



Lower Seymour Conservation Reserve

Management Plan 2022

Metro Vancouver is a federation of 21 municipalities, one electoral area, and one treaty First Nation that collaboratively plans for and delivers regional-scale services. Its core services are drinking water, wastewater treatment and solid waste management. Metro Vancouver also regulates air quality, plans for urban growth, manages a regional parks system and provides affordable housing. The regional district is governed by a Board of Directors of elected officials from each local authority.

Metro Vancouver acknowledges that the region's residents live, work, and learn on the shared territories of many Indigenous peoples, including 10 local First Nations: Katzie, Kwantlen, Kwikwetlem, Matsqui, Musqueam, Qayqayt, Semiahmoo, Squamish, Tsawwassen, and Tsleil-Waututh.

Metro Vancouver respects the diverse and distinct histories, languages, and cultures of First Nations, Métis, and Inuit, which collectively enrich our lives and the region.

FRONT COVER: VIEW FROM SEYMOUR FALLS GAZEBO

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Metrotower III, 4515 Central Boulevard,
Burnaby, BC V5H 0C6



Contents

- Introduction 5**
 - Lower Seymour Conservation Reserve 5
 - Why is it Important?..... 5
 - Purpose of the Management Plan..... 9
 - Policy Context 9
- Vision 11**
- Guiding Principles..... 11**
 - Goal 1..... 13
 - Goal 2..... 17
 - Goal 3..... 23
 - Goal 4..... 27

[Click to return to Table of Contents](#)

MID VALLEY PICNIC SITE



Introduction

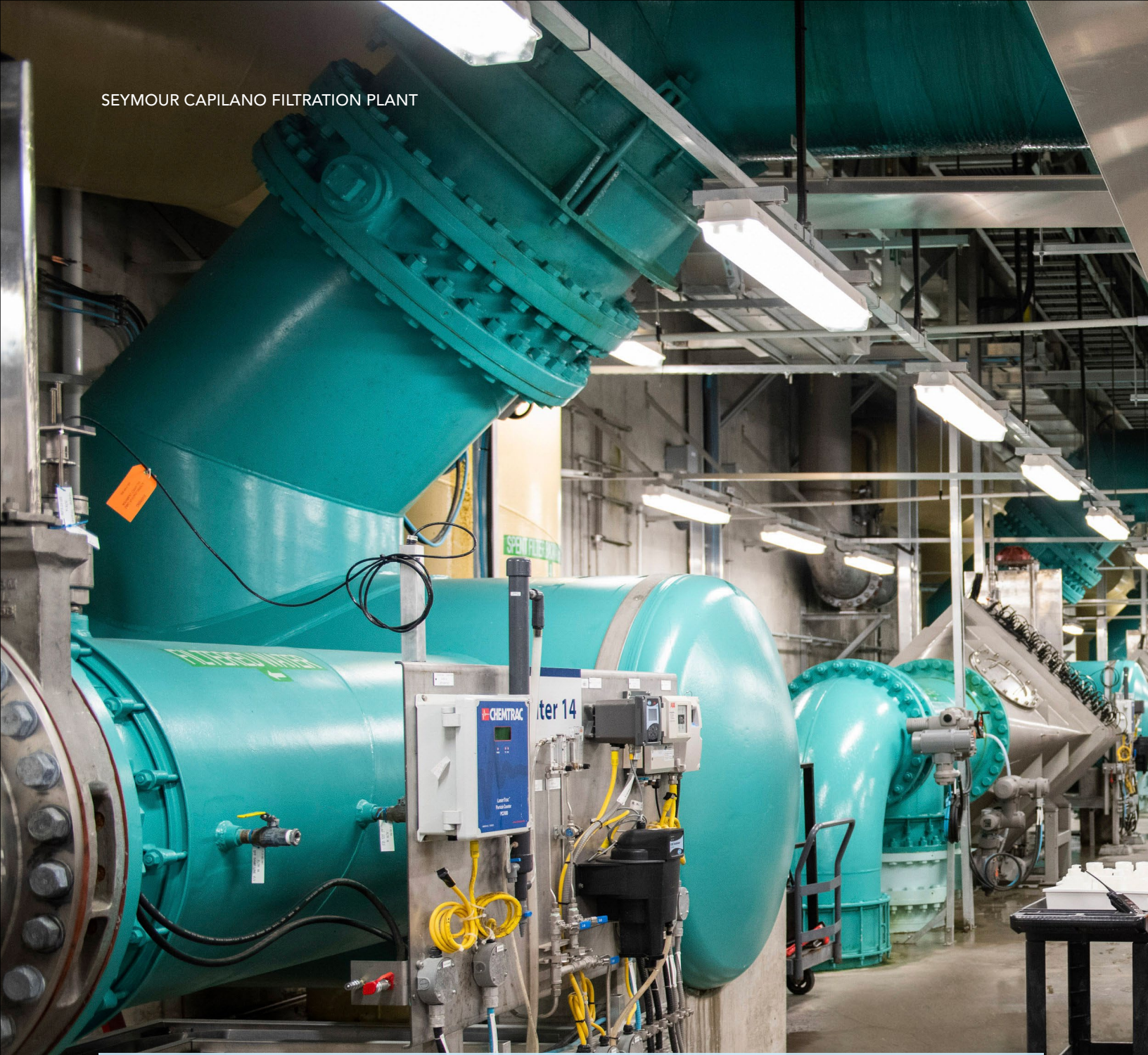
Lower Seymour Conservation Reserve

The Lower Seymour Conservation Reserve (LSCR) is a 5,668-hectare land reserve located south of the Seymour Reservoir and water supply area managed by Metro Vancouver. The primary purpose of the LSCR is for future water storage and supply. The Seymour water supply area, located north of Seymour Falls Dam, has restricted public access to ensure a clean and reliable source of drinking water for the region. The LSCR opened to the public in 1987 to encourage education and recreation opportunities while co-existing with its current and future water supply functions. The popularity of the LSCR among the public continues to grow as visitors come to experience some of the most spectacular and diverse landscapes in the Metro Vancouver region and learn about their drinking water supply system. Its forested valley, river flood plain, and sub-alpine areas are accessible from all of Metro Vancouver (Figure 1).

Why is it Important?

The Seymour water supply area and reservoir provides approximately one third of the region's water supply. The LSCR is home to critical water supply infrastructure, such as large-diameter water mains that transport water downstream from the Seymour Reservoir. Recent projects to improve or expand this infrastructure include the seismic upgrade of Seymour Falls Dam (2008), the completion of the Seymour Capilano Filtration Plant (2009) and the Seymour Capilano Twin Tunnels Project (2015). The LSCR is distinguished from a traditional park environment because it is reserved for the potential future water supply needs of a growing regional population.

Metro Vancouver has numerous initiatives in the LSCR to enhance public amenities and benefits, including education and interpretive programs around water supply and watershed ecosystems, fish habitat restoration and enhancement projects, research studies, environmental stewardship, and expansion of recreation opportunities. With an extensive trail network as its backbone, recreation opportunities include nature appreciation, hiking, cycling, mountain biking, dog walking, kayaking and fishing.



Greater Vancouver Water District

Metro Vancouver and its members work together to provide clean, safe drinking water to the region. The Greater Vancouver Water District (GWWD) membership consists of 18 municipalities, one Electoral Area, and one Treaty First Nation. Working together with the members of the GWWD, we plan for and deliver regional scale drinking water services to approximately 2.7 million people. We are responsible for protecting and providing the region’s water supply, including: protecting our water supply areas, storing, treating and ensuring the quality of our water, supplying water directly to our member jurisdictions, and planning for future supply and demand. Our member jurisdictions are responsible for providing water to residents and businesses, enforcing regulations, utility billing, and where used, water metering.



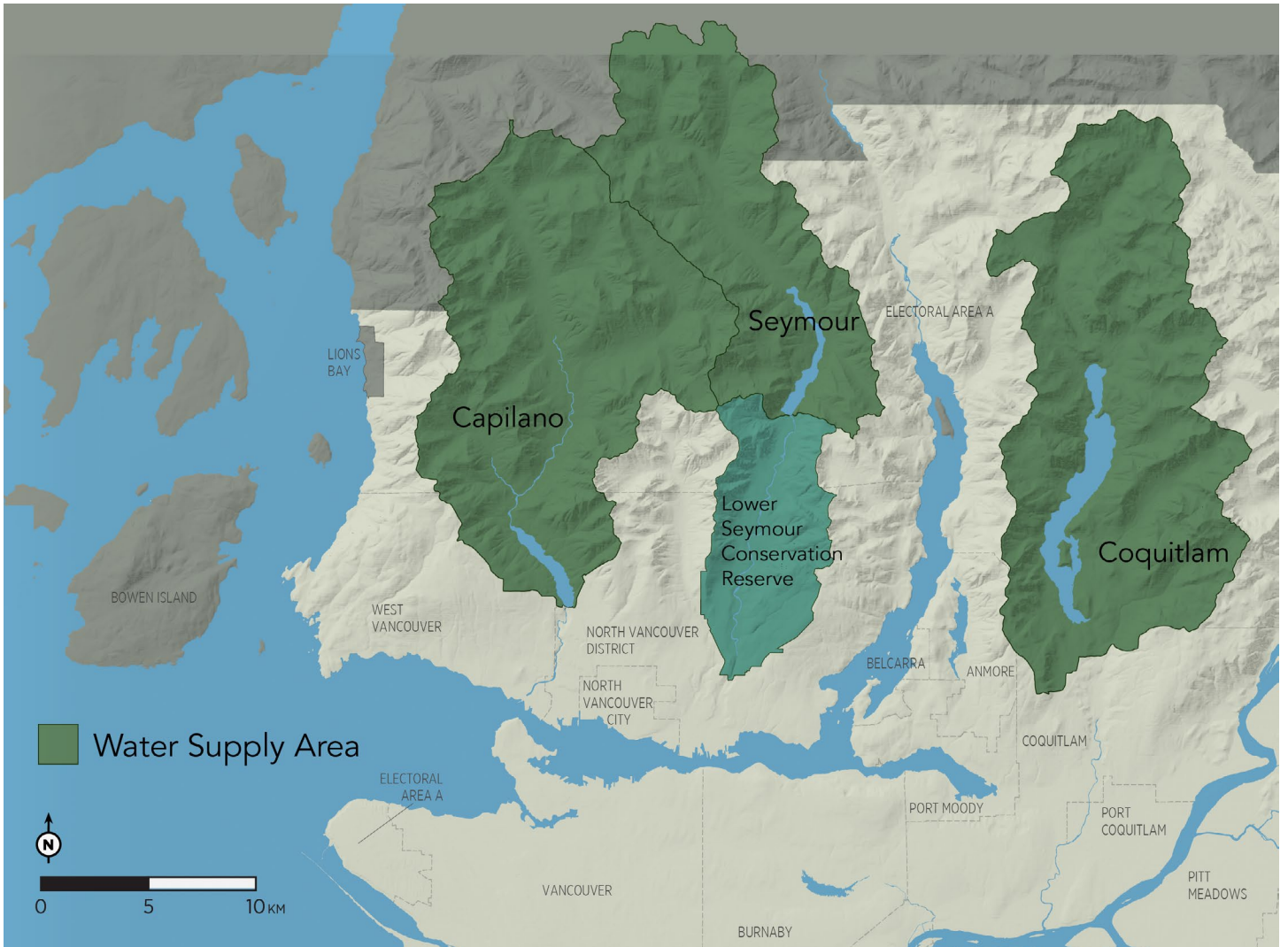


FIGURE 1 LSCR REGIONAL CONTEXT

Purpose of the Management Plan

Sustainable management of this area requires a balance of many environmental, social and economic considerations in order to achieve Metro Vancouver’s goals for the LSCR. This plan outlines management strategies that ensure water utility operations and public access while continuing to protect ecological integrity of the LSCR.

The previous management plan was developed in 2002, at a time when the LSCR was transitioning from a “demonstration forest” approach to a focus on conservation and sustainable recreation. Since 2002, recreation and utility uses in the LSCR have changed; numerous projects and initiatives have been completed, and Metro Vancouver has created several new planning initiatives that affect the LSCR.

The 2022 management plan builds off of the previous plan and highlights changing conditions, priorities and approaches. A number of new strategies have been included to address current issues such as climate change, future water infrastructure needs, and shifts in public use. The implementation of this management plan drives annual operations plans and allows tracking of progress toward achieving the overarching goals.

The management plan, particularly the objectives and strategies, will be reviewed and updated every five years. This allows progress to be tracked, new research and information to be incorporated, and for the plan to be aligned with Metro Vancouver’s planning initiatives and policies.

Policy Context

A number of Metro Vancouver policies were reviewed to ensure the plan aligns with current Board direction. (Figure 2). Relevant initiatives and goals were integrated into the management plan from the following:



FIGURE 2 METRO VANCOUVER PLANS

Key Accomplishments Since 2002

Water Utility Infrastructure

- Seismic upgrade of Seymour Falls Dam (2008)
- Seymour Capilano Filtration Plant (2009)
- Seymour Capilano Twin Tunnels Project (2015)

Partnerships and Education

- Collaboration with North Shore Black Bear Society for public education and outreach
- Hosted a variety of stewardship opportunities such as trail restoration, invasive species removal and trail resurfacing
- Provided opportunities for public engagement through user intercept surveys and annual open houses
- Development of curriculum-based education programs that focus on water as a resource
- Development of winter watershed tours in partnership with Mount Seymour Resorts
- Development of virtual programming to aid in improving equity of access to reach larger and more diverse audiences
- Fostered relationships with community groups such as the North Shore Mountain Bike Association and local hiking groups through the establishment of programs such as the Trail Adoption Program
- Partnership with North Shore Rescue with an established headquarters at the Bone Yard and caches in the LSCR

Ecological Health

- Collaboration with provincial staff on Marbled Murrelet monitoring (radar survey at Seymour Falls Dam)
- Identification and designation of Pacific Water Shrew and Marbled Murrelet Critical Habitat under the federal Species at Risk Act
- Collaboration with BC Parks on bat species monitoring
- Significant restoration and remediation projects at Seymour Mainline – 2km, Seymour Capilano Filtration Plant Frog Pond, and the North Shore Skeet Club and Pacific Shooters Association range sites
- Installation of two new hydrometric stations to improve environmental flow monitoring from Seymour Falls Dam
- Improvements to culverts and drainage structures which were not previously passable to fish

Recreation

- Development of LSCR Trail Standards (2017) and completion of the Trails Strategic Plan (2018)
- Replacement of the Baden Powell staircase (2018)
- Construction of the Seymour River Suspension Bridge (2018)
- Surfacing and drainage improvements to Fisherman's Trail
- Surfacing and drainage improvements to Dog Mountain Trail
- Replacement of bridges along the Coho Trail

Vision

The LSCR will maintain its primary purpose as a future water reserve while protecting ecological health and engaging the public through a variety of education, stewardship, and recreation opportunities.

The vision for this plan reflects the Board’s goals for managing the LSCR and looks 10 years into the future to outline important values that guide the management of the LSCR. The vision highlights the four key areas the plan is structured around: water services, education, ecological health and recreation.

The LSCR’s primary purpose will continue to be the facilitation of public drinking water supply infrastructure and maintaining its purpose as a future water reserve. In addition, the LSCR plays an important role in the protection of a large forested area on the North Shore. While not a park itself, it is part of an inter-connected

system of natural areas that offer education and recreation opportunities. The LSCR will continue to be an outdoor classroom and a showcase for the region’s water supply system. It will provide an important opportunity for the public to learn about the ecological and biological diversity of the area including forest management activities that focus on conserving, restoring, and enhancing healthy ecosystems.

Managing recreation will minimize impacts on the environment and local community while recognizing and protecting the LSCR’s importance in the region’s drinking water supply system.

Guiding Principles

Seven principles guide Metro Vancouver in managing the LSCR

- 1 Recognize the LSCR’s multiple values and work to balance them with the key goal of supporting the region’s water utility.
- 2 Encourage and support public involvement in decision-making, program delivery, land management and monitoring activities.
- 3 Lead by example in encouraging stewardship, education, and research in the LSCR.
- 4 Use adaptive management strategies to measure and adapt to changing conditions, environmental impacts, and new challenges.
- 5 Implement protection of environmental values early in all project planning and review processes.
- 6 Restore and enhance ecosystems, particularly human-impacted areas, to the greatest extent possible.
- 7 Support recreation activities with regional interest that depend on the unique landscapes and features of the LSCR while managing impacts to environmental values.



GOAL
1

Maintain the primary capacity of the Lower Seymour Conservation Reserve to manage critical drinking water infrastructure and ensure a sufficient supply of clean, safe drinking water for a growing region

Introduction

The primary purpose of the LSCR, for which the land was purchased or leased from the Province, is to provide for future water supply and infrastructure.

Present water supply needs are met by the Capilano, Seymour, and Coquitlam reservoirs. The Seymour water supply area, north of the LSCR, supplies one third of the region's drinking water.

Why is it important?

The LSCR functions as an integral part of the water delivery system for the Seymour Reservoir, containing extensive water utility infrastructure, including Seymour Falls Dam, large-diameter watermains, water treatment, and operations and maintenance facilities. Since the implementation of the 2002 LSCR Management Plan, many new infrastructure projects have been completed including a seismic upgrade to Seymour Falls Dam and the construction of the Seymour Capilano Filtration Plant (SCFP).

Upcoming water utility projects in the LSCR include a new education and operations building and construction of Seymour Watermain No. 5 from Seymour Falls Dam to the SCFP (Figure 3). A growing population and increasing supply storage vulnerabilities due to climate change mean that water supply may need to be increased even though per capita demand is declining. In the next 100 years, a raised Seymour Falls Dam, an Upper Seymour Watershed Dam, and a Lower Seymour Watershed Dam are among the long-term options being considered to meet future water demands in Metro Vancouver. More information can be found in the [Water Supply Outlook 2120](#).

Key Points: Maintain and Manage

The LSCR is home to critical water infrastructure, and will remain aligned with all Metro Vancouver plans, including the [Drinking Water Management Plan](#) and watershed and environmental protection guidelines. The LSCR provides the land base and corridors necessary for projects required to maintain and expand the water supply system. Best management practices are in place to allow for maximum protection of the environment during construction. Additionally, there are often opportunities to use this work to advance other goals relating to recreation, ecological health, and partnerships.

WATER SUPPLY AREAS

Metro Vancouver's drinking water comes from the Capilano, Seymour, and Coquitlam water supply areas (Figure 1). Together they include approximately 60,000 hectares of land with restricted access to the public for protection from pollution, erosion and fire. Each water supply area contains a lake or storage reservoir formed by impoundment of the river valley and is contained by a dam that regulates outflow. Rainfall and snowmelt fill the reservoirs, and their high elevations allow for gravity feed delivery to much of the Metro Vancouver region. In the LSCR, the Seymour Reservoir is visible from the Seymour Falls Picnic Area. The water supply areas also contain three supplemental feeder lakes: Palisade Lake, Burwell Lake, and Loch Lomond, with the latter two feeding into the Seymour Reservoir.

GOAL 1.0: MAINTAIN THE PRIMARY OBJECTIVE OF THE LSCR AS A WATER RESERVE AND TO PROVIDE FOR WATER UTILITY INFRASTRUCTURE

STRATEGIES	ACTIONS
1.1 Maintain access to critical water infrastructure.	<ol style="list-style-type: none"> 1. Ensure all roads that provide access to water services infrastructure are maintained to industry standard. Facilitate water infrastructure construction projects 2. Ensure seasonal maintenance is completed for vegetation and snow clearing
1.2 Manage the LSCR in a way that maintains the environmental integrity of the land base for future water supply development.	<ol style="list-style-type: none"> 1. Complete an environmental review and planning process prior to any projects to minimize and mitigate environmental impacts 2. Ensure the Guidelines for Materials Importation for Watershed Lands are followed 3. Continue to implement an invasive species management program to minimize or eradicate high risk invasive species 4. Implement best management practices as identified in the Trails Strategic Plan to minimize environmental disturbance during trail construction (minimize vegetation disturbance and erosion) 5. Prepare an aggregate development plan that includes minimizing impacts and restoring disturbed areas 6. Implement environmental protection strategies identified through the Environmental Management System (e.g. fuels management, road salt storage etc.) 7. Ensure staff complete environmental awareness training, including invasive species and environmental management, and are aware of risks and standards
1.3 Ensure the Goal 1.0 message is communicated to the public.	<ol style="list-style-type: none"> 1. Highlight the importance of the LSCR's role in the water supply in all outreach programs: <ol style="list-style-type: none"> a. Watershed education (school and public) b. Interpretative signage and displays c. E-newsletters d. Webpages e. Open house materials

WHY IS THERE AGGREGATE DEVELOPMENT IN THE LSCR?

Gravel and rock aggregate extraction for water utility projects in the LSCR has been strongly supported by the public as a means of reducing truck traffic and greenhouse gas emission within the local community, and reducing the potential for introduction of contaminants to the water supply area. To ensure aggregate extraction does not impact sensitive ecosystems and their functions, Metro Vancouver develops strategies for the extraction and management of each aggregate resource area. These strategies address the aggregate requirements of the water utility capital projects as well as ongoing operations and maintenance requirements within the LSCR.

Planning considerations include:

- Hydrology, fish and aquatic habitat, and erosion control
- Protect species and ecosystems
- Restoration opportunities
- Aggregate importation cost/benefit analysis





FIGURE 3 LSCR UTILITY PROJECTS

SEYMOUR RESERVOIR LOOKING EAST



GOAL
2

Continue ongoing partnerships, education and community engagement in the Lower Seymour Conservation Reserve

Introduction

The LSCR plays an important role in the community through partnerships with research and stewardship organizations, watershed education programming, and engagement and outreach. The area is well-used by the community for recreation and as a place to connect with nature. As the home of critical water services infrastructure, it underpins the daily lives of many in the region through its role in the drinking water system.

Why is it Important?

LSCR staff connect with the public in person, through an e-newsletter, the annual open house event, education booths, and through the LSCR email. Education programs in the LSCR contribute to Metro Vancouver's holistic approach to supplying the region's drinking water, which is to focus not just on providing a clean, safe supply, but also on education and outreach to ensure its sustainable use. Watershed education programming in the LSCR promotes conservation through the message that drinking water is a precious resource. Educators also describe the role of the LSCR and Metro Vancouver's water supply areas in providing drinking water for the region.

Key Points

Metro Vancouver aims to foster partnerships that further research and stewardship efforts in the LSCR. Many passionate individuals and organizations are involved in recreation and stewardship activities in LSCR, such as the North Shore Mountain Bike Association and the Seymour Salmonid Society.

Metro Vancouver also helps fund and mentor research by students at post secondary institutions in the Lower Mainland. The LSCR offers diverse opportunities for research that are not commonly found in close proximity to a major urban centre. At the same time, student projects benefit the knowledge base available to inform management decisions in the LSCR. Recent projects from the Sustainability Scholars Program with the University of British Columbia have focused on a number of Metro Vancouver's Climate 2050 topics, such as monitoring forest health, changes in species composition, reducing greenhouse gas emissions from regular operations, managing invasive species, and monitoring climate change data.

EDUCATION PROGRAMS IN THE LSCR

Metro Vancouver's watershed education tours and student field trips provide citizens with the opportunity to see where their water comes from, understand the value of our water resource, develop a sense of pride and confidence in the water supply, and become champions for sustainability.

Watershed school field trips started in 1989 and the public Watershed Tours Program was initiated in 1993 when logging operations were ending in the water supply areas. Opening up these closed areas for tours provided the opportunity to build trust with the public and create a culture of education and engagement around water supply operations. While these initial tours focused on familiarizing the public with management of the water supply areas, our programs have moved beyond that, engaging citizens in the importance of protected water supply areas, processes of treatment and transmission, conservation and our partnerships with member jurisdictions, provincial and federal governments, and non-governmental organizations to manage a resilient and efficient system.

GOAL 2.0: CONTINUE ONGOING PARTNERSHIPS, EDUCATION AND COMMUNITY ENGAGEMENT

STRATEGIES	ACTIONS
<p>2.1 Strengthen relationships with Indigenous Nations and Peoples to gain a better understanding of shared interests in the LSCR within their lands.</p>	<ol style="list-style-type: none"> 1. Continue to engage with Indigenous Peoples on Metro Vancouver infrastructure works and other projects 2. Continue with conducting Archaeological Overview Assessments (AOAs) and, as needed, Archaeological Impact Assessments (AIAs) for projects 3. Explore opportunities for increased engagement, dialogue and collaboration between Metro Vancouver and Indigenous Peoples
<p>2.2 Communicate the objectives and directions of the water utility in public interpretive and education programs.</p>	<ol style="list-style-type: none"> 1. Develop and deliver programs for the general public and K-12 audience that align with key themes: <ol style="list-style-type: none"> a) The role of the Metro Vancouver water utility to the region b) Importance of protected water supply areas c) Water treatment and distribution processes d) Raise awareness of the LSCR's important role in the region's future water supply (e.g. expanded water source capacity) e) Current BC education curriculum 2. Develop and deliver outreach materials that communicate key themes: <ol style="list-style-type: none"> a) Quarterly newsletter b) Interpretive signage c) Brochure d) Website updates
<p>2.3 Guide research and interpretive activities based on environmental, recreational, educational, and cultural heritage landscapes.</p>	<ol style="list-style-type: none"> 1. Encourage and facilitate research with post-secondary institutions, other organizations, and provincial and federal agencies 2. Ensure completed LSCR research projects and reports are provided to the Metro Vancouver Library for public access 3. Recognize, manage, protect and interpret Indigenous and non-Indigenous cultural heritage resources. As needed, conduct Archaeological Overview Assessments (AOAs) and Archaeological Impact Assessments (AIAs).
<p>2.4 Promote and expand stewardship opportunities.</p>	<ol style="list-style-type: none"> 1. Develop new relationships with partners and provide opportunities for volunteers to participate in stewardship activities such as invasive species management, trail maintenance, riparian habitat restoration, etc 2. Host an annual open house to inform and engage the public in ongoing stewardship and management 3. Connect with members of the community engaged in citizen science data collection and monitoring 4. Establish partnerships with nonprofits and consulting firms to explore grant funding opportunities to advance ecological research and restoration activities

ANNUAL OPEN HOUSE

Each spring or summer, the LSCR hosts its annual open house event to connect with the community. Members of the public are invited to drop by to learn about ongoing projects and programs, and staff are on hand to answer questions. The annual event is also an opportunity for LSCR staff to consult with members of the public on new initiatives. Each annual event provides the opportunity for the public to:

- Get updates on trail improvements, amenity upgrades and major projects
- Hear about stewardship opportunities and education programs
- Learn about where their water comes from and their role in its sustainable use

PARTNERSHIPS AND STEWARDSHIP

Metro Vancouver fosters partnerships with a variety of organizations to help fulfil goals related to ecological health, recreation uses, and community engagement in the LSCR.

Trails

Metro Vancouver relies on partnerships with local trail users, trail associations, and neighbouring land managers to help maintain over 100 kilometres of trails in the LSCR. Local trail associations and recreation groups apply for Trail Maintenance Permits and work with LSCR staff to ensure that the proposed work adheres to LSCR trail building standards. The North Shore Mountain Bike Association has a permit through the Trail Adoption Plan, in which a trail maintainer oversees volunteer work on trail upgrades, often sponsored by a local business. The Trail Adoption Plan program has contributed over 20,000 hours of trail maintenance across the North Shore since its inception in 2011. For all of the LSCR's trail partnerships, the focus is on building sustainable trails that minimize environmental disturbance and improve the user experience for all abilities.

Ecological Stewardship

The LSCR also fosters partnerships with conservation groups and members of the public for stewardship activities, such as habitat enhancement and invasive species management. This includes working closely with the Seymour Salmonid Society. The society operates the Seymour River Fish Hatchery, and was established to enhance salmonid stocks impacted by the creation of the Seymour Falls Dam. The society runs education programs, such as the Gently Down the Seymour field trip program, and habitat enhancement work along the Seymour River. The society has also been instrumental in mitigating the impacts of the 2014 Seymour River rockslide on salmonid populations.



CULTURAL HERITAGE

There is a diverse cultural heritage in the LSCR, and maintaining this is an important part of stewardship of the reserve. Indigenous Peoples had an extensive trail system and used these lands for resource gathering, hunting, and ceremonies.

Over 40 historic heritage sites representing land-use by Euro-Canadian and Japanese Canadian people are currently known in the LSCR. Historic heritage sites in the LSCR include archaeological sites, defined in BC as those that pre-date 1846, and are protected under the [BC Heritage Conservation Act](#), as well as post-European contact sites. There is abundant evidence of this more recent history of logging, homesteading, mining, and the development of water infrastructure and transportation routes in the LSCR. Two former logging camps in particular, at McKenzie Creek and Suicide Creek, are significant from an archeological perspective for the insight they offer into the experience of early 20th century Japanese Canadians. The McKenzie Creek site was added to the BC Register of Historic Places in 2017.

Collectively, cultural sites in the LSCR form “heritage landscapes” representing distinct periods and activities that have been superimposed upon the landscape chronologically. Eight heritage landscapes are represented in the LSCR. Metro Vancouver will take responsibility and act as stewards in managing the LSCR’s heritage landscapes. Members of the region’s First Nations and the public will be engaged to help determine the significance and best means for managing cultural heritage resources.

Cultural heritage information and artifacts from the LSCR are currently held within the LSCR at excavation sites and at Capilano University, as well as in the permanent collections of the North Vancouver Museum and Archives and the Nikkei National Museum and Cultural Centre.

INDIGENOUS RELATIONS

The Lower Seymour Conservation Reserve is located within the shared consultative areas of nine First Nations and tribal councils: three First Nations with communities located within the Metro Vancouver region (Musqueam Indian Band, Squamish Nation and Tsleil-Waututh Nation) as well as six other First Nations and tribal councils whose communities are located in the Fraser Valley (Seabird Island Band, Shxw'ow'hamel First Nation, Skawahlook First Nation, Soowahlie First Nation, Stó:lō Nation and Stó:lō Tribal Council).

Metro Vancouver actively engages with First Nations on its capital and infrastructure projects as well as other plans and initiatives. Over the past 10 years, Metro Vancouver has developed an information sharing and engagement process based on First Nations' requests, provincial guidance, court decisions, legal advice, best practices, and ongoing research. The process for sharing information and engaging with First Nations ensures that Metro Vancouver staff apply a consistent approach in project management and provincial permitting processes.

RESEARCH IN THE LSCR

Metro Vancouver actively works with academic institutions to support natural resource management and water quality research. The LSCR has internal and external funding opportunities available. As a large, intact, forested landscape in close proximity to major BC academic institutions, the LSCR presents a unique opportunity for research that supports the protection of our water supply, forests and ecosystems. Examples of past student research projects include:

- The Effect of the Western Hemlock Looper Moths on Forest Health (University of British Columbia)
- Potential Impacts of Recreation on Aquatic and Terrestrial Wildlife Habitat at Lost Lake (British Columbia Institute of Technology)
- Planning for Water Conservation (Simon Fraser University)





GOAL
3

Monitor, maintain, and enhance the ecological health of the Lower Seymour Conservation Reserve

Introduction

Located within the lower Seymour Valley, the LSCR contains a mosaic of forest and aquatic habitats, including wetlands, riparian areas, mature and old growth forests, and sub-alpine zones.

Why is it important?

The value of nature can be understood not just through its intrinsic value, but also through the concept of ecosystem services, which are the benefits that people obtain from ecosystem functions. In the LSCR, these benefits are numerous, ranging from provisioning water and supporting biodiversity, recreation, and human health, to contributing to climate change mitigation by removing carbon dioxide from the atmosphere. Through this lens, the forests, rivers and streams of the LSCR can be seen as natural assets in the region's network of green infrastructure.

There are many environmental challenges facing the region, including climate change, habitat loss and fragmentation, environmental contamination, and invasive species. In most cases, the LSCR is both impacted by these challenges and plays a role in mitigating the impacts. In the case of climate change, warmer, drier summers and an increase in disturbances pose a risk to forests. At the same time, forests play an important role in temperature regulation and carbon sequestration.

The diversity of forests found in the LSCR provides a variety of habitats as well as education and recreation opportunities. Old-growth forests, those of 250 years of age and older, have the greatest biological diversity of all forests in the LSCR. They are highly significant from a regional and provincial perspective due to their ecological value, representation of rare and endangered ecosystems, and provision of habitat for many species and ecosystems

at-risk. Aquatic habitats include the Seymour River, its tributaries, and several lakes and wetlands that support salmon, trout and a diversity of other species. Riparian areas that have not been impacted by human activities are also some of the most biologically diverse habitats within the LSCR and provide important functions for a wide range of species at different stages in their life cycle.

Key Points: Monitoring, Managing and Enhancing

Data collection is a key tool for maintaining the ecological health of the LSCR and monitoring the integrity and function of sensitive ecosystems. Metro Vancouver's [2018 Sensitive Ecosystem Inventory \(SEI\)](#) provides standardized identification and mapping of sensitive ecosystems throughout the region. The SEI is based on Terrestrial Ecosystem Mapping to generate SEI values and was also developed through image interpretation followed by selective field checks. Site-level ecological data, research on specific species, and detailed environmental assessments are all also key monitoring tools in the LSCR. Data such as the SEI and site-specific environmental assessments play an important role in management decisions in the LSCR, from water infrastructure planning to the design of individual trail features and restoration of disturbed sites.

GOAL 3.0: MONITOR, MAINTAIN, AND ENHANCE THE ECOLOGICAL HEALTH OF THE LSCR

STRATEGIES	ACTIONS
3.1 Identify the integrity and function of environmentally sensitive areas, ecosystems, and species.	<ol style="list-style-type: none"> 1. Conduct site level assessments to update the SEI 2. Update LSCR Forest Ecosystem Biodiversity Indices 3. Consider restoring and enhancing forest ecosystems in stands of low biological diversity to improve important ecosystem functions and adapt to climate change impacts 4. Restore and enhance aquatic and riparian habitat 5. Monitor the establishment of invasive and non-native species. Create annual action plans for best management 6. Complete natural capital assets study for ecosystem services
3.2 Monitor forest ecosystems and the impacts of climate change.	<ol style="list-style-type: none"> 1. Continue working with our federal and provincial partners to monitor forest health by conducting aerial surveys and ground-truthing 2. Conduct periodic environmental assessments to monitor climate change related impacts to the Rice Creek Watershed and implement recommendations 3. Update habitat suitability maps for relevant species and ecosystems
3.3 Manage environmental impacts from users and development activities.	<ol style="list-style-type: none"> 1. Manage visitor activities and facilities in accordance with identified management zones 2. Restore disturbed sites to enhance ecosystem functions, habitat and biodiversity 3. Minimize habitat losses and impacts through project planning, environmental impact assessments, habitat restoration and enhancement

HABITAT RESTORATION

LSCR ecosystems are largely intact and healthy, and there are very few areas that need restoration. However, as part of providing water utility services as well as education and recreation opportunities, there can be some impacts to ecosystems and habitat. Metro Vancouver is diligent in proactive environmental planning that includes reviews of sensitive ecosystems, consideration of alternatives, and on-site planning and management to avoid and minimize impacts. Where impacts cannot be fully avoided, disturbed areas are restored and enhanced. Other threats to habitat integrity include climate change, invasive species spread, and increased use of the trails and amenities. These challenges will bring new opportunities for habitat restoration and enhancement of biodiversity values.

CLIMATE CHANGE AND ECOLOGICAL HEALTH

The Capilano, Seymour and Coquitlam water supply areas and the LSCR comprise approximately 60,000 hectares of intact and resilient old-growth and second-growth coastal temperate rainforest, representing approximately 20% of Metro Vancouver’s land base and approximately 20 million tonnes of carbon storage. Fire suppression, ecosystem conservation, and ecosystem enhancement are actively addressed as critical aspects of drinking water quality protection and are key facets of regional carbon storage and climate change resiliency. Metro Vancouver’s [Climate 2050 Strategic Framework](#) identifies actions to mitigate climate change impacts on the ecological health of our greenspaces. Given the extensive development and urbanization of the Lower Mainland, intact ecosystems such as the LSCR are crucial to the survival of species and ecosystems at risk. With climate change bringing an expected increase in the disturbance regime for forest pest outbreaks, forest fires and landslides, the LSCR and water supply area landscapes are continually and intensively monitored.





GOAL
4

Maintain and enhance the potential for recreation and other compatible uses in the Lower Seymour Conservation Reserve

Introduction

The LSCR's natural setting and network of over 100 kilometres of trails for all ages and abilities make the area a cherished regional recreation destination. By providing recreation opportunities that take visitors through the LSCR's forests and along its river, lakes and streams, Metro Vancouver encourages healthy lifestyles and connections with nature.

Why is it important?

Over 600,000 visitors a year enjoy activities such as walking, hiking, inline skating, road cycling, mountain biking, horseback riding, and fishing in the LSCR. Part of what makes the area unique is the number of distinct recreation experiences available, from walking the Rice Lake Loop Trail, to paddling in the Seymour River, to mountain biking and sub-alpine hiking on Mount Seymour. These experiences are enhanced by direct connectivity to other popular recreation areas such as the District of North Vancouver's Lynn Canyon Park, Metro Vancouver's Lynn Headwaters Regional Park, Mount Seymour Provincial Park, and the Canada Mortgage and Housing Corporation's Mountain Forest.

DOGS IN THE LSCR

Dogs are permitted on trails south of Rice Lake Gate and the Homestead Trail and on the access trail to Lynn Headwaters Regional Park. The trail network provides 65 kilometres of trail access for dog walking and includes designated off-leash trails. Signage, education and dog waste receptacles are provided as part of this program. This approach is consistent with Metro Vancouver's policy direction and principles on dog management. Dog walking will be monitored on an ongoing basis and management measures may be adapted to meet the plan's principles and objectives.

As additional trails are established, opportunities for dog access will be evaluated. Visitor and wildlife safety will remain the highest priority in managing dogs. Commercial dog walking is not permitted in the LSCR.

Key Points

Trail maintenance and enhancements are guided by the 2018 Trails Strategic Plan. The Trails Strategic Plan recommendations focus on:

- Creating a cohesive trail network through trail development, improvements to existing trails, trail closures and improving built structures
- Improving visitor experience through enhanced trail amenities and improved signage and wayfinding
- Protecting sensitive ecosystems
- Improving management and maintenance
- Fostering partnerships and stewardship

Ecological health guides many of the Trails Strategic Plan recommendations and plays a key role in planning and managing recreation in the LSCR. The management zones map (Figure 4) illustrates the relationship between ecosystem sensitivity and levels of public access. This zoning framework for the LSCR recognizes the physical and biological sensitivities, as well as existing facilities, in different areas to guide land management. It is based on an approach of providing for higher visitor use in lower sensitivity areas and limiting or carefully managing access in sensitive areas. All zones will be managed to protect sensitive areas or specific habitats including riparian areas, heritage features, old growth forests, and species and ecosystems at-risk.

Low-impact commercial activities are also accepted in the LSCR, provided they are consistent with the other goals and objectives of the management plan and can enhance the visitor experience. Examples of low-impact commercial activities include bike and trail running races, youth and adult bike clinics, outdoor education schools, and filmmaking. The use of permits for commercial activities is required, with fees funding programs and projects in the LSCR.

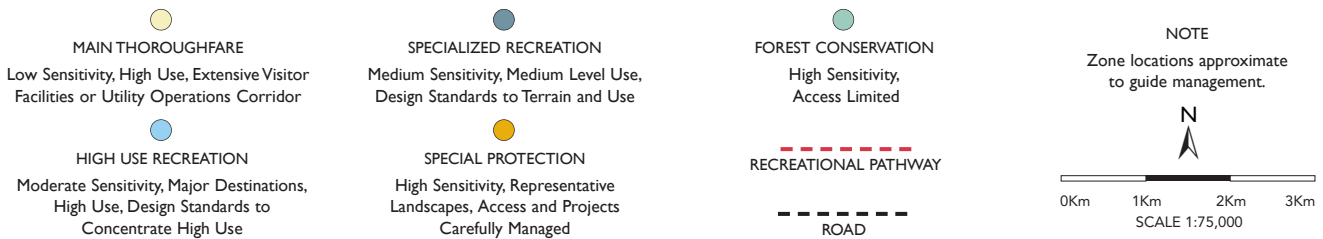
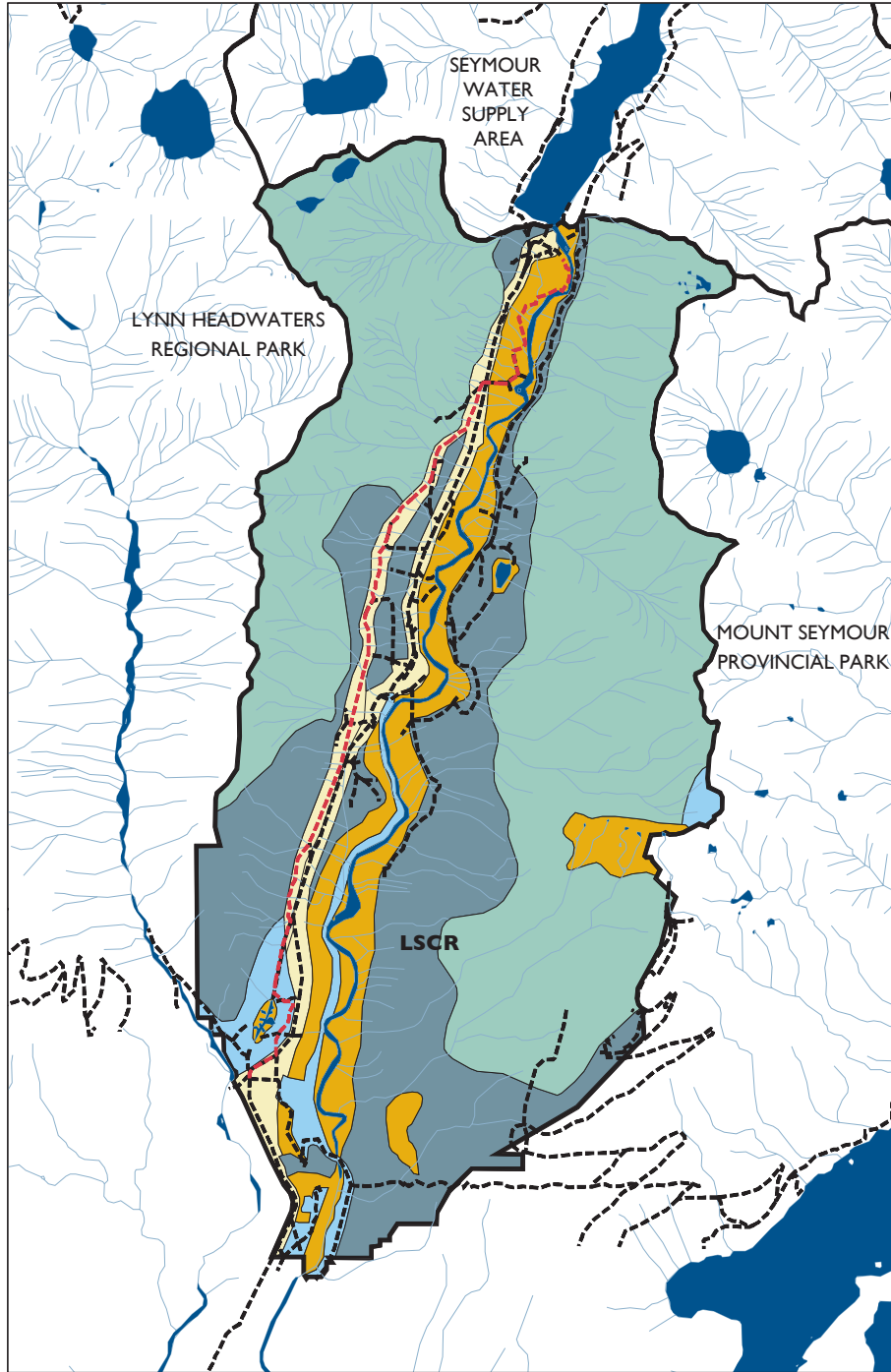


FIGURE 4 LSCR MANAGEMENT ZONES

GOAL 4.0: MAINTAIN AND ENHANCE THE POTENTIAL FOR RECREATION AND COMPATIBLE USES

STRATEGIES	ACTIONS
4.1 Continue to improve the trails network.	<ol style="list-style-type: none"> 1. Develop annual implementation plan(s) based on the LSCR Trails Strategic Plan 2. Assess and manage impacts to recreation prior to large scale projects and maintenance activities
4.2 Continue to improve visitor amenities and experiences.	<ol style="list-style-type: none"> 1. Build a multi-use watershed centre and surrounding amenities 2. Review and update the signage program for interpretation, wayfinding and information 3. Identify opportunities to improve recreational opportunities in conjunction with water utility projects 4. Explore options for adding Electric Vehicle charging stations 5. Adhere to identified management zones during the planning and development of new visitor facilities and recreation infrastructure
4.3 Provide for and manage increasing demand for visitor access and parking.	<ol style="list-style-type: none"> 1. Encourage alternative forms of transportation such as cycling, walking and public transit 2. Continue to work with North Shore land managers on capacity management strategies 3. Provide universal access to fishing at Rice Lake through mobility permit drive-in access and an all-abilities trail which allows for wheelchairs and strollers
4.4 Monitor recreation activities and visitor experience.	<ol style="list-style-type: none"> 1. Conduct public intercept surveys every five years to assess capacity 2. Continue to facilitate and improve the Trail Counter Program and annual reporting
4.5 Consider approving low-impact activities in the LSCR.	<ol style="list-style-type: none"> 1. Permit appropriate, low impact commercial and nonprofit activities that enhance visitor experience and provide benefits to the LSCR 2. Permit filming activities based on the Metro Vancouver Filming Policy that are aligned with LSCR Filming Guidelines



RECREATION USES

Recreation opportunities for all ages and abilities are available in the LSCR. The wide range of activities that take place include:

- Walking the Rice Lake Loop Trail
- Cycling the Seymour Valley Trailway
- Trail running on the Baden Powell Trail
- Gravel bike riding on Spur 4 and Fisherman’s Trail
- Beginner mountain biking on the Circuit 8 Trail
- Advanced mountain biking on CBC and Ned’s Atomic Dustbin trails
- Sub-alpine hiking the Dog Mountain Trail
- Horseback riding on the Richard Juryn Trail
- Picnicking at Rice Lake and Mid-Valley
- Canoeing and kayaking on the Seymour River
- Fishing for rainbow trout in Rice Lake
- Dog walking on Twin Bridges Trail

Implementation

Our management plan goals, objectives and strategies set sound management practices to continue to ensure the LSCR retains its purpose as a land reserve for water supply, while protecting ecological health and engaging the public through a variety of recreation, education, and stewardship opportunities. Implementation will take place with a balanced approach, considering the full range of environmental, social, and economic costs and benefits.

While many of the strategies are within current program budgets, some will require extra resourcing. In particular, operating costs for existing LSCR programs and amenities are likely to increase as recreation and education demands increase. Operational and significant capital project needs will be addressed through the annual budget review process.

Because priorities, information, and conditions are continually changing, the management plan will be reviewed on an annual basis while an update of the objectives and strategies will occur every five years to ensure it remains current. Reviews also serve as an opportunity to monitor implementation of the strategies and reflect on any gaps and new priorities that may arise.

