

May 30, 1997

SUBJECT: BEAVER LAKE ENVIRONMENTAL ENHANCEMENT PROJECT

**RECOMMENDATION:**

***THAT this report on the Beaver Lake Environmental Enhancement Project be received for information.***

BACKGROUND

Beaver Lake is a small body of water located in the centre of Stanley Park. With a current surface area of 3.95 hectares the lake is in the final successional stages and is very shallow throughout, due mainly to sedimentation associated with large numbers of macrophytic plants, particularly introduced species of water lilies. In season, emergent water plants cover approximately 70% of the water surface. A 1984 study of the Beaver Lake water system determined that the rate of sedimentation is increasing and that the lake is rapidly filling in. Thus the problem is that Beaver Lake, a small wetland area set in the heart of B.C.'s largest urban centre is disappearing. If corrective measures are not taken within the next decade, the wetland will be lost.

The greatest value of the Beaver lake wetland is its potential as an educational and interpretive resource for Greater Vancouver's growing urban population.

The Beaver Lake Environmental Enhancement Project was created out of a desire to return Beaver lake to a thriving wetland area with enhanced biological richness, including the surrounding terrestrial habitats.

The Beaver Lake Environmental Enhancement Project is a collaborative effort. Park Board staff have assumed the lead role as facilitators for the project. Many volunteers and representatives of government and non government agencies are participating.

DISCUSSION

The BLEEP Committee first met in October, 1996, to consider the project. Meetings are held every two months to review activities and plan further work. The committee includes representatives of the following groups:

- Vancouver Park Board
- The Ecology Society in Stanley Park
- Stanley Park Nature House
- Vancouver Aquarium
- Vancouver Salmon and Stream Society
- Department of Fisheries and Oceans
- Ducks Unlimited
- UBC Department of Botany

- Department of Animal Science
- Electron Microscopy Lab
- Landscape Architecture
- SFU Department of Biology
- Douglas College
- Geological Consulting
- JM Stewart Surveys Ltd.
- Federation of B.C. Naturalists

### Major Issue - Natural Infilling of the Lake

All the accumulated scientific information points to a rapid decline in the depth of the lake and major biological changes associated with the natural infilling process mainly related to plant decomposition. If Beaver Lake is to be retained it will require some form of dredging in the near future. The committee established a commitment early on to the conservation or enhancement of existing natural biodiversity for the area. A partial dredge of selected areas of Beaver Lake would re-establish some areas of lost aquatic habitat and retain shallow-water wetland values.

The critical issues related to the dredging process would include:

- a) updating the required preparatory information,
- b) establishing the areas to be treated,
- c) costing and fund-raising for the project ,
- d) ensuring public understanding of the wetlands enhancement benefits.

### **Current Projects and Activities**

#### Inventory and Monitoring

Previous studies on Beaver Lake and creek systems were conducted in 1983-84 in anticipation of possible changes to the lake. Despite recommendations at the time, due to funding constraints few changes occurred. These studies provide an excellent starting point. Repeat monitoring is currently underway in anticipation of future changes to the lake.

Current work includes:

review and analysis of water vegetation in sectors of the lake,

analysis of the Beaver Lake bog site, core sampling and mapping,

identification and study of plant species related to the bog areas of the lake,

geological assessment of the lake - a complete bathymetric survey and mapping was recently completed by the survey/geology team,

aquatic insect inventory.

### Habitat/Species Enhancement Programs

Some areas have been subject to greater study, such as the creek outflow from Beaver Lake. Current work and initial improvements include:

Enhancement of Beaver Creek, including stream base, banks and pools, on behalf of salmonid species,

terrestrial enhancement projects for the identification and study of local bat species. Installation of varied sizes and styles of bat boxes for long term study,

an enhancement project for the Western Screech Owl including installation of nestboxes in adjoining forested areas,

a study of the squirrel population demographics of the region,

development of a research model to assess the impact of squirrel population on songbird populations,

development of a formal bird survey for the area, maintaining seasonal records derived at standardized observation posts.

### Public Education and Awareness

Development of a brochure and poster for city wide distribution to inform the public about the potential loss of the lake and possible options for mitigation. Planning for interpretive signage and displays for selective and unobtrusive incorporation into the Beaver Lake landscape.

### Beaver Lake Festival

To create public awareness for the lake and the project a one day festival is planned for Sunday, June 8, 1997. Tents set up in the Miniature Railway Plaza will feature displays and activities by members of the Beaver Lake Committee. Visitors will be invited to take guided tours of the lakeshore and see displays of current projects. The festival will also feature children activities, carriage rides, puppet shows, children activities and plenty of things to enjoy as they discover the Beaver Lake environment. The festival is scheduled from 11:00 am to 5:00 am. Everyone is welcome.

### Project Fund-raising

In the current economic climate the opportunity for public funds for major project work is limited. The fund-raising group will approach a range of potential funding agencies and corporate sponsors. A business plan is also

being developed in order to guide the major activities. A further report outlining the proposed activities and cost projections will be available for the Board' s consideration and approval by March 1998.

## CONCLUSION

Beaver Lake is a special place within Stanley Park. As a small wetland it presents great potential as an educational resource, an important biological oasis in the heart of an urban landscape.

Studies have indicated that the Beaver Lake wetlands will be lost within the next decade if action is not taken to reverse the current accelerated process of infilling. BLEEP members are committed to raising public awareness, conducting studies and fund-raising in order to reverse this trend. The team also participates in environmental enhancement projects for species within this area.

The Beaver Lake Environmental Enhancement project is related to the wetlands and the surrounding forested areas surrounding Beaver Lake. The project is community based, involving volunteers, local non-government organizations, government agencies and academic institutions. A mission, goals and objectives have been developed which guides the project. Vancouver Park Board staff are facilitating the project.

Further study, subsequent recommendations for improvement projects for the lake, and their associated costs will be presented for the Board' s consideration by March 1998.

Prepared by:  
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