

CITY OF BURNABY

ENVIRONMENT AND WASTE MANAGEMENT COMMITTEE

HIS WORSHIP, THE MAYOR
AND COUNCILLORS

**RE: BURNABY LAKE REJUVENATION PLAN PHASE I - ENVIRONMENTAL
ASSESSMENT**

RECOMMENDATIONS:

1. **THAT** Council receive this report for information.
2. **THAT** a copy of this report be forwarded to the Parks, Recreation and Culture Commission, GVRD Parks Department, Burnaby Lake Park Association, Friends of Burnaby Lake and Burnaby Lake Rowing Club.

REPORT

The Environment and Waste Management Committee, at its Open meeting held on 2001 May 08, received and adopted the *attached* report providing a progress update on the Burnaby Lake rejuvenation proposal. The Committee advised that the technical studies for the environment assessment phase of the project are currently underway. The Committee further advised that the City has received excellent participation and feedback from stakeholders and the public through project meetings. The Committee concluded by advising that progress reports will continue to be provided on a regular basis.

Respectfully submitted,

Councillor D. Johnston
Chair

Councillor C. Redman
Vice Chair

Councillor B. Der
Member

COPY - CITY MANAGER
- DIRECTOR ENGINEERING
- DIRECTOR PLNG. & BLDG.
- DIRECTOR PARKS, REC. & CULT.
SERVICES

TO: CHAIRPERSON & MEMBERS
ENVIRONMENT & WASTE
MANAGEMENT COMMITTEE

DATE: 2001 05 03

FROM: DIRECTOR ENGINEERING

FILE: 40-09-03

SUBJECT: BURNABY LAKE REJUVENATION PLAN
PHASE I - ENVIRONMENTAL ASSESSMENT

PURPOSE: To provide a progress report on the environmental assessment program for the Burnaby Lake rejuvenation proposal

RECOMMENDATION:

1. **THAT** the Committee recommend to Council that:
 - a) the report be received for information
 - b) a copy of this report be forwarded to the Parks, Recreation and Cultural Commission, GVRD Parks Department, Burnaby Lake Park Association, Friends of Burnaby Lake and Burnaby Lake Rowing Club.

R E P O R T

1. INTRODUCTION

In January 2001, Council approved an environmental assessment program for the Burnaby Lake rejuvenation plan and the approved work program includes the following key components:

- Technical studies (engineering, park use, fisheries, wildlife, vegetation, geochemistry, water quality and benthic) related to the rejuvenation alternatives
- Public consultation
- Provincial environmental assessment review

The technical studies will evaluate four lake management options (do nothing, dredging for environmental enhancement, dredging for environmental and recreational enhancement and dredging for environmental and recreational enhancement including an international standard rowing course) with respect to environmental, park use, engineering, economic and social impact.

The work program was initiated in February 2001. This progress report is to provide Council with a progress update on activities that have been carried out.

2. WORK PROGRESS TO DATE

- *February 6, 2001*
Staff met with representatives of GVRD Parks Department, Burnaby Lake Park Association and Burnaby Lake Rowing Club to review technical studies' terms of reference and to solicit comments on the environmental review process.
- *February 21, 2001*
The studies terms of reference were finalized incorporating the comments received from the Burnaby Lake Park Association and the Rowing Club.
- *March 13, 2001*
Staff met with the regulatory agencies (B.C. Environmental Assessment Office, Ministry of Environment, Lands and Parks, Department of Fisheries and Environment Canada) to provide a project overview to the agencies and to invite comments on the proposed process.
- *March 12, 2001*
Council received a staff report providing an update on the environment assessment program and the proposed public open house meetings and expert workshop process. The report was also received by the Environment & Waste Management Committee at its April 2001 meeting for information.
- *March 14, 2001*
Staff received and reviewed proposals for the final consulting team selection.
- *April 9, 2001*
Staff facilitated a project overview meeting introducing the project team members to City staff, representatives of GVRD Parks Department, Burnaby Lake Park Association, and Burnaby Lake Rowing Club. Both the Burnaby Lake Park Association and the Rowing Club made presentation at the meeting presenting their views and comments on the rejuvenation proposal. Arising from the discussion, dates for the expert workshop and public meetings were confirmed for April 24 and May 2/September 13, 2001 respectively.
- *April 24, 2001*
An expert workshop was held at the Shadbolt Arts Center to provide key stakeholders with an opportunity to meet members of the technical study teams, to review the work programs and for the Consultants and City staff to hear from knowledgeable stakeholders on key issues and the lake data. The workshop was attended by over 30 people including representatives of the following groups:
 - Burnaby Streamkeepers
 - Eagle Creek Streamkeepers
 - Burnaby Lake Park Association
 - Burnaby Lake Advisory Committee

- Burnaby Lake System Project (BCIT)
- Burnaby Lake Horseman's Society
- Burnaby Lake Rowing Club
- GVRD Parks Department

A summary of the workshop program and input received is included in Appendix A.

- *May 2, 2001*

The first public open house meeting was held at the Bill Copeland Sports Centre to provide the general public with an opportunity to learn about the process of the environment assessment program for the Burnaby Lake rejuvenation project and to give comments on the technical studies. Notices of the meeting were advertised in the Burnaby Now and News Leader. In addition, individual invitation letters were sent out to stewardship groups, sports organizations, regulatory agencies, members of public who attended the previous Brunette Basin Watershed Management Plan open house meetings and those who had corresponded with the City on the Burnaby Lake rejuvenation plan.

The open house meeting was well attended with over 150 people present. Excellent comments and feedback were received from the meeting participants. Staff are currently reviewing the information received and will incorporate the comments where appropriate in the technical studies and the communication plan.

3. OUTSTANDING WORK PROGRAM AND SCHEDULE

The study team has initiated the technical studies including lake survey, habitat assessment and interviews with stakeholders. Staff will be in contact with other jurisdictions who have undertaken similar dredging programs in environmentally sensitive areas to learn from their experiences and processes.

For the purposes of enhancing the public communication process, staff will consider utilizing multiple formats including newsletter, poster, web site, questionnaires, and surveys as well as advertisements to provide full opportunity to inform the public of the technical study findings and the next public open house meeting.

The following updated project schedule has been established for the environmental assessment phase:

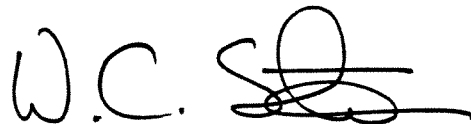
<i>Work Task</i>	<i>Target Completion Date</i>
• Completion of technical studies draft reports	June 15, 2001
• Review draft reports and integrate findings and conclusions	July 20, 2001

- Project progress reports to Council as required
- 2nd public open house on studies findings September 13, 2001
- Report to Council on studies and consultation results September/October

4. CONCLUSION

The technical studies for the environment assessment phase of the project are currently underway. The City has received excellent participation and feedback from stakeholders and the public through project meetings, workshop, open house meeting and interviews.

Staff will endeavour to provide opportunities for the public, stakeholders and user groups to learn about the technical studies and their findings and to comment on the options. Staff will continue to update Council on the study progress and the public communication/consultation process.



W.C. Sinclair, P. Eng.
DIRECTOR ENGINEERING

LSC;jh

cc: City Manager
Director Planning & Building
Director Parks, Recreation & Cultural Services.

Burnaby Lake Rejuvenation Project Expert Workshop Report

An Expert Workshop was held on Tuesday, April 24, 2001 in Burnaby with the following objectives:

1. Provide key stakeholders with an opportunity to meet members of the technical study teams.
2. Provide members of the technical study team a chance to hear issues and gather information first hand from knowledgeable stakeholders.
3. To review study terms of reference and considerations in an integrated forum in order to ensure key questions are answered during the studies.

The workshop agenda was as follows:

1. Welcome
2. Burnaby Lake Rejuvenation Project Overview
3. Environmental Assessment Program Technical Study Overviews
 - Engineering & Park use
 - Fisheries
 - Wildlife & Vegetation
 - Benthic, Water Quality and Geochemistry
4. Work Groups Discussion
 - Engineering & Park use
 - Fisheries
 - Wildlife & Vegetation
 - Benthic, Water Quality and Geochemistry
5. Plenary Session & Conclusion

The workshop was attended by a total of 34 people, including members of the study teams and representatives of the following groups:

- Eagle Creek Streamkeepers
- Burnaby Lake Park Association
- Burnaby Streamkeepers
- Burnaby Lake Advisory Committee
- Burnaby Lake System Project (BCIT)
- Burnaby Mountain Secondary School

- Burnaby Lake Horseman's Society
- Burnaby Lake Rowing Club
- Burnaby City Council
- Burnaby Engineering, Planning and Parks Department
- GVRD Parks Department

The initial presentation provided an overview of Burnaby Lake and the current Burnaby Lake Rejuvenation project including the 1999 test dredging initiative. A document was distributed that provided an overview of this context and the objectives (see attached). Following this, a representative from each study team provided an overview of the questions that their study was attempting to answer and the study approach that would be used to answer these questions (see attached summary document). Following the presentations, input was received on the overall project and suggestions for improving the focus and/or breadth of the studies. This input included the following:

Engineering & Park use

1. How are lake levels controlled and what are the seasonal fluctuations?
2. Would removing sediment from the lake impact the lake levels?
3. What constraints would lake levels place on the dredging work plan?
4. How would the dredge be moved into and out of the lake?
5. What means of dredge propulsion would be used?
6. Would the sides of the dredged areas be stable?
7. Will there be variability of sideslopes, i.e., 4:1, 3:1, benching?
8. What measures will be required to minimize the need for maintenance dredging?
9. Would sediment traps be built as part of the dredging program?
10. Would dredging impact ground water levels around the lake?
11. What are the traffic impacts of hauling the dewatered sediment off-site?
12. Is the creation of islands viable for disposal of dredged sediment?
13. How many dewatering sites would be required?
14. If there is a need for more than one dewatering site, how can it be phased to minimize the impact on park use (e.g. parking)?
15. What will the impact of each of the dredging options be to the local residents (e.g. noise)?
16. What are the past patterns of park use by existing user groups such as equestrians, walkers, hikers, runners, photographers, naturalists, artists, rowers, canoeists and other public / education groups?
17. What are the short and long term benefits to the visual and passive recreation experience?
18. How might an improvement to the park amenities be created once dewatering facilities are removed (e.g. access roads)?
19. What additional recreational opportunities might be created (e.g. more beginner rowing)?

20. How might be the future visitation numbers change?
21. Clarify the focus of the study from "Identifying the impacts of competitive rowing activities on park users" to "Identifying the impacts of possible competitive rowing activities on the park use experience in a regional nature park"
22. How will parking be managed during international rowing regattas as parking lots are already often full?
23. Will there be extra facilities for viewing regattas plus food, garbage and accommodation facilities for a full-scale course?
24. Will removal of the grandstand revert back to nature?
25. Will Burnaby Lake Pavilion be for use by rowers only or the community as well?
26. Are there certain seasons or weather conditions when rowing may not occur?
27. If eight lanes are used for rowing, where and when can others boaters use the lake?
28. Rephrase question from "How could this impact [on park users from the difference between current rowing and competitive rowing] be minimized and recreational conflicts avoided?" to "How could environmental impact and recreational/nature park conflicts be avoided?"

Fisheries

1. What is historical use of the lake by fish, including trends over time (e.g., abundance, distribution)?
2. What external factors are also affecting fisheries (e.g., fish access past Cariboo Dam)?
3. What is a reasonable vision for fish management of the lake (e.g. should salmonids be included)?
4. What would various levels of dredging do to existing fish stocks and fish use of the lake?
5. What habitat loss vs. gains will result for each habitat type under each dredging scenario?
6. Are there dredge concepts which would improve fish habitat?
7. If you are targeting an increase in fish populations, what parameters will be necessary to conform the bottom sediment during dredging to meet this objective?
8. What is the environmental value of existing fish stocks (e.g., sticklebacks, carp)?
9. Would change in dissolved oxygen (DO) and temperature in the water be good news or bad news for fish habitat?
10. Will aeration be used for mitigation of low DO during dredging? after dredging
11. How are contaminants impacting fish populations currently?

Wildlife & Vegetation

1. What current forest attributes may be lost and what will the impact be on wildlife diversity and use (e.g. snags, large trees for perching, roosting)?
2. What habitat types are rare in a regional context and how will this relate to management of Burnaby Lake?
3. What habitat loss vs. gains will result for each habitat type under each dredging scenario?

4. How will dredging affect migrating birds in particular?
5. What is the potential impact of dredging on purple loosestrife propagation ? Can dredging be used to control/eradicate purple loosestrife?
6. What depth is required to prevent re-growth of lily pads?
7. What aquatic plant management measures could be considered instead of dredging to improve open water recreation opportunities or to improve fisheries or waterfowl habitat capability?
8. What are the overall benefits to wildlife and vegetation communities of dredging?
9. What are the potential impacts to wildlife during dredging activities?
10. What criteria will be used to assess the current wildlife community vs. the potential wildlife community after dredging?
11. How will outside influences on wildlife be dealt with?
12. What technical information is the wildlife team obtaining from the operation of the St. Catherine's rowing course which also has a wildlife park adjacent to the rowing lanes?
13. What is the potential for physical damage to waterfowl on the lake due to motorboat activities associated with the rowing course operation? What are the potential impacts on wildlife of oil and gas contamination from motorboats?

Benthic, Water Quality and Geochemistry

1. What is the effect of BtK spray on Burnaby Lake?
2. Will it be possible to increase dissolved oxygen levels in Burnaby Lake (e.g. aeration)?
3. What benthic sampling are required to be representative for each of the spot and rowing dredging locations
4. What will be the effects of removal of overhanging vegetation (e.g., as a food source for aquatic organisms)?
5. What will be the impacts to terrestrial and non-benthic (pelagic) insects and phyto plankton be on fish and waterfowl food sources ?
6. What will be the effects of the increase of the impervious surface (parking lots, roads, etc.) around the lake?
7. What changes will the various dredging scenarios cause in aquatic productivity in the Brunette River be assessed?
8. What are the possibilities and impacts of methane gas generation from dredging?
9. What will be the effects from fuel / oil spillage from motor boats used for regatta events?
10. Use local invertebrate species for toxicity studies (as opposed to Daphnia and Rainbow trout).
11. Do sediment sampling deep enough to facilitate consideration of deeper dredging than required for rowing (e.g. deeper for fisheries values).

Impacts of an international standard rowing course (each study, as appropriate, to consider)

1. What will be the impacts of in-lake structures required for an international standard

rowing course?

2. Will there be an increase in impervious surfaces (i.e., roads)?

Other input

1. Focus on other scenarios as well such as no dredging, lake rejuvenation/enhancement only (i.e. no rowing), 2-3 training lanes for rowing
2. Who will be responsible for future stewardship of the lake?

The City committed to review and consider the comments provided.

In addition, a feedback form was provided for those attending the workshop. Overall, these responses indicate positive support with regards to the clarity and relevancy of the studies. The ratings were on a 1-5 point scale (1 being a positive response).

	Average Rating (1 – High 5—Low)	% Approval Rating
1. Study focus clarity		
a. Engineering & Park use	2.1	73%
b. Fisheries	2.2	69%
c. Wildlife & Vegetation	2.3	67%
d. Benthic, Water Quality and Geochemistry	2.3	69%
2. Study relevancy		
a. Engineering & Park use	1.6	85%
b. Fisheries	1.9	77%
c. Wildlife & Vegetation	1.6	85%
d. Benthic, Water Quality and Geochemistry	1.9	77%
3. Satisfaction with decision process	2.4	65%
4. Workshop effectiveness re understanding Phase 1	1.6	84%

Written comments on the feedback form included the following:

Focus of “rejuvenation”

- I don’t make the connection with dredging and the rejuvenation of the lake more than dredging has to be done
- does dredging actually help or is this(*illegible*) in an environmental assessment of the viability of Burnaby Lake
- will Burnaby Lake be rejuvenated without dredging
- the focus of this project and report from Jan. 15/01 to Council seems to be

revolving around the international rowing course first and foremost with the other factors (wildlife, fish, passive park users) all taking a back seat

- creating an international rowing course on one of the few “natural urban environments” left in the heart of the Lower Mainland is a huge step backward; it is increasing the ecological footprint which is disturbing; the trend today is toward habitat restoration; this would seem to be habitat destruction if you create an international rowing course with all the necessary infrastructure and amenities

Public communication and decision process

- concerned regarding public input – how effective will the study data be communicated to the public
- more public meetings
- allow members of the public the opportunity to not only choose among the options presented but also to make sure that they understand they have the option to reject all of the options
- the public must be thoroughly polled to make sure that they understand the issues before any final decisions are made by City Council
- public survey should be distributed through “Info Burnaby” newsletter
- more media attention to inform Burnaby and Lower Mainland residents of the proposed dredging scenarios
- information in all the kiosks at Burnaby Lake to inform park users and visitors
- attendance by all City Councillors and the Mayor at public workshops