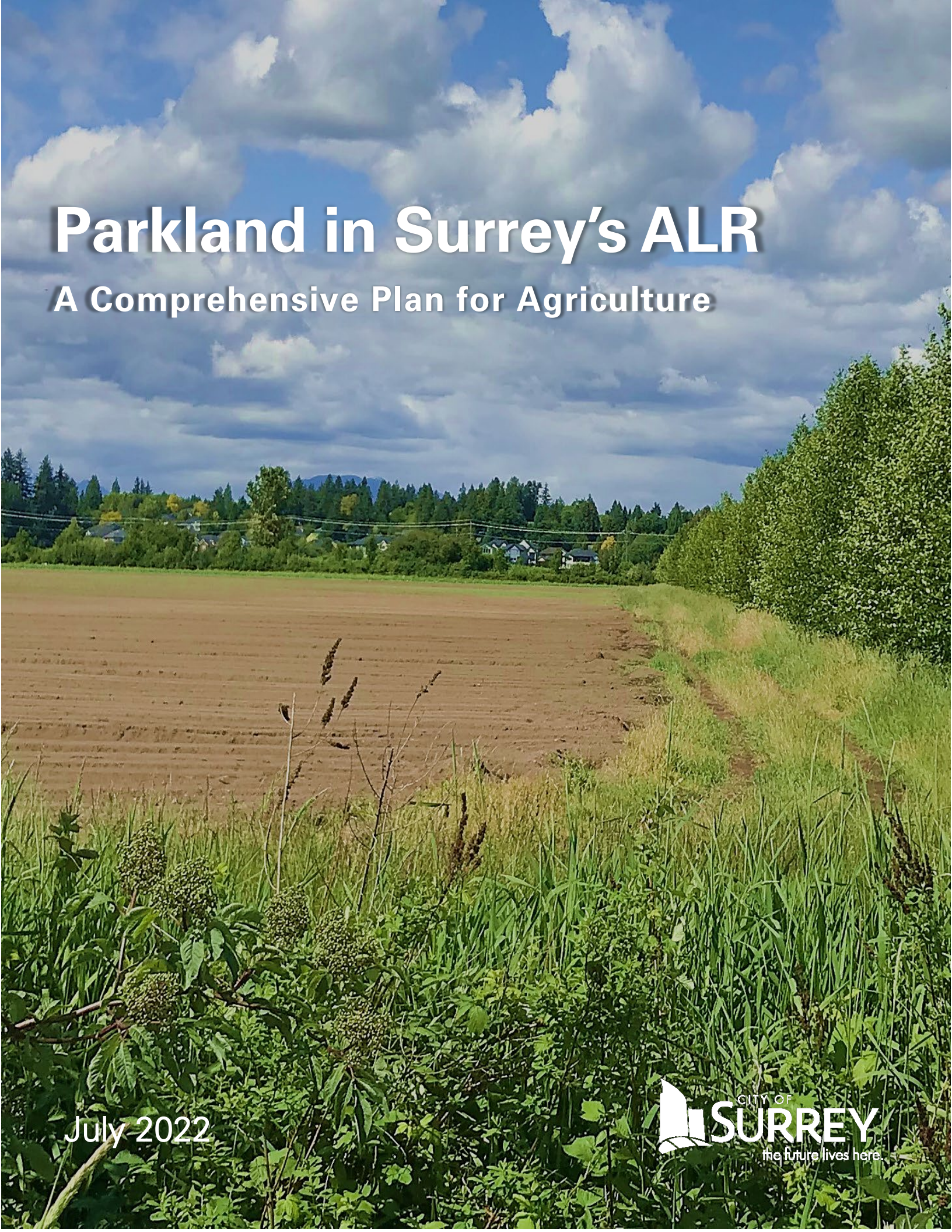

Parkland in Surrey's ALR

A Comprehensive Plan for Agriculture

July 2022

CITY OF SURREY
the future lives here.

Acknowledgments

This project was led by Upland Agricultural Consulting Ltd in collaboration with City of Surrey staff. The project team would like to thank the numerous farmers and other key stakeholders for their input.

This project was developed for the City of Surrey which sits on the ancestral, traditional and unceded territories of the SEMYOME (Semiahmoo), q̓ic̓əy̓ (Katzie), kʷikʷəƛ̓əm (Kwikwetlem), qʷɑ:nƛ̓ən̓ (Kwantlen), qiqéyt (Qayqayt), xʷməθkʷəy̓əm (Musqueam) and sc̓əwaθən məsteyəxʷ (Tsawwassen) First Nations.

Cover Photo: Mound Farm Park shelterbelt and farm field.

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Table of Contents

Table of Tables

Table of Figures

Definitions

Agricultural Lands	For the purposes of this report, the term 'agricultural lands' denotes lands within the Agricultural Land Reserve (ALR) in the City of Surrey.
Ecosystems	Ecosystems are the dynamic complex of plant, animal, and micro-organism communities and their non-living environment interacting as a functional unit.[1]
Ecosystem Services	Ecosystem services are the many ways that humans benefit from and depend on healthy functioning ecosystems. This dependency extends from essential support for life (e.g., because ecosystems produce oxygen and food) to security (e.g., by mitigating extreme weather events) and quality of life (e.g., by supporting psychological well-being).[2]
Healthy Ecosystems	Ecosystems that have the ability to maintain their plant and animal structure and functions (e.g. nutrient cycling, water cycling, etc.) over time in the face of stressors.[3]
Regenerative Agriculture	Regenerative agriculture is a holistic land management practice that holds the potential of reversing climate change by rebuilding soil organic matter and restoring degraded soil biodiversity resulting in carbon drawdown and improvement of the water cycle.[4] Regenerative agriculture practices (i) contribute to generating/building soils and soil fertility and health; (ii) increase water percolation, water retention, and clean and safe water runoff; (iii) increase biodiversity and ecosystem health and resiliency; and (iv) invert the carbon emissions through carbon sequestration. Practices include no-till/minimum tillage, application of cover crops, crop rotations, compost, and animal manures, which restore the plant/soil microbiome to promote liberation, transfer, and cycling of essential soil nutrients, and well-managed grazing practices.[5]

[1] Convention on Biological Diversity. n.d. Article 2. Terms of Use: https://www.cbd.int/convention/articles/?a=cbd-02
[2] Value of Nature to Canadians Study Taskforce. 2017. Completing and Using Ecosystem Service Assessment for Decision-Making: An Interdisciplinary Toolkit for Managers and Analysts. Ottawa, ON: Federal, Provincial, and Territorial Governments of Canada.
[3] Costanza, R., & Mageau, M. 1999. What is a healthy ecosystem?. Aquatic ecology, 33(1), 105-115.
[4] Metro Vancouver. 2022. Draft Agriculture Climate 2050 Roadmap.
[5] Regeneration International. 2017. What is Regenerative Agriculture?

Acronyms

ALR	Agricultural Land Reserve
BCS	Biodiversity Conservation Strategy
BMPs	Beneficial Management Practices
City	City of Surrey
GHG	Greenhouse Gases
GIN	Green Infrastructure Network
Ha	Hectares
KPU	Kwantlen Polytechnic University
OCP	Official Community Plan
UBC	University of British Columbia

Executive Summary

Surrey is a diverse and growing city with a strong agricultural community and is unique in having several parks within the Agricultural Land Reserve (ALR). It is one of British Columbia's fastest growing cities, putting development pressures on agricultural lands and increasing demands for parks and green spaces for recreation and conservation. Currently, City of Surrey ("City") parks are managed on a site-by-site basis for agricultural activities, through individual park management plans, with no overarching policies guiding land use. This project fills that gap by producing a plan with a set of recommendations for managing parks in the ALR as well as broader recommendations for agricultural planning and the integration of ecosystem services. In creating the plan, this project also examines the role that farming activities within parks play in the agricultural economy, in creating educational and recreational opportunities, and connecting the dots between natural areas, ecosystems services and tangible benefits to agricultural productivity, soil health and water conservation.

Four key activities were conducted to arrive at the recommendations within this plan:

1. A focused background and literature review of key City planning and policy documents.
2. Site-specific analyses, including mapping, were completed for each of the 18 parks in the ALR to determine their existing and potential contribution to the local agricultural economy and food production as well as opportunities for integrating the protection of ecosystem services.
3. A walking tour was conducted on six of the park sites in May 2022, to ground-truth draft report findings.
4. Engagement was conducted with farmers, provincial and regional government staff and City staff across many departments. Outreach to Kwantlen First Nation, Katzie First Nation and Semiahmoo First Nation occurred at the beginning of the project to inform the Nations of the project's objectives and invite them to become involved if desired. A meeting was held with Kwantlen First Nation in May to discuss the project further.

Currently, three parks have active agricultural production, Mound Farm Park (40 hectares), Sullivan Park (2.6 hectares) and Colebrook Park (1.5 hectares), where crops such as carrots, potatoes corn, squash and hay are grown. With approximately 42 ha of vegetables under production this translates to an estimated range of $315,000 - $460,000 of gross revenues per year derived from agriculture in Surrey parks and approximately 40 part-time seasonal jobs. The level of contribution to the local agricultural economy from farming in parks varies depending on what crop is grown each year and the weather conditions of the year, which has a direct impact on yields.

The characteristics of the 18 parks were analyzed for their agricultural and food production potential as well as opportunities for enhancing ecosystem services and integrating beneficial management practices from the approach of regenerative agriculture. The criteria used to assess the parks for these objectives included primary and planned uses of the park, current land cover and size, adjacent land uses, potential for provision of ecosystem services, soil types, agricultural capability classes, water and infrastructure availability and flooding risk.

The parks were sorted based on whether opportunities were rated high, moderate, or low:

- High opportunity parks are those where agricultural production is currently occurring and/or where agricultural production is one of the primary and planned uses. The importance of protecting ecosystems services is also paramount at these sites.
    - Four Parks Identified: Mound Farm Park, Sullivan Park, Colebrook Park, Campbell Heights Biodiversity Preserve.
- Moderate opportunity parks are those where agricultural production is not a primary use of the park, but have opportunity for some agricultural activities, such as educational programs and food gleaning from existing orchards. Ecosystem services play an important role at these sites.
    - Two Parks Identified: Godwin Farm Biodiversity Preserve, Elgin Heritage Park – Historic Stewart Farm
- Low opportunity parks are those where agricultural production is limited due to biophysical characteristics, such as invasive species, risk of flooding, other conflicting uses and small size. Although the agricultural potential is low, these parks still provide valuable ecosystem services to nearby agricultural lands and Surrey residents.
    - Twelve Parks Identified: Hi-Knoll Park, Surrey Lake, Port Kells Park, Charles Richardson Nature Reserve, The Glades, Mud Bay Park, Nicomekl Riverfront Park and several small Greenbelt and Neighbourhood Parks.

As a result of the analysis for each park and engagement throughout the project, the following sixteen general and park-specific recommendations have been developed. An implementation strategy is included which outlines the timeline for implementation, funding needs and relevant City departments (e.g., Parks, Engineering, Planning, etc.), as well as external actors. The majority of these recommendations align with objectives in several existing City Policies and Plans, such as the Official Community Plan and the Biodiversity Conservation Strategy.

1. Improve Capacity for Agricultural Objectives: A dedicated Agricultural Planner position, similar to those in the Township of Langley and City of Richmond, would help to ensure that communication and collaboration is more effectively coordinated between City departments and staff.
2. Expand Opportunities for Indigenous Food Systems and Sovereignty within Parks: Continue to explore partnerships with Indigenous communities, whose traditional lands overlap with the City, to identify opportunities for food sovereignty and public education regarding traditional food and medicinal plant cultivation and harvesting practices.
3. Consider a New Parks Category for Parks supporting Active Farming: Initiate internal discussions around the pros and cons of establishing a new category of park (e.g., "Farm Park") for parks with active agricultural production.
4. Continue Leasing Parkland in the ALR and Review Land Tenure Agreements Prior to Terms Expiring: Review current agricultural land tenure agreements in City parks as existing terms near expiration, to ensure that they are meeting objectives around agricultural production, biodiversity, and protection of ecosystem services.
5. Increase Communication and Collaboration with Farming Tenants, and Landowners Adjacent to Parks: Develop a formalized communications process between the City farming tenants, and landowners adjacent to parks around environmental and engineering maintenance activities in parks and work with producers to collaboratively implement BMPs and regulated requirements for agricultural activities occurring around

watercourses, species at risk, critical habitat or other environmentally sensitive features within the parks.

6. Foster Partnerships with Academic Institutions and Local Food Security Organizations: Partner with academic institutions (e.g. UBC, KPU) to measure and monitor ecosystem services provided by healthy ecosystems in parkland and regenerative agricultural practices. Support local food security organizations to bring educational opportunities to parks related to food production and sustainability.
7. Update OCP Policies to Support Agriculture in Parks: During the next OCP update, include the following themes and policies: "Continue to support agricultural production on parkland within the ALR through park planning and long term tenure agreements with producers" and "Support the restoration and maintenance of ecosystem services on parkland within agricultural lands."
8. Comply with the ALC Act and Regulations: Ensure that activities occurring on the ALR within parks are following the ALC Act and regulations.
9. Manage Parkland for Healthy Ecosystems: Continue to manage invasive species in parks and maintain healthy, endemic plant communities to optimize ecosystem services. Ensure collaboration with agricultural tenants on management and planning actions.
10. Continue Cross-jurisdictional Collaborations: Continue to have City staff participate in cross-jurisdictional initiatives to learn and share best practices on developing ecosystem services on farmland.
11. Mound Farm Park and Sullivan Park: Continue to use portions of Mound Farm Park and Sullivan Park for agricultural production. In the next round of land tenure agreements, the City may wish to stipulate that food crops must be prioritized for cultivation over non-food crops such as forage, hay, and/or silage, and include specific requirements around regenerative agricultural practices (e.g. cover cropping over winter).
12. Colebrook Park: Establish a formal land use agreement for managing the active agriculture area at Colebrook Park, which is currently lacking, or investigate opportunities for establishing a lease for food production or other permitted uses.
13. Campbell Heights Biodiversity Preserve: Partner with a non-profit organization, an educational institution, and/or Indigenous communities to pursue an incubator farm program.
14. Godwin Farm Biodiversity Preserve: Continue to follow the Management Plan recommendations for the City to maintain and enhance fruit trees and berry patches. Partner with local food security organizations and Indigenous communities for fruit gleaning and wild food cultivation and harvesting opportunities.
15. Elgin Heritage Park – Historic Stewart Farm: Examine budgetary needs required to help staff maintain existing garden and orchard so that it does not fall into disrepair. Continue to support food related educational opportunities and events at the park and the agricultural history within the guided tours.
16. Surrey Lake and Port Kells Parks: Investigate the possibility of partnerships and development around Indigenous food systems and production and/or developing community gardens if demand is present and facilitate partnerships with community groups to manage the garden.

1.0 Introduction

Amidst a rapidly changing climate and increasing urban pressures, understanding the socio-economic and environmental value of agricultural land, is becoming increasingly important. This includes agricultural lands managed within municipal park systems. Policy makers across all levels of government recognize there are multiple benefits to society for supporting initiatives that intersect agricultural, environmental and parkland objectives. In particular, there is a focus on finding solutions to maintain farm viability while incorporating approaches, such as regenerative agricultural that support climate change adaption and mitigation, and improve ecosystem services that among other benefits, conserve biodiversity and contribute to maintaining air and water quality. In recent years it has become apparent to the City of Surrey (the "City") that there are significant opportunities for managing its parks for these objectives as it is one of British Columbia's fastest growing cities, putting development pressures and increasing demands for multiple uses on parks and agricultural lands.

Currently, agricultural activities in the City's parks are managed on a site-by-site basis, through individual park management plans, with no overarching policies guiding agricultural land use. This project is intended to fill that gap through a suite of recommendations for managing agricultural land within Surrey parks. In creating the plan, this project examines the role that farming activities within parks play in the agricultural economy, in creating educational and recreational opportunities, and in connecting the dots between natural areas, ecosystems services and tangible benefits to agricultural productivity, soil health and water conservation.

Surrey has a strong agricultural community and is unique in having several parks within the Agricultural Land Reserve (ALR). Surrey's ALR covers 9,230 hectares (ha), nearly 30% of the City. Surrey's parkland covers 3,200 ha, of which 13% (~419 ha) is in the ALR (Figure 2, next page) representing 18 individual parks. Approximately 45 ha (11%) of ALR parkland is being actively farmed, with production focused at Mound Farm Park, Sullivan Park, and Colebrook Park.

Figure 1 Squash growing at Mound Farm Park.

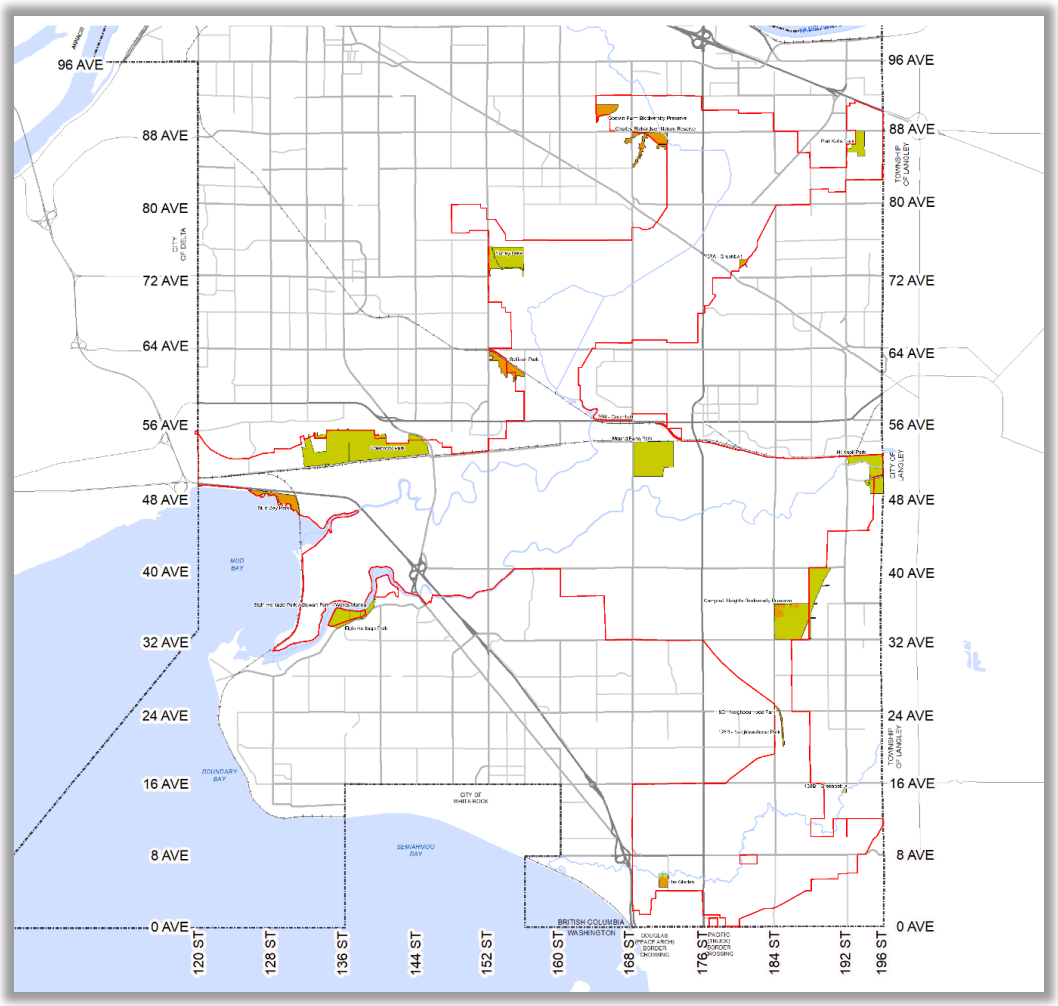

Figure 2. City of Surrey Parks in the ALR. Red line is the ALR boundary, Parks in green are part of the Biodiversity Conservation Strategy's Green Infrastructure Network.

1.1 Indigenous Food Sovereignty

The City of Surrey is situated on the ancestral, traditional and unceded territories of the SEMYOME (Semiahmoo), qʔic'əy̓ (Katzie), kʷikʷəƛ̓əm (Kwikwetlem), qʷɑ:nƛ̓ən̓ (Kwantlen), qiqéyt (Qayqayt), xʷməθkʷəy̓əm (Musqueam) and sc̓əwaθən məsteyəxʷ (Tsawwassen) First Nations. These nations have lived in the area for thousands of years, working with natural systems to shape the land and food systems. Indigenous stewardship of the land through food and medicine cultivation systems innately encompasses Western concepts like ecosystem services and conservation and aligns closely with regenerative agricultural practices to conserve ecological integrity.

Through the displacement of Indigenous communities over the last 200+ hundred years in BC and Surrey, food sovereignty for these communities has been greatly diminished. Food sovereignty is "the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and

agriculture systems[6]," and Indigenous food sovereignty is "a specific policy approach to addressing the underlying issues impacting Indigenous peoples and their ability to respond to their own needs for healthy, culturally adapted Indigenous foods.[7]" There are four key principles that guide Indigenous food sovereignty, as articulated by the Working Group on Indigenous Food Sovereignty:

1. Sacred or divine sovereignty – Food is a gift from the Creator; in this respect the right to food is sacred and cannot be constrained or recalled by colonial laws, policies and institutions. Indigenous food sovereignty is fundamentally achieved by upholding our sacred responsibility to nurture healthy, interdependent relationships with the land, plants and animals that provide us with our food.
2. Participatory – Indigenous food sovereignty is fundamentally based on "action", or the day to day practice of maintaining cultural harvesting strategies. To maintain Indigenous food sovereignty as a living reality for both present and future generations, continued participation in cultural harvesting strategies at all of the individual, family, community and regional levels is key.
3. Self-determination- The ability to respond to our own needs for healthy, culturally adapted Indigenous foods. The ability to make decisions over the amount and quality of food we hunt, fish, gather, grow and eat. Freedom from dependence on grocery stores or corporately controlled food production, distribution and consumption in industrialized economies.
4. Policy - Indigenous food sovereignty attempts to reconcile Indigenous food and cultural values with colonial laws and policies and mainstream economic activities. Indigenous food sovereignty thereby provides a restorative framework for policy reform in forestry, fisheries, rangeland, environmental conservation, health, agriculture, and rural and community development.

Figure 3 Wapato, a plant traditionally harvested for its tubers. Source: Wapato Harvest

[6] Declaration of Nyéléni. 2007. Food and Agriculture Organization of the United Nations.
[7] Indigenous Food Sovereignty. n.d. Working Group on Indigenous Food Sovereignty, Indigenous Food Systems Network.

2.0 Project Objectives and Methodology

The overall intent of this project is to assess the value and benefits of existing agricultural uses on parkland in the ALR and determine the feasibility of expanding agricultural activities to increase food production while providing other benefits such as educational opportunities and supporting ecosystem services.

Objectives:

- To assess existing agricultural activities of parkland in the ALR to determine which parks are being farmed, which are not, and why, and which have future potential for food production.
- To work with Surrey's agricultural community to identify key priorities and actions to enhance the growth and vitality of the agriculture sector on public lands.
- To identify partnership opportunities and resources to support and implement farm practices and activities on public lands that protect and conserve surface and ground water quality and quantity, air and soil quality.
- To uncover how Surrey's parkland can play a role in supporting and implementing agriculture and ecological objectives within the City's statutory and non-statutory plans and policies.

Key activities:

1. A focused background and literature review including: Relevant planning and policy documents and reports from the City and Metro Vancouver, and Initiatives being undertaken by non-governmental organizations and community groups was completed. This review provided the knowledge to inform the policy alignment with the existing statutory and non-statutory plans and policies within the City and the Region for the plan's recommendations.
2. Site-specific analyses were completed to determine the potential of agricultural opportunities on parkland. Existing and potential contribution of parkland in the ALR to the local agricultural economy and food production was assessed as well as opportunities for integrating the protection of ecosystem services and natural assets.
3. Mapping helped inform the opportunities, constraints, and limitations regarding the potential expansion of agricultural activities within the City's parkland while meeting soil and water conservation goals, protection of ecosystem services, elevating community values, and acknowledging the City's capacity.
4. Site visits of six of the park sites, were conducted in May 2022 to ground-truth draft report findings.
5. Engagement was conducted throughout the project, with farmers, provincial and regional government staff and City staff from multiple departments. Interviews, small group meetings and formal committee meetings were conducted to inform the recommendations within the plan.

Outreach to Kwantlen First Nation, Katzie First Nation and Semiahmoo First Nation occurred at the beginning of the project to inform the Nations of the project's objectives and seek opportunities for engagement. Semiahmoo and Katzie First Nation did not provide a response. A meeting was held with Kwantlen First Nation in May 2022 to discuss the project, but due to

capacity constraints, they were unable to participate in the project further. The City remains committed to continued outreach and engagement with First Nations around partnerships within parks, including follow-up to share this report upon completion of this project. See Section 5 for further actions. An investment should also be made to engage with the Nations and organizations like Kwantlen Polytechnic University (Institute for Sustainable Food Systems) to explore opportunities for knowledge sharing, ecological preservation and policy changes around reducing chemical use, and capacity development to support Indigenous food systems and sovereignty.

3.0 Agriculture, Parks and Ecosystem Services: The Policy Landscape

All levels of government are recognizing the importance of finding solutions to maintain farm viability while incorporating beneficial management practices (BMPs); in particular, those practices which contribute to climate change adaptation and mitigation and improve ecosystem services. Ecosystem services are the many ways that humans benefit from, and depend upon, healthy functioning ecosystems. This includes the production of oxygen and food, buffering against extreme weather events, enhancing biodiversity and soil health, all of which contribute to improving our quality of life.[8]

Examples from various levels of government where ecosystem services are being supported and promoted in agriculture:

- Federal: The Guelph Statement, released in November of 2021, outlines a vision to 2028 for guiding the next agricultural policy framework, with a focus on sustainable agriculture and includes a priority for agriculture to "prepare for and respond to a changing climate by supporting BMPs…and protect and regenerate soil, water and air quality, and improve biodiversity and protect sensitive habitats".[9]
- Provincial: One of the Ministry of Agriculture and Food's objectives is to support regenerative agriculture to help increase farm profitability and employment opportunities, strengthen the provincial food system, improve environmental sustainability and reduce GHG emissions.[10]
- Regional: Metro Vancouver has recognized the current role and future potential of agricultural lands in providing ecosystem services to the region.[11] Three key Metro Vancouver documents are the *Ecological Health Framework* (2018), the *Climate 2050 draft Agricultural Roadmap* (2021), and the *Draft Metro 2050 Regional Growth Strategy* (2021). The policy directions and recommendations support regenerative agricultural practices and the multi-functional role of agricultural lands in providing ecosystem services.[12]

[8] Value of Nature to Canadians Study Taskforce. (2017). Completing and Using Ecosystem Service Assessment for Decision-Making: An Interdisciplinary Toolkit for Managers and Analysts. Ottawa, ON: Federal, Provincial, and Territorial Governments of Canada.
[9] The Guelph Statement. 2022. Government of Canada
[10] Ministry Service Plan 2022-2025. BC Ministry of Agriculture and Food.
[11] Agriculture Discussion Paper to support Climate 2050 and the Clean Air Plan. 2020. Metro Vancouver.
[12] Policy Review Summary, Agriculture. n.d. Metro Vancouver.

- Municipal: Official Community Plans (OCPs), agricultural planning documents, and biodiversity strategies, include statements of support and recommendations for agricultural practices to promote ecosystem health (See Appendix C for examples). As the City manages over 400 ha of parkland in the ALR, there are opportunities to implement policies that support agricultural practices and healthy ecosystems that benefit both farm viability and the environment objectives as well as other park management objectives such as educational opportunities.

3.1 City of Surrey Parkland Objectives

The *Parks, Recreation and Culture Strategic Plan* and the *Biodiversity Conservation Strategy* are two primary guiding documents that outline the goals and objectives for City parkland. The *Parks, Recreation and Culture Strategy* has five overarching themes that support the vision of a "healthy, green, inclusive community:

1. High quality parks and facilities for all.
2. Engaged and healthy community.
3. Vibrant and creative city.
4. Leader in environmental stewardship.
5. Effective management of resources.

Objectives for parkland include access for recreational activities, fostering environmental stewardship and nature connectedness as well as increasing opportunities to learn about and experience agriculture. The *Biodiversity Conservation Strategy* (BCS) recognizes Surrey's biodiversity as a key foundation of a healthy, livable and sustainable community, and the role that parkland and agriculture can play in stewarding ecosystem services. The objective for agricultural areas in the BCS is to "enhance biodiversity on ALR through habitat protection and enhancement and sustainable agricultural practices."[13] There are 16 recommendations including the following:

- Work with local farmers and conservationists to find ways to improve stewardship on agricultural land.
- Encourage farmers to establish and protect riparian buffers on agricultural land that consider flood return levels.
- Work with the farm community to sustainably manage temporal and geographic distribution of fallow fields to support biodiversity, particularly migratory birds.

The BCS also guides the management of the Green Infrastructure Network (GIN) in Surrey. The GIN is a system of interconnected natural areas, green corridors and open space that are necessary to maintain biodiversity values across the City, including agricultural lands. The GIN was designed with three core principles in mind:

1. Preserving large core habitat areas ("Hubs").
2. Ensuring connectivity between habitat areas ("Corridors").
3. Providing a diversity of habitat features throughout the City ("Sites").

[13] Biodiversity Conservation Strategy Recommendations Tables. Accessed 2022. City of Surrey.

Parks within the ALR intersect with the GIN Hubs, Corridors and Sites. The City has also developed Biodiversity Design Guidelines which outline BMPs for agriculture to support biodiversity and ecosystem services.[14] In addition to the BCS, there are many other City statutory and non-statutory plans and policies that link agriculture, parks and ecosystem services, such as the OCP, the Sustainability Charter, and the *Agriculture Enhancement and Protection Strategy*. Additional plans and examples can be found in Appendix D. As noted, the City has multiple objectives for the use of parkland and there may be instances where some uses conflict with one another. Strategies like the BCS, and recommendations from this project will help contribute to determining the most appropriate use(s) of parkland and provide options for mitigating conflicting uses.

3.2 Ecosystem Services and Regenerative Agriculture in the City's ALR Parks

Parks within Surrey's ALR support ecosystems such as forests, hedgerows, shelterbelts, old fields, wetlands and riparian areas. Healthy, intact ecosystems in parks provide numerous benefits to nearby agricultural operations, the broader community and the region (Table 1).

Table 1 Examples of the benefits of ecosystem services provided to agricultural production and society.[15]

Ecosystem Service	Benefits to Agricultural Production and Society
Water Quality	○ Riparian buffer areas filter water and reduce nutrient loading which improves water quality and can provide cleaner surface and ground water for irrigation, livestock watering or residential or commercial use. ○ Riparian buffer areas contribute to healthy watercourses and fish habitat.
Water Quantity	○ Vegetation within riparian areas filters and slows water, which allows for greater infiltration as water moves over and through the soil. ○ Healthy wetlands and riparian areas improve flood control by storing and slowly releasing water over time which can increase water availability during dry months. ○ Stored water helps to recharge groundwater which can increase and prolong water availability for crops and irrigation.
Soil Development	○ Healthy agricultural fields and riparian areas provide stable root systems, helping to retain and build soils through increased biomass decomposition.
Carbon Storage	○ Intact ecosystems with a diversity of trees, shrubs and herbaceous vegetation draw carbon dioxide out of the air, storing it in plant biomass above and below ground, improving soil carbon values.

[14] Biodiversity Design Guidelines. 2021. City of Surrey.

[15] Sources include: Del Meidinger, Josephine Clark, & David Adamoski. (2014). Metro Vancouver. Sensitive Ecosystem Inventory, Technical Report.; Felipe-Lucia, M. R., Soliveres, S., Penone, C., Manning, P., van der Plas, F., Boch, S., ... & Allan, E. (2018). Multiple forest attributes underpin the supply of multiple ecosystem services. Nature communications, 9(1), 1-11.;Gallay, I., Olah, B., Gallayová, Z., & Lepeška, T. (2021). Monetary Valuation of Flood Protection Ecosystem Service Based on Hydrological Modelling and Avoided Damage Costs. An Example from the Čierny Hron River Basin, Slovakia. Water, 13(2), 198. BC Government. (nd). Riparian Areas.; Perry, L. G., Reynolds, L. V., Beechie, T. J., Collins, M. J., & Shafroth, P. B. (2015). Incorporating climate change projections into riparian restoration planning and design. Ecohydrology, 8(5), 863-879.; Mike Pearson, David Zehnder, & DG Blair. (2018). The Stewardship Centre for British Columbia. Lands Near Water, Riparian Restoration & Enhancement.; Riis, T., Kelly-Quinn, M., Aguiar, F. C., Manolaki, P., Bruno, D., Bejarano, M. D., ... & Dufour, S. (2020). Global overview of ecosystem services provided by riparian vegetation. BioScience, 70(6), 501-514.

Erosion Control	○ Trees and shrubs on agricultural lands hold soils with their root systems and reduce erosion, dust, nutrient loading and sediment transport into the receiving environment from wind, rain and flooding events.
Habitat & Biodiversity	○ Beneficial insects such as lady bugs, ground beetles, parasitoid wasps, syrphid flies and native bees, as well as insectivorous birds, raptors and bats provide pollination and natural biological controls that reduce pest impacts and increase crop yields. ○ Trees and shrubs can provide shade for livestock and can protect crops from strong winds and heat stress. ○ Riparian areas and wetlands provide important habitat for many wildlife species, increasing animal and plant biodiversity. Connected ecosystem areas allow fish, birds, mammals, amphibians and other species to move through the landscape.
Pollination	○ Diverse natural habitats provide for a greater diversity of native pollinators, increasing crop yields
Health, Recreation & Economy	○ Recreational and wildlife viewing opportunities are created in natural spaces. ○ Increased opportunities for education and stewardship activities. ○ Increased aesthetic values and stress reduction benefits from access to agricultural and natural landscapes.

In some instances, the protection of ecosystem services can generate negative impacts to agricultural productivity . For example, reduction in planting area to accommodate buffers; pest damage from increased insect populations; increased grazing pressure from herbivores; and beaver impacts.[16] Overall the benefits of healthy ecosystems to the public, the region and agricultural lands outweigh these impacts.

Parks with agricultural lands present a unique opportunity to support food security while enhancing ecosystem services. As climate change continues to increase the frequency and intensity of drought and flooding events in the region, healthy ecosystems and regenerative agriculture practices help reduce some of the negative impacts from these events. Several BMPs are highlighted in the BC Environmental Farm Plan program and the City's Biodiversity Design Guidelines. Appendix C provides examples of specific BMPs.

Figure 4 Fisheries compensation habitat adjacent to agricultural fields in Mound Farm Park.

[16] Agriculture and Ecological Services: Recommendations for Support Programming in British Columbia. 2015. George W. Powell.

3.3 Examples of Agriculture in Parks across Metro Vancouver Municipalities

There are several examples of programs and initiatives located on municipal-owned lands across Metro Vancouver that combine the objectives of supporting farm and agricultural viability, fostering ecosystem services and a healthy environment, and providing recreational and educational opportunities (Table 2).

Table 2 Examples of agricultural activities on parkland and municipal land in the Lower Mainland.

Park/Project Name	Government	Description
Garden City Lands	City of Richmond	Kwantlen Polytechnic University's (KPU) Sustainable Agriculture Farm Program operates a farm on a leased 2.7 ha portion of the Garden City Lands. Activities include growing crops in a sustainably managed greenhouse and several hoop houses and cultivating an intensive market garden. A significant portion of fields are under cover crop to nourish the soil and promote beneficial insect populations.
Loutet Farm	City of North Vancouver	The 0.2 ha farm is run as a partnership between the North Shore Neighbourhood House, the City of North Vancouver and the University of British Columbia (UBC). Employing underutilized public parkland provided by the City of North Vancouver, Loutet Farm operates as an urban farm within a residential area. The farm provides opportunities for the community to learn about food systems, become involved in local food production and to have greater access to locally grown produce. Funds generated through the sale of the produce are directed back into the operations of the farm while creating valuable green-collar jobs for north shore residents.
Sharing Farm	City of Richmond	Terra Nova Park is home to the Sharing Farm (where produce is grown for the Food Bank) demonstration gardens, and a community garden, run by the Sharing Farm Society. The farm is managed by a small number of staff and volunteers, and supported by the City of Richmond, corporate sponsors and other non-profit organizations.
Tsawwassen First Nation Farm School	Tsawwassen First Nation	The Tsawwassen First Nation Farm School is a partnership between KPU and the Tsawwassen First Nation and is an immersion into integrated vegetable and livestock farming. The program incorporates a diversity of topics centered around regenerative agriculture including an Indigenous food systems perspective. The farm sells its products through various Vancouver Farmers Markets, restaurants and a 100+ member produce box program.

4.0 Parkland Assessment: Current and Potential Agricultural Production

An analysis of City parkland in the ALR was completed to understand the opportunities for increasing agricultural production and activities, and the contribution of parkland in the ALR for supporting ecosystem services and natural assets. The assessment was completed through a mapping exercise, site visits and discussions with City staff, farm tenants and other agricultural stakeholders. The following section presents the results of the assessment. Specific details for each park site can be found in Appendix A.

4.1 Current Agricultural Production in Parks

Currently there are three parks within the City's ALR being actively farmed:

1. Mound Farm Park: The agricultural fields are leased to a producer who is growing mixed vegetables and squash, on approximately 40 ha.

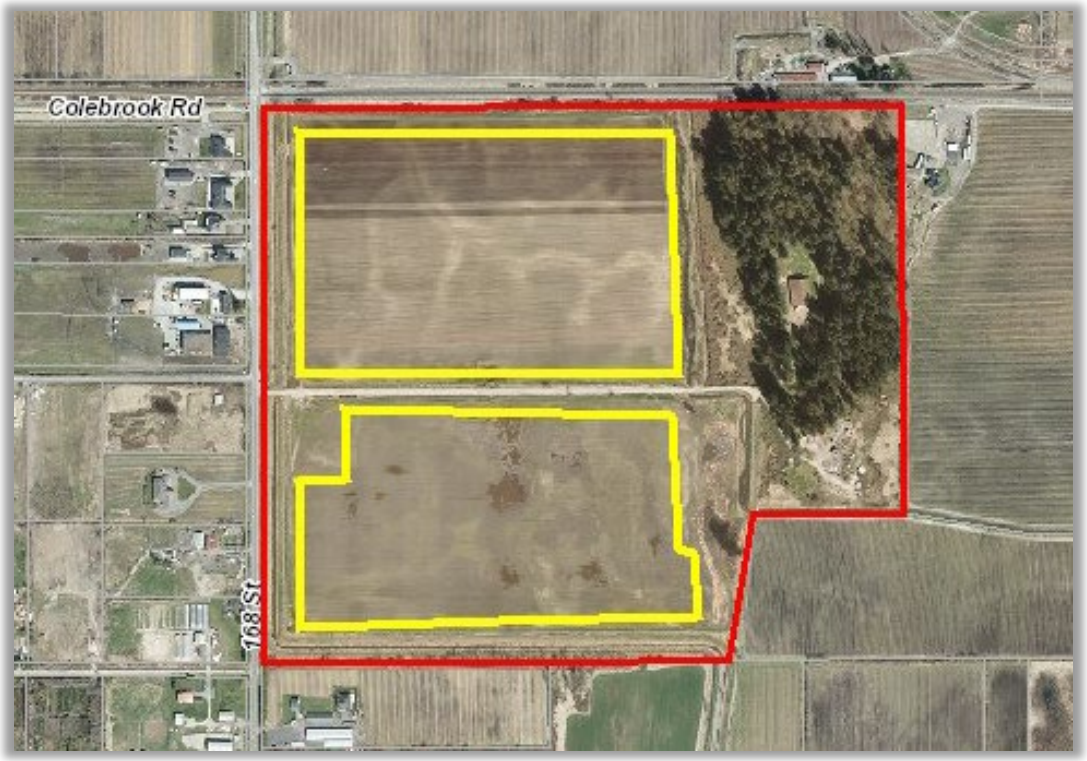

Figure 5 Active agricultural fields (yellow) within Mound Farm Park (red).

2. Sullivan Park: The southeast portion of the park is being leased to a producer who is growing pumpkins, carrots, potatoes, sweet corn and cabbage on the 2.6 ha field.

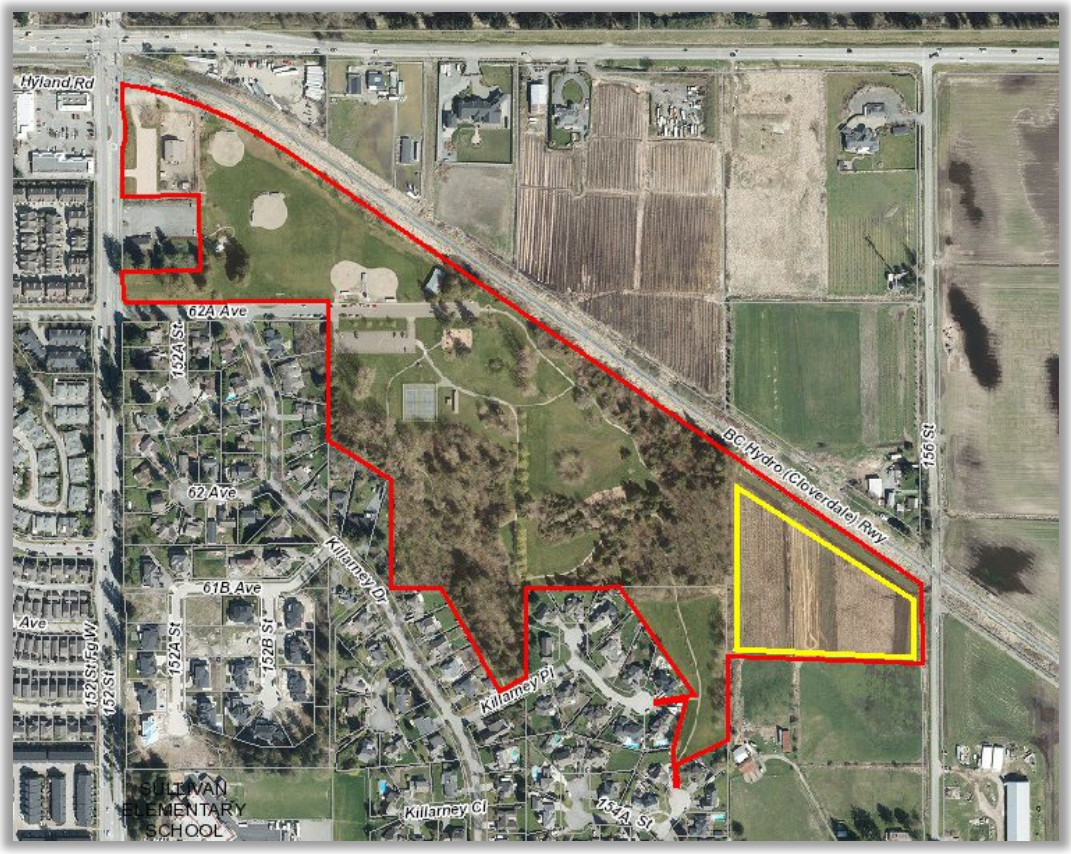

Figure 6 Active agricultural field (yellow) within Sullivan Park (red).

3. Colebrook Park: Approximately 1.5 ha is being harvested by a producer for hay.

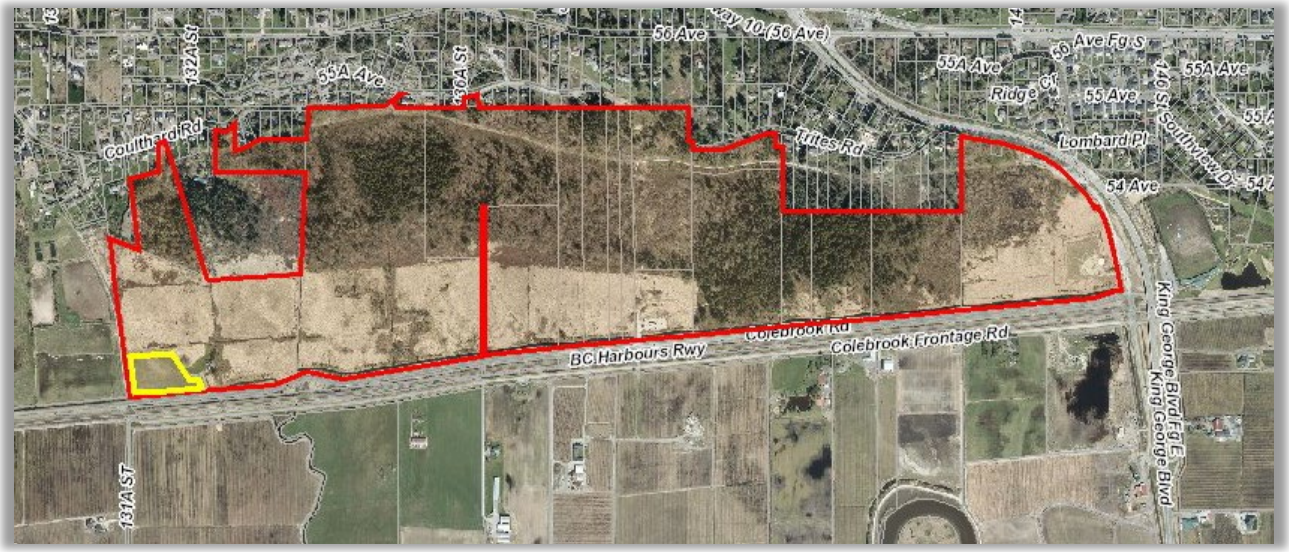

Figure 7 Active agricultural field (yellow) within Colebrook Park (red).

4.1.1. Contribution of Farming in Parks to the Local Agricultural Economy

Each of the existing farming operations contributes to the local agricultural economy through food product yields, generating employment, and gross revenues. The level of contribution to the local agricultural economy from farming in parks varies depending on what crop is grown each year and the weather conditions of the year, which has a direct impact on yields. For example, this year (as of June 2022) the continued high levels of precipitation and cool weather delayed, destroyed or damaged plantings, which is currently indicating a season that will have lower than typical yields. Given the amount of land being farmed at Mound Farm Park and opportunities for crop production, this location presents the most opportunity for job creation and largest volume of food production. Sullivan Park presents moderate opportunity to contribute to the local food economy and Colebrook Park, which is being used for hay/forage production, currently provides the most limited contribution.

Contribution to Local Food Production

The agricultural production within Surrey parks can be very robust. For example, reports from existing agricultural tenants note the following yields per ha per year:

- 14,500 cobs of corn.
- 13.6 tonnes of carrots.
- 9.1 tonnes of potatoes.

Other crops being produced include squash, pumpkins, and cabbage.

If extrapolated over the 42 ha typically in vegetable production across Surrey parks, this would be equivalent to:

- More than 600,000 cobs of corn.
- More than 550 tonnes of carrots.
- More than 380 tonnes of potatoes.

Contribution to Local Employment

Feedback from agricultural tenants indicate that about one part-time seasonal (8 months per year) job is created for every hectare of land under production. With approximately 44 ha of land under production (42 ha of vegetables and ~2 ha of hay) this is equivalent to over 40 part-time seasonal jobs created every year. In addition to the part-time seasonal workers there are farm manager positions for each site, as well as jobs created indirectly through transportation, processing and retail.

Contribution to the Local Economy

There is a strong demand for locally produced food in the Surrey and more broadly in the Region. Agricultural tenants indicate that they sell their products through a combination of wholesale (directly to produce brokers and/or grocery stores) and/or through farm stands located in proximity to where some of the produce is being cultivated. An estimate of gross revenues is approximately $7,500 to $11,000 per ha per year. This fluctuation is generally based on weather conditions and associated crop yields, rather than changes in local product demand. With approximately 42 ha of vegetables under production this translates to an estimated range of $315,000 - $460,000 of gross revenues per year derived from agriculture in Surrey parks.

4.2 Potential for Agricultural Production and Activities

The principal criteria used to assess suitability for agricultural opportunities were:

- Primary uses (as outlined in Park Management Plans, City policies or discussions with City staff).
- Current land cover (including infrastructure and biophysical characteristics).
- Adjacent land uses.
- Area with potential for agricultural production (calculated based on cleared land, biophysical characteristics and compatibility with current uses).
- Potential for provision of ecosystem services (GIN & BCS habitat suitability used as a proxy).

Additional criteria including soil types, agricultural capability classes, water and infrastructure availability, flooding risk and development permit areas, and planned uses of the parks were also taken into consideration.

Based on these criteria, the parks were sorted into high, moderate, and low opportunities for agricultural production:

- High opportunity parks are those where agricultural production is currently occurring and/or where agricultural production is one of the primary and planned uses. The importance of protecting ecosystems services is also paramount at these sites.

- Moderate opportunity parks are those where agricultural production is not a primary use of the park, but have opportunity for some agricultural activities, such as educational programs and food gleaning from existing orchards. Ecosystem services play an important role at these sites.

- Low opportunity parks are those parks where agricultural production is limited due to biophysical characteristics such as invasive species, risk of flooding, other conflicting uses and small size. Although the agricultural potential is low, these parks can still provide valuable ecosystem services to nearby agricultural lands and Surrey residents.

Table 3 (page 16) provides an overview of the characteristics and classifications of each park. Appendix A provides the details of the full analysis for each park.

How to read Table 3 (next page):

For each park, the criteria are ranked as high (green), moderate (yellow) or low (blue) for their compatibility or opportunity for agricultural production and ecosystem service provision. The overall suitability for agricultural opportunities is described in the final right-hand column.

- Primary Uses
    - Green = agriculture as one of the main primary uses.
    - Yellow = education related to food/agriculture as primary use.
    - Blue = agriculture is not one of the primary uses.

- Current Land Cover (including infrastructure and biophysical characteristics)
    - Green = agricultural fields as largest land cover.
    - Yellow = some agricultural fields and/or activities.
    - Blue = majority of land cover not compatible with agriculture.

- Adjacent Land Uses
    - Green = primarily agriculture adjacent.
    - Yellow = rural adjacent land uses.
    - Blue = urban adjacent land uses.

- Area with potential for agricultural production
    - Green = over 2.5 ha.
    - Yellow = between 0.6 – 2.4 ha.
    - Blue = 0.5 or less ha.

- Potential for provision of ecosystem services
    - Green = GIN Hub or Corridor with some habitat suitability moderate or above.
    - Yellow = GIN Corridor with mainly low habitat suitability or not in GIN with some habitat suitability moderate or above.
    - Blue = Not in GIN with mostly low habitat suitability.

Figure 8 Hay field and heritage house at Colebrook Park.

Table 3 City of Surrey park assessment for agricultural production.

Note: For each park, the criteria are ranked as high, medium or low for their compatibility or opportunity for agricultural production and ecosystem service provision. Green = high; Yellow = moderate; Blue = low.

Park Name	Primary Use/Focus	Current Land Cover	Adjacent Land Uses	Production Area	Ecosystem Services	Overall Suitability for Agricultural Production
Mound Farm Park	Agriculture, Conservation	Agricultural fields, forests, heritage houses	Agriculture, highway, road	40 ha	GIN Hub: Mound Farm Park. Ditches around field moderate habitat suitability.	HIGH - High suitability for agricultural production as cleared land is already in food production and leased for farming. Opportunity to enhance integration and protection of ecosystem services along watercourse and farmed (field) margins.
Sullivan Park	Agriculture, Recreation	Agricultural fields, forests, recreation fields, pathways	Agriculture, highway, railway, park	2.6 ha	Not in GIN. Ditches around field moderate habitat suitability.	HIGH – High suitability for agricultural production as cleared land is already in food production and leased for farming. Opportunity to integrate protection of ecosystem services along drainage ditches and watercourses.
Colebrook Park	Agriculture, Recreation, Conservation	Agricultural fields, forests, grass, open space, heritage house	Forest, road, agriculture	1.5 ha	GIN Hub: Colebrook Park. Ditches around field moderate habitat suitability.	HIGH - High suitability for agricultural production as cleared area is currently producing hay. Drainage and salt intrusion in soils may be a seasonal challenge. Opportunity to enhance integration and protection of ecosystem services along drainage ditches.
Campbell Heights Biodiversity Preserve	Conservation, Recreation, Regenerative Agriculture	Agricultural fields and forest	Agriculture, industrial	2.4 ha	GIN Hub: G. Area around field high and moderate high habitat suitability.	HIGH - High suitability for agricultural production using regenerative agriculture practices as outlined in objectives within the Management Plan for the park.
Godwin Farm Biodiversity Preserve	Conservation, Recreation	Forests, pond, old fields, fruit trees/orchard	Agriculture, roads, suburbs	0.1 ha or less	Not in GIN. Range of low to very high habitat suitability.	MODERATE - Moderate suitability for agricultural production. The primary objective is for habitat conservation, as outlined in the Management Plan for the park. Permitted uses include fruit picking of the trees in the homestead agriculture area. There are also opportunities for development around Indigenous food systems and production, and educational programming.
Elgin Heritage Park - Historic Stewart Farm	Historical gardens, Recreation, Conservation	House, parking, open fields, orchard, gardens, forests	Marina, river	0.1 ha or less	GIN Hub: Elgin Heritage Park. Park has low to very high habitat suitability.	MODERATE - Moderate suitability for agricultural production, particularly around the Stewart Farmhouse to continue and support existing apple orchard, small-scale food gardens and educational opportunities.

Park Name	Primary Use/Focus	Current Land Cover	Adjacent Land Uses	Production Area	Ecosystem Services	Overall Suitability for Agricultural Production
Surrey Lake	Recreation, Conservation	Forests, pathways, lake, wetland	Road (high traffic), agriculture, golf course	0.2 ha or less	GIN Hub: Surrey Lake. Moderate habitat suitability.	LOW - Limited opportunities for agricultural production due to the restrictive biophysical properties and conservation/ recreation priorities of the park. Management of ecosystem services remains critical. There are also opportunities for educational programming and development around Indigenous food systems and production and or community gardens.
Hi-Knoll Park	Conservation, Recreation	Wetland, Creek, Forest	Agriculture, road, suburban	2 ha or less	GIN Hub: Hi-Knoll Park. Mainly low with some moderate to very high habitat suitability.	LOW - Limited opportunities for agricultural production due to regular flooding, invasive species and challenging access for farm equipment. Management of ecosystem services remains critical. There are also opportunities for educational programming and development around Indigenous food systems and production.
Port Kells Park	Recreation, Conservation	Sports fields, wetlands, forests, open space	Suburban and rural, agriculture	0.5 ha or less	GIN Hub: Port Kells Park. park has low to very high habitat suitability	LOW - Limited opportunities for agricultural production due to recreation prioritized as a primary use. Management of ecosystem services remains critical.
The Glades	Recreation	Forests	Rural, road, golf course	None	GIN Corridor 41. Moderate to very high habitat suitability.	LOW - Limited opportunities for agricultural production due to botanical garden as primary use. Management of ecosystem services remains critical.
Charles Richardson Nature Reserve	Conservation, Recreation	Forest, wetland, open space	Suburb lots, roads	None	GIN Corridor 126. Primarily high habitat suitability.	LOW - Limited opportunities for agricultural production due to wetland conservation as primary use and old-field habitat protected for biodiversity objectives. Management of ecosystem services remains critical. There are also opportunities for educational programming and development around Indigenous food systems and production.
103F – Greenbelt (Nicomekl Riverfront Park)	Recreation	Wetland, forest	River, urban, road	None	GIN Corridor 17. Mainly very low habitat suitability.	LOW - Limited opportunities for agricultural production. This is part of the new Nicomekl Riverfront Park where primary use is for recreation and flood storage for river. Management of ecosystem services remains critical.
Mud Bay Park	Conservation, Recreation	Wetland	Ocean, agriculture, road	None	Not in GIN, moderate to high habitat suitability.	LOW - Limited opportunities for agricultural production Primary use is for coastal flood adaptation (attenuating sea level rise), with secondary uses for recreation and shorebird habitat. Management of ecosystem services remains critical.

Park Name	Primary Use/Focus	Current Land Cover	Adjacent Land Uses	Production Area	Ecosystem Services	Overall Suitability for Agricultural Production
57A - Greenbelt	Constructed Wetland	Grass, trees, open field	Rural residential, agriculture	None	GIN Corridor 140, low to moderate habitat suitability	LOW - Limited opportunities for agricultural production This park is being developed as constructed wetlands to act as detention ponds for West Clayton Neighbourhood Concept Plan area. Management of ecosystem services remains critical.
128B - Neighbourhood Park	Vegetated Corridor	Forest	Agricultural, rural, road	None	GIN Corridor 40. Low to high habitat suitability.	LOW - Limited opportunities for agricultural production This is a narrow corridor that runs adjacent to several ALR properties (old rail bed and constructed drainage corridor). Management of ecosystem services remains critical.
49A - Greenbelt	Vegetated Corridor	Forest, old-field	Agricultural, rural, road	None	Not in GIN, low to moderate high habitat suitability	LOW - Limited opportunities for agricultural production This is a narrow corridor that runs adjacent to several ALR properties. Management of ecosystem services remains critical.
118C - Neighbourhood Park	Vegetated Corridor	Forest	Agricultural, rural, road	None	GIN Corridor 57. High habitat suitability.	LOW - Limited opportunities for agricultural production This is a narrow corridor that runs adjacent to several ALR properties (old rail bed and constructed drainage corridor). Management of ecosystem services remains critical.
138A - Greenbelt	Forest and riparian area	Forest	Agricultural, rural, forest	None	GIN Corridor 50. High habitat suitability.	LOW - Limited opportunities for agricultural production This is a completely forested parcel. Management of ecosystem services remains critical.

4.2.1 High Opportunity Parks

Mound Farm Park, Sullivan Park, Colebrook Park, and Campbell Heights Biodiversity Preserve present the greatest opportunities for agricultural production. The following criteria provide a rationale for agricultural activities in these parks:

- There is active agricultural production and/or food production is one of the primary and planned uses of the parks.
- There are no future plans to change or eliminate agricultural uses.
- Soils are very suitable for farming and agricultural capability is high (Class 2 and 3).
- They are surrounded by compatible land uses such as other agricultural operations and have vegetated buffers.

These parks present an opportunity to provide increased ecosystem services with further stewardship of the drainage ditches, watercourses, and vegetative buffers adjacent to the agricultural fields. Additionally, regenerative agricultural practices can be encouraged within these parks. Ecosystem services that can be enhanced through regenerative agriculture BMPs include those associated with riparian areas, hedgerows and old-field habitat such as pollination, natural pest control, wildlife habitat, improved air and water quality, flood storage and aquifer protection. BMPs for ecosystem services include activities such as cover cropping and no-till, that build soil organic matter and contribute to climate change mitigation through carbon sequestration. Appendix D provides additional examples of BMPs.

Mound Farm Park

Mound Farm Park contains important environmentally sensitive areas and active agricultural land. Long-term management for Mound Farm Park is focused on limited access and disturbance to its unique ecological components and maintaining farmland for agricultural production. As mentioned, the agriculture fields are currently leased for food crop production. Upon renewal of the lease agreement there may be an opportunity to prioritize regenerative agricultural farming, BMPs, and ecosystem services. The park also has two heritage houses which are rented, and in the future, could provide an opportunity for a tenant farming the land to live on-site.

Sullivan Park

Sullivan Park has a small agricultural field leased for food crop production. There is a stream and vegetative buffer separating the area of the park used for recreation and the agricultural field which flows into a constructed drainage running along the north side of the parcel. Another smaller constructed drainage runs through the middle of the fields. Upon renewal of the lease agreement there may be an opportunity to prioritize regenerative agricultural farming, BMPs, and ecosystem services.

Colebrook Park

A land use agreement should be established with the hay producer at Colebrook Park and/or the City could investigate the possibility of promoting the use of the land for food production or other allowable farm uses. Colebrook Park also has a heritage house adjacent to the hayfield which, in the future, could provide an opportunity for a tenant farming the land to live on-site.

Campbell Heights Biodiversity Preserve

The 2022 Campbell Heights Biodiversity Preserve Management Plan indicates that the planned and primary use of the existing agricultural field is for regenerative agricultural practices. The objective is to provide educational opportunities for the public to demonstrate that agricultural BMPs can complement and even benefit biodiversity conservation efforts. To implement the Management Plan, partnerships with non-profit organizations and/or educational institutions could be explored in order to develop an incubator farm. Partnerships with Indigenous communities should also be explored for traditional food and medicinal plant cultivation and harvest program and/or a farm pilot project similar to the Tsawwassen Farm School.

Figure 9 Hay field to be converted to regenerative agriculture at Campbell Heights Biodiversity Preserve.

4.2.2 Moderate Opportunity Parks

Godwin Farm Biodiversity Preserve, and Elgin Heritage Park (specifically, the Historic Stewart Farm) have moderate opportunities for agricultural and food harvesting activities such as community gardens, educational activities and fruit gleaning. These parks also provide numerous ecosystem services that benefit both nearby agricultural lands and the City's residents such as habitat for wildlife, natural pest control, flood storage, improved air quality and water quality.

Godwin Farm Biodiversity Preserve

This park was acquired in 2015 through the Canada's Ecological Gifts program via a donation from the Godwin Family to the City so that the environmental heritage and biodiversity could be protected in perpetuity as a legacy to the Godwin family. The park has hundreds of trees, old fields, a pond, riparian areas and creeks, nature trails for wildlife viewing and an apple orchard. The Park Management Plan proposes to maintain and enhance the orchard to promote interaction, education and awareness of the cultural legacy of the site through passive food harvesting (e.g. fruit gleaning from old apple trees). There also may be an opportunity to explore partnerships with Indigenous communities for traditional food and medicinal plant cultivation and harvest program.

Elgin Heritage Park - Historic Stewart Farm

Historic Stewart Farm consists of eight heritage buildings, including the 1894 Stewart Farmhouse protected by heritage designation, a kitchen garden near the farmhouse, and a small apple orchard cared for by volunteers (Figure 10). Currently, the orchard is not producing to its full potential due to limitations in staff time and volunteer capacity to manage the orchard and pest problems. The volunteers save the seeds from the garden's heirloom vegetables, herbs and flowers and package them for sale to the community. Several public and school-aged children's programs are offered at the farm that have a focus on food preparation. The park also hosts public events related to agriculture and food, such as 'Seedy Saturdays' in the spring, and an Old Harvest Fair in September (a traditional fall fair with a focus on local food, vintage fair games and entertainment). The orchard and small garden provide good opportunities to support expanded capacity to increase the fruit and produce being grown, harvested and distributed; however, current staff and volunteer capacity is limited to realize this opportunity.

Figure 10 Orchard at Historic Stewart Farm.

4.2.3 Low Opportunity Parks

Two thirds, or 12 of the 18 parks, have been identified as having low opportunities for agricultural production and other food/agricultural activities. Biophysical characteristics like flooding and invasive species, and limitations due to their size, shape, location, land cover, and/or primary use/focus restrict the potential for food production of these parks. Despite a lower suitability for agricultural production, these parks are important in the provision of ecosystem services to nearby agricultural properties and the greater region. For example, parks with wetlands provide water storage during high rainfall and river flooding, which reduce flooding of nearby agricultural and residential properties. Maintaining and improving vegetation and habitats in these parks also contributes to increased biodiversity for wildlife and pollination and pest control for nearby agricultural fields.

There may be an opportunity to engage with Indigenous communities about the use of Charles Richardson Nature Reserve, Surrey Lake Park and Hi-Knoll Park specifically for the cultivation and harvesting of traditional food and medicinal plants (e.g., wapato[17]). The presence of the utility corridor at Hi-Knoll Park may require engagement with BC Hydro use under the transmission lines. There is a possibility of developing community gardens in Surrey Lake Park (adjacent to the parking area) or Port Kells Park if demand is present and partnerships with community groups can be established to manage the gardens.

Figure 11 Seasonal flooding in Hi-Knoll Park.

[17] Katzie Eco-cultural Restoration Project. n.d. Katzie First Nation.

4.3 Public Access and Agriculture in Parks

Parks in Surrey whether within or outside the ALR have multiple objectives such as recreation, conservation, cultural heritage and agriculture. Often, this means that public access to the parks is dependent on the specific uses within each park. For example, there are many parks with nature reserves where public access is restricted to protect sensitive habitats. Similar access limitation should be considered for parks with active farming occurring due to potential conflicts including increased potential for trespassing onto the fields and damage to crops, public safety and associated liability, and ensuring that biosecurity and food safety requirements are maintained. In addition, the privacy for tenants in leased heritage houses in Mound Farm Park and Colebrook Park should be prioritized.

To address concerns around public access to parks with active farming, a new category of park may be helpful. A City designation for a "Farm Park" would help articulate to the public the objectives around land use within the park including limitations around access. This approach could include outreach on the benefits of active farming in parkland to Surrey residents.

For parks in the ALR without active agricultural fields, there are currently opportunities for public access for educational opportunities (for example in Godwin Farm Biodiversity Preserve and Historic Stewart Farm). In the future, walking paths and educational tours around a regenerative agricultural initiative in Campbell Heights Biodiversity Preserve and/or an incubator farm may be an appropriate approach for public access.

To address concerns around public access to parks with active farming, a new category of park may be helpful. A City designation for a "Farm Park" would help articulate to the public the objectives around land use within the park including limitations around access. This approach could include articulating the benefits of active farming in parkland to Surrey residents.

Figure 12 Active agricultural fields ready for planting at Sullivan Park.

4.4 City Land in the ALR Outside of Parks

The City also leases land within the ALR that is outside of designated parkland. The scope of this project did not include a comprehensive overview of agricultural lands owned by the City outside of parks. However, several recommendations from this project are applicable to these situations. A future study could quantify the opportunities for increased production on all agricultural lands owned by the City, and work to align land tenure arrangement across City owned lands and prioritization of regenerative agriculture BMPs and the protection of ecosystem services.

4.5 Parks Adjacent to the ALR

There are approximately 26 parks that are adjacent to the ALR and provide some level of buffer between agricultural activities and urban/industrial activities, as well as natural areas for ecosystem services. It is recommended that these parks remain as vegetated buffers to minimize urban and industrial disturbances to agricultural activities and continue to be managed for ecosystem services, such as habitat for wildlife and pollination services (as outlined in the BCS). The City's Farm Protection Development Permit Area also provides guidelines for setbacks and vegetative buffers along the non-ALR side of the interface.

Figure 13 Old agricultural field in Godwin Farm Biodiversity Preserve.

5.0 Recommendations

As a result of the engagement and analysis for each park, the following 16 general and park-specific recommendations are presented for consideration. Alignment between the recommendations and existing City policies and plans are also described.

General Recommendations:

1. Improve Capacity for Agricultural Objectives: A dedicated Agricultural Planner position, similar to those in the Township of Langley and City of Richmond, would help to ensure that communication and collaboration is more effectively coordinated between City departments and staff. This position would assist in implementing the recommendations within the City's Agriculture Protection and Enhancement Strategy, serve as the staff liaison to the Surrey Agriculture, Environment and Investment Advisory Committee, and be the main point of contact for producers within the City. The Agricultural Planner would facilitate decisions on future uses of parkland with ALR, ALR leased by the City outside of parkland, future acquisition strategies for parkland in the ALR, and contribute to overall agriculture sector development.

2. Expand Opportunities for Indigenous Food Systems and Sovereignty within Parks: Continue to explore partnerships with Indigenous communities, whose traditional lands overlap with the City, to identify opportunities for food sovereignty and public education regarding endemic, traditional food and medicinal plant cultivation and harvesting practices, and for the communities to reconnect with this land. For example, explore the potential for native plant cultivation and education projects at locations such as Hi-Knoll Park, Godwin Farm and Campbell Heights Biodiversity Preserve, Charles Richardson Nature Reserve, Surrey Lake and Port Kells Park. Follow up with First Nations within 6 months to explore opportunities for collaboration, particularly as planning and development of Campbell Heights Biodiversity Preserve gets underway.

3. Consider a New Parks Category for Parks supporting Active Farming: Initiate internal discussions considering the pros and cons of establishing a new category of park (e.g., "Farm Park") for parks with active agricultural production. A designation for a "Farm Park" would help articulate to the public the objectives around land use within the park including limitations around public access. The designation would also help internal City planning and land use discussions.

4. Continue Leasing Parkland in the ALR and Review Land Tenure Agreements Prior to Terms Expiring: Review current agricultural land tenure agreements in City parks as existing terms near expiration, to ensure that they are meeting objectives around agricultural production, biodiversity, and protection of ecosystem services. For example, it is worthwhile exploring if a licence agreement is a more suitable tenure agreement tool than a lease agreement within a park setting. Licences are not registered on title and do not require approval from the ALC for longer-term arrangements. (See Appendix B for more details on land use agreements including a comparison of leases vs. licences).

The land tenure agreement review may also include the following steps:

a. Determine pros and cons of increasing the length of agreements to greater than 5 years.
b. Seek feedback and input from tenants when developing the revised agreements.
c. Determine site-specific vegetative buffer designs that can be easily implemented and agricultural setback distances from streams or other ecological features.
d. Incorporate site-specific objectives and BMPs that promote and benefit biodiversity, wildlife habitat, water quality, carbon sequestration and other ecosystem services (see Appendix B for more information).

5. Increase Communication and Collaboration with Farming Tenants and Landowners Adjacent to Parks:
   Including the following steps:
   a. Develop a formalized communications process between the City and farming tenants and landowners adjacent to parks around environmental and engineering maintenance activities in parks. For example: tree pruning/arborist work; watercourse or ditch maintenance; culvert replacement; or other land works.
   b. Work with producers to collaboratively implement BMPs and regulated requirements for agricultural activities occurring around watercourses, species at risk, critical habitat or other environmentally sensitive features within the parks.
   c. Identify opportunities to secure grant funds, cost share or subsidize implementation of BMPs and on-farm enhancements (e.g., set-asides, shelterbelts, hedgerows).
   d. Work with landowners adjacent to parks within the GIN to collaborate on BMPs for ecosystem services and to address encroachment issues in areas of undeveloped parkland (e.g., 118C and 128B Neighbourhood Parks).

6. Foster Partnerships with Academic Institutions and Local Food Security Organizations:
   a. Partner with academic institutions (e.g., UBC, KPU) to measure and monitor ecosystem services provided by ecosystems and regenerative agricultural practices in parkland.
   b. Support local food security organizations to bring educational opportunities to parks related to food production and sustainability. This may include gleaning programs[18] to harvest surplus tree fruits, vegetables or other produce identified by producers that can be contributed to meal programs and food banks. This will help operators reduce food waste from unharvested crops. This step involves working with City Realty and farming tenants on issues related to liability of harvesting unused crops.

[18] One well-developed local program already providing food "rescue" services in Surrey is Sources Food Hub https://www.sourcesbc.ca/our-services/food-hub/

7. Update OCP Policies to Support Agriculture in Parks: During the next OCP update, include the following themes and policies:
    a. Continue to support agricultural production on parkland within the ALR through park planning and long term tenure agreements with producers.
    b. Support the restoration and maintenance of ecosystem services on parkland within agricultural lands.

8. Comply with the ALC Act and Regulations: Ensure that activities occurring on the ALR within parks are following the ALC Act and regulations. For example, introducing fill to a park site and/or using parks as a staging ground or storage for City-owned vehicles and operational equipment may require a Notice of Intent or a non-farm use application submitted to the ALC.

9. Manage Parkland for Healthy Ecosystems: Continue to manage invasive species in parks and maintain healthy, endemic plant communities to optimize ecosystem services. Ensure collaboration with agricultural tenants on management and planning actions.

10. Continue Cross-jurisdictional Collaborations: Continue to have City staff participate in cross-jurisdictional initiatives to learn and share best practices on developing ecosystem services on farmland. This includes the potential feasibility of a conservation fund to encourage regenerative agriculture and BMPs on farmland within Surrey and the wider region. Continuing to participate in the Fraser Delta Farmland Protection and Stewardship Working Group is one such example.

Park Specific Recommendations:

11. Mound Farm Park and Sullivan Park: Continue to use portions of Mound Farm Park and Sullivan Park for agricultural production. In the next round of land tenure agreements, the City may wish to stipulate that food crops must be prioritized for cultivation over non-food crops such as forage, hay, and/or silage, and include specific requirements around regenerative agricultural practices (e.g., cover cropping over winter).

12. Colebrook Park: Establish a formal land use agreement for managing the active agriculture area at Colebrook Park, which is currently lacking, or investigate opportunities for establishing a lease for food production or other allowable farm uses. Connect with Young Agrarians and determine if location is appropriate for their Land Matching Program. This site could also have potential for an incubator farm if an appropriate organization is found to operate the initiative.

13. Campbell Heights Biodiversity Preserve: Partner with a non-profit organization, an educational institution, and/or Indigenous communities to pursue an incubator farm program. Food production is not a primary objective as stated in the Management Plan for this site, however it is a good fit pilot project for an incubator farm program supporting young farmers and/or for a traditional food and medicine cultivation program. Craft a land use agreement for the agricultural tenant using the conditions outlined in the Management Plan.

14. Godwin Farm Biodiversity Preserve: Continue to follow the Management Plan recommendations for the City to maintain and enhance fruit trees and berry patches. Partner with local food security organizations for fruit gleaning. There also may be an opportunity to explore partnerships with Indigenous communities to identify opportunities for food sovereignty and public education regarding locally important traditional food and medicinal plants.

15. Elgin Heritage Park – Historic Stewart Farm: Examine budgetary needs required to help staff maintain existing garden and orchard so that it does not fall into disrepair. Currently there are basic upkeep needs that are not being met due to a limited budget. Continue to support food related educational opportunities and events at the park and the agricultural history within the guided tours.

16. Surrey Lake and Port Kells Parks: Investigate the possibility of partnerships and development around Indigenous food systems and production and/or developing community gardens if demand is present and facilitate partnerships with community groups to manage the garden.

Figure 14 Flooded winter field at Mound Farm Park.

5.1 Alignment with City of Surrey Plans and Strategies

Six key City policy and planning documents were reviewed for alignment with the recommendations. Alignment is indicated when there is mention of similar themes, objectives and/or actions within the Plan or Strategy.

Table 4 Alignment of recommendations with City plans and strategies.

		Plan or Strategy					
	Recommendations	Official Community Plan (2013)	Sustainability Charter (2016)	Parks, Recreation & Culture Strategic Plan (2018)	Agriculture Enhancement & Protection Strategy (2013)	Biodiversity Conservation Strategy & Green Infrastructure Network (2014)	Climate Change Action Strategy (ongoing)[19]
1	Improve Capacity for Agricultural Objectives in the Planning and Development Department		✓		✓		
2	Expand Opportunities for Indigenous Food Systems and Sovereignty within Parks		✓	✓			
3	Consider a New Parks Category for Parks with Active Farming						
4	Continue Leasing Parkland in the ALR and Review Land Tenure Agreements Prior to Terms Expiring	✓	✓		✓	✓	
5	Increase Communication and Collaboration with Farming Tenants and Landowners Adjacent to Parks	✓	✓	✓	✓	✓	✓
6	Foster Partnerships with Academic Institutions and Local Food Security Organizations	✓		✓	✓		✓

[19] Climate Action Framework, Climate-Positive Resilient Ecosystems. Access July 2022.

7	Update OCP Policies to Support Agriculture in Parks						
	Recommendation	Official Community Plan (2013)	Sustainability Charter (2016)	Parks, Recreation & Culture Strategic Plan (2018)	Agriculture Enhancement & Protection Strategy (2013)	Biodiversity Conservation Strategy & Green Infrastructure Network (2014)	Climate Change Action Strategy (ongoing)[20]
8	Comply with ALC Acts and Regulations	✓			✓		
9	Manage Parkland for Healthy Ecosystems	✓	✓	✓	✓	✓	✓
10	Continue Cross-jurisdictional Collaborations	✓			✓	✓	
11	Continue to use portions of Mound Farm Park and Sullivan Park for agricultural production		✓		✓		✓
12	Establish a formal land use agreement for managing the active agriculture area at Colebrook Park	✓	✓	✓	✓		✓
13	Pursue an incubator farm pilot project in Campbell Heights Biodiversity Preserve	✓		✓	✓		✓
14	Continue to follow the Management Plan recommendations in Godwin Farm Biodiversity Preserve			✓			
15	Examine budgetary needs and continue to support food-related educational and tourism opportunities in Elgin Heritage Park-Historic Stewart Farm	✓	✓	✓	✓		
16	Investigate the possibility of partnerships and development around Indigenous food	✓	✓	✓	✓		

[20] Climate Action Framework, Climate-Positive Resilient Ecosystems. Access July 2022.

	systems and/or developing community gardens (e.g. Surrey Lake, Port Kells Park)						

5.2 Implementation Strategy

The priority of implementation for each recommendation is presented in Table 5 based on:

- **Ongoing**: This recommendation may have already begun but requires continued, renewed support to achieve success.
- **Short**: To be completed within 1-2 years.
- **Medium:** To be completed within 2-4 years.
- **Long:** To be completed within 4-6 years.

The relevant City departments, as well as external organizations, are identified whenever possible. With regards to funding, "Operational Base" refers to existing staff/roles while "External Funding" refers to either an annual budget request, other funding sources, or a combination thereof.

Table 5. Implementation strategy: key responsibilities and timelines.

Timeline	Recommendation	Community Planning	Engineering	Parks and Culture	Sustainability Office	Realty	Farming Tenants	Other Supporting Organizations	Operational base	Additional funding
Ongoing	4. Continue Leasing Parkland in the ALR and Review Land Tenure Agreements when Terms Expire	X	X	X		X	X		X	
Ongoing	5. Increase Communication and Collaboration with Farming Tenants and Landowners Adjacent to Parks	X	X	X		X	X	X	X	
Ongoing	6. Foster Partnerships with Academic Institutions and Local Food Security Organizations	X		X	X		X	X	X	X
Ongoing	9. Manage Parkland for Healthy Ecosystems		X	X		X			X	X
Ongoing	10. Continue Cross-jurisdictional Collaborations	X		X				X	X	
Ongoing	11. Continue to use portions of Mound Farm Park and Sullivan Park for agricultural production	X		X	X	X	X		X	

Timeline	Recommendation	Community Planning	Engineering	Parks and Culture	Sustainability Office	Realty	Farming Tenants	Other Supporting Organizations	Operational base	Additional funding
Ongoing	14. Continue to follow the Management Plan recommendations to maintain and enhance fruit trees and berry patches in Godwin Farm Biodiversity preserve			X				X	X	X
Short	2. Expand Opportunities for Indigenous Food Systems and Sovereignty within Parks	X		X				X	X	X
Short	7. Update OCP Policies to Support Agriculture in Parks	X		X					X	
Short	8. Comply with ALC Acts and Regulations	X	X	X		X	X		X	
Short	12. Establish a formal land use agreement for managing the active agriculture area at Colebrook Park	X		X		X	X		X	
Short	15. Examine budgetary needs to maintain existing garden and orchard and continue to support food-related educational and tourism opportunities in Elgin Heritage Park-Historic Stewart Farm			X				X	X	X
Medium	1. Improve Capacity for Agricultural Objectives in the Planning and Development Department	X		X		X			X	X
Medium	3. Consider a New Parks Category for Parks with Active Farming	X		X					X	
Long	13. Pursue an incubator farm pilot project in Campbell Heights Biodiversity Preserve	X		X	X	X	X	X	X	X
Long	16. Investigate the possibility of partnerships and development around Indigenous food systems/ production and/or developing community gardens. (e.g. Surrey Lake, Port Kells Park)		X	X	X			X	X	X

6.0 Conclusion

The City of Surrey is unique in having multiple parks within the ALR that also support high biodiversity and ecosystem values. Several of these parks are actively being used for agricultural production, providing a valuable contribution to the local food supply and food economy. Supporting long-term land use agreements that include regenerative agricultural practices and beneficial management practices for healthy ecosystems will continue to be important considerations for City parks and agricultural lands. Parks in Surrey's ALR also present opportunities for educational programs related to food and the agriculture sector, the cultural heritage of agriculture and collaborations with Indigenous communities. The recommendations in this report provide multiple opportunities to capitalize on the agricultural viability of farmland within parks, while ensuring the ecosystem services are valued and elevated. The plan will require collective effort at the operational and decision-making levels to prioritize these uses within parks to ensure they provide benefits to the entire community.

Figure 15 Kitchen garden at Historic Stewart Farm.

Appendix A: Detailed Site Analysis

High Opportunity Parks

These three parks currently have active agricultural production, have characteristics that are compatible with agricultural activities and on which food production is one of the primary uses of the parkland.

Mound Farm Park

Location: 5202 & 5288 168 Street, Surrey (Figure 16).

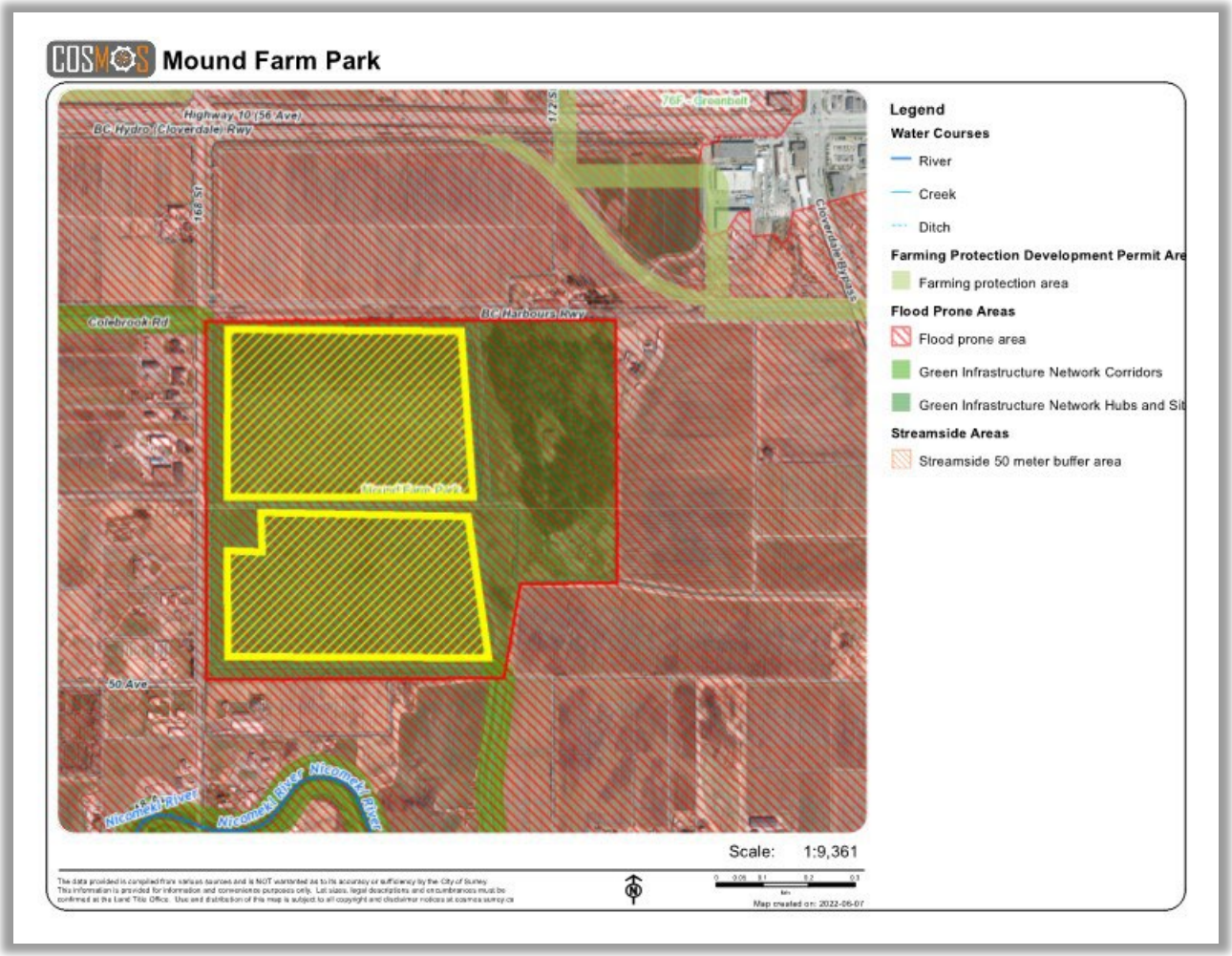

Figure 16 Active agricultural fields (yellow) in Mound Farm Park (red outline).

General Description: Mound Farm Park contains important environmentally sensitive areas and active agricultural land. The "mound" portion of the park is a glacial feature (drumlin) raised above the surrounding farmland and is within the Nicomekl River floodplain. It is covered by a stand of about 1,000 mature trees, including Douglas-fir, western red cedar and big-leaf maple.

The concentration of large diameter, mature trees is unique and increasingly rare in the area. Long-term management for Mound Farm Park is focused on limited access and disturbance to its unique ecological components and maintaining farmland for agricultural production. The Mound Farm Park Master Plan (developed in 1997) calls for pedestrian, cycling and equestrian trails to be developed along the perimeter of the farmable sections. In the future, the City may develop public access along the perimeter trail areas and the access road of the property. However, there are currently no plans to advance this. There are two heritage houses on the property, the Bion Smith House and the George Snow House. Approximately 41 ha are leased for agricultural production.

Primary Uses/Focus:

1. Biodiversity and sensitive ecosystem conservation
2. Agricultural

Neighbouring Parcels: All parcels adjacent to Mound Farm park are used for agriculture (predominantly blueberry farms).

Planned Uses: The recommendation from the BCS is to convert the agricultural area to a native forest. However, the primary use of this park has since changed due to local and regional objectives around food security and supporting agricultural production. As such, there are no plans to eliminate farming opportunities at this location. The park is also entirely within critical habitat for the barn owl, a federally listed species at risk, and supports an actively used barn owl nest box maintained by the Parks Division.

Current Agricultural Activities: The agricultural fields (approximately 41 ha) in Mound Farm Park are leased to a local farming family. Crops being grown annually in the fields include squash and leafy greens (Figure 17).

Figure 17 Mound Farm Park.

Available Infrastructure: There are no barns, storage sheds, water hook-ups/wells or other infrastructure available for a leasing farmer to use. Park Development Services, within the Parks

Division uses a portion of the mound for sorting trail development materials and has a covered structure to store equipment. There are two leased heritage houses on the mound with tenants independent of the farming operations. The houses are supplied by a well and serviced by a nearby septic field.

Agricultural Production Considerations: The land is suitable for a variety of food production activities, is tilled annually and has been in production for many years.

Soil Considerations:

- The soils in Mound Farm Park are silty loam and silty clay loam with poor drainage. They have a shallow layer of organic soil over saline, a moderately fine-textured subsoil, which results in a shallow root zone that restricts growth of many crops. Salinity can also move upward into the surface soil which further limits crop growth.[21] With management practices including drainage, irrigation and nutrient inputs, suitable crops for these soils include annual legumes, blueberries, cereals, perennial forage crops, root crops (except carrots) and shallow rooted annual vegetables.[22]

Agriculture Capability Classification:

- The agricultural parcel is classified as organic Class 4 limited by excess water and permeability due highly decomposed saturated organic materials. The area can be improved to Class 2 using management practices to remove excess water.[23]

Water Considerations:

- A major limiting factor is the lack of water supply for irrigation. There is no access to potable city water and no opportunities for surface or groundwater irrigation as the watershed (Nicomekl River) is fully subscribed in this area.
- Flooding and Development Permit Areas:
    - The site becomes highly saturated with water during the fall and winter, and often a shallow wetland and lake develops, with high numbers of waterfowl and shorebirds using the fields.
    - The park is within a flood prone area as designated by the Hazard Land Development Permit Area and within the Sensitive Ecosystems Development Permit areas.
    - The park falls within the longer-term strategic direction for the Mud Bay Planning Area through to 2100 as outlined in the Coastal Adaptation Strategy. Over the next several decades upgrades to dikes, drainage works, and flood storage is anticipated to occur to prepare for increased frequency of flooding in area.[24]

Potential for Provision of Ecosystem Services: This park is a GIN Hub with two connecting GIN corridors. Agricultural BMPs related to working around watercourses and farmed field margins can be implemented to enhance integration and protection of ecosystem services. Examples of ecosystem services provided by healthy ecosystems in the park include: improvements to water quality, quantity, flood storage, pollination, habitat for wildlife.

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[21] Soil Management Handbook for the Fraser Valley, 1991. Ministry of Agriculture.
[22] Ibid.
[23] Land Capability Classification for Agriculture in BC, 1983. BC Ministry of Environment.
[24] Coastal Flood Adaptation Strategy, 2019. City of Surrey.

Overall Suitability for Agriculture: This park presents the strongest opportunity to produce the largest volume of food on parkland within the ALR. A variety of crops can occur on these parcels. Infrastructure like barns, fencing and a water source, would have to be installed if livestock were to be raised. Due to the lack of irrigation, drought tolerant crops would be best suited to the property and establishing a water catchment and storage system could provide water supply during the dry summer months.

Sullivan Park

Location: 6272 152 Street, Surrey (Figure 18).

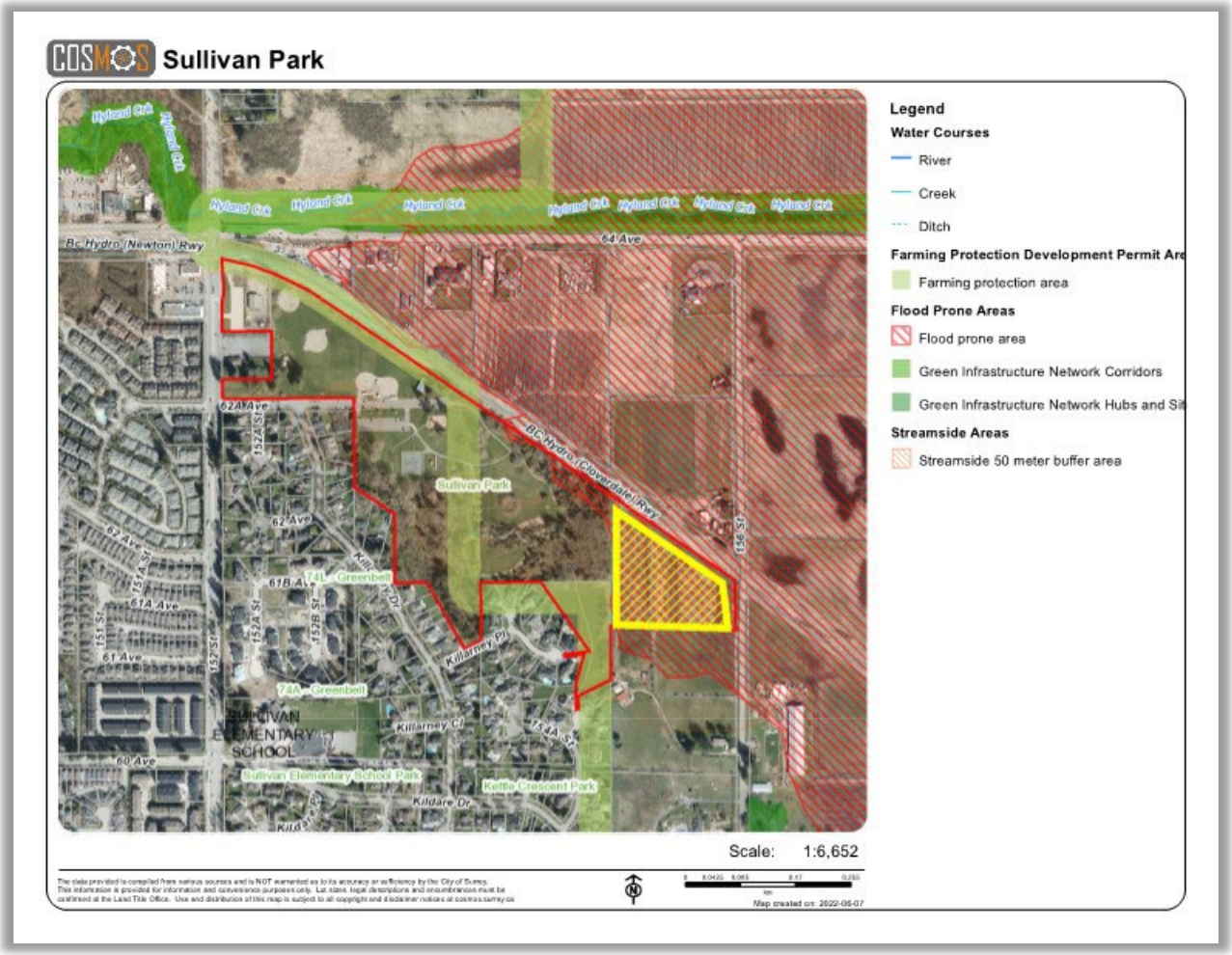

Figure 18 Active agricultural fields (yellow) in Sullivan Park (red outline).

General Description: Sullivan Park supports numerous active and passive park uses. There are open spaces, forests and trails for recreation, sports fields and courts, a playground and washroom facilities for public use. The southeast area of the park is an active agricultural field.

Primary Uses/Focus:

1. Recreation
2. Agricultural
3. Conservation

Neighbouring Parcels: Adjacent to the farmed parcel are major transportation corridors, a railway, agricultural fields and Sullivan Park trails.

Planned Uses: No plans to modify current uses.

Current Agricultural Activities: Sullivan Park has a 2.6 ha agricultural field leased for food crop production. The produce is primarily sold via a farm gate approach and demand from local Surrey residents for the sweet corn, potatoes, carrots and pumpkins are high. A 5-year lease was signed in 2018. In the lease agreement there is no mention or wording around supporting biodiversity or ecosystem services objectives. There is a stream and vegetative buffer separating the east area of the park used for recreation and the agricultural field which flows into a constructed drainage along the north side of the parcel and another runs through the middle of the field.

Available Infrastructure: There are no barns, storage sheds, or water hook-ups/wells or other infrastructure available for a leasing farmer to use.

Agricultural Production Considerations: The land is very suitable to a variety of food production activities as it is cleared and has been in agricultural use for many years.

Soil Considerations:

- The soils in the southeast corner agricultural field consist of partially to well decomposed organic material overlying moderately fine-textured mineral deposits. The soils are poorly drained, have a high water and nutrient-holding capacity and are relatively infertile and acidic in its natural state.[25] With management practices such as drainage, irrigation and cover cropping, suitable crops include annual legumes, blueberries, cereals, cole[26] crops, corn, perennial forage crops, root crops and shallow rooted annual vegetables.[27]

Agriculture Capability Classification:

- The agricultural parcel is classified as organic Class 4 limited by excess water and permeability due highly decomposed saturated organic materials. The area can be improved to Class 2 using management practices to remove excess water.[28]

Water Considerations:

- Water Availability: there are no suitable or accessible water sources for irrigation.
- Flooding and Development Permit Areas:

[25] Soil Management Handbook for the Fraser Valley, 1991. Ministry of Agriculture.
[26] For example: Broccoli, brussel sprouts, cabbage, cauliflower and kale.
[27] Soil Management Handbook for the Fraser Valley, 1991. Ministry of Agriculture.
[28] Land Capability Classification for Agriculture in BC, 1983. BC Ministry of Environment.

- The site becomes highly saturated with water during the fall and winter and has poor drainage during wet springs. No drainage tiles have been installed.
- The agricultural field is within a flood prone area as designated by the Hazard Land Development Permit Area and within the Sensitive Ecosystems Development Permit areas.

An additional limitation is the narrow access road to the site which can be challenging for certain farm machinery.

Potential for Provision of Ecosystem Services: The park does not fall within the GIN. However, ditches running through the fields can be managed using BMPs such as setbacks from streams/ditches, to facilitate improvements to water quality, quantity, flood storage, habitat for wildlife.

Overall Suitability for Agriculture: The land is very suitable to a variety of crop types as it is cleared and has been in agricultural use for many years. This parcel presents a strong opportunity to continue food production on this parkland within the ALR.

Colebrook Park

Location: 13275 Colebrook Rd, Surrey (Figure 19).

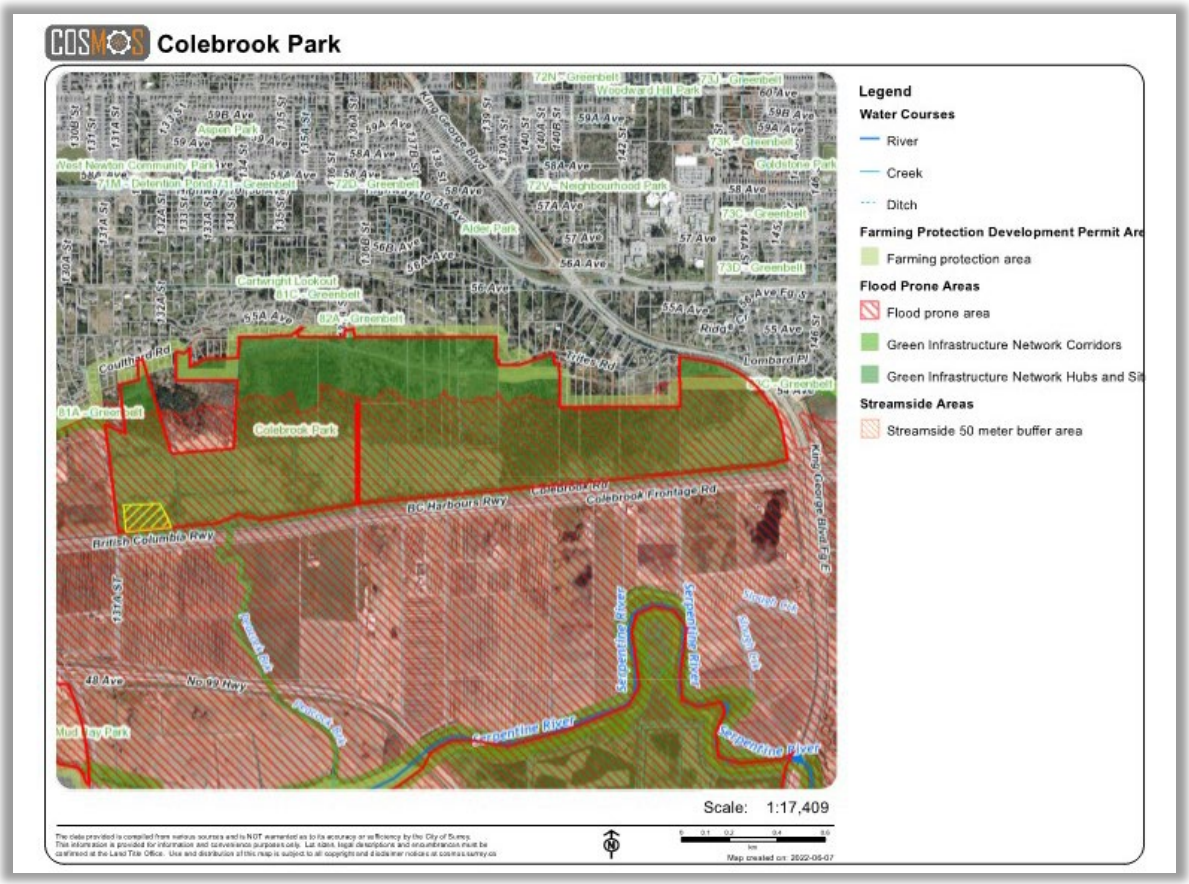

Figure 19 Active agricultural fields (yellow) in Colebrook Park (red outline).

General Description: 175 hectares in size with many uses throughout the park. The majority of the park is a forested escarpment, hillside springs, lowland forested swamp and old-field criss-crossed by recreational trails. A small area in the southeast corner is used by the City of Surrey for soil storage. In the southwest corner of the park there is a 17.2 ha parcel with a heritage house (Thomas Joseph Brown House) leased by the City for residential use. Approximately 1.5 ha of the parcel is subleased for hay production. Within this southwest portion of the parcel there is a BC Hydro Right of Way. In 2001, a plan for the park was created that identifies the southwest area of the park for agricultural uses but has not been updated.[29]

Primary Uses/Focus:

1. Passive Recreation
2. Biodiversity and Conservation
3. Agriculture

Neighbouring Parcels: Adjacent to the parcel is a road, agricultural fields and recreational trails.

Planned Uses: There are no planned uses for the southwest area of the park. The park is a Hub within the GIN and the recommendation within the BCS is to designate the forest and forested swamp areas of the park as a wildlife refuge.[30] In 2012, a Dog Off-Leash Master Plan was created and identified the southeast corner of Colebrook Park as a future location for an off-leash dog park.

Current Agricultural Activities: The area within Colebrook Park with agricultural activities is around Thomas Joseph Brown Heritage House in the southwest corner of the park. Approximately 1.6 hectares is currently being used for hay production (Figure 20). Historical aerial photos indicate that there was agricultural production in the field immediately north of the current hay field in the 1990s. However, this field is now overrun by reed canary grass and saturated at many times of the year. Extensive work would be required to bring the area back into production. As such, the area most suitable for agricultural activity is the existing 1.6 hay field.

Figure 20 Southwest corner (in red) of Colebrook Park with current and potential for agricultural production.

[29] Colebrook Park Management Plan, 2001. City of Surrey.
[30] Biodiversity Conservation Strategy – Appendix J, 2014. City of Surrey.

Available Infrastructure: There are no sufficiently sized barns, storage sheds, or water hook-ups/wells for irrigation or other infrastructure available for a farmer to use. There is a heritage house leased on the property, with a small shed and dug well for personal use by the tenant, and an abandoned livestock shed and fenced paddock; however, the current tenant is not involved in maintaining the hay field.

Agricultural Production Considerations: The land is suitable for a variety of food production activities with improvements required depending on the type of farming activity. There is good access to this parcel for farm equipment. Limiting factors for food production is primarily the poor drainage of the fields, potential of salt intrusion in the soil and the presence of highly established reed canary grass along the perimeters of the hay field.

Soil Considerations:

- The soils are a fertile silt loam, medium-textured, stone-free soil with a relatively high nutrient and water-holding capacity.[31] Limitations of the soils include poor drainage and potentially a low level of native organic matter making them subject to structural degradation, compaction and crusting. However installation of drainage infrastructure can provide a saturation-free root zone for most crops during the growing season. Suitable crops include annual legumes, blueberries, cole crops, corn, perennial forage crops, rooted crops (except carrots) and shallow rooted annual vegetables (except celery).

Agriculture Capability Classification:

- The agricultural capability of this area is Class 3, improvable to Class 2 by removing excess water.[32]

Water Considerations:

- Water Availability: there is no access to a water source for irrigation.
- Flooding and Development Permit Areas:
    - The site becomes highly saturated with water during the fall and winter.
    - The agricultural field is within a flood prone area as designated by the Hazard Land Development Permit Area and within the Sensitive Ecosystems Development Permit areas.
    - The park falls within the longer-term strategic direction for the Mud Bay Planning Area through to 2100 as outlined in the Coastal Adaptation Strategy. Over the next several decades upgrades to dikes, drainage works and flood storage is anticipated to occur to prepare for increased frequency of flooding in area.[33]

Potential for Provision of Ecosystem Services: This park is a GIN Hub. Opportunity exists to enhance integration and protection of ecosystem services along drainage ditches. Examples of ecosystem services that could be provided around the agricultural fields include improvements to water quality, quantity, flood storage, pollination and habitat for wildlife. The 2004 document *Best Management Practices Plan for Meadow Parks in the City of Surrey* proposes several

[31] Soil Management Handbook for the Fraser Valley, 1991. Ministry of Agriculture.
[32] Land Capability Classification for Agriculture in BC, 1983. BC Ministry of Environment.
[33] Coastal Flood Adaptation Strategy, 2019. City of Surrey.

management options to increase the habitat for waterfowl within the park. The park is also within critical habitat for the barn owl, a federally listed species at risk.

Overall Suitability for Agriculture: Currently hay is produced in a small area, and that area could continue to be used for hay production or used to produce other crops. The intrusion of reed canary grass into the hay fields should be monitored and managed. If livestock were to be introduced to the area, then fencing and supporting infrastructure, such as a water source, is required.

Campbell Heights Biodiversity Preserve

Location: 40 Avenue & 184 Street, Surrey (Figure 21).

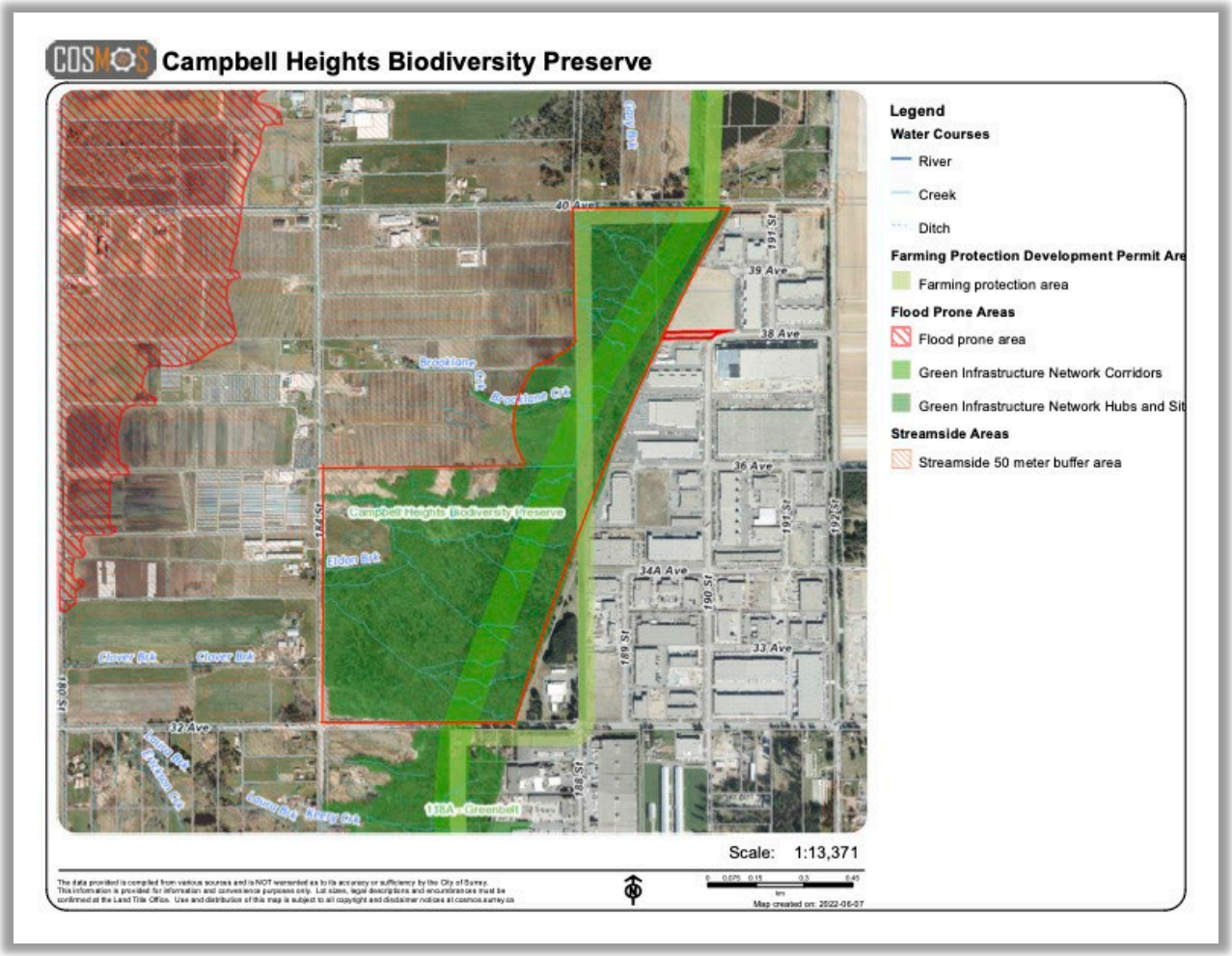

Figure 21 Campbell Heights Biodiversity Preserve (outlined in red).

General Description: Campbell Heights Biodiversity Preserve is a natural area in South Surrey. Currently the parkland has extensive forest cover with a small area of cleared agricultural land. A Management Plan was completed in January 2022, with a vision for the Preserve "to harmonize ecological conservation with agricultural practices and to promote human-nature

relationships through access, education, and community involvement."[34] The majority of the area is within the GIN, except for the small area designated for regenerative agriculture.

Primary Uses/Focus:

1. Biodiversity and sensitive ecosystem conservation
2. Passive recreation and education (e.g. walking, trail running, wildlife observation)
3. Regenerative agriculture

Neighbouring Parcels: Adjacent parcels are used for agriculture or are forested.

Planned Uses: According to the 2022 Management Plan, the aim of the regenerative agricultural area is to "demonstrate to and educate the public that agriculture practices, when managed thoughtfully, with the environment in mind, can complement and even benefit biodiversity conservation efforts." The Management Plan specifies that regenerative agriculture is the preferred agricultural activity on this cleared land within the park. The Plan lists several options for use of this land: conservation agriculture, Indigenous agriculture garden, public washrooms, a teaching or visitors center, and roadside produce stand.

The Plan recommends that this agricultural land be managed by a tenant under the following process and conditions:

- A tenant is to be selected through a City-led selection process and the tenancy will be contingent on the City of Surrey's approval that the application adheres to the vision outlined in the Layout Plan and Management Plan.
- Applications and terms of tenancy leases will be reviewed in collaboration with the Parks Department and the Realty Section.
- Within the application, the interested party must be able to respond to the Parks Departments leasing terms and conditions regarding appropriate agriculture practices to be carried out on site and demonstrate consideration of the following: (1) area requirements for agricultural land; (2) adherence to goals and strategies outlined in this document; and (3) year requirements and phasing for farm plan.
- The proposed agriculture practices may only be those defined as permitted in the ALR by the Provincial Agriculture Land Commission.
- The applicants' proposed compatible agricultural practices must consider principles and elements from agroecology.
- Consideration will also need to be given to how the agricultural portion of the site will be prepped and irrigated for agricultural activities.
- Applicants should consider and aspire to implement the principles and elements of agroecology. Agroecology principles and elements include: (1) Diversify crops, shrubs and trees; (2) Co-create and share knowledge, including Indigenous knowledge systems (3) Optimize biological synergies; (4) Increase resource-use efficiency; (5) Support or enhance nutrient recycling; and (6) Enhance resilience of people, communities, and ecosystems.
- The agriculture practice should also provide opportunities for more intensive engagement and building awareness, such as volunteering and outdoor learning.

[34] Campbell Heights Biodiversity Preserve Management Plan., 2021. City of Surrey.

Activities that are not eligible on the parcel include: artificially lighted greenhouses, wineries & cideries, storage and packaging facilities, equestrian facilities, land development for any purpose, sawmills, pet kennels and breeding facilities, large scale compost production, development and production of biological products for integrated pest management, and aggregate extraction. Other typical farm uses that are also considered to be incompatible include chemical pesticide use, synthetic fertilizer use, non-organic production, and non-integrated single production systems.

Area available for agriculture: Currently, there are no agricultural activities occurring in the cleared area designated for regenerative agriculture. In the recent past this cleared area was used for hay production. Approximately 2.4 hectares of land is currently cleared.

Available Infrastructure: There are no barns, storage sheds, or water hook-ups/wells or other infrastructure available for a leasing farmer to use.

Agricultural Production Considerations: The parcel of the park designated for regenerative agriculture is suitable for a variety of food production activities as it is cleared and has been in agricultural use in the past. Currently the access to the parcel is narrow and will need to be upgraded to allow for trucks and small farm equipment, if necessary.

Soil Considerations:

- The soil type in this area is the Heron and Cloverdale Series, comprised of sandy loam and silty clay loam that are poorly drained with a high water table, resulting in surface ponding during periods of high rainfall. The soils are relatively fertile, and installation of drainage and irrigation infrastructure would widen the range of crops possible and improves productivity.[35] Most areas with these soil types are used for agricultural production, including forage, pasture, cereal grain and silage corn, annual legumes, cole crops, corn, perennial forage crops, and shallow rooted annual vegetables (except celery).[36]

Agriculture Capability Classification:

- The agricultural capability of this area is Class 4, improvable to Class 2 by removing excess water and using irrigation.[37]

Water Considerations:

- Flooding and Development Permit Areas:
    - The site becomes highly saturated with water during the fall and winter.
    - The agricultural field is within a Sensitive Ecosystems Development Permit area.

Potential for Provision of Ecosystem Services: This park is Hub G within the GIN with Corridor 58 running through it. Potential for provision of ecosystem services as a small stream runs adjacent to the agricultural field. Agricultural BMPs related to working around watercourses and farmed field margins can be implemented to enhance integration and protection of ecosystem services. Examples of ecosystem services provided by healthy ecosystems in the park include:

[35] Soils of the Langley Vancouver Map Area: Volume 3, 1981. BC Ministry of Environment.
[36] Soil Management Handbook for the Fraser Valley, 1991. Ministry of Agriculture.
[37] Land Capability Classification for Agriculture in BC, 1983. BC Ministry of Environment.

improvements to water quality, quantity, flood storage, habitat for wildlife. The park is also entirely within critical habitat for the barn owl, a federally listed species at risk.

Overall Suitability for Agriculture: This site presents an opportunity to produce food on parkland within the ALR. A wide variety of crops could be produced on this parcel. The Management Plan sets out the boundaries of what agricultural activities can occur on the parcel[38]. To implement the recommendations in the Management Plan a partnership with a non-profit organization or an educational institution to pursue an incubator farm program, could be explored. Partnerships with Indigenous communities could also be explored for traditional plant cultivation and/or discussion of a farm pilot project similar to the Tsawwassen Farm School.

Moderate Opportunity Parks

These two parks have some opportunities for agricultural and food harvesting activities such as food gardens, fruit gleaning and educational activities. These parks currently provide numerous ecosystem services. The characteristics of each park and recommendations are outlined below.

Godwin Farm Biodiversity Preserve

Location: 9016 164 Street, Surrey (Figure 22).

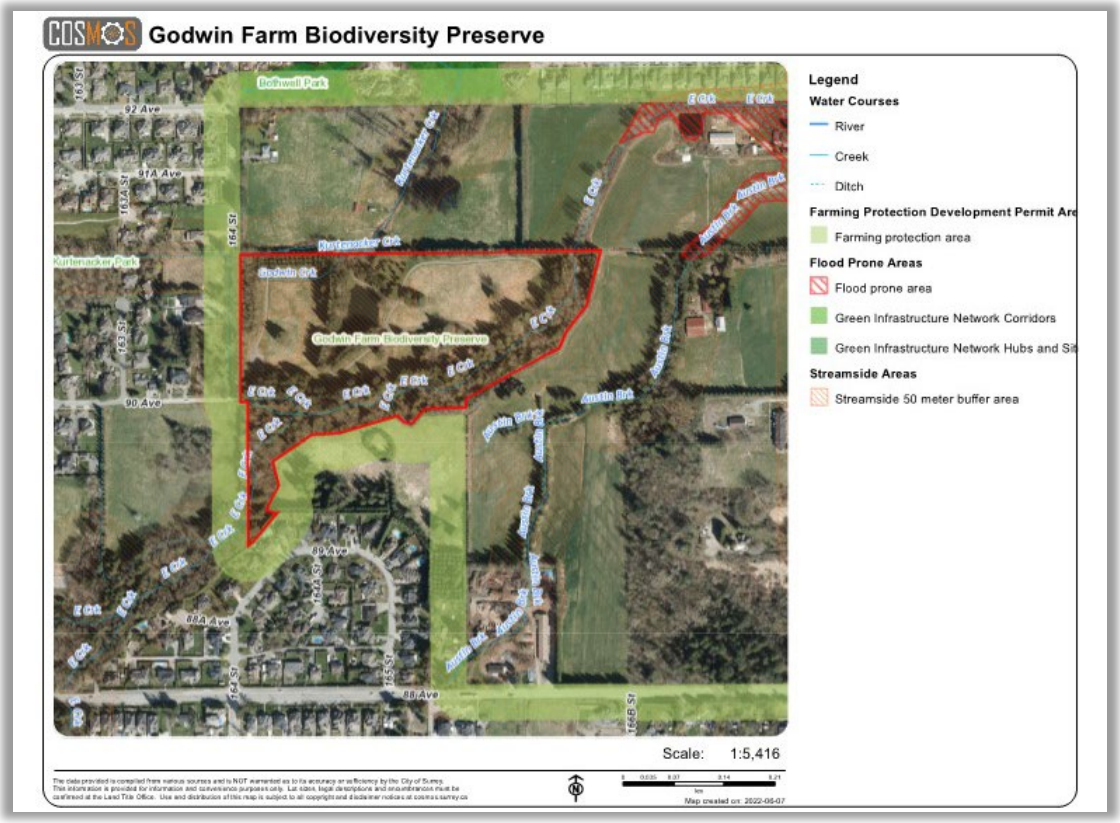

Figure 22. Godwin Farm Biodiversity Preserve.

[38] Campbell Heights Biodiversity Preserve Management Plan., 2021. City of Surrey.

General Description: In 2015, this park was acquired through the Canada's Ecological Gifts program; donated by the Godwin Family to the City so that its environmental heritage and biodiversity will be protected in perpetuity as a legacy for the Godwin family. The park has hundreds of trees including some rare varieties and a registered heritage tree. There is a pond, riparian areas and creeks, nature trails for wildlife viewing and an old garden with apples, blueberries, and figs. The Management Plan for the park outlines the guiding principles of park management and then activities that are allowed and planned for into the future. The figure below visualizes the plan for the park. The area designated for agricultural activities is approximately 0.1 hectares. In 2021, additional native berry-producing shrubs and forbs were planted.

Primary Uses/Focus:

1. Biodiversity and sensitive ecosystem conservation
2. Passive recreation
3. Passive food harvesting

Neighbouring Parcels: Fields (some approved for high density residential development), a subdivision and roads surround this property.

Planned Uses: The Park Management Plan proposes to maintain and enhance the Homestead Agriculture Area to promote interaction, education and awareness of the cultural legacy of the site through passive food harvesting (e.g., fruit gleaning from old apple trees). City discourages harvesting of native plants in parks. As outlined in the Management Plan, the food and agricultural activities are not meant to become a revenue generator or community garden.

Area Available for Agriculture: As the old agricultural fields are managed for biodiversity values, there is less than 0.1 hectares available for agriculture. There are 10 old apple trees in the Homestead Agriculture Area.

Available infrastructure: There is no available infrastructure for agricultural activities.

Potential for Provisions of Ecosystem Services: As the entirety of the park is dedicated towards conservation and stewardships of healthy ecosystems. There is good opportunity to continue to manage for ecosystem services such as clean air and habitat for wildlife. The park is also within critical habitat for the barn owl, a federally listed species at risk, and supports an actively used barn owl nest box maintained by the Parks Division.

Overall Suitability for Agriculture: There is limited potential for food production as the planned primary uses are for conservation of natural ecosystems and enhancing biodiversity of the site. The old field areas will be managed for controlled succession by allowing grass, herb and shrub communities to develop into habitat for pollinators, amphibians, birds and mammals that depend on early successional habitat.[39] As outlined in the Management Plan, the food and agricultural activities are not meant to become a revenue generator or community garden. City also discourages harvesting of native plants in parks. The orchard area can be harvested for apples and provided to local food banks, and there are opportunities for education around

[39] Godwin Biodiversity Preserve Park Management Plan, City of Surrey.

agriculture to be incorporated into park programming of educational activities. There also may be an opportunity to explore partnerships with Indigenous communities to identify opportunities for food sovereignty and public education regarding traditional food and medicinal plants.

Elgin Heritage Park – Historic Stewart Farm

Location: 13723 Crescent Road, Surrey (Figure 23)

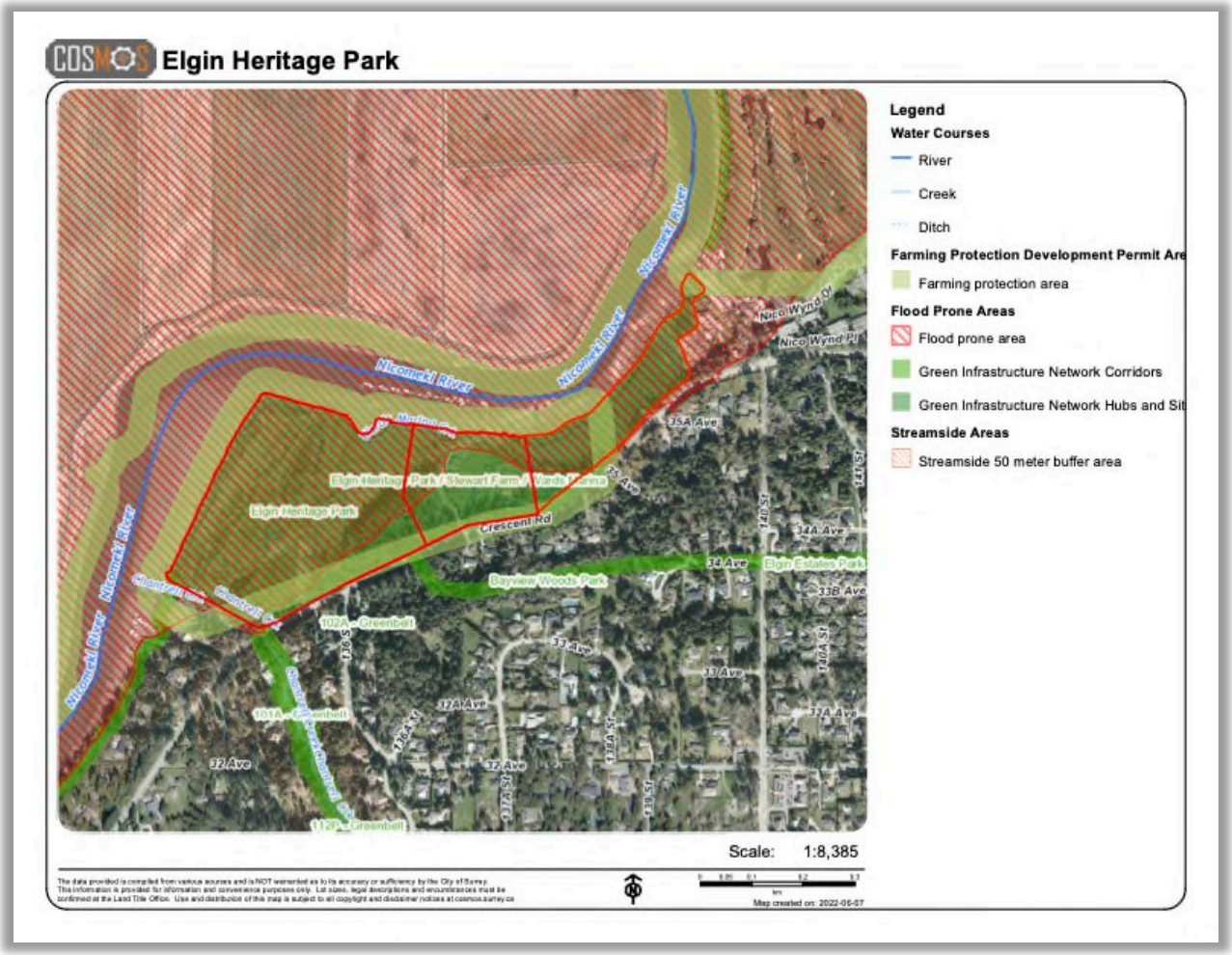

Figure 23. Elgin Heritage Park.

General Description: Elgin Heritage Park is a very popular location for recreation, featuring a wetland, meadow, and forested area with trails. The wetland (tidal marsh) ecosystem supports the floodplain of the Nicomekl River, a major salmon-bearing system in Surrey,. A threatened Species at Risk, the Audouin's Night-stalking Tiger Beetle has been observed at this site. Currently, there are no agriculture or food production activities occurring in the park. Historic Stewart Farm is located in the middle of Elgin Heritage Park. The farm which consists of eight heritage buildings, including the 1894 Stewart Farmhouse protected by heritage designation. Farmhouse tours are offered Tuesday to Sunday from noon to 4:30pm and the park grounds are

open to visitors from dawn to dusk. The park offers many educational activities for visitors and school groups to learn about the history of the site. On the grounds there is a kitchen garden near the Farmhouse and a small orchard cared for by volunteers. The park is adjacent to the Nicomekl River and Ward's Marina.

Primary Uses/Focus:

1. Conservation
2. Recreation
3. Cultural and Historical
4. Educational

Neighbouring Parcels: Next to the Historic Stewart Farm are the natural areas of Elgin Park, Ward's Marina, the Nicomekl River and a road.

Planned Uses: The current primary uses and focus of the park will stay the same.

Overall Suitability for Agriculture: A small amount of land on the site (less than 0.1 hectares) is used for agriculture and managed by volunteers. The small orchard consists of apple, plum and pear trees that produce annually and a small kitchen garden producing vegetables, herbs and flowers. Currently, the orchard is not producing to its full potential due to limitations in staff and volunteer capacity to manage the orchard and pest problems. The volunteers save seeds from heirloom vegetables, herbs and flowers they grow and package them for sale to the community. Several public and school-aged children's programs with a focus on food are run at the farm t. An example is the Heritage Kitchen, a hands-on program that teaches back to basic skills such as preserving, baking bread, making scones, pies, and soups, using the fruits, vegetables and herbs from the garden and orchard. The park also hosts public events related to agriculture and food, such as 'Seedy Saturdays' in the Spring, and an Old Harvest Fair in September (a traditional fall fair with a focus on local food, vintage fair games and entertainment).

Figure 24 Seedy Saturday at the site in front of the heritage barn (left) and the kitchen garden (right). (Source: City of Surrey Website).

Available Infrastructure: There is a shed for storing tools for the kitchen garden, some accommodation for livestock and water for irrigation of the garden. An Indigenous carving centre is under development in the adjacent Elgin Heritage Park.

Potential for Provision of Ecosystem Services: The open areas around the Historic Stewart Farm will continue to be open grass for events and educational programming. The park is a GIN Hub and areas outside of the Historic Farm provide habitat for wildlife, a riparian buffer to the river and many other ecosystem services. The 2004 document *Best Management Practices Plan for Meadow Parks in the City of Surrey* proposes several management options to increase the habitat for wildlife including removing invasive species and planting native vegetation. The park is also within critical habitat for the barn owl, a federally listed species at risk.

Overall Suitability for Agriculture: The current orchard and small garden provide good opportunities to support expanded capacity to increase the fruit and produce being grown, harvested and distributed. The City could examine budgetary needs required to help staff maintain existing garden and orchard so that it does not fall into disrepair. City could continue exploring opportunities with local food security organizations to help harvest the apples and provide to local food banks and continue to support food related educational opportunities and events at the park and the agricultural history within the guided tours. Limitations for expanding agriculture, in the areas outside of the current orchard and garden, include the threat of sea-level rise (this area is not protected by dikes) and saturation of the site during winter months from heavy rainfall. The longer-term strategic direction for the Mud Bay Planning Area through to 2100 (as outlined in the Coastal Adaptation Strategy) is to gradually develop new infrastructure and management approaches along the Highway 99 corridor to prepare for increased frequency of flooding in areas west of the highway.[40] This park falls within that area; therefore, increased frequency of flooding is anticipated.

Low Opportunity Parks

The remaining 12 parks, on the following pages, have been identified as having limited opportunities for agricultural production and other agricultural activities. Biophysical characteristics like flooding and invasive species, greatly limit potential. Additionally, some parks have limited opportunities due to their size, shape, location, land cover, and/or primary use/focus. However, many of these parks provide some ecosystem services to nearby agricultural properties and the region.

[40] Coastal Flood Adaptation Strategy, 2019. City of Surrey.

Hi-Knoll Park

Location: 9569 Colebrook Road, Surrey (Figure 25).

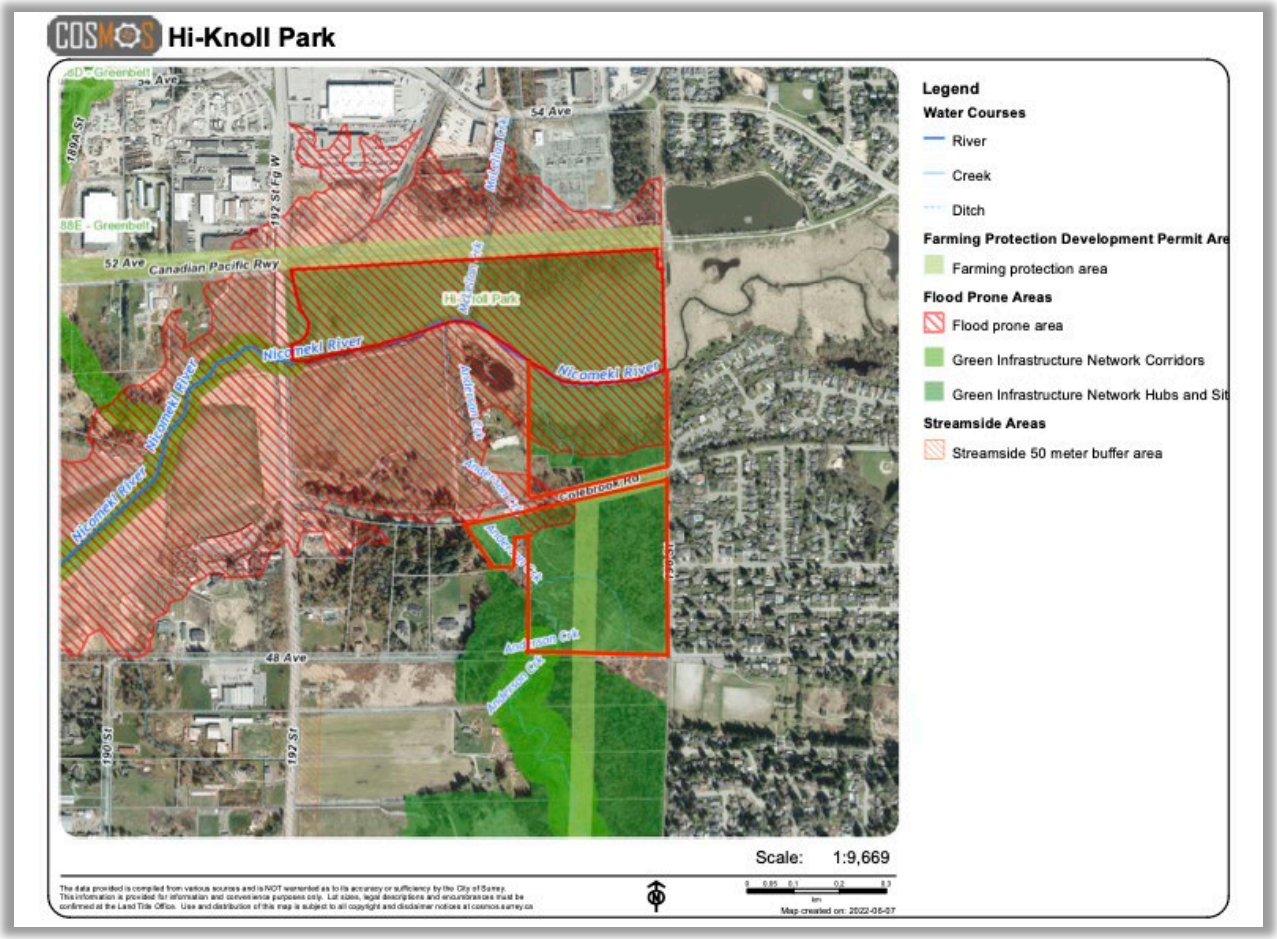

Figure 25. High Knoll Park.

General Description: Hi-Knoll Park is located on the Surrey/Langley border with a trail through forest and meadow habitats. In the northern section of the park, there is a meadow and seasonal swamp in the Nicomekl river floodplain supporting a range of waterbirds and aerial insectivores. During the rainy season, the entire area north of the Colebrook Road parking lot becomes inaccessible due to flooding. The second-growth forested area in the southern section supports two species of fawn lilies, which are uncommon in Surrey's parks. There are currently no agricultural activities occurring in the park.

Primary Uses/Focus:

1. Conservation
2. Recreation

Neighbouring Parcels: Some agricultural fields a major road and railway are next to the park.

Area available for agriculture: Less than 2 hectares in the northwest corner.

Planned Uses: No changes to the current primary uses and focus are planned.

Potential for Ecosystem Services: This park is a GIN Hub and provides numerous ecosystem services such as habitat for wildlife and water quality and quantity benefits. There are large amounts of reed canary grass in the park, which should continue to be managed. The 2004 document *Best Management Practices Plan for Meadow Parks in the City of Surrey* proposes several BMPs to improve habitat in the park such as controlling reed canary grass, planting native trees and shrubs along riparian areas.

Overall Suitability for Agriculture: The area is un-diked and subject to regular flooding as it is within the floodplain of the Nicomekl River, reed canary grass is established throughout area and the area is under a BC Hydro transmission line. The objectives of this park are for recreation and conservation. However, there may be a small opportunity to develop food production in the northwest corner of the park, along 192 Street. This would require the removal of the invasive reed canary grass. Access to the site would need to be improved if any food production were to occur. This area of the park could be an opportunity to partner with Indigenous communities for the cultivation of traditional food and medicinal plants.

Surrey Lake

Location: 7500 - 152 Street, Surrey (Figure 26).

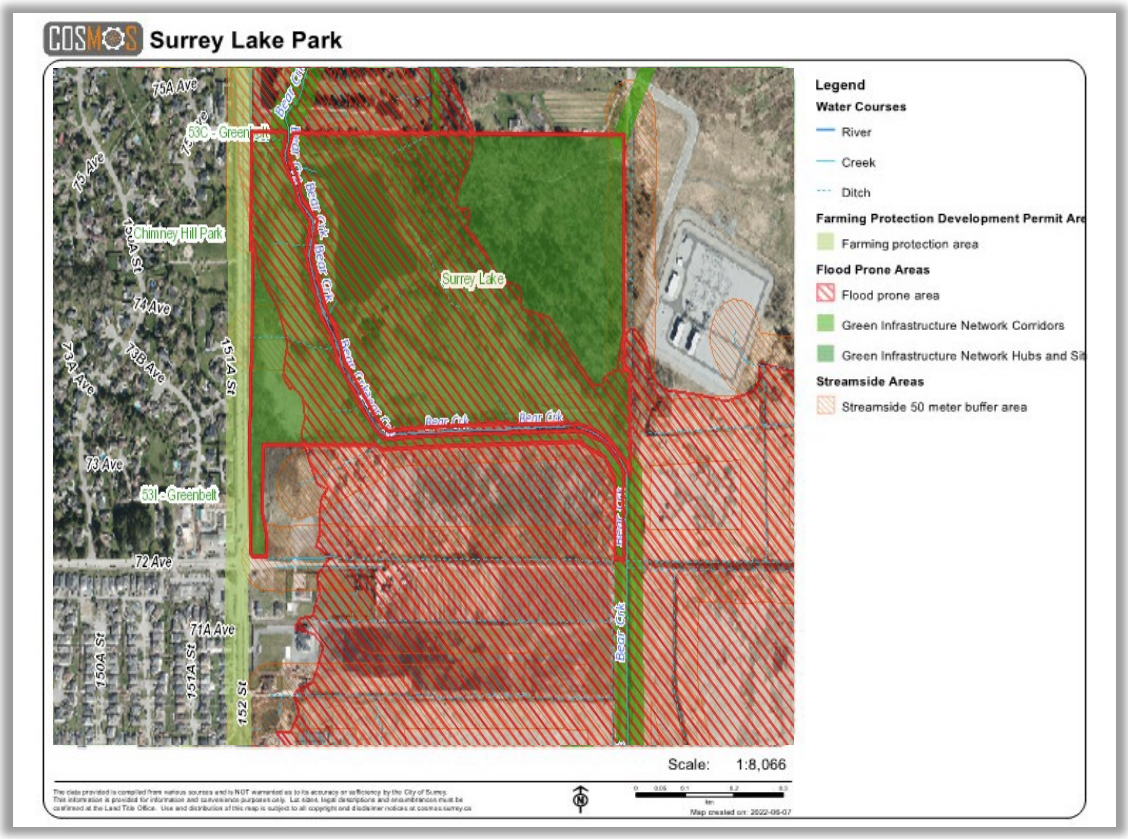

Figure 26. Surrey Lake Park.

General Description: Surrey Lake Park is a scenic natural area featuring a large, human-made lake, wetlands and nature trails. The park is used by residents for recreation along the trails and wildlife viewing. Several years ago, an Oregon Forest snail, a species at risk was claimed to have been found at the site. Currently there are no agricultural activities happening in the park.

Primary Uses/Focus:

1. Conservation
2. Recreation

Neighbouring Parcels: A major road, a suburb and golf course are next to the park.

Planned Uses: No changes to the current primary uses and focus are planned.

Area available for agriculture: Approximately 0.2 hectares or less, adjacent to the parking lot.

Potential for Ecosystem Services: This park is a GIN Hub and provides numerous ecosystem services such as habitat for wildlife and water quality and quantity benefits. There are large amounts of reed canary grass in the park, which should continue to be managed.

Overall Suitability for Agriculture: The primary focus of this park is for recreation and conservation, which limits the suitability for food production. Other limitations for agriculture include the widespread establishment of reed canary grass and the saturated conditions of the site. Given the primary uses and the biophysical conditions of the site, there are limited opportunities for food production. There may be potential to establish community gardens or another small-scale community agriculture project adjacent to the existing parking lot. However, considerations such as demand for a garden in this area, available water for irrigation, and garden infrastructure would need to be considered. There may also be opportunities to partner with Indigenous communities for the cultivation of traditional food and medicinal plants.

Port Kells Park

Location: 19340 - 88 Avenue, Surrey (Figure 27).

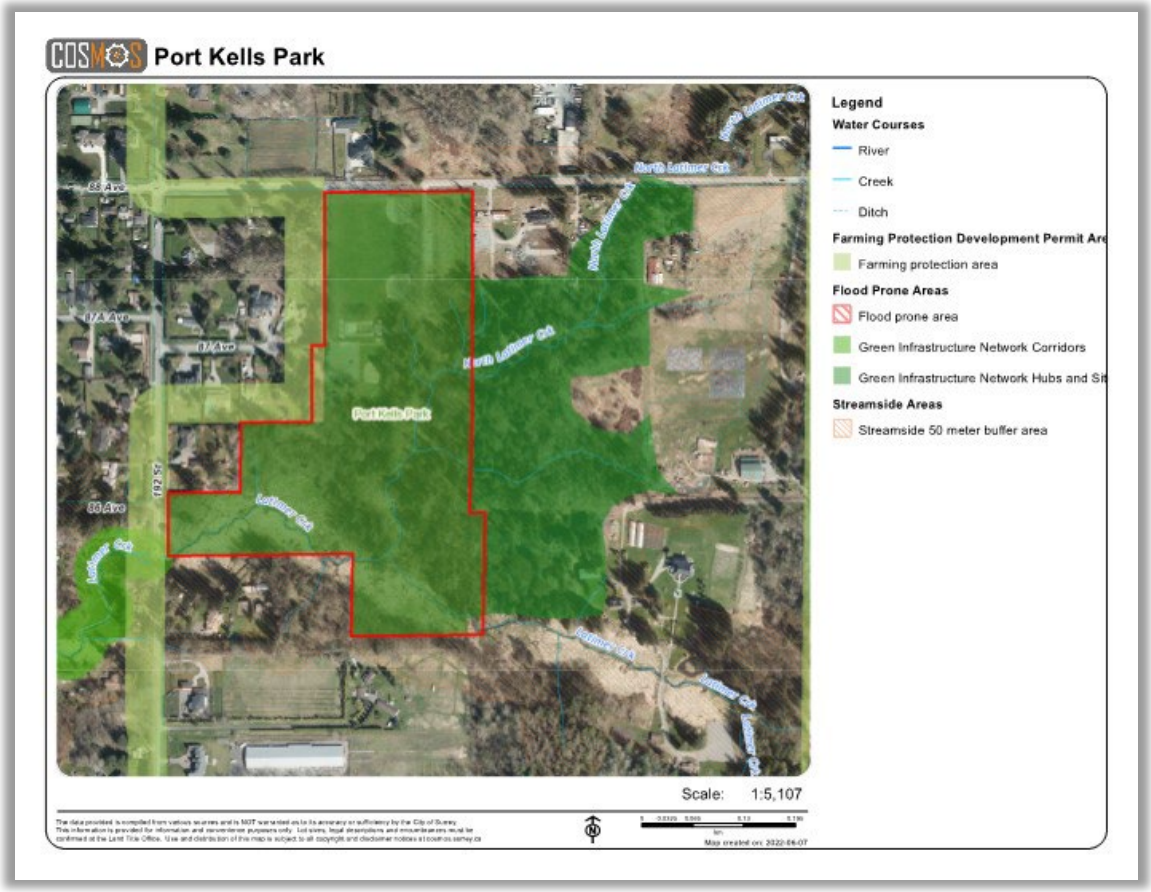

Figure 27. Port Kells Park.

General Description: Port Kells Park is used primarily for recreation and conservation. In the north part of the park, there are several amenities including softball diamonds, an outdoor pool, a playground, picnic spots, washrooms and change rooms. The southern half of the park is used for the conservation of Latimer Creek and a wetland area within its floodplain. The natural areas within the park provide opportunities for bird watching along the pathways. There are no agricultural activities currently occurring in the park.

Primary Uses/Focus:

1. Recreation
2. Conservation

Neighbouring Parcels: A road, a suburb and rural/agricultural parcels are adjacent to this park.

Planned Uses: No changes to the current primary uses and focus are planned.

Area available for agriculture: Approximately 0.5 hectares or less, in the northeast corner of the park.

Potential for Ecosystem Services: This park is a GIN Hub and in the natural areas and wetland provides numerous ecosystem services such as habitat for wildlife and water quality and quantity benefits. The park is also within critical habitat for the barn owl, a federally listed species at risk.

Overall Suitability for Agriculture: The primary uses of this park are for recreation and conservation, which limits the suitability for food production. The northeast corner of the park is currently an open grassy field with a pathway, that may have the potential for a community garden. However, in the summer this area is often used for overflow parking for residents using the softball diamonds. Considerations such as demand for a garden in this area, available water for irrigation, and garden infrastructure would need to be considered.

Charles Richardson Nature Reserve

Location: Between Greenway Drive at 172nd Street and 8700 block of 167th Street, Surrey (Figure 28).

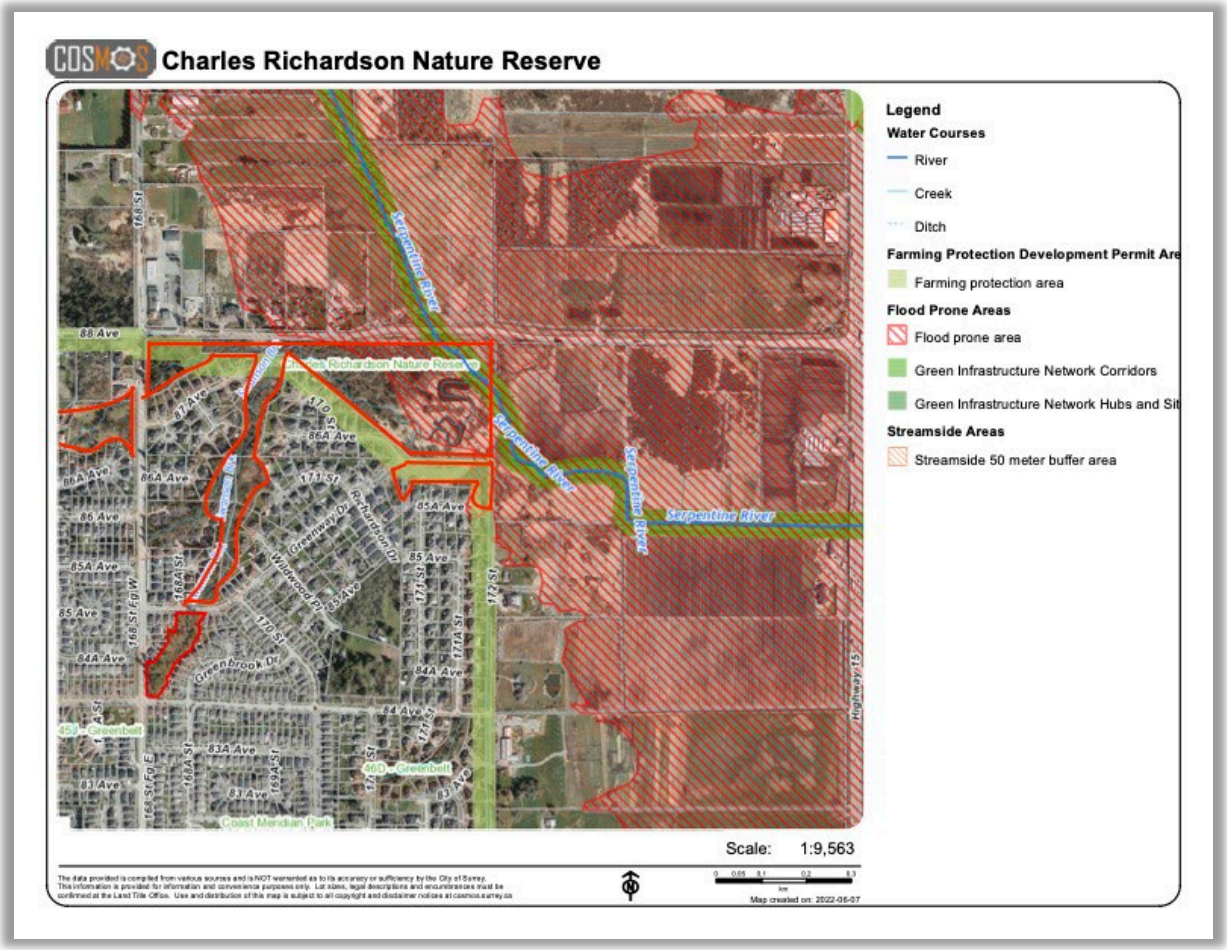

Figure 28. Charles Richardson Nature Reserve.

General Description: The priority for this park is conservation and habitat to increase biodiversity.[41] The Reserve is an important ecological habitat for a number of native fish, bird and small mammal species. The Reserve protects a significant wetland habitat at the confluence of the Serpentine River and Swanson Brook.

Primary Uses/Focus:

1. Conservation
2. Recreation

Neighbouring Parcels: Suburban lots and roads are next to the western portion of the park; the Serpentine River dike and agricultural fields are adjacent to the eastern portion .

Area available for agriculture: None.

Planned Uses: No changes to the current primary uses and focus are planned.

Potential for Ecosystem Services: This park provides numerous ecosystem services such as habitat for wildlife and water quality and quantity benefits. GIN Corridor 126 runs through the northeast corner of the park. Recommendations in the BCS are to protect land adjacent to riparian setback and naturalize this area by planting native tree and shrub cover. The park is also within critical habitat for the barn owl, a federally listed species at risk.

Overall Suitability for Agriculture: There is no potential for agriculture at this site. The City should continue to manage invasive species in the park and maintain native vegetation communities to optimize for ecosystem services. There may also be opportunities to partner with Indigenous communities for the cultivation of traditional food and medicinal plants.

[41] Charles Richardson Nature Reserve website, City of Surrey.

The Glades Woodland Garden

Location: 457 - 172 Street, Surrey (Figure 29).

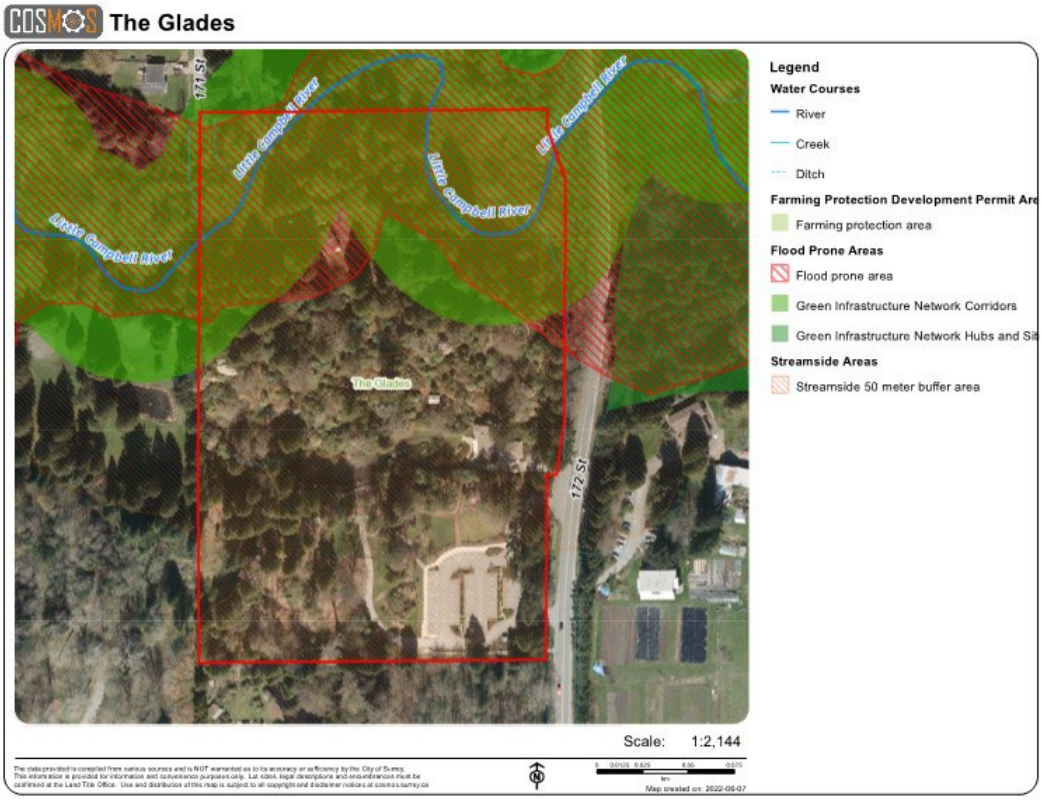

Figure 29. The Glades.

General Description: The Glades Woodland Garden is a botanical garden with over 1,600 mature rhododendrons, azaleas, companion plants and heritage trees.[42] There is a small fee to enter the gardens and walk through the nature trails. The City is currently expanding and enhancing the park to include new feature gardens, gathering spaces, parking, washrooms, and a new main entrance.

Primary Uses/Focus:

1. Recreation
2. Botanical Garden

Neighbouring Parcels: Rural lots, roads and a golf course are next to the park.

Area available for agriculture: None.

Planned Uses: No changes to the current primary uses and focus are planned.

[42] The Glades Woodland Garden website.

Potential for Ecosystem Services: This park has GIN Corridor 41 running through the northern portion of the park and provides numerous ecosystem services such as habitat for wildlife in the riparian areas of the Little Campbell River. The park is also within critical habitat for the barn owl, a federally listed species at risk.

Overall Suitability for Agriculture: There is no potential for agriculture at this site.

103F – Greenbelt (Nicomekl Riverfront Park)

Location: Northeast corner of King George Blvd and Crescent Road, Surrey (Figure 30).

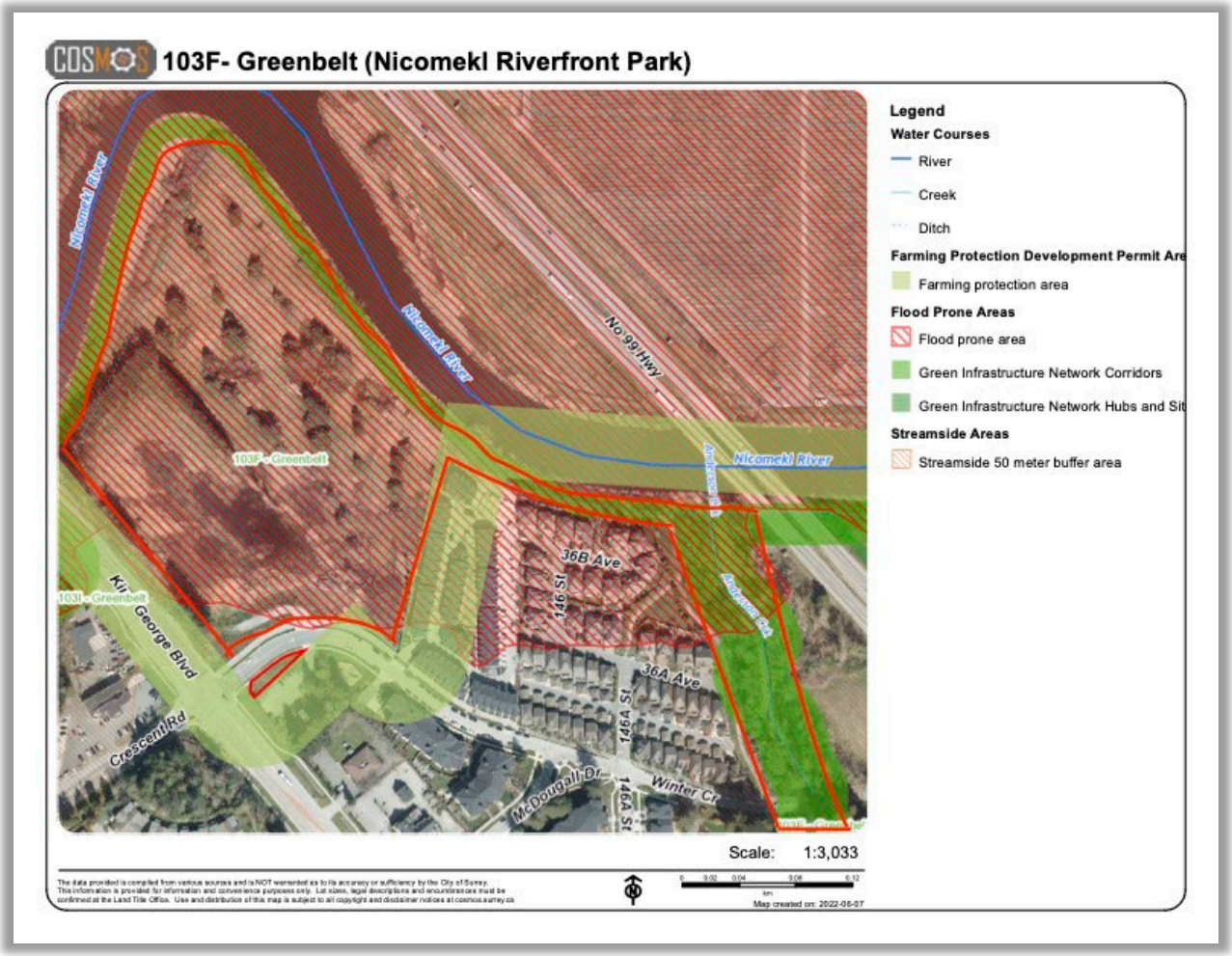

Figure 30. 103F Greenbelt – Nicomekl Riverfront Park.

General Description Site 103F – Greenbelt, will become part of Nicomekl Riverfront Park with projects to enhance the wetlands for flood storage. 103F – Greenbelt is of the Coastal Flood Adaptation Strategy and slated for enhancement projects under the Disaster Mitigation and Adaptation Fund.[43]

[43] Coastal Flood Adaptation Strategy, 2019. City of Surrey

Primary Uses/Focus:

1. Recreation

Neighbouring Parcels: Urban development, the Nicomekl River and roads.

Area available for agriculture: None.

Planned Uses: No changes to the current primary uses and focus are planned.

Potential for Ecosystem Services: GIN Corridor 17 runs through the northern portion of this park and provides numerous ecosystem services such as habitat for wildlife along the riparian areas of the Nicomekl River. The site is part of the new Nicomekl Riverfront Park (the "Oxbow Site") which will include several small, enhanced wetlands and new side channel habitat in the river. The park is also within critical habitat for the barn owl, a federally listed species at risk.

Overall Suitability for Agriculture: There is no potential for agriculture at this site.

Mud Bay Park

Location: 13030 - 48 Avenue, Surrey (Figure 31).

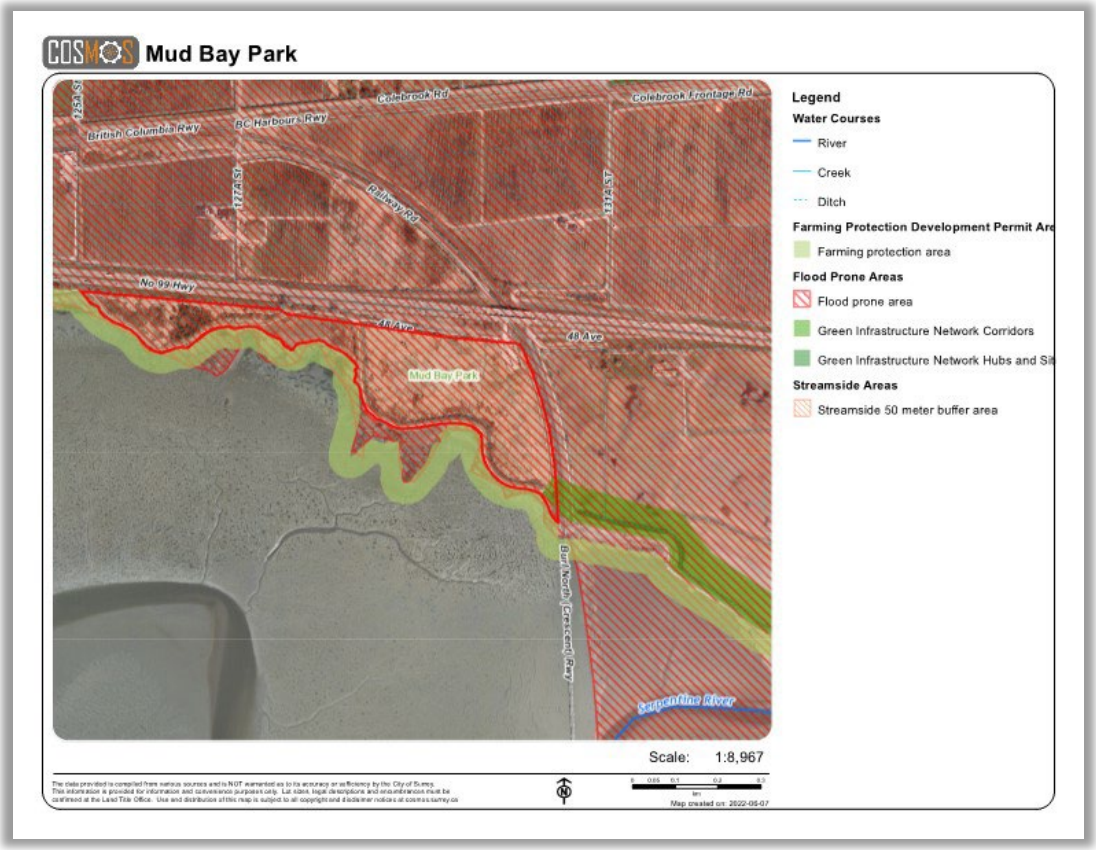

Figure 31. Mud Bay Park.

General Description: At high tide, seals and loons can be seen in the waves. At low tide, shorebird's forage when the mudflats and eelgrass meadows are exposed to the air. Each year, hundreds of thousands of waterbirds stopover here to breed or on their migration along the Pacific Flyway, fueling up the rich food resources f and. Mud Bay Park is part of the Coastal Flood Adaptation Strategy and slated for enhancement projects under the Disaster Mitigation and Adaptation Fund.[44] Mud Bay will see foreshore enhancements to support flood control, and wetland habitat for birds, fish, and shellfish.

Primary Uses/Focus:

1. Recreation
2. Conservation

Neighbouring Parcels: Ocean and a highway are next to the park.

Area available for agriculture: None.

Planned Uses: No changes to the current primary uses and focus are planned.

Potential for Ecosystem Services: This park provides numerous ecosystem services such as habitat for wildlife and water storage as sea level rises. The 2004 Plan for Meadow Parks proposes several BMPs to improve habitat in the park planting native trees and shrubs along riparian areas and installing nest boxes and other features for birds. The park is also within critical habitat for the barn owl and Audouin's night stalking tiger beetle, federally listed species at risk.

Overall Suitability for Agriculture: There is no potential for agriculture at this site.

[44] Coastal Flood Adaptation Strategy, 2019. City of Surrey.

57A – Greenbelt

Location: 181 Street, Surrey (Figure 32).

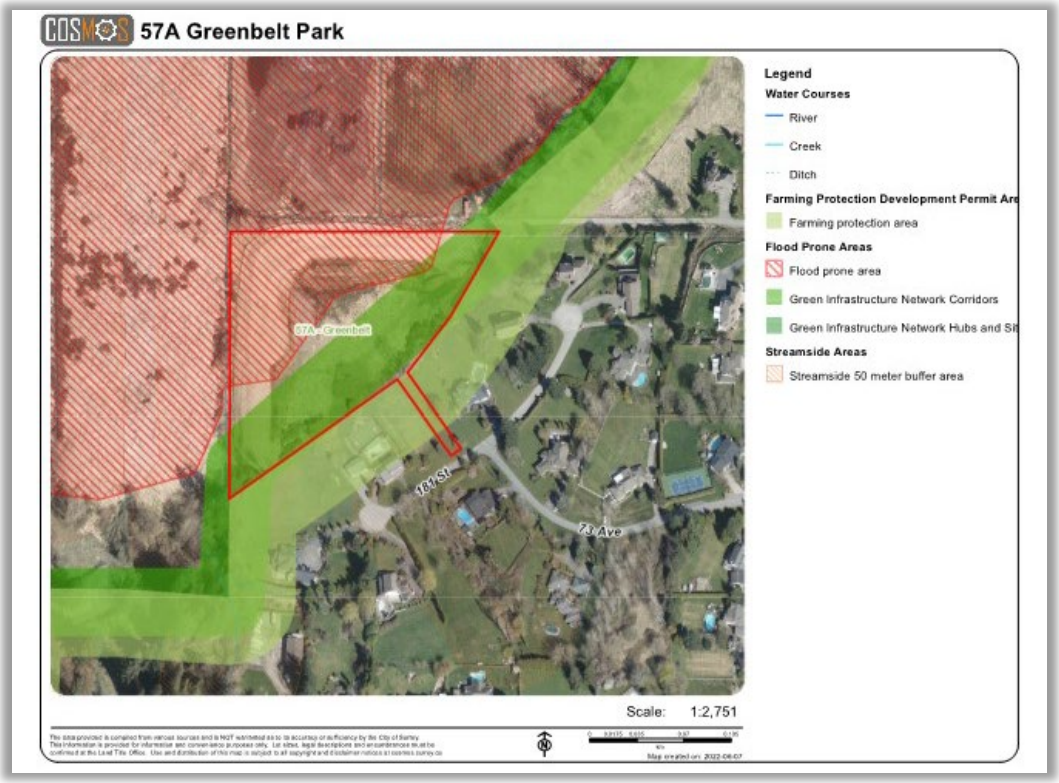

Figure 32. 57A Greenbelt.

General Description: This site is currently in the process of being converted to constructed wetlands to act as detention ponds. The site may have been appropriate for small-scale food production due to its biophysical characteristics, size and access.

Primary Uses/Focus:

1. Constructed wetland (detention)
2. Conservation

Neighbouring Parcels: Rural, agricultural and suburban lots are adjacent to the park.

Area available for agriculture: None.

Planned Uses: Constructed wetland/natural area.

Potential for Ecosystem Services: This park falls within GIN Corridor 140 and will provide some ecosystem services when the wetland is constructed. Provides important edge habitat to adjacent agricultural and old-field areas. The park is also within critical habitat for the barn owl, a federally listed species at risk.

Overall Suitability for Agriculture: There is no potential for agriculture at this site.

ALR Park Sites Adjacent to Agricultural Properties

The City owns many parcels of varying size and configuration that serve as natural area/vegetated buffers and riparian corridors adjacent to much larger agricultural parcels. Several of these are parks within the GIN. These are 49A Greenbelt (Figure 33); 118C & 128B Neighbourhood Park (Figure 34); and 138A Greenbelt Park (Figure 35). These parcels provide an opportunity to manage for ecosystem services that can benefit the adjacent agricultural uses. Examples of ecosystem services provided by these sites include protection of water quality, habitat for pollinators and wildlife, carbon sequestration, soil enrichment and many others. All are within critical habitat for the barn owl, a federally listed species at risk.

Figure 33. 49A Greenbelt.

Figure 34 118C and 128B Neighbourhood Park.

Figure 35 138A Greenbelt Park.

Appendix B: Considerations for Land Use Agreements

The following section provides an overview of various land use agreements; in particular, leases and licences as they relate to agricultural lands.

Agricultural Land Use Agreements

In Canada, the Crown is the absolute owner of the land. Holding a title to a piece of land, means holding an "estate" in land[45]. An estate in land is a bundle of rights but is less than absolute ownership. In general, the categories of estates in land, outside of absolute ownership by the Crown, include:

1. Fee simple: This is the largest "estate" known in law and is what most people think of as owning private property. Fee simple gives the owner a larger bundle of proprietary rights to the land than other estates, including the right to exclude and to use, within the bounds of the law.

2. Other estates: Life estates and similar estates provide fewer rights than fee simple and are not common in property law in North America.

3. Lease: A lease is where a landowner gives exclusive possession of a property or a portion of a property to a tenant. A landowner's rights to actual possession of the land are suspended during a lease.

4. Licence: Licences are not estates in land. They cannot be registered on title, but they can be contracts and fall under contract law if they meet certain criteria.

Agricultural Licences

A licence gives a person permission to do something on or with someone else's property. It can be a contract, but it does not register with the Land Title Office and is not an "interest in land", therefore does not give exclusive possession of the land granted. Multiple licences are allowed on one property and sub-agreements are possible. Licences can be developed for any length of time. If the licensor breaks the terms of the licence, the licencee can only recover monetary damages.

There are generally no restrictions to a landowner entering into one or more licence agreements in relation to farmland in the ALR and permission from the ALC is not required. A person cannot take out a mortgage on a licence.

Licences only apply to the people who sign them. For example, if the land is sold, the new owner is not bound by the licence. If the person with the licence passes away, the estate cannot transfer the licence to the heirs unless stated so in the licence. If licences meet certain criteria, they can legally be considered contracts. These types of agreements may be suitable where multiple agreements on one parcel of land are desired and the land is in no danger of being sold, for example, when the land is held by a land trust or a government body.

[45] Disclaimer: The discussion on leases and licences is for general information only. It is not legal advice and a lawyer should be consulted when developing and signing any legal agreements.

A licence may be a good choice of agreement in situations where:

- Multiple agreements on ALR land or an agreement on part of ALR land are desired.
- The land is not at risk of being sold during the term of the licence.
- A specific use of the land is desired (e.g. specific agricultural activities or land management practices).

From a landowner perspective a licence will not decrease the value of the property because it is not tied to the title of the land.

Agricultural Licences in Metro Vancouver Parks

Historically, several licences have been held for agricultural purposes within Metro Vancouver parks, including Aldergrove Lake Regional Park. They included five land-based licences and two structure-based licences, over 2–3-year renewable terms.

Agricultural Leases

A lease is an estate in land and gives a person all the use and occupation rights of a landowner to a piece of land or portion of land for a determined period of time in exchange for rent paid to the landowner. The property owner retains the right to dispose of the land while the tenant has exclusive possession of the land under the lease and the responsibility of maintaining it according to the terms in the lease. When the lease is over, the land reverts to the landowner.

As an interest in land, leases can be registered with the BC Land Title Office on the title to the property. A registered lease is subject to the same Land Title Act requirements as a fee simple lot. When registered, leases "run with the land," which means that when the land is sold, the lease is transferred to the new landowner along with the title to the land. A registered lease also ensures that the agreement is legally recognized as a lease and cannot be interpreted as another type of agreement, such as a contract, that does not give any rights in land.

Leases on part of a parcel of land and longer than 3 years, or that have the option to be extended past three years, are considered subdivisions under Section 73 of the *Land Title Act*. For example, if a landowner leases a specific area of property to a farmer for 12 years, the property is considered subdivided for 12 years. Before the lease(s) can be registered, the subdivision process must be followed and granted approval by an approving officer. The *Land Title Act* states that when part of property is leased for longer than three years, the property must go through the subdivision requirements outlined in the Act. The subdivision must be approved by an approving officer, and this approval only carries for the term of that particular lease. When the lease terminates, so does the subdivision. The subdivided areas cannot be transferred separately under this approval (e.g., the owner cannot sell the leased area as a separate lot from the original property). In 2007, the legislature amended the Act to clarify that leases longer than 3 years that do not meet the subdivision requirements are not unenforceable.

From a farmer's perspective, a lease is the most desirable type of long-term farmland access agreement because it creates a situation very similar to that of owning the land. From a landowner perspective, a lease may decrease the value of the property if the owner is planning on selling before the term of the lease expires.

Other lease considerations:

- If the property is in the Agricultural Land Reserve (ALR), permission for subdivision is required from the Agricultural Land Commission (ALC). One lease on an entire parcel of land is not considered a subdivision, and permission from an approving officer and the ALC is not required.
- A tenant can obtain a mortgage against a lease, and the lease agreement should stipulate if a mortgage is allowed and under what terms.
- Leasing and subleasing part of a property, both in and outside of the ALR, where registration on the title to the land is desired may prove challenging and expensive because of subdivision requirements.
- If multiple farmers or farm businesses will be leasing different sections of the same property, it may be easier, less time consuming and more cost-efficient to use a different type of agreement, such as a licence, that does not involve the subdivision process.
- Leases do not have to be registered. However, an unregistered lease will not "run with the land," and there is a risk it would not be recognized as an "interest in land" if challenged in court.

Leases vs. Licences

Table 6 Comparison of leases and licences as tools for agricultural land use agreements.

	Lease	License
Description	Gives a person all of the use and occupation rights of a landowner to a property or portion of property for a determined period of time in exchange for rent. The landowner retains the right to dispose of the land. When the lease is over, the land reverts to the landowner.	Gives a person permission to do something on or with someone else's property. Can be a contract.
Register with the Land Title Office	Yes	No
Exclusive Possession of Land Granted	Yes	No
Multiple on One Property	More than a 3 year lease requires subdivision approval*	Yes
ALR	Requires ALC approval	Yes
Non-ALR	Requires Approval Officer approval	Yes
Length	Any length of time	Any length of time
Mortgage of Instrument	Yes	No
Sub-Agreement Possible	Yes	Yes
Action for Recovery or Loss	If tenant is wrongfully evicted from the leased land, they can bring action to recover the leased land.	If the licensor breaks the terms of the licence, the licencee can only recover monetary damages.

Land Use Agreement Terms

Characteristics of a successful land use agreement include:

- Compatibility: Do you have a similar vision? Can differences in opinion be discussed?
- Clarity: Do you clearly understand the terms of the agreement? Are those terms in writing?
- Equitability: Are the agreement terms fair to each of you?
- Flexibility: Can the agreement be amended if changes occur?
- Suitability: Is the agreement suitable to the type of farm operation and does it encourage sustainable practices?

Length

In order to facilitate long term farm planning and allow the farmer to make significant investments in soil management and equipment, long term agreements are preferred. Two successful community farms in BC with long term agreements are located on public land: Nicomekl Community Farm in Langley and Haliburton Farm in Victoria. In the case of Nicomekl Community Farm, The Land Conservancy (TLC) of BC acquired the remaining four years of a 40-year lease on 20 acres of Crown land, and sub-leased the property to the farmer. The Haliburton Farm Society acquired a lease on 7 acres of municipal land in Victoria. New zoning arrangements were pursued and achieved by the Haliburton Society for a "demonstration farm" zone.

Rates

Lease and licence rates vary widely, and depend largely on:

- The length of term (the longer the term, the higher the rates because the farmer is provided with more confidence in any infrastructure investments s/he makes);
- Infrastructure available at the time access agreement is made (higher rates for land that is fenced, has drainage or irrigation systems in places, barns or other structures, some sites may already have crops planted);
- Capability of the soil (higher rates for soil with greater agricultural capability); and
- Access to markets (higher rates for sites that have road access or are located near processing and distribution centres).

A report commissioned by Community Futures in Abbotsford (2011) noted the following lease rates in 2009:

- $150/acre/year for horse pastureland;
- $500-$600/acre/year for average land to $900-$1,000/acre/year for high quality land for vegetable farming; and
- $1,000-$1,300/acre/year for raspberries.

Where no fencing or infrastructure is present, and no management inputs have been invested in the property, fees can be $0 for the first 3 years and then increase proportionally in subsequent licence terms. By contrast, berry fields with irrigation and drainage in place have been licensed in the Abbotsford area for upwards of $1,000 per acre per year (M. Robbins, pers. comm., 2011).

A certified land appraiser, such as Arc Appraisals in Abbotsford (http://www.arcappraisals.com/), can give a thorough inspection of the property and suggest a fair rate for both the farmer and the landowner.

Appendix C: Biodiversity and Stewardship Objectives in the Context of Land Use Agreements

Complex, diverse agricultural landscapes have the greatest potential for supporting plants, animals, and beneficial organisms. Native, structurally diverse plant communities support a greater diversity of beneficial organisms in agro-ecological landscapes, providing benefits to the farmer through increased yields, resistance to pests and diseases. They also provide mitigation to climate change through increased resilience to environmental stressors.

Objectives to maintain, restore or enhance biodiversity and habitat that also provide meaningful benefits to farm lessees can be included in land use agreements.

Some of the following guiding principles of biodiversity objectives are based on the City of Surrey's BCS as well as the Environmental Farm Plan Planning for Biodiversity Guide[46] as well as other related documents.

1) Protect, maintain and improve agro-ecological characteristics at site level while preventing degradation and minimizing potential impacts of climate change through adaptation and mitigation.
2) Restore and rejuvenate soil biota, health and structure while reversing any undesired human impacts and removing invasive species while promoting native ecological diversity.
3) Enhance and improve areas of native or non-invasive beneficial vegetation to benefit pollinator services and wildlife friendly habitat.

Biodiversity and Stewardship Clauses

Additional clauses may be written into lease or licence agreements that further outline specific land use practices and allowable uses (for both the licensee and licensor) on the property. These optional clauses could include:

- Clear terminology around key concepts like biodiversity, regenerative agriculture etc.
- Submission of an Environmental Farm Plan.
- Following specific land use protocols (e.g., crop rotation, soil conservation, compost management, disease and pest management, limit chemical inputs, and other specific agricultural practices). FarmStart Ontario (Brampton, ON) and Intervale (Burlington, VT) require new farmers to sign land use protocols in addition to lease terms.
- Require that use of land in Biodiversity Preserve must follow organic/non-chemical farming practices (but do not have to be certified organic).
- Be clear about roles and who manages what aspects of the land – e.g., invasive plants, clearing/maintaining drainage ditches, tree care maintenance, etc.
- Address site-specific characteristics for protecting biodiversity.
- Building-in rate incentives for those who go beyond minimum biodiversity requirements, which may stimulate more comprehensive biodiversity practices.

[46] Planning for Biodiversity: A Guide for Farmers and Ranchers. 2010. Province of BC. Accessed March 25, 2020: https://www2.gov.bc.ca/gov/content/industry/agriculture-seafood/agricultural-land-and-environment/biodiversity/efp-biodiversity-guide

- Reduced tenure rates and/or other forms of in-kind support should be considered for tenants who demonstrate willingness to implement BMPs.
- Consider asking potential tenants to propose rates based on what value-added activities and BMPs they can provide (e.g., regenerative agriculture practices).

The City of Surrey may want to develop a land tenure agreement template and/or a site assessment checklist of actions that serve to protect, restore, and/or enhance biodiversity and ecosystem services. This checklist could be completed on an annual basis by the tenant and serve as a tool for the City to use to track biodiversity and stewardship objectives.

Examples of Beneficial Management Practices for Stewardship of Ecosystem Health

Examples of agricultural BMPs that enhance ecosystem services include[47],[48]:

- Plant locally adapted species, favouring native species.
- Manage the timing and intensity of livestock use of forested pastures and tree/shrub stands in native pastures to avoid heavy browsing and maintain healthy shrub/tree populations.
- Protect nests by establishing vegetation buffers and minimizing activities near the nests.
- Leave large logs in riparian areas for habitat.
- Replant or allow natural regeneration to (re)connect wooded areas on the farm.
- Integrate management of trees and livestock pasture (silvopasture).
- Conserve wildlife trees, rock piles, and other wildlife habitat features.
- Undertake forest operations when soils are dry or frozen to minimize soil and root disturbance.
- Avoid the overuse of fertilizers or manure that may be transported into riparian areas.
- Protect against loss of plant diversity and vitality in riparian areas.
- Protect against the establishment of exotic or non-water-loving species in riparian areas.
- Avoid practices that artificially alter streamflow.

In some cases, the condition of the riparian areas and wetlands may require some investment to bring the area up to a healthier or proper functioning condition. Improvement of wetland and riparian areas can occur by implementing the following practices[49],[50]:

- Retain a wide variety of native plants that are adapted to living in riparian areas.
- Control invasive weeds.
- Encourage a diverse mix of plant species and age that:
    - Are adapted to the climate, soil and water conditions;
    - Fosters a good rooting system for bank stability.

[47] BC Ministry of Agriculture, Food and Fisheries. (2016). Developing a Riparian Management Plan Version 2.0. (Excerpts taken from the Riparian Management Field Workbook & Biodiversity Guide).
[48] BC Ministry of Agriculture, Food and Fisheries. (2021). British Columbia Environmental Farm Plan Reference Guide 6th Edition.
[49] Ibid.
[50] BC Ministry of Agriculture, Food and Fisheries. (2016). Developing a Riparian Management Plan Version 2.0. (Excerpts taken from the Riparian Management Field Workbook & Biodiversity Guide).

- Develop off-channel watering and/or construct fencing that controls livestock access to riparian areas and watercourses.
- Improve stability with erosion control structures by:
    - Contouring terraces with earthworks and seeding;
    - Stabilizing gullies and waterways with erosion control matting, silt fencing, seeding;
    - Stabilizing banks through bank shaping, revetment, gabions, riprap, crib walls, re-vegetation, and blanketing; and
    - Protecting riparian trees and shrubs from rodents such as beavers.
- Manage the timing and extent of grazing in riparian areas to protect native species, leave ample residue/litter, and avoid creating wet trampled spots (e.g., avoid overgrazing forbs and shrubs).
- Where appropriate, use thorny shrubs (e.g., hawthorn) or dense plantings of conifers to deter livestock from using riparian restoration areas.
- Avoid or minimize the impact of farm machinery use in or around riparian areas.
- Connect or reconnect riparian habitats by leaving an uncultivated corridor, planting native vegetation, a shelterbelt, or a hedgerow between them.
- Enhance aquatic habitat by maintaining features that provide habitat complexity, such as large woody debris.
- Minimize the risk of trapping fish in seasonally wetted connections to aquatic habitat.
- Appropriately size and place culverts so that fish passage is not impeded.
- Allow selected areas to flood to provide habitat for migratory waterfowl.

The City Biodiversity Design Guidelines provide examples of habitat structure, road ecology, drainage and buffering landscaping applicable to agricultural areas.[51] Examples include installing nest boxes, leaving wildlife trees, vegetative buffers and appropriately designed and managed culverts.

[51] Biodiversity Conservation Strategy – Appendix B, 2014. City of Surrey.

Appendix D: Local Policy Landscape of Agriculture, Ecosystem Services and Parkland.

The City and its neighbouring municipalities recognize in their Official Community Plans (OCPs) and agricultural planning documents the opportunities for agricultural practices to support ecosystem health. Below are excerpts that provide examples from several municipalities:

- City of Delta OCP: "Encourage initiatives, including best management practices, that support both farming and wildlife, protect against soil erosion and degradation, and maintain water quality and hydrological functions on agricultural land."
- Township of Langley Agricultural Viability Strategy: "Support farmers using best management practices for activities that may impact the quality of surface and groundwater" and "Support farming practices that enhance wildlife and wildlife habitat."
- City of Richmond OCP: "Encourage sustainable farming practices, in coordination with relevant City departments, the Food Security and Agriculture Advisory Committee, Agricultural Land Commission, and Ministry of Agriculture and Food, including water and soil conservation, greenhouse gas emissions reductions and soil management."

The City's statutory and non-statutory plans recognize the opportunity to link agricultural practices and healthy ecosystems to benefit both farm viability and the environment. The City also supports community gardens as a recreational activity and food production on parklands.[52] Table 7 provides examples from various City policies and strategies that align and/or support these objectives. The examples provided are not an exhaustive list of statements.

Table 7 Examples of statements from City of Surrey's statutory and non-statutory plans and policies that link agriculture, parks and ecosystem services.

City of Surrey Documents	Relevant Statements
Official Community Plan (2013)	• Vision: A Greener Surrey includes a connected network of protected natural ecosystems comprised of urban forests, riparian areas and wetlands, foreshore areas, grasslands and protected farmlands. • Policy: D1.11 Work cooperatively with the farming community to identify opportunities to protect and enhance wildlife habitat in agricultural lands, while recognizing the primary role of food production. • Policy: E3.30 Encourage sound environmental agricultural and farm practices by working with farmers to participate in the Provincial Environmental Farm Plan program in order to promote clean and healthy air, water and soils. • Policy: E3.32 Support programs and opportunities that help support pollinators and their valuable role in the continued viability of farming operations. • Policy: E3.33 Encourage Best Management Practices for riparian areas and streams in agricultural areas in order to support fish populations in accordance with the requirements of the Department of Fisheries and Oceans (DFO) and the Provincial Water Act, as amended.

[52] Community Gardens Website, City of Surrey.

Parks, Recreation & Culture Strategic Plan (2018)	• Five overarching themes (goals) of the Plan and support the vision of a healthy, green, inclusive community.:
	  o High quality parks and facilities for all
	  o Engaged and healthy community
	  o Vibrant and creative city
	  o Leader in environmental stewardship
	  o Effective management of resources
	• Objective P3: Foster environmental stewardship and nature connectedness.
	• P5.5: Increase opportunities to learn about and experience agriculture. For example: a working farm park and more community gardens.

Sustainability Charter (2016)	o The Agricultural Land Reserve is maintained, agricultural practices are sustainable, and food production and processing are enhanced. o Water is efficiently and fairly distributed to support agricultural needs while maintaining ecological functions. o Support farmers to adapt their businesses to impacts from climate change. o Parks, natural areas, urban forests and habitat corridors are interconnected throughout Surrey and the region, creating healthy places for people and wildlife. o Surrey residents support biodiversity conservation and are stewards of natural areas and urban forests on both public and private lands.
Agriculture Enhancement and Protection Strategy (2013)	Strategic Directions: - Land Base: Preserve and enhance Surrey's agricultural land base for farming - Infrastructure: Provide infrastructure necessary to support the growth and viability of the agricultural industry - Agri-Urban Connections: Enhance connections and relationships between agriculture and urban residents. - Sustainability & Resilience: Ensure a sustainable and resilient agri-food sector into the future. Strategy Implementation: - Supporting feasibility studies and pilot projects on a number of key aspects including: A farm incubator program supporting young farmers.
Biodiversity Conservation Strategy (BCS) and Green Infrastructure Network (GIN) (2014)	Objective: Enhance biodiversity on ALR through habitat protection and enhancement and sustainable agricultural practices - Work with local farmers and conservationists to find ways to improve stewardship on agricultural land. - Encourage farmers to establish and protect riparian buffers on agricultural land that consider flood return levels. - Work with farm community to sustainably manage temporal and geographic distribution of fallow fields to support biodiversity, particularly migratory birds. The GIN identifies the pieces of the habitat puzzle necessary to maintain biodiversity values across the City, including include agricultural lands. The Biodiversity Design Guidelines can be used as a tool for identifying beneficial management practices for agriculture to support biodiversity and ecosystem services.

Coastal Flood Adaptation Strategy (2019)	CFAS Planning and Design Principles: - Ensure that flood management actions support multiple community values wherever possible (e.g., environment, agriculture, residents, recreation, economy, culture) - Steward and support local agriculture, including supporting adaptive approaches, methods, and new products to preserve the area's agricultural heritage.
Climate Change Action Strategy (ongoing)	Climate Positive Resilient Ecosystems: Support ecosystem restoration and agricultural practices that remove more carbon pollution from the air: Encourage agricultural practices that increase soil carbon, restore ecosystems, and enhance local food production.
Farm Protection Development Permit Area (2014)	The Guidelines are intended to protect Agriculture and Farming operations from the effects of adjacent urban development by using Vegetative Buffers and Building and Site Design specifications.