assessment review, Environment Canada raised concerns that the proposed expansion to the Deltaport facility could have*

*an impact on the existing habitat within the Roberts Bank inter-causeway area, particularly with respect to the potential for future marine eutrophic events and dendritic channelization leading to erosion. Environment Canada identified that Roberts Bank ecosystem changes unrelated to the DP3 project continue to occur and that the current level of scientific understanding of Roberts Bank was insufficient to verify the accuracy of predictions that the DP3 project will not cause significant adverse environmental effects in the inter-causeway area ecosystem.” (AMS p. 2)*

BBCC has five concerns with the incorporation of the AMS to mitigate environmental effects of this Project:

- adaptive management strategies are intended to be used in resource management, not to mitigate effects of a development that impacts a resource;
- adaptive management strategies are unproven;
- the Adaptive Management Strategy leaves the responsibility for monitoring effects with VPA, rather than with a government agency;
- the Adaptive Management Strategy does not acknowledge the possibility that when adverse environmental effects occur, the ecosystem may be affected to such an extent that no mitigation efforts will be successful;
- the commitment for the Proponent to be bound by a performance bond is no longer there.

### **Inappropriate Use**

An adaptive management strategy is not an appropriate mechanism with which to justify a development that will have uncertain effects on a fragile ecosystem, particularly when the ecosystem is unstable from past developments. Research has been inadequate to establish a baseline from which to measure environmental effects, and thus it will be very difficult, if not impossible, to recognize changes to the ecosystem and “adapt” the management of the ecosystem to mitigate those effects.

### **Unproven strategy**

One professional who has been involved with 25 adaptive management exercises over the past 20 years states that only a small proportion of these were successful:

*“...only seven of [the 25] have resulted in relatively large-scale management experiments, and only two of these experiments would be considered well planned in terms of statistical design (adequate controls and replication). In two other cases, we were unable to identify experimental policies that might be practical to implement. The rest have either vanished with no visible product, or are trapped in an apparently endless processes of model development and refinement.”(Walters, 1997)*

### **No independent monitor**

The lack of an independent monitor is a significant omission in the Adaptive Management Strategy set out in the CSR. As monitor, VPA is responsible to report data that could result in it undertaking costly mitigation measures. This does not meet objective tests of accountability.

### **No performance bond**

In its December 2005 Newsletter, the Proponent committed to providing a performance bond to Environment Canada to ensure the delivery of the AMS. In the CSR, the AMS and Appendix A, there is no mention of a performance bond.

While a substantial performance bond would not alleviate BBCC's fears about the workability of the AMS, its omission from the CSR is another concern.

### **3.4.2 Habitat Compensation Plan**

The habitat compensation plan will not be sufficient to compensate for the damage done to the fish habitat, considering that this is a very sensitive and multifaceted ecological area, and that knowledge about the ecology in the system is lacking.

More particularly, as set out previously, the habitat compensation plan involves the creation of new habitat in the area of a size roughly one third of the one that will be destroyed. The other compensation measures consist of enhancing other habitats in the area and developing a new habitat “off site”. It is highly unlikely that these measures will be sufficient to compensate for the damage done to the marine habitat.

The DFO has a “no-net-loss” policy for habitat impacts. This policy does not appear likely to be met with the Habitat Compensation Plan because:

- there is no accounting in the Fish Habitat Compensation Plan that compares the nature and quality of each habitat type that is to be constructed with that which will be lost;

- the efficacy of some of the proposed measures has not been demonstrated by previously documented successes; and
- there is no proven success for habitat compensation plans in the Fraser delta area.

### **3.5 No Justification in the Circumstances**

This submission provides comment on the issues the Minister will need to consider in making a decision under Section 23 of the CEAA. One further matter should be addressed.

Section 23 of the CEAA does not allow the Minister to determine whether the Project, notwithstanding that it is likely to cause significant adverse environmental effects, could be “justified in the circumstances.” The Minister must, in accordance with Section 23, determine whether the Project is or is not likely to cause significant adverse environmental effects.

If the Minister refers the Project back to the responsible authority after making an environmental assessment decision that sets out the Minister’s opinion that the project is likely to cause significant adverse environmental effects, no action may be taken by the responsible authorities in respect of the Project without approval of the Governor in Council. (CEAA s. 37(1.3))

The Governor in Council would have to consider, in determining whether to grant such approval, whether the Project could be “justified in the circumstances.” BBCC submits that the Project is not in any way “justified in the circumstances”, and that the thrust of this submission shows it not to be.

## **4 Comments on The CSR**

This part of the submission is devoted to comments on the flawed nature of the CSR, rather than on the Project itself. There is necessarily some overlap in the two parts, but to the greatest extent possible, repetition is avoided.

BBCC submits that the CSR does not meet the requirements of the CEAA. In particular, the CSR:

- contains a fundamentally flawed analysis of need for the project;
- fails to address scientific evidence showing significant adverse effects will result from the Project;
- does not unequivocally address the issue of whether the Project is likely to cause significant adverse effects;
- does not address overwhelming public concern about the Project;
- contains no effective follow-up program to address environmental damage; and
- does not address Canada's obligation under the Transboundary EIA Convention.

### **4.1 Flawed Analysis of Need**

Paragraph 16(1)(e) of the CEAA requires that a comprehensive study report address "any other matter relevant" to the comprehensive study "such as the need for the project".

*"16. (1) Every screening or comprehensive study of a project and every mediation or assessment by a review panel shall include a consideration of the following factors: ...*

*(e) any other matter relevant to the screening, comprehensive study, mediation or assessment by a review panel, such as the need for the project and alternatives to the project, that the responsible authority or, except in the case of a screening, the Minister after consulting with the responsible authority, may require to be considered."*

On a superficial reading the CSR, it might appear that the Proponent has justified the need for the Project. However, on closer reading, it is clear that the CSR fails to properly consider the Proponent's first alternative of "doing nothing" or leaving



the status quo as it is. On a full consideration with accurate data, the option of “doing nothing” is preferable to building Berth Three.

#### **4.1.1 The CSR Does Not Account for All Port Capacity**

As discussed in the first part of this submission, the Proponent justifies the Project by totaling the actual and planned capacity of the Ports of Vancouver and comparing that capacity with forecasted demand. In calculating capacity, however, the Proponent failed to account for currently existing capacity at Centerm and Vanterm, the expansion plans for Lynnterm, and the capacity of the Fraser River Port.

The detailed analysis and sources for the figures in the table are set out in the first part of this submission setting out the lack of need for the Project. Actual 2006 capacity in the Port of Vancouver is currently is 2,680,00 TEU rather than the 1,675,00 TEU set out in Table 7 of the CSR.

Moreover, forecast capacity from 2014 to 2020, without the third berth, in the Ports of Vancouver is 3.8 million TEU. That is without the Project being built.

The CSR states that the “do nothing” alternative “would limit container terminal capacity in the Port of Vancouver to 2.2 million TEU” (p. 38). The CSR is not specific about the time frame. As the Chart shown in part 3.2.1. (page 10) shows, actual terminal capacity in the Port of Vancouver will grow to 3.8 million TEU with a “do nothing” approach.

These discrepancies are fundamental to the analysis.

#### **4.1.2 The CSR Does Not Consider Prince Rupert’s Port**

In justifying the need for the Project, the CSR does not consider the capacity of the Prince Rupert Port or its future expansion plans. The CSR states:

*“The container growth forecast conducted for the Proponent for the Vancouver Port Area did not include the Port of Prince Rupert, however on-going congestion in the ports of Los Angeles and Long Beach indicates that there is an opportunity for the Port of Prince Rupert to attract even more business to the Pacific Northwest than previously forecast.” P.40*

The CSR thus fails to consider the Port of Prince Rupert in either determining capacity or demand for container services. This omission is fundamental to the integrity of the CSR because Prince Rupert offers a far preferable option to Delta for a massive container port, and planned development for the Port of Prince Rupert will negate the need for an expanded terminal at Deltaport.

As stated earlier, the Port of Prince Rupert is much better positioned geographically to provide substantially more port capacity at reduced environmental and economic cost, because it has the shortest land-sea link from North America to Asia and the deepest natural harbour in North America. The rail links into the port are sufficient to support increased port capacity, and to move the goods efficiently to the east, where most of the goods are destined.

The failure to consider Prince Rupert in forecasting capacity and demand calls into question all of the growth forecasts relied upon in the CSR to assess the need for the Project and evaluate other alternatives. It is not sufficient for the CSR to arbitrarily “not include” Prince Rupert in its growth forecasts.

The failure of the CSR to include the Port of Prince Rupert in forecasting capacity and demand makes the justification of the Project untenable. As set out earlier, by 2010, the Prince Rupert port is expected to add 2.0 million TEU to British Columbia’s port capacity. Adding Prince Rupert’s capacity to the Port of Vancouver’s capacity gives a total British Columbia port capacity of 5.3 million TEU by 2010 and 5.7 million TEU by 2014, more than sufficient to meet the Proponent’s forecast demands through 2020, without the addition of a third berth at Deltaport.

The CSR states that this Project “constitutes a significant component of the federal Pacific Gateway Strategy that was announced in October 2005. (p. ii). Prince Rupert’s Port also forms part of that Strategy. Prince Rupert’s expansion plans are generally supported by the surrounding community, and are vitally important to the economic viability of the area, which has suffered an economic downturn as a result of unhealthy fishing and logging industries.

The purpose of the Pacific Gateway Strategy is to address the issues affecting the development of the Pacific gateway in an integrated manner. The acknowledgement in the CSR that this Project is a “significant component” of the Pacific Gateway Strategy, while at the same time failing to consider Prince Rupert’s Port, which is also part of that Strategy, indicates that very little value is placed on that Strategy by the Proponent or the RA’s.

#### **4.1.3 The CSR Makes Questionable Assumptions**

The CSR makes the following assumptions to project future demand for container services in the Vancouver area:

1. that Vancouver Port and Fraser Port will provide sufficient terminal capacity with efficient road and rail connections;
2. that terminals in the Vancouver Port Area will continue to offer competitive advantages such as terminal service and cost and the Vancouver Port Areas’ west coast market share will continue to increase. [CSR p. 37]

Those assumptions form a foundation for the analysis surrounding the Project's need in the CSR and they are highly questionable.

### **Inefficient road and rail connections**

As discussed previously, the Proponent's own figures show that the proposed Project will increase the truck traffic and train traffic coming in and out of Deltaport by at least 30%. Currently, the road and rail connections are inadequate to support this increase. The environmental assessment should have assessed the impact of the Project on road and rail connections, and it is indefensible to justify the Project by assuming that road and rail connections are adequate when this issue is an integral aspect of the assessment itself. The failure of the CSR to address road and rail connections is discussed elsewhere in this submission.

### **Prince Rupert offers more competitive advantages**

The ability of Vancouver Ports to be competitive in the future will be impacted by proposed port developments in Mexico, a contemplated change in terminal operators for the Vancouver Ports, and the competition of the experienced company operating the Prince Rupert Port.

There is land available to allow the Prince Rupert port to grow to at least 4.0 million TEU's. According to a senior consultant with the Boston Consulting Group, Prince Rupert could develop to a "five to seven-million TEU facility" and "turn the West Coast into truly a gateway to China." Prince George's remoteness is now seen as an advantage rather than a disadvantage. (Globe and Mail, Report on Business, March 6, 2006)

The Port of Prince Rupert is becoming a global player in the container shipping market. As recently as August 8, 2006, Prince Rupert's port plans were the subject of a lengthy article in the Wall Street Journal. (Machalaba) That article acknowledges that very little of the goods shipped by containers would be destined for Prince Rupert, and cites this as a benefit because it means that there would be very little truck traffic, as opposed to "sprawling lanes for thousands of trucks" seen in other ports. The article states that CN Railway is building new depots along a route from Memphis Tenn. to collect "soybeans, cotton, paper and other exports" to ship those goods from Prince Rupert and thereby address the need to fill the container ships on their return trip to Asia.

Prince Rupert has signed an agreement with Maher Terminals, which owns and operates the largest container terminal in North America (New Jersey) with a capacity in excess of 3.4 million TEU's, twice the current volume moving through the west coast of Canada. Maher's experience in terminal operations would capitalize on Prince Rupert's advantages of a deeper harbour, closer shipping

location to China and superior transportation system, and is likely to result in a diminished market share for Vancouver ports.

#### **4.1.4 Summary on Justification**

The CSR, in failing to properly assess current and forecast capacity, comes to an incorrect conclusion about the sufficiency of capacity to meet demand.

The CSR fails to consider important information that would show there is no need for the Project. Available data suggests that Vancouver's port capacity will be more than sufficient to meet demand well into the future without the Project being built.

#### **4.2 Information Not Considered in CSR**

The CSR does not consider the environmental significance of the area that will be affected by this Project. The habitat and wildlife values of the Roberts Bank ecosystem have global recognition in the declaration of the Fraser River Estuary as a Globally Significant Important Bird Area and a Hemispheric Site in the Western Hemisphere Shorebird Reserve Network. The CSR does not consider the effect that enlarging this port in a primarily residential and agricultural area will have on the surrounding communities. Below are some of the individual omissions and/or errors BBCC identified in the CSR. The time and scope of this submission does not allow for an exhaustive list.

##### **4.2.1 Ecosystem as an whole**

The CSR fails to consider the global significance of the Fraser River estuary system, the Pacific Flyway or, more importantly, the workings of the ecosystem as a whole. It is common knowledge that tampering with one small aspect of an ecosystem can profoundly affect the functioning of the entire ecosystem and damage it irreversibly. The environmental assessments done for the CSR examined individual aspects of the ecosystem, referred to as "valued ecosystem components," but did not examine the manner in which all those components interrelate to one another. This omission is fundamental.

While an assessment of "valued ecosystem components" is important, the environmental assessment is incomplete without an assessment of the entire ecosystem, which, by definition, refers to the entire functioning unit of an ecological community and its environment. The CSR fails to recognize the inextricable linking of all the components of the ecosystem, and the unpredictability of effects on other components of the ecosystem when one is damaged.

The Assessment Review Panel that examined port expansion in 1979 recognized this significance:

*“The Fraser River estuary and associated transitional wetlands comprise one of the most dynamic and productive ecosystems in Canada. The ecosystem supports a large and diverse community of organisms. All links of the food chain are present from the simple life forms such as plankton, benthic invertebrates and the estuarine vegetation, through to the more complex life forms such as fish, birds and mammals. The panel recognizes the commercial and recreational importance of this ecosystem and is aware of the considerable intrusion that has occurred within the system since the arrival of European man. This intrusion has reduced the inland extent of the system and has influenced its overall ability to function to its full capacity in an ecological sense.” (Report of Environment Assessment Panel, Roberts Bank Port Expansion, March 1979, #3.)*

The CSR finds that the Project will affect many different valued components of the ecosystem, and proposes various monitoring and mitigation programs to deal with those effects. As discussed elsewhere, the CSR fails to address the workability and effectiveness of many of these proposed mitigation measures.

The CSR does not recognize the fragile interrelationship among all the components of the ecosystem and assess the overall environmental effects of tampering with individual components of the ecosystem. BBCC submits that the Project is certain to cause significant adverse effects to the ecosystem as a whole that cannot be mitigated by the strategies proposed by the RAs. The CSR shows that the effects of the Project on the complete ecosystem were not examined, and does not refute this submission.

Related to that issue is the failure of the CSR to address the uncertain nature of the research done by the Proponent on the different ecosystem components. This research is inconclusive in part because each of the components is linked with the others on infinitely different levels, and in part because we are still learning about individual aspects of the ecosystem. For example, the research referred to in the previous section that showed the western sandpiper receives half of its nutrition from biofilm is information that was unknown ten years ago. Similar discoveries about various ecosystem components are being made on a regular basis, and there is still much to learn about each and the complex relationships of these components in an ecosystem. The failure of the CSR to even address this issue indicates a failure to appreciate the significance and importance of this ecosystem.

#### **4.2.2 Geomorphology**

The CSR finds that the DP3 Project will not likely result in significant adverse

environmental effects on the coastal geomorphology in the vicinity of Roberts Bank. (p. 54).

This conclusion does not take into account the unascertained effects of the existing Deltaport, which are mentioned in the Proponent's Cumulative Assessment amended Chapter 23.

*“The construction of this port facility [Deltaport] has altered coastal geomorphology processes. This in turn has altered the proportion of marine habitats in the vicinity of the terminal. These changes have altered the resources available to other marine species: reduction in shallow sub-tidal habitat and consequent changes to invertebrates, fish and birds. These changes are ongoing and the area surrounding the terminal has yet to reach equilibrium.”*

### **Change in the size of the container storage yard**

Throughout the public consultation process, the size of the fill area was represented at 20 hectares (50 acres).

*“The principal components of the proposed Deltaport Third Berth Project consist of construction of a fill area of approximately **20 hectares (50 acres)** of land for an expanded container storage yard and the construction of a new wharf structure for the creation of a third ship berth. ... (Notice of Commencement issued under the CEAA on November 17, 2005) (emphasis added)*

The CSR refers to “**22 hectares (50 acres)**” for the container storage yard. (CSR p. 8). Because the 50 acre figure remained unchanged, this change is not immediately noticed.

22 hectares is equivalent to 54.362 acres, so the size of the container storage yard changed by almost 5 acres between the Notice of Commencement and the CSR. This is sufficient to build 30 houses on 66 X 110 foot lots, so it is hardly an insignificant discrepancy. The additional dredging required to enlarge the project by that much will proportionately increase the geomorphologic damage done by it, and the CSR fails to address the issue, because during the assessment process, the stated figures in hectares changed, but the stated figure in acres did not.

After acknowledging the insufficiency of scientific understanding about the potential effects, the CSR concludes that, with mitigation, construction of the Project will cause a “localized and temporary” residual effect on water quality, and that operation of the Port will have a “low” residual effect on water quality. After so concluding, the CSR states that the project will not likely result in significant adverse effects on the water quality. Past concerns expressed by EC

do not support that conclusion.

During the environmental assessment of this Project, EC wrote to DFO:

*"...A credible assessment of eutrophication is fundamental to the preservation of the foreshore, intertidal and subtidal areas of Roberts Bank. These areas constitute critical habitat for internationally significant populations of migratory birds, including the Western Sandpiper, a species experiencing significant population declines...Environment Canada's view is that VPA's decision not to pursue bio-geo-chemical studies to fully assess the propensity for eutrophication in the inter-causeway creates an undue risk that there may be insufficient information on this environmental effect to conclude our review under CEAA..." (November 15, 2004)*

The CSR does not indicate that bio-geo-chemical studies were done.

Six months later, EC warned that the impacts of degraded water quality in the Project area present an unacceptable risk of a massive environmental change that would cause embarrassment on an international scale:

*"EC has adopted the position that the risk of eutrophication within the intercausway cannot be dismissed. If it does occur, the state of eutrophication is predicted to result in such massive environmental change between the causeways that there would be public outrage as well as agency embarrassment on an international scale, not to mention the loss of productive habitat for a very large and diverse assemblage of biota. We can predict that in a eutrophied state the current intercauseway eelgrass system would switch to a bare, anoxic mudflat situation. The biota supported by such a system would be largely composed of bacteria and nematodes. A further expression of the system would be production of sulphurous gases, within smelling distance of both the TFN Reserve and the BC Ferry Terminal." (EC, Technical Comments, April 27, 2005, p. 23)*

Those concerns were not addressed in the CSR. The CSR also does not address the lack of baseline data and important water quality parameters.

Finally, the CSR refers to small increases in treated sewage and storm water discharges into the marine environment and minimizes this effect. This position does not reflect the concern that EC expressed in 2001 about the incremental effects on Roberts Bank of such small increases noting:

*"Roberts Bank has seen significant reduction, disruption and pollution from coastal development over the past four decades..."*

*The Bank has also been affected by the construction of two large human-made causeways that support the ferry and port terminals. These have*

*blocked the natural flow of nutrients from the Fraser River onto the Bank, and thereby altered the invertebrate communities and disrupted the biofilm.”*

*.”[Environment Canada, Science and the Environment Bulletin, March/April 2001]*

### **4.2.3 Marine Environment**

#### **Pink salmon**

This is important habitat for pink salmon, which consist of two very different genetic populations, distinguished between those that breed in odd years and those that breed in even years. The pink salmon that breed in the even years are far less populous than the pink salmon that breed in odd years. The research done on the marine environment failed to distinguish between odd and even year classes of pink salmon runs, and to consider the significant of any effects the project may have on these two very different populations. The CSR does not deal with these two different classes of pink salmon, and fails to address the issue of the likely effects of construction during an even year on pink salmon runs in that year, which would likely decimate the stock, as it is significantly less populous than the odd year runs.

#### **Dungeness Crab**

Dredging will destroy a large “nursery area” for Dungeness crabs. The CSR contains no assurances that the “nursery area” will be replaced with a system that will function in the same manner as it is currently. Without any apparent basis or rationale, the CSR makes the assumption that the existing nursery habitat would likely reestablish itself along the newly created foreshore on the Northeast border of the project.

*“Given that almost the entire area dominated by Enteromorpha will be lost or altered, combined with alterations in topography which will inevitably result in current zones changing (minor perhaps, but from the crab larvae perspective significant) the nursery area potential of the remaining area should be evaluated.” (van Poppelen, LFES May 2005)*

The CSR identifies significant potential effects to the nursery area, but finds the habitat compensation plan (HCP), although conceptual only, to be sufficient to “meet the requirements of the federal-provincial harmonized environmental review process”, leaving the details of the compensation and monitoring plan to be worked out at a later time. (CSR p. 77) The lack of detail in such a plan does not give any assurance that the plan will be effective.



## **Habitat Compensation**

The habitat compensation plan calls for:

- creation of habitat of 6.7 hectares;
- enhancement of 4.5 hectares of salt marsh;
- sandbar stabilization of 5 hectares to enhance habitat; and
- “off site compensation” by developing 7.5 hectares of habitat.

The habitat compensation plan thus contemplates creation of only 6.7 hectares of new habitat in an area near the destroyed habitat. The balance of the compensation will consist of “enhancing” 9.5 hectares of existing habitat and creation of habitat elsewhere in the estuary. In view of the lack of research to support a conclusion that these habitats will be successful in replacing the destroyed habitat, it is difficult to see how the CSR can come to the conclusion that the proposed mitigation measures, there “will be no residual effects...on the marine environment...” (CSR 77).

### **4.2.4 Marine Mammals – Noise and Collisions**

With respect to sound level effects on marine mammals, the CSR assesses only construction noise, despite acknowledging “other ongoing activities in the area...are likely to have similar effects, and the additional effects are likely to be incremental.” (p. 179) It is required under the CEEA that the cumulative effects of noise in conjunction with those “ongoing activities” be assessed, particularly when they are acknowledged to have an incremental effect.

Without any apparent basis, the CSR finds that the effects of the construction activities on marine mammals would be “temporary and reversible”. In so finding, the CSR ignores research referred to in the previous section that found that marine mammals may show delayed distress and disorientation years after being exposed to loud noises such as would be heard during construction. These effects are not considered.

The CSR does not assess the effects of noise on marine mammals, despite acknowledging that marine mammals employ sound for a variety of purposes, including navigation, communications and foraging.

*“Noise from human activities can affect marine mammal foraging, cause avoidance behaviors, and in extreme cases cause temporary and permanent losses in hearing.” (p. 173)*

Despite this, the CSR takes the position that because existing underwater ambient noise conditions in the area are unknown and:

*“...there are “no empirical measurements of ocean ambient noise conditions prior to the introduction of human generated noise to the marine environment. In the absence of both marine ambient noise levels and vessel noise profiles, the effects of existing vessel traffic could only be qualitatively assessed based on incremental increases of vessel numbers.” (p. 173)*

One major difficulty with this statement is that it seems to state that unless the ambient noise resulting from this Project could be assessed in relation to ambient noise before the introduction of human generated noise, those measurements would not be useful. Clearly, throughout the assessment process the Proponent measured the effects of this Project against conditions as they were in 2000 – 2003, not prior to the introduction of “human generated noise”. That statement makes little sense in the context of the other assessments in the CSR.

In addition, the CSR does not actually consider the effects of “incremental increases”: The statement is made that since the increase in number of vessels is only 8% greater than it is now, this effect is “negligible”. There is no basis for this statement. Moreover, and more importantly, no consideration is given to the noise effects attributable to the increased size of container ships associated with the Project: These vessels are noisy, and the noise interferes with a whale’s echolocation. There is no basis on which the CSR could find that the noise effects of the Project on marine mammals are “negligible” without assessing those risks.

### **Marine Mammals - Collisions**

The CSR’s conclusion about a “negligible” risk to marine life from marine traffic going in and out of the Project also rests on the Proponent’s contention that a forecast increase in the number of ships of 8% will not significantly alter the current situation. It is a somewhat inconsistent position, because elsewhere the CSR acknowledges that the expected increase in ship traffic “would increase the probability of introduction of non-indigenous marine species” (p. 73)

More importantly, however, the CSR fails to address the increased risk of marine mammal collisions attributable to the combination of increased size and number of vessels, together with increased marine traffic in the area attributable to other sources.

The projected increase in vessel traffic of 8% will be significant when combined with increases in other traffic. Elsewhere in the CSR (p. 181) it is noted that B.C. Ferries predicts a 42% increase in vehicle traffic in Tsawwassen by 2020. There is no analysis about the corresponding increase in vessel traffic that would correspond to this. It is clear from the CSR that B.C. Ferries expects a large increase in vessel traffic: The CEAA requires the cumulative effects of the Project to be addressed, and the 8% vessel traffic is not analyzed in conjunction

with the increase in B.C. Ferries traffic, nor in conjunction with expected increases in recreational boat traffic.

The size of the vessels is hugely important. If the Proponent sees an increase in capacity of more than 40% resulting in an increase in the number of ships of only 8%, the size of the ships will be significantly greater. In the previous section numbers and photographs showed the immense size of the large container ships in use today--350 meters in length. If a ship of 80 meters has an increased risk of collision with a marine mammal, it is expected that a ship four times that length will have an even greater risk of collision. The risk should have been assessed.

#### **4.2.5 Waterfowl/seabirds**

Despite the staggering array of bird species found in this area, the Proponent assessed the effects on only three of the bird species listed as either federally or provincially at risk, and two of the three bird species studied are two that will be least impacted by the Project. The CSR reflects that no environmental assessment was done to assess the effects of the Project on 31 of the 34 "at risk" bird species present in the area or on any of the other unlisted species. The assessment done was insufficient to allow a conclusion to be drawn that the residual effects on seabirds and waterfowl is "low" and able to be mitigated by the AMS.

The CSR does not acknowledge the importance of this area to migratory birds on the Pacific Flyway. The CSR also fails to address the interactive elements of this ecosystem in terms of processes, functions, species presence and seasonality, and species interrelationships. These are key, as this area is important to hundreds of species of birds and millions of individual birds. The Proponent made this omission in its Application, and EC commented on it in April 2005:

"...The Application, however, has made a glaring omission, and in this section in particular, by failing to suitably describe and put into context the internationally recognized populations of, and habitat for, shorebirds, geese and ducks on the Fraser River Estuary and Delta, including on Robert's Bank." (EC, Technical Comments, April 27, 2005, p. 17).

Those concerns were not addressed in the CSR.

The AMS, as discussed in more detail below is not sufficient to deal with the effects of the construction and operation of the Project on the waterfowl and seabirds. The CSR lists 14 potential effects during construction, but does not address the overall effects of construction on wildlife and birds.

#### **4.2.6 Terrestrial Wildlife and Vegetation**

The CSR acknowledges the increased risk to barn owls, because their nesting habitat is close to major roadways. The CSR does not address the amount by which traffic road and rail traffic in and out of Deltaport will increase (as discussed below, 30%) and other risks to the terrestrial wildlife and vegetation attributable to that increase.

The CSR finds that the risk of collision with barn owls is a risk, but that these proposed mitigation measure to address collisions with barn owls is sufficient:

“support of environmental stewardship programs to place barn owl next boxes in areas towards Brunswick Point where they are less vulnerable to major motorways; and

VPA’s commitment to become involved in barn owl management planning, either through a Barn Owl Management Team, or its ad hoc equivalent.”

The vagueness of the terms “support” and “involved” negate any real commitment to address this risk, which the CSR by implication of finding it necessary for the risk to be mitigated, finds to be “significant”.

#### **4.2.7 Air Quality**

The CSR contains several errors and omissions as it relates to effects on air quality attributable to the Project. The first is that it fails to incorporate updated data on train emissions (while at port) that was provided to EC in April 2006.

In March 2006, EC requested that the Proponent provide “an estimate of incremental locomotive switching emissions due to the project in 2011, using a more accurate 2011 baseline estimate.” (Letter Desjardin to Au, April 10, 2006)

The Proponent replied giving this information and including a Table entitled “Revised Switch Locomotive Emissions Inventory for Deltaport in 2011”. The data from that table for “Project Operation Scenario 2”, which represents an additional 3 trains per day, is reproduced here. The CSR predicts an additional 3 trains per day.

Activity	Total hours of Use	Total Fuel (lires)	Total Emissions per year (tonnes)					
			NOx	CO	SOx	VOC	PN10	PM2.5
Baseline	8700	244,089	24.1	3.5	.2	1.9	0.8	0.8
Scenario 2*	8760	357,093	35.3	5.1	0.3	2.7	1.1	1.1
"Trains" Table 25 from CSR			24.8	2.84	.36	1.04	.66	.66
<b>Difference</b>			<b>10.5</b>	<b>2.26</b>	<b>(-.06)</b>	<b>1.66</b>	<b>.44</b>	<b>.44</b>

\*Source: Letter from Mr. Desjardins, VPA, to Vivian Au, EC, April 10, 2006. This data was *not* used in the CSR and yet it appears to be the more up to date information. The figures are almost all considerably higher than the figures used in the CSR, as shown in "difference".

None of this data appears in the CSR. Instead, the CSR relies on outdated data from the Application. Table 25 on page 117 of the CSR contains the same emission figures as Table 13.16 on page 452 of the Application (January 2005).

The table below sets out the above figures from the Proponent's April 2006 letter, the data from Table 25 in the CSR, and the difference between the old figures used in the CSR and the (significantly higher) figures given by the Proponent to EC in April of this year.

In short, the emission figures for trains used in the CSR were not updated to show the updated figures as provided by the Proponent in April 2006. The correct figures are up to 80% higher than the figures used in the CSR.

Another problem with the Air Quality assessment was explained in 3.2.7: There is no explanation in the CSR for changes in data that was presented by the Proponent in its Application and data contained in the CSR. The changes in that data relate primarily to PM2.5, and raise concerns about the accuracy of the data in the CSR.

In addition to the above concerns, the CSR fails to analyze the air quality issues as they relate to the current operation of Deltaport. These comparisons show the emissions to be more significant than they appear from the CSR to be. By extrapolating the existing 2003 baseline measurement for Deltaport Terminal set out in Table 21, and the projected measurements from operation of the Project set out in Table 26, the CSR shows that operation of this Project will increase air pollution from the Deltaport by the following percentages:

NOx: 28%  
CO: 120%  
SO2: 17%  
VOC: 54%  
PM10: 24%

PM 2.5: 24%  
TSP: 24%

As discussed fully in 3.2.7 of this submission, the CSR fails to assess the true effects of deterioration in air quality that will result from this Project. The CSR did not assess all the emissions attributable to this Project, which include:

- increased pollution from the increased number and size of ocean going vessels contemplated by this Project;
- increased pollution throughout the lower mainland of increased vehicle traffic necessary for the increased capacity;
- increased pollution throughout the lower mainland of increased rail traffic necessary for the increased capacity;
- increased pollution on Highways 17 and 99 because of traffic congestion attributable to the increased vehicular traffic and the inability of the highways to absorb that traffic.

With respect to the ships emissions, BBCC notes that the CSR fails to assess deteriorations in air quality arising from the ships themselves while at anchor and while traveling to and from anchor, despite concerns raised by EC in a letter to the Proponent on March 9, 2006 in which the Proponent was asked:

*“Please confirm whether the emission inventory baseline and project operation scenarios included emissions while at anchor, and while proceeding to and from anchorage. What is the estimated effect of the project on these emissions?”*(Letter Au to Desjardin, March 9, 2006)

The Proponent responded on April 10, 2006:

*“Neither the inventory baseline nor the CP3 project operation included an emissions estimate for vessels transiting to and from anchorage outside of the local study area.”*(Letter Desjardin to Au, April 10, 2006)

Had a full air quality impact assessment been done of this Project, and had the CSR contained accurate, up to date, information, the air quality assessment would have shown the effects on air quality to be more significant than they are shown to be.

#### **4.2.8 Operational Issues**

The Notice of Commencement issued under the CEEA on November 17, 2005 reads as follows:

*“The principal components of the proposed Deltaport Third Berth Project consist of construction of a fill area of approximately 20 hectares (50 acres) of land for an expanded container storage yard and the construction of a new wharf structure for the creation of a third ship berth.*

...

***The operation of the Deltaport Third Berth facility includes an increase in associated marine traffic (container vessels and tugs). The increase in terminal loading and unloading equipment (ship-to-shore gantry cranes, rubber tire gantries, rail mounted gantries, tractor trailers), and increase in associated road and rail traffic.”***  
(emphasis added)

Operational issues, including light, noise, road and rail traffic, will effect the environment significantly. They are not addressed in the CSR. Light and noise were addressed above. Traffic was discussed in detail in the previous part of this submission, so will be only briefly covered here.

## **Traffic**

The traffic, both road and rail, going in and out of the port affects the citizens of Delta and commuters on major arterial routes. Traffic increases ambient noise, air pollution and greenhouse gases, and when the traffic is slow or stalled, the effects are multiplied. Environmental issues associated with increased traffic associated with the operation of the Project are fundamental to a proper environmental analysis. By evaluating the issue of traffic in relation to “noise”, “air pollution” and “socio-community issues”, the CSR minimizes the effects of the increased traffic, which will, in and of itself have a significant negative environmental effect. Chapter 23 of the Proponent’s Environmental Assessment Application, as amended on December 5, forecasts that with Deltaport Third Berth Project, 30% or more of the southbound traffic along Highway 17 in the morning would be going to the Port. This would be primarily truck traffic.

The Proponent forecasts morning and afternoon traffic along Highway 17 but not evening or night traffic. Since the Proponent forecasts an increase in truck traffic of more than 30%, a significant increase in southbound traffic in the morning but relatively small increases in northbound traffic in the morning and afternoon, it can be easily extrapolated that evening and nighttime traffic will significantly increase. Evening and nighttime truck traffic is not mentioned in the CSR.

The Proponent minimized the effect of the increased traffic attributable to Deltaport by selectively analyzing data. Extrapolating from the Proponent’s Tables 23.11 and 23.12 on Page 65 of the Amendments to application Chapter 23 – Cumulative Effects Assessment it is clear that the Proponent forecasts the following:

2011 Traffic without Deltaport Third Berth Project (From Table 23.11)

Total Traffic	7663
Port Traffic	686

**Port Traffic as a % of Total Traffic: 9%**

2011 Traffic with Deltaport Third Berth Project (From Table 23.12)

Total Traffic	8104
Port Traffic	1128

**Port Traffic as a % of Total Traffic: 14%**

This means that the proportion of traffic on Highway 17 going in and out of Deltaport in the morning would increase by more than 50% if the Third Berth was built.

In the CSR, the effect of the increased rail traffic is minimized by analyzing the increase in the number of trains in conjunction with the coal trains. This is misleading because the coal trains are significantly smaller than the container trains. According to one Delta resident, where a coal train may take between 3 to 4 ½ minutes to clear a road crossing, a container train will take from 8 to 10 minutes, and may take as long as 15 minutes. The CSR states that the trains will be “longer” but does not state how long they are now or how long they will be.

The Proponent’s Environmental Assessment Application contained some traffic forecasts, but the analysis of these forecasts is incomplete, and any analysis is lost in the text of the Application. Any traffic studies that were done during the course of the environmental assessment are neither referred to in the CSR nor incorporated in it.

**4.2.9 Cumulative Effects**

Section 16(1) of CEAA requires any screening or comprehensive study to include consideration of “any cumulative environmental effects that are likely to result from the Project in combination with other projects or activities that have been or will be carried out.” This requirement is set out in the CSR at page 168:

*“The CEAA Project Scoping document (PSD), issued on February 10, 2005 for the DP3 Project outlined the scope of factors to be considered for the CEA. This scope specifically requires consideration for the proposed future development of T2 at Roberts Bank and other proposed future projects in the study area.”*

The other proposed project is the South Fraser Perimeter Road (“SFPR”).



Despite acknowledging the duty imposed by the scoping document to include both T2 and the SFPR in the CSR, the CSR does not include a significant analysis of the cumulative effects of either. The SFPR road is not mentioned in the cumulative effects assessment, except when traffic effects from the Project are acknowledged to have a significant environmental effect, and then the SFPR is proposed to mitigate the effects.

Using such reasoning, the approval of this Project could be used to justify the need for the SFPR, because of the increased traffic expected from the Project. A proper assessment would not allow the SFPR to be considered as a mitigation measure for this Project when the Project Scoping Document required that the cumulative environmental effects of the SFPR itself were to be assessed in conjunction with the Project.

It is not entirely clear whether the CSR takes the position that the Proponent's withdrawal of the request to initiate a provincial review of the T2 obviates the need to include both T2 and the SFPR in the cumulative effects assessment for this Project. The CSR acknowledges, in a limited manner, cumulative effects of T2 with respect to a few issues, but does not address any of those issues in a meaningful way.

As of the date of this writing the Vancouver Port Authority's website includes this Project as part of its "Roberts Bank Container Expansion Program" which is described as follows:

*"The Roberts Bank Container Expansion Program is a Vancouver Port Authority proposal to expand container handling facilities at Roberts Bank in Delta from 900,000 TEU's to an anticipated capacity of 3.2 million TEUs. The Program will initially add a third-berth to the existing two-berth Deltaport container terminal, followed by the development of a new three-berth Deltaport container terminal known as Terminal 2."*

If indeed the CSR takes the position that T2 need not be included because of the withdrawal of the request to initiate a provincial review of that project, such an approach is not contemplated by either the CEAA or policy under that Act.

Throughout the CSR, cumulative effects of T2 are specifically excluded from consideration, and there are only vague mentions of SFPR, but its effect is not included in the cumulative effects assessment.

In a letter to the VPA, DFO reiterated the requirement to include T2 in the cumulative effects assessment:

*"Understanding that the ultimate design, specific location and footprint of T2 has not been determined, the minimum required operations to make a*

*viaible container terminal development are likely available and could be used to provide a qualitative assessment of the Terminal 2 in terms of additive and synergistic effects on past and present activities on Roberts Bank.” (DFO’s second set of comments to VPA on Project, September, 2005.)*

## **Geomorphology**

The Proponent acknowledged in its Application that the geomorphology would be affected by T2:

*“...it is likely that [Terminal 2] will impact on coastal geomorphology and the associated impacts from this to marine habits and ecological components.” (Chapter 23, p. 16)*

Notwithstanding that statement, the CSR does not contain a cumulative effects assessment of the geomorphology in relation to the effects of Terminal 2 (“T2”).

*“...the T2 Project plan has not been finalized, and as a result an assessment of any potential effects on sediment distribution patterns, currents and waves could not be included in the Application.” (p. 177)*

If the cumulative effects of the project were assessed with Terminal 2, there is no question that the geomorphology will be significantly affected, and yet the CSR does not do so.

## **Marine Environment**

Despite a requirement in the terms of reference to include T2 in the cumulative effects assessment, T2 is not considered in relation to marine habitats:

*“The exact footprint and location for the proposed T2 has not been determined, so the effects on marine habitats as a result of the construction of this 80 to 100 ha terminal is somewhat hypothetical.”*

Table 37 on page 183 of the CSR purports to identify the “potential cumulative effects” on various ecosystem receptors. T2 and the SFPR are not included in this chart.

Throughout the Analysis portion of the CSR, the potential cumulative effects attributable to both T2 and SFPR are specifically not included. Most of these were discussed above, in relation to each of the “valued ecosystem components”. Traffic congestion, in and of itself is a significant environmental effect of the Project, and when combined with T2, it becomes even more significant.

## **Marine Eutrophication**

The CSR does not analyze marine eutrophication resulting from T2 other than to say it is “highly unlikely” and proposes that the AMS is designed to detect and mitigate the trends toward eutrophication.

## **Waterfowl and Seabirds**

Not only does the CSR not acknowledge the damage done by past developments and the fragile nature of the ecosystem as it relates to waterfowl and seabirds, the CSR does not contain an assessment of the cumulative effect of T2 on birds, other than as follows:

*...“it is possible that if T2 were to proceed, with the widening of the causeway, any new transmission lines would be buried.”*

## **Air Quality**

There is no consideration of the effects of T2 on air quality, even though the Application contained such estimates of cumulative effects (for example, Figure 23.4, page 75 of the Chapter 23 Revision shows that the levels of PM10, PM2.5 and TSP to be between approximately 170 and 21 tonnes per year, as a result of T2. And yet, CSR does not analyze air quality attributable to T2 or SFPR, stating:

*“analyses that attempt to assess contaminant concentrations or human health risk beyond air quality predictions fro 2011 cannot be completed until more detailed emission information on T2 and the South Fraser Perimeter Road is available.” (181)*

*“...the 2021 predictions suffer from limitations...”*

*“Dispersion modeling for 2021 would be required to compare the predicted emissions from T2 against ambient air quality guidelines and standards, but this is premature until uncertainties with future projects...are resolved.”*

Projection and modeling for air quality changes attributable to T2 was done for the Application. This information should have been included in the CSR, because the terms of reference require these projects to be included.

The CSR takes into account only an increase in the number of ships due to the project, but does not take into account that the larger 10,000 TEU ships have engines with four times as much horsepower as a small container ship.

Other information not included in the air quality assessment in the CSR is as follows:

- emissions from ships traveling in and out of the Georgia basin;
- emissions from increased road traffic throughout the Local Study Area (LSA);
- emissions from increased rail traffic throughout the LSA;
- cumulative effects of population growth in Delta;
- cumulative effects of the South Fraser Perimeter road.

The CSR projects effects from a 2003 baseline: This in itself is questionable, since Deltaport's operation has increased the air pollution in the local area far beyond what it was prior to Deltaport's construction.

Nonetheless, even if a 2003 baseline was appropriate, in 2005, VPA's port traffic was up 15% over what it was in 2003. (VPA Annual Report 2005) Assuming that Deltaport's traffic increased by that amount, this means that all of the emission projections should be 15% higher than they are.

The shortcomings in the air quality assessments render them of questionable value to determine the effects of this Project on air quality. Their only effect is to establish with a high degree of certainty that the air quality will certainly deteriorate to a much greater extent than predicted by the CSR.

The conclusion set out on page 131 of the CSR that the Project will not likely result in significant adverse effects on air quality and human and wildlife health in the study areas is based on the information summarized in the CSR. That information is not accurate, so the conclusion is not valid.

## **Mitigation**

As discussed in the previous section, the CSR contains no firm commitment by the Proponent to comply with any air quality standards. Instead, the CSR substitutes vague mitigation measures that cannot be enforced, including

- ensuring the use of diesel oxidation catalysts "where practicable";
- ensure the Terminal Operator "completes the test of" hybrid-powered gantry cranes;
- "ongoing improvement" in the truck reservation system;
- committing to "using mechanisms...to implement strategies to reduce truck emissions..."

- “working with the railways..”
- “undertaking a speed assessment....with the intent of lowering vessel approach speeds”;
- “actively work with” organizations. (page 130)

## **Noise**

The CSR finds that, with mitigation, the residual effects of noise during operations will be “low”. According to the CSR (p. 137) the mitigation measures for construction are:

- equipment that is significantly noisier than typical equipment will not be used;
- training construction workers to be aware of noise and minimize noise where possible; and
- setting up a complaint line.

There is no substance to those mitigation measures, and they will have no effect.

The mitigation measures for the operation of the port are even more ineffectual. They include developing a “noise management plan”, higher frequency equipment alarms and operator awareness and training.

Despite the statement on page 138 of the CSR that there was a residual effect to the noise issue, it was to be included in the cumulative effects assessment. However, the CEA assessment does not include a cumulative assessment of T2 and SFPR:

*“The anticipated addition of noise associated with the Project is predicted, but the likely addition of other proposed projects, which have yet to be assessed using a rigorous methodology (T2 and South Fraser Perimeter Road) has not been included.” (180)*

*“Assessment of the potential cumulative effects for these other projects [SFPR and T2] cannot be conducted because parameters required for modeling,...for these future projects has either not been determined (T2) or is not yet detailed enough (SFPR). Both projects [T2 and SFPR] are likely to increase ambient noise levels further in the study area.”*

## **Accidents**

The CSR does not address this fundamental issue, but simply extrapolates that because the number of vessels will increase by 8%, there is “no increased risk of ship collisions or grounding events” associated with the traffic.(162).

The Project will increase the volume of containers from 900,000 TEU to 1,300,000 TEU. The Proponent states that the increase in capacity will not be met with a corresponding increase in boat traffic because the ships that will be much bigger in the future, and this is accepted in the CSR.

The size of these vessels was dealt with in the previous section. They are enormous. The CSR fails to address the significance of these larger vessels, their maneuverability and the greatly increased consequences of an accident if one occurred. The CSR also fails to assess the increased potential for accidents in conjunction with projected increases in other marine traffic.

### **Traffic**

Traffic congestion is one of the biggest concerns of the community, and indeed, of the entire lower mainland of British Columbia. The amount of traffic that will be generated by Terminal 2 is somewhat mind boggling: The traffic analysis done by the Proponent in the application, as amended on December 5 [Amendments to application Chapter 23 – Cumulative Effects Assessment] shows that by 2021, Terminal 2, combined with the Deltaport Third Berth, would result in an additional 4567 vehicles per day by 2021, most of which would be trucks. The effect of this traffic is not analyzed, but it represents more than four times the current level of traffic attributable to Deltaport.

Despite the fact that the Environmental Application forecast the increased traffic attributable to T2, the CSR states that it has not examined the traffic problems that might result from T2:

*“No quantitative analysis of traffic delays for 2021 has been undertaken.”*

The CSR does not do any analysis of the traffic effects from T2 for the reason that traffic patterns may be affected by infrastructure changes, including the South Fraser Perimeter Road. Considering that the cumulative effects assessment require consideration of both T2 and the South Fraser Perimeter Road, this reasoning is circuitous, and does not meet the requirements of the CEAA.

### **4.3 Project Does Not Meet CEAA’s Requirement for Sustainable Development**

The first paragraph of the preamble to the CEAA states one of the objectives of the CEAA is to “achieve sustainable development by conserving and enhancing

environmental quality and by encouraging and promoting economic development that conserves and enhances environmental quality.” “Sustainable development” is defined to mean “development that meets the needs of the present, without compromising the ability of future generations to meet their own needs.”

Section 17.2.2 of the CSR sets out the Assessment Criteria used by the Proponent to determine sustainable development. The Proponent proposed a qualitative assessment of bio-physical, socio-community and economic factors.

BBCC submits that this Project does not meet the definition of “sustainable development” within the meaning of the CEAA.

### **Biophysical:**

The habitat that will be destroyed is part of one of the most valuable ecosystems in North America: Boundary Bay and Roberts Bank were proposed as a World Biosphere Reserve in 1992: That proposal was endorsed by 22 community groups and the Municipal Councils of Delta, Surrey and White Rock.

11,000 Hectares of Boundary Bay and Sturgeon Bank are designated Wildlife Management Areas by the Province of British Columbia. At least two nationally vulnerable species breed there. The Project will increase PM2.5 beyond the level acceptable in the GVRD and will increase greenhouse gases in the lower mainland by .2 or .3%.

### **Socio-community impacts**

The Proponent’s Application (chapter 17) describes socio-community impacts, as impacts that affect community and resident services, facilities lifestyle, land use and general well being including traffic, noise, air quality and visual amenity. (p. 1).

The CSR acknowledges that the Project will result in a significant increase in traffic resulting from the Project, and accepts that a \$3 million improvement to Highway 17 will mitigate those effects. There is significant objection in the community, including municipal officials, to that upgrade, as the general feeling is that the upgrade would not be necessary if Deltaport was not expanded.

The CSR states that there will be an additional 600 trucks per day from the Project, and that 240 of those will go through the Massey tunnel. There are currently 4600 trucks per day going through the Massey tunnel, so the truck traffic through the tunnel will increase by 5%. This is significant and it is not addressed.

## **Economic**

The CSR states that the “economic” aspect of sustainable development was examined in four distinct geographical areas:

- Canada;
- Province of British Columbia;
- GVRD; and
- The local area

The CSR then comes to the conclusion (p. 156) that the Project will not likely result in significant adverse economic effects in the local communities adjacent to Roberts Bank. The CSR makes no finding with respect to the economic effects of the project in the other geographic areas that the Proponent purported to assess.

Of particular omission is any discussion of the economic effects of this Project on the province of British Columbia.

The Lower Mainland of British Columbia has a healthy economy. The diversification of industry, the huge population base and the upcoming Olympics will continue to benefit the Lower Mainland over the next decade.

On the other hand, the city of Prince Rupert has suffered through the collapse of several industries that formed the economic base for the area. A healthy port business would be a great benefit to the City. As the numbers set out in the first part of this submission show, the building of this Project will result in substantial over supply of port container facilities. From a provincial perspective, it makes far more economic sense for support to be given to expanding the Prince Rupert port rather than this one.

The economic benefits of this project from a provincial perspective were not analyzed. It is not in the Province’s best interest to have two ports competing against each other for business if there is insufficient business for both.

## **Summary**

The CSR does not consider the negative bio-physical and socio-economic effects to this Project and did not assess the benefits of the Project to the Province, from the perspective of the port affecting the Prince Rupert plans.

It is not “sustainable development” to dredge environmentally sensitive habitat and expand port facilities in an environmentally sensitive area under constant pressure from other development, such as housing. It is not “sustainable development” to place containers on prime agricultural land. It is not “sustainable



development” to impose a Project of this magnitude on a community that does not support it.

#### **4.4 The Follow-Up Program in the CSR is Ineffective**

The Overall Conclusion of the CSR, set out previously, bears repeating:

*“The general conclusion of the environmental assessment is that provided the proponent:*

- 1) fulfills its commitments, including compliance and effects monitoring and follow-up measures as outlined in Appendix A, and*
- 2) implements the Adaptive Management Strategy and the Habitat Compensation Plan (including follow-up environmental management and monitoring program agreements) as the Proponent and the RAs have agreed,*

*the DP3 Project is not likely to cause significant adverse effects.”*

The CEEA sets out the mitigation measures that may be taken into account. Subsection 37(2.1) reads:

*(2.1) Mitigation measures that may be taken into account under subsection (1) by a responsible authority are not limited to measures within the legislative authority of Parliament and include*

*( a) any mitigation measures whose implementation the responsible authority can ensure; and*

*( b) any other mitigation measures that it is satisfied will be implemented by another person or body.*

The RA's are unable to assure the implementation of any of the mitigation measures in the CSR because they are poorly defined. More importantly, Appendix A to the CSR, entitled Owner's Commitments and Assurances, which is integral to the acceptability of the Project, is fundamentally flawed. It does not define essential terms, and contains unenforceable, and often very vaguely worded, commitments to be undertaken by unidentified parties. The combination of the vague wording contained in Appendix A together with the stated intention of the Proponent to transfer the Provincial Environmental Assessment Certificate to an as yet unknown entity, results in unenforceable mitigation measures.

Neither the CSR nor Appendix A defines the following fundamental terms used throughout Appendix A:

- “Owner”;

- “Operator;”
- “Contractor”;
- ““EAC”

The absence of definitions for such terms makes Appendix A meaningless.

The absence of definitions is not the only problem with the document, although they are sufficient to negate its worth. Sloppy drafting appears throughout the document.

Other problems include very vague and meaningless commitments. Examples include:

*“The Owner will continue to work with the COD, City of Surrey, City of Langley and Township of Langley to reduce traffic impacts.” (7.9)*

*“The Owner will participate with the COD and other stakeholders in the preparation of an incident management plan regarding traffic management and assist with the geometric and structural improvements to accommodate incident management bypass traffic and response measures along with safety improvement measures on Deltaport Way associated with truck incidents on the corridor.” (7.7)*

*“The Owner commits to prepare a report on Orca pods in the vicinity of the Project and to assess avoidance and mitigation measures...when pods re traversing the offshore areas of Roberts Bank. DFO marine mammal scientists will be consulted to ensure the report complements marine mammal monitoring requirements identified in the Fisheries Act authorization. A copy of the final report will be provided to DFO.”(12.3)*

*“the Owner will monitor and evaluate any aboriginal or commercial fisheries issues during Project dredging and construction.”(13)*

Some provisions are unclear as to responsibility for the action in question. One example is:

*“The Owner commits to an appropriate monitoring plan to assess the performance of the compensation habitat designs and to ensure there is “no net loss” in the productive capacity of fish habitat. If the compensation habitat is not functioning to DFO’s satisfaction, by the end of the monitoring period specified in the subsection 35(2) Fisheries Act authorization additional works and monitoring will be required to ensure the compensation habitat functions as designed or if appropriate, additional habitat compensation is provided.” (11.4) (sic)*

Schedule 1 is patently unclear. The first column reads “Marine Environmental Management Plan.” In the second column we find the following:

*“The Marine Environment Management Plan will:*

- *Outline the terms and conditions contained in the Fisheries Act authorization for the Project, including commitments for the habitat compensation.*
- *The owner has agreed to develop a final Fish Habitat Plan....*
- *The Owner has agreed that the final Habitat Compensation Plan and Habitat Authorization....*
- *As part of the Habitat Compensation Plan, the owner is committed to....*
- *The Owner shall carry out, ....*
- *Outline the required DFO dredging guidelines...” etc.*

The document goes on in a similar unreadable vein. The Schedule does not set out what the Marine Environment Plan will or will not do, and many of the listed bullets under the header do not refer to the Marine Environment Plan but to some sort of commitments on the part of the “Owner”. The result is that the entire section on the Marine Environmental Management Plan is of no meaning or relevance whatsoever.

It is noteworthy that one of the reasons the Environmental Assessment Panel turned down a proposed expansion in 1979 was the lack of responsibility for implementing mitigating measures.

*“A major deficiency in the project proposal is the absence of assurances that the recommended mitigation measures described ...will be implemented by the proponent. The Panel noted that some of the areas requiring mitigation, e.g., railway engine noise, traffic overpasses and municipal services enhancement, are outside the control of the proponent. The proponent did not provide any firm indications as to how mitigation measures outside of its control would be effected. This is of particular concern because of the fragmented responsibilities that appear to be associated with the project proposal.”(Report of Environment Assessment Panel, Roberts Bank Port Extension, March 1979, #9).*

That Panel was concerned that many of the mitigation measures were outside of the control of either the Proponent or the Responsible Authorities. That is the case with this project: To take but a few examples, ships emissions are out of their control, train emissions are out of their control, and whether or not marine habitat successfully reestablishes itself to its former level in alternate locations after being destroyed is also out of their control.

#### **4.5 The CSR Does Not Answer the Question: “Is the Project Likely to Cause Significant Adverse Effects?”**

The Minister is required to make a decision regarding this Project on the basis of the comprehensive study report and any comments filed under subsection 22(2). This is set out in subsection 23(1):

*“23(1) The Minister shall, after taking into consideration the comprehensive study report and any comments filed pursuant to subsection 22(2), refer the project back to the responsible authority for action under section 37 and issue an environmental assessment decision statement that*

- (c) sets out the Minister’s opinion as to whether, taking into account the implementation of any mitigation measures that the Minister considers appropriate, the project is or is not likely to cause significant adverse environmental effects; and*
- (d) sets out any mitigation measures or follow-up program that the Minister considers appropriate, after having taken into account the views of the responsible authorities and other federal authorities concerning the measures and program.”*

Section 23 contemplates that the Comprehensive Study Report contain a recommendation by the Responsible Authorities about whether, in their opinion, the project is or is not likely to cause significant adverse effects. The CSR does not contain an equivocal opinion.

The “Overall Conclusion” set out at page 211 of the CSR is as follows:

*“The general conclusion of the environmental assessment is that **provided the proponent:***

- 3) fulfills its commitments, including compliance and effects monitoring and follow-up measures as outlined in Appendix A, and*
- 4) implements the Adaptive Management Strategy and the Habitat Compensation Plan (including follow-up environmental management and monitoring program agreements) as the Proponent and the RAs have agreed,*

*the DP3 Project is not likely to cause significant adverse effects.”*  
(emphasis added)

The Boundary Bay Conservation Committee submits that this Conclusion does not form a sufficient basis for the Minister to determine that the Project is not likely to cause significant adverse effects. The CSR has not concluded that the

Project is not likely to cause significant adverse effects. The CRS has come to a conditional conclusion that is insufficient to support the requirements of the CEEA.

The Responsible Authority's Guide issued by the CEEA says the following about the recommendation to be made by the RA after screening:

*The central question for the RA or the Minister in the process decision following submission of a comprehensive study report, remains: **"Is the project likely to cause any significant adverse environmental effects?"** (emphasis added)*

The RA's have not answered this question unequivocally. Rather, they have answered it in a conditional manner that does not comply with the CEEA.

The BBCC notes that the Minister of the Environment has made decisions under the CEEA after completion of comprehensive studies for 53 projects. In none of these projects has the Minister denied approval for the project in question. However, none of the web-accessible comprehensive study reports reached a similar conditional conclusion about the potential for significant adverse effects as this one, notwithstanding that many of these projects required certain commitments on the part of the proponent, mitigation measures and follow up programs. The comprehensive study reports for all those projects came to the unqualified conclusion that the project is not likely to cause significant adverse effects.<sup>3</sup> The CSR does not make that determination.

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<sup>3</sup> Compare the wording of the conclusions of the CSR for the Deltaport Third Berth project with the wording of the conclusions made in the conditional study reports for these major projects, all of which required some kind of follow-up program or mitigation measures:

*"Based on the results of the environmental assessment, it is concluded that the Project is not likely to cause significant adverse effects." (CSR for Trans-Canada Highway, Perth-Andover to Woodstock)*

*"Based on the results of the environmental assessment, it is concluded that the Project is not likely to cause significant adverse effects." (CSR for Irving Liquefied Natural Gas Facility and Marine Terminal)*

*"Taking in to account the proposed mitigation, compensation and follow-up measures, as well as the proponent's commitments, the DFO has determined that the project...is not likely to cause significant adverse effects." (CSR for partial diversion of Manouane River in Quebec)*

*"The mitigation/compensation strategies to be applied will effectively address those identified effects and it is concluded that there will be no significant residual adverse effects as a result of the project." (Parmour Gold Mine)*

*"Taking into account the implementation of any mitigation that was considered to be appropriate, including the proposed habitat compensation measures, as well as the follow-up programs and the Proponent's commitments, Fisheries and Oceans Canada and Transport Canada have determined that the proposed Project, as defined by the scope of the study, is not likely to cause significant adverse effects." (CSR for Wuskwatim Hydro General Project in northern Manitoba)*

The RAs did not come to the conclusion, as required by the CEAA, that the Project is not likely to cause significant adverse environmental effects. The RAs determined only that the Project is not likely to cause significant adverse effects if and only if the Proponent complies with Appendix A. The qualified conclusion is not provided for by the CEAA and is insufficient to meet the test in the CEAA.

BBCC submits that the RAs have not made an unequivocal determination as required by the CEAA because the area that will be affected by the Project includes critical habitat for fish, and one of the richest and most important ecosystems for migrant and wintering water birds in Canada, and the Project is likely to cause significant adverse environmental effects.

#### **4.6 The CSR Does not Address Public Concerns**

The Project has faced overwhelming public opposition from the adjacent community, first nations and environmental groups. These concerns are wide-ranging, but are broadly summarized as:

- concerns involving the environment;
- concerns involving traffic, noise and light from the construction and operation of the Project, and
- concerns about the transparency of the Project.

Virtually all of the comments received during all stages of comment voiced objections to and/or major concerns about the Project. It has little, if any, public support. BBCC shares the concerns and objections advanced by others during the process. BBCC submits that most of these concerns have been inadequately addressed by the CSR.

In addition, there are a number of public concerns that have not been addressed at all. These are:

- the failure to address the cumulative effects of this Project, in combination with previous and planned future developments;
- the failure to address the effects of the Project on the ecosystem as a whole, rather than as individual components;

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*“Considering the proposed mitigation and compensation measures, and the follow-up program, as well as the proponent’s commitments, DFO has determined that the proposed project, as defined by the scope of the study is not likely to cause significant negative environmental effects.” (CSR for Peribonka Hydroelectric Power Project).*

- the failure to address transboundary agreements;
- the failure to incorporate the provincial wildlife management plan;
- concerns about lack of accountability for environmental effects resulting from operation;
- failure to address the impacts of noise, lighting and traffic of operation on the surrounding communities and wildlife;
- impact of very large ships navigating Juan de Fuca with other marine traffic, and marine life;
- concerns surrounding the uncertainty of the AMS and the Habitat compensation Plan to mitigate the effects of the Project; and
- concerns about the transparency of the assessment process.

All of those concerns, with the exception of the final one, have been explained in the body of this submission.

### **Transparency**

The preamble to the CEAA reads in part:

*“AND WHEREAS the Government of Canada is committed to facilitating public participation in the environmental assessment of projects to be carried out by or with the approval or assistance of the Government of Canada and providing access to the information on which those environmental assessments are based;”*

BBCC’s concerns about the lack of transparency relate to the following:

- the Proponent’s actions and statements regarding its plans to develop T2;
- failure to include details about transfer of water lots from the provincial crown to facilitate the Project;
- failure to disclose that an agreement with the Tsawwassen First Nations (TFN) is integral to the success of the Project and that the TFN agreement with the Proponent is tied to the TFN’s efforts to secure aboriginal right and title to a large tract of agricultural land and have that land removed from the Agricultural Land Reserve.

BBCC has been actively involved with the Proponent's plans for this Project for several years, and BBCC members have attended meetings held by the Proponent, read volumes of material relating to the Project, shared information with other concerned groups and individuals, and made several requests under the federal and provincial freedom of information Acts. As a result of the lengthy involvement by BBCC members, BBCC holds the very strong opinion that there is a fundamental lack of transparency with this Project. Such a lack of transparency is not apparent on a reading of the CSR.

A slide presentation by the Proponent during the preliminary stages of the Project, August 2004, contained a slide headed: "Critical Requirements for Deltaport 3<sup>rd</sup> Berth" and contains the following:

- Tsawwassen First Nation agreement;
- Property acquisition from B.C. Government;
- Timely environmental review and approval;
- Road improvements;
- Business agreement with terminal operator.

Since the Proponent viewed all of these to be "critical requirements" of the Project, it follows that each should have been subject to a degree of public scrutiny. There is no mention in the CSR of the requirement for the "Tsawwassen First Nation agreement" or "property acquisition from B.C. Government." Road improvements were discussed above.

## **Terminal 2**

The Proponent simultaneously notified the British Columbia Environmental Assessment Office of its intention to apply for an environmental assessment certificate for both Terminal 2 and the Third Berth Project under Section 16 of the Environmental Assessment Act [SBC 2002, c. 43]. Orders under paragraph 10(1)(c) of the Environmental Assessment Act were signed with respect to the Third Berth Project and Terminal 2 on the same day. The pre-application meetings on March 11, 2003 and June 10, 2004 dealt with both projects. Letters written by the provincial Minister of Environment, the Honourable Jan Hagen, throughout 2003 inviting interested parties to participate in the environmental screening project dealt with both projects in tandem.

Terminal 2 is a massive development. If both it and Deltaport were built, the capacity of Deltaport would more than triple from 900,000 TEU to 3.2 million TEU. (VPA website)

When the Proponent submitted its application in January 2005, it took the position that the plans for T2 were not "clearly defined" enough, and that the



assessment of that Project would “follow at some point in the future”. (Application, Page 3) In February 2006, the Proponent asked the Minister of Environment to withdraw the Section 10 order with respect to T2, and that was done a few days later. The official environmental assessment status of T2 is now “withdrawn”.

The Proponent’s website clearly identifies T2 as the next phase of its container expansion plans, but now takes the position:

*“The Port has not advanced the Terminal 2 proposal beyond the point of identifying a potential site location and desired capacity. The terminal configuration, on-site services, and offsite road and rail requirements have not been established and will require extensive studies before they can be confirmed.”*

### **Water Lots**

Documents prepared by the Proponent in 2002 showing the conceptual layout of the Roberts Bank Expansion plans show boundaries of a massive water lot encompassing all the water from the shore to beyond Deltaport and considerably to the north of Deltaport as well. The waterlot, referred to in the map as “the remainder of Parcel A” is bounded on one side by the shore line from the area of the Tsawwassen First Nation Reserve through to approximately half way up to Canoe Passage, and on the north and south by lines drawn perpendicular to the existing causeway. The area bounded by that water lot is immense.

The Proponent wrote to the Corporation of Delta on July 28, 2005, stating:

*“...the Vancouver Port Authority (VPA) has firm and binding agreement with the Transportation Financing Authority to acquire the remainder of parcel A. The provincial crown will transfer fee simple title to the waterlot to the federal crown. VPA will manage these lands as an agent of the federal crown in accordance with the Canada Marine Act and its Letters Patent.”*

All of the property along the shore line is currently zoned for agricultural purposes. It is also the land that will be transferred to the TFN as part of their treaty. [Cernetig] Representatives of TFN have acknowledged that they will apply to have about half of the land removed from the Agricultural Land Reserve.

### **TFN**

TFN was a strong and vocal opponent of Deltaport and commenced court action in 2002 against the Proponent in respect of Deltaport. [Tsawwassen Indian Band v. Canada (Minister of Environment)]; (1998), 145 F.T.R. 252, (F.C.); 2001 FCA

57 (Canll) (F.C.A.); Tsawwassen Indian Band v. Irwin, (1997), 129 F.T.R. 8, (F.C.); 2001 FCA 58 (CanLII) (F.C.A.)]

Unsuccessful in both Federal Court and the Court of Appeal, it is not surprising that the TFN might decide to act in the Band's economic and employment interests by entering into an agreement with the Proponent to cooperate with the development of the Third Berth and Terminal 2 in exchange for benefits for the members of the Band. The memorandum of agreement entered into by the TFN and the Proponent calls for the TFN to receive substantial benefits from the construction and operation of the Project.

BBCC is concerned that the issues of the water lots and the TFN agreement are "critical" to the Project, and yet the CSR does not refer to them. The Proponent's application states on Page 40:

*The Project requires a combination of land and water areas that are: (1) owned by the crown in right of Canada care of Vancouver Port Corporation; (2) under the administration, control and benefit of Her Majesty the Queen in right of Canada (Lot 851); and (3) to be acquired from the British Columbia Transportation Financing Authority (Remainder of Parcel A), all as illustrated on the attached Figure 2.7*

It is not possible to detail any more than what is set out here, but on the basis of what is set out here, BBCC submits that the transparency contemplated by the CEAA is missing. There is more to this project than is represented by the CSR, and a transparent process would have resulted in more of those details being disclosed in the CSR.

#### **4.7 International Convention on Transboundary EIA**

Nowhere in the CSR is the Transboundary Environmental Impact Assessment (EIA) Convention, to which Canada is a signatory, mentioned. The Convention requires Canada to notify the United States of the proposed Project because it is listed in Appendix 1 of the Convention. ["Trading ports and also inland waterways and ports for inland-waterway traffic which permit the passage of vessels of over 1,350 metric tons."]

Because the Project will increase both the number and the size of container ships traveling through United States water, and that increase is likely to have a significant adverse effect on Southern Resident Killer Whales, Canada was required to notify the United States of the Project "as early as possible and no later than when informing its own public about that proposed activity". [Convention, Article 3, No.1]

The necessity of notification under the Convention arises out of the effects the Project is likely to have on the Southern Resident Killer Whale population in the Haro Strait and the Strait of Juan de Fuca.

Canada lists the Southern Resident Killer Whales as “endangered” under the Species at Risk Act. Southern Resident Killer Whales were listed as “threatened” under the United States Endangered Species Act in 2005.

According to published research, the primary factors contributing to the decline in the Southern Resident Killer Whale population include the reduction and variation in prey, increased vessel disturbance and inflated contaminant loads. (Baird 2001, Krahn et al. 2003 and Ross et al. 2000)

According to a very recent news release dated June 9, 2006 from the National Oceanic & Atmospheric Administration, U.S. Department of Commerce:

*“The area proposed for critical habitat designation encompasses parts of Haro Strait and the waters around the San Juan Islands, the Strait of Juan de Fuca and all of Puget Sound a total of just over 2,500 square miles. “*

In other words, the area proposed by the United States for critical habitat designation for endangered Southern Resident Killer Whales is the exact area through which container ships going to and from Deltaport will travel.

Canada’s obligation to comply with the requirements of the Transboundary EIA Convention and its failure to notify the United States of the Project is not mentioned in the CSR.

## **5 Summary**

The environmental assessment of this Project has taken a long time, and has culminated in a CSR that is in parts inaccurate and vague. It fails to address valid concerns shared by many people and organizations about the Project. Those concerns, if they needed to be summed up in a sentence are simply that: This area is not environmentally suitable or practical for expanded port development.

In the time frame allowed for responding to the CSR, which was about six weeks, it is impossible to document all concerns. But it is clear from a reading of all the publicly available material on this project that both DFO and EC have shared many of the public concerns about the environmental acceptability of this Project. Despite those concerns, which are many and varied, and were not properly addressed by the Proponent, DFO and EC have given qualified approval to this Project. It is the nature of the qualification that is fundamental: throughout the CSR the following phrase is repeated:

*“Based on the information summarized in this CSR and provided that the Proponent implements the actions describe in the Owner’s commitments and Assurance as listed in Appendix A of this report, the RA s are satisfied that the Project will not likely result in significant adverse effects...”*

The information in the CSR is lacking. There are inconsistencies, inaccuracies and vague wording. It does not form a basis for making a sound decision.

Based on the information in the CSR, it does not appear that DFO and EC can ensure the implementation of the mitigation measures. More importantly, even if the implementation of those measures could be ensured, they will be ineffective to mitigate the extensive environmental damage that would be done by this Project.

BBCC submits that there is no need for this Project, the location is not suitable for it, and if it is approved it would result in significant and irreversible environmental effects that are not justified in the circumstances.

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## **Selected References**

*Does not include documents that were part of the EA process, available on the EPIC website ([www.eao.gov.bc.ca](http://www.eao.gov.bc.ca))*

Baird, R.W. 2001. Status of killer whales, *Orcinus orca* in Canada. Canadian Field-Naturalist 115: 676- 701.

British Columbia, Ministry of Small Business and Economic Development and Ministry of Transportation. *British Columbia Ports Strategy Final March 2005* ([www.gov.bc.ca/ecdev/down/bc\\_ports\\_strategy\\_sbed\\_mar\\_18\\_01.pdf#](http://www.gov.bc.ca/ecdev/down/bc_ports_strategy_sbed_mar_18_01.pdf#))

Certnetig, Miro. "First Urban Treaty 'A Leap of Faith'", Vancouver Sun June 3, 2006 p. C-1.

Canada, Environment Canada. *The Georgia Basin Action Plan*  
[www.pyr.ec.gc.ca/georgiabasin/index\\_e.htm](http://www.pyr.ec.gc.ca/georgiabasin/index_e.htm)

Canada, Environment Canada. *Science and the Environment Bulletin, March/April 2001* [www.ec.gc.ca/science](http://www.ec.gc.ca/science)

Clark, W.C. *Adaptive management, heal thyself*. Environment. March 2002.

Environmental Defence Center, Santa Barbara, CA *Anthropogenic Noise and the Channel Islands National Marine Sanctuary 2004* [ available  
<http://www.edcnet.org/ProgramsPages/PressReleases/Anthropogenic%20Noise%20and%20CINMS.pdf> ]

Galli, L, B. Hurlbutt, W. Jewett, W. Mortaon, S. Schuster, Z. Van Hilsen, *Boat Source-Level Noise in Haro Strait: Relevance to Orca Whales*.  
[[www.coloradocollege.edu/environment/research/OVALItems/FinalRptWeb/finalAll.html](http://www.coloradocollege.edu/environment/research/OVALItems/FinalRptWeb/finalAll.html)]

Government of Canada; News Release October 21, 2005: *Government of Canada Announces Pacific Gateway Strategy*  
[www.tc.gc.ca/mediaroom/incljudes/GOC\\_printable\\_release.asp?](http://www.tc.gc.ca/mediaroom/incljudes/GOC_printable_release.asp?))

Krahn, M.M., Wade, et al, 2003. *Status review of the Southern Resident killer whales (Orcinus orca) under the Endangered Species Act*. Page 133, U.S. Department of Commerce, National Oceanographic and Atmospheric Administration Technical Memorandum.

Machalaba, Daniel. *Tiny British Columbia Port Aims To Be New Venue for China Trade*. Wall Street Journal, August 8, 2006.

Ross, P.S., Ellis et al, 2000 *High PCB Concentrations in free-ranging Pacific killer whales (Orcinus orca): Effects of age, sex and dietary preference*. Marine Pollution Bulletin 40: 504-515;

Van Poppelen, Paul. *Review of some aspects of the environmental assessment application for the Deltaport Third Berth Project* May 2005

Walters, C. 1997. *Challenges in adaptive management of riparian and coastal ecosystems*. *Conservation Ecology* 1(2): 1.