

28/

2000 April 06

TO: CITY MANAGER

FROM: DIRECTOR PARKS, RECREATION AND CULTURAL SERVICES

SUBJECT: BURNABY MOUNTAIN CONSERVATION AREA MANAGEMENT PLAN

PURPOSE: To request Council to designate the Burnaby Mountain Conservation Area, to approve the Burnaby Mountain Conservation Area Management Plan and to bring down a Capital Reserves Expenditure Bylaw to complete the Capital works for the Burnaby Mountain Conservation Area.

RECOMMENDATIONS:

1. THAT the Burnaby Mountain Conservation Area Management Plan be approved.
2. THAT the boundaries of Burnaby Mountain Park be dissolved, added to the Simon Fraser University transfer lands and be collectively designated as the Burnaby Mountain Conservation Area.
3. THAT a Capital Reserves Expenditure Bylaw be brought down to appropriate funds in the amount of \$207,800 (inclusive of 7% GST) to complete the Capital works for the Burnaby Mountain Conservation Area.

REPORT

At its meeting of 2000 April 05, the Parks, Recreation and Culture Commission received the above noted report and adopted the seven recommendations contained therein.



Kate Friars
DIRECTOR PARKS, RECREATION
AND CULTURAL SERVICES

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Attachment

c:\data\wp\council report\PK-Burnaby Mountain Conservation Area

cc: Director Planning and Building
Director Engineering
Director Finance

SUBJECT: BURNABY MOUNTAIN CONSERVATION AREA MANAGEMENT PLAN

RECOMMENDATIONS:

1. THAT the Burnaby Mountain Conservation Area Management Plan be approved.
2. THAT the boundaries of Burnaby Mountain Park be dissolved, added to the Simon Fraser University transfer lands and be collectively designated as the Burnaby Mountain Conservation Area.
3. THAT Commission approve the expenditure of \$200,000 (inclusive of 3% GST) from the 2000 Capital Budget to initiate the first phase of Capital works for the Burnaby Mountain Conservation Area as outlined in Section 16.0 of this report.
4. THAT Council be requested to bring down a Capital Reserves Expenditure Bylaw in the amount of \$207,800 (inclusive of 7% GST) to complete the Capital works for the Burnaby Mountain Conservation Area as outlined in Section 16.0 of this report.
5. THAT the Commission's Parks Names and Signs Committee begin a process for the naming of trails proposed within the Burnaby Mountain Conservation Area.
6. THAT a copy of this report be sent to Council for approval.
7. THAT a copy of this report be sent to SFU; Michael Geller, President, CEO, Burnaby Mountain Community Corporation.

REPORT

1.0 BACKGROUND

In September 1996, the Province, the City of Burnaby and Simon Fraser University completed the transfer of 313 hectares of land below the university campus to the City of Burnaby. A Covenant accompanying the transfer stipulated that the park land is to be used for conservation purposes and allows for the development of ancillary facilities such as public trails and parking lots in support of conservation principles. Continuing a commitment to protecting natural areas and public open space, the voters of Burnaby by referendum, confirmed dedication of this area as parkland in 1996. The transfer, in addition to existing publicly owned lands, created a total of 576 hectares (1,423 acres) of primarily forested park land. The Burnaby Mountain Conservation Area is one of the most significant natural areas in the Lower Mainland and the largest component of the Burnaby Parks System.

A management plan process was approved by the Parks, Recreation and Culture Commission and consultants were hired in July of 1997 directed by a multi-departmental staff steering committee. A comprehensive process ensued, including biophysical inventory, research, analysis, design, public workshops and three public Open Houses.

The Management Plan Document has two sections:

- a) "The Conservation Area and Planning Process" describing biophysical, recreational, cultural and sensory inventory with analysis, and,
- b) "The Management Plan" describing the vision, guidelines, objectives, design concepts, program elements, recommendations and implementation strategy.

Combined, these two sections set direction for the entire conservation area and serve as a framework for responding to current and changing environmental and social conditions. The plan defines the guiding principles that provide a framework for the long term protection and management of the conservation area.

The draft Management Plan document has been reviewed by the Province in relation to the Covenant for the transfer of the lands, and by utility companies affected by trail proposals.

An executive summary of the Management Plan follows.

2.0 EXISTING BIOPHYSICAL RESOURCES

The Burnaby Mountain Conservation Area was originally a forest of large western red cedar, western hemlock and Douglas fir. Logging at the turn of the century cleared virtually all the large trees, except for several ravines on the southern and northern slopes. The forest structure was altered to largely deciduous species in their early successional stage. None of the plant species recorded for Burnaby Mountain are listed on the provincial lists of rare species.

Burnaby Mountain represents an important island of wildlife habitat in a predominantly urban area. According to Conservation Data Centre classifications, at least eleven species of provincially Blue- and Red-listed wildlife may be found at or near Burnaby Mountain based on the types of habitats present and the geographic ranges of the species.

The conservation area is large enough to support populations of medium-sized mammals. Black-tailed deer, coyotes, foxes, raccoons, and black bears have been observed visiting the mountain slopes. More commonly found are small mammals such as bats, squirrels, rabbits, moles, voles, shrews and mice.

Bird species are typical of early successional coastal forest habitats and the mountain represents an important bird migration stop-over. There is year-round habitat for a range of songbirds including dark-eyed juncos, spotted towhee, wrens, song sparrows, and chickadees as well as primary and secondary cavity nesters including woodpeckers and nuthatches. The Management Plan identifies 88 potential or confirmed bird species based on consultant research and information from the Vancouver Natural History Society.

Watercourses found within the conservation area are concentrated on the southern and northern slopes of the mountain. The western and eastern slopes are generally devoid of major watercourses although ditches associated with trails or utility lines provide relatively stable drainage channels during periods of heavy runoff.

Stoney Creek, Eagle Creek and Silver Creek on the south slope support fish populations. Stoney Creek in particular is recognized for providing important salmon habitat in the Lower Mainland, supported by volunteer stewardship. Simon Creek on the north slope, contains relatively good habitat for fish and may benefit from future enhancement efforts.

3.0 EXISTING RECREATIONAL AND CULTURAL RESOURCES

In addition to functioning as a significant ecological reservoir, Burnaby Mountain is cherished for tourist and community recreational pursuits. The Centennial Pavilion area, with its spectacular views of the surrounding region, has traditionally been a focal point for tourists and Lower Mainland visitors. This developed area features public works of art, a Centennial pavilion/restaurant, horticultural displays, playground, open meadows and walkways.

Throughout the rest of the conservation woodlands, a network of approximately 30 kilometres of trails provides the dominant recreational resource accessing much of the mountain except for portions of the steep north facing slope. The trail network includes cleared utility corridors, access roads, and sanctioned or unsanctioned paths initiated by numerous groups over many years. As such, a great variety of trail widths, slopes and conditions are encountered from gentle to difficult. Some trails are built in inappropriate locations, through creek corridors, erosive soils, or with excessive branching through blocks of habitat. The segment of the Trans Canada Trail traversing the north mountain top, was approved for pedestrian and cycling use, and is nearing completion.

Trail uses include recreational or commuter cycling, walking or jogging as well as nature and educational observation, and horseback riding. The current mix of users without regulation over many years has created some conflict issues and substandard trail conditions.

On the east side of the mountain, the terminus of North Road provides historic interest. North Road was constructed in 1859 by the Royal Engineers to connect New Westminster with Burrard Inlet. The trail, marked by a cairn beside the road, remains a historic feature of the park.

The leases of three outdoor target ranges on the north boundary of the conservation area adjacent to Barnet Highway were terminated. These lands will receive remediation for contaminated soils and be reverted largely to conservation use with parking provisions for public access to the lower mountain. A former 1912 school building remains on the easternmost target range site which will be assessed for restoration and possible public oriented uses connected to this staging area of the conservation lands.

Further to the west along Barnet Highway, exists the Harry Jerome Sports Centre, an indoor centre for cycling, volleyball, and soccer.

On the crest of the mountain beyond the park boundary and ring road lies the campus, housing and sports facilities of Simon Fraser University. The University and its growth as directed by the S.F.U. Official Community Plan have environmental and access provisions in consideration of the conservation lands below.

4.0 PUBLIC INPUT

Over 400 respondents from Burnaby and surrounding municipalities were received at three public Open Houses. Furthermore, several workshops were held with key representatives currently using Burnaby Mountain including local residents, members of environmental and stream stewardship groups, recreation club members (hiking, cycling and equestrian), naturalists, and academics. Highlights of their input is as follows:

- a) Burnaby Mountain is a regional destination enjoyed by many users from Burnaby, the Tri-cities area (Coquitlam, Port Moody, and Port Coquitlam), and well beyond, primarily for mountain biking, hiking or walking, entertaining visitors, picnicking and photography.
- b) Slightly more than half of the respondents felt that existing facilities and trails generally met their expectations, with some maintenance improvements in trail conditions necessary.
- c) Most respondents recognized the need to ensure fair multiple use trail designations based on conservation principles. Mountain biking has evolved to become a dominant activity in recent years on most trails with some of the hiking community feeling “displaced.” Equestrian users wish to have recognized access to the mountain and use of trails, particularly the Trans Canada Trail, based on historic practice.
- d) A strong majority value highly the natural aspects of the conservation area and support management initiatives to protect and enhance the biophysical resources. Any additional support facilities must be very sensitively approached in terms of environmental impact.
- e) Concerns were expressed of the environmental impacts that may arise from the expansion of the Simon Fraser University Campus, particularly watershed issues.

Meetings with user group representatives has proven to be, and will continue to be important input for setting priorities and assessing progress towards achieving the goals and recommendations put forth in the Burnaby Mountain Conservation Area Management Plan.

5.0 THE MANAGEMENT PLAN CHALLENGE

The Burnaby Mountain Conservation Area Management plan responds to issues identified in the research and public process. These include biophysical resource management issues such as vegetation management and the protection of wildlife resources.

Other issues relate to managing the diversity and numbers of recreational users. Of concern are the impacts, conflicts and appropriate levels of facility development for recreational users and their impacts on natural resources.

The challenge of managing the conservation area for both conservation and recreation requires balancing the demands for recreational and cultural pursuits with protection and enhancement of natural features. Finding the balance is felt warranted in consideration of how highly valued Burnaby Mountain functions regionally, as both an ecological reservoir and for outdoor recreational opportunities.

Preservation of the natural forest character will be of primary importance in securing the long term viability of the conservation area for habitat and human appreciation. Important habitat or environmentally sensitive areas as well as steep slopes, may require limiting or eliminating public access and recreation to some parts of the conservation area.

Recreational opportunities that are compatible with the environmental sensitivities and covenant, will be supported. Activities accommodated in the plan include, hiking, mountain biking, and equestrian use on designated trails, nature study, sightseeing, and features of cultural interest around the Centennial Pavilion. All trail based activities will be subject to monitoring of environmental impacts and user conflicts. In particular, mountain bike use will be conditional subject to reviews and contingent on performance in accordance with the management plan principles.

6.0 VISION STATEMENT

A vision statement for the conservation area has been developed to express the objectives of managing the natural resources and allowable recreational activities. The Management Plan applies terms of the covenant attached to lands transferred from Simon Fraser University, to Burnaby Mountain Park, so that the entire mountain is managed in terms of conservation principles. The vision statement is as follows:

Burnaby Mountain Conservation Area will be conserved in native forest cover and enjoyed through a system of public trails and related support facilities. Conservation area management will directly reflect the intent and principles of the City of Burnaby's Environmentally Sensitive Areas (ESA) Strategy and the recognition of Burnaby Mountain as an ESA of regional importance. The conservation lands will be managed to achieve the protection and enhancement of habitat for birds, animals, and fish in balance with trail-oriented and other recreational activities appropriate to the natural setting.

The conservation area will be planned and managed to minimize conflicts among user groups, to serve as an educational setting regarding both natural and cultural history, and to monitor and mitigate environmental impacts from human use.

7.0 NATURAL RESOURCES GUIDING PRINCIPLES AND RECOMMENDATIONS

The Management Plan is intended to set direction and serve as a framework for responding to changing environmental and social conditions over a ten-year time frame. The Plan defines a number of guiding principles that provide a broad framework for long-term protection and management as well as detailed park management recommendations. All management activities and strategies, particularly those requiring alteration of the landscape, will respect the spirit and principles of the City's Environmentally Sensitive Areas Strategy. Some highlights of the guiding principles and related recommendations are as follows.

Watercourses

- Prescriptive environmental programs, such as restoration or enhancement programs may be established in appropriate areas to encourage healthy streams and productive habitats. This will include encouragement, support and participation in programs, and with community groups, to improve the physical habitat in and near watercourses that are found to have the most potential to support fish (i.e., Stoney Creek and Simon Creek).
- Appropriate no access buffers and leave strips will be maintained between streams and trails and adequate vegetation cover will be retained to maintain habitat values for fish and aquatic species.
- Ensure S.F.U. enforces the principles, standards and recommendations outlined in its future Stormwater Management Plan as well as those outlined in the integrated stormwater management strategy for the Stoney Creek Watershed.
- Employ measures to ensure sediment-laden waters do not enter watercourses during construction or trail works.

Wildlife and Habitat

- Burnaby will adopt a no-net-loss approach to habitat conservation within the conservation area whereby the development of new facilities with any associated impacts will be off-set by preservation and enhancement of other areas for conservation and wildlife habitat. A comprehensive Vegetation Management Plan will be developed addressing diversity, forest health, wildlife habitat, safety and view management.
- Habitat loss and fragmentation will be minimized through the use of existing trails, rights-of-ways, and clearings, and by managing access into important habitat areas. Continuous blocks of habitat will be maintained for their wildlife values, and in some cases, access to these areas may be restricted. Except where there is a threat to public safety, retention of dead and decaying standing trees, as well as fallen trees, for use by wildlife as cover and forage sites will be encouraged.
- Habitat enhancement measures, such as the creation of deer browse areas away from roadways, may be encouraged to sustain and enhance the deer population on Burnaby Mountain.
- Sites within the conservation areas which have been identified as especially sensitive for their vegetation, habitat or watercourse values, will be given priority for implementation to improve and protect existing natural values and, where appropriate, recreational opportunities.
- Work with S.F.U. and the local fire department to prepare a Fire Management Plan that will protect people and facilities through fire suppression measures.

8.0 RECREATION MANAGEMENT GUIDING PRINCIPLES AND RECOMMENDATIONS

Trails

- All trails formalized within the Management Plan will be improved and upgraded to meet environmental protection and public safety objectives including the closure of informal trails and restoration of native vegetation. Trail design standards and preferred surfacing materials should be researched further with user groups.
- Trail improvements, closures, and/or re-routing of trails in highly erosive or steep areas or near watercourses will be given priority in the implementation strategy.
- Trail crossings required over streams will be designed to retain natural flow patterns of the watercourse and to minimize erosion, sedimentation and destruction of aquatic vegetation. All trails or trail sections which lie within the creek bed of a watercourse will be closed.

- The creation of new trails is only proposed in areas where there is an opportunity to provide significant trail linkages, i.e., loops, within the conservation area, to deflect users from unsafe or sensitive areas, or to manage user conflicts. Trail linkages and safe access between the conservation area and regional neighbourhoods and parks, including S.F.U., Barnet Marine Park, and the Trans Canada Trail will be provided.
- No motorized vehicles will be permitted on park trails or unpaved rights-of-way except for service and emergency purposes. Off-leash dogs are incompatible with the conservation objectives of the park and therefore not permitted.

Views

- View corridor management will be assessed and implemented relative to the protection of significant environmental features. Scenic views and viewing opportunities will be maintained through vegetation management including selective thinning or removal of trees or tree branches to retain view corridors, or planting a different mix of species at important viewpoints to limit re-growth.
- Views from the Centennial Pavilion will be afforded the highest priority within the conservation area given the role of this area as a tourist destination offering panoramic views of the surrounding region.

Parking

- Parking will be encouraged only in existing clearings. With the exception of short-term parking at viewing locations, new parking areas will be located at the periphery of the conservation area near access points to trails.

9.0 CULTURAL RESOURCES GUIDING PRINCIPLES AND RECOMMENDATIONS

Centennial Pavilion Area

- The Centennial Pavilion area will continue to be a major attraction and focus of the conservation area. Existing cultural facilities and structures will continue to be maintained and interpreted, such as the rose garden and works of public art.

Heritage Resources

- Efforts will be made to protect sites, artifacts, structures or landscape features that are historically or culturally significant, or that may be identified as significant through further assessment and inventory.

10.0 INTERPRETATION, MONITORING AND COMMUNITY INVOLVEMENT GUIDING PRINCIPLES AND RECOMMENDATIONS

Education

- Education and interpretive programs will promote public appreciation of the conservation area, its unique natural landscape, and enhance awareness of conservation issues while discouraging activities that can lead to the destruction or disturbance of habitats.

Signs

- The interpretation strategy will include placement of low-key signage, park maps, and other interpretive information (environmental, scientific, historical, or regulatory) at centralized locations. The City may make use of information kiosks and, potentially, a small nature interpretive centre, which is proposed as part of the redevelopment of the former target range sites. Signs and maps will be positioned at key locations to direct visitors to complementary areas such as Barnet Marine Park, the Urban Trail System, or the Trans-Canada Trail.

Monitoring

- Monitoring of environmental and trail conditions will be undertaken in all areas of the conservation area.
- Monitoring the effects of recreational use will be conducted according to evaluation criteria developed as part of the conditional review period.
- More detailed research on fish and wildlife population will be undertaken and a base line monitoring program will be instituted, hopefully with the assistance of local educational institutions and natural history clubs.

Community Input

- Continued public involvement in the future management of Burnaby Mountain Conservation Area is recommended through the establishment of a Public Advisory Committee comprised of representatives from various user groups.
- The City will work with institutions, agencies and/or community groups interested in becoming involved in research or educational programs such as guided nature walks, wildlife surveys, or school programs.
- The City will continue to work with S.F.U., leaseholders, and industrial neighbours to ensure compatibility between conservation area management principles and the actions and activities of adjacent land users. For instance, working to ensure adjacent lands are accessible to wildlife or to encourage vegetative buffers to screen industrial and urban sites.

11.0 TRAIL CONCEPT PLAN

A Trail Concept Plan has been prepared for the Burnaby Mountain Conservation Area ([Attachment #1](#)). The Concept Plan has evolved from extensive consultation with public interest groups through meetings, workshops, and three public Open Houses. The Trail Concept Plan was developed by combining options and ideas that received the greatest support during the public consultation process, and which best exemplified the management objectives and guidelines for the conservation area.

Given the limitations imposed by terrain and slope in some parts of the conservation area, particularly in areas that appear to be less sensitive to other environmental factors (e.g., vegetation, wildlife and watercourses), it was inevitable that human use be concentrated in some areas that are more suitable from a slope and public safety point of view. Nevertheless, a balance was sought in the more ecologically sensitive areas between protection and human activity.

Approximate trail lengths accommodated in the Trail Concept Plan are as follows:

- 4.46 Km Multi-use pedestrian / cycling / equestrian
- 22.20 Km Multi-use pedestrian / cycling
- 1.27 Km Cycling only
- 5.27 Km Pedestrian only
- 3.06 Km Long-term potential trails (use to be decided)
- 2.22 Km Closure

Trail Closures

Existing trails will be closed which lie too close along a watercourse, are in highly erosive areas, impacting severely on tree root zones, or which do not conform to the Trail Concept Plan. At least 2.2 kilometres of established trails will be closed in accordance with this criteria. As further monitoring of the mountain proceeds, additional minor trails may be closed in the interest of protecting habitat blocks.

Protected Habitat Blocks

The Trail Concept Plan identifies and protects a number of habitat blocks defined as large areas that currently have no trails within them ([Attachment #2](#)). These areas totaling 257 hectares are desirable to retain as wildlife refuge, to prevent fragmentation by additional trails and further human disturbance. A "modified" habitat block on the northwest upper slopes of 42 hectares is designated for pedestrian use only and no new trails. In total, 52% of the conservation lands will be set aside as habitat blocks with little or no public access.

Pedestrian Trail Use

The Trail Concept Plan is based on the premise that all trail routes are available to hikers and that some are pedestrian only, including trails on sensitive, steep terrain, or not suited to cycling. On this basis, pedestrians will not be excluded from trails unless there is a parallel pedestrian-only trail in place.

Cycling Trail Use

Mountain bike use of specified trails is proposed to be conditional with review and renewal based on performance in accordance with Management Plan principles. A one-year review period is proposed along with implementation of a public education, monitoring, patrol and enforcement program. The one-year review would not be initiated until an adequate level of trail maintenance, and use designation by signs and brochures is achieved so that users are fairly warned of the changes and monitoring. In the interim, until basic trail maintenance and a sign system is achieved, pedestrian, cycling and equestrian use will remain as existing with the exception of immediate trail closures recommended. There are several established clubs which use the mountain for cycling from which efficient channels of communication can be established in this regard.

“Cycling only” trails have been identified where a pedestrian route is available with similar start and finish. For example, the proposed link for the Trans-Canada Trail between the foot of Hastings Street and the Centennial Pavilion area is a parallel pair of trails, both adapted from existing trails so that one will suit hikers (stairs in steep sections) and one will suit cyclists (switchbacks in steeper places). Burnaby Mountain will accommodate only recreational to intermediate mountain biking trails and not advanced or extreme mountain biking.

Equestrian Trail Use

The Trail Concept Plan for the Burnaby Mountain Conservation Area identifies a major equestrian route shared with pedestrians and cyclists. The equestrian route extends along the east side of the mountain on an existing hydro transmission line right-of-way from the Stoney Creek area to the former target range site extending approximately 4.5 kilometres. (3.3 kilometres existing and 1.2 kilometres as a future addition). This is a significant addition to equestrian trails in Burnaby in conjunction with the existing Burnaby Lake Equestrian Centre which has 2.8 kilometres of maintained park trails and a 2.2 kilometre training circuit. Since direct trail access along the roadways from the equestrian centre is not permitted, Burnaby Mountain will become a destination equestrian trail opportunity, where owners will be able to trailer their horses to a park staging area such as proposed at the former target range sites.

An additional opportunity exists to provide access and a trail extension from Gaglardi Way (Trail Q, Attachment #1).

Use of the Trans-Canada Trail across Burnaby Mountain was requested for equestrian use. This section of the Trans-Canada Trail, however, is considered too narrow, with sideslopes too steep to accommodate the anticipated demand from pedestrians, cyclists as well as equestrian use. The Lower Mainland segment of the Trans Canada Trail was intended for pedestrian and cycling use only. The Burnaby Mountain Trans Canada Trail is only 3 metres to 2.5 metres wide in stretches restricted by the steep side slopes.

Loop Trails

The Trail Concept Plan identifies two major trail loops and a number of smaller loop opportunities in the conservation area. The concept of loop trails was widely supported in discussions with interest groups and at the public Open Houses. With the closure of the target ranges, it is feasible to provide a route circumnavigating the mountain and linking Barnet Marine Park. By providing long looping trail workouts around the mountain, users are less inclined to create localized webs of unauthorized trails.

Cleared Areas and Open Space

The Trail Concept Plan incorporates the assumption that no new clearings should be made in the forest cover of Burnaby Mountain. This objective implies that existing cleared areas of the conservation area should be the focus for those uses which require clearings, and which will be maintained as such, for deer browse areas to picnic meadows.

Major clearings include the former target range sites, the Centennial Pavilion area, and open grassy areas along the ring road.

Future Trail Options

There are future options proposed for the trail system intended to accommodate user conflicts and growth as the system is improved and increases in popularity. These future options will be considered only if an ability to steward existing trails in an environmentally sensitive manner has been demonstrated, environmental and geotechnical assessments are in place, and if demand for the action is recognized and justifiable.

Future trail options are:

- **Lower Loop Trail**

Complete a lower north loop around the mountain with a new trail connecting the former target range sites and the Harry Jerome Sports Centre, and providing improved pedestrian access to Barnet Marine Park. User status is to be determined at the time of development. This option was supported by 62.8% of respondents at the second Open House.

- **Parallel Option for “J” Trail (known as “Mel’s Trail”)**

On the southeast slopes a very popular but narrow trail is used for cycling and pedestrian use through the woodlands, but with frequent user conflicts. The potential of creating a separate pedestrian-only trail to parallel this route was supported by 66.3% of respondents at the second Open House.

- **New route paralleling University Drive**

Completion of this route would allow individuals to circumnavigate the university and avoid some of the sensitive forested lands within the ring road.

With continued monitoring of mountain trail use, and liaison with the Public Advisory Committee, there may be other opportunities of designating trails for pedestrian or cycling-only use. By working closely with the many established groups using Burnaby Mountain, it is anticipated that trail etiquette could be enforced.

12.0 PATROLS AND ENFORCEMENT

As noted above, the City will initiate a public relations, education and information program through on-site signage, brochures and personal contacts with various groups and on-site patrols on a limited basis. The objectives will be to ensure that recreational use within the conservation area is done without impacts on the resources, to prevent user conflicts and to ensure public safety.

Much of the success of the management plan is dependent upon the cooperation of the public to adopt a responsible ethic towards the use of the park. The local interest groups have offered to assist with communications through their organizations as well as assist with some level of public relations work on-site.

The City will undertake a monitoring program in combination with the public advisory committee. If impacts on resources are noted, or conflicts are reported during this first stage of implementation, more progressive forms of direct management will need to be implemented including more formalized patrols with additional seasonal staff and a fine system to allow ticketing of user infractions. Current user groups indicate that while they are willing to assist with communications through their groups, formalized patrols and enforcement are beyond their capabilities. Reliance on community groups to police other users has not worked well in other jurisdictions.

13.0 FORMER TARGET RANGE SITES

Rehabilitation of the former target range sites is identified as a priority, particularly in light of off-site migration of contaminants into Simon Creek. Council and the Parks, Recreation and Culture Commission have approved a study to determine the most cost effective remediation program for the rehabilitation of the site converting it back to conservation use including meadows for deer browse habitat and creek bank stabilization with riparian planting.

The first steps have already been taken to remove the buildings and stabilize the site to prevent further contamination of the creek. The second phase is underway. Portions of the site will offer parking opportunities for visitors to the Burnaby Mountain Conservation Area combined with information signs or possibly, an interpretation building. Proposals may be sought from the community to establish a fish hatchery.

14.0 PRIORITIES

The Burnaby Mountain Conservation Area Management Plan lists general priorities from respondents at an Open House and short to long term and ongoing detailed recommendations of the consultant team. The timing of implementing the recommendations is flexible and may be spread out over a longer time frame depending on the demand for the action, available budget, and conditions noted by monitoring.

The lists of priorities and recommendations are summarized in the following attachments:

- Public Priorities of Implementation - Attachment #3
- Consultant Phase 1 Recommendations - Attachment #4
- Consultant Phase 2 Recommendations - Attachment #5
- Consultant Phase 3 Recommendations - Attachment #6
- Consultant Ongoing Action Recommendations - Attachment #6

15.0 PRELIMINARY MANAGEMENT PLAN CAPITAL COSTS

Generalized first order costs with contingencies have been prepared by the consultants as a preliminary guide to future priorities for the Burnaby Mountain Conservation Area. These costs do not include expenditures required for remediation of the former target range sites, which is funded separately.

Trail Improvements:

- | | |
|--|-------------|
| • Multi-use Pedestrian / Cycling / Equestrian Trails | \$ 263,000 |
| • Multi-use Pedestrian / Cycling Trails | \$1,412,000 |
| • Cycling Only Trails | \$ 421,000 |
| • Pedestrian Only Trails | \$ 394,000 |
| • Long-Term Potential Trails | \$ 620,000 |
| • Trail Closures | \$ 155,000 |

Parking Lot Improvements:

- | | |
|----------------------------|-----------|
| • Gagliardi Way | \$ 30,000 |
| • North Road | \$ 60,000 |
| • Former Target Range Site | \$ 75,000 |

Sign System:

- Kiosks (changing information) \$ 40,000
- Signs (interpretive and maps) \$ 20,000
- Sign Posts (regulatory) \$ 25,000

16.0 2000 CAPITAL RECOMMENDATIONS

An annual Capital program will be brought forward for the approval of the Commission each year. This program will be formulated upon public priorities and the results of our monitoring and reviews. The following Capital works are recommended for 2000 within the Burnaby Mountain Conservation Area:

- Trail Closure "S" \$ 40,000
The existing upper "S" trail (known as "Upper Snake Hill Trail") very steeply cuts through the soft organic soils of a coniferous woodland and was considered a first priority for initial closure efforts.
- Trail Closure "AA" \$ 20,000
The existing "AA" trail (known as "Weeny Boy Trail") follows along a creek corridor in the upper Stoney Creek watershed and was considered a first priority for initial closure efforts, including barriers and riparian planting.
- Kiosks \$ 30,000
A total of six kiosks with locked panels for posting information, maps and regulations was judged to be an important first step to inform the public of management plan efforts and goals. Kiosks will be placed at major entry or trail head nodes.
- Trail Survey \$ 10,000
A more detailed trail survey is required to more exactly define all existing trails and their alignment to aid in future management decisions.
- Trail Assessment and Design \$ 15,000
With completion of the trail inventory map, a more detailed assessment of the trails as it relates to stream crossings and sections close to watercourses will be undertaken to establish trail improvement priorities.
- Hazard Tree Assessment \$ 30,000
Work involves a thorough review of all hazard trees and their removal along trails identified in the Management Plan.
- Entry Sign for Centennial Park Area \$ 15,000
In 1996 and 1997, a review was conducted of restaurant lease management services located within public parks and for sign improvements to assist restaurant patrons in locating these facilities. Large "blade style" signs were installed for Deer Lake Park and the Hart House, and for the Burnaby Mountain Golf Course and Eagle Creek.

A sign was also fabricated for the Burnaby Mountain Conservation Area and Horizons Restaurant, however, installation and illumination was not allowable until ownership of Burnaby Mountain Parkway was transferred from the Ministry of Transportation and Highways to the City of Burnaby. This transfer of ownership is now complete, and installation of this sign improvement and lighting is recommended.

- Boundary Signs \$ 5,000
Erect signs denoting the boundaries of the protected habitats and pedestrian only areas with public information.
- Technical Work Group Creation and Coordination \$ 30,000
Funding to develop and administer a technical working group to assist staff in the implementation of the plan.
- Community Stewardship Programs \$ 5,000
Support and sponsorship for community stewardship, environmental and research projects.

The total costs of the recommended 2000 Capital works are \$200,000 (inclusive of 3% GST). Sufficient Capital Reserves are available and the project is included under the 2000 Major Parks Projects component of the 2000-2004 Provisional Capital Program. Upon Parks, Recreation and Culture Commission and Council approval of the Management Plan, it is recommended that Council be requested to bring down a Capital Reserves Expenditure Bylaw in the amount of \$207,800 (inclusive of 7% GST) to finance these works.

The Commission's 5 year Capital Budget provides an annual allocation for implementation of the Burnaby Mountain Conservation Area Management Plan. Recommendations for each year will be brought forward for Commission approval on a priority basis.

17.0 PARK NAME

The 1996 the S.F.U. Lands Transfer Agreement of 313 hectares was accompanied by a covenant, which stated that all the lands will be used only as a public park within which the City may develop only a public trail system, small parking lots and other support facilities. Although the area to which the covenant legally applies comprises only 54% of the entire park, the Burnaby Mountain Management Plan extends the philosophy of the covenant to include the remaining park area with some special exceptions around the core Centennial Pavilion zone.

The establishment of Burnaby Mountain Park and development of its core amenities, predate the establishment of the Burnaby Mountain Conservation Area. The 1975 adoption of the Burnaby Mountain Conservation Area created a situation where an established park and a number of privately owned properties, among them the Trans Mountain Pipeline Company Tank Farm, sit within a conservation area. Recent actions, such as the transfer of the Simon Fraser University conservation lands to the City and the development of a Management Plan for the park, have focused attention on the need to adopt a common name for these lands.

References to the conservation area as a public park in the Simon Fraser University land transfer covenant, and in the dedication plaque, combined with the long established public use of the name "Burnaby Mountain Park," have lead to the application of the name Burnaby Mountain Park to all the City lands within the conservation area in many official documents.

Given the need to address the confusion that this has caused, and the expressed desire to emphasize the conservation aspect of the park, it is recommended that the official name to be used is the Burnaby Mountain Conservation Area. This name more clearly designates the intended land use and management philosophy for the site. The boundaries of Burnaby Mountain Park will be dissolved and the principles of the covenant will apply to all lands within the conservation area. The historic and distinct nature of the Centennial Pavilion area, as well as the velodrome lease site (Harry Jerome Sports Centre), however, are recognized, to allow more public use opportunities provided they continue to meet the City's principles for management of environmentally sensitive areas.

In addition to a new park name, the numerous trails of Burnaby Mountain require official designations. Some of the trails have historic names to consider. As such, upon adoption of Burnaby Mountain Conservation Area Management Plan, it is recommended that the Commission's Parks Names and Signs Committee be requested to name individual Burnaby Mountain Trails.

18.0 NEXT STEPS

Upon approval of the Management Plan, staff will begin the year 2000 Capital Program listed in Section 16.0. A technical work group of interested users will be created to assist staff in the implementation of the plan. Copies of the Management Plan will be distributed to libraries, to groups that participated in the Management Plan process, including S.F.U., and to utility companies with interests on the mountain. Staff will also embark on a public information process including an article in Information Burnaby, feature newspaper article, public brochure, and the use of signs proposed on site.

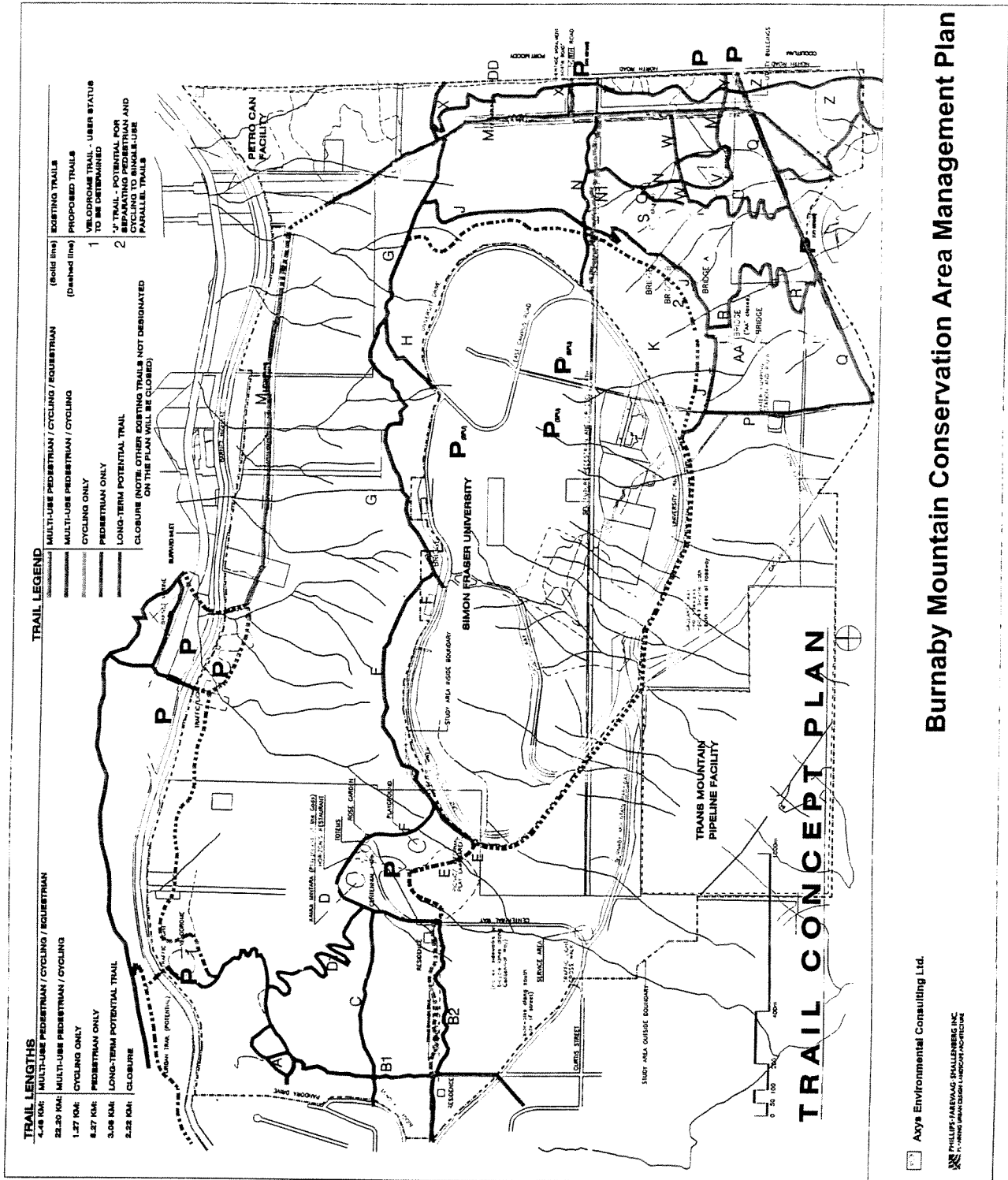
The contents of this report have been discussed with the representatives of the various community groups that participated in the development of the plan. These individuals will continue to be consulted on key issues through the formation of the Public Advisory Committee.

RS:rs:dl

Attachments (6)

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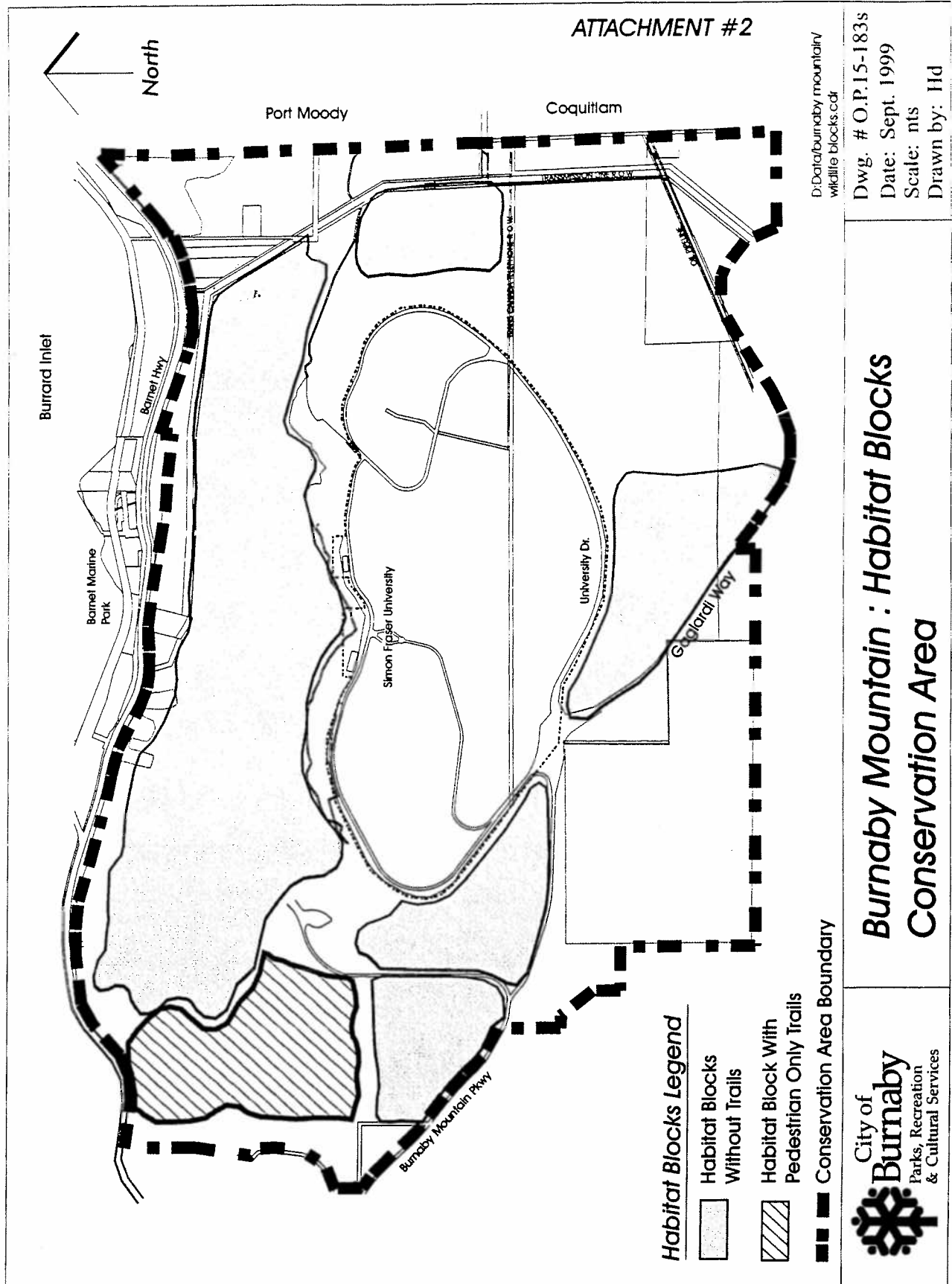
cc: Director Planning and Building
Director Engineering
Director Finance



Axys Environmental Consulting Ltd.

PHILLIPS FARWELL SHALLENBERG INC.
PLANNING DESIGN ARCHITECTURE

Burnaby Mountain Conservation Area Management Plan



Attachment #3

The priority statements are listed in the order of importance, as determined by responses to the Second Open House Questionnaire.

Priorities for Implementation

<i>Priority Statement</i>	<i>Ranking¹</i>
Trails that are highly prone to erosion will be upgraded, where appropriate	1
A Vegetation Management Plan will be developed	2
Damage from trail use in more ecologically sensitive areas will be prevented	3
Mountain bike evaluation criteria will be finalized	4
Protection of watercourses and wildlife habitat	5
Directional signs, maps, and trail use/allocation signs will be erected	6
A Burnaby Mountain Public Advisory Committee will be established	6
Trails near watercourses will be upgraded or re-routed	7
The Trans-Canada Trail route will be upgraded	8
Decommissioned trails will be closed	9
An Education and Interpretation Plan will be developed	9
Research priorities for biophysical and recreation use studies will be identified	9
Environmental restoration of the former target range sites will begin	10
All trails will be re-named according to City of Burnaby standards and criteria	11

Notes:

- 1 Respondents were asked to list their top three priority items from the list provided.

Summary of Phase I Recommendations

Attachment #4

Task	Year			
	0-1	1-2	2-5	5-10
Conduct an assessment of hazard trees following protocols established for other City of Burnaby parks.	X			
Commission a detailed survey and mapping of all trails	X			
Decommission all trails subject to closure using physical barriers, signs, enforcement and public education.	X			
Construct adequate stream crossings over all formal trails which cross watercourses or major ravines.	X			
Assess all trail sections that fall within 15 metres of a major watercourses to determine feasibility for re-routing.	X			
Treat all trails or trail sections identified as requiring site-specific improvements such as slope stabilization and grading, and in accordance with user requirements.	X			
Complete sections of the Trans-Canada Trail within Burnaby Mountain Conservation Area.	X			
Undertake immediate revegetation and stabilization of stream banks where trails have been closed or re-routed.	X			
Restore vegetation in areas where significant trail closures have been realized to stabilize slopes and re-establish vegetation.	X			
Complete studies on the condition of the former target range site and the projected costs for site rehabilitation.	X			
Rehabilitate the former target range site, including contaminated soils and watercourses.	X			
Complete heritage study and conservation plan for the 1912 house located at the former Barnet Rifle Range.	X			
Secure financial and human resources to ensure continued operation of the salmon rearing facilities at the former target range site.	X			
Erect safety signs and restrictive barriers along steep slopes and trails, as needed.	X			
Provide directional maps and signs, including signs denoting designated uses of each trail.	X			
Erect signs denoting the boundaries of protected habitat areas, or in pedestrian-only areas, signs explaining the rationale for restricted access.	X			
Establish a Public Advisory Committee and finalize their role and responsibilities.	X			
Finalize criteria for mountain bike conditional review period and initiate review program following implementation of necessary trail improvements and recommendations for education and enforcement.	X			
Evaluate mountain bike use of trails after one-year period.		X		
Complete the trail loop below the SFU Ring Road.		X		
Implement sections of the planned Urban Trail Network in the vicinity of Burnaby Mountain Conservation Area.		X		
Develop a comprehensive Vegetation Management Plan and related Fire Management Plan as specified in section 9.2.		X		
Develop an Interpretive Plan and related implementation strategy.		X		

Summary of Phase II Recommendations

Attachment #5

Task	Year			
	0-1	1-2	2-5	5-10
Initiate a program to inventory and map aquatic species and habitats found in and along major watercourses in Burnaby Mountain Conservation Area.		X		
Consider additional parking in existing clearings (may require cooperation with land owners, MOTH, or other facilities such as the Harry Jerome Sports Centre).		X		
Conduct ground-truthing and mapping of the existing 'J' Trail and of any sections of the trail which may require a parallel route. Map the location(s) of the proposed new route and conduct necessary geotechnical and environmental studies.		X		
Clear the section of the Hydro right-of-way (Trail 'M') which links the former target range sites to the right-of-way and other trails on the east side of the mountain.		X		
Construct, in phases if necessary, sections of single-use trail to parallel Trail 'J'.			X	
Develop former target range sites as a parking and staging area for conservation area visitors.			X	
Work with SFU and MOTH to review existing crossing signals to other parks and neighbouring communities, and identify potential sites to provide safe crossings over Gaglardi Way and portions of the Ring Road.			X	
Consider the need for small-scale facilities, such as washrooms, at locations other than Centennial Pavilion. Implement if necessary.		X	X	
In accordance with recommendations and specifications of the Vegetation Management Plan (Phase I), initiate vegetation and habitat enhancement programs such as enrichment plantings or experimental browse areas for deer.		X	X	

Summary of Phase III Recommendations

Attachment #6

<i>Task</i>	<i>Year</i>			
	0-1	1-2	2-5	5-10
Conduct ground-truthing and mapping of the proposed lower loop connection between the former target range site and the Harry Jerome Sports Centre, and conduct necessary geotechnical and environmental studies.				X
Develop a small Nature Interpretive Centre at the restored target range site.				X
Upgrade the children's play area near the Centennial Pavilion if warranted by demand by conservation area users and SFU residents.				X
Pending favourable evaluations, consider expanding mountain bike access to other trails or sections of the conservation area.				X
Work with MOTB to study, and potentially construct, an underpass beneath the Barnet Highway for pedestrians and wildlife passage.			X	X

Summary of Ongoing Actions

<i>Ongoing Action</i>	<i>Frequency Guide</i>
Acquisition of privately-owned parcels of land within the boundary of the conservation area.	As properties become available.
Monitoring of mountain bike activities according to evaluation criteria.	Annual or as needed.
Monitoring and repair of trail conditions.	As needed.
Research, data collection and monitoring of biophysical conditions.	Priorities for research are outlined in section 9.11 of the Management Plan. The duration and scope of individual research projects will depend upon data requirements and availability of funds.
Research, data collection and monitoring of recreational use.	Trails in sensitive areas and trails identified for extensive improvement (e.g., to minimize user conflicts) will be given priority.
Vegetation and habitat management actions.	As dictated by the Vegetation Management Plan.
Educational programs.	As dictated by the Interpretive Plan, or at the initiative of Burnaby staff or community groups.
In-park enforcement.	Dictated by the availability of staff or volunteers. Enforcement should be concentrated during peak use periods.
Public Advisory Committee meetings.	Every six months or as needed to respond to specific issues.
Regional cooperation (i.e., with SFU, industry neighbours, residents or other interest groups).	Regular communication is recommended through signage and activities, newsletters, or meetings as required.