

Deltaport Third Berth Project Adaptive Management Strategy – 2007 Annual Report

What is the Adaptive Management Strategy?

The Adaptive Management Strategy (AMS) is one of several significant environmental programs being undertaken as part of the Deltaport Third Berth Project (DP3). It is a science-based approach to monitoring and managing the Roberts Bank ecosystem. The approach will allow for the early detection of changes in the inter-causeway ecosystem so that potential significant negative ecosystem trends that are attributable to the DP3 Project can be prevented or mitigated. The AMS was developed in conjunction with and approved by Environment Canada.

What is the Adaptive Management Strategy - 2007 Annual Report?

The AMS 2007 Annual Report provides interpretation and discussion of the data that was collected in 2007 as part of the AMS monitoring program. The report also evaluates potential trends occurring in the inter-causeway area and includes recommendations for modification of the AMS work program to better investigate identified trends or to reduce the scope of work when no impacts are evident.

Environmental monitoring for the DP3 AMS program is conducted in the following areas:

1. Coastal geomorphology
2. Surface water quality
3. Sediment quality
4. Eelgrass
5. Other biota, including benthic community and bird populations

The AMS Annual Report was prepared by a multi-discipline environmental science and engineering team consisting of Hemmera, Northwest Hydraulic Consultants and Precision Identification Biological Consultants and was reviewed by the Scientific Advisory Committee (SAC). The SAC is a panel of independent scientists who review the scientific data and interpretations of those data submitted by Port Metro Vancouver, to develop an opinion as to whether a negative ecosystem trend is emerging in the inter-causeway area as a result of DP3, or if a threshold for any mitigation action has been exceeded.

Overview

Based on the results of the first year of monitoring for the DP3 AMS program, to date, it does not appear that the DP3 construction activities have contributed to significant negative ecosystem trends in the inter-causeway area. Significant findings from each of the AMS monitoring components are summarized in the following sections.

Coastal Geomorphology

The results of the coastal geomorphology program for 2007 indicated that the most dynamic areas within the inter-causeway were related to pre-existing processes, and were not related to DP3 construction activities. The exception to this was the formation of new drainage channels adjacent to the perimeter dikes, which occurred due to the short-term drainage of water from behind the dikes prior to filling. These channels appear to be stabilizing; however, additional monitoring will be required to assess the long term effect these channels will have on eelgrass at this location and to assess the final configuration and implications of these channels. In response to the formation of these channels,

additional information will be collected in this area during the 2008 field program for the AMS. The results of this work will be reported in the 2008 annual report.

Surface Water Quality

Significant findings of the 2007 surface water quality monitoring program included copper and zinc guideline exceedances, and nutrient levels in the inter-causeway area at levels that were generally elevated compared to nutrient levels at reference sites. Copper and/or zinc exceeded the applicable standards at three sampling locations, including at one reference station and at one station that is located at the outflow of an agricultural ditch, which is not representative of water quality within the inter-causeway area. Upland drainage from the agricultural ditch may be a source for copper and zinc levels in surface water and the exceedances are not attributable to the DP3 construction activities.

Although nutrient parameters in surface water collected within the inter-causeway area were generally higher than at the reference stations, this difference may be a function of the sheltered environment created by the two causeways. Additional data that is being gathered as part of the continuing AMS strategy will aid in assessing the cause of the elevated nutrient levels in the inter-causeway area. In the meantime, the data does not indicate that any additional action is required at this time.

Sediment Quality

The 2007 AMS program for monitoring sediment quality did not identify any metals parameters in exceedance of the BC Contaminated Sites Regulation sediment quality guidelines, and there was no evidence of metals impacts from the DP3 project. As for surface water, nutrient parameter levels in sediments collected within the inter-causeway area were consistently higher than at the reference stations; however, this difference may be a function of the sheltered environment created by the two causeways. Additional data that is being gathered as part of the continuing AMS strategy will aid in assessing the cause of the elevated nutrient levels in the inter-causeway area. Sediment quality data does not indicate that any additional action is required at this time.

Eelgrass

The 2007 eelgrass program found that eelgrass habitat was in good condition in the inter-causeway area. Some eelgrass habitat loss has occurred in the area of the dendritic channels; however, this is likely due to the evolution of these channels, which pre-existed the DP3 Project, and is not likely due to DP3 construction. In addition, eelgrass distribution in the new drainage channel area adjacent to the DP3 footprint was reduced; however, it is likely that surviving shoots will naturally restore many of these areas. These new drainage channels appear to have stabilized and further monitoring of this area is part of the continuing AMS strategy, which will allow for a continued assessment of the impacts to eelgrass in this area.

Benthic Community

Based on the results of the benthic community sampling conducted for the 2007 AMS monitoring program, the benthic invertebrate populations at both the inter-causeway stations and at the reference stations appear to be diverse, healthy and well established.

Bird Populations

The birds observed at Roberts Bank have been organized into six categories for the purposes of the AMS program, including great blue herons, brant geese, shorebirds (including western sandpipers), coastal waterbirds, raptors, and 'other' birds. Based on the first year of AMS data, impacts to birds within the intercauseway area appear to be limited



to direct habitat loss from the DP3 project footprint, as was predicted by the environmental assessment. Observations made during the 2007 survey period indicate that in response to this habitat loss, birds use alternative habitat available within the inter-causeway area.

Additional Information

Detailed information on the AMS program, the findings of the 2007 field program, and the recommendations for changes to the AMS program for 2008 are contained in the 2007 Annual Report, which can be accessed through the Port Metro Vancouver website at www.portmetrovancover.com.

For more information, contact:

Project Information Line: 604-665-9337

Project Email: container_expansion@portmetrovancover.com