



Roberts Bank Terminal 2 Proposal by the Vancouver Fraser Port Authority is the Beginning of the End for the Globally Significant Fraser River Estuary.

Have we not learned our lessons?

Fraser Voices* Brief to CEAA Roberts Bank T2 Impact Assessment Panel.

A. Introduction.

In that public intervenors have been given a maximum of 20 minutes to present their concerns to the Public Panel we will keep this paper relatively short and not touch on issues related to the engineering or economics of this development proposal. In that we will not be given an opportunity to cross examine the proposal as presented by Port Vancouver we will pose questions that the Panel must seek answers for.

The RBT2 proposal and its long public consultation and assessment process have been long and exhausting. In such impact reviews science seems to be the order of the day however the political considerations most often are often aligned with and are most often related to and influenced by superior economic forces. These forces have no moral obligation to the environment or the lives of our grandchildren. Our values related to nature and our own future quality of life and survival can be made subservient to what some see as progress i.e. jobs and economic growth. Many feel

**Fraser Voices was formed in January 2016 and incorporated as a B.C. Society on July 6, 2016. Fraser Voices is a community organization dedicated to preserving the Lower Fraser River and its estuary. It came into being in response to concerns about developments planned in or around the Fraser River. Its membership is made up of individuals who have long sought to conserve the natural environment and protect farmland in the area.*

an obstacle to this progress is most often environmental protection. To put this environmental protection into context proponents and government seek compromise solutions so we will rarely have to say no to development. This compromise is most often rationalized by the magic of science.

In that science opinion can be purchased with a bias in it, the Panel and political decision makers must balance science with the values we have for all living organisms and the need to protect nature and the services it provides to enable all life to survive.

The Panel must not fall into the thinking that science and the values that we hold are relatively unrelated issues. What is good science is often negotiable and contestable. An over reliance on certain data appearing to be good science must not trump or replace our values and common sense.

Most often science is complex and can be overwhelming to many. Good science does support estuary protection as a high priority for any society. Less than good science or data taken out of context can be used to prove almost anything. Failure to recognize this will ensure another round of incremental habitat and living resource loss in the Fraser Estuary - an estuary and its habitats and life forms that has been over compromised and degraded over the past several decades.

This brief will more dwell on common sense and values and not the endless scientific and economic argument contests that have a high risk of advancing the outcome into yet another compromise approach. Where handy compromises cannot be made the Panel may take the lead from several other EISs and make 101 or more recommendations to politically overcome what science and the proponent cannot address. That is indeed the pattern of recent CEAA environmental reviews e.g. Petronas LNG Skeena Estuary, Trans Mountain Pipeline expansion or the BC EAO review of the YVR Jet Fuel Terminal in the Fraser River.

In my 50 years of impact assessment and environmental protection it has been often apparent that science can be bought and most developers shop for the consultant to best represent their agenda. As noted below, we know you are not here to review the process but you and the political decision makers must be aware that the impact assessment process used in this project to date is far from acceptable.

The tone of our brief may at times seem to be a rant or a lecture. Considering the state of the Fraser Estuary and the global environment and the lack of strong will for politicians to drive an effective environmental conservation program a lecture may encourage an awakening.

The recent release of the United Nations report on Biodiversity (*Diaz, S. and R. Watson, May 2019. IPBES Global Assessment on Biodiversity and Ecosystem Services – Summary for Policy Makers 40p. United Nations, Bonn, Germany*) paints a very bleak picture in that a group of international scientists has concluded that about one million species of life on Earth is at the point of approaching extinction over the next few years. To arrest this trend drastic conservation actions are necessary. If we note our record on addressing climate change we know that a major

conservation initiative cannot take place in a short time period or will never be successful due to inertia, the economy and compromise .

Large projects like RBT2 proposed in the middle of world class estuarine habitat fits into such a risk analyses of our local and global species endangerment and extinction. On this issue where the final decision is left with politicians there cannot ever be too much lecturing and educating of them to cause some greater enlightenment as to the assertive protection needs of habitats and life in our 'natural' world. Here the Panel must be aware that it is much better and much more effective to prevent habitat loss than to play the game that mitigation and compensation will work. Proponents of new industry like it when politicians are led to believe we never have to say 'no' to development in even critical habitat areas.

B. The CEAA RB T2 Impact Assessment Process:

1. It was hoped that the Federal Government would have made all changes proposed in the various federal legislation affecting fish, wildlife, impact assessment and shipping before this review and hearing begins. This appears to not be the case and we ask - what is the legislated standard upon which the Panel and eventually government will guide its decision making? For instance do the Panel and government only consider significant harm (i.e. fish death or permanent destruction of habitat) as a Fisheries Act consideration standard or does it properly take the ecosystem into account and consider all impacts on habitat and the fishery? Do CEAA findings supersede statute law such as that found in the Fisheries Act?
2. The process and arrangements for this review have been long, complicated and often convoluted and confusing to the public. One could conclude that the process was designed to wear down the public through never ending process. I attended my first workshops and directed my first comments to CEAA on RBT2 some 6 years ago.

The average person would have great difficulty in maintaining stamina and in understanding the process i.e. what to review next, when to act or meet key deadlines. The interested individual would not have the resources to relate to what is a PV and CEAA corporate driven project associated with relatively unlimited resources. CEAA and the government must determine how such a process gives rise to a fair and transparent hearing process unless one is well-funded and has resources at their disposal. The applications for funding were to be submitted years ago and well before public groups appreciated what the project entailed and what role they could play in any future CEAA review. It is not a process for an average citizen even with a degree or two behind their name. How does this make it a level table and fair impact review?

3. As with the TMX Pipeline the government seems to go out of its way to make public consultations (especially with First Nations) complete and meaningful. However, how can a process be fair and meaningful when the Prime Minister often states that the pipeline will be built? In that the final decision to proceed is a political decision does the

millions of dollars spent on the review and the years of time spent on it become a charade given the final outcome has been promised by the leader of the country?

Here the RBT2 situation is similar to that outlined above. Members of Parliament from the Government Cabinet have noted that this government has determined that the Fraser River will be an international trade corridor (i.e. Gateway to the Pacific). Considering that, what can the Panel do to alter that decision made early in the mandate of this government as part of its jobs and economic growth agenda? Does this mean that this review maybe is a charade?

4. The CEAA EIS process seems unable to properly address key considerations. The Act and approach simply does not adequately address regional or ecosystem wide impacts. In my many years in EC and DFO the legal advice from Dept. of Justice was to always limit the scope of environmental reviews in that it was not in the political interests of the day or expedient to allow a review to cover too much and get too complex. Here we are concerned that CEAA will probably not effectively take ecosystem impacts into account in terms of spatial and temporal considerations.

The Cohen Commission noted this problem in ***DFO (Cohen B. I, 2012. The Unknown Future of Fraser River Sockeye - Final Report Summary Oct 2012)***. This failure is despite the fact that DFO probably has one of the better organizations to do this with hundreds of dedicated biologists and scientists on staff. Also Port Vancouver began early work to prepare compensation habitat for any impacts from RBT2. Where was CEAA when that should have been placed under close review before the work was done for habitat credits?

5. As each set of new managers (whether in DFO, EC or PV) takes on each decade of work the present status of the environment is often seen as the normal or natural state and each development is evaluated in isolation often concluding no significant impact in the usual compromise assessment and protection plan. The need to maintain a baseline of habitat or life is really made into a descending baseline with each decade. This gives rise to an ongoing piecemeal loss of the existing base. Do we do our studies to take into account the larger fish or bird populations that existed in 1980 or do we constantly protect less and less and not appreciate any ongoing loss. DFO historically had a policy to minimize habitat losses. They wisely changed it to 'no net loss' in 1986 but could not deliver on that policy. What standard will the Panel apply to this project?
6. Bureaucrats, academics and politicians insist and want to believe that assessments and decisions are science based. The BC EAO duly noted in the Fraser River jet fuel terminal EIA that they would not consider public opinion as meaningful and would ignore it because an EIS was based on science and not on a vote (***BC EAO Project Director 2011 VAFFC Project Information Meeting, Richmond, BC***). If science is an end all, it's too bad that we did not select our government by a more scientific process versus a vote. We could then have better leadership and delivery on promises. The public view and public values are indeed a valid consideration. When over 90% of the people in a public poll are

opposed to a project that must carry significant weight. How will the Panel take public opinion and values into account?

Science must inform us but not unilaterally make all our decisions that direct us. The VAFFC and the BC EAO did to some large degree ignore public concern and a BC Supreme Court Judge did chastise the VAFFC for not properly taking the public input and concerns into account. Here we have an identical concern and again in the heart of the Fraser Estuary. Will the CEAA Panel fully consider existence values, public opinions and wishes, society values, etc.? Where does the Panel leave democratic wants and our values for nature – at the doorstep of science?

C. Overview of the Fraser River Estuary and its Living Resources.

Much has been written and said about the development of the river and its estuary over its geologic and its more recent biologic history. Some of that literature includes *Bocking, R.C. 1997. Mighty River – A Portrait of the Fraser. Douglas MacIntyre Vancouver BC 294p and Dorcey, Anthony H.J. 1991 Perspectives on Sustainable Development in water Management: Towards Agreement in the Fraser River Basin Vol.1, 586p. and Vol. 2 Water in Sustainable Development: Exploring our Common Future in the Fraser River Basin 283p. Westwater UBC: Birtwell, I. C. Levings, J. Macdonald and I. Rogers. 1988. A Review of Fish Habitat Issues in the Fraser River System. Water Poll. Res. Journal. 23(1) 1988: Dorcey et al. 1976 The Uncertain Future of the Lower Fraser. Westwater. UBC Press 202p)*

Almost all of this early history relates to what the first non-indigenous explorers and settlers documented after about 1860. We will not summarize that work but simply note the following:

The Fraser River flows in a rift valley formed in the Earth's crust about 60 million years ago. In the past 10 to 20 thousand years the rift valley above Hope was largely filled in by glacial sediment and now the river's hydraulic forces are still eroding away those deposits. The Estuary was only formed in the past few thousand years and the general bank fronts are indeed only a few hundred years old. Many fish species including salmon are recent re-introductions into the river since a reasonable amount of channel – basin stabilization occurred some 4000 to 5000 years ago.

Although a river basin and estuary can take thousands to millions of years to evolve human forces after European settlement has made vast and often detrimental changes to the river and especially its estuary in just a short 150 years. Dams have been built and flows have been altered. Beginning in the Cariboo's gold rush mining took place directly in river channels. This mining is still occurring at an even greater pace over the past decades but this time the ore is gravel not gold.

The estuary has been channelized filled in and is largely an urban environment with industrial infrastructure and pollution squeezing the river and the life in it. A river cannot

be healthy unless its basin and associated land forms are healthy. The basin has been greatly altered by flow alterations, settlements, farming and logging (refer to *Bocking, R. C., 1997 Mighty River, Douglas and McIntyre. Vancouver. 294p*).

There is scant data on the fish and wildlife resources found in the river prior to European settlement. However in the late 1800's it is estimated that up to 100 million adult sockeye salmon entered the river system. Canneries were scattered across the delta in Canada and the USA. So many salmon were caught that the canneries could not process much of the catch and millions of salmon became waste. Soon their numbers decreased due to such over fishing. It is now considered a good year if 10 to 20 million of this salmon species returns to the river to maintain its population.

It appears that human industrial activities has caused this giant decline in salmon resources in the river and despite years of effort little can be done to restore the river and its fish populations to what it was some 140 years ago. The greatest impacts were probably due to overfishing, railway construction that gave rise to the Hell's Gate Slide and estuary alteration (dyking) that affected the estuary rearing species.

Other fish that called the Fraser Estuary part of their home (e.g. sturgeon, eulachon, surf smelt, etc) have also seen their once rich populations greatly diminished to endangered or approaching extirpation levels. Many bird populations have also seen dramatic decreases but this is most often over a wider area. Regardless, all of these native forms of life greatly depend upon the essential habitat found at the mouth of the Fraser River and its outer estuary as far afield as the Gulf Islands and Burrard Inlet.

The impacts of overfishing and river blockage can be more easily understood and to some degree explained. Some of the greater impacts to the river are evident in the delta and its estuarine processes and habitats. Although the river is millions of years old and the estuary as we know it is less than five thousand years old. Nature takes a great deal of time to build habitat but humans and their technology have caused the greatest changes in the past 140 years i.e. wetlands drained, dykes built, intertidal and other water areas filled in, water quality degraded and river channelization, riparian loss and bank armoring,

The above may be a dismal story but the ruination of the river is a continuing saga since about 1860. In the past 40 years Significant effort has gone into restoring habitats and salmon runs but the real bogymen now coming out of the closet is climate change which affects flows and causes high water temperatures.

What it took nature millions of years to create in terms of habitat and fish runs has gone rapidly downhill since 1860 i.e. in the past 160 years. Nowhere is this more evident than in the estuary and most of those changes have taken place after World War 1 i.e. the past 100 years.

What are those changes? In terms of the Fraser Basin below Hope
In the delta 85% of wetlands have been lost to drainage, dyking and fill. Delta tree and shrub cover has been reduced by 90%... Over 90% of key side channels have been

eliminated from the river's tidal reaches. These habitat areas were once vital fish and wildlife habitats. (Refer to *Wild, Threatened, Endangered and Lost Streams of the Lower Fraser Valley – Summary Report DFO FRAP 1997*; Langer, O. E. 2000 *The Cumulative Impacts of 140 years of Human Development on Lower Fraser Valley Streams. pp 456 – 467 in Cumulative Environmental Effects Management – Tools and Approaches. ASPB Calgary and Langer, Otto E. and F. Heitkamp and M. Farrell. 2000. Human Population Growth and the Sustainability of Urban Salmonid Streams in the Lower Fraser Valley pp 349 – 361 in Sustainable Fisheries Management: Pacific Salmon. Lewis Publishers, New York*).

Despite the above scenario, we constantly hear industry and politicians that we must find balance between human needs in the estuary as we protect the environment. Does this mean that industry can have ½ of the remaining wetlands including the marshes, tide flats and the near shore subtidal habitats?

It should be very apparent to any observer that what is left of the estuary and Lower River is totally out of balance and in over 40 years of restoration work we have not significantly replaced those losses. Restoration is politically a sexy thing to support in that one can ignore the lack of protection of what exists and brag about the good things we are doing – bulldozers restoring isolated habitats. DFO just issued two million dollars for restoration in the Fraser Estuary to produce more Chinook salmon and better feed starving Orcas. Similar resources were not set aside to re-hire lost habitat protection staff and ensure their lost habitat protection legislation was restored so we could protect what is still surviving in the estuary!

In short what remains as habitat in the estuary must be protected in its entirety and a massive program has to take place to restore what is restorable. However that must be related to the need to protect the global habitat of the basin and ocean from climate change. Urgency is needed or the future of the river, its estuary, fish and bird life will continue to slip away. The compromise has been excessive and now we must work on finding some true ecological / economic balance. That cannot be found by ignoring climate change and allowing any additional filling in giant parts of the maligned delta and its estuary for any purpose.

The Panel has to realize that an ecosystem in a global consideration and even a project like RBT2 enhances global warming. Such a port promotes the use of fossil fuel, excessive shipping of goods on our land and in the ocean. Once more trade is enhanced by new port facilities it will promote more and more manufacturing and consumerism. This is part of the global and Fraser River cumulative impacts associated with a RBT2 development.

The Panel is encouraged to look at the global (ecosystem) cumulative impacts related to this project and not just local impacts. Originally PV did not want to examine the impacts of RBT2 ship traffic on whales. This issue was just the tip of a much bigger iceberg that has to be addressed by any proper and comprehensive impact review.

When the Petronas LNG project in the Skeena was approved by CEAA and politicians, the various government Ministers quickly went out of their way to note how comprehensive and rigorous the CEAA review was and therefore no significant impact was to occur. In that case the proponent's consultant studies were poor, lacked objectivity and did not properly address good science standards. Unfortunately CEAA accepted that. We do expect a more expert and thorough review and objective recommendations of RBT2 from this Panel.

D. The present status of the Fraser Estuary.

I have attached a review of developments in the Fraser Estuary as requested by a governing federal MP in 2015 (*Langer, O.E. 2016. The Lower Fraser River and its Estuary: Conservation Steps Needed to Protect and Sustain Fish and Wildlife and our Quality of Life – An Urgent Action Plan for the New Trudeau Government. March 10, 2016. 8p.*). It clearly notes the pressures on the river and makes recommendations on how to reverse the negative trends taking place in the Lower River and its Estuary. This brief highlights RBT2 as of the highest level impacts on the estuary. No one in government had the decency to respond to this brief.

As indicated in the above noted brief the development of RBT2 was timed to perfectly take advantage of a government (Harper Government) that did not favor any form of proactive environmental protection and laws related to EIS, navigation and fish habitat. Most resources previously made available for an effective habitat protection and impact assessment for those programs simply disappeared. DFO habitat staff was fired and FREMP was dissolved. FREMP was considered one of the bright lights in the protection of the Fraser Estuary (*see T. Dorcey paper in Langer, O.E. 2019. Overview and History of the Fraser River Estuary Management Program (FREMP) and the Burrard Inlet Environmental Action Plan (BIEAP) - Where to Next? 31p. Richmond, BC.*)

Unfortunately the past BC Liberal government showed a similar callous attitude to environmental protection. Times have changed in Ottawa and Victoria but little has been done to correct the shortcomings in environmental protection. This project must be viewed through a lens that has greater focus and concentration than that seen in present approaches and legislation. The cards are stacked against a fair and proper scientific review and approach of how the remnant parts of the estuary can now be protected in perpetuity.

E. The Roberts Bank Terminal 2 Development – Lessons Not Learned.

If one is concerned about life and nature's life supporting processes on Earth past efforts to protect our atmosphere, water and land have to be greatly improved upon. Simply using the often repeated PM Trudeau line that we must find balance and we can have environmental protection and jobs and economic growth at the same time. This claim is trite and has no scientific basis when one considers what is happening to nature and life in the Fraser estuary and indeed on this planet.

Further to the above it is simply smug to feel that Canada is doing things differently and we can assure sustainable development. To claim such is to act in a less than informed manner and PM Trudeau must be made aware that his government's views are simply political wishful thinking. The Panel must be careful to not fall into the sinkholes created by our last two governments and your report has to serve as a basis for change in environmental protection in the local and global situation.

In 2017 some of us had input into a CEAA review to put a giant LNG and dock/port into the middle of the relative undeveloped Skeena Estuary. Sadly CEAA and your political masters did approve that terrible project but fortunately industry abandoned that that project. If we are so inclined to harm a virgin estuary in the present era, how can the public believe CEAA, society and government will now protect some of the last native parts of an industrial 'working river' (i.e. the Fraser Estuary)?

In 1970 I appeared at town council meetings in Port Hardy to try and convince city council and the developer interests that the Port Hardy Estuary must not be filled in for an industrial port to support mining, logging ferry terminal, etc. At that time we knew little about the fisheries value of our estuaries. The bird people probably knew more about the value of such a habitat area for the maintenance of healthy bird population – especially for water fowl.

Unfortunately in 1970 we did not have the legal tools to protect such habitats and after 2012 we are again in that same situation. At the time I quoted from Odum – *Fundamentals of Ecology* to impress upon the public and local politicians that an estuary had great value to humans and should not be a convenient fill site for industrial development.

As a young university graduate some in the crowd accused me of just reading out of a book whereas the local industry and politicians had to deal with reality i.e. progress, jobs and the economy. That 1960s ecology book rated estuaries as the most productive food producing habitat on earth. In the 50 years since then volumes of science have shown this to be the case but we still do not seem to relate to that fundamental environmental lesson – protect your estuaries.

The Port Hardy port did not go ahead and we alternatively identified a deep water port possibility (Bear Cove) that later became the ferry – dock terminal. It was located outside of the immediate estuary on a rock bluff away from the estuary mudflats and estuary marshes. This was done without the fish habitat protection provisions introduced into law in 1977 (repealed by the Harper government in 2013). It's too bad that the lessons learned here did not translate into long term protection plans for key estuaries such as in the Fraser and Skeena Rivers.

Key to the Port Hardy development was an early form of sustainable development. You can have your port but not in the most sensitive habitat area in that region. Up to 90% of habitat impact is usually associated with where the project is located and not the size or

operation of that development. To put a discretionary development in the middle of your most sensitive and productive habitats on Earth is simply foolhardy and anyone sitting on an assessment panel must give their head a good shake to appreciate what has been proposed and relate to some form of an ecological moral compass.

Further to the above why in 2019 would anyone take a project and determine it should be put into the most sensitive and sensitive and productive habitats in a globally significant river and estuary. Here PV should have been directed elsewhere to build new container facilities. Unfortunately DFO and consultants think one can development immediately adjacent to sensitive habitat so just move your project over to deeper water.

Due to a lack of ecosystem thinking DFO and now PV believes that marshes are the most important habitat to be protected and we can sacrifice an adjacent site. That thinking is anti-ecosystem in nature and is predicated on a misguided belief that if we protect areas of valuable habitat (often isolated postage sized sites) the rest can be compromised and nature will persevere. As with wildlife habitat one has to protect large tracts of habitat and the preservation of piecemeal parts will most often assure the loss of the life that depends upon them.

F. Conclusions and Recommendations:

The Fraser River Estuary is an important but only a component of the associated marine and freshwater river ecosystems. To examine localized impacts on just the estuary or a part of an estuary is very short sighted and ignores scientific concepts of ecosystem functioning and cumulative impacts. We are certain that many living on the Adams River or in Kamloops or Prince George or in Interior First Nations Reserves are unaware that CEAA is reviewing a giant impact on their river ecosystem and will not see or be consulted on that development that can to some degree determine if the fish (salmon) that are supposed to turn up in their local habitat spawning areas each year actually takes place.

It is painfully obvious that to allow massive new industrial developments in the Fraser River Estuary outside of the dyked areas is short sighted and foolhardy if the protection of this globally significant estuary is important to Canadians and life on this planet. The Panel has to put on a bigger hat on and not just review localized impacts in a less than valid 'scientific' ecosystem approach that usually does no justice to addressing overall ecosystem cumulative impacts.

Fraser Voices is not opposed to jobs and economic development but there has to be limits to growth in key sensitive and productive habitat areas in BC and elsewhere on this planet. Since about 2000 there are fewer signs of actual balance between protecting nature and economic growth in the Fraser Estuary. Sustainable growth is a near myth with the values and approaches practiced by society and our governments. The priority agenda is now sustained economic growth.

The issue here is not whether we have another container terminal but where? Proper economic planning that can assure some form of shorter term sustainable must examine where on the entire BC Coast should we have more port development and more container capacity with little environmental impact.

Why should we tolerate our various federal ports such as those in Prince Rupert, Surrey, Burrard Inlet and Squamish acting in competition with Delta Port? A coastal approach must ensure that all our ports complement each other and provide better opportunities to have a lessor impact on key and essential habitats. It now seems that port construction is an empire building exercise. A few years ago PV was proud to steal container business form the Tacoma – Seattle area. Those ports formed a study of how to prevent PV from stealing US container business. Why is this madness permitted? It is not a responsible service to Canadians and will not allow a better level of environmental protection. We recently saw a PV facility more than willing to accept US coal that US ports would not accept. The project was approved by PV. This madness cannot be permitted in the middle of any of our estuaries.

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