



# The Quill

The Somenos Marsh Wildlife Society's e-newsletter



Swuq'us (Mt Prevost) towering over the Somenos Watershed

## A Message From the Board of Directors

The SMWS Board of Directors wishes to acknowledge our partnership with Cowichan Tribes who guide our work within the unceded territory of the Quw'utsun people.

The SMWS would like to express our gratitude to our members, volunteers, funders and community at large for their continued support during these unprecedented times. Despite the challenges of these times, the SMWS has been able to keep our Program Manager, Elodie Roger, and our Communications and Engagement Specialist, Emma Ross, carrying on our stewardship work in the S'amunu/Somenos Conservation Area as well as in the overall Somenos Watershed. As a result of these staff efforts, and staff-led volunteer activities, we are happy to report that progress has been made towards restoring the watershed to a healthier state. Additional information about these successes is shared further in this newsletter.

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# Community Stewardship Program Report

## Community Stewardship Program (CSP)

The CSP is our overarching program that links our Somenos watershed restoration work and research projects with volunteers to help achieve our restoration goals as well as to increase community participation in our efforts and, knowledge of the benefits of our work. The CSP project list includes:

- \* Water Quality and Fish Monitoring Program
- \* Clean Water Action Project (CWAP)
- \* GreenStreams Strategy
- \* Parrots Feather Management Project
- \* Project Nest Box

## Water Quality and Fish Monitoring Program



SMWS Staff , Spencer Lapp, Prepares water samples from SOmenos Creek for Lab analysis

Our citizen-science program for water quality expands! With 7 new volunteers joining our crew, we expanded the program to a watershed-wide ecological monitoring program to monitor the return, presence and absence of Coho and Chum salmon to the Somenos watershed. Teams monitor weekly in the winter water chemistry in Somenos Lake, Somenos Creek, Bings Creek, Averill Creek, and Richards Creek. Results suggest that the Somenos system dissolved oxygen levels become suitable for Salmon later in their migration season, which continues into January.

This year we put out a call to action from the community to help us by reporting salmon spawning if seen in any of the tributary streams of the Somenos Watershed. Along with visual observations, a dedicated team of volunteers conducted water quality monitoring at 6 locations throughout the watershed. This research provided us with a better idea of when the water chemistry was conducive to the salmon's habitat requirements. Residents have been reporting salmon sightings in all three tributary creeks of Somenos Lake, which brings us hope and comfort in knowing that the salmon are still here.



Despite a rough start to 2020, our water quality monitoring citizen-science program has continued throughout the Covid19 pandemic with only a short period of inactivity between March and April. We thank all our volunteers for your resilience, patience and tenacity. Thanks to you, we know that Somenos Lake stratified on October 8th this year against September 18th last year. The lake presented longer period of anoxia in 2020 compared to 2019 from 3 meters deep and below, and hypoxic conditions (Dissolved oxygen level below 7 mg/L) from the surface to 3m deep from June through October. These trends expended towards Somenos Creek where the environment at 1m below the surface became anoxic between June through October 2020. A full report on water quality in the Somenos watershed will be published in the new year in our annual report. This will be made available to you on our website. Stay tuned

## Clean Water Action Project (CWAP)



Elodie Roger (SMWS Staff) and Stephanie Cottell (CVLT) install sheets of pond liner over invasive Yellow Flag Iris on Somenos Lake

In 2018, the three-year Clean Water Action Project, in partnership with the Cowichan Land Trust, began with the goal of restoring the riparian areas of Somenos and Quamichan lakes through native vegetation planting as the primary focus. To begin the process, thirty five properties received riparian area health assessment and recommendation reports. After assessing the proposed restoration sites, it became apparent that invasive species removal had to be the primary focus before planting could take place. Out of the thirty five properties assessed, eighteen were identified as priorities in terms of conservation and restoration efforts- eight property locations around Quamichan Lake and ten in the Somenos watershed. As we near the end of this project, 8330 m<sup>2</sup> of invasive species were treated and 20990 m<sup>2</sup> of riparian area has been planted. The SMWS wants to thank all our volunteer residents for showing such incredible stewardship and willingness to learn how to co-exist with nature and lower our ecological footprints. In many ways, this project gave us the confidence to expand the initiative towards to rest of the Somenos watershed under the GreenStreams Strategy. And thanks also to the Environment and Climate Change Eco-Action fund, World Wildlife Fund and the District of North Cowichan for the financial support for this project.



# GreenStreams Strategy



Bings Creek, Somenos Watershed

This year the SMWS launched a new initiative called the GreenStreams Strategy. The Strategy is a key piece of the SMWS Community Stewardship Project (CSP) and is coordinated by the SMWS in collaboration with our GreenStreams partner, Cowichan Tribes, along with local governments, government agencies, landowners and other conservation groups. The primary purpose of this initiative is to restore the riparian corridors and improve the water quality of Somenos watershed streams and lake for the benefit of wildlife, fish and people, while at the same time, preserving important Cowichan Tribes cultural areas within the stream drainages for all time. Secondary purposes include educating, informing and enlisting streamside property owners to help in riparian area improvements on their property and to create a step-by-step resource guide that can be used by other groups seeking to restore their watershed streams.

This summer, we began Phase 1, Bings & Menzies Creeks, when we created a watershed map and delivered riparian area information and surveys to over 180 properties bordering both creeks. We then assessed the streams with Dave Clough, a registered Professional Biologist, who conducted level 1 and 2 stream assessments to identify areas with potential for restoration, clean up, and/or habitat enhancement projects. From the assessment, it was apparent that there was a large amount of foreign debris in the creeks. This inspired the Cowichan Make a Difference Day Creek Clean-up event, with the help of 55 volunteers, 600 kgs of garbage was removed from Bings and Menzies Creeks.

We look forward to 2021 when we will collaborate with Bings and Menzies Creek residents to restore and enhance their riparian areas. We will also be conducting the same biologist-led assessments for Averill and Richards Creeks, both of which contain spawning and rearing habitat for salmon.



# Parrot's Feather Management in Somenos Creek



SMWS Staff and MNC Staff install the first sheets of pond liner over Parrot's Feather on Somenos Creek

We are working in partnership with North Cowichan who provides funding, staff support and oversight to support our efforts to improve the water quality of Somenos Lake. Our primary effort is to develop a management strategy to deal with the Parrot's Feather infestation in Somenos Creek. Our annual survey of PF by canoe in Somenos Creek between Somenos Lake and Tzouhalem Road during its peak growth season sadly confirmed the alarming rate at which this invasive species propagates: Parrot's Feather cover has progressed from about 69% coverage of the creek to 84% coverage since the 2019 survey.

Our Parrot's Feather management strategy is to shade, smother and study the plant. This spring, SMWS staff and dedicated volunteers worked hard to plant 230 trees along the southern bank of Somenos Creek. This is part of the long-term strategy to shade Somenos creek and impede the growth of the sun-loving Parrot's Feather. To smother the weed, we conducted an in-situ experimental shading trial to increase water flow and improve water oxygenation. This technique involved installing 1000 ft<sup>2</sup> of pond liner over top of the Parrot's Feather in an effort to shade and smother the plant over a period of 2 years. The experimental site is monitored weekly and could serve as a model for other communities as soon as Parrot's Feather is introduced to a water body. To better understand the impact of Parrot's Feather on the creek's health and fish habitat, water quality is monitored hourly with permanent data loggers installed in the Creek and weekly by our team of citizen-scientists. In the meantime, leaving no stone unturned, the SMWS continues to explore alternative approaches to remove Parrot's Feather on a larger scale in Somenos Creek.

The SMWS would like to acknowledge the financial and staff support from the Municipality of North Cowichan for our work in improving the water quality of Somenos Lake.

# Project Nest Box

Project Nest Box is the overall label for all our bird restoration and research in the S'amunu/Somenos Conservation Area. We are now developing a plan to add more nesting boxes for bats, owls and other flying critters. We also hope to collaborate with a local school or schools to develop a monitoring plan for the Tree Swallows in the Conservation Area.

This year, we started a new partnership with the University of Guelph that focuses on tracking migrating birds' migration routes across Canada through water sampling and eDNA testing. Environmental DNA (eDNA) utilises traces of DNA released by organisms into their environment for species detection. Once eDNA is collected and analyzed, scientists are



Quamichan High school student Daniel, checks bird boxes on the boardwalk for a research project on Swallows



Swallows by Prevostrawer-Hughes

Barry Hetschko and SMWS staff Spencer Lapp, install new bird boxes near Somenos Marsh Open Air Classroom

able to determine the presence/absence of species in the selected environment, in our case Somenos Lake and IBA. This method has revolutionized the field of wildlife conservation and recovery programs for endangered species. While this method is widely used for aquatic invertebrates, using eDNA to track bird population across a territory is a novelty. We are pleased to partner in this research and advance the field of wildlife conservation with our volunteers.

A number of citizen-scientists around the S'amunu | Somenos Conservation Area and Important Bird Area (IBA) started sampling water before the arrival of our first migratory birds in September. Water sampling takes place bi-weekly on two stations around the lake and will stretch until Christmas once all our migratory flying creatures have set foot in Somenos. Results from this nation-wide research will be communicated in 2021 and published in the near future by our fellow post-doctorate candidate.



# WildWings Nature & Arts Festival



Nature educator and naturalist, Genevieve Singleton with Cowichan Tribes Elders, Philomena and Peter, sharing their traditional knowledge at this years Celebrate Somenos event.

This year's WildWings Nature and Arts Festival, subtitled the COVID edition, was a quiet affair with mostly outdoor activities. These included the return of 'Afloat in a Boat' where attendees brought their own kayaks and canoes for a tour of Somenos Lake led by board members. For our 11th annual 'Celebrate Somenos' , visitors toured the Open Air Classroom facilities and heard presentations about fish, birds, nature and photography in Somenos Marsh.



Volunteers from the Community Farm Store help clean up garbage from Bings Creek Near the Somenos Marsh Open Air Classroom

Our newest event 'the Cowichan Make a Difference Day' saw numerous volunteers including residents of Bings and Menzies Creeks along with a large group of volunteers from the Community Farm Store, who cleaned up garbage from the length of both creeks. To promote safe viewing and participation, our Art shows went virtual when Emma made galleries for both the Nature Artists Exhibition and the Nature of Cowichan Photo Contest on our WildWings website.

Plans are already underway for WildWings 21 with a new partner soon to be announced, stay tuned....

The SMWS wishes to thank the Community Farm Store and the CVRD, Arts & Culture branch for financial support for the 2020 WildWings.

## Facilities

Once again Malcolm the Magnificent and his stalwart sidekick Karen, have led the facilities volunteer team to complete a number of important projects this year. Top of the list was the completion of the spray washing of the entire boardwalk. This helped uncover a number of small issues where the wood was getting old and which have since been repaired. The other big project was the completion of the viewing tower ramp rebuild to improve the access during annual winter flooding events. Completed in the late fall between rain showers, the new ramp looks pretty darn nice. Kudos to all who helped out. And thanks to Duncan Paving for supplying us with the rocks and gravel.

## 2020 Annual General meeting

Every year, the SMWS is granted with the presence of a fantastic and dynamic board of directors. This year, our hearts were filled with thanks for contributions of David Polster and Stephen Bishop who retired from the Board this past September. David has supported the SMWS for the past 30 years in many ways, and has sat on the board of directors for the last 5 years. Stephen joined us in 2018 and has served 2 years as Vice-President. The staff and the Board thank them for the invaluable contributions and guidance throughout these years.

Our team was also delighted to see Carol Milo, who had served as the Cowichan Valley Naturalist (CVNS) representative on the SMWS board for the past 3 years, become a Director along with two new Directors at Large, Craig Richards and Neil Anderson. Paul Gowland, who joined the board last year, was elected Vice-President to replace Stephen. Other board stalwarts remain in their positions- Paul Fletcher as President, Cheri Beaulieu as Treasurer, Karen McLeod as Secretary with Barry Hetschko and Malcolm McLeod remaining as Directors at Large.

## In Memoriam



Earlier this year we lost John Scull (left) and now, very recently, Eric Marshall (right), two Respected Giants in the Cowichan conservation community. John was one of the founders, and a long-time president of the Cowichan Land Trust and Eric served many years as President of the Cowichan Valley Naturalists and as the CVNS representative on the Somenos Marsh Board. Both men were good friends to the SMWS and they will be deeply missed. Our condolences to their family and friends.

We wish you a safe and Merry Christmas and also wish that you are able to visit S'amunu/Somenos sometime during your Christmas break. It is always a rewarding experience in so many ways. If you would like to learn more about supporting us, volunteering with us or making a donation please visit our website [somenosmarsh.com](http://somenosmarsh.com) or call the President, Paul Fletcher, 250 732-0462.