



Sea to Sky Invasive Species Council

ANNUAL REPORT

2022



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Sea to Sky Invasive Species Council

January 27th 2023

INTRODUCTION

As usual, our fantastic team at the Sea to Sky Invasive Species Council has produced a thorough and engaging Annual Report—well worth a scan to check up on season highlights, deployment of manpower, specific outreach and educational programs, engagement with stakeholders, ongoing management and control for a range of species, and, of course, continued new finds and how they were/are being addressed.

On top of the intrigue and learning delivered by the excellent information about each of these, more than anything I come away with an increasingly clearer picture of the depth and breadth of the invasive species issue in our region—the wins and losses, the expectations and uncertainties, our capacity to address the known and horizon-scan for the yet-to-come. Not to mention the tremendous efforts and professionalism directed at each.

Though addressing the issue of invasive species can at times seem Sisyphean, knowledge and understanding that progress emerges in the long run—whether in a qualitative prize of raised public awareness or quantitative survey data showing no regrowth at 367 previously controlled sites—is the kind of motivating factor found in this report.

Putting a summary like this together is aided greatly not only by a clear staff talent for organizing and presenting information in an engaging and digestible form, but also the fastidious record-keeping of our crews and program leaders. Hats off to all for another successful season in which the many accomplishments and collaborations have laid the groundwork (ha ha) for even more success in the future.



Leslie Anthony
Chair, Sea to Sky Invasive Species Council

PROGRAM HIGHLIGHTS

INVASIVE PLANT FIELD PROGRAM

In 2022, we employed, trained, and equipped four field crews to carry out inventory, control, and monitoring of invasive species during the field season (May – October). One field crew was able to start in mid-March to carry out late winter/early spring inventory and control. We were able to carry out both streams of our program:

- 1) **Early Detection Rapid Response for high priority species**
- 2) **Inventory, Control and Monitoring Program for more established species**

During the 2022 season:

- We continued our control efforts of Scotch broom by carrying out inventories and removals of the species north of the containment line at Depot Rd. in Brackendale.
- We carried out inventory and control of invasive plants at 6 Provincial Parks (Joffre Lakes, Nairn Falls, Brandywine Falls, Garibaldi, Alice Lake, and Porteau Cove).
- SSISC crews carried out inventory and control efforts of aquatic invasive plants in local water bodies, focusing on yellow flag iris and purple loosestrife.
 - Along the edges of Whistler's Lakes and rivers (Alpha Lake, Nita Lake, Alta Lake, Green Lake and the River of Golden Dreams).
 - In Squamish's sloughs and other water bodies (Dryden creek, Wilson Slough, Judd Slough, and Cattermole slough).
 - Along the south shore of Anderson Lake.
- We once again assisted the Ministry of Forests with the control of an EDRR species, flowering rush, in Whistler by mapping and flagging plant occurrences, and dead-heading flowers.
- We surveyed and controlled high-priority species in seven Squamish Nation Reserves (Aikwucks, Cheakamus, Kowtain, Seaichem, Stawamus, Waiwakum and Yekwaupsum).
- SSISC crews carried out inventory and control of high-priority invasive plants at six gravel pits for MOTI (Brunswick, Rayonier, Rutherford, Mt Currie, Devine, and Devine East).
- We worked with the Lil'wat Nation to survey reserve parcels for high-priority species (IR 1 & IR 8). We surveyed and fully treated the large wild parsnip infestation present. We also continued to control existing wild parsnip sites throughout Mount Currie.
- We carried out inventory of high-priority species along two Fortis BC right-of-ways in the region.
- We carried out inventory for high-priority species and control of high- and medium-priority species at four Innergex hydro projects (Ashlu, Fitzsimmons, Rutherford Creek, and Miller Creek).
- We carried out mechanical removals of English holly, yellow flag iris, purple loosestrife, Himalayan blackberry and cutleaf blackberry in the Squamish WMA.
- SSISC crews treated 20 tansy ragwort sites throughout the corridor.
- We surveyed and mapped nine new Japanese knotweed sites in the region.
- 130 Japanese knotweed, 78 yellow flag iris and 96 Scotch broom sites showed no regrowth in 2022.
- We created 31 new sites in our region, mapping 0.4932 ha of never before surveyed invasive plants.
- We surveyed and controlled high-priority species in Lions Bay with a focus on Japanese knotweed, giant hogweed, yellow flag iris, spurge laurel, tansy ragwort and broad-leaved peavine.

- SSISC crews carried out Scotch broom control along the In-SHUCK-ch FSR.
- We carried out control of blueweed at 12 sites throughout the corridor.
- Crews surveyed and removed hound's tongue along the Lillooet River Forest Service Road. This is the first occurrence of this species in the corridor.
- We observed and mapped on site of Tree of Heaven in Squamish. This is the first record of this species in the region.
- We carried out control of high priority species along Squamish Lillooet Regional District owned lands throughout the region, with a focus on lands in Furry Creek and Britannia Beach.
- We completed treatment monitoring at 73 sites to determine efficacy
- 1198.6 Ha of land was inventoried for high-priority invasive plants.
- We once again worked with the P'egp'ig'lha Council and the Lillooet Regional Invasive Species Society to conduct an herbicide and mechanical treatment of wild parsnip on T'it'q'et land. This land is culturally significant to the community, but they have been unable to use parts of it due to the wild parsnip infestation.

In Summary:



962 surveys of 63 different species at 601 sites



Surveyed and mapped 1.4117 ha of invasive plants



367 species sites showed zero regrowth

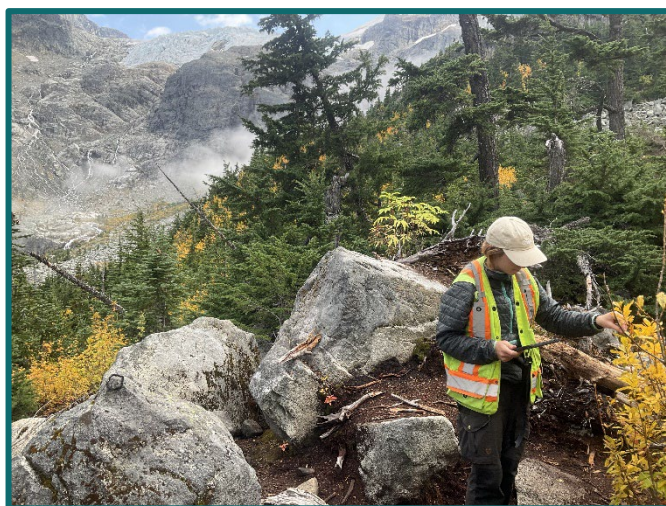
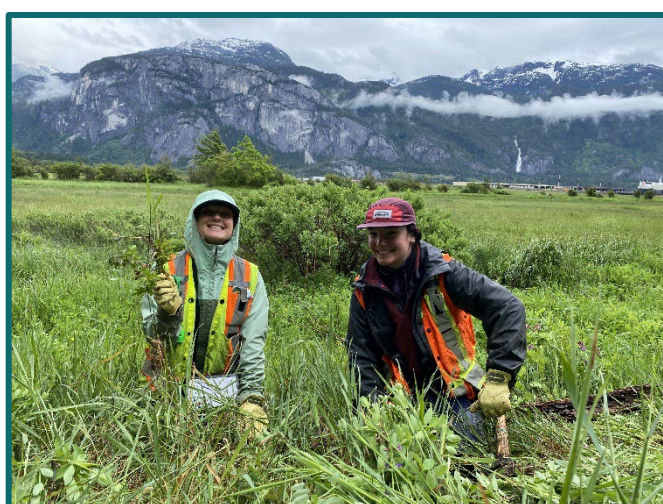
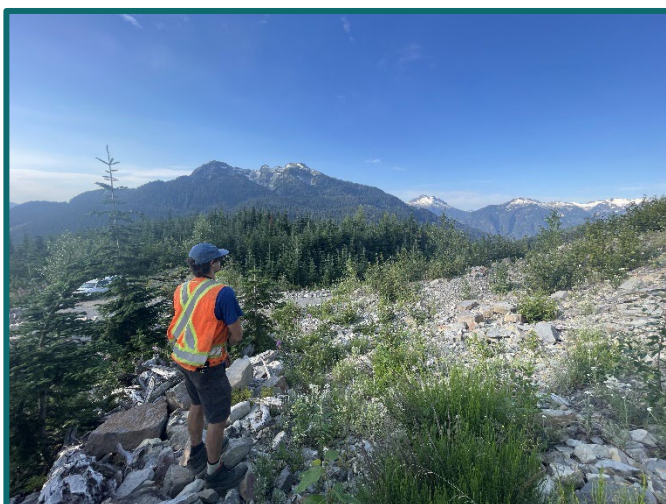


294 mechanical removals at 188 sites. 0.1951 Ha of plants removed



238 chemical treatments at 124 sites. 1.3875 Ha of invasive plants treated

Field Crew Photos

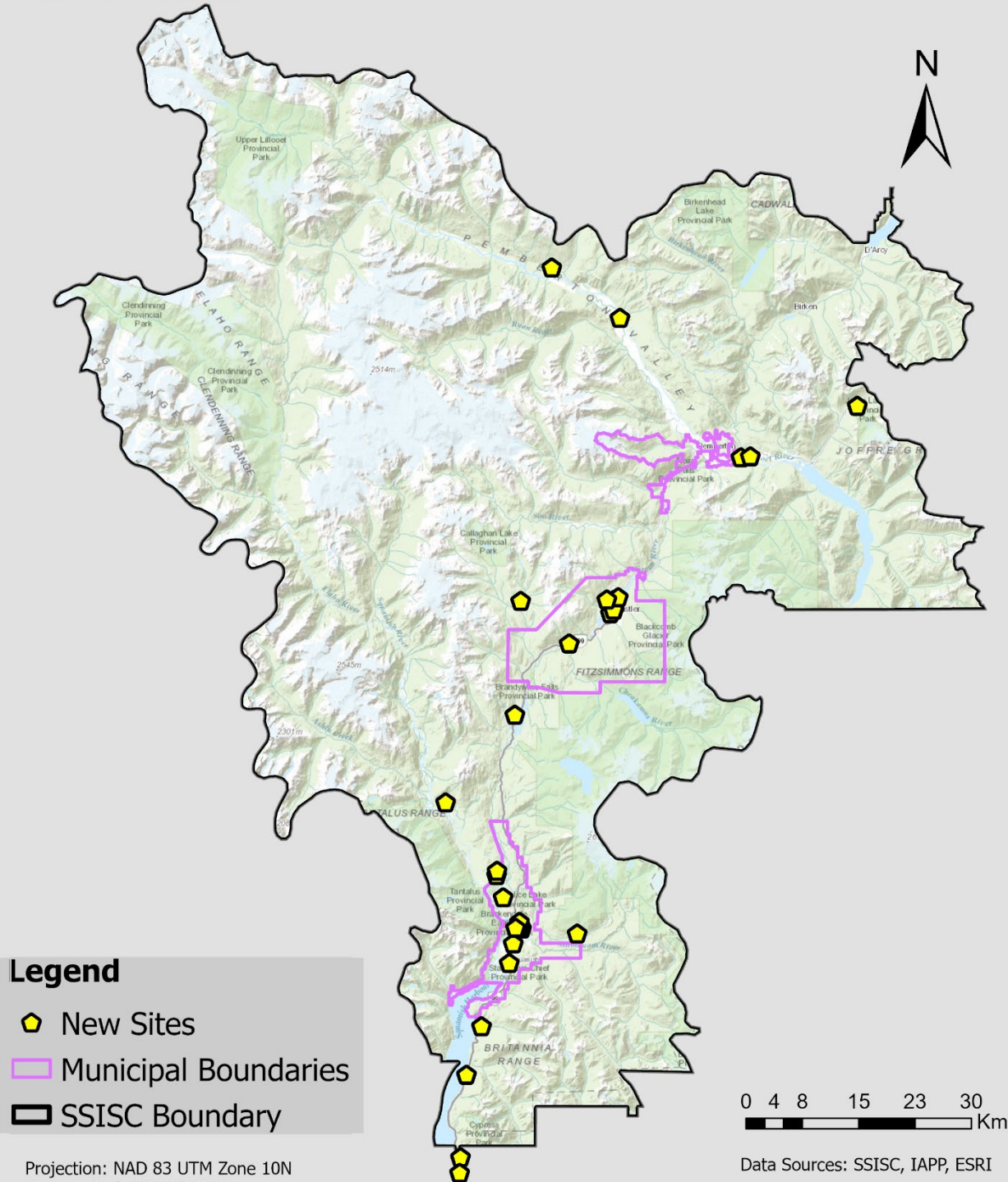






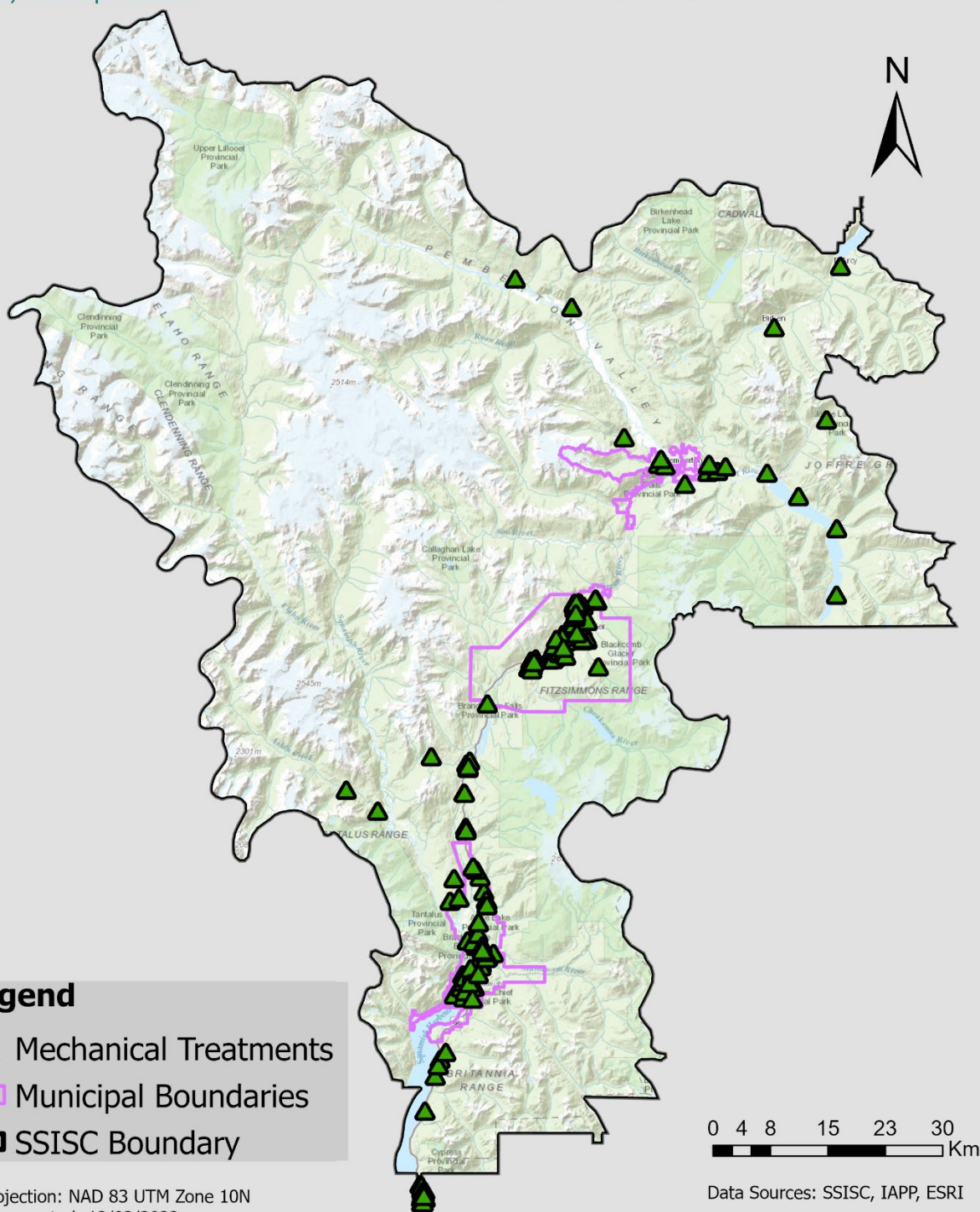


2022 New Invasive Plant Sites



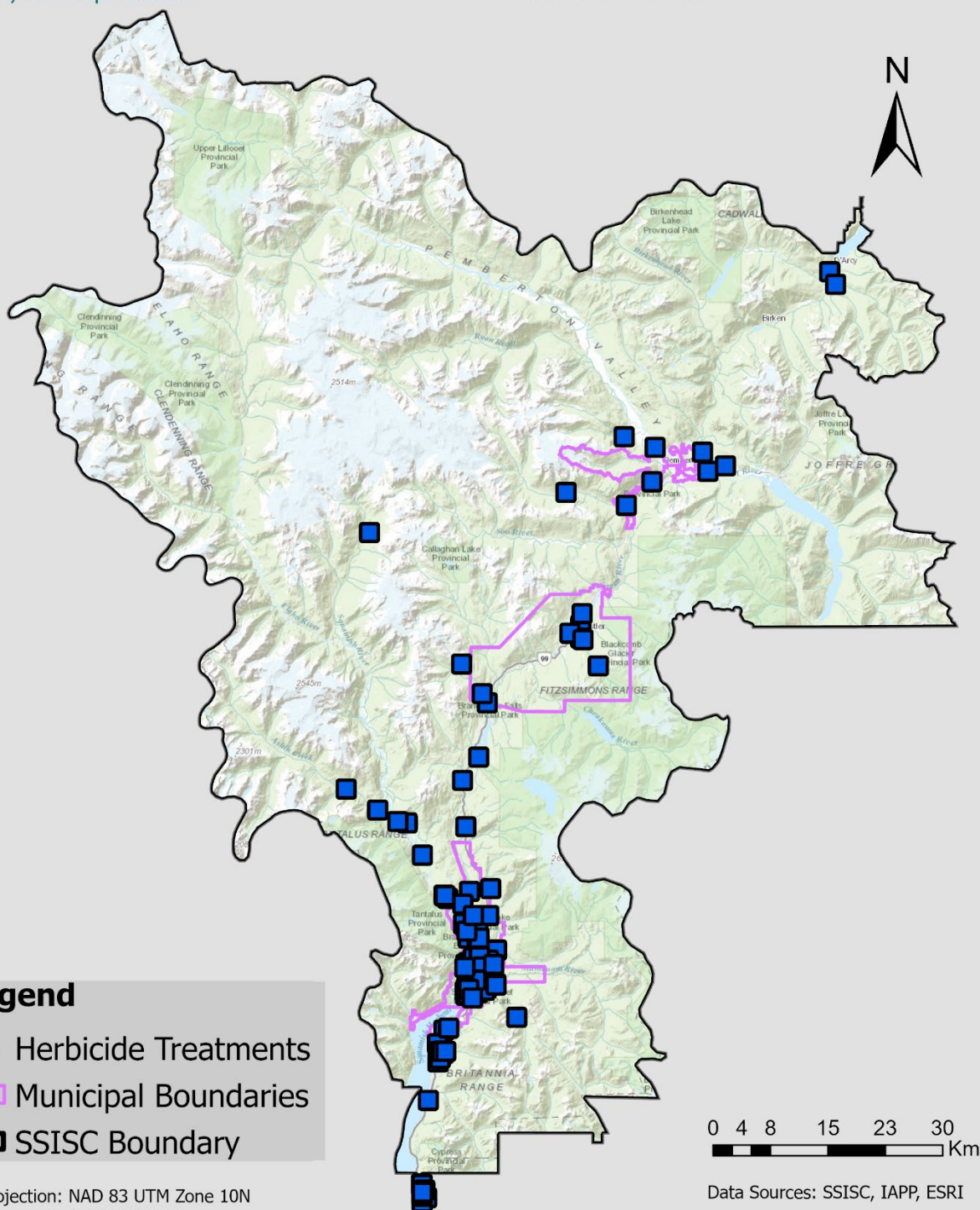


2022 Invasive Plant Mechanical Treatments





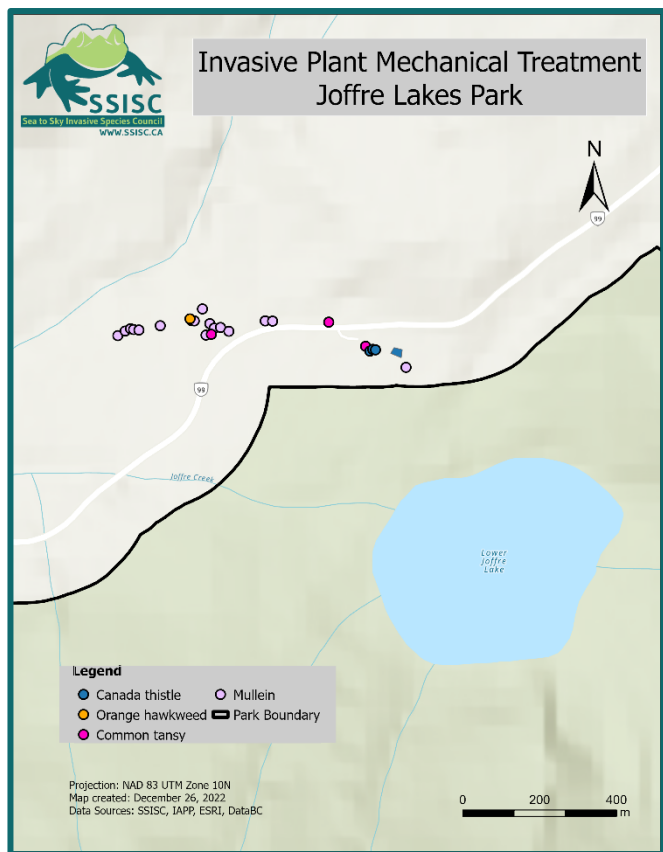
2022 Invasive Plant Herbicide Treatments



MAPPING & DATA MANAGEMENT:

Invasive Plant Mapping

- We continued to use our cloud-based digital data collection system (Arc GIS Online webmap & Field Maps app) for invasive plant inventory, control, and monitoring.
- Staff and contractors used this system to collect field data, plan field days and logistics, and communicate which work had been completed.
- Staff can use the mapping application to record site-scale detail of plant locations at each specific site. This data, in combination with the summary data entered into the Provincial database (IAPP), allows us to develop management plans specific to each location. This work includes selecting appropriate treatment method, seeking permission, and funding for multi-jurisdictional sites, and determining necessary pesticide buffers for sites with pesticide free zones.
- In 2022 we finished creating 'Site Boundary Polygons' on our mapping application. These polygons help staff determine exactly where they should be surveying and treating invasive plants. They subsequently help guide the field crew and ensure no parts of a site are missed. We are also hopeful that this will make our transition to using Invasives BC, when released, much smoother.
- This mapping system also allowed our staff to record where inventory efforts were carried out. This information can then be shared with landholders and funders and used in future years to develop management plans.
- We continued to share spatial data with public **land managers, private landowners, and other partners and collaborators**. The sharing of spatial data helps to improve invasive plant management by increasing awareness of current infestations and reducing the spread of invasive via mowing / transport of contaminated soil.



Example of site scale data collected by the field crew.

Scheduling System:

- We continued to use our cloud-based, schedule map this year. This is a spatial representation of each Lead Hand's schedule that is updated weekly by the Field Program Manager.
- This system is editable in real time, which has allowed the Field Program Manager to provide staff members with the most up to date information pertaining to their work for that week.
- We see great value in this system since it has allowed us to improve our internal communication and ensure that day-to-day operations of the field program are effortless when it comes to specific site safety, site protocol, landowner communication and workloads for each field crew.



SSISC Staff mapping invasive plants with the digital collection system.

We are not alone in our work and continue to collaborate and consult with other regional invasive species organizations across the province to create and implement improvements to our digital field data collection systems.

EUROPEAN GREEN CRAB MONITORING IN HOWE SOUND (CRAB TEAM):

Background:

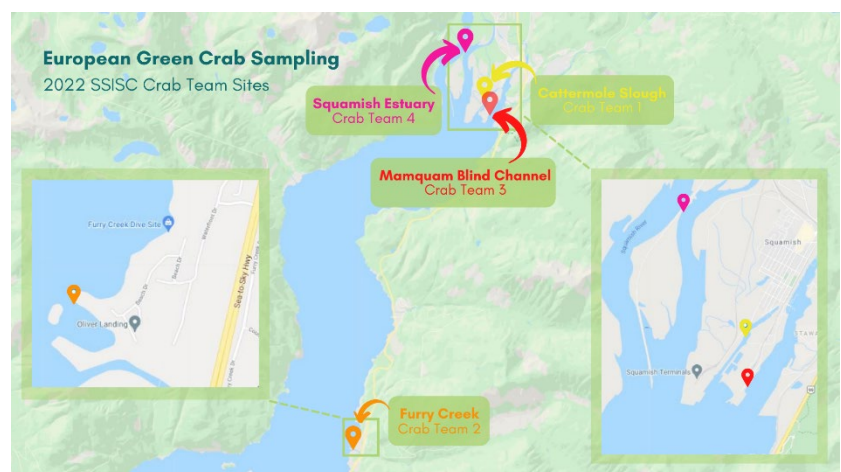
- In 2021, SSISC began to monitor for invasive European Green Crab (EGC) in Howe Sound.
- This aggressive invasive crab competes for prey and has the potential to upset the overall balance of our local marine ecosystem. They feed on a variety of intertidal animals, including oysters, mussels, clams, small fish, and juvenile crabs. They've also been known to disrupt eelgrass beds (important habitat for young salmon) and can destroy shellfish habitat. Washington State has issued an emergency order regarding these invasive crabs and their impacts.
- EGC has been found as close as Salt Spring Island, San Juan Island (US), Boundary Bay (just south of Vancouver), the Sunshine Coast, and all over the West Coast of Vancouver Island.
- They have a long early life (larval stage) of 50 to 80 days, when they drift in the ocean current before settling to the bottom. Adult EGC are also very hardy and can survive out of the water for over five days, hiding in fishing gear and equipment or, at the bottom of crates, buckets, and boats.

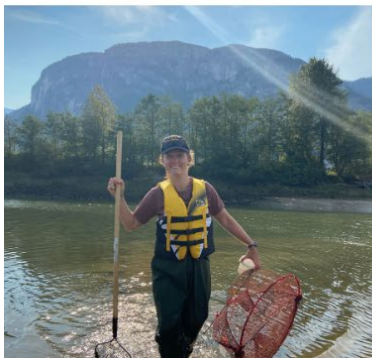
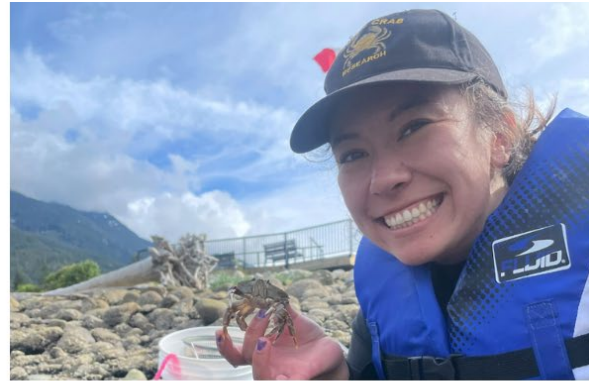


European Green Crab (photo: Washington Invasive Species Council)

SSISC Program Overview

- SSISC monitored for EGC in Howe Sound for the second year in 2022. This year we added an additional site, for a total of four: one in Furry Creek, one just off the Spit Road in the Squamish Estuary, one in the Cattermole Slough, and one in the Mamquam Blind Channel.
- We recruited 12 volunteers to help with the monitoring, with 5 of them being returning volunteers from 2021. We provided training, equipment, and in-field support for our volunteers.
- Once a month at each site, from April-September, we deployed both Minnow and Prawn traps, with frozen herring as bait. These traps were set to soak for 24 hours, and then volunteers returned to identify and release their contents.
- We caught all sorts of creatures, including many different kinds of native crabs, fish, jellyfish, hermit crabs, and more.



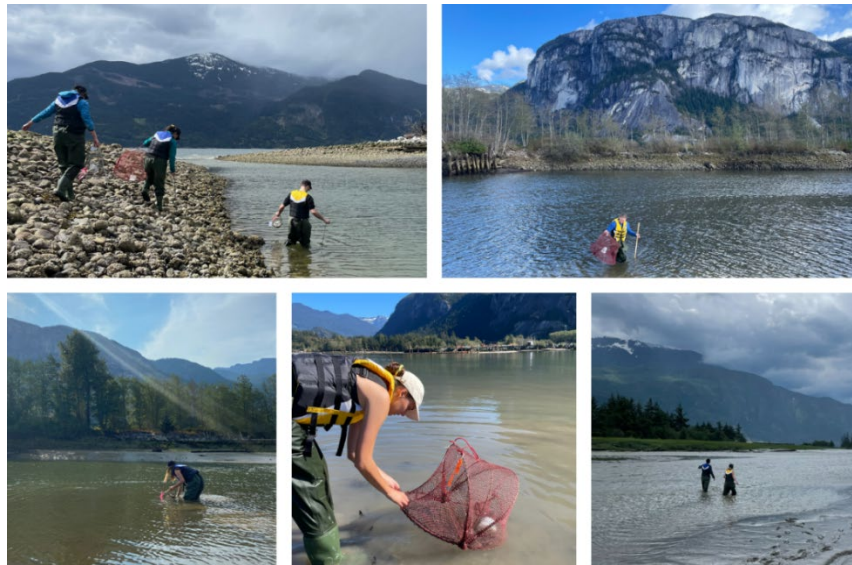


Outcomes and learnings

- We're happy to announce that over the course of 6 months of sampling at our four sites, we found no evidence of European Green Crab in Howe Sound! It's not entirely conclusive as to whether they're here or not, but it's a good sign.
- What we did find in our traps was a lot of neat native creatures. Here's what we caught (and released) over the course of six months:
 - 36 crangon
 - 29 sea gooseberries
 - 309 moon jelly fish
 - 34 juvenile dungeness crabs
 - 60 native shore crabs
 - 7 graceful crabs
 - 1 hermit crab
 - 27 shiner perch
 - 1 saddleback gunnel
 - 3 stickleback
 - 132 sculpins
 - 1 flat fish



- We couldn't have done this without the help of our fantastic volunteers. They committed to crab sampling two days a month, from March to September, and were always excited to learn about our local marine environment. Some volunteers joined with very little experience (never having walked around in waders or held a crab before) and some with lots of experience (free diving or conducting marine research). But the diversity of backgrounds made for a great learning / teaching opportunity.



- We asked them what their favourite part of volunteering with Crab Team was, and this is what some of them had to say:
 - *"The great team, lots of nice weather days, enjoyed the early mornings and looking at the creatures we caught!"*
 - *"Meeting other volunteers passionate about the marine environment"*
 - *"Spending time outside, feeling like I'm contributing to important research/monitoring, hanging out with friends"*
 - *"Meeting other volunteers and seeing our cool catch (fish, crabs)"*
 - *"I had such a great time volunteering with the crab team! I'd love to do it again"*
- We hope to continue this monitoring program again in 2023, potentially with more volunteers and additional sites.



EDUCATION & OUTREACH

The 2022 season marked our (careful) return to in-person events. With Covid-19 restrictions lifted, we were eager to interact with our community face-to-face, while also pursuing our virtual outreach initiatives. The Education & Outreach team was small but mighty in 2022, due to funding restrictions and labour shortages. The team was comprised of one Outreach Assistant, one Invasive Species Program Coordinator (who also looked after the European Green Crab monitoring program), and one Manager.

Online Courses

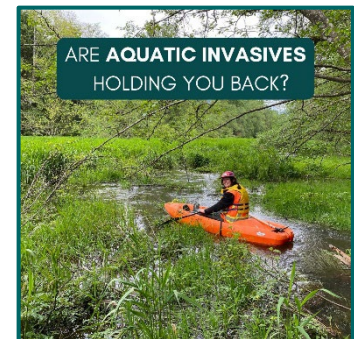
Invasive-Free Certification online course

We continued to promote the online version of the [Invasive-Free Certification](#), which we launched in 2021. In 2022, 10 individuals took the course, and four organizations were certified. We are currently reviewing the course and making updates to it; the updated course should be available by early 2023. We also plan on seeking to get a better understanding of the barriers that are preventing landscape companies from taking the course by reaching out to former participating companies and conducting market research.

Once a month (from April to October), each program participant also received an exclusive newsletter which targeted landscapers, horticulturists, and earth movers. To date, 25 individuals are on that monthly mailing list, and the Invasive-Free Certification newsletter received 104 opens in 2022.

Aquatic Invasives 101

This [free training program](#) replaced the Yellow Flag Iris Patrol in-person training sessions that we offered eco-tourism providers until 2019. We continued to promote the program throughout 2022 and ran several monthly giveaways for course participants. Prizes were generously donated by local businesses, for a total value of \$350. Overall, 26 participants have begun the course, with 13 completing it.



Example of social media post promoting the Aquatic Invasives 101 online course.

Community Weed Pulls

We were busy in 2022! Not only did we hold community weed pulls throughout the region, we also re-launched the Adopt-a-Trail program in Whistler.

Youth weed pulls

We worked with several schools and youth groups to carry out weed pulls. These events generally included a short discussion about the surrounding environment and the notion of invasive plants, a walk through the park, playground or school yard where the event was taking place, and a weed pulling portion. We sometimes also got to lead a few games with the group, which were invasives-oriented. Of the 12 community weed pulls that we hosted, nine were located in Squamish, and three in Pemberton. In total, we had 178 children and 49 adults

participate in community weed pulls this year. They removed about 58 bags of plant material, or approximately 800kg!

We were contacted in June by The Road Less Traveled, a travel and youth development company based in the US, as one of their trips was going to be passing through Squamish in July and they were looking for a local non-profit to partner with to offer the participating youth a volunteering opportunity. We worked in tandem with the Squamish River Watershed Society (SRWS) to organize a half-day activity, comprised of a Himalayan Balsam weed pull in Valleycliffe and an interpretation activity in the Squamish River estuary.

QUOTE FROM A BENEFICIARY

"I wanted to reach out and thank you for the programming that you put together for our group this summer. We got nothing but glowing feedback from the students and our staff about their time with you. The only thing that we heard could improve it was to do more!"

Morgan Sanden, The Road Less Traveled



We worked with the SRWS to organize a Himalayan Balsam weed pull with a group from The Road Less Traveled in July.

Adopt-a-Trail in Whistler

After a two-year hiatus, we also re-launched [Adopt-a-Trail](#), our Whistler-based weed pull model that operates on a season-long 'adoption' model. Whistlerites were invited to adopt a section of the Valley Trail and rid it of invasive Common Burdock for the duration of the season (from June to the end of September). In the end, 10 parties totalling 28 participants adopted 11 trail segments. Adopt-a-Trail also received the support of local businesses, who made in-kind donations that were used as prizes for participants. Nearly \$300 of prizes was distributed among participants at the end of the season.

SSISC's Board of Directors Chair Leslie Anthony was also instrumental to Adopt-a-Trail's fight against Burdock. For the third year running, he tackled large sections of the Valley Trail and other public lands, single-handedly removing 3,500 kg of Burdock. We estimate that he spent 210 person-hours manually removing Burdock this season.

Based on lessons learned from previous years, we made several updates to Adopt-a-Trail for 2022:



Adopt-a-Trail volunteers involved their families in Burdock removal.

- We provided every group of volunteers with a 15–30-minute orientation session, where the program manager met with the participants at their ‘adopted’ site to identify any challenges and site boundaries, and to demonstrate how to identify and remove Burdock effectively.
- We lent each group of volunteers tools and safety equipment (i.e., spades, high visibility vests and safety cones).
- We improved our communication with the volunteers by sending them program update emails on a regular basis.

Ahead of the 2022 season, we met with RMOW staff to discuss implementing a pilot project to remove Burdock debris from the adopted Valley Trail sites, after some volunteers had expressed (in past years) that it was at times challenging to dispose of the Burdock they pulled up adequately. Whilst we didn’t have the capacity to implement this in 2022, we hope to revisit it in 2023.

Communications with the public throughout the season shed light on misunderstandings that remain about Burdock biology and adequate disposal. To better educate the public, we designed, printed and installed informational posters in public areas (e.g., community mailboxes) and adjusted our messaging on social media.

After identifying a series of properties (mainly around Creekside) that harboured significant amounts of Burdock, we sent the owners of those 28 properties an educational letter, which told them about the impacts of Burdock and the efforts our volunteers have been making to remove it. The letter prompted several landholders to contact us to get more information and commit to controlling the Burdock growing on their property next season.

Since mowing equipment is an important vector of spread for mature Burdock seeds, we plan on working more closely with municipal trail maintenance staff to ensure that the spread of Burdock seeds due to mowing is minimized.

In preparation for 2023, we met with RMOW staff in the fall to debrief about the season, identify areas for improvement and brainstorm possible solutions to the challenges we encountered. Our plans include:

- Improving our mapping of Burdock-infested areas of the Valley Trails and possibly including other public land into the program;
- Collaborating more closely with the RMOW for the Burdock pick-up pilot project and mowing of the Valley Trail;
- Improving our volunteer communications; and
- Creating a community of volunteers, both for Adopt-a-Trail and for one-day weed pull events.



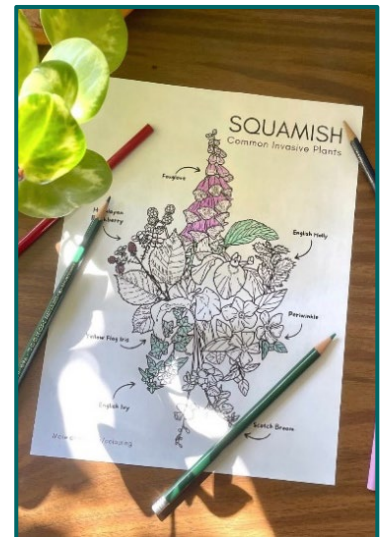
We adjusted our messaging and designed a poster targeting 'rogue' Burdock removers.

Educational Activities

Most of our interactions with the world of education involved weed pulls, which are described above. We carried out weed pulling activities with 10 school groups at five schools in the region (four in Squamish and one in Pemberton), over six days.

During the fall, we also collaborated with French immersion teachers at Garibaldi Highlands Elementary, in Squamish, for classroom-based sessions with K-1 groups. During these classroom sessions, we lead a discussion about how plants spread in the environment, adaptation and competition, and had the children design their own “super invasive”, based on the characteristics that they thought would be advantageous.

In terms of digital outreach to teachers and educators, we continue to keep our [webpage for teachers and educators](#) up to date with resources by SSISC as well as our partners. We also developed a series of colouring pages, which feature invasive plants specific to each community. The colouring pages were distributed at events towards the end of the season, but we plan on publicizing them more in 2023. The colouring pages project (and the associated [webpage](#)) was an initiative suggested by our Outreach Assistant, who used it as her university coop term capstone project.



Example of one of the colouring pages that we published this year.



When K-1 students were encouraged to design their own invasive plants, one student thought up a “poisones nachos” plant, where the immature (purple) leaves would be delicious nacho chips, which became poisonous once they matured, turned orange, and fell to the ground. The students envisioned that insects would be attracted by the smell of the deadly nachos.

Presentations, Workshops and Outreach Booths at Events

BC Parks Rangers training

Similar to 2021, we were approached by BC Parks to offer training on invasive species identification and control to their rangers. As part of this hybrid training session, we hosted a two-hour 'classroom' session (in-person); later that day, we held a field tour and weed walk through several sites in the Squamish area. We shared the presentation slides and several resources with the BC Parks rangers.

Highway Maintenance & Municipal staff training

After promoting the Invasive-Free Certification online course as a virtual training option for staff (in 2021), municipalities requested in-person training in the spring of 2022. We carried out five training sessions with staff and contractors, including personnel working in Lions Bay, Squamish (Miller Capilano and Squamish landfill attendants) and Whistler. A total of 65 participants attended these training sessions. Unfortunately, staff shortages and hiring challenges at the District of Squamish meant that we were unable to train municipal staff either in person or virtually, but No Mow Knotweed signage was installed in high-traffic areas as a stopgap method.

STORY OF IMPACT

After the BC Parks Rangers training session, we received an invasive plant sighting report from one of the participants, who had spotted Orange Hawkweed growing along some of the access trails at Joffre Lakes while hiking in the area in his spare time.

We communicated with him by email to thank him for the report and give him an overview of our treatment approach in the area.



Despite being unable to train DOS staff, we provided them with posters about the importance of mowing as a vector of spread for Knotweed.

Pemberton gardeners' workshop

We collaborated with Stewardship Pemberton and the Grow It Forward program to plan a gardening workshop for their community garden members. The event was meant to take place at the community garden and include an information-sharing portion, as well as a tour of the garden. Unfortunately, despite community garden members showing interest ahead of time, no one showed up to the event; this was likely due to the outdoor nature of the event, on what ended up being one of the hottest days of the year.

Outreach booths

The Education & Outreach team held information booths at 13 events throughout the region, totalling over 2,600 visitors. Events we attended included farmers' markets in Squamish and Pemberton, Earth Day and Rivers Day celebrations, and the Wild Woods Fair. We wanted to shift away from solely offering paper resources at community events, so we created QR codes for some of our key resources and gave booth visitors the option of scanning them instead of taking a brochure home. However, uptake was lower than anticipated: the 16 dynamic QR codes that we created were scanned 18 times in total.



Outreach booth at the Squamish Farmers' Market

In May, we partnered with A-Frame Brewing as part of their Pay It Forward program, where a portion of the proceeds from the sale of merchandise in their Squamish line is donated to a local charity. Relevant information and resources were displayed at their taphouse during this period, and invasive species were featured during their popular weekly trivia night. In total, this month-long support brought in \$225.

Behaviour Change Programs

PlantWise

As in the past few years, we visited plant retailers in the region to assess whether they were selling invasive plants or seeds, and to share Plantwise program resources with them to help them phase out the sale of invasive species. We contacted 49 businesses, but unfortunately, none were willing to commit to the program. Reasons for declining were similar to last year's:

- Being a part of a chain of stores, and not having control over orders (orders get decided on at the head office, or well ahead of time).
- Bad timing: due to competing priorities and reduced capacity, we completed the plant retailer visits later in the season than intended, in July.

Going forward, we endeavour to carry out the PlantWise retailer outreach earlier in the season. We also hope that the Invasive Species Council of BC's promotion of the program will increase the uptake at the local level.

Clean Drain Dry

We worked with the RMOW to facilitate obtaining Clean Drain Dry signage as part of a pilot project with the Invasive Species Council of BC. The signs were delivered to the RMOW in early fall, and their installation is planned for 2023.

Don't Let It Loose

Most of our Don't Let It Loose outreach took place at in-person events, like outreach booths and classroom activities, as well as on social media.

In 2022, we kept working with the RMOW to explore the possibility of installing signage at Whistler lakes related to Don't Let It Loose or inciting the public to report Goldfish sightings; we hope to keep progressing on this project in 2023.



The Clean Drain Dry signs will be installed at Whistler lakes in 2023.

Play Clean Go

We continued to work with local mountain biking groups (the Squamish, Whistler and Pemberton Off-Road Cycling Association – SORCA, WORCA and PORCA). As in past years, we reached out to all three associations to offer Play Clean Go educational content for their newsletters, and all three featured our messaging in their newsletter throughout the season. Including Play Clean Go messaging in mountain biking association newsletters is a great opportunity for us to broaden our reach, given their significant membership:

- SORCA: Over 2600 members receive their newsletter.
- WORCA: Aims to grow its readership to 2000 individuals; our article received over 40 clicks.
- PORCA: A little over 900 members receive their newsletter.

Our analysis of the local tourism market also led us to take preliminary steps to engage with the car camping and 'van life' community. Since vehicles and humans can be vectors of spread for invasive species not only within the region but from one area of the province to another, we would like to form ties with:

- companies that facilitate travel camping tourism, e.g. camper van and trailer rental companies;
- groups or companies that operate in the longer-term nomadic living ('van life') space.

To this end, during the summer of 2022 we reached out to organizations in neighbouring regions (LRISS, ISCMV, FVISS) to gauge interest in pursuing this new audience. We believe that this collaboration will be essential to the project, since the user groups we are wanting to target are nomadic by definition. We hope to further develop this aspect of Play Clean Go in 2023.

Whistler's Worst Weeds

We began the process of updating the Whistler's Worst Weeds program in 2022. After reviewing the program, which was last updated in 2018, we drafted a plan to address two main issues:

- The name “Whistler’s Worst Weeds” can be misleading, since the five high-priority species (for the Whistler ISMA) currently featured in the program don’t currently have a significant impact in Whistler, but rather have the potential of causing significant damage.
- Since the five species featured in the 2018 version of the program are fairly rare in Whistler, the messaging that we wish to convey to the general public tends to get lost, as it doesn’t relate directly to their immediate environment.

In light of this, we plan to build on this process in 2023 and pursue updating the Whistler’s Worst Weeds program in collaboration with the RMOW and other partners. We hope to address the messaging, the name of the program, the species featured, and to implement an updated dissemination plan.

News Media

SSISC was interviewed for [one news article](#) (published in the Squamish Chief) this year. The article was about an invasive species control and habitat restoration initiative at Ecole Les Aiglons, in which SSISC Education & Outreach staff had been involved in the fall of 2021.

In the spring, we were offered by the Whistler Naturalists to write an article for the Naturespeak monthly feature in Pique Newsmagazine. The article, “With Great Flowers Come Great Responsibility”, which reminded home gardeners of their responsibility to control invasive plants on their land, was published on April 11.

We also contributed to 13 partner newsletters that have different audiences spanning the region.



An article we wrote about fighting invasive plants in home gardening was published in Pique Newsmagazine in April.

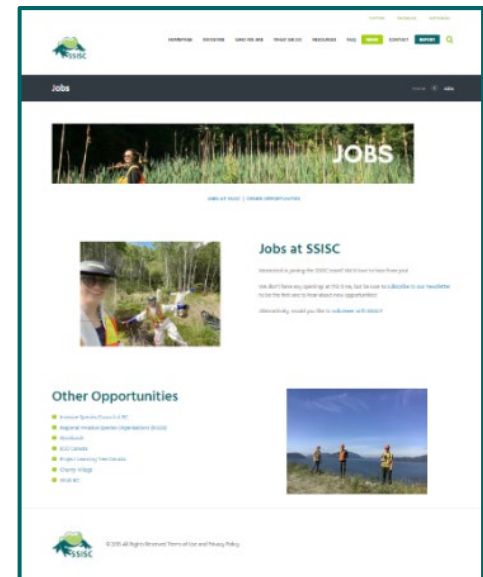
Website & Blog

Website statistics

As of November 17, 2022:

- 15,175 website users
- 20,087 sessions, or about 1.32 sessions per user
- 44,576 page views, or about 2.22 pages viewed per session
- Nearly half (48%) of site visits come from organic searches; 29% come from a URL directly typed in or a bookmark; 13% come from social media, and 10% come from referrals (links to our site from other websites, also known as backlinks)

- Most viewed pages include:
 - [SSISC homepage](#)
 - [Giant Hogweed vs Native Cow Parsnip](#) (blog post from 2021)
 - [Jobs page](#)
 - [Crab Team page](#)
 - [Invasive Plants page](#)
- Most popular downloads include:
 - [Guide to Identification & Management](#) (2012)
 - [Invasive Plants List](#)
 - [2021 Annual Report](#)
 - [Toxic Plants Brochure](#)



Similar to last year, the Jobs page was among the most viewed.

Website updates

We underwent a thorough website reorganization in January 2022, following user feedback. Our goal was to make information easier to find, as well as to create pages that are more specific to targeted user bases (e.g., gardeners and teachers). Seven additional pages were also drafted in past years and are awaiting final touches before being published.

We published 21 new web pages, such as a page dedicated to the [new colouring sheets](#) that we developed; we also drafted four additional pages and updated numerous other pages, such as the [Community Notice](#) pages. In addition, we updated nine existing species profile pages and created one new species page.

Blog

As part of the I Spy in the Sea to Sky series, we published weekly social media posts and [16 blog posts](#). We also published other blog posts on a variety of topics, with a total of 59 blog posts published during 2022.

Some of our most popular blog posts included:

- [A Quick and Juicy Guide to Foraging Native and Invasive Berries](#)
- [Hike Invasive-Free This Summer](#)
- [Green Crab Sampling Resumes in Howe Sound](#)
- [Meet The Team: June 2022](#)

E-Newsletter

In 2022, we went from 700 to 770 newsletter subscribers, but this 10% increase wasn't linear: 38 contacts unsubscribed from our newsletter, but 108 new people subscribed. We also increased the frequency of our e-newsletter and published [8 editions](#), which grossed 2018 opens.

Lastly, we began adding a section of relevant podcast and [book / article recommendations](#), for which we received positive feedback from partner organizations.

Social media

As in recent years, our team worked hard to improve our social media presence and digital community engagement. Amongst other accomplishments, we:

- Published weekly social media posts and blog posts in the [I Spy in the Sea to Sky](#) series.
- Published short social media series, such as Field Crew Friday (on Instagram stories)
- Published monthly “Meet the SSISC team” series and expanded the series to include members of the Board.
- Promoted provincial behaviour change programs, including Clean Drain Dry, Play Clean Go, Don’t Let It Loose, Buy Local Burn Local, and PlantWise/Grow Me Instead.
- Published 38 Instagram reels.
- Published interactive content to Instagram stories, like a quiz to help the user decide which one of our courses they should take.
- Contributed to amplifying other organizations’ message by re-sharing their posts.



Examples of social media posts that were part of the I Spy in the Sea the Sea to Sky series

Social media statistics as of November 17, 2022:

	Facebook	Twitter	Instagram
# posts	196 posts	215 tweets	188 posts
# followers	819	825	1297
% annual growth	8.2%	11.8%	41.4%
Total engagement	956	623	5004
Average engagement per post	4.88	2.9	26.62



Our top-performing posts on Instagram were reels.



The 3 posts that received the most likes on Facebook were linked to behaviour change programs like PlantWise, Don't Let it Loose and Play Clean Go.



The tweets that received the most impressions pertained to the June Flowering Times Calendar, Crab Team volunteer recruitment, and April Fools.

Social Media Contests

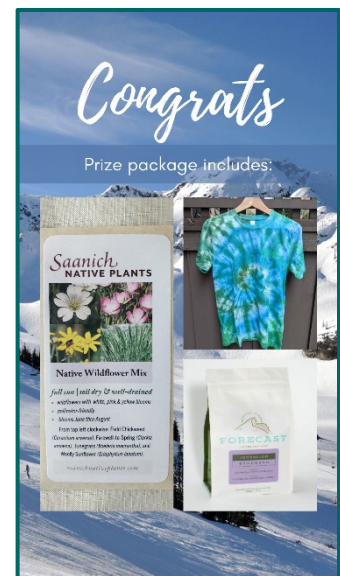
We carried out several giveaways on social media in 2022. Contests were draws amongst those who guessed the feature plant in the week's I Spy in the Sea to Sky post, or to signing up for one of our online courses.

Early in the season, we contacted local businesses to request in-kind donations that we could use in the giveaways. Ten businesses made in-kind donations, for a total prize value of \$1,184.

Videos and YouTube

This year we focused on creating reels (short videos), which we shared on our other social media platforms. We repurposed this content by uploading three reels to YouTube (as YouTube shorts); we plan on uploading more of our existing reels to YouTube in the future.

Overall, our videos received 2575 views.



Example of giveaway announcement on Instagram stories

Resource Development

Summary of new resources developed/published/working on

Resources Published	Resources in Development
Updated 15 existing datasheets	Guide to Identification & Management (new edition)
Updated 14 existing factsheets	Updates to the Invasive-Free Certification online course
Updated 9 existing species profile pages	Updates to the Aquatic Invasives 101 online course
Created 1 new datasheet	
Created 2 new factsheets	
Created 1 new species profile page	
Colouring pages , for all 3 sub-regions	
Wildlife Warrior Bingo cards in black and white, for all 3 sub-regions	
Shared 3 new videos on our YouTube channel	
21 new website pages (including the new species profile page mentioned earlier)	
59 blog posts	
Wrote 1 article for a local news outlet	



Tree of Heaven
Ailanthus altissima
(AKA Stinking sumac, Chinese sumac, Stink tree, Varnish tree, Paradise tree)

Squamish: Prevent | Whistler: Prevent | Pemberton: Prevent

DISTRIBUTION

IDENTIFICATION

Tree of Heaven is a small, fast-growing, deciduous tree. **Flowers:** Are small and white or pale yellow to light green. They grow in clusters that form a loose cone shape. **Stems:** Young Tree of Heaven bark is grey to brown; it becomes rougher as the tree matures. The tree grows to be 20 - 30 m tall and 10 - 15 m wide at maturity. New stems are yellowish to reddish brown and chunky. **Leaves:** Tree of Heaven leaves are compound, composed of oval leaflets with smooth edges, except for round or pointed lobes at the base of each leaflet. The compound leaves are large: 0.5 - 1 m long. When crushed, leaves emit a foul odour similar to burnt rubber. **Roots:** Young trees have a taproot and large lateral roots, although the taproot may diminish over time. In rocky or compacted soil, Tree of Heaven grows long, horizontal roots that do not branch until reaching more favourable soil. **Fruit:** Tree of Heaven produces showy, red, winged seeds, similar to samaras (maple's 'helicopters'). **Similar Species:** Native: Smooth Sumac (*Rhus glabra*), Black Walnut (*Juglans nigra*). Exotic: Japanese Walnut (*Juglans ailanthifolia*), Staghorn Sumac (*Rhus typhina*), Black Walnut (*Juglans nigra*).

Updated August 2022
Sea to Sky Invasive Species Council | www.ssisc.ca | 604-698-8334 | info@ssisc.ca

Example of a species factsheet updated in 2022

New in 2022: Invasive-Free Seed Mix

Through 2021 and 2022, we worked with Satinflower Nursery, based in Saanich, to create a seed mix that is both adapted to Sea to Sky growing conditions and free of invasive species. We offered these seed mix packets [on our website](#) as well as at select community events starting in August. So far, we've sold 20 seed packets and given 3 to social media giveaway winners.

Local businesses as well as other organizations across BC have also expressed interest in our invasive-free seed mix. We are currently in talks with two local businesses who reached out about carrying our seed mix, and we have shared our experience about the process with other interested organizations.



The Invasive-Free Wildflower Mix packets are available online, and at community events.

STORY OF IMPACT

We were contacted in the fall by someone wanting to purchase several seed mix packets. She explained that she had come upon SSISC's seed mix while teaching a Vegetation Management class at KPU, where one of the assignments was for the students to find invasive plants and seed mix containing invasive species for sale. She wanted to use the seed packets as prizes for an upcoming challenge. Her enthusiasm summed up our reasons for creating the seed mix:

"It was incredible how hard it was to find truly native/non-invasive seeds so I'm glad you sell them!"

COORDINATION, CONSULTATION & ADMINISTRATION

In 2022, the SSISC worked to facilitate the flow of external information and provide a source of expertise on invasive species; improve stakeholder communication, collaboration coordination and information sharing; and ensure program sustainability. Despite the ongoing, ever-changing challenges of operating during a pandemic, we were able to do the following:

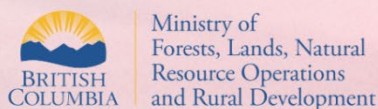
- Published and sought input from stakeholders on [SSISC's 2022 Annual Program Plan](#);
- Implemented and updated SSISC's Occupational Health and Safety Plan;
- Held a virtual AGM and Land Manager Planning Session in April;
- Reviewed and updated [SSISC's Regional Priority Plant Species List](#);
- Continued to research, compile spatial data for, and map invasive animal distributions in the Sea to Sky Region;
- Analyzed and communicated program results and efficacy through mapping and data analysis;
- Sought out new partnerships and funding sources, and maintained a [shared database](#) of potential funding sources in partnership with the other BC regional invasive species organisations;
- Applied for, and secured diverse funding (see our list of [funders](#)), and sought donations;
- Maintained and improved existing [partnerships](#);
 - We applied for fee-for-service funding and value-in-kind support from the Resort Municipality of Whistler in 2022 and were approved for 2023. This will increase our funding and shifts us into a more formal and secure agreement with the municipality.
 - We expanded the number of departments at the District of Squamish that we entered into funding agreements with in 2022. The real estate team and the municipal airport were the most recent new partners.
- Continued to build and expand partnerships with First Nations – including carrying out invasive species management on Squamish Nation, Lil'wat Nation and N'Quatqua lands; and co-delivering an invasive plant project with Lil'wat Nation, under an agreement with the Ministry of Transportation and Infrastructure.
- Continued to build and expand partnerships with and prepare invasive species management agreements for developers, industry and private landholders through our fee-for-service program:
 - Projects of note include Garibaldi Springs development (Polygon Homes), Centennial Gravel Pit (Coast Aggregates / LaFarge), Whistler RV Park, and The Boulder Patch (Northwest Landscape Supply).
- Participated in and collaborated with the BC Regional Invasive Species Organisations (RISO) working group, and attended the BC RISO annual meeting and field tour in September;
- Maintained membership with, and became an affiliate partner of the [Invasive Species Council of BC](#);
- Collaborated with and maintained membership with the North American Invasive Species Management Association (NAISMA), the Integrated Vegetation Management Association (IVMA) of BC, and the Society for Conservation GIS;
- Collaborated and communicated with the [BC Inter-Ministry Invasive Species Working Group](#) on initiatives including the development of a new provincial spatial database for invasive species data;
- Served on the advisory panel for the development of the new Invasive Species Strategy for BC (2023 – 2027);

- Collaborated and participated in meetings of the Metro Vancouver Regional Invasive Species Working Group;
- Maintained membership with the Salish Sea European Green Crab Working Group, and co-founded the Howe Sound European Green Crab Task Force;
- Participated and promoted BC Invasive Species Month in May;
- Provided support for the [provincial EDRR program](#), including assistance with treatment monitoring at the Flowering Rush site in Whistler;
- Provided support to local and regional government partners, especially regarding municipal bylaw development, education and support (e.g. District of Squamish, SLRD and Resort Municipality of Whistler);
- Participated in the Whistler & Squamish Non-Profit Networks and continued to collaborate with other local environmental non-profits including AWARE, Whistler Naturalists, Squamish River Watershed Society, Stewardship Pemberton, and Howe Sound Biosphere Region Initiative Society.
- Remained current on the latest invasive species research and information: attended various webinars and virtual events, including the BC Invasive Species Forum.
- Communicated news and information to membership (via e-Newsletters);
- Managed spatial databases and verified public sightings;
 - We received and logged 30 public sightings throughout the year
 - SSISC board and staff members submitted an additional 89 sightings
 - We carried out regular data exports from external databases (e.g. iNaturalist, Report an Invasive Species BC App / IAPP) to ensure we were logging any new sightings of high-priority species.
- Provided advice and support to stakeholders, partners, and community members:
 - We responded to general enquiries from 79 community members via phone and email during 2022.
 - We responded to 43 messages on social media
- Held quarterly board meetings and continued to develop SSISC's policy framework and strategic plan;
- Provided meaningful employment, training and professional development for four full-time (year-round) employees, and 10 seasonal or part-time employees.



THANK YOU

to our funders



And to our in-kind donors, program participants, private land owners, donors, collaborators and volunteers!

PLANS FOR 2023

We plan to continue delivering our three program streams in 2023 and will continue to adapt and change our programs as needed, to meet funding requirements and workplans. We plan to focus on programs and projects that we have seen success in, as well as applying for and securing funds to address gaps in our program. More information about our plans for 2023 can be found here: <https://ssisc.ca/who-we-are/plans/ssisc-planning-and-reporting>

