



# Waterways, Ports and Resources: The Fraser River

The Fraser River is a rich resource shared by myriad competing interests. Balancing those interests requires a solid public/private partnership.

BY TIM LYNCH

Those who work in the marine industry tend to view the Fraser River as either a port location, a transportation route or a fishing area. But the Fraser River is many things to many people: It is the ancestral homelands to several First Nation peoples; a major Canadian commercial arterial transportation corridor; and a sensitive ecosystem where vulnerable marine life has to survive in a predominantly land-based cultural terrain.

The Fraser River belongs to all the people of Canada, and however you perceive it, you have to agree it is a very complex and busy environment: Deep-sea container, bulk and cargo ships call in from different parts of the world; countless other marine vessels use the waterways going about local business and pleasure; and river embankments are dotted with the historical artifacts of a once-thriving commercial fishing industry — an industry that strives to survive following an era when it was king of the domain.

Man-made Canadian transportation corridors like Toronto's 401, Montreal's Jacques Cartier freeway or BC's Coquihalla highway demonstrate how we are able to accommodate the requirements of modern commerce on land. Managing the flow of water from the Canadian Rockies to the Pacific Ocean and the tidal flow from the Gulf of Georgia up the Fraser River so that commerce is encouraged, nature preserved and communities are protected involves many local, national and international interests. Confronted with this array of purposes and interests one is tempted to ask the question: Who is in charge of the Fraser River?

## The Fraser River Port Authority (FRPA)

From his fifth-floor office in New Westminster, Captain Allen Domaas, President of the Fraser River Port Authority (FRPA), has a commanding view looking west out onto the New Westminster Quay, with Fraser Surrey Docks across the river, and the trifurcation of the Fraser River at the eastern tip of Annacis Island, with the Alex Fraser Bridge in the background. Unfortunately for Captain Domaas, the nature of his job does not give him much



Capt. Allen Domaas, President of the Fraser River Port Authority.



The development of the BC Packers land in Steveston demonstrates how the historical embankments of the Fraser River are changing from industrial uses to high-density residential uses.

time to look out of his window. Discussing the role of the FRPA, Captain Domaas says “Our mandate is the same as every other Port Authority under the Canada Marine Act. We are to facilitate and grow national trade. We see ourselves involved in overall land use planning to ensure that there are available opportunities for terminals and off-docks appropriately linked with road, rail and marine connections.”

Explaining the relationship among federal, provincial and municipal governments, Captain Domaas points out that “The Port Authority administers all federal lands along the Main Stem of the Fraser River estuary. We also administer the provincial land at the lower part of the river under a head lease with the Province of British Columbia. Our mandate involves administering the submerged land at the bottom of the water and the navigation that occurs on the surface of the river. For instance, when people want to install a boat storage we rent them that federal/provincial land. They occupy that land by putting pilings in to hold the building they are putting up in place. We manage the surface traffic, by setting up channel boundaries and safety zones. We then monitor to ensure users don’t encroach on these activities. We do that in conjunction with Marine Traffic Safety, which we then monitor to ensure users don’t encroach on these activities. We do that in conjunction with Marine Traffic Safety, which is Transport Canada responsibility. Transport Canada also administers the protection of the navigating zone through the Navigable Waters Protection Act. Anyone wanting to discharge into the Fraser has to comply with the provincial waste management regulations.” He describes the management of the River as “A complex web. It is a very integrated set of regulations unlike some competitors in the Orient where the national government controls everything. It is nothing like that here.”

A detailed account of the “rules of the road/river” are available in the Authority’s 61 page Technical Specifications Handbook, which can be downloaded from their website (see sidebar). In addition to outlining the channel lanes that ships are required to follow in their use of the river, this document provides graphic explanation of all dimensions associated with navigating a vessel along the river both in terms of the ships specifications and the type of terrain and sub-terrain that can be expected. The Authority’s 21 page Practices and Procedures Manual, which can also be downloaded from their website, provides detailed accounts of the obligations one has to assume in traveling the waterways and using the ports along the river estuary. Captain Domaas takes pride in the role FRPA plays in being responsible to its neighboring communities along the river, which includes taking responsibility for the environmental impact of the traffic using its ports. These goals are served through Fraser Port’s active participation in the Fraser River Estuary Management Program.

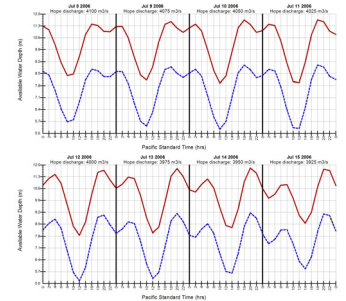
## A Cooperative Approach

The Fraser River Estuary Management Program (FREMP) oversees the Fraser River’s complex ecosystem through a memorandum of understanding among the federal departments of Fisheries, Transportation and Environment, the BC Ministry of the Environment, the Greater Vancouver Regional District (GVRD) as well as the Fraser River Port Authority and the North Fraser Port Authority. While the river/sea interface of the Fraser River is unique, similar concerns are addressed within the Vancouver Port Authority through the Burrard Inlet Environmental Action Plan (BIEAP). BIEAP is focused more on the environmental concerns of Burrard Inlet, but given their similarity in membership and common purposes both organizations have been conjointly administered since 1996.

At her office in Burnaby, Anna Mathewson, manager for both programs, explains that the FREMP and BIEAP partnerships are funded by each of the program partners annually contributing \$45,000. Describing the difference between FREMP and BIEAP, she says “The vision of FREMP is a sustainable estuary. We are dealing with a living and working river. The FREMP program focuses on environmental quality and human activities in the estuary. The estuary is described as a menagerie; you have shipping, fishing, cargo transportation, log booming and lots of industrial activity still happening on the Fraser and you have residential and urban development happening along the embankments. Our plan has to reflect these realities. BIEAP is an environmental action program established to protect and improve environmental quality in Burrard Inlet, whereas FREMP is an estuary management program that encompasses the habitat, water quality, economics, and industrial development.”

Commenting on the way FREMP functions, Mathewson explains that “Each of the agencies at the table has their own activities and mandates out in the field. FREMP helps them coordinate their policies, and the estuary management

plan is intended to reflect what they want to achieve in common. FREMP also provides a one-window environmental review for applications on foreshore, physical works like marine building or upgrading. Proponents doing work on the main stem of the river go to Fraser Port (or, on the North Arm, to North Fraser Port Authority) and they bring the project to the FREMP inter-agency Environmental Review Committee. The Committee produces a letter of recommendations on the proponent’s application. The Port Authority concerned makes the ultimate decision, but FREMP serves to provide a coordinated environmental review of a project. All property users on the estuary should know about this review process. The FREMP Environmental Review Committee meets every two weeks; we have a totally transparent system including a public log on our website of all proceedings dealing with an application and the FREMP letter of recommendation. Anything in the foreshore area goes through this coordinated review process. This approach benefits all parties and it is a better use of time and resources.”



An Avadepth chart. Now available on the Internet, Avadepth (“Available Depths”) was developed in 1986 to assist river pilots in determining maximum draft and best sailing times on the Fraser River.



courtesy FREMP

Anna Mathewson from the Fraser River Estuary Management Program. "The vision of FREMP is a sustainable estuary," says Mathewson. "We are dealing with a living and working river."

Mathewson acknowledges, somewhat reluctantly, that FREMP does not capture the cultural and social factors influenced by the Fraser River. The current purpose of FREMP only extends to industrial development, and she agrees that there is a need to link these activities with events unfolding in the uplands, just above the waterline. She reports that FREMP is involved in some preliminary activities around such matters that consider details just on the other side of the dike (reach). These reach overview studies are differentiating between rich habitats relative to the more urban and industrial areas of development along the river embankment.

## Navigating the Depths

The depth of the Fraser River can change significantly depending on the quantity of water flowing down from the Rockies, and tidal patterns flowing up from the Gulf of Georgia. As reported in an earlier article ("Flood Mitigation in the BC Lower Mainland," *Marine Life*, April 2006), FRPA contracts dredging services in order to maintain appropriate depths in key channels of the river. The Canadian Coast Guard provides a valuable service that ensures that the shipping community is fully informed of all conditions and restrictions which might affect safe and efficient navigation in Canada's waterways. This service is particularly critical for the deep-sea vessels that continually test the limits of the river depth by scheduling their inbound and outbound times to the high tides to try and maximize their loading capacity. To ensure vessels can navigate safely through a river whose bottom is constantly changing, the Coast Guard created "Avadepth."

Avadepth, an acronym for "Available Depths," was first developed in 1986 to assist river pilots in determining the maximum available draft and the best sailing times on the Fraser River. In 1997, Avadepth was made available to the public on the Internet and as technology has changed so has the website. Avadepth now incorporates new user functionality and interactivity and allows Avadepth clients to calculate transit windows to a minimum or maximum draught, view current and historical sounding plans, look at predicted water levels in the river and quickly view current channel conditions identifying shallow areas in the river. This flexibility was deemed essential for users of the Fraser River so that they could respond to the rapid changes in river conditions resulting from heavy rains and spring run-off. Figure 1 shows the predicted depths for the river's navigation channels from July 8 to 16, 2006.

As with any other major arterial highway in Canada, navigation

(travelling) along the Fraser River necessitates a unique respect for marine traffic laws, particularly where large foreign vessels are concerned. In a future article, *Mariner Life* will explore the role of the pilots who navigate the large container ships through the narrow, busy passages of the Fraser River and along the Lower Mainland coastline.

## A Balancing Act

The Fraser River is the arterial lifeline of the BC Lower Mainland and its 2.7 million inhabitants. It is also a complex and evolving ecosystem under great pressure to adjust and change to socio-economic, environmental and global trends. The Fraser Basin Council, formed in 1997 is comprised of community groups, business, as well as federal, provincial, municipal and First Nations representatives. It serves as an advocacy agency that provides guidance in the management of growth such that it enhances the Basin's social, economic and environmental health. Mediating some understanding among diverse and often short-term interests is an enormous challenge, but an important responsibility and an urgent priority for the Council to follow if the communities reliant on the terrain are to survive and prosper.

Throughout the researching of this article, the words "partner" or "partnership" frequently came up when discussing the way the Fraser River functions. Among the users of the River it seems there is a common understanding that it is in the best interests of all concerned to manage the Fraser River so that no one interest dominates. The overall intent of such activities is seen as enhancing the rights of individuals living in communities adjacent to the Fraser River and preserving the sensitive ecosystem that enriches its embankments as well as accommodates the needs of global trading ships, local commercial fishing boats and leisure craft. Clearly all levels of government have obligations to ensure their constituent responsibilities and obligations are appropriately served. In addition, it is critical that mutually established rules and regulations serve to preserve a livable environment for future generations of British Columbians. From this commonality of purpose the Fraser River is best defined as a working example the Canadian constitutional tenet "peace, order and good government."



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## FRASER RIVER RESOURCES ON THE INTERNET

- Fraser River Port Authority website: [www.frpa.com](http://www.frpa.com)
- Technical Specifications manual [www.frpa.com/navigation/index.html](http://www.frpa.com/navigation/index.html)
- Practices and Procedures Manual: [www.frpa.com/navigation/procedures.html](http://www.frpa.com/navigation/procedures.html)
- The Canadian Coast Guard website for Avadepth: [www2.pac.dfo-mpo.gc.ca](http://www2.pac.dfo-mpo.gc.ca)
- Fraser River Estuary Management Program (FREMP) and Burrard Inlet Environmental Action Plan (BIEAP) conjoint website: [www.bieapfrem.org](http://www.bieapfrem.org)
- Fraser Basin website: [www.fraserbasin.bc.ca](http://www.fraserbasin.bc.ca)