



Advancing Sustainable Development with Salmon-Safe BC

Final Report

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Acknowledgments

We would like to acknowledge that our team is fortunate to be living and operating on the traditional, ancestral, and unceded lands of the **Squamish, Musqueam, and Tsleil-Waututh Nations**. We stand aware and in recognition of our presence in colonial history, and understand our responsibility as academics to promote the cultural vitality of salmon and water systems located in the Pacific Northwest.

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Executive Summary

In collaboration with and under the guidance of the Salmon-Safe BC Program Lead and Fraser Basin Council (FBC), the SCARP team investigated whether obtaining Salmon-Safe eco-certification can assist in increasing the efficiency of development processes within the Greater Vancouver Sea to Sky region (GVSS). Salmon-Safe certification employs a comprehensive approach to assess the resiliency of urban and agricultural developments, using Pacific Salmon as a critical gauge of ecosystem well-being. The certification is based on eight robust standards, with alignment prescriptive to each site's context and needs.

To address the scope outlined in the project's RFP, the SCARP team employed an engagement-centred approach that primarily relied on interviews with participants as the main method of communication. Prior to conducting interviews, the team thoroughly researched Salmon-Safe BC eco-certification standards by reviewing relevant documents and online sources. Engagement for this project was split into two phases, Phase One: Preliminary Research and Phase Two: Knowledge Brokering.

Phase One was conducted with FBC's close contacts who were identified based on their prior knowledge of Salmon-Safe BC eco-certification. These interviews yielded important information regarding the experiences of applicants from different perspectives in the development field, such as design and construction, as well as insights from the Salmon-Safe administration about certification approval processes. Data retrieved from Phase One engagement was categorized and separated into seven key themes for analysis. The identified themes are listed below:

- Navigating Different Priorities
- Reconciliation
- Relationship Building
- Jurisdictional Variations
- Comprehensive Expansion of Salmon-Safe
- Process Administration
- Opportunities for Improved Resourcing, Funding, and Expansion

Insights from Phase One led to the conception of two important guiding questions about Salmon-Safe awareness and implementation across the GVSS region. This framework informed the SCARP team's next steps, including the Engagement Plan, which outlines engagement processes for Phase Two. Phase Two focused on the exchange of knowledge between development permit approving authorities and the SCARP team. This approach aimed to spread awareness about Salmon-Safe BC and explore the eco-certification's potential to streamline the development permitting process for sustainable development. After consolidating the findings, the team's research yields that there must be Council approval and overarching support from organizations internally and from the development community to successfully implement and integrate Salmon-Safe BC certification into the development permitting process across the GVSS.

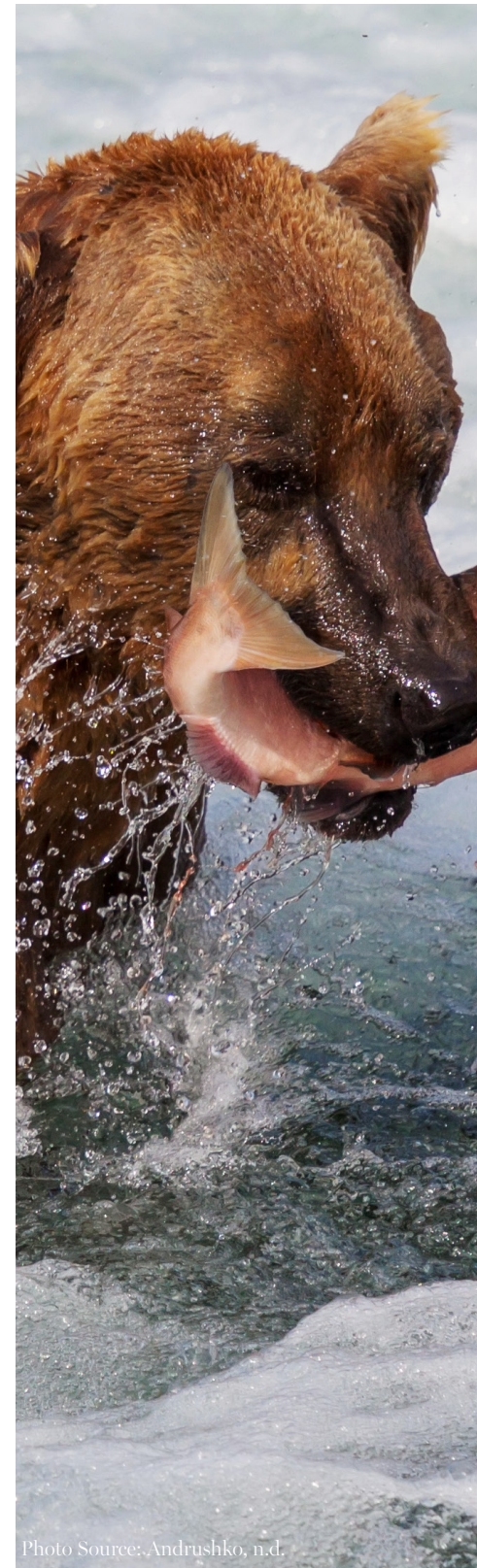


Photo Source: Andrushko, n.d.



Photo Source: Charlotte Gibb, n.d.

About Salmon-Safe

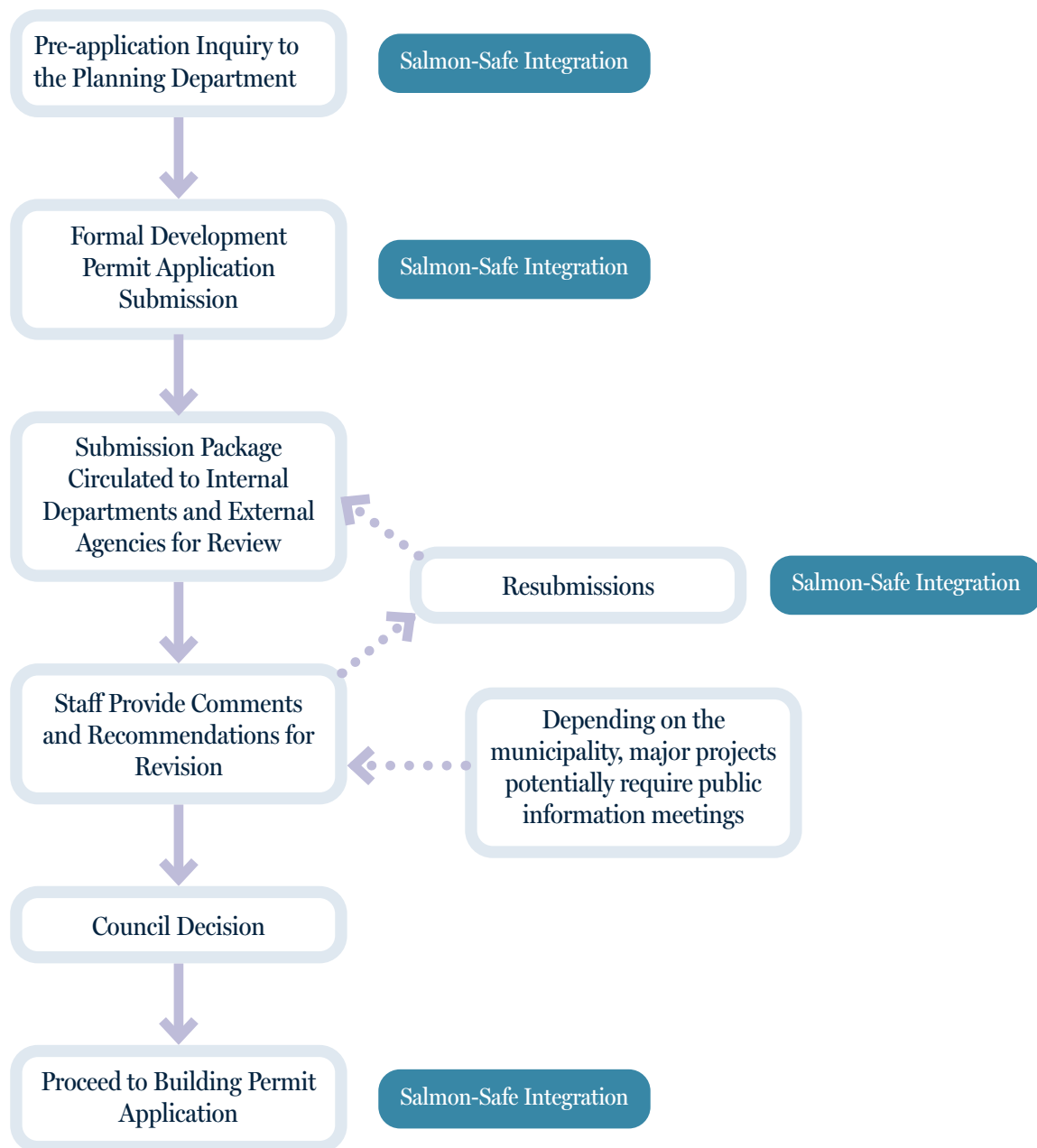
Overview of Development Processes

In British Columbia (BC), Pacific Salmon are of immense cultural, spiritual, ecological, and economic significance. From an ecological standpoint, salmon are regarded as a keystone species. Their well-being and survival serve as crucial indicators for assessing the current condition of aquatic ecosystems and the adjacent terrestrial environments¹. Salmon contribute significantly to the provincial economy, both through commercial and recreational fisheries². Additionally, salmon have served as a vital source of sustenance for numerous Indigenous communities in BC for countless generations and hold a central place in the traditions and stories that influence the core values of these societies³. However, despite their immense importance, salmon species are facing a decline as a result of human activities, extensive land use and development, and the escalating threats associated with climate change. To address these challenges, the Salmon-Safe BC eco-certification program was created to manage land management with the restoration and protection of watersheds and salmon health. This program, which was originally established in Oregon in 1996, has extended its reach to Washington, California, and BC. In BC, the Salmon-Safe program is overseen by the Fraser Basin Council (FBC), a non-profit organization committed to promoting sustainability solutions and practices in the region. Salmon-Safe certification is location-based and awarded to specific sites and projects, while Salmon-Safe accreditation is practice-based and extends to organizations such as developers, contractors, and designers. Since its launch in 2011, four urban locations, including Vancouver International Airport (YVR), BC Transit HandyDART in View Royal, 1077 Great Northern Way in Vancouver, and 3001 St. John Street in Port Moody, have received certification. Additionally, efforts are underway to certify an additional fifteen urban sites. On the other hand, Dialog Design holds Salmon-Safe accreditation, allowing them to integrate Salmon-Safe standards and principles into their various designs, even if the specific site does not pursue Salmon-Safe certification.

Salmon-Safe certification employs a comprehensive approach to urban and agricultural development, using Pacific Salmon as a critical gauge of ecosystem well-being. The programs' strong standards acknowledge that adopting progressive, environmentally responsible practices in urban areas can safeguard salmon habitats and enhance water quality, regardless of the site's proximity to watercourses. The evaluation of sites is based on eight criteria dependent on site context: stormwater management, water use management, erosion prevention and sediment control, pesticide reduction and water quality protection, enhancement of urban ecological function, site climate resiliency planning, instream habitat protection and restoration, and riparian, wetland, and locally significant vegetation. There are several standards under each of the eight management or areas of focus. They are all applicable to different phases of the project from site inventory to the annual maintenance and monitoring that takes place.



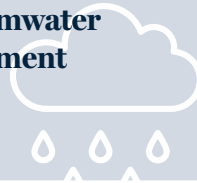
For the purposes of this report, the following flow chart outlines the typical development permit process within the GVSS, indicating potential integration points for Salmon-Safe BC.



Salmon-Safe Standards⁴

Core Standards

U.1 Stormwater Management



This management category focuses on controlling stormwater runoff in developments, emphasizing standards to minimize on-site stormwater and improve runoff quality. Under this focus area, Salmon-Safe advocates for an ecologically conscious approach, shifting from traditional methods like large detention tanks to a holistic, nature-based strategy.

U.2 Water Use Management



Water use management emphasizes the reuse of water, native plant landscaping, and more to benefit salmonids and other species. This focus area strives to minimize surface and groundwater withdrawals by capturing and reusing rainwater to reduce reliance on potable water and minimize wastewater leaving the site.

U.3 Erosion Prevention and Sediment Control



Sediments entering watercourses lead to the degradation of habitats, especially in salmon spawning areas. Therefore, U.3 requires site planning and development to respond to existing terrain and soil requirements. Subsequently pushing construction practices to integrate and maintain effective measures to prevent erosion and capture sediment before it leaves the site.

U.4 Water Quality Protection in Landscaping



Certain pesticides can be detrimental to salmonids and other aquatic life which can have sublethal impacts that cause behavioural changes and render salmonids more vulnerable to predation, consequently reducing survival rates. To avert these impacts, runoff control under the U.4. focus area works to minimize use, as well as restrict the type and method of pesticide application used on sites through integrated pest management solutions.



Core Standards

U.5 Enhancement of Urban Ecological Function



Safe spaces for urban wildlife such as bats, birds and pollinators is an important prospect that has far-reaching effects. Accordingly, U.5 guidelines help ensure that ecosystems can support the provision of amenities on-site and improve access to natural spaces.

U.6 Site Climate Resiliency Planning



Regional warming and shifts in precipitation patterns greatly affect water availability, the fluctuations of which have drastic impacts on the life stages of salmonid species that are tied to historic climate and stream flow patterns. Therefore, U.6 provides detailed guidelines for creating climate-resilient site designs to mitigate adverse climate effects.

Context-Dependent Standards

U.7: Instream Habitat Protection & Restoration



U.7 aims to reduce the impact on instream habitats by stabilizing stream banks, through the protection and restoration of physical and biological conditions. Construction activities are scheduled during windows that mitigate impacts on aquatic species to minimize disruptions.

U.8: Riparian, Wetland, & Locally Significant Vegetation Protection & Restoration



U.8 ensures the protection and restoration of physical and biological conditions of riparian and wetland areas. Through the implementation of buffers and sensitive species and resources protection guidelines during construction.



Certification Information: Programs and Costs

Salmon-Safe certification has eight different program areas that were established between 2003 to 2017. The program areas cover Farms (2003), Park and Natural Areas (2004), Urban campuses (2005), Urban Development (2008), Infrastructure (2015), Construction accreditation (2008), Developer accreditation (2015), and Designer accreditation (2017). For this project, the SCARP team focused on the **Urban Development standards and certification**.

Costs for certification range between \$30,000 and \$50,000 per site. The costs can be assumed incrementally and are flexible to ensure that the applicants are getting the most out of the resources provided by the program. The certification is valid for five years with the option for renewal available at the five-year mark. Once certified, the site receives an annual visit to ensure Salmon-Safe standards are consistently being met or exceeded.

Incentives: Driving Sustainable Development

In collaboration with local authorities, Salmon-Safe US provides numerous incentives in the United States to promote and encourage urban site certification. Incentives consider awarding reduced permitting fees, allowing extra leasable or sellable space, as well as using Salmon-Safe certification as a screening process in development permitting applications to prioritize the development of sites. These incentives have been outlined in Table 2 with a brief description of what each incentive entails.

In accordance with this project's objectives, the SCARP team explored the potential adoption and alignment of a few or all of the seven incentives in development permitting processes. The team's engagement with differing approving authorities helped gauge the feasibility of the outlined incentives in the Greater Vancouver Sea to Sky region (GVSS) and the British Columbia context.



The following table provides examples of incentivising socio-ecologically conscious developments through Salmon-Safe certification programs

Reduced Permitting Fees	Encourages certified green building projects by reducing permitting fees.
Floor Area Ratio	Allows for extra leasable or sellable space for more rigorous developments.
Expedited Permitting	Organize an efficient and escalated schedule.
Contractor Incentive for New Development and Retrofits	Incentivizes utility rates for certified new development.
Contractor Incentive for New Development and Retrofits	Incentivizes pollution prevention in new developments and site/building retrofits through preferential contracting of contractors meeting Salmon-Safe's standards.
Land Use Recommendation Incentive	<p>There are two potential approaches to operationalizing the land use recommendation incentive. These include:</p> <ol style="list-style-type: none"> 1. Apply Salmon-Safe's 10 Principles for Ecologically Functional Design to guide development 2. Employ Salmon-Safe certification assessment standards through the Salmon-Safe independent science team for high-priority private or public development sites.
Pilot Project with Municipalities	Contract third-party reviews and compliance processes for projects in ecologically sensitive areas.



Project Overview

In collaboration with the Fraser Basin Council (FBC), the SCARP team investigated whether Salmon-Safe BC had the potential to foster sustainable development across the GVSS region. The SCARP project team interviewed past, present, and future Salmon-Safe BC sites and partners, approving authorities and Indigenous Nations to understand the potential added efficiency of Salmon-Safe BC in the development permitting process.

Phase One consisted of close contacts who were identified as participants for engagement based on their prior experience with Salmon-Safe BC eco-certification by FBC. For Phase Two, approving authorities were selected based on their geographical location within the GVSS region as relevant to the FBC Salmon-Safe context. Conducting engagement with the identified parties helped the SCARP team explore the feasibility of enhancing development permitting processes through the implementation of the Salmon-Safe BC certification or certification standards in the GVSS region. Using experienced accounts helped to facilitate a better understanding of the associated benefits, barriers, and opportunities of this project.

The interview process aimed to provide the SCARP team and FBC with:

- An understanding of the efficiency of the Salmon-Safe BC program and accessibility of information;
- Salmon-Safe BC applicant experiences with process, cost, outcomes, and re-certification;
- The certifications' potential to assist development permitting processes for more equitable and environmentally conscious growth;
- An understanding of different development permitting processes;
- The alignment and gaps between Salmon-Safe standards and permitting processes;
- Barriers to acquiring certification or implementing it in permitting guidelines;
- And experiences of de-certification (if applicable).



Photo Source: Aryze Development n.d.

2150 Keith Dr, Vancouver - Salmon-Safe BC Certified





Photo Source: FBC, 2022

Methodology

This project was guided by an in-depth engagement process with the assistance of the Fraser Basin Council (FBC). The approach was divided into two phases, (1) Preliminary Research Interviews and (2) Knowledge Brokering. The interviewed parties for each phase are as follows:

Phase One: Close FBC contacts

- Salmon-Safe US
- Vancouver International Airport
- Dialog Design
- Omicron

Phase Two: Approving Authorities

- City of Burnaby
- District of North Vancouver
- District of West Vancouver
- Squamish-Lillooet Regional District
- Indigenous Nation(s)

Organizing and Conducting Phase One

Introductions to close contacts were facilitated by FBC, with engagement tasks and scheduling being completed by the SCARP team. Engagement for this phase was carried out through online interviews via Zoom to learn more about the close contacts' experiences with Salmon-Safe eco-certification. These interviews provided primary data to inform the engagement plan for Phase Two engagement. Interviews in this round provided the SCARP team with background information on the Salmon-Safe certification, accredited actors' interactions with the program, as well as opportunities and benefits associated with attaining certification. The perspectives and experiences from this engagement phase helped develop important questions or information to ask participants in the next phase.

Building and Finalizing Phase Two

Engagement was built on the feedback received from close contact interviews. Similar to Phase One, interviews were administered virtually. This phase consisted of several interviews with a number of approving authorities as decided upon with FBC. Engagement during this phase focused on technical details and the exchange of information in regards to Salmon-Safe BC certification. Facilitating communication enabled the exchange of knowledge and fostered a seamless understanding of Salmon-Safe BC practices among engagement participants, ultimately contributing to the advancement and awareness of Salmon-Safe.

Engagement Process & Analysis

Outreach and Interview Parametres

Outreach for engagement in both phases was conducted via email correspondences by Mia Bojic from the SCARP team, who acted as the liaison, to ensure a clear line of communication with potential interviewees. All outreach and correspondence emails were signed off with a group signature to better signify the project team and its purpose.

Each outreach email was accompanied by the project brief attached to assist the interview candidates with understanding the purpose of the project. After each interview, interviewees received a follow-up email with more information on Salmon-Safe BC as requested through their respective inquiries. Interview tracking was completed in a Google Sheet spreadsheet, accessible by FBC throughout the process. The contact tracking sheet contains sensitive and personal information under the jurisdiction of FBC and Salmon-Safe BC. SCARP has handed over all transcripts, contact information, and general lessons from the calls to FBC upon the project's completion. Due to the sensitivities of information shared in the interviews, the transcripts and contact information have not been added to this report.

Please direct requests for specific project findings directly to FBC and the Salmon-Safe BC Program Manager.



Photo Source: YVR, 2020



Phase 1 Engagement Breakdown

Who We Heard From

- Salmon-Safe United States
- Vancouver Airport Authority (YVR)
- Omicron Development
- Dialog Design

What We Asked

Phase One engagement inquiries were developed and approved by FBC. The interviews discussed the experiences of each entity when they went through certification or accreditation. Engagement with Salmon-Safe US was completed to gain a better understanding of the program and the methods behind its successes including regional expansion.

Phase One Interviews Sample Questions:

- What was your experience with the Salmon-Safe (SS) certification process when getting your site certified?
- Were there any challenges with the annual recertification assessment for your site?
- To what degree does pursuing Salmon-safe certification help or hinder the development process?

What We Heard

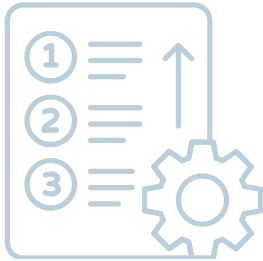
Information gathered from the four preliminary interviews with Salmon-Safe US, YVR, Omicron, and Dialog Design was categorically summarized and consolidated into seven key themes. The themes were derived from consolidating similar comments into broader categories that best reflected the key takeaways from the information provided by interviewees. The information cataloged under the themes was instrumental in creating discussion guides for Phase Two. As the project advanced, the SCARP team gained more comprehensive insight into the practical implementation of Salmon-Safe BC certification through the evolving themes established in Phase One. The seven key themes identified are highlighted below.

Key Themes:

- Navigating Different Priorities
- Reconciliation
- Relationship Building
- Jurisdictional Variations
- Comprehensive Expansion of Salmon-Safe
- Process Administration
- Opportunities for Improved Resourcing, Funding, and Expansion

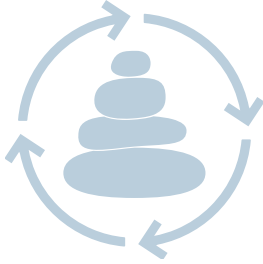
Key Themes

1. Navigating Different Priorities



Close contacts emphasized that site operators, clients, or their respective organizations had to navigate diverse priorities when seeking certification. These priorities included elements such as building materials, chemicals for site maintenance, and operational procedures. Challenges arose when the values and operational requirements of Salmon-Safe conflicted with existing contracts, budget allocations, operational procedures, or permitted materials allowed on designated sites. For instance, an entity expressing interest in Salmon-Safe BC certification may be dissuaded if fertilizers under use on their site are deemed unusable which could impact business relationships for existing contracts or be costlier in the long term. While challenging, participants acknowledged that these situations also presented opportunities for innovation. This perspective allowed entities to consider long-term sustainability, foster new relationships, and explore how small details in the built environment and operations play a crucial role in ensuring a healthy environment for all living beings.

2. Reconciliation



Salmon-Safe BC's emphasis on the ecological and cultural significance of salmon, as a keystone species, has fostered collaboration between Indigenous Nations and associated entities. Efforts towards reconciliation have focused on the use of traditional ecological knowledge (TEK) to further enhance relationships and the health of the built environment. In particular, interviewees found Salmon-Safe to be instrumental in facilitating the exchange of TEK and promoting riparian ecosystem health. For example, a Nation expressed concerns about the quality of runoff water from a widely used roof membrane across the lower mainland containing Bitumen. Subsequently, the Nation took initiative by incorporating Salmon-Safe as a condition in the development permit, establishing it as a standard for future projects. The incorporation of Indigenous assessors and expertise demonstrates the ongoing commitment to reconciliation and environmental stewardship.

3. Relationship Building



Conversations with Salmon-Safe US highlighted the importance of relationship-building through active conversations and incentives. For instance, Salmon-Safe recognizes that cutting certification costs for clients when budgets are strained will lead to stronger relationships and greater use of Salmon-Safe standards. This process is also administered through conversations when site owners leave the site through selling or leasing to create relationships with the new owners or tenants. In turn, these relationships spread awareness of Salmon-Safe across different parties while forming new relationships.



4. Jurisdictional Variations

Salmon-Safe certification operates in Oregon and Washington, whereas in Canada it is exclusive to BC. Despite minor differences in certification processes, both countries share an annual assessment and 5-year recertification process. In BC, jurisdictional regulations and land ownership usually fall under private, municipal, provincial, federal, or Indigenous categories, influencing the permitting structure for various sites. For instance, YVR is on federal lands that are entitled to a different permitting process, unlike any other development on municipal land. Conversely, private and municipal lands adhere to general permitting structures of their respective municipalities. Notably, the US utilizes a points system when sifting through permitting applications, which tends to provide a competitive edge to Salmon-Safe accredited proposals. These variations prompt consideration for consolidating Salmon-Safe standards with local permitting processes potentially enhancing development while upholding important socio-ecological standards.



5. Comprehensive Expansion of Salmon-Safe

Certifying certain features or uses on sites can be challenging due to the intricate interconnectivity of land uses and services. As Salmon-Safe BC certification stands independently and is not obligatory at the municipal level, participants identified an opportunity for Salmon-Safe BC to enhance its approach by expanding government relationships, potentially making Salmon-Safe BC development a mandatory requirement. This shift could pave the way for community and master plans, encompassing neighbourhoods or larger areas, to uniformly adhere to Salmon-Safe BC standards. Such an initiative would promote comprehensive and sustainable urban growth without the need to convince multiple actors to seek individual certifications for collective sites to achieve Salmon-Safe certified status.



Photo Source: Low Tide Properties Ltd. and

1077 Great Northern Way, Vancouver - Salmon-Safe BC Certified



6. Process Administration



All participants noted that the application process for Salmon-Safe BC certification was straightforward and seamless, posing no obstacles to the development permitting process. The uniformity of the certification application process across the US and Canada ensured an uncomplicated experience, with no significant barriers for participants to attain Salmon-Safe accreditation. Site certification in Canada involves addressing Salmon-Safe assessment conditions during the early stages of construction in the development permitting process. Individuals involved in the development process such as designers, contractors, and project managers, expressed satisfaction with this approach, considering it an opportune stage for adjustments once construction commences. In the case of existing built sites seeking certification, applicants found Salmon-Safe conditions for accreditation difficult to meet and found the process challenging.

7. Opportunities for Improved Resourcing, Funding, and Expansion



As a program administered by a non-profit organization access to funding and resources for expansion can often be challenging. Salmon-Safe US explained that access to funding enabled them to procure a contracted employee for a specified amount of time to solely conduct outreach and spread awareness. This form of resourcing can prove advantageous for Salmon-Safe BC in terms of outreach and awareness, ultimately contributing to increased certification. Interviews also revealed that many certification holders saw Salmon-Safe as the next frontier for sustainability. After the creation of LEED, more private and public sector developers and builders are seeking sustainable ways to increase development. Each interviewee iterated how Salmon-Safe BC has been beneficial to the development and/or construction process. Salmon-Safe's gradual expansion has shown developers, designers, and contractors the importance of watercourse protection and management typically overlooked without certification.



Phase 2 Engagement Breakdown

Context for Phase 2 Engagement Analysis

Phase 2 of engagement focused on educating approving authorities on Salmon-Safe BC eco-certification program and analyzing if and where the program could fit in within their respective development permitting process. The development permitting process varies between jurisdictions and is prescriptive to topography, geography, organizational capacity, and staff expertise. With that, the SCARP team discussed the permitting process individually with the approving authorities and then the potential alignment with Salmon-Safe BC certification. The SCARP team has provided FBC with a working document as a spreadsheet to conduct alignment analyses with further engagement and research over time.

Who We Heard From

- City of Burnaby
- District of West Vancouver
- Squamish-Lillooet Regional District
- District of North Vancouver
- Indigenous Nation

Please note that the following approving authorities do not represent the general consensus. Each interview was catered to its authority's processes. The SCARP team established other connections with additional approving authorities, however, due to time constraints, they were unable to participate; FBC has the contact information and discussion transcripts to further develop relationships outside of the SCARP Team's project scope.

What We Asked

The SCARP team formulated questions for the interviews before conducting outreach. Questions were amended as necessary and approved by FBC. Questions were forwarded to contacts ahead of the calls to allow respondents time to prepare and provide opportunities for alternative response options should the participant feel uncomfortable participating using the initial method.

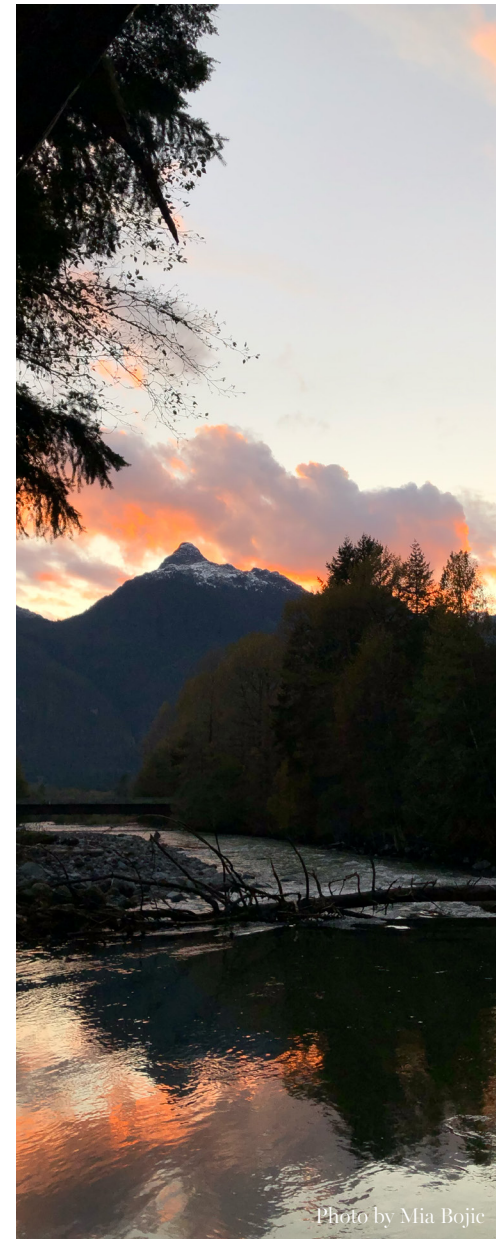


Photo by Mia Bojic



Sample of Phase Two Interview Questions:

- Have you previously heard of Salmon-Safe and/or the Fraser Basin Council? If yes, please briefly describe what you know.
- May you describe the development permitting process at (jurisdiction)? May you describe your role within the process (if applicable)?
- Please give a brief overview of the environmental aspects of the development permitting process at (jurisdiction). Given the time constraints of the call, is there a detailed guide or checklist you could share with us for an in-depth overview of the process?

Research Observations

Each Salmon-Safe BC standard is robust with detailed requirements, but the Salmon-Safe BC certification process can be flexible and provides binding conditions and non-binding recommendations to applicants. Based on this understanding of the Salmon-Safe BC urban development certification program, an analysis providing a broad overview of the organization's alignment with Salmon-Safe standards was conducted on interview data. Information retrieved through both primary and secondary research processes such as online data retrieval and information from interviews was summarized in this report under the respective approving authority's name. All information is organized into the following sections under each approving authority: general overview of permitting processes, alignment with Salmon-Safe BC standards, potential barriers to entry, and opportunities for Salmon-Safe BC in the approving authority's development processes.

Phase 2 Engagement: Analysis

City of Burnaby (CoB)

Overview of Permitting Processes

The City of Burnaby is currently conducting a review of their Official Community Plan and restructuring of their development approvals process. Therefore, this analysis is based on their development process from March 2024. Before the current restructuring, the City of Burnaby did not possess formal development permits, which differs from the standard practice in most Metro Vancouver municipalities. With no formal development application process in place, a Preliminary Plan Approval (PPA) is required for proposed changes to use, density, or external appearance. Commercial, industrial, institutional, and multi-family residential projects must obtain a PPA before receiving a Building Permit. Except for single and two-family construction sites, all proposed developments must secure an Erosion and Sediment Control (ESC) Permit before construction commences. Additionally, Burnaby has identified Streamside Protection and Enhancement Areas (SPEAs) across the city. When development is proposed within 30 meters on the top of a stream or ravine,



known as the Riparian Assessment Area, a review for the applicability of the SPEA Bylaw is initiated. If the project cannot proceed without encroaching into the SPEA or if it poses potential impacts to streams and sensitive ecosystems, the applicant must prepare an Environmental Review Committee (ERC) submission.

Beyond the provisions set out in various by-laws, the City of Burnaby also adopted environmental protection policies, exemplified by advancing water conservation efforts in proposed developments and setting a performance-based approach to stormwater management. While these initiatives align with their sustainability strategy and encourage compliance, assessing their actual implementation can be challenging.

Alignment with Salmon-Safe BC

There is limited overlap between the requirements of the PPA and Salmon-Safe standards. While some documents may be requested by both processes, they likely focus on different aspects and goals. For example, Salmon-Safe emphasizes minimizing impervious areas in parking and roadway design as part of the U.1 Stormwater Management standards. Meanwhile, Burnaby's PPA requires parking and loading layouts to be included in site plan drawings, with the City likely reviewing to ensure compliance with the zoning bylaw regarding the number of parking spaces provided and their design dimensions.

On the other hand, both the ESC permit and ERC application criteria closely mirror Salmon-Safe standards. The ESC permit requires soil protection from erosion and sediment generation, alongside monitoring, akin to Salmon-Safe requirements. Similarly, the ERC application encompasses elements from all 8 Salmon-Safe standards, promoting restoration to a healthy native plant community and mandating a stormwater management plan to limit runoff, erosion and sediment control, and environmental, fisheries, and wildlife assessments, as well as addressing flooding and floodplain risk management.

Potential Barriers to Entry

This analysis of Burnaby's development application process may soon lose its relevance, given the City's ongoing extensive overhaul of its development approvals process. City staff consistently operate at full capacity, with numerous competing priorities often taking precedence over considerations for integrating Salmon-Safe standards into Burnaby's development approvals process. The primary barrier lies in determining how the City could effectively incorporate Salmon-Safe practices, as this might be perceived as an additional hurdle accompanied by increased costs. Another challenge is the current lack of awareness regarding these standards. Furthermore, implementing incentive programs, such as fast-tracking permitting times, could potentially be difficult due to the heavy workload on staff responsible for reviewing applications, especially considering the widespread desire among stakeholders to expedite the permitting process through various programs.



Photo Source: Geosia 2023



Photo Source: Peters, 2020

Opportunities

Seizing the opportunity presented by the City of Burnaby's extensive revamp of development approval processes is crucial for Salmon-Safe, especially considering large institutions like the City of Burnaby tend to approach change cautiously and slowly under normal circumstances. Moreover, the current Council has demonstrated support for environmental protection-related policies and bylaws, indicating considerable potential for collaboration. Integration of Salmon-Safe standards could occur at a high level, evolving into overarching policy frameworks. These standards align seamlessly with Burnaby's Environmental Sustainability Strategy, Climate Action Framework, and Official Community Plan.

Efforts must be made to clarify the City's role in this integration process, including addressing cost allocation, determining the nature of participation (voluntary, mandatory, or incentivized), and ensuring transparency and ease of understanding. Increased awareness of Salmon-Safe certification among applicants can facilitate informed decision-making regarding its benefits and costs prior to preparing and submitting development application packages.

Salmon-Safe outreach predominantly targets environmental professionals. Enhancing uptake necessitates creating alliances with other municipal departments, including development and policy planning, engineering, and finance. Collaborative efforts across these sectors can effectively strengthen the adoption of Salmon-Safe practices within Burnaby's development landscape.

Integration of Salmon-Safe BC certification in Burnaby would be possible with approval from Council, budgeting adjustments to account for certification costs, and implementation into city policy before amending the development permitting process.

Important note on Riparian Area Protection guidelines for North Shore approving authorities.

Municipalities in BC are required to follow the provincial Riparian Areas Protection Regulation (RAPR) but were also provided with the opportunity to create more rigorous and tailored guidelines using RAPR requirements as a foundation. Accordingly, the District of West Vancouver, City of North Vancouver, and District of North Vancouver created their own riparian area strategies that are more highly reflective of the North Shore's specific topographical characteristics.



District of North Vancouver (DNV)

Overview of Permitting Processes

The District of North Vancouver has five environmental Development Permit Areas (DPAs), if the site falls under one of the five DPAs, the development application would be reviewed in terms of aspects like the Salmon-Safe BC standards. DNV iterated that the implementation of Salmon-Safe BC certification would require an additional step in the approvals process, which would be laborious for the applicant. The current status of the approvals process has become lengthy for the applicants, thus being a standing approving authority, Salmon-Safe BC certification may be perceived as onerous for the applicant.

Alignment with Salmon-Safe BC

The discussion with DNV outlined that the District is already holding development applicants to the standard that Salmon-Safe BC asks for, thus, the District does not see the efficiency gain of implementing Salmon-Safe BC certification as a requirement. Instead, the discussion found alignment of the Salmon-Safe BC standards to work better at the policy level to encourage applicants to meet the standards.

Potential Barriers to Entry

DNV utilizes an online software that tracks the development permit reviews from the differing teams. This would limit Salmon-Safe BC integration in existing municipal organization-wide processes.

Opportunities

DNV has engaged with Salmon-Safe BC prior to this project through webinars with former Salmon-Safe BC staff. However, more exposure to other entities within the District would help spread awareness and encourage discussion around Salmon-Safe BC certification outside of those already interested in the program. Catering the webinars or lunch-and-learns to how municipal staff can contribute to the certification process may encourage the conversation across the organization and between the applicants and the municipality. Additionally, guidance from Salmon-Safe BC and FBC to assist in pushing initiatives forward can help municipalities cross-reference and create wider discussion within the organization with political leaders.



Photo Source: Birkus, n.d.



District of West Vancouver (DWV)

Overview of Permitting Processes

The District of West Vancouver consists largely of residential development - primarily single-family - with few commercial areas and no industry. For new developments, major watercourse protection guidelines are outlined in the District's Official Community Plan which is complimented by a series of environmental strategies, bylaws, and permitting processes. Permitting requirements for developments near watercourses in the District are determined after a review of the initial building permit application. Permit Clerks forward applications to the Environmental Protection staff at intake should an application necessitate an Environmental Development Permit (EDP). The EDP application requires the submission of all or a few of the following site-specific documents:

- Erosion and Sediment Control Plan,
- Arborist Report for tree work,
- Riparian Planting Plan,
- Site Survey,
- and an Environmental Assessment prepared by a qualified environmental professional

Once the EDP is approved, security deposits are collected as a condition and the building permit is granted. A year after construction is completed a final assessment is conducted to ensure riparian planting has survived at which point the security deposit can be returned and the EDP process completed.

Alignment with Salmon-Safe BC

In addition to utilizing RAPR guidelines, the DWV's standards closely align with existing Salmon Safe Standards. For example, the District's guidelines prioritize stormwater management, balance impervious to pervious surface ratios, prohibit the burying of watercourses to pipe water, and require properties to demonstrate ecological restoration practices (e.g. planting native species). In addition to existing guidelines, the DWV is actively engaged in climate and ecological resilience efforts aimed at fostering equitable communities, enhancing urban environments, and advancing biodiversity.

Photo Source: West Vancouver Streamkeeper Society, n.d.



Potential Barriers to Entry

Certain barriers to entry for Salmon-Safe into the permitting process at the DWV include certification costs, resourcing, timelines, and determining how Salmon-Safe standards could effectively be integrated as they might be perceived as an additional hurdle. Prevailing questions around coordination between multiple teams, longer approval timelines for Building Permits' should the assessment team fail a site, distribution of responsibilities, or even negotiating with individual homeowners as the DWV primarily consists of single-family residential developments, remains unclear. District staff consistently operate at full capacity, often with limited resources to secure resources and staff required to execute existing priorities. Therefore, existing competing priorities tend to take precedence over considerations for integrating Salmon-Safe standards into West Vancouver's permitting processes. Finally, considering the DWV's existing rigorous riparian area guidelines it is important to be aware of the potential duplication of existing processes and introducing redundancy.

Opportunities

Based on an analysis of existing processes, Salmon-Safe standards may provide additional rigour to existing robust guidelines as they are open-source and easily implementable. Due to the prevalence of residential developments within the DWV, Salmon-Safe accreditation could offer greater advantages to independent stakeholders such as contractors, designers and developers. Meanwhile, site certification may be more suitable for mixed-use, commercial, or industrial developments, offering approving authorities assurance of elevated development standards. Moreover, the Salmon-Safe team's research on 6PPD-quinone has the potential to provide deeper insight into the toxic chemical runoff and help ideate mitigation strategies across the North Shore. Other important connections explore Salmon-Safe's connection to other environmental protection guidelines, such as wildfire protection. There are numerous opportunities for FBC to act as a mediator through conversations with Council on environmental priorities and knowledge broker through inter-departmental webinars or meetings to promote the inclusion of Salmon-Safe standards.



Photo Source: West Vancouver Streamkeeper Society, n.d.



Squamish Lillooet Regional District (SLRD)

Overview of Permitting Processes

The Squamish Lillooet Regional District (SLRD) has four Electoral Areas to act as the local government body, however, the Regional District also encompasses four municipalities. There are four Official Community Plans within the SLRD that guide development through the use of Development Permit Areas (DPAs). One DPA refers to riparian protection across the region. The member municipalities have their own bylaws and permitting processes for which the regional district is not responsible for.

A Riparian Protection Development Permit is required for any development activity within 30m of a waterbody within a Riparian Development Permit Area. All four SLRD Electoral Areas contain Riparian DPAs. There are several application requirements that may vary based on the development permit area guidelines, but generally include Riparian Area Assessment by a Qualified Environmental Professional, completed Development Permit application form, and Setbacks from Riparian areas. Each Electoral Areas' OCP may require other documentation.

Alignment with Salmon-Safe BC

The SLRD poses limited alignment with the Salmon-Safe BC standards due to each Electoral Area having more specific requirements in their respective OCP. However, the SLRD only specifies the completion of the Riparian Area Assessment guidelines by a Qualified Environmental Professional (QEP). The assessment requirements are not exhaustive as they are dependent on the site context. Therefore, the QEP only ensures that the assessment correlates with provincial riparian standards (RAPR).

Potential Barriers to Entry

On a broader scale, the SLRD's experience demonstrates the need for policy change and dialogue with the Provincial government to facilitate further implementation. However, since the SLRD is an approving authority for mostly smaller entities, Salmon-Safe BC certification as a requirement may pose a barrier to applicants, both financially and in resources.



Opportunities

The SLRD iterated that Salmon-Safe BC certification would be most influential through a top-down approach, involving engagement with provincial and high-level policies, subsequently enabling municipalities to align their work accordingly. The SLRD highlighted the importance of reaching out to the Province of British Columbia for more robust requirements and enforcement of the RAPR. A more overarching policy investigation and implementation is required for the Regional District and the municipalities it encompasses.

Indigenous Nations

Due to sensitivities and anonymity, the SCARP team has redacted information provided by the Indigenous Nation. Any project-specific information can be requested through the Fraser Basin Council. We acknowledge that the Indigenous Nations have their own processes that may not be disclosed publicly. However, it is evident that the Nations use a referral process, for which they review development permit applications' supporting documents, including stormwater management plans, drainage reports, etc. The Nations acknowledged the work that Salmon-Safe BC does and are interested in continuing to build a relationship and repertoire with Salmon-Safe BC and FBC so that this expansion may come to fruition one day in the future.



Photo by Riva Siddiqui



Findings and Next Steps

After a thorough review of all the information gathered through this project, the SCARP team has formulated a set of Next Steps for FBC to consider when conducting their next round of outreach for the Salmon-Safe urban program. Most recommendations outlined in the next steps are specific to urban development across the GVSS region, however, those focused on awareness and education may apply to a broader context and other non-urban program areas under Salmon-Safe BC.

The following section highlights key findings gathered by the SCARP team from their outreach and research. All findings have been formatted into broader actionable categories that can be enacted by FBC. The list is compiled of feedback from engagement and the alignment analysis with each jurisdiction. This is meant to be a holistic view of the information and feedback the SCARP team received. No single step is directly correlated to a specific contact or discussion.

Relationship Building

Relationship building was first identified in Phase One engagement as integral for expanding awareness and uptake of Salmon-Safe BC. For example, decreasing costs of certification when necessary to ensure a continued relationship may prove advantageous to secure increased uptake or help sites recertify more frequently.

Maintain and harness established relationships from the SCARP team's outreach and engagement process. By fostering these relationships, FBC is encouraged to further investigate the quantitative alignment between approving authority regulations and Salmon-Safe BC standards. The SCARP team suggests a scientific review of the Salmon-Safe BC standards and the development permit requirements from each approving authority of interest to identify where Salmon-Safe fits best within the permitting process.



Enforcement

Connect with staff from the Province to assess Salmon-Safe BC's alignment with the Riparian Area Protection Regulations (RAPR) for wider reach and high-level policy implementation. As an overarching policy, RAPR is noted to be highly inexhaustive. Accordingly, Salmon-Safe standards can be introduced to RAPR guidelines to create more thorough and binding legislation.

Explore new and innovative methods that can help make Salmon-Safe standards more enforceable, as well as increase uptake of certification and accreditation. For instance, less site-specific and prescriptive sub-standards can provide room for higher applicability of Salmon-Safe standards when applicants consider certification and approving authorities consider implementation of certification as a requirement.



Policy Change



For Salmon-Safe BC certification to be adopted as a requirement in the development permitting process, research suggests that more nuanced amendments starting at the overarching provincial policy level all the way down to specific municipal permitting requirements, are necessary. By ensuring Salmon-Safe BC standards are met in policy, the subsequent download of the requirements in the permitting process can follow suit. Applying standards to higher-level policy can ensure Council members are aware of the requirements before integrating them in a more robust and prescriptive manner within development permitting. As highlighted in Phase One, comprehensive policy changes can help mediate jurisdictional variations by establishing uniform long-term objectives that all approving authorities and development processes must adhere to.

Outreach & Awareness



At present, the SCARP team's research reveals that the Salmon-Safe label has mostly gained high-level recognition in environmentally relevant fields. However, professionals in environmental and other disciplinary fields remain unfamiliar with the Salmon-Safe program's functions and applicability. Therefore, to further build Salmon-Safe BC's rapport in the GVSS region consistent outreach is suggested. This approach can help initiate and foster new relationships with inter-governmental agencies, environmental professionals, politicians, municipal staff of all expertise, and entities with Indigenous Nations. Consistent cross-departmental and inter-organizational communication is necessary as Salmon-Safe BC programs continue to expand in BC.

Suggested outreach methods can include lunch and learns, webinars, presentations at the Planning Institute of British Columbia, seminars, workshops, public talks, participation in conferences for professional regulatory authorities and more.

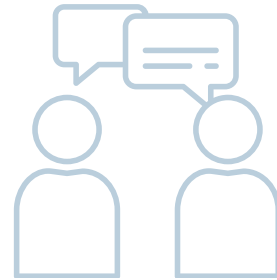


Campaigning

Establishing connections with influential actors to encourage the policy changes necessary to enact Salmon-Safe BC standards as guidelines in development permitting processes, policies, and strategic plans.

Connect with Mayors, Chief Administrative Officers, Department Managers, and other influential individuals in bringing large systemic change to adopting Salmon-Safe BC standards, and ultimately, certification. Conferences, seminars, and events held by professional boards (i.e. Urban Development Institute) can provide opportunities to discuss the potential Salmon-Safe BC programs can bring to the approving authorities and users.

Creating marketing campaigns applicable for potential Salmon-Safe BC certification applicants for ease of awareness and communication with a broader audience. Utilizing digestible media such as infographics and brochures to attract approving authorities so that information can be spread across the wider organization aside from planners and environmental teams.



Funding

It would be beneficial for FBC and Salmon-Safe BC to seek grant opportunities to acquire outreach employees for further education and awareness of Salmon-Safe BC across the region.

For consistent assurance that Salmon-Safe BC is getting the exposure necessary for an increase in certification applications, consistent outreach and awareness is recommended, as previously mentioned. Extra funding sources can provide adequate room to have an employee focus on developing connections with actors and organizations for a more widespread reach.



A vibrant, artistic photograph of several salmon swimming in clear water over a rocky riverbed. The salmon are in various stages of their upstream migration, with some showing bright red heads and others more silvery. The water is clear, revealing the stones and the movement of the fish. The overall tone is natural and dynamic.

Conclusion

The SCARP team's research yields that there must be Council approval and overarching support from organizations internally and from the development community to successfully implement and integrate Salmon-Safe BC certification into the development permitting process across the GVSS. Salmon-Safe BC has been recognized as most suitable for implementation at the higher policy level. Integrating Salmon-Safe into development permitting guidelines could potentially create redundancy, making its current integration unfeasible.

A trickle-down approach, starting with policy development and making Salmon-Safe an overarching goal, has been deemed more viable. This approach has the potential to increase the adoption of certification and accreditation if Salmon-Safe standards are integrated into provincial legislation and municipal objectives. This strategic alignment could provide stakeholders with the opportunity to incentivize Salmon-Safe practices in their development permit processes.

Salmon-Safe BC certification provides approving authorities with a level of ease usually unmet through traditional developments, as it ensures a higher level of rigour for water management practices before approving development permit applications. However, the certification does pose a financial strain on the permit applicant's budget alongside unknown political endorsement requirements for each approving authority's jurisdiction. This project has highlighted increased interest in Salmon-Safe as the development industry pivots towards more sustainable development. The standards have proven to be helpful to existing sites in ensuring more sustainable and ethical construction and operations practices. As such, the benefits and opportunities of using Salmon-Safe certification to streamline the development permit process are evident to all parties involved in the process, however, the unknown political barrier may not entice applicants as much.

Acknowledgment of Project Limitations

Due to capacity limitations for this project, the SCARP team has forwarded additional established connections with other approving authorities and interested parties to the Salmon-Safe BC Program Manager. The SCARP team encourages Salmon-Safe BC and FBC to continue building these relationships for further expansion of Salmon-Safe BC's reach and collaboration.

The project faced several professional challenges due to its grounding in stakeholder engagement. The challenges encompassed low response rates, potential non-response bias, time constraints due to the short engagement period, insufficient funding for Indigenous engagement honorariums, and limited project resources consequent to capacity limitations. As a result, the SCARP team received responses from 5 participants out of the total 10 identified, which limited the breadth of information collected for the final deliverable. Additionally, project resourcing limited the degree of engagement the team conducted in Phase 2. Time constraints for the project were the primary contributing factor in stifling the quantitative and scientific alignment analysis of approving authority permitting requirements with Salmon-Safe BC certification standards. Lastly, due to the SCARP project team's limited capacity and a lack of funding the project was unable to accomplish the scale of outreach the Salmon-Safe BC program would have benefited from.




Photo Source: Hayward, 2014



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