



PACIFIC SALMON FOUNDATION



Sophie Weissfloch, a 2nd-year student studying Quantitative Environmental Sciences and Math/Computer Science at the American University of Paris, was highly interested in the Pacific Salmon Foundation due to its involvement in a wide range of initiatives through their Marine Science Program.

She stated:

“The Foundation’s commitment to habitat restoration, species recovery, salmon monitoring, and enhancement programs was very appealing to me since it really displayed the dedication to protecting salmon. Another aspect that intrigued me about PSF was the involvement of local communities such as Indigenous communities, recreational anglers, and stewardship groups. They also emphasize education and outreach to spread awareness and promote the importance of collective efforts and responsibility for conservation.

THANK YOU!

Working for PSF during the summer proved to be a wonderful experience for me. I learned more about the salmon in BC and gained practical experience with data collection and fieldwork by participating in a conservation project, all of which are big interests of mine. It was so grateful to have the opportunity to contribute to the PSF’s mission of protecting and restoring wild Pacific salmon, and have a meaningful impact on the environment.”

During her internship this summer as a research assistant for the Pacific Salmon Foundation, Sophie had the unique opportunity to contribute to the Resilient Coasts for Salmon project. Her primary focus in this project was centered around mapping different-sized log accumulations and all types of docks along the East Coast of Vancouver Island. This work involved using geographic information system software, QGIS, to digitize collected imagery of the coast to create an accurate and detailed representation of log accumulations and dock features.

One of the key aspects of the Resilient Coasts for Salmon project is to enhance the understanding of shoreline dynamics and their potential impact on salmon habitats. By carefully digitizing log accumulations and docks, Sophie helped create a comprehensive map that highlights the distribution and concentration of these features along the coast. This information will not only help in identifying the potential areas of concern for salmon migration and spawning but also encourage the development of strategies to ensure the preservation of these critical habitats.

Throughout the process of digitizing, Sophie worked carefully to ensure the accuracy of the data by analyzing the high-resolution imagery taken from the PSF research boat on OpenStreetMap and sometimes conducting ground truthing during site visits. This attention to detail results in reliable and detailed digital maps that can serve as valuable resources for future conservation efforts.

The map Sophie created shows different levels of log accumulations, coded by different colours to easily visualize impacts. The largest log accumulations were coded with red and orange lines, while smaller accumulations were coded with green. Purple dots were used to represent docks. Sample maps are shown on the right.

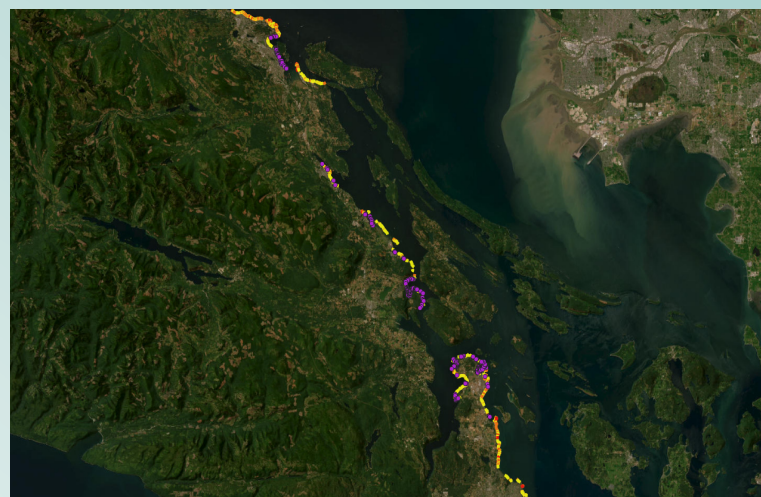
Here is an image of log accumulations and docks Sophie digitized:



Here is an image of all the larger log accumulations:



Here is an image of the larger log accumulations and docks digitized:



“Working on this project has several positive outcomes, for example, the digitized data provided an interactive and detailed visual representation of the shoreline features facilitating better decision-making for conservation and management efforts. The map created can be used as support material when having discussions with municipalities, First Nation communities, and other organizations.”

In addition to the digitalization of the east coast shoreline, Sophie participated in a mapping workshop at Kumlocksun beach on Stz’uminus First Nation reserve land, and in an outreach event (World Ocean Day) in Sidney. Thanks to this, Sophie practiced her communication skills by sharing information with the public while becoming familiarized with the coastal issues of Vancouver Island.



Although this project is not yet complete, PSF now possesses a tool that showcases the distribution of log accumulation and docks in certain areas of Vancouver Island, more specifically around Nanaimo, Ladysmith, Chemainus, North Cowichan, Central Saanich, Sydney, and Oak Bay. Furthermore, with a written protocol other students or staff can continue to digitize these features until the entire East Coast shoreline is completed.

Sophie notes “This internship is resulting in products that will help with informed decision-making for conservation initiatives, which is really fulfilling. In addition, the experience has enriched my knowledge of marine science, salmon, environmental conservation, and GIS applications. I’ve gained valuable hands-on experience with data collection, GIS mapping, and marine science research in general all of which greatly contribute to my professional growth. Working with PSF has made me realize the importance of our coastline, and how valuable it is to have a deeper understanding of coastal dynamics for the safeguarding of vital ecosystems.”



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