



Natural Areas Trails Strategy

Experiences, Ecosystems, Stewardship



September 2023

DRAFT



Executive Summary

The Natural Areas Trails Strategy was created to provide direction for planning and managing recreational trails in natural areas managed by the District of North Vancouver. While the Strategy focuses on Fromme, Lynn Canyon, and Seymour, it can also be applied more broadly to recreational natural area trails in the District.

As we developed the Strategy, we heard that the trails are well-loved by residents and visitors, and highly valued for providing access to various recreational opportunities in an unparalleled natural setting. We heard ecosystem health and the natural feel and character of trail areas were also highly valued by the community.

We heard there are opportunities for improvement, such as trailhead amenities, signs, trail quality and variety, and dog management.

In this document, the reader will find a vision statement, three goals and 25 actions. These actions are to be implemented over the next 10 years and work toward achieving the vision.

The Strategy was developed with input from trail users, residents, local community groups, partners, agencies, local First Nations governments, and staff. We thank everyone who participated in the process.

Goals

Experiences



Ecosystems



Stewardship



Actions

Short term actions identified for 2024-2026:

1. Develop a Seymour Area Trails Plan
2. Improve dog management on trails to mitigate impacts and improve shared use (e.g. develop dog management plan)
3. Identify opportunities for trailhead amenities to support trail user needs
4. Develop evaluation criteria to inform trail management recommendations for existing and potential trails (e.g. develop, manage, consolidate, reroute, close)
5. Develop and implement trail sign guidelines to improve consistency of design, information, and placement (e.g. wayfinding, etiquette, safety, preparedness)
6. Conduct a review and update existing trail difficulty level rating guidelines to help trail users choose trails suited to their abilities
7. Conduct a review and update existing trail classifications and standards to improve trail management and maintenance
8. Conduct a review and update the District's existing trail best management practices to incorporate the most recent industry practices and apply to a range of trail uses
9. Develop a communications plan to educate trail users and promote responsible recreation, shared stewardship, and ecological preservation



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Introduction

Purpose

The purpose of the Natural Areas Trails Strategy (Strategy) is to provide direction for planning and managing recreational trails across the District's natural areas. These trails are highly valued and well-loved by the community, as we heard in the initial survey. We also heard that most trail users are multi-users, visiting for several different recreation activities.

In recent years, resources for proactive trail maintenance and trail development have not kept up with increasing use as the population grows and more residents and visitors are seeking trails. The result includes:

- Deterioration in quality and experience of some trails
- Environmental degradation around trails such as trail widening, short-cutting, creating alternate routes (i.e. "trail braiding")
- Unauthorized trail building as users seek trail diversity and experiences not provided within the existing maintained trail network
- Perception that trails are being over-used

These challenges require a strategic and proactive management approach to ensure the trail network remains sustainable, provides a high-quality trail experience, and improves the natural environment. This Strategy sets the vision, goals, and actions to be carried out in a 10-year horizon.

The trail network plays an important role in providing recreation opportunities, connections with nature and each other, benefits to physical and mental health, community identity, and provides co-benefit with natural assets management. Recreational trails also provide opportunities for leisure, tourism, access to cultural areas and practices, and transportation links between communities.

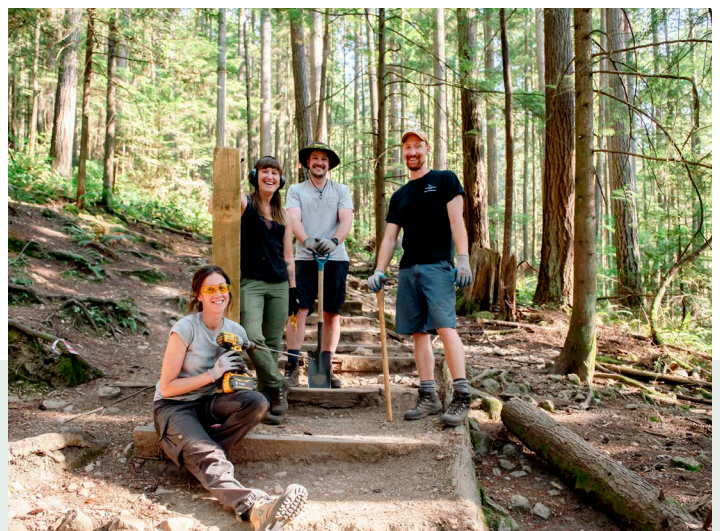
While the Strategy focuses on Fromme, Lynn Canyon, and Seymour, it can also be applied more broadly to recreational natural area trails in the District.

See Appendix A for more about trail benefits, trends, and ecosystem based recreation management.

Love our trails and parks?

Volunteer with us!

Learn more and sign up at [DNV.org](https://dnv.org)



Study Area

The study area (Figure 1) includes approximately 1,950 hectares¹ of land directly managed by the District of North Vancouver. It contains maintained and unmaintained trails in a generally forested, mountainous area within the Coastal Western Hemlock biogeoclimatic zone.

It is located within the ancestral and unceded lands of the original peoples of these lands and waters, specifically the xʷməθkʷəy̓əm (Musqueam), Skwxwú7mesh Úxwumixw (Squamish), and səliłwətał (Tsleil-Waututh). The study area has recreational, historical, and environmental significance to First Nations and the District, and the potential for cultural and spiritual significance to local First Nations. For history of the area, see Appendix A.

The study area is represented by three sub-areas:

- **Fromme** - areas of Fromme Mountain and some areas on Grouse Mountain
- **Lynn Canyon** - Lynn Canyon Park
- **Seymour** - areas known as Berkeley-Hyannis, Mountain Forest, Cove Forest, Darkside, and Indian Arm

The Fromme and Lynn Canyon areas have existing plans. The Seymour area doesn't yet have an area trails plan.

- Fromme Mountain Sustainable Trail Use and Classification Plan (2007)
- Lynn Canyon Park Management Plan (1994)

The Fromme and Lynn Canyon plans will continue to guide the planning and management of these areas until they are reviewed or updated (see Action Plan section).

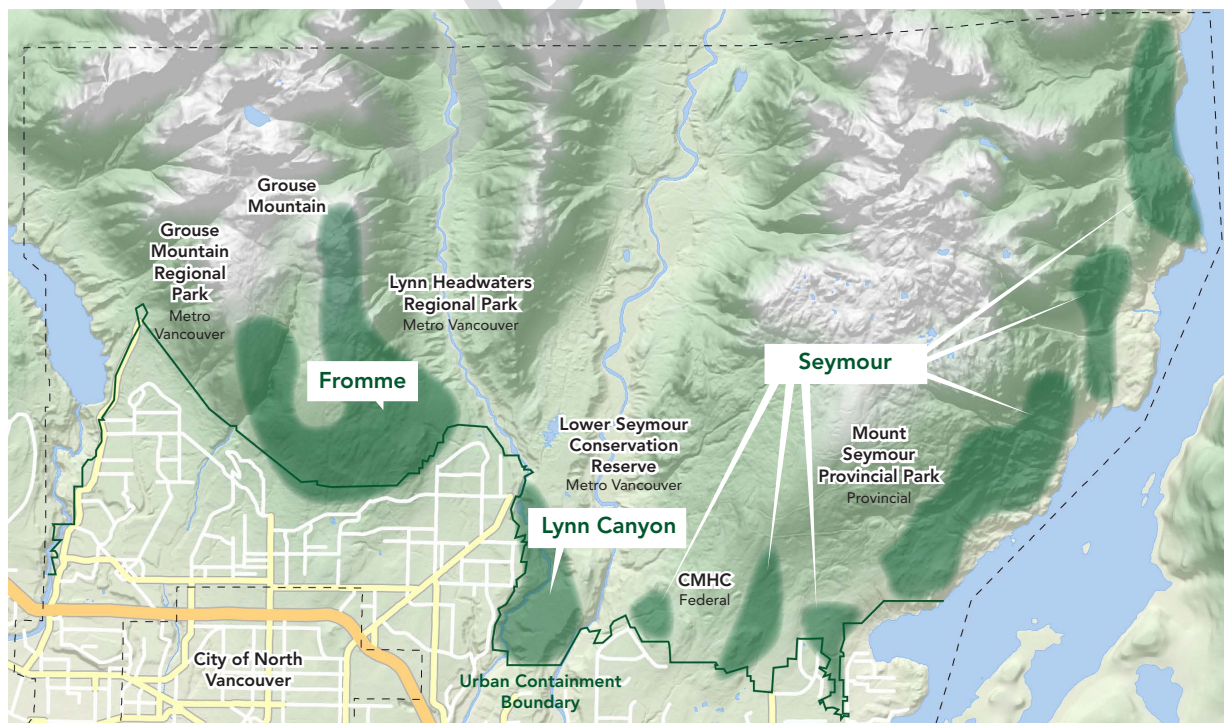


Figure 1: Study area

¹ District-owned parcels and adjacent rights-of-way above the Urban Containment Boundary and excluding the Indian Arm communities. If other land managers are included, the total area is approximately 12,235 hectares.

While the study area is the focus of this Strategy, its goals and actions may be applied to other natural areas in the District.

The study area encompasses natural areas for recreation and protection or conservation, and some wilderness areas that are more remote. The spectrum of parkland types is shown in Figure 2.

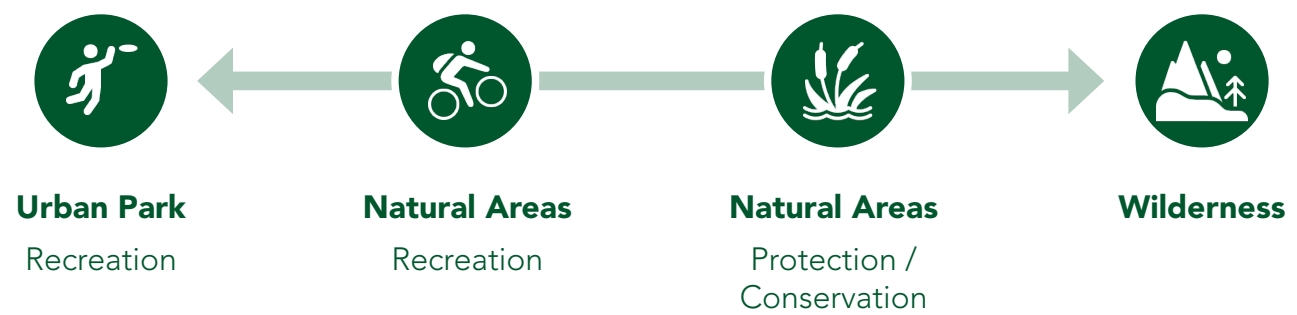


Figure 2: Spectrum of parkland types



Process & Engagement



Figure 3: Timeline for development of the Strategy.

Phase 1 Engagement

Over 1,900 respondents participated in the initial engagement. Input was shared through an online survey, an intercept survey, and stakeholder workshops.

In general, respondents said (in no particular order):

- Trail network is highly valued
- Most trail users visit for multiple recreation activities
- Most common trail activities include walking/ hiking, nature viewing, mountain biking, and dog walking

The following topics were most commonly cited for improvement (in no particular order):

- Dog management
- Amenities (waste bins, washrooms, parking)
- Signs (educational, directional)
- Trail quality (variety, maintenance)

For details, visit [DNV.org](https://dnv.org) for the Natural Areas Trails Strategy: Initial Engagement Summary Report (September 2022).

Phase 2 Engagement

Summary to be included following Engagement 2.

Policy Context

The Natural Areas Trails Strategy aligns with District plans, policies, and bylaws (Figure 4). See Appendix A for a list of District documents and Provincial and Federal legislation applicable to the Strategy and study area.

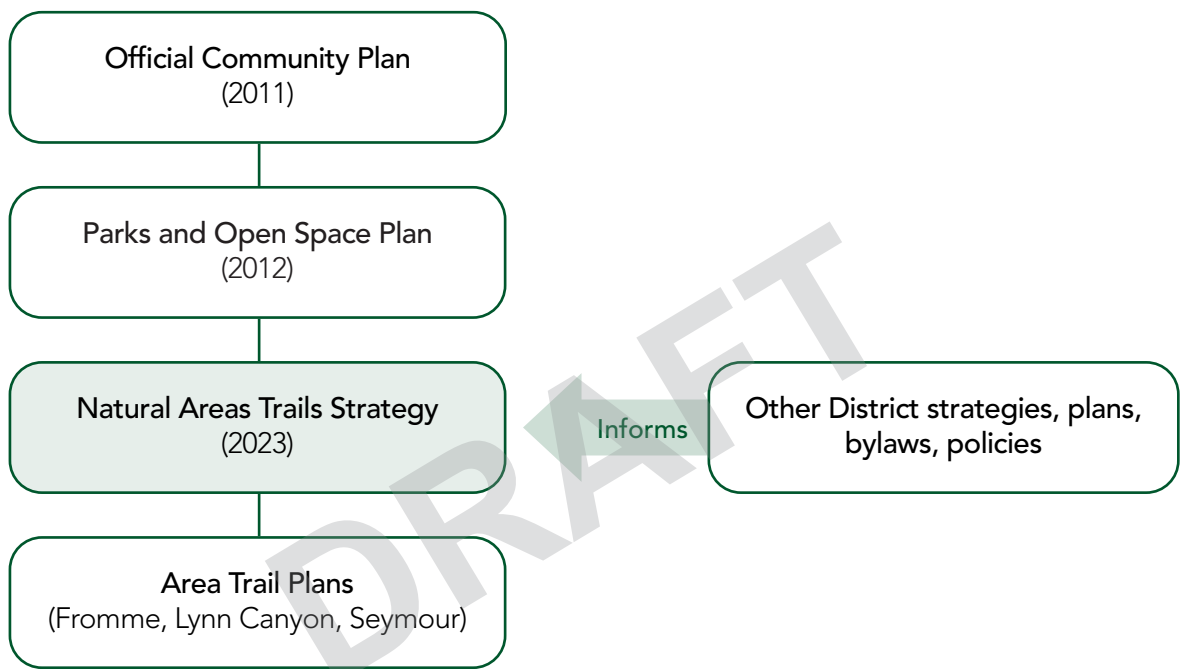


Figure 4: Natural Areas Trails Strategy in context with other District documents

Vision & Goals

Vision

Our natural areas and recreational trails are a model of sustainable recreational management, striking a balance of environmental protection and recreational access. There is a well-developed natural trail network where recreational use respects and supports ecosystems while providing access to nature for physical, social, cultural, and spiritual well-being.

This vision is informed by values expressed through community input during initial engagement in spring 2022, adapted from the vision of the Alpine Area Recreation Study (2005), aligns with the vision in the Parks and Open Space Strategy (2011), and supports the wider community vision in the Official Community Plan (2011).

A vision statement describes the desired future condition. It is aspirational and indicates the direction in which the District seeks to progress. The goals and actions in this Strategy support progress towards this vision.



Goals

The goals define the desired outcomes to be pursued within a 10-year plan time horizon. They were informed by key community values and aspirations expressed during initial engagement in spring 2022, which included public, stakeholder, and local First Nations governments, staff input and the Alpine Area Recreational Study (2005). These goals support the District's ongoing work in the natural areas (see Appendix B).

Experiences



Foster safe and enjoyable recreational experiences through ongoing and adaptive planning, development, and maintenance.

Focus on delivering great recreational trails experiences by planning ahead and proactively addressing issues experienced by trail users.

Ecosystems



Conserve and enhance ecosystems and habitat through optimized and strategic trail location planning, construction, maintenance, and restoration of surrounding areas.

Ensure that environmental considerations continue to be important factors in trails management to strike a balance of co-existence between opportunities for recreation and the preservation, protection, and restoration of the natural environment around trails.

Stewardship



Enhance our culture of shared stewardship to improve management and maintenance of the trail network, user satisfaction, and ecological conservation.

Expand the opportunities for volunteers and partnerships. Shared stewardship also offers to build community spirit, identity, and social cohesion.

Action Plan

Estimated timeframe for implementation:

- Short term: up to 3 years (2024-2026)
- Medium term: 3-5 years (2026-2028)
- Long term: 5-10 years (2028-2034)
- Ongoing: (2023+)



Goal 1: Experiences

Foster safe and enjoyable recreational experiences through ongoing and adaptive planning, development, and maintenance

The actions in Goal 1 are grouped by three themes

Theme 1

Develop or review area trail plans for Fromme, Lynn Canyon, and Seymour recreation areas to evaluate the existing trail network and identify opportunities for network optimization and ecosystem protection

Action	Timeframe
1.1 Develop a Seymour Area Trails Plan	Short term
1.2 Develop evaluation criteria to inform trail management recommendations for existing and potential trails (e.g. develop, manage, consolidate, reroute, close)	Short term
1.3 Conduct a review of the Fromme Mountain Sustainable Trail Use and Classification Plan (2007)	Medium term
1.4 Conduct a review of the trails network sections of the Lynn Canyon Park Management Plan (1994)	Long term

Developing Area Trails Plans

An area trail plan would encompass many of the actions in this strategy. Aspects that may be considered when developing a trail plan include, but are not limited to:

- Ecosystem analysis (Action 2.2)
- Signs (Action 3.5)
- Dog management (Action 1.6)
- Visitor use management framework²
- Trailhead amenities (Action 1.7)
- Trail classification and standards (Action 1.12)
- Trail difficulty level rating guidelines (Action 1.11)
- Trailhead amenities spectrum (Appendix C)
- Trail access transportation demand management
- Best management practices (Action 2.1)
- Evaluation criteria for existing and potential trails (Action 1.2)
- Other trail network planning considerations:
 - » Various trail lengths, routes, ability level, user types of that area
 - » User types by trail (e.g. shared multi-use, primary user, single use)
 - » Opportunities for recreational challenge and skills development
 - » Explore access opportunities for persons with disabilities, mobility aids, and strollers in areas of gentle terrain, where feasible, and in keeping with the natural character
 - » Opportunities for viewpoints and other interest points along trail routes or destinations
 - » Connections with existing or planned recreational trails of adjacent land managers
- Further opportunities for public engagement would occur during the development of area trail plans

2 Interagency Visitor Use Management Council, Visitor Use Management Framework, 2016.



Goal 1: Experiences

Foster safe and enjoyable recreational experiences through ongoing and adaptive planning, development, and maintenance

Theme 2

Improve and optimize how trail users access and share the trails to improve experience and decrease conflicts

Action		Timeframe
1.5	Develop and implement trail sign guidelines to improve consistency of design, information, and placement (e.g. wayfinding, etiquette, safety, preparedness)	Short term
1.6	Improve dog management on trails to mitigate impacts and improve shared use (e.g. develop dog management plan)	With Actions 1.1, 1.3, 1.4 & Ongoing
1.7	Identify opportunities for trailhead amenities to support trail user needs (see Appendix C)	With Actions 1.1, 1.3, 1.4 & Ongoing
1.8	Identify and reduce barriers to trail access where feasible resulting from physical, social, cultural, or other barriers to improve access for all trail uses	Ongoing
1.9	Improve trail information on the District website to support informed and safe trail recreation	Long term
1.10	Conduct a review of new emergent recreation trends (e.g. e-bikes) and develop guiding policy or regulations	Long term



Goal 1: Experiences

Foster safe and enjoyable recreational experiences through ongoing and adaptive planning, development, and maintenance

Theme 3

Develop and refine trail processes, programs, and policies to improve trails management

Action	Timeframe
1.11 Conduct a review and update existing trail difficulty level rating guidelines to help trail users choose trails suited to their abilities	Short term
1.12 Conduct a review and update existing trail classifications and standards to improve trail management and maintenance	Short term
1.13 Update community event policies and review event fees and charges to improve planning, management, and cost-recovery of events on trails	Medium term
1.14 Develop an ongoing trail user data collection program (e.g. trail counters) to track changes in trail use over time	Medium term
1.15 Develop asset management processes to inventory, inspect, and proactively maintain trail infrastructure	Ongoing
1.16 Continue to refine risk management processes to identify unintended risks on trails and reasonably manage these risks through proper trail planning, design, maintenance, management, signs, and communication	Ongoing



Goal 2: Ecosystems

Conserve and enhance ecosystems and habitat through optimized and strategic trail location planning, construction, maintenance, and restoration of surrounding areas

Action		Timeframe
2.1	Conduct a review and update the District's existing trail best management practices to incorporate the most recent industry practices and apply to a range of trail uses	Short term
2.2	Complete or update ecological analyses of the Fromme, Lynn Canyon, and Seymour areas to inform Area Trail Plans and identify opportunities for ecosystem protection and restoration	With Actions 1.1, 1.3, 1.4
2.3	Proactively restore the ecosystem around trails to maintain and enhance the natural character of the trail network and the valuable ecosystem services provided by these areas	Ongoing
2.4	Undertake proactive trail construction and maintenance to prevent unintended impacts to the natural environment (caused by trail widening, short-cutting, and unauthorized trail building)	Ongoing



Goal 3: Stewardship

Enhance our culture of shared stewardship to improve management and maintenance of the trail network, user satisfaction, and ecological conservation

Action		Timeframe
3.1	Develop a communications plan to educate trail users and promote responsible recreation, shared stewardship, and ecological preservation	Short term
3.2	Continue to build relationships with local First Nations to advance and support integration of Indigenous traditional knowledge, culture, ecology, and public education	Ongoing
3.3	Expand volunteer programs and community partnerships to increase community stewardship (e.g. trail adoption, maintenance agreements, trail ambassador, school programs)	Ongoing
3.4	Continue to build relationships with other North Shore natural area recreation land managers to improve consistency on trails that cross multiple jurisdictions	Ongoing
3.5	Increase education and awareness using signs, social media, District website, and other means to minimize recreation impacts on ecology and wildlife	Ongoing



Implementation & Monitoring

Implementation

Implementation will be completed by the District directly and through partnerships with other organizations and members of the community.

Actions requiring additional resources from the District will be implemented through the District's budgeting and financial planning process.

There are a range of resource options available:

- Local government revenue (e.g. taxes, Development Cost Charges, Community Amenity Contributions, permit, and licensing fees)
- Partnerships with local organizations
- In-kind volunteer labour
- User fees (e.g. trail event fees, user fees such as pay parking or trail passes)
- Grants from other levels of government
- Donations and fundraising



Implementation Guiding Principles

Guiding principles are values that help frame decision-making and how actions are implemented in the journey towards achieving the vision statement.

These guiding principles are informed by values expressed through community input during initial engagement in spring 2022, adapted from the guiding principles of the Alpine Area Recreation Study (2005), and support the guiding principles of the Parks and Open Space Strategy (2012).

1. Environmental Sustainability

Preserve and enhance the natural resources and ecosystems that sustain the enjoyment of recreation access today and for future generations.

2. Collaboration

Collective efforts through shared stewardship, partnerships, cooperation, volunteerism, stakeholder input, and knowledge-sharing are necessary to stewarding the vast natural and recreational assets.

3. Risk Management

Support informed recreation opportunities with varying levels of intended challenge for skills development, risky play³, and delight of recreational trail users.

4. Shared Use

Acknowledging the multiple recreational uses that share these natural areas, support a variety of trail user experiences, encourage courteous interactions in shared spaces, and promote stewardship by all trail users.

5. Adaptive Management

Through learning, monitoring, evaluation, and innovation, pursue knowledge-based adaptive management as trends, experiences, and outcomes change over time.

6. Resourcing

Align budgets and resources to reliably support the recreational and environmental services in natural areas through proactive maintenance and asset management.

3 Risky play is defined as “thrilling and exciting play that can include the possibility of physical injury. Types of risky play include play at height, speed, near dangerous elements (e.g., water, fire), with dangerous tools, rough and tumble play (e.g., play fighting), and where there is the potential for disappearing or getting lost” in Tremblay, M., et al. (2015, June 8). Position Statement on Active Outdoor Play. Faculty Research and Publications. Multidisciplinary Digital Publishing Institute.

Monitoring

Monitoring Approaches

There are two main approaches to monitoring progress:

1. Output Tracking

This approach reports on the status of the actions (accomplished, underway, and planned for the near term). For this Strategy, it is recommended this monitoring occurs at the 5-year and 10-year mark of implementation.

2. Outcome Tracking

This approach uses indicators. For this Strategy, it is recommended this monitoring occurs at the 10-year mark of implementation.

Indicators & Targets

Indicators are measures that track performance and signal whether implementation of the Strategy is having the desired impact and effect. The following tables outline potential indicators and targets, which may be modified or added to during implementation of the plan as needs change, data availability changes, or both. Targets are desired or aspirational objectives to work toward.





User satisfaction indicators were selected from the Natural Areas Trails Strategy Initial Engagement Online Survey (2022). Only the indicators where over 50% of respondents said the item was important or very important were included. The desired target level for user satisfaction indicators was determined by setting a high target (80%+) for indicators related to the environment and trail user safety (including wayfinding, quality, etc.), and a fairly high target (75%+) for indicators related to trail experience.





Goal 1: Experiences




Foster safe and enjoyable recreational experiences through ongoing and adaptive planning, development, and maintenance

Potential Indicator	Desired Direction / Target	Baseline	Baseline Source
Average physical condition rating of maintained natural area trails	Average of "B" (Good) or higher, and zero trails rated "F" (Very poor)	Establish baseline and incorporate in Parks Asset Management Plan	-
Trail user level of satisfaction with trail safety	 Improve. Aim for 80%+ satisfied / very satisfied	68% satisfied / very satisfied	Natural Areas Trails Strategy Initial Engagement Online Survey (2022)
Trail user level of satisfaction with trail route signage	 Improve. Aim for 80%+ satisfied / very satisfied	66% satisfied / very satisfied	
Trail user level of satisfaction with trail quality	 Maintain. Aim for 80%+ satisfied / very satisfied	85% satisfied / very satisfied	
Trail user level of satisfaction with natural feel and character	 Maintain. Aim for 80%+ satisfied / very satisfied	82% satisfied / very satisfied	



Goal 1: Experiences




Foster safe and enjoyable recreational experiences through ongoing and adaptive planning, development, and maintenance

Potential Indicator	Desired Direction / Target	Baseline	Baseline Source
Trail user level of satisfaction with amenities at trailheads	 <p>Improve. Aim for 75%+ satisfied / very satisfied</p>	56% satisfied / very satisfied	Natural Areas Trails Strategy Initial Engagement Online Survey (2022)
Trail user level of satisfaction with dog management on trails	 <p>Improve. Aim for 75%+ satisfied / very satisfied</p>	36% satisfied / very satisfied	
Trail user level of satisfaction with trail variety	 <p>Maintain. Aim for 75%+ satisfied / very satisfied</p>	78% satisfied / very satisfied	



Goal 2: Ecosystems



Conserve and enhance ecosystems and habitat through optimized and strategic trail location planning, construction, maintenance, and restoration of surrounding areas

Potential Indicator	Desired Direction / Target	Baseline	Baseline Source
Condition rating assessment to support ecological values	 Improve from baseline	Fromme: Refer to condition ratings in Table 3 of the Fromme Mountain Trail Environmental Assessment (2015)	Fromme Mountain Trail Environmental Assessment (2015) by Diamond Head Consulting Ltd.
		Lynn Canyon: not available. Establish baseline	-
		Seymour: not available. Establish baseline	-
Trail user level of satisfaction with ecosystem health and protection of environment	 Improve. Aim for 80%+ satisfied / very satisfied	72% satisfied / very satisfied	Natural Areas Trails Strategy Initial Engagement Online Survey (2022)
Trail user level of satisfaction with natural feel and character	 Maintain. Aim for 80%+ satisfied / very satisfied	82% satisfied / very satisfied	



Goal 3: Stewardship

Enhance our culture of shared stewardship to improve management and maintenance of the trail network, user satisfaction, and ecological conservation

Potential Indicator	Desired Direction / Target	Baseline	Baseline Source
Proportion of trail users who do stewardship activities	 Improve. Improve from baseline	Fromme: 10%	Natural Areas Trails Strategy Initial Engagement Online Survey (2022)
		Lynn Canyon: 2%	
		Seymour: 7%	
Number of volunteer hours	 Improve. Improve from baseline	120 hours at District-led public volunteer events in study area 3,711 North Shore Mountain Bike Association volunteer hours	2022 reporting
Qualitative examples of building relationships with local First Nations about natural areas and/or natural area recreational trails	Document during Strategy implementation		



Appendix A

Context & Background

Area History

First Nations peoples have lived on the North Shore since time immemorial, and have continuing cultural, spiritual, and physical connections to the land. Natural materials such as cedar trees and animals, particularly salmon, provide sustenance and feature in cultural practices and spiritual teachings passed down by elders.

Non-Indigenous settlers harvested timber from the mid-late 1800s. Fromme Mountain (previously called Dome Mountain) was logged until the 1960s. The Capilano River, Seymour River, and Lynn Creek became water sources for growing North Shore and Vancouver settlements in the 1880s to 1900s.

Recreational use grew along with the settler population of the North Shore and Vancouver area. Attractions included Lynn Canyon Suspension Bridge (1912) and mountain peaks. Mountaineers began building recreational cabins on Grouse Mountain and Mount Seymour in the early 1900s. Recreational uses over time have included mountaineering, hiking, horseback riding, skiing, dirt biking (no longer active or permitted); in the 1980s, mountain biking started. The North Shore natural areas continue to be used for recreation, conservation, Indigenous cultural uses, and fresh water sources for the region.



Benefits

The District's natural areas trail network is a valued asset within the community for a variety of reasons.

The following benefits of recreation trails are outlined in the provincial trails strategy and are also relevant to the District's Natural Areas Trails Strategy.⁴

When a trail system is well-maintained, benefits to trail users and ecosystems include: limiting off-trail impacts with well-defined trails, reducing rogue trail building with a variety of trail types and levels of difficulty, reducing trail widening with sufficient drainage and maintenance, reducing significant maintenance needs with regular upkeep (e.g. trail washout due to poor drainage), and more.

1. Environment

Environmental awareness and stewardship of the environment. Environmental benefits of natural areas include heat and carbon dioxide absorption by trees, freshwater sources, and water filtration and retention.

2. Health & Fitness

Improved health and physical well-being. Trails provide opportunities for physical fitness, such as cardiovascular, strength, and physical literacy.⁵

3. Community & Social

Enhanced quality of life and social opportunities. Spending time on trails can be a social activity with recreation groups and events, friends, family, or a place to make new social connections.

4. Educational

Opportunities to experience and learn about nature, culture and history.

5. Heritage & Cultural

Recognition and respect for the local Indigenous Nations and their ancestral lands, and cultural and historical values.

6. Economic

Enhanced property values, tourism revenues and business investment. A 2020 Canadian study found that trail users support local businesses; on the North Shore over \$12 million was attributed to mountain biking visitor spending in 2016.⁶

7. Transportation

Use of trails as commuting connections between communities replaces trips by personal vehicles (reduced greenhouse gas emissions and health benefits).

⁴ Government of British Columbia, Trails Strategy for British Columbia (2013).

⁵ Sport for Life, <sportforlife.ca/physical-literacy> Accessed January 5, 2023. Physical literacy is the physical competence, confidence, and motivation to be active for life.

⁶ Western Canada Mountain Bike Tourism Association (2017). Mountain Biking Economic Impact Study – North Shore.

Trends

The following key trends for trails and outdoor recreation areas show a local, regional, provincial, and national perspective of access, value, and preferences.

1. Increasing Visitation

In the region, the number of visits to trails and parks has increased over time with an average 4% annual growth rate.⁷ The key drivers are a growing North Shore and regional population coupled with continuing desire for active lifestyles and connection with nature. These trends are common across the province.⁸

2. Recreation Demand from the COVID-19 Pandemic

During the COVID-19 pandemic, there was a jump in the number of visits and perceived value of outdoor recreation spaces. For example, at Metro Vancouver Regional Parks, there was a 38% increase in park visits in 2020; in 2022 park visits decreased but have not returned to pre-pandemic levels.⁹

3. Changing Demographics

Seniors (ages 65 and over) are the fastest growing age cohort in the District, increasing 12% between 2016 and 2021.¹⁰ This is a similar trend across the province, and it is projected to continue. The senior population is predicted to rise 63% in BC between 2020 and 2041.¹¹ In terms of age and trail use, a 2020 national survey shows that young adults are most likely to use trails

(88% ages 18-34), while trail use remains important for older adults as well (78% ages 35-54, and 63% ages 55 and over).¹²

4. Activity Preferences

Across the province, there is increasing popularity and volume for hiking and walking, mountain biking and cycling, and horseback riding; some areas of the province have seen increasing motorized trail use.¹³ A 2020 national trail use survey show that Canadians access trails for exercise, to be outdoors, to enjoy nature, for relaxation, and mental wellness.¹⁴ In the District, trail activities reported by online survey respondents during the initial engagement generally align with these provincial and national trends.

5. Amenity Preferences

National research shows amenities to support outdoor recreation include, for example, washrooms, sufficient parking, signage, trail maintenance and upgrading, and parks interpreters.¹⁵ A 2020 national survey shows trails users want clearer information on the trails and online, to be posted.¹⁶ In the District, trailhead amenity preferences reported by online survey respondents during the initial engagement generally align with these national trends.

7 Metro Vancouver (2023). Regional Parks Annual Report 2022.

8 Government of British Columbia (2013). Trails Strategy for British Columbia.

9 Metro Vancouver (2022). Regional Parks Annual Report 2021. Metro Vancouver (2023). Regional Parks Annual Report 2022.

10 Census 2016, Census 2021.

11 Province of BC (2020). PEOPLE 2020: BC Sub-Provincial Population Projections.

12 Trans Canada Trail (2020). Trail Use An Integral Part of Canadians' Lifestyles, Survey Find.

13 Government of British Columbia (2013). Trails Strategy for British Columbia.

14 Trans Canada Trail (2020). Trail Use An Integral Part of Canadians' Lifestyles, Survey Find. <tctrail.ca/news/trail-use-national-survey-utilisation-sentiers-sondage-national> Accessed Feb. 1, 2023.

15 Canadian Parks and Recreation Association (2021). RelImagine RREC: Changing Consumer Preferences, Expectations and Behaviours.

16 Trans Canada Trail (2020). Trail Use An Integral Part of Canadians' Lifestyles, Survey Find. <tctrail.ca/news/trail-use-national-survey-utilisation-sentiers-sondage-national> Accessed Feb. 1, 2023.

Ecosystem Based Recreation Management

Recreation management is the process to manage and achieve desired resource conditions and visitor experiences.¹⁷ Any recreation activity causes some impact; the key is to determine the acceptable amount of impact or change. As the land manager, the District's role is to balance two objectives: provide recreational access for public enjoyment while protecting nature from associated impacts.

The District uses an ecosystem based sustainable planning framework, which was established in the District's Alpine Recreational Strategic Study (2005). An ecosystem based approach recognizes the importance of protecting sensitive areas and maintaining ecological integrity when planning and managing recreational access. Ensuring the enduring quality of the natural environment has inherent value and is part of the area's recreational value.



17 Interagency Visitor Use Management Council (2016). Visitor Use Management Framework.

Municipal Plans & Policy

The Natural Areas Trails Strategy aligns with the following District plans, corporate policies, and bylaws.

- Official Community Plan (2011), including environmental and hazard Development Permit Areas
- Official Community Plan Action Plan (2021), including the two implementing lenses on social equity and climate change
- Financial Plan 2021-2025
- Corporate Plan 2019-2022
- Parks and Open Space Strategy (2012)
- Park Regulation Bylaw 8310
- Alpine Recreational Strategic Study (2005)
- Fromme Mountain Trails Environmental Assessment (2015)
- Fromme Mountain Sustainable Trail Use and Classification Plan (2007)
- Fromme Mountain Area Ecosystem Analysis (2004)
- Fromme Mountain Unauthorized Trail and Construction in Mountain or Park Areas Corporate Policy (2003)
- Lynn Canyon Park Management Plan (1994)
- Baden Powell Trail Management Study (1996)
- Forest Health Implementation Strategy (in development)
- Dog Tax and Regulation Bylaw 5981
- People, Dogs and Parks Strategic Plan (in development)
- Invasive Plant Management Strategy (2015)
- Climate Change Adaptation Strategy (2017)
- Biodiversity Strategy (in development)
- Community Events in Parks and Public Open Spaces Corporate Policy (2001)
- Bear Hazard Assessment (2006, 2021)

Provincial & Federal Legislation

The legislation listed below includes applicable provincial and federal legislation.

- BC Heritage Conservation Act
- BC Integrated Pest Management Act
- BC Occupiers Liability Act
- BC Riparian Areas Protection Regulation
- BC Water Sustainability Act
- BC Weed Control Act
- BC Wildlife Act
- Federal Fisheries Act
- Federal Migratory Birds Convention Act
- Federal Species at Risk Act and the Canada-BC Agreement on Species at Risk (2005)

Appendix B

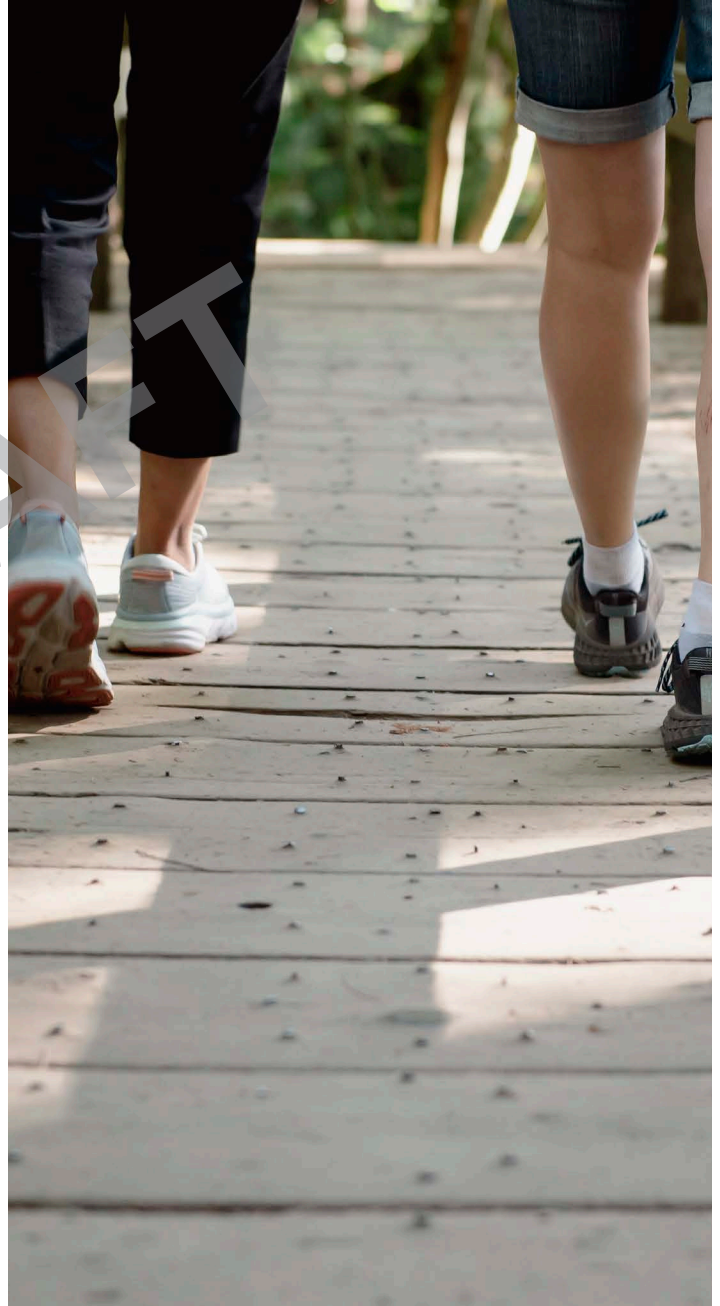
Current & Ongoing Work to Support the Goals

This appendix documents examples of current and ongoing work by the District that aligns with the goals in this strategy.



Goal 1: Experiences

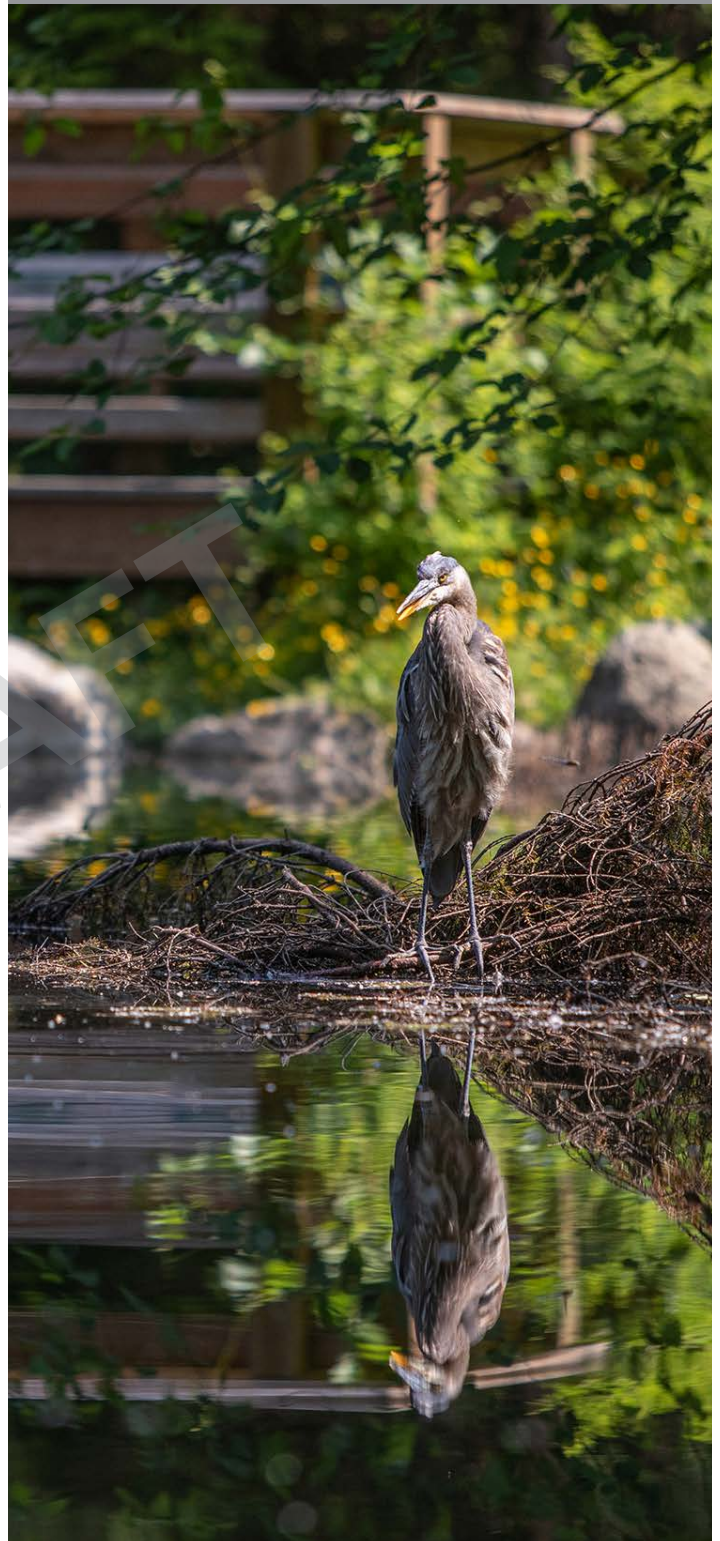
- Maintaining trail surfaces, built infrastructure, trailhead amenities
- Improving preparedness signage
- Maintaining trail markers
- Monitoring dog waste bin use to locate and add bins to capture the highest use locations for a cost-effective program, and adding bins as needed
- Developing a People, Dogs and Parks Strategic Plan (Parks Department)





Goal 2: Ecosystems

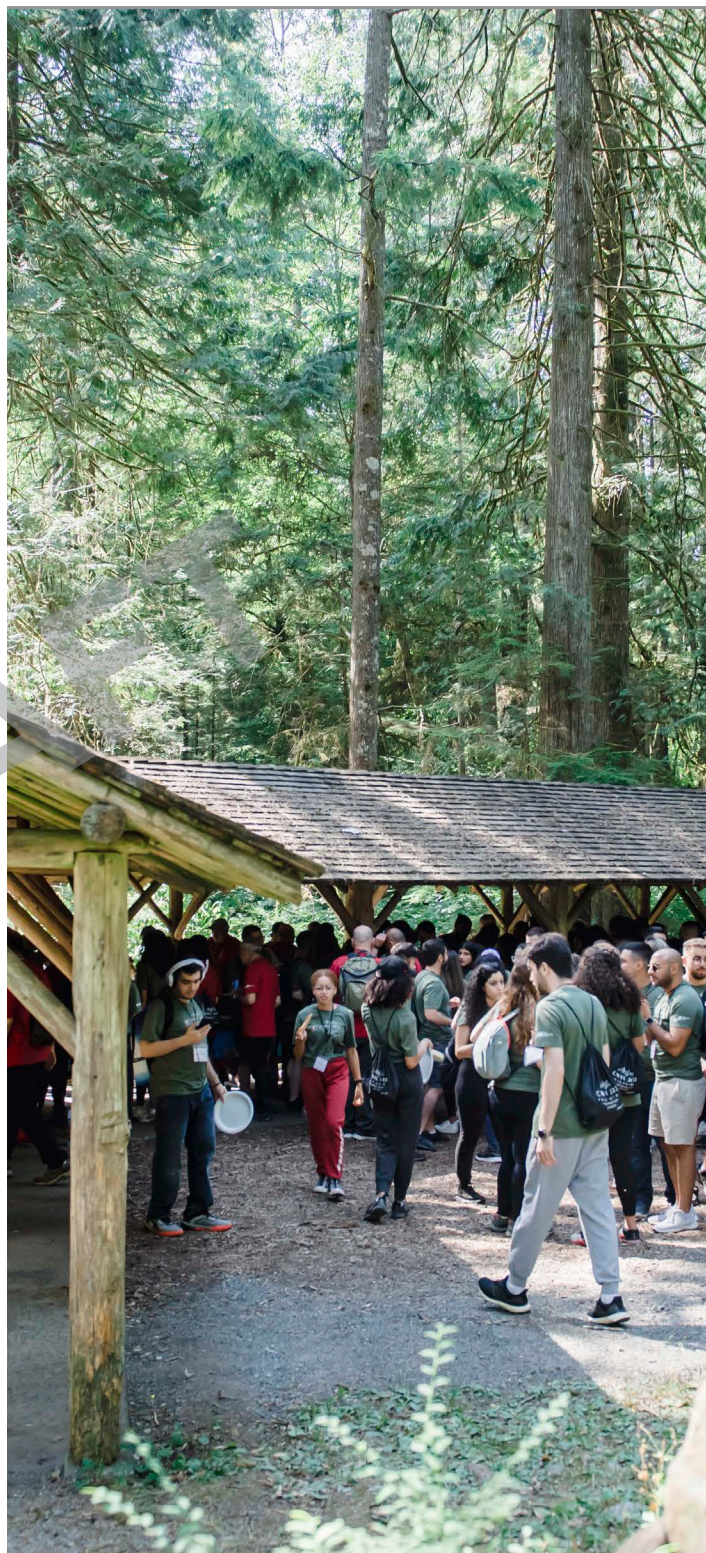
- Building and maintaining footbridges and boardwalks in sensitive environmental areas, such as around streams, creeks, and wetlands
- Prioritizing riparian fencing along busy trails and leash-optional dog walking trails
- Maintaining trail path material and drainage to prevent trail widening (e.g. walking around puddles)
- Planting native species to restore areas impacted by off-trail activity; using riparian fencing where needed to support re-vegetation, and removing fencing when re-vegetated areas are established
- Organizing and supporting volunteer events to remove invasive plant species, litter pick up, and native plant species planting
- The Ecology Centre provides nature interpretation displays, classes, and activities for individuals and groups for an average of 88,000 visitors annually
- Park Rangers host pop-up nature interpretation and outdoor etiquette education
- Posting educational signs to encourage trail users and dogs to stay out of riparian areas
- Posting temporary wildlife sighting signs (e.g. bear, cougar, coyote)
- Posting permanent coyote warning signs
- Partnering with the North Shore Black Bear Society for public education and awareness about wildlife safety
- Partnering with the North Shore Mountain Bike Association on restoration around trails, including planting native species and invasive plant removal
- Developing a Forest Health Implementation Strategy (Parks Department)
- Developing a Biodiversity Strategy (Climate Action, Natural Systems, and Biodiversity Department)





Goal 3: Stewardship

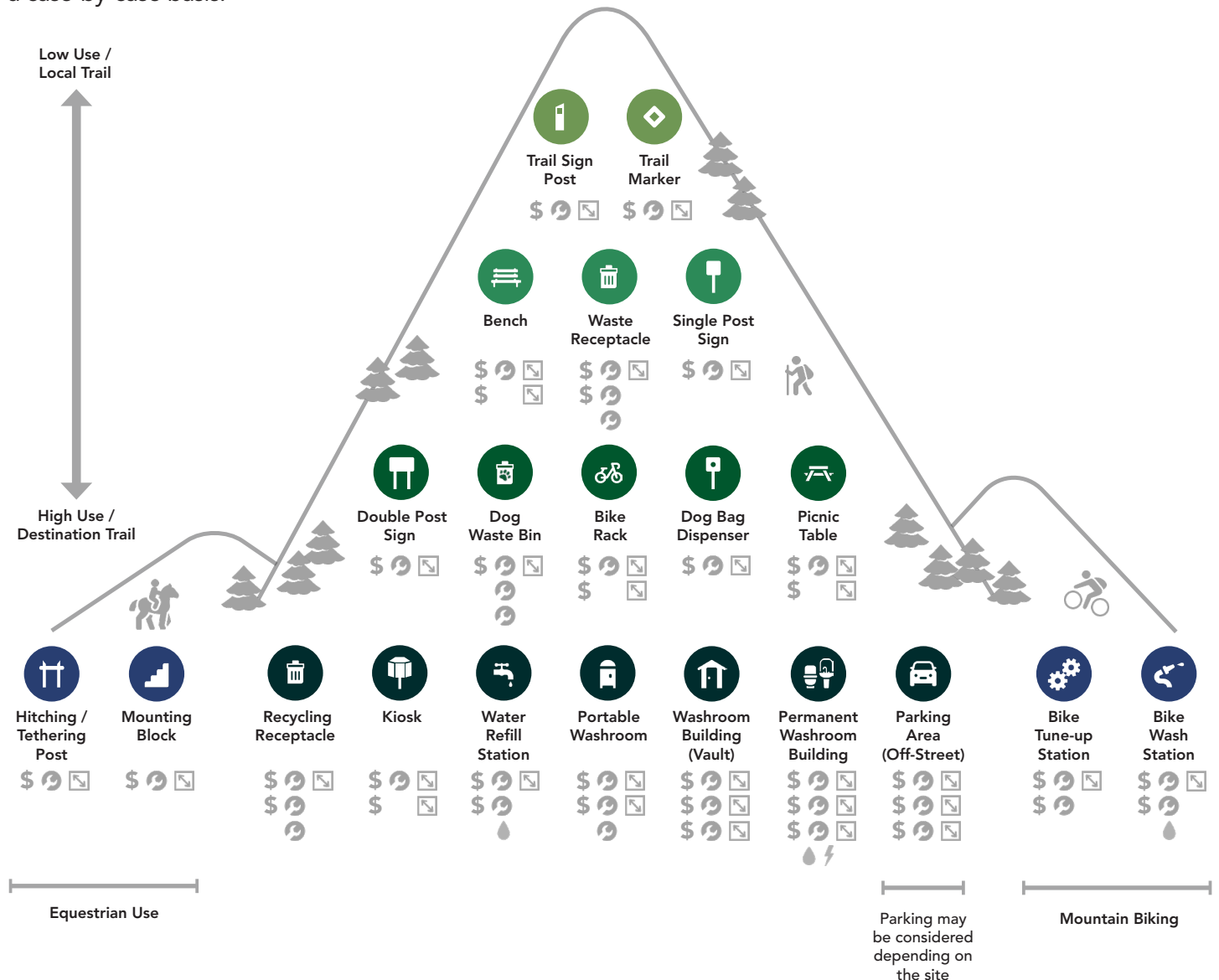
- The səlilwətał (Tsleil-Waututh Nation) and District's joint Relationship Protocol Agreement (2023), which includes agreement to work together on topics such as parks planning, management, and community recreation; environmental stewardship and climate action; and protection and promotion of culture and heritage
- Trail maintenance agreement with the North Shore Mountain Bike Association that leverages volunteer efforts to upkeep trails
- District-led volunteer events open to the public. Activities include invasive species removal, litter clean-up, native plant species planting, and trail maintenance (District of North Vancouver Natural Parkland Volunteer Team group on Meetup.com)
- District-supported volunteer trail events (administered through North Vancouver Recreation and Culture Commission)
- The Ecology Centre offers park clean-up volunteer opportunities at Lynn Canyon Park



Appendix C

Potential Spectrum of Trailhead Amenities

The following diagram shows the potential spectrum of trailhead amenities that may be considered during development of Area Trail Plans or in response to trailhead needs. These amenities may or may not be appropriate to every location, and site assessment would be required. Other special trailhead amenities may be considered on a case-by-case basis.



Legend:

Cost:	Maintenance Requirements:	Space Requirements:	Utilities Required:
Low → High	Low → High	Low → High	Water Electricity
\$ → \$\$\$\$	☞ → ☞☞☞	☞ → ☞☞☞	☞ → ☞☞☞

Appendix D

Acknowledgments

The Parks Department appreciates the public agencies, community partners, and adjacent land managers that contribute to maintaining the safety and environmental sustainability of natural area recreational trails and ecosystems in the study area.

Public Agencies

- **North Vancouver Recreation and Culture Commission (NVRCC):** Manages park use permits for events and commercial activities other than commercial dog walking with the District, such as sport courses and day camps in the natural areas and recreational trails. The NVRCC also provides outdoor recreational facilities and amenities planning.
- **District of North Vancouver Fire and Rescue Services:** Provides first responder services.
- **North Shore Emergency Management:** Coordinates emergency management for the three North Shore municipalities.
- **RCMP:** Provides municipal policing services.

Key Community Partners

- **North Shore Rescue:** Provides search and rescue services.
- **District of North Vancouver Parks and Natural Environment Advisory Committee:** Provides a community perspective on parks and environmental issues.
- **District of North Vancouver Climate Action Committee:** Provides a community perspective on climate action, biodiversity and ecosystem health.
- **North Shore Mountain Bike Association:** Provides contractual and volunteer trail maintenance; in 2022, NSMBA contributed 3,711 volunteer hours.
- **North Shore Black Bear Society:** Provides education to North Shore residents about wildlife including bears, cougars, coyotes, and wolves, and tracks reported bear sightings.
- **Wild Safe BC:** Has partnered with the District on conducting bear hazard assessments.

There are many other community, recreation, and environmental organizations and individuals who contribute hundreds of volunteer hours every year for trail maintenance, planting native plant species, invasive species removal, and litter clean-up. In 2022, 120 hours were contributed at District-led public volunteer events within the study area.

The District liaises with recreational land managers adjacent to the study area, including Metro Vancouver, Lower Seymour Conservation Reserve, Recreation Sites and Trails BC, BC Parks, and Grouse Mountain (refer to Study Area section).



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