

Wetlands Update



The Newsletter of the BC Wildlife Federation's
Wetlands Education Program

2021 Edition



Turkey vulture captured on a wildlife camera at the Yaqan Nukiy Wetlands near Creston, BC.

Watching for Wildlife at Recently Restored Sites

Over the last 3 years, the Wetlands Education Program has been working in partnership with the Lower Kootenay Band on two landscape-scale restoration projects just south of Creston, B.C. Located on traditional Yaqan Nukiy territory, over 121 hectares of floodplains, wetlands, streams, and rivers have been restored and reconnected at the Hunting Grounds and Yaqan Nukiy sites for a variety of wildlife species.

Targeted species include various waterfowl, elk, moose, grizzly bear, mule deer, and amphibians. Many Species at Risk will benefit from these projects, such as Western painted turtle, Northern leopard frog, little brown bats, white sturgeon and burbot.

To determine if the restoration is effective at supporting the targeted wildlife species for various life history needs (i.e. foraging, shelter, breeding, and rearing habitat), WEP set up 35 wildlife cameras and 35 audio recorders. These collected footage pre- and post-restoration for comparison.

To date, the footage has shown many species using the wetlands. Sandhill crane, elk, grizzly bear, and white-tailed deer are just some of the species that have been recorded. Amphibian monitoring and further camera and audio recording is scheduled for 2021, both for pre-restoration of project phases 3 & 4, as well as post-restoration to see if these wetlands are supporting wildlife as intended.

In This Issue

Wetlands Programming: COVID Edition

Transforming wetland education into virtual programming

Wetlands Institute Speaker Series

Hundreds learn about wetland stewardship, restoration, and conservation through 9 webinars

Wetlandkeepers

Stewardship courses tailored for Galiano Island and Richmond

Map Our Marshes

Learning how to map and delineate wetlands in Terrace and Cumberland

Outreach and Education

Hundreds of BC youth learn about wetlands in interactive Escape Rooms

Restoration, Past and Present

Restoring new wetlands and evaluating our past projects

Workshops in 2021

Mark your calendars!

A Space For "Wetworking"

Keep up to date with our "Bog blog" and more



Wetlands Go Virtual



Staff from the Wetlands Education Program collecting footage to use for virtual workshop modules

Due to COVID-19 and the risks associated with hosting in-person workshops, especially travelling to various communities all over the province, the Wetlands Team made the decision to reformat all WEP-led workshops to a virtual setting. This meant the Wetlands Education Program spent the spring and early summer hard at work revamping our typical hands-on, in-person workshops into interactive and engaging virtual workshops!

Since WEP could not take participants to local wetlands during workshops, the team created virtual wetland tours using a mix of 360° camera footage, videos, and pictures where participants complete a scavenger hunt in teams to learn about the plants, wildlife, soils, and hydrology that make each wetland class unique. These tours allow participants to explore different types of wetlands right from the comfort of their home. They also allow people who may not typically be able to get out and explore wetlands the opportunity to feel as though they were out learning in nature.

Alongside the tours, virtual workshops feature guest speakers

who are experts in their field, live, competitive quizzes, virtual break out rooms where participants can create connections, as well as interactive learning resources made available during and after the workshops.

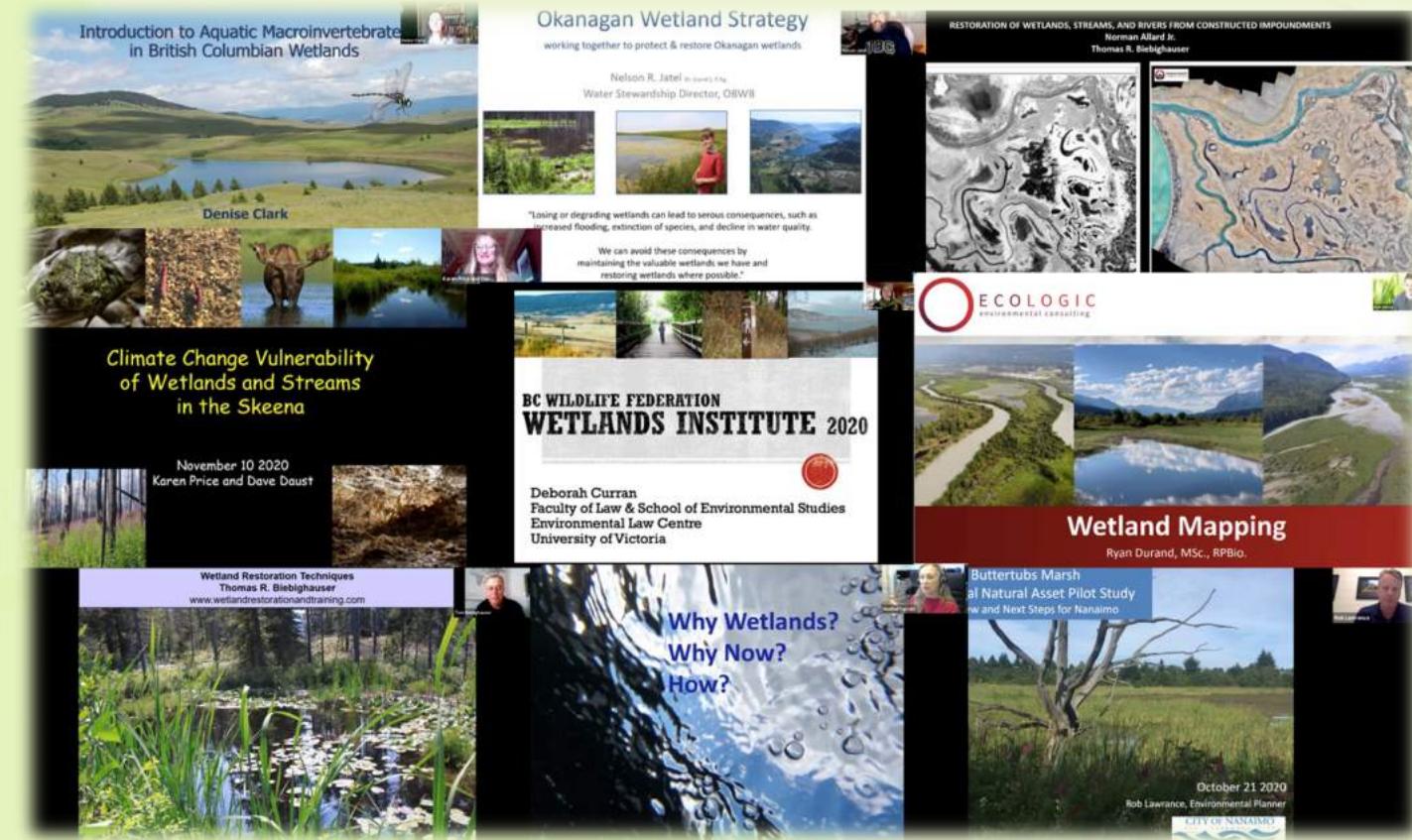
Although the WEP team is excited to be able to take participants into their local wetlands and provide training with experiential hands-on learning again, the transition to an online format has allowed the program to become more accessible to individuals across BC. Participants even joined from as far as Ontario, Quebec, and the Yukon to learn about wetlands. In 2020, 2128 individuals participated in WEP programs or outreach events, our highest annual participation count to date!

Continue readings to learn how the Wetlands Institute and outreach events transitioned to virtual programming.

Did you know?

Wetlands are one of the three most particularly sensitive ecosystems on land, and are considered the most biologically diverse ecosystems on earth!

The Wetlands Institute



Presentation covers from nine of the guest speakers who shared their knowledge at the Wetlands Institute Speaker Series

Our flagship workshop, the Wetlands Institute accepts applicants from across the province who have wetland projects in their respective communities, and provides them with the skills necessary to complete them. The 18th Annual Wetlands Institute looked different than previous years. Rather than a 7-day hands-on workshop featuring multi-step involvement in wetland restoration projects, the 2020 Wetlands Institute was hosted as a virtual Speaker Series. This consisted of 9 weekly webinars focused on wetland stewardship, restoration, and conservation. Just a few of the topics covered included:

- *Impacts of Climate Change on Wetlands*
- *Cultural Values and Archaeological Assessments of Wetlands*
- *Legal Frameworks and Local Tools for Protection*
- *Impoundment Decommissioning and Floodplain Restoration*
- *Mapping and Terrestrial Ecosystem Mapping*
- *Wetlands as Ecological Assets*

Participants received invaluable training from 18 passionate and knowledgeable speakers who presented on topics useful to wetland practitioners. Guest speakers included experts such as Tom Biebighauser, wildlife ecologist and wetland restoration specialist, and Deborah Curran, Associate Professor and Executive Director of the Environmental Law Centre at the University of Victoria, as well as valued knowledge keepers, such as former Councillor of Lake Babine Nation, Evelyn George.

This event saw 825 participants register for the webinars, a much larger audience than we can conventionally reach with the Wetlands Institute. Although disappointed that we could not host an in-person workshop, we are grateful that we were able to reach so many dedicated individuals with this approach!

The 2021 Wetlands Institute will take place in a hybridized format on Vancouver Island (including Comox Valley, Galiano Island, and Denman Island). Following the success of its launch in 2020, the Wetlands Institute Speaker Series will return as a 5-part webinar series in the winter of 2021/22.

Wetlandkeepers Courses

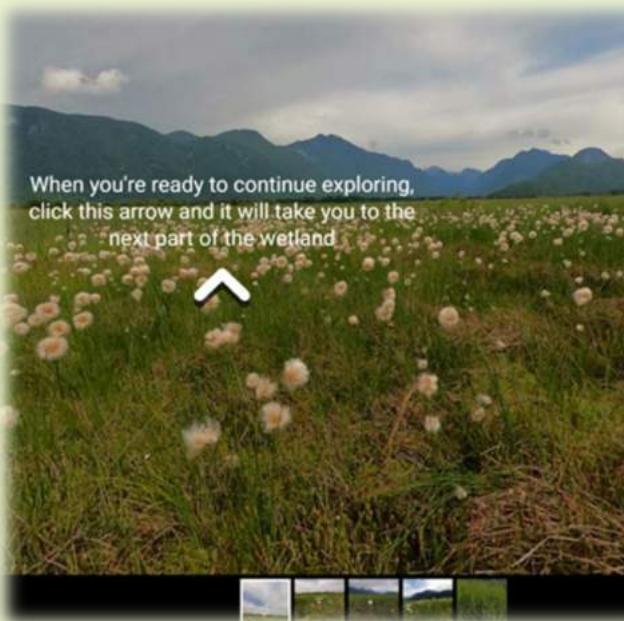


Screen captures from the virtual wetlands scavenger hunt. Left is part of the bog tour, right is from the swamp tour

Over 2 days, Wetlandkeepers workshops educate participants about wetland conservation and provides them with technical skills to steward the wetlands in their own backyards. Each course is uniquely tailored to the host community, and topics such as wetland classification, mapping, soil sampling, and vegetation identification are part of the base structure of this course.

Restoration at the Forefront

The Galiano Island Wetlandkeepers was jam-packed with wetland restoration. The Galiano Conservancy Association highlighted their recent and upcoming restoration projects while taking participants on a virtual tour of their property. The Wetlands Education Program brought restoration design specialist Tom Biebighasuer in to present on the history of drainage in BC and how wetlands can be restored to mitigate the negative effects of draining wetlands.



Introduction to the virtual 360° fen tour

Diagnosing Wetland Health

In September, the Wetlands Education Program hosted two workshops where participants used the Rapid Wetland Health Assessment Tool to investigate the state of Trout Lake in Vancouver, B.C. during an interactive, virtual tour. Both workshops highlighted the importance of monitoring wetlands, as well as various tools and techniques to do so.

Taking a Trip to the Coast

In October, WEP hosted a 'Keepers course that dove into the features and benefits of coastal and estuarine wetlands. Six guest speakers joined the workshop to discuss the benefits that fish and wildlife receive from these rare and invaluable wetland ecosystems.

Map our Marshes



Participants from the Cumberland Map our Marshes workshop showing off their "W"etlands sign

Map our Marshes is a 1-2 day crash course that teaches the value and tools of community mapping and inventory of wetlands. This information will help communities identify conservation needs at a wetland or watershed scale and share their data publicly with other interested parties. Unless wetlands are identified and mapped, they could go unrecognized and be inadvertently destroyed by agriculture, development, ranching, or invasive species.

From Theory to Practice

The Wetlands Education Program and Cumberland Wetlands Working Group partnered to teach about the history and importance of mapping. Putting this new knowledge to the test, participants learned how to use QGIS to map and identify wetlands, and Avenza to validate their observations in the field.

Wetland Delineation

Two workshops were hosted to teach participants how to delineate wetlands from aerial photographs and introduce them to free, accessible mapping technologies. In Terrace, identifying and mapping wetlands along the lakeshore while integrating new monitoring programs will help to protect the shoreline from negative impacts from recreation and industrial developments.

Connecting with Past Participants

The Wetlands Education Program offers ongoing support to past workshop participants. Steve Morgan, founder of the **Cumberland Wetlands Working Group**, and Adam Huggins, restoration coordinator for the **Galiano Conservancy Association**, are both alumni of the Wetlands Institute. WEP partnered with both in 2020 and are looking forward to working together again in 2021!

Outreach & Education

In addition to training adults, the Wetlands Education Program attends outreach events, hosts public talks, and visits schools to teach the public (especially kids) about the benefits of wetlands. During pre-COVID lockdown, we engaged over 1,200 children through school visits and educational events! This year, WEP was grateful to be joined by 6-volunteer interns throughout the year from the Canadian Wildlife Federation's Canadian Conservation Corps (CCC) program. These dedicated individuals helped to enhance and develop wetland-focused outreach initiatives for schools around the province.

Wetlands on Wheels Escape Room

With the help of 2 volunteer CCC interns, the BC Wildlife Federation Wetlands Education Program developed an interactive escape room to take to classrooms across the province. In late 2019 and early 2020, elementary students had the chance to work in small and large groups to solve a series of puzzles, un-

lock clues and be a part of the solution to save the wetland.

Experiential outdoor games to learn and understand the important ecological value of wetlands were also offered through this initiative. Over 1050 kids from 48 classrooms were visited before the Wetlands on Wheels initiative was shelved due to COVID-19 restrictions.



Kendall and Jesse, CCC interns, facilitating the virtual Situation Room



Students learning about the value of wetlands during a visit from the Wetlands on Wheels

Virtual Situation Room

WEP was joined by 3 more CCC interns in Fall 2020 to create a new workshop offering that will be rolled out virtually for classrooms in 2021. This 'Situation Room' style activity puts students in the roles of community members, researchers, and developers and faces them with collaborative tasks and discussions surrounding the future of wetlands. Delivered on Zoom through an engaging and fun "time travel" scenario, messengers from the future challenge the students to learn about wetlands and find solutions to future habitat loss.

WEP Could Visit Your Classroom!

The Wetlands Education Program (WEP) has developed a variety of resources to bring the wetland to you, in person and virtually! Animal masks, watershed models, real skulls and pelts, and maybe even some live invertebrates can be used to teach students of all ages about the importance of wetlands.

Contact WEP@bcwf.bc.ca for more details.

Restoration: Past & Present



Top: Restored wetlands at the Yaqan Nukiy Phase 3 site,
Middle: Fencing installation at Stud Pasture, Kamloops
Bottom: Wildlife friendly fencing at New Gold, Kamloops

Although in-person workshops and gatherings were put on hold for 2020, the Wetlands Education Program continued to safely work on wetland restoration projects throughout the year. Across 4 sites, BCWF was able to restore almost 110 hectares of wetland and floodplain habitat across BC for the benefit of wildlife and humans alike. Three restoration initiatives are described below.

Yaqan Nukiy Phase 3

For the third year, the B.C. Wildlife Federation partnered with the Lower Kootenay Band to work on two landscape-level restoration projects. The Yaqan Nukiy Project is decommissioning impoundment dikes that were constructed in the 1970's and are no longer functioning properly. This will allow the Kootenay River to naturally fill in the floodplain while wetlands have been constructed to create seasonal and perennial pools for a variety of species habitat needs. This year, 6.8 hectares of wetlands were restored with another 2.8-hectares planned for restoration in Phase 4 scheduled for summer of 2021.

Hunting Grounds Phase 2

The second project in partnership with the Lower Kootenay Band presents a unique opportunity to restore an altered landscape using aerial photo documentation from 1929 and the traditional knowledge of Yaqan Nukiy Elders. During phase 2 of the project this year, 8.5-hectares of wetlands were restored and 90.4-hectares of floodplain were reconnected to the Goat River. Phase 3 is scheduled for summer of 2021 where wetlands will be restored by disabling ditches.

Kamloops Fencing Project

In October BCWF partnered with New Gold Inc. and Tk'emlúps te Secwepemc First Nations. Wildlife-friendly fencing was installed around two wetlands, totalling 3-hectares, in the Kamloops region to allow for passive restoration to occur. Both were heavily impacted by cattle, which reduced water quality, habitat for wildlife, and the amount of time that water remained on the landscape. Future impacts will be limited including decreasing future algal blooms, decreasing soil compaction, and decreasing the overgrazing of riparian plants.



A Space For “Wetworking”



twitter.com/BCWFWetlands



facebook.com/BCWFWEP/



flickr.com/photos/bcwfwep

The Bog Blog
www.bcwfrogblog.com

A multi-layered website set up to share wetland steward experiences and knowledge on how to protect BC's remaining bogs, fens, marshes and swamps. It also features links to resources that might suit people monitoring and conserving wetlands. Furthermore, it has a growing list of featured stewards and educators within the Wetlands Education Program. Wetlandkeepers and Wetlands Institute alumni are also encouraged to share their work.

Workshop Locations in 2021

Wetlands Institute

Vancouver Island & Gulf Islands

Wetlands Institute Speaker Series

Virtual: join us on Zoom!

Wetlandkeepers

Hope
Victoria
Cranbrook

Map our Marshes

Crawford Bay
McLeod Lake & Mackenzie
Doig River

Other Workshops:

Kwadacha

In light of COVID19, dates of 2021 workshops and initiatives are subject to change. Workshops may be hosted virtually or in a hybrid format. Please contact us or check our website for updates.

Consider following our social media to stay up to date!

For more information, or to make a donation, contact:

604-882-9988 ext 232
wetlands@bcwf.bc.ca



The BC Wildlife Federation is a province-wide voluntary conservation organisation of hunters, anglers and outdoor recreationalists, representing all British Columbians whose aims are to protect, enhance and promote the wise use of the environment for the benefit of present and future generations.

These projects were undertaken with the financial support of:
Ces projets ont été réalisé avec l'appui financier de:



HABITAT
CONSERVATION TRUST
FOUNDATION



BRITISH
COLUMBIA

The Best Place on Earth



FWCP
Fish & Wildlife
COMPENSATION PROGRAM



WILDLIFE HABITAT
CANADA
HABITAT FAUNIQUE

Columbia Basin **trust**

Canada



Environment and Climate Change Canada

BC
LEGACY
freshwater
initiative

Environnement et Changement climatique Canada