Harnessing the Collective Power of Nature Clubs

Collaborative opportunities for invasive species management and other priorities identified by BC Nature clubs in the Lower Mainland

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Executive Summary

The Fraser river estuary (FRE) is an ecologically and culturally important area that has historically supported the world's largest wild salmon run and is one of the most important migratory and wintering areas for waterfowl and shore birds in the Pacific Northwest. The FRE is found at the heart of the Lower Mainland, which is currently home to half of British Columbia's population. The dense human population and continuously growing urbanization have led to less than 30% of the FRE's habitat remaining intact, putting species that rely on this area in jeopardy. Over 102 species at risk (SAR) can be found in the FRE, many of which are severely impacted by habitat loss and degradation caused by development and invasive species.

Spread throughout the Lower Mainland are many local nature and naturalist clubs, made up of people who deeply care for the land they live on, and often volunteer their time to steward and restore habitat and ecological communities at risk. One of the main activities that clubs in the Lower Mainland do is invasive species management. Restoration and invasive species management provide a wide range of benefits to habitat quality, ecosystem functioning, and native species persistence. However, this type of work can be difficult, expensive, and time consuming, with many invasive species requiring continued effort for many years.

BC Nature is a federation of over 50 nature clubs throughout British Columbia, and one of its main purposes is to support the work and goals of nature clubs. While many of the federated nature clubs in the Lower Mainland conduct similar invasive species management activities, currently there is not enough communication and no collective strategy amongst them. This report identifies club actions that are benefiting species at risk and proposes collaborative projects with potential funding opportunities in the Lower Mainland.

Introduction

The Fraser River is the longest in British Columbia (BC), flowing through 11 biogeoclimatic zones before arriving at the Pacific Ocean[1]. The two water bodies converge at the highly productive and culturally important Fraser river estuary (FRE). The FRE provides critically important habitat for the rearing of over 80 species of fish and shellfish and over 300 species of invertebrates[1], and historically supported the largest wild salmon run in the world but has had decreasing runs for decades[2]. Migrating birds also heavily rely on the estuary, with up to 1.4 million birds from three continents using the area during peak migration periods, the highest concentration in all of Canada[3,4].

The FRE lies within what we now call the Greater Vancouver area or the Lower Mainland and is home to over half of BC's population. This area has been important for people for millennia, with Coast Salish First Nation communities living here and stewarding the land and water since time immemorial[5]. Continued urban growth and development throughout the area have led to extreme habitat degradation and loss, with less than 30% of the FRE's habitat remaining intact. Over 70% of the wetlands have been diked or drained to support urban expansion[4,6]. As a consequence, now there are 102 species at risk (SAR) found within the FRE, most of which face multiple threats, including habitat loss and degradation from development and invasive species[7]. A recent study[8] found that the Georgia Depression, which includes the Lower Mainland had the most SAR threatened by invasive species.

Background on the FRE and Invasive Species

Being a hotspot for development projects, the FRE is under constant threat of further ecological degradation. From 1985 to 2013 development and threats to the FRE were managed by the Fraser River Estuary Management Program (FREMP), a collaborative program made up of government agencies, local jurisdictions, and First Nation representatives[9]. The FREMP was the last comprehensive and large-scale collaborative management of the Fraser River Estuary to date.

A recent study on the future management and protection of the FRE highlighted the importance of planned and coordinated collaboration[7]. The authors found that without immediate action most SAR in the FRE have less than a 50% chance of persistence over 25 years in the region. The implementation of co-governance and an investment of $381M over 25 years increased the chance of persistence for the majority (96 out of 102) of the SAR species to over 60%[7]. The study assessed several management strategies and assessed their cost effectiveness. Of the eleven

strategies explored management of problematic and invasive species was the most cost-effective strategy for SAR recovery in the FRE[7].

Fragmented natural landscapes in densely populated areas, like the FRE, is where most interactions between SAR and invasive species occur[8]. In these conditions invasive species can affect SAR via multiple pathways, including direct effects such as competition, predation, altering or degrading habitat, and indirect effects through trophic cascades and gene pool depletion from hybridization [10,11,12]. While most invasive species in FRE are plants, they affect SAR from several taxa including fish, molluscs, birds, insects, reptiles, amphibians, and native plants.

The Invasive Species Council of BC (ISCBC) and the Canadian government have released multiple roadmaps and plans for future management of invasive species in Canada[13,14,15]. ISCBC released its latest roadmap in 2020, which discusses six main objectives including increased research on vectors of introduction and the best ecological restoration for native species, developing best management practices (BMPs) throughout BC, increasing restoration efforts, and demonstrating the cost associated with invasive species in different scenarios[14]. Although the negative impacts of invasive species can last a long time[16,17], direct removal and appropriate maintenance can often lead to the return of native species[18,19]. Furthermore, when invasive species removal is paired with habitat restoration (such as planting of native species) recovery of native species is possible even in fragile and difficult to manage habitats[20].

Invasive Species and BC Nature

One of the most popular conservation activities with the BC Nature Federated clubs in the Lower Mainland is invasive species management. Of the 15 BC Nature clubs in the Lower Mainland, at least seven have been actively managing invasive species over the last few decades. BC Nature Clubs possess valuable local knowledge in the management of invasive species. However, not all clubs are aware of how invasive species management benefits SAR and there is currently a lack of communication and cohesive strategy behind their efforts. By providing a collaborative strategy goal for invasive species management throughout the Lower Mainland, BC Nature believes that these clubs could access greater funding and expand their habitat restoration efforts.

This report will identify key actions undertaken by BC Nature clubs that best benefit SAR in the Lower Mainland, providing a collaborative approach to this work. Up-to-date information about club actions, needs, and knowledge gaps will be obtained through personal interviews with club representatives. Using information from these interviews, this report will outline future steps

and funding opportunities for BC Nature clubs. Specific funding information can be found in the *Strategy plans & Future steps* section at the end of the report.

Methods

A total of 15 clubs in the Lower Mainland were contacted by the lead author (KB) to arrange informal interviews to gain insights in what each club is currently focused on, and how BC Nature could support their efforts. The interviews were conducted through Zoom, over the phone, or in person, according to the availability of club representatives. Interview questions were developed to obtain information about the exact location of management actions, the specific species that are removed or planted, and the timing and these actions. The last part of the interview inquired about the challenges faced by the clubs, their success stories, and if they were collaborating with First Nations.

Live notes were taken by the lead author during each interview session and summarized afterwards. The answers from the interview were used to develop actionable opportunities where BC Nature could add value to the conservation activities of the clubs in the Lower Mainland. Each opportunity is listed with specific actions and funding sources in mind (see *Strategy plans & future steps)*. The present report is based on the interviews and done in collaboration with Conservation Coordinator, Simon Valdez Juarez and BC Nature Fundraiser Andi Simpson.

Findings

Of the 15 clubs contacted, 2 responded that they did not conduct active management for invasive species, 1 initially responded positively but did not proceed with an interview, 3 did not respond at all, and 9 went forward with an interview. Interviews were conducted throughout June and July 2022, all on Zoom except for one in-person meeting.

Interview overview

Interviewed participants showed interest in a report that highlights the work of clubs within the Lower Mainland. There was also interest in learning more about how invasive species management benefits species at risk. **Three participants were not aware of the species at risk that may be found in the regions where their clubs conduct active management. A fourth participant was unsure of how species were classified as 'at-risk'.** The interest in connectivity between club activities and the club's interest in learning more about SARs represents an opportunity for BC Nature to become a facilitator and educator to the clubs about species at risk,

including how they are classified, how they can be protected, and what funding opportunities they are associated with.

Four clubs stated they likely would not change the location of their management actions. Many of the clubs interviewed were founded to protect specific parks or natural areas, making the club goals and their work locations intrinsically connected. Although early versions of the Strategic plan considered finding the optimal locations where management actions would most benefit SAR, the strong relationship between the clubs and specific natural areas negates this possibility. **The strategic plan must account for the clubs' connections to specific natural areas for the plan to succeed.**

Regarding the species that are the focus of the management actions, the majority of interviewed clubs focus on invasive plant removal (Table 1). The only animal that is currently being managed is the European Green Crab, a recent invader of the West Coast that is posing a high risk to the shellfish industry and eelgrass beds[21].

Table 1. Invasive species managed by clubs

Invasive species that interviewed clubs actively remove or manage, denoted by 'y' for yes (note: these clubs may manage more species than are listed, this table is solely based on species specifically mentioned in interviews). Some club names were abbreviated for table clarity; SEP stands for Surrey Environmental Partners, FOSB for Friends of Semiahmoo Bay, WRSN for White Rock Surrey Naturalists Society. Other club names were shortened, including Burke Mountain Naturalists, Cariboo Heights Forest Preservation Society, and Stoney Creek Environmental Committee.

	Burke Mountain	Cariboo Heights	DNS*	FOSB	Nature Chilliwack	Nature Vancouver	SEP*	Stoney Creek	WRSN	Total
Himalayan blackberry *(Rubus armeniacus)*	y	y	y	y	y	y	y	y	y	**9**
English ivy *(Hedera helix)*	y	y		y		y	y	y	y	**7**
Reed canary grass (*Phalaris arundinacea)*	y	y			y	y			y	**5**
Spurge laurel (*Daphne laureola*)		y		y		y	y			**4**
Scotch broom (*Cytisus scoparius*)			y	y		y			y	**4**

English holly (*Ilex aquifolium*)	y	y				y				**3**
Yellow archangel (*Lamium galeobdolon*)		y		y			y			**3**
Japanese knotweed (*Reynoutria japonica*)	y				y	y				**3**
Canadian thistle (*Cirsium arvense*)					y	y			y	**3**
Common periwinkle (*Vinca minor*)		y						y		**2**
Small flowered jewelweed (*Impatiens parviflora*)		y						y		**2**
Policeman's helmet (*Impatiens glandulifera*)				y				y		**2**
European green crab (*Carcinus maenas*)				y					y**	**2**
Bull thistle (*Cirsium vulgare*)						y			y	**2**
Purple deadnettle (*Lamium purpureum*)							y			**1**
Portuguese laurel (*Prunus lusitanica*)						y				**1**
Japanese sargassum (*S. muticum*)				y						**1**

*These clubs do not organize active management, but many club members do it on their own.
**Management action undertaken by club members, but not organized by the club itself.

Main challenges faced by clubs

Seven of the nine interviewed clubs listed issues with capacity, meaning not enough people are consistently showing up to volunteer, **with a specific difficulty in recruiting younger people**.

Other challenges included:

- Issues with jurisdictions and local governments.
    - Difficulties with obtaining permission to do active work such as plant native plants, remove certain invasive species, or work in specific areas.
    - Feeling unheard during development plans in areas that the clubs consider important for conservation.
    - Difficulty communicating the importance of areas to government employees (especially as there is high and quick turn over in government, so club members need to re-educate people every few years).

- Difficulty around liability and insurance requirements.
    - Clubs get offers from non-club members to do work such as garbage or invasive removal, but they cannot let them due to liability.

- Difficulty finding a consistent way to remove the large quantities of removed plant matter.
    - Most clubs have city bins or trucks at sites, but one does not.

- Problems reaching out to people through advertising/social media.

- Untrained people showing up for work parties and doing things incorrectly.

- People stealing newly planted native plants.

- General lack of awareness from people visiting the sites (such as not cleaning up after dogs, walking off paths, etc.).

Highlighted success stories

The clubs' management and restoration actions have achieved many conservation goals and greatly improved the habitat quality in their work areas. Understanding what types of projects lead to the greatest success can guide BC Nature in future steps for a strategic plan. Some of the projects discussed in the interviews include:

- Removal of invasive species in a part of Cariboo Heights allowed the creation of a pollinator patch last summer which led to a noticeable increase in bumblebees.

- Installation of wildlife cameras showed that there are Washington Snowshoe Hares (SAR) present in Cariboo Heights (which was not known before!).

- Multiple years of Japanese knotweed removal around the Deboville Slough has led to significant decreases in the abundance of the invasive species – it is hard and continuous work, but they feel they are winning the battle!

- Over 103 species have been seen and properly listed in the camp slough wildlife area, including the endangered Roell's Brotherella moss (*Brotherella roellii*) found this year.

- Certain areas of New Brighton Park have been successfully restored by removing invasive plants including Himalayan blackberry and Scotch broom. The subsequent planting of over 1000 of native perennials created a pollinator meadow.

- Stoney Creek Society have worked at removing invasive species from the riparian zone around Stoney creek for 4 years and have seen massive reductions (in the first year they removed 10 Rona bags full of weed pulls, this year they only filled 1.7 bags!)

Requests and remarks

Interviews were concluded by asking representatives for points they would like other clubs to be aware of and any requests they may have for BC Nature to help with their work. There was a high amount of overlap in final remarks that members wanted to make. Some of the most common points were:

- Four participants wanted to highlight the role certain invasive species can play in these communities. For example, all of those four participants pointed out that they manage Himalayan blackberry but don't aim to fully remove it because it provides berries and cover to many different endangered animals.

- Three clubs requested to learn more about the Nations who's land they work on, and how to potentially engage with those Nations.

While the majority of club representatives believe that invasive species management is important for the preservation and restoration of local habitats and communities, one representative communicated his beliefs that these actions are not the best use of resources or time. This representative wanted to highlight that due to changing climates and the overwhelming amounts of invasive species, eradication is likely impossible for most species.

However, the representative did agree that strategic management of certain areas of importance is possible and could be worth it.

Short Analysis of Interview Results

Of the 15 BC Nature Clubs in the Lower Mainland at least 7 conduct active group-organized invasive species removal and management (Figure 1). Those seven clubs focus on removing invasive plants paired with the planting of native species in their place. **The 3 most commonly managed species are Himalayan blackberry (*Rubus armeniacus*), English ivy (*Hedera helix*), and reed canary grass (*Phalaris arundinacea*)**. A recent ISCBC study[15] highlighted the connection between invasive species and species at risk in BC. At least **23 SAR are negatively affected by the previously mentioned invasive plants in the Lower Mainland** (Table 2).

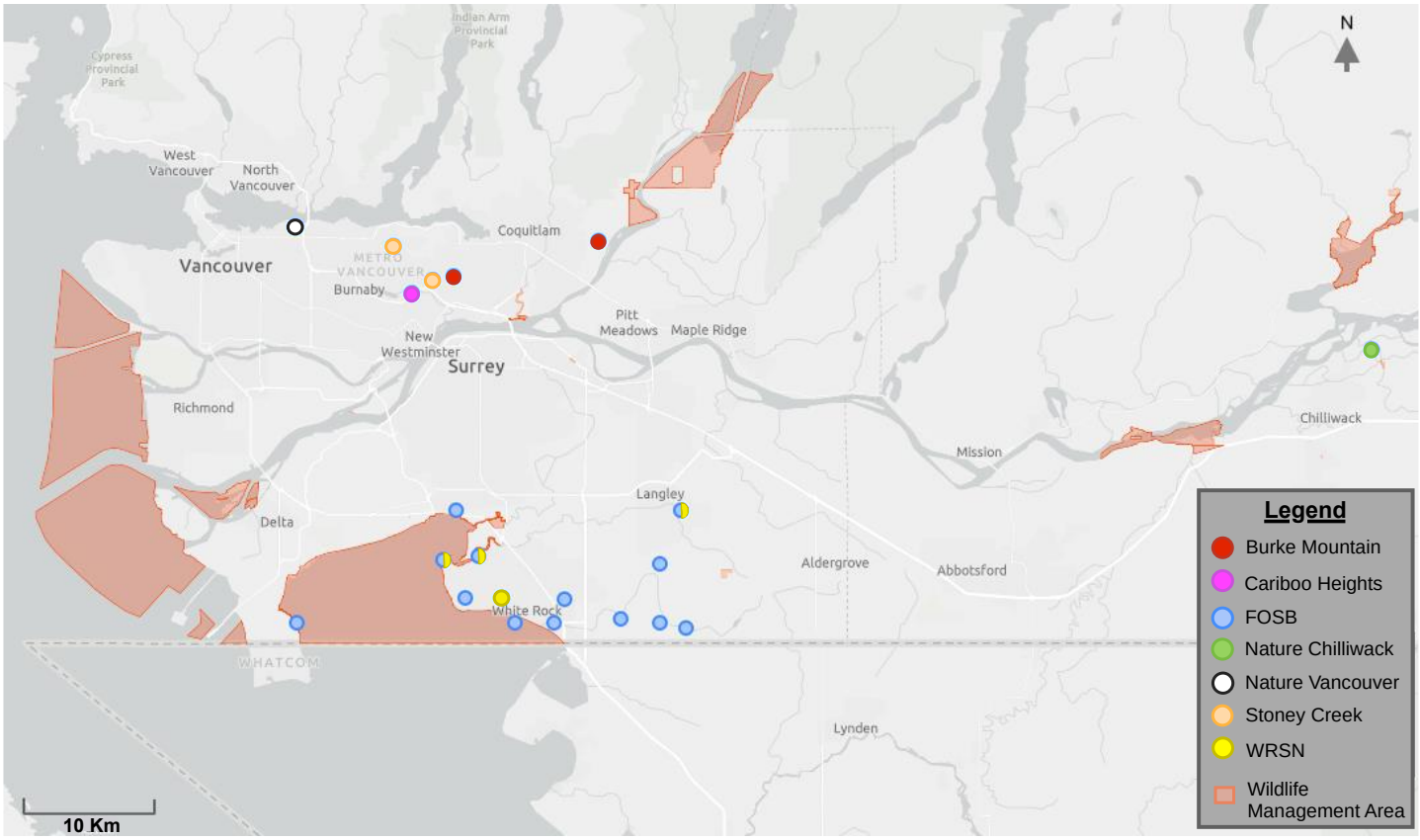

Figure 1. Locations of club activity

Locations of active invasive species management and native plant restoration conducted by BC Nature clubs in the Lower Mainland. Points of club activity do not represent total area of action. Points split with two colours represent locations worked on by both clubs. Wildlife management

areas show the location of provincially- designated lands managed for conservation purposes. Some club names were abbreviated for table clarity; FOSB for Friends of Semiahmoo Bay, WRSN for White Rock Surrey Naturalists Society. Other club names were shortened, including Burke Mountain Naturalists, Cariboo Heights Forest Preservation Society, and Stoney Creek Environmental Committee.

Table 2. Species at risk impacted by invasive plants

Species at risk impacted by the top three invasive species managed by BC Nature clubs. Information collected from supplemental materials of "A Systematic Assessment of Invasive Species Impacts to Species at risk in British Columbia"[8]. Invasive species are denoted as either 'COSEWIC' when flagged as a threat to the respective SAR in a COSEWIC report, as 'SARA' when flagged in the SARA (Species At Risk Act) recovery plan, or 'Both'.

Species at risk (SAR) Common Name	SAR Scientific Name	English Ivy	Reed Canary Grass	Himalayan Blackberry	COSEWIC Conservation Status	SARA Schedule 1 Status
Foothill Sedge	*Carex tumulicola*	COSEWIC		Both	Endangered	Endangered
Western Painted Turtle	*Chrysemys picta bellii*		SARA	SARA	Threatened	Endangered
Dense Spike-primrose	*Epilobium densiflorum*		COSEWIC	COSEWIC	Endangered	Endangered
Brook Spike-primrose	*Epilobium torreyi*			COSEWIC	Endangered	Endangered
Streaked Horned Lark	*Eremophila alpestris strigata*			Both	Endangered	Endangered
Dun Skipper vestris subspecies	*Euphyes vestris vestris*			SARA	Threatened	Threatened
Dromedary Jumping-slug	*Hemphillia dromedarius*	SARA		SARA	Threatened	Threatened
Oregon Branded Skipper	*Hesperia colorado oregonia*	COSEWIC		COSEWIC	Endangered	No Status
Macoun's Meadowfoam	*Limnanthes macounii*	Both			Threatened	Threatened
Northern Leopard Frog	*Lithobates pipiens*		COSEWIC		Endangered	Endangered
Seaside Birds-foot Lotus	*Lotus formosissimus*	COSEWIC			Endangered	Endangered
Dense-flowered Lupine	*Lupinus densiflorus*	Both			Endangered	Endangered
Oregon Lupine	*Lupinus oreganus*	COSEWIC		COSEWIC	Extirpated	Extirpated
Streambank Lupine	*Lupinus rivularis*			SARA	Endangered	Endangered

Coast Manroot	*Marah oregana*			COSEWIC	Endangered	No Status
Rosy Owl-clover	*Orthocarpus bracteosus*	COSEWIC			Endangered	Endangered
Coastal Vesper Sparrow	*Pooecetes gramineus affinis*			SARA	Endangered	Endangered
Blue-grey Taildropper	*Prophysaon coeruleum*	SARA		SARA	Threatened	Threatened
Northern Red-legged Frog	*Rana aurora*		COSEWIC		Special Concern	Special Concern
Oregon Spotted Frog	*Rana pretiosa*		Both		Endangered	Endangered
California Buttercup	*Ranunculus californicus*	COSEWIC		Both	Endangered	Endangered
Bear's-foot Sanicle	*Sanicula arctopoides*	COSEWIC			Threatened	Threatened
Coastal Scouler's Catchfly	*Silene scouleri ssp. grandis*	COSEWIC			Endangered	Endangered
Total		**12**	**5**	**14**		

Strategy plans & future steps

Collaborative projects with clear, achievable goals foster communication and cooperation between clubs. These collective projects would also allow BC Nature to apply for large grants that could support multiple clubs at once. Larger grants are often inaccessible or difficult to apply for as a small organization, therefor BC Nature has the opportunity to access extra funds that each club may not have the capacity to apply for individually. While changing the location and type of management actions is not feasible for the majority of federated clubs in the Lower Mainland, other forms of strategic projects are still possible.

Using information and ideas generated from club interviews, we propose three over-arching themes of habitat management and restoration conducted by BC Nature clubs in the Lower Mainland (Table 3). These projects were devised with funding availability, the club's interests, and location restrictions in mind. Each over-arching theme has been split up into multiple smaller project suggestions that could either be packaged together or kept separate for ease of different funding applications. Using these suggestions as a starting point, **further input from clubs should be obtained to help shape each project** and ensure no important ideas are missing and that there is no redundancy with existing projects.

Table 3. Potential collaborative projects for BC Nature clubs in the Lower Mainland

Projects are divided by over-arching themes (colour-coded) and include reasoning for project suggestions ('project inspirations') and a short list of some potential funding sources. Bolded text in the over-arching theme are written in the form of HCTF approved project descriptions.

Over-Arching Theme	Project Inspirations	Project Suggestions	Potential Funding Sources
Freshwater and estuarine habitat restoration **Ecosystem restoration and monitoring for Nooksack Dace and other species at risk in Vancouver freshwater and estuarine systems.** At least four clubs are focused on restoration in salt/estuarine water (shoreline, sloughs) or freshwater (streams, creeks) habitat.	One club expressed difficulties in hiring a consistent and reliable biologist to monitor water quality and shoreline data. Currently they need help in coordination of this work and the hiring it needs.	BC Nature could coordinate habitat quality monitoring in areas where clubs are actively restoring the shoreline or riparian zones. → This could include hiring a seasonal biologist to monitor all sites for the clubs once per year/season. Measurements could include water quality and changes in native species presence/abundance. The data about the improvement of water quality and the species diversity obtained through consistent monitoring could help with continued funding access. → Focus on monitoring of specific SAR could be included, such as the Nooksack Dace.	HCTF Stewardship Grants (https://hctf.ca/grants/enhancement-grants/) Note: Marine projects are not eligible, but estuarine ones are. EcoAction Community Funding Program (https://www.canada.ca/en/environment-climate-change/services/environmental-funding/ecoaction-community-program.html) Note: This year's focus was on freshwater ecosystems, however, applications for 2022/2023 are now closed. This is still a potential for next year though.
	At least three clubs have had problems with members of the public trampling or removing newly planted native species where they have been conducting restoration work. Other issues with the public include lack of education about proper conduct and care of the environment.	Put in fencing around sensitive riparian zones to keep visitors out. Put up signs to inform the public about the work being done, the benefits the work is providing, and how to create damage.	
Pollinator meadows **Native plant landscaping to support native pollinators in the Lower Mainland.**	Two clubs have communicated that they are facing challenges maintaining the area and keeping invasive plants from returning, such as Reed canary grass.	Host workshop(s) centered on best management practices for problematic invasive species, including Reed canary grass. → This could also be a time for different club members to share information and brainstorm solutions together.	HCTF Stewardship Grants (https://hctf.ca/grants/enhancement-grants/) Treemendous Communities – Tree Canada (https://treecanada.ca/greening-communities/community-

Within the last few years at least three clubs have created pollinator meadows by removing invasive plants and putting in native ones.	Two club members have requested help in communicating with local governments and jurisdictions about the planting of native species instead of exotics in public spaces.	Foster BC Nature-led communication with local governments about planting native species rather than exotic species in public areas. Focus should include roadsides and boulevards.	tree-grants/treemendous-communities/) Note: this could be to plant flowering native trees along edges of pollinator meadows TD Friends of the Environment Foundation Grant, specifically the 'Tree planting and Urban Greening Projects' (https://www.td.com/ca/en/about-td/ready-commitment/funding/fef-grant/)
	Two of the clubs feel their pollinator meadows are some of the most successful projects they have recently undertaken, with individuals highlighting visible increases in bumblebees.	Encourage more clubs to put in pollinator meadows (especially near natural water sources). → When encouraging this type of project, also educate clubs about the importance of keeping areas somewhat 'messy' (such as not removing all dead plant material and wood debris from the area) for ground nesting bees. → This could directly benefit Dun Skippers and Oregon Banded Skippers (both SARs)	
Food for large mammals in urban areas **Native shrub and tree planting to increase food security for large mammals in the Lower Mainland.** Two clubs voiced passion for planting berry shrubs to provide large wild mammals enough food in urban environments.	Three clubs spoke about the importance of berries for large mammals, especially bears in the city.	Encourage more clubs to plant a range of berry shrubs and fruit bearing trees.	HCTF Stewardship Grants (https://hctf.ca/grants/enhancement-grants/) Edible Trees – Trees Canada (https://treecanada.ca/greening-communities/community-tree-grants/edible-trees/)
	Two clubs shared their concern over the lack of public knowledge around bear health and safety, and the importance in providing food in natural areas.	Install signs for information about human-wildlife conflict, and how increased natural food resources have been linked to decreased human-bear conflict.	
	Four clubs made a point of highlighting the benefits some invasive species provide, including the berry picking that Himalayan blackberry provides to communities.	This project also has the potential to be of high community and cultural importance by creating more berry picking places for people as well as wildlife. → Emphasis should be put to plant native species of high cultural importance, such as Salmonberry.	

Education initiatives

Along with the proposed collaborative projects, we identified three main issues that clubs expressed interest to learn more about. The subjects below are an opportunity for BC Nature Education Committee to organize a series of workshops:

Species at risk: What are they, who are they, and how can we help?

This workshop will focus on sharing information about:

- The process of how species are listed by SARA and COSEWIC
- How specific invasive species are causing the SAR harm
- Funding opportunities associated with SAR

First Nations Engagement

This workshop will focus on:

- The Nations who have stewarded the land that the clubs currently work on since time immemorial
- What meaningful engagement with those Nations might look like, and how that could be done
- Understanding a land acknowledgment, and how to craft one for their respective websites
- Which species the clubs work with/manage are culturally important

Highlighted Invasive Species

This could be a number of different workshops each focused on one or a few key invasive species in the Lower Mainland. Potential guest speakers could include personnel from the ISC of BC or from the Fraser Valley Invasive Species Society. Different species could be highlighted at different times of year depending on when it is best to remove them. Each workshop should include information on:

- Best methods of removal
- Long-term upkeep of removal areas
- Which native species are most affected by invasive species

These workshops could also provide the opportunity for club members to communicate with each other about their current methods and projects. Suggested invasive species to feature include the three most managed species from Table 1 as well as one species requested by club members:

- Himalayan blackberry (with a component discussing the potential benefits that leaving some may provide)
- English ivy (with a component discussing the different forms of the plant as it grows)
- Reed canary grass
- Japanese knotweed (requested in a club interview)

Conclusion

This report summarized the invasive species management work that BC Nature clubs conduct in the Lower Mainland and connected their work to species at risk. Based on the interviews, this report identified collaborative opportunities, workshops, and potential funding sources for work involving invasive species and habitat restoration. Additional projects unrelated to invasive species work were also included because they are relevant to the club's current needs and ambitions. These findings represent the opportunity for BC Nature to support these clubs in the conservation and restoration of the remaining habitat in the Lower Mainland.

The suggestions highlighted in the present document provide a clear roadmap to lead clubs in collaborative projects in the Lower Mainland. These projects aim to maximize club capacities and increase the benefits to degraded habitats and local species at risk. Although the present report focuses on the Lower Mainland, it provides a template for identifying collaborative opportunities between BC Nature clubs in other regions, such as the Okanagan or the Gulf Islands. The findings of this report align with BC Nature's strategic goal of supporting clubs in their conservation efforts.

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