DELTAPORT THIRD BERTH PROJECT
Adaptive Management Strategy
2010 Annual Report
Response from the Scientific Advisory Committee

In April 2011, Port Metro Vancouver and its consultant Hemmera Envirochem Inc. (Hemmera) released the 2010 Annual Report, which compiled and interpreted results of the fourth year's work on the Adaptive Management Strategy (AMS), addressing the potential environmental impacts of the construction of Deltaport 3. Herewith a response from the Scientific Advisory Committee (SAC) to this report. As in previous years I've included some background material to help those not so familiar with the project. Readers with a longer involvement in the process may wish to skip this.

BACKGROUND

What is the Adaptive Management Strategy?

The AMS takes a science-based systematic approach to monitoring and managing potential impacts on the 'intercauseway ecosystem' (that between the container port and BC Ferry jetties) that may arise as a consequence of the construction of DP3. The AMS was initiated as a result of the Environmental Assessment of DP3 carried out by Environment Canada. An Environmental Assessment is a federally-mandated process required of all such major projects. The AMS has the specific goals of assessing the potential for significant negative impacts on the ecosystem that may occur as a result of DP3 construction. Of particular interest are marine eutrophic events and dendritic channelization leading to erosion. The strategy for the AMS is a public document and is available at

http://portmetrovancouver.com/Libraries/PROJECTS_Deltaport_Third_Berth_Project/Final_Deltaport_Adaptive_Mgmt_Strategy_April_2006.sflb.ashx

The core activity is a monitoring program to provide data on the environmental situation in and around the intercauseway area. The program began with the start of construction in 2007, and is scheduled to continue for five years following substantial completion of DP3. Substantial completion was December 2009, and therefore the AMS program is scheduled to continue through to the end of 2014. Data are collected regularly on geomorphological factors, on surface water and sediment quality, the distribution and community structure of eelgrass beds, benthic organisms, and the birds in the area. The AMS compares these data to environmental thresholds based on regulatory screening levels, baseline surveys (from 2003/04), and/or cited background levels established in accordance with Environment Canada. The data are summarized in quarterly reports, and in an annual report, which also provides some interpretation.

What is the Scientific Advisory Committee?

The SAC was established in response to the Environmental Assessment process, as a means to provide independent scientific and technical advice to Port Metro Vancouver, and upon request to Environment Canada, in relation to the implementation of the AMS. The SAC is composed of

three scientists, one appointed by Environment Canada (Dr. Terri Sutherland, Research Scientist, Fisheries and Oceans Canada (FOC)), one appointed by Port Metro Vancouver (Mr. Rowland Atkins, M.Sc., P.Geo. Associate & Senior Geomorphologist, Golder Associates Ltd.), and a third selected jointly by Environment Canada and Port Metro Vancouver to chair the committee (Dr. Ron Ydenberg, Professor of Biological Sciences, SFU). All three of us have extensive experience on these mudflats. It is important to note that we do not represent either our employers or the agencies that appointed us. We were appointed as members of an independent technical committee set up by Port Metro Vancouver to review the AMS reports, and to help steer the 'adaptive' part of the management process.

The SAC was appointed and began work in spring 2007, just after the AMS was established and the monitoring program was initiated. The SAC has previously provided responses to the 2007 – 2009 Annual Reports. The SAC's work related to the 2010 Quarterly and Annual Reports included meetings on January 25, March 17, May 18, August 10, and December 8 2010. During the December 8, 2010 we met with all the consultants involved (NHC, Hemmera, Precision Identification) to discuss preliminary 2010 results in preparation for the production of the draft Annual Report, and on May 25, 2011 SAC met to review the draft report, which was released in April 2011.

RESPONSE TO THE ANNUAL REPORT

The 2007, 2008, and 2009 Annual Reports identified no emerging adverse environmental trends, and SAC's Response to each Annual Report agreed with those assessments, adding the caveat that, though the Annual Reports contained a massive amount of data, each covered only one complete seasonal cycle. Accordingly we were mindful that the level of confidence that could be placed in a 'no effect' conclusion was necessarily limited. With three years' data now in hand and a growing familiarity with seasonal patterns, SAC feels more confident in concluding that significant negative impacts on the ecosystem resulting from DP3 construction are limited. We offer the following summary of this year's findings and conclusions.

The state of the dendritic channelization and the potential for erosion, as well as the potential for marine eutrophic events remain, as they were from the beginning, issues of special interest. With regard to the latter, general patterns and values of the data concerning sediment water quality indicators and the state of the eelgrass bed are much the same as in previous years, and give no reason for concern. The eelgrass bed is large and appears healthy. We know far less about the marine benthic community in the intercauseway area, but see no adverse indicators, and have scheduled an additional sampling event in 2011 to learn more.

As in previous years, the vast majority of the surface water and sediment quality measures in 2010 were well within guideline levels, with a few instances in which some measurements either exceed the guideline, or are higher by more than 20% (the agreed upon 'trigger' level) than the previous level. We commented on these in previous annuals reports, and repeat here these are explicable either because these elements are naturally elevated in the region (e.g. boron), or traceable to non-DP3 related causes (e.g. high copper and zinc in the upland drainage ditch at sample station DP01.) SAC decided to reduce metals sampling to once per year.

Nevertheless, there was much discussion at the annual meeting with the consultants (December 8, 2010) about how to treat those several cases in which the 20% threshold was exceeded. (This threshold was set in the Strategy Document, Section 2.3.1). Also relevant to the consideration are the guideline levels (if any; the value may be far below the guideline), the natural variability in the level, and in some cases the difficulties of measuring quantities at or near the detection levels of current technology. SAC decided that for the meantime, full disclosure remains important, and will continue to examine each exceedance in light of the above.

SAC again gave considerable attention to the Crest Protection Structure and the dendritic channel areas in the intercauseway area. The pattern of erosion and sediment deposition in the intercauseway area continues to appear normal. Changes and movements of channels occurred, but are fully within the range expected of natural processes. The drainage channels which formed in the C-shaped alcove of the DP3 site during construction have stabilized, and the channels are being recolonized by eelgrasses. The crest protection structure remains stable.

Any member of the SAC would of course be pleased to answer questions or assist with technical details.

Sincerely

R.C.Ydenberg, SAC Chair

CC Dr. Terri Sutherland, FOC
Mr. Rowland Atkins, Golder Associates Ltd.