

**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*

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March 15, 2016*

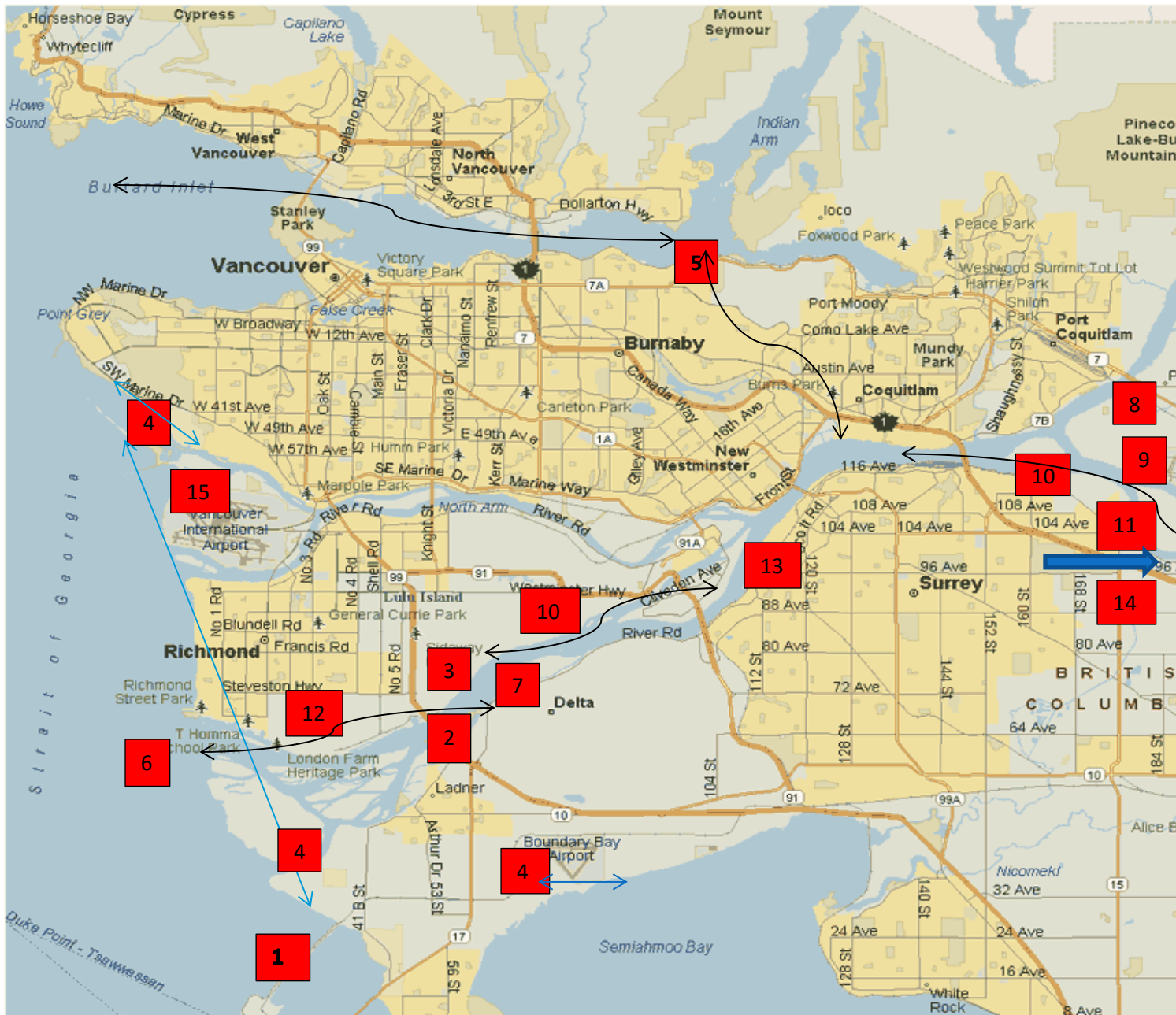
# Executive Summary

The Lower Fraser River and estuary has been through tremendous development over the past 160 years that has greatly altered its ability to support fisheries and wildlife. Presently a series of projects are proposed when Canada has greatly diminished laws to properly assess these projects and protect the environment. Projects of greatest negative impact concern in order of priority are:

1. Roberts Bank Terminal 2 project (greatest risk)
2. New Richmond – Delta Bridge.
3. Jet Fuel Project.
4. PMV habitat banking program
5. Kinder Morgan bitumen pipeline project.
6. Increased water temperatures.
7. Fortis LNG Facility on Tilbury Island
8. Gravel mining in fish habitat areas.
9. Flood control initiatives.
10. River dredging for flood control and construction sand.
11. Port expansion to Mission.
12. Increased shipping traffic in the estuary.
13. Surrey Fraser Dock coal export facility
14. 4<sup>th</sup> runway for Vancouver International Airport (lowest risk at this time).

## **An urgent action plan for the new government must include:**

1. Port Metro conflict of interest between development and environmental protection must be resolved.
2. Make PMV accountable to public and local government.
3. Restore pre-2012 conditions back to CEAA, Fisheries and NWPA Acts.
4. Restore DFO will and capacity to do the job.
5. Address climate changes/ temperature issues affecting the Fraser.
6. Re-establish a Fraser River Estuary Management type organization.
7. Re-establish the federal role in environmental assessments in the Lower Fraser.



**Map of the Lower Fraser River and its estuary outlining the planned developments that will create a threat to fish and wildlife populations and our quality of life in this region and for all Canadians. Each planned development is expanded on pages 5-7. Developments 8,9, 11 and 14 are upstream of the Pitt River.**

# 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*

Otto E. Langer - March 15, 2016.

### **A. Introduction:**

I have been asked by some federal MPs after the October 2015 federal election to compose list of Fraser River Estuary issues that have to be addressed by this new government after years of neglect and environmental losses under the past government. The Lower Fraser River is in the midst of a new industrial revolution\* that is taking advantage of the lack of diligent environmental protection laws and less than adequate environmental assessment procedures. In November 2015 I sent government a letter (Attached) outlining the need to address urgent Lower Fraser River and estuary conflicts. The following is a more complete list and also includes action steps to protect what we now have.

Many seem to pretend that the estuary as an ecologically intact unit. However, it has to be appreciated that the globally significant Lower Fraser and its estuary is not what it was before European contact some 150 years ago. Over 90 percent of the estuary's

*\*The Lower Fraser has now been or will be subject to three industrial development periods that has greatly affected the nature of the river and its life. In each development period some significant attributes from our natural world was lost and we are now dealing with a remnant of what habitat and fish and wildlife we had in 1860.*

1. ***The 1st Industrial Era : 1860 to 1920*** (land clearing, dyking, drainage of wetlands)
2. ***The first Interlude: 1920 to WW II*** (no protection laws but little development due to war and depression))
3. ***The 2nd Industrial Era : 1950 to 1975***(no protection laws and major industrial devilmnt such as Roberts Bank port)
4. ***1975 - 2010 – 2<sup>nd</sup> Interlude – Age of Enlightenment*** (ongoing economic development but with many new environmental protection laws)
5. ***The 3<sup>rd</sup> Industrial Era: 2010+*** (reduced environmental protection and major developments planned – RBT2, LNG, jet fuel terminal, etc.).

marshlands have been destroyed. We are trying to protect a remnant of what we once had. Is protecting what now exists asking too much considering that we have less than a half dozen of estuaries of this size and importance along the entire North and South American West Coast from the Arctic to the Antarctic Oceans?

One must appreciate that the Lower Fraser River is not a self- sustaining ecological – hydrogeological entity. Everything that occurs in the upstream watershed affects the water flow, impacts on fish, sediment transport and water quality. That includes the multiple pulp mills in Kamloops, Quesnel and Prince George, massive forest removal, climate change, pine beetle damage, farming activities, road building and a number of other anthropogenic activities.

Further to the above, water quality in the Lower River, especially its estuary, is an ongoing concern. Improvements were made over the years (eg. secondary treatment at the main sewage treatment plants) but gains have been offset by continuous growth in the Metro Vancouver – Abbotsford – Chilliwack areas. All the wastes of some three million people, and the industry of the area, flow into the river after no or various forms of treatment. This water quality issue is not considered in the below issue and action outlined due to space limitations.

Further to the above comment, invasive species, over fishing and hunting pressures have of course affected life in the river. As with water quality, these issues are also not addressed in this brief. This brief is about the physical environment i.e. the shoreline, mudflats, spawning gravel, etc.

## **B. Present threats to the environment of the Lower Fraser River (Hope to Steveston reach and the estuary).**

### **Threat ratings: Overall present threat to the Lower River and its estuary.**

- **(8-10) – Of extreme concern. Imminent threat that will cause significant alteration and damage to the river and its life.**
- **(5-7) Of significant concern to the protection of life and habitats in the Lower Fraser River and its estuary. The estuary includes English Bay.**
- **(1-4). Of lessor importance and threat to the Lower Fraser at this time.**

1. **Roberts Bank Terminal 2 project (Threat rating 10).** This is one of a very few projects in Canada that is now subject to a CEAA Review Panel. PMV has applied to build a 180 hectare new fill area adjacent to the present port that is also built on the estuary mudflat. This new fill area will be one of the final nails in the coffin of the valuable fish and migratory bird habitat on Roberts Bank. The public has been very upset with the complexity of the CEAA review as directed to date. The process makes it impossible for the local citizen to have input into such a bureaucratic and gantlet type review.
2. **New Richmond – Delta Bridge. (10).** The proposal to build a bridge to replace the George Massey Tunnel may not significantly affect fish and wildlife habitat but the loss of the tunnel will allow the river to be dredged much deeper and this will allow the promotion of deep sea super freighter and tanker traffic in the Lower Fraser and that alone will set an irreversible and negative trend for most habitat and quality of life issues along the river's edge. The bridge will allow the passage of jet fuel and LNG tankers, coal freighters and associated terminal constructions. Also a deeper river could well lead to the loss of riparian marshes due to ship wake erosion and slippage of river banks into deeper waters. This new bridge and lowered bed in the Fraser River will greatly enhance the penetration of salt water into the Fraser River where it can affect the biology of the river and the use of water along the river such as for Richmond and Delta farmers.
3. **Jet Fuel Project. (9).** The Vancouver Airport Fuel Facilities Corporation's plans as approved by PMV and the Province EAO to allow Panamax jet fuel tankers to enter the Fraser River in Richmond and build an off-loading terminal with a very large tank farm and pipe the fuel across Richmond to YVR. The Federal CEAA process and Environment Canada and DFO played no public role in this review and the PMV simply screened and delegated the review to BC and then both approved the end result.
4. **PMV habitat banking program. (7).** This is an ongoing program by PMV to develop habitat on top of existing habitat so as to get habitat credits to apply against other habitats that they will, or plan to, destroy such as the subtidal habitats at Roberts Bank. Although it is called a Habitat Enhancement Program it is far from that. Many PMV projects are really habitat restoration and that should not be used to gain credits that will be used to destroy habitat created by nature that is stable, often more diverse and long lasting. Indeed the clean-up of a Boundary Bay habitat area in 2014 by PMV for habitat credits as issued by DFO was misguided and probably did more damage than good.
5. **Kinder Morgan bitumen pipeline project. (6).** This project will allow about 600 super tankers of bitumen to be exported out of Burrard Inlet i.e. in the middle of Metro Vancouver. Any spills from the large new pipeline will affect the Fraser River and ship based or loading spills will greatly harm Burrard Inlet. This project is under NEB-CEAA review but it has largely muzzled the public by not allowing the common citizen without extensive backup to appear before the

panel. Those that can appear before the panel have no right to cross examine any presentation made. Once again PMV will greatly benefit from this project if it is approved.

6. **Increased water temperatures (6)** have and will more affect hydrology and continue to cause mortalities of salmon in the Fraser River and eventually affect all other ecological concerns. Climate change is a very real issue for the Fraser River and ocean. It will get worse with time.
7. **Fortis LNG Facility on Tilbury Island (6)**. This facility has been improperly assessed by the federal CEAA and BC EAO process. The use of fossil fuel (LNG) and the building of the plant and storage tank(s) have been ignored by the EA and only the dock in the river is subject to the EAO review.
8. **Gravel mining (6)**. Continued gravel mining in the salmon and sturgeon spawning areas of the Fraser River in the Chilliwack to Seabird Island reach of the river continues to be a concern. This mining began in earnest in about 2004 when the DFO largely delegated their responsibilities to the Province and the Province saw this as a valuable source of gravel for construction in the Lower Mainland. Little of this gravel mining has anything to do with flood control.
9. **Flood control initiatives (6)**. There has been years of clamor for better flood control along much of the Lower Fraser river. In many locations it is valid. To date misguided efforts have determined that gravel mining and dredging of the river will provide that protection. However, improved dykes are in order. Such a program along the river can result in significant damage to shoreline fish and wildlife habitat as it did after the 1948 flood when many riparian areas were destroyed and sloughs were cut off from the river. Any new dyking – riprapping program has to be conducted in an environmentally aware manner.
10. **River dredging for flood control (6)**. Further to the above, many local officials in the tidal reach of the river believe in the misguided concept that one has to dredge out sand from the estuary to prevent flooding. The high tide level determines the level of flooding and the depth of the river provides little flood protection. The demands for more dredging is accompanied by many new industrial developments such as the dredging of the river associated with the new Richmond-Delta Bridge, the wishes of Maple Ridge to have a cruise ship facility and the river shipping plans of Mission. The massive dredging of the sands of the Lower Fraser River can have untold impacts on river behavior, mudflat recovery and its habitats such as that of the near extirpated eulachon.
11. **Port expansion to Mission (6)**. The old FRHC port boundaries extended to Kanaka Creek. However that port authority noted many years ago their desire to extend the port to Mission. With PMV now in charge the ambitions to develop ports and industrial lands is greater than ever regardless of fish and wildlife habitat or ALR (Agriculture Land Reserve) values. This is combined with a constant push by Mission to have the river dredged for flood control and the

operation of barges for business ventures in Mission. The extension of the port to Mission is a giant threat to the Lower Fraser River.

12. As noted above, **increased shipping traffic (5)** is an increased threat to the river and its riparian habitats. Shoreline erosion of rare and endangered habitats occurs from the large wake of boats. Also with the BC government allowing jet fuel transport on the river (LNG next) there are greater probabilities of accidents and spills of hazardous materials into the river.
13. **Surrey Fraser Dock coal export facility (5)**. This facility is to export US thermal coal to Asia. Originally it was to be shipped down the Fraser by open barges but now large ocean carriers could be allowed into the Surrey Docks if the George Massey Tunnel is replaced by a bridge and the river is dredged out to allow large freighters and tankers up the Fraser River. Once again the Federal Government did not review this project under CEAA but delegated the environmental-social impact review to Port Metro Vancouver.
14. **Contaminated soil and waste sites. (3)**. A contaminated waste site at Chilliwack was again ignored by the federal CEAA review process and the City of Chilliwack approved it despite the fact that it is on the banks of the Fraser River and was met with tremendous public opposition. Although public pressure seemed to have defeated this proposal it was then followed by a recent proposal to put a contaminated soil dump in to the salmon rich Chehalis River watershed.
15. Future plans by YVR to add a **4<sup>th</sup> runway to the Vancouver International Airport (3)**. The only option to date seems to be a filling in of one of the last two large marsh- mudflat areas of the estuary i.e. Sturgeons Banks. As with RBT2 on Roberts Bank, this project will be the last nail in the coffin of this valuable habitat area. With Roberts and Sturgeons Bank largely compromised by these two projects the globally significant Fraser River Estuary will be small remnant of what it was in 1860 and what has survived over 150 years of development to 2016.

## **C. The overarching issues that contribute to habitat threats and losses in the Lower Fraser River. These umbrella issues are in need of corrective action by government**

### **Priority for action:**

- **10-8 - urgent – immediate action required;**
- **7-5 - must be acted on in the near future;**
- **4-1 - of longer term concern for future action.**



1. **(Priority for action - 10). Federal delegation of environmental and social impacts reviews to PMV is an unbelievable conflict of interest** in that the port promotes such development, profits from it and also now reviews and approves it. A neutral federal agency (a revitalized CEAA) must take over the review of all PMV and Fraser River estuary projects.
2. **(10). A new and aggressive approach by PMV to develop habitats and farmland for future industrial purposes is bound to negatively affect these renewable resources.** This rush for industrial lands has to be tempered with protection and enhancement of the remaining farmland and habitat and meaningful input from the local communities must be prioritized.
3. **(10). CEAA and NWPA and the Fisheries Act have been watered down by the past government** so they have little effect on almost any development proposal in this critical environment and its fish and wildlife habitat areas. CEAA has to be upgraded so as to address projects that have sensitivity to the habitat affected and the nature of the development and not necessarily its size regardless of siting location. Also their approach to 'valued components' needs great improvement as well as the re-instatement of the law triggers in NWPA and Fisheries Acts.
4. **(10). The dissolution of DFO Habitat Protection Offices** along the Fraser River directly associates with item 5 below. The rebuilding of DFO and EC as conservation agencies with a directed will to do the job is essential.
5. **(10). Further to the above the removal of habitat protection provisions from the Fisheries Act (2012) and the directing of Fishery Officers and remaining habitat from doing any habitat enforcement work must be reversed.** The habitat provisions (HADD) must be immediately re-inserted into the Fisheries Act. This habitat law did not hinder industrial development in Canada from 1976 to 2012.
6. **(9).** As recently indicated by the present government, **address climate change in a time effective manner** so as many resources that we now have are not lost in the next few decades as we wait for controls to be implemented and take effect. High water temperatures are already having a negative impact on salmon survival.
7. **(8). A fully functional FREMP type organization** to coordinate the environmental protection needs of the various federal, provincial, and local government laws and regulations has to be restored since it was dissolved by the past government. PMV pretends that they can now fulfil this role. That is an outrageous substitute to replace the loss of FREMP due to PMV's mandate and conflict of interest.
8. **(8).** There is a **complete lack of an environmental management body and plan** for the area of the Fraser upstream of the old FREMP boundary (Kanaka Ck.) to Hope. This area is home to over 400,000 people with various demands on the river and its riparian habitat. This plan is especially essential to coordinate flood control issues in this reach of the river as related to gravel removal as a flood control technique.

9. **(8).** It is extremely unusual that **much of the Lower Fraser is federal port, under federal navigation laws and pilotage authority and is home to federally protected habitat and fish and migratory wildlife resources and home to several federal conservation areas.** Yet after 2012 the federal government largely ignored environmental reviews of impacts in this key and essential habitat area. The federal government did a much more effective job of protecting social and environmental attributes of this area in the 1980s under the EARP – FEARO process before the development of proper legislation (CEAA) to do this job. However, CEAA was effective until about 2012 when its role as related to NWPA and the Fisheries Act was totally undermined by the past government. This problem has to be urgently corrected.
10. **(7).** **The BC EAO environmental assessment process is largely ineffective** in directly addressing the real threats of a project that may be planned with the wrong rationale in an environmentally sensitive area. The BC EAO has many shortcomings including low bar standards that are applied to all projects regardless of habitat sensitivity, lack of follow-up enforcement and a process that does not allow public hearings and thereby eliminates fair public consultation and input. The federal government must drop their dependence on the ineffective BC method of doing EAs that must be done by the federal government in a much more effective manner.
11. **(7).** **Harmonized federal/provincial environmental assessments have failed to credibly meet CEAA requirements.** Changes made in 2012 to the CEAA have allowed EAs of several projects to proceed in B.C. through “substitution” (i.e., one EA process and both the provincial and federal ministers render a decision on the result), or “equivalency” (i.e., one EA process and a provincial decision only) on request from the B.C. government. In the Tilbury Island LNG project the proponents were advised by lawyers that: *“The key to this strategy is to avoid an EA that encompasses additional associated project components, such as pipeline and/or power, and focus on the provincial EA process as the principal venue...”* Here the pipelines and the plant and tank construction was then exempted from the BC EA process.

#### **D. CONCLUSIONS:**

The Lower Fraser River and its globally significant estuary has been developed by industries, land reclamation, flood control and urbanization to such a degree that its functioning as a sustainable ecological unit is now at stake. During the past few years there have been a number of new setbacks in protecting what is remaining of a once large healthy natural estuary ecosystem.

It is obvious that environmental protection actions and social considerations have been greatly downgraded from what was in place during the 1977 to 2012 era. This downgrading was often by politically directed bureaucratic actions (2000 – 2012) and then in 2012 the recent past government totally handicapped environmental

assessment and navigable waters and environmental protection legislation. We have experienced about 15 years of downward negative setbacks in environmental protection in the Lower Fraser River.

This was done by disingenuous changes to almost all environmental legislation from the Fisheries Act, CEAA, NWPA, and Species at Risk Acts. From Section B above, it appears that all activities, laws, and administrative arrangement that were essential to do the job must be now acted upon to give not only the Lower Fraser River, but all Canadians and their waterways the protection they deserve. This is important for survival of aquatic life and for our future generations enjoyment of our waterways.

It is most urgent that above noted legislation be restored (with some fine tuning where necessary) and environmental assessments and approvals be given to or directed by CEAA, DFO and EC and not PMV. PMV is in a great conflict of interest each time it assesses a project and then approves it to their business advantage.

Several projects now are creating a significant risk to the river and its life and must be addressed in a more effective manner than recently shown by regulatory authorities.

A handwritten signature in black ink, appearing to read "O. E. Langer". The signature is stylized and cursive.

**By Otto E. Langer MSc Fisheries Biologist March 15, 2016.**

*Peer reviewed by Dr. Marvin Rosenau BCIT, John Werring DSF and Susan Jones BBCC.*