The Log
www.ecoreserves.bc.ca
Spring/Summer 2022
FRIENDS OF ECOLOGICAL RESERVES NEWSLETTER

FER's 2022 AGM and President's Report

The Friends of Ecological Reserves held their Annual General Meeting by Zoom on April 21, 2022. The business portion began at 7 pm with a talk by Andrew Simon and Pam Janszen on the life of legacy of Harvey Janszen, the former ER warden for the Saturna Island ER which followed at 7:30. To view a video of this presentation please click on the following link: (https://ecoreserves.bc.ca/2022/04/22/the-life-and-legacy-of-harvey-janszen/)

A quorum was established, the agenda was reviewed and approved as were the Minutes from the 2020 AGM held in May 2021. The current Board members and support staff were also introduced.

We were happy to welcome over 50 participants to this year's AGM.

President's Report

The 2019 Annual General Meeting, which would have normally taken place in the spring of 2020, was delayed by the COVID-19 pandemic restrictions on gatherings until January 29, 2021. The 2020 AGM was held on May 4, 2021, 50 years after the first Order in Council established the first 29 ecological reserves in B.C. Both were held virtually thanks to the expertise of Directors Gary Fletcher and Marilyn Lambert and Phil Lambert, President of the Victoria Natural History Society.

50th Anniversary

By official proclamation of the Government of B.C., April 2, 2021 was declared Ecological Reserves Day in recognition of the passing of the *Ecological Reserves Act* 50 years prior. On November 16, 2021, Liberal MLA Jordan Sturdy made a statement in the BC Legislature recognizing and supporting ERs in B.C. BC Parks distributed a poster commemorating 50 years of ERs throughout the province.

During the 2019 AGM held in January, FER had announced the 50th anniversary and asked for ideas on ways to commemorate it from those in attendance. A student, Jamie Firth, approached us to use his drone to create a video celebrating the 50th Anniversary. With a lot of effort from Garry Fletcher and financial support from BC Parks, Jamie filmed a number of reserves (with severe restrictions due to COVID protocols) and the beautiful final 'Zoom Out Zoom In' video is available on our website: https://ecoreserves.bc.ca/2021/12/20/zoom-out-zoom-in-a-celebration-of-the-50th-anniversary-of-bc-parks-ecological-reserves/

The Victoria Natural History Society and BC Nature featured articles about ecological reserves and the 50th anniversary of the *Ecological Reserves Act* (more on this later). Both BC Nature and the Elders

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The Log

Spring/Summer 2022

The LOG is published two times a year by the Friends of Ecological Reserves to promote the establishment, management and maintenance of Ecological Reserves in British Columbia. *The LOG* is distributed to members, volunteer wardens, affiliates, supporters, government, friends and the enquiring public.
The views expressed in this newsletter are not necessarily those of the Friends. Articles for publication are invited. The deadline for submissions for the Autumn/Winter 2022/23 issue of *The LOG* is November 7, 2022.

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Council for Parks in B.C. raised awareness about the 50th anniversary with the B.C. government.

Kate McKeown organized an iNaturalist bioblitz in Ers.

Strategic Goal 1. Support of ER Wardens

FER identified to BC Parks that as of February 3, 2021, half the ERs continue to lack wardens. There were a number of new applicants for wardens last year but many are still pending approval from BC Parks. FER is ever grateful for the ER wardens we do have, and we thank those who send us their reports, which FER includes on our website as part of the public knowledge record for these ERs. **(see Fraser River ER Warden's Report article starting on page 7)** Anyone interested in being a volunteer ER warden should check our website (https://ecoreserves.bc.ca/) where you will find a list of reserves needing wardens and how to apply to BC Parks under the "get involved" tab.

On Feb. 3, 2021, FER provided BC Parks with a summary of external and internal threats to ERs that were based on information supplied by wardens, as well as other issues wardens have brought forward to FER (compliance & enforcement, research permit process, communications with BC Parks, etc.).

Garry Fletcher and Marilyn Lambert attended at least two regional meetings organized and hosted by BC Parks to recognize and support ER wardens.

Strategic Goal 2. Promote Research in ERs

ERs are established to protected natural environments and serve as monitoring bench marks and research sites. As we heard at the AGM in January, 2021, BC Parks iNat project is cataloguing thousands of species in BC Parks and ERs. The FER website contains links to iNaturalist data for the ERs that the BC Parks INaturalist team has visited.

Tom Reimchen continues his stellar research at Drizzle Lake ER that has resulted in dozens of scientific publications. Tom is also the warden. If you know of other research in ERs, please contact us.

On Feb. 3, 2021, FER advised BC Parks that the length of time that it takes to obtain a research permit deters many graduate students and other researchers from doing research in ERs, and presented information about the more streamlined approach taken by Manitoba Parks and Parks Canada. BC Parks said they plan to address this, noting that there is an added requirement to consult with First Nations.

Strategic Goal 3. Support a Robust Network of ERs.

Jenny Feick prepared the first Ecological Reserves Management Issues Gap Analysis Report in 2020 and updated it in 2021. FER distributed the results to BC Parks and our partners in BC Nature last year. FER has been presenting a list of seven candidate ERs to the BC government since 2014. Information about these proposed ERs is on the FER website.

While no new ERs were established as hoped in 2021, the BC government accorded some protection to one of the candidate ERs in March. A contentious cutblock in Dakota Bowl on the Sunshine Coast was removed from BC Timber Sales, thus preventing an imminent logging threat. This success is thanks largely to the combined and collaborative efforts of the Squamish First Nation and the local Elphinstone Logging Focus group. BC government officials informed FER that no new ERs or protected areas of any kind will be established unless there is a First Nations or MLA advocating for an area's protection.

On February 3, 2021 we met with staff from BC Parks. On July 5, we met with Minister Heymann, members of

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The Extreme Biodiversity of Pink Mountain

Article and photos by Ron Long

I first heard of Pink Mountain in 1983 from a butterfly collector. Even then Pink Mountain had a widespread reputation in the butterfly community as a place to find rare butterflies. Being plant oriented I immediately had the thought that if there were rare butterflies on Pink Mountain there must also be rare plants.

Not only have the plants exceeded my highest hopes – the butterflies are beyond anything the collectors could have imagined and that is just the beginning.

I made my first trip to Pink Mountain that same year and one of the first plants I saw on the summit was the rarely seen Rhododendron lapponicum. This beautiful dwarf only occurs at high elevation in the north. I thought then that this was a special place – and so it has turned out to be.

Pink Mountain is only 1700 meters high but it is so far north that the summit is uniformly tundra – one of the harshest environments on earth. In the early 1960s a road was built to the summit to facilitate oil and gas exploration. The road is still passable although it appears to have had no maintenance since it was built. Four wheel drive is not necessary but off pavement driving experience, high clearance and good tires are a must.

Over the years I made sporadic trips back to the mountain and made new discoveries on every day I spent on the summit. I became aware that the biodiversity went far beyond the plants and that Pink Mountain seemed to be a very unique place.

I didn't go every year because it is a long two-day drive from Vancouver. However I was back in 2010 and learned of plans to put forty wind turbines on the mountain. This would have totally destroyed the entire summit and I knew I had to do something.

Typical of many of the plants on Pink Mountain, Few Flowered Corydalis is not rare in B.C. but is rarely seen because of its normally inaccessible alpine habitat.

I knew also that under the Liberal government of the day it would be a waste of time to try to stop the project but I thought if I could quantify the rare species and provide their locations this information might be used in the design of the wind farm.

With that in mind I founded the **Pink Mountain Biodiversity Research Initiative**. With funding donated by Nature Vancouver member Louise Erwin and others I was able to entice specialist researchers to donate their time while I, when necessary, covered their accommodation costs. In this way we learned a great deal and stretched every donated dollar to the limit.

Researchers looked at everything; plants, butterflies, mosses, grasses, bees, spiders, insects, mammals and birds and found rare species and

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Pink Mountain cont'd. from p. 3

subspecies or at least something very special in every category.

My personal interest was the flowering plants and along with my good friend Daniel Mosquin from the UBC Botanical Garden made an extensive survey that identified more that one hundred and fifty flowering plants. This list includes almost every species that occurs across Arctic Canada.

At that point we didn't know if the plant community on Pink Mountain was unique so we did surveys on nine mountains of similar elevation to the west of Pink Mountain. None of those peaks held anything like the diversity of plants on Pink Mountain.

In addition, the Pink Mountain Biodiversity Research Initiative funded a botanical survey by Ken Mar and his team from the provincial museum of two existing ecological reserves which are within 80 km of Pink Mountain. Both of these reserves were very rich botanically but not as diverse as Pink Mountain and there is very little overlap of species. We need all three reserves.

Parnassius eversmanni pinkenses is one of seven newly identified butterfly subspecies that are endemic to Pink Mountain. Pink Mountain is now known to be a butterfly hotspot for all of Canada.

Ken Marr also provided plant lists for a number of mountains in northern B.C. that he has collected over the years. None of those plant lists showed anywhere near the diversity of flowering species that Pink Mountain supports.

The Pink Mountain summit once supported dozens of Hoary Marmots. At last count the number was six due to indiscriminate shooting. These animals are tame and make easy targets. It this population is eliminated, it will never be replaced naturally because of the great distance separating it from other colonies.

Of a total of eight Grouse and Ptarmigan species in British Columbia five can be found on Pink Mountain – again because of the plants. Pink Mountain has five species of prostrate shrubs that hold their berries year round providing food even in midwinter.

The butterfly survey showed fifty-five species, fully a third of all butterflies found in British Columbia. And British Columbia has more butterfly species than any other province or territory in Canada. This makes Pink Mountain a butterfly hot spot for all of Canada.

Recent research has identified seven butterfly subspecies that are endemic to Pink Mountain.

Since the larvae of each butterfly species requires its own food plant the diversity of butterflies is directly linked to the diversity of plants.

A bumble bee collection found eleven species. These included every

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Pink Mountain cont'd. from p. 4

Although Caribou sightings are rare, the resident herd of Stone's Sheep is often the highlight of a visit to Pink Mountain.

alpine bumble bee known from Western Canada. Alpine bumble bees are notoriously difficult to study because of their normally remote habitat. On Pink Mountain they are all easily accessible to researchers.

Pink Mountain is a designated Ungulate Winter Range. This status provides no protection but is an official recognition that Pink Mountain is significant.

Endangered Woodland Caribou use Pink Mountain but are so few in number that they are rarely seen. Pink Mountain also supports a resident herd of blue listed Stone's Sheep which find forage, mineral licks and safe lambing sites there.

Threats

The Site C Dam has removed the wind farm threat but that doesn't mean that Pink Mountain is safe.

In 1983 there was a very large population of Hoary Marmots on the summit. On my last visit in 2018, I counted only six. These are naive animals and curiously approach vehicles. Local "sportsmen" are shooting these tame animals at close range. Pink Mountain is so distant from any other Marmot colony that it can never be naturally re-populated if the existing animals are all killed.

In 1999 a provincial park was created on Pink Mountain ostensibly to protect the fossil site of the so called Pink Mountain Ichthyosaur. This was a significant find but it was not on Pink Mountain. In fact the fossil was discovered on the Sikanni Chief River some thirty miles north of Pink Mountain and has since been removed to the Tyrrell Museum in Alberta.

There never was a reason for a provincial park on Pink Mountain. The park area lies on the extremely steep west side and is totally inaccessible. No animals and few plants survive on this unstable terrain.

It is ironic that the park now poses the greatest threat to the Pink Mountain habitat.

The BC Parks website makes little mention of the park itself. Rather, it describes the top of the mountain and extols the wildlife viewing, the rare butterflies and the hiking to be found there. It even claims that the park "protects important habitat for numerous large herbivores such as caribou, elk and moose." This is totally untrue. None of these animals use the park area and they are not protected anywhere on Pink Mountain.

The website goes on to say "Other significant species found within the park and surrounding area include grizzly and black bear, lynx, fisher, and wolverine." None of these are found within the park and although historically they have occurred in the area they are unlikely to be seen as extensive fracking activity has driven most wildlife from the area.

The website provides detailed directions but it makes no mention of the dangerous condition of the access road.

In spite of being misleading at best and completely wrong in most respects, the BC Parks website attracts visitors who are literally loving the summit to death. These are not bad people, they simply are

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Pink Mountain cont'd. from p. 5

In June 2022 a search of the major herbariums in British Columbia determined that Pink Mountain is the only location in the province where Northern Jacob's Ladder has been collected.

not aware of the rare plants they are picking or the fragile habitat that they are trampling.

One of my objectives is to have the provincial park removed from Pink Mountain.

Rare species

We have now identified no less than forty-four significantly rare species on the summit of Pink Mountain. Most of these occur within but are not limited to a 2.2 square kilometre area that I have called a *centre of diversity.* We have not been able to find a record of any other site in BC with this concentration of rare species.

Rare species summery

Grass - - 1 red listed
Rushes - - 1 red listed
Moss - - 3 red listed
Sorrel - - 1 red listed
Flowering plants - - 12 blue listed
Moss 1 blue listed
Butterflies - - 2 blue listed
Northern Caribou - - blue listed
Stone's Sheep - - blue listed
Barn Swallow - - blue listed

First records
Moths - - 5 for BC
Other insects 1 for BC, 1 for Canada
Mason Bee - - 1 for BC

Second records
2 spiders

Third records
1 spider

Butterflies endemic to PM - - 7 ssp.

Ant species new to science - - 2

Protecting rare species is an important objective but beyond that the research potential of Pink Mountain is enormous. Almost any subject related to tundra habitat can be studied on Pink Mountain including the effects of climate change and melting permafrost. But researchers cannot undertake long term studies in an unprotected area.

An ecological reserve on the summit would be a great start. That would simply involve a re-designation of the current Ungulate Winter Range. However much more is needed.

A large protected area around Pink Mountain would allow wildlife populations to recover and this might be achieved with the help the Treaty Eight First Nations. Visiting researchers could provide employment by hiring band members as drivers, guides and assistants.

The fascinating Whiplash Saxifrage is described as having a single flower or sometimes two. On Pink Mountain most plants have three flowers – an indication of the unique conditions on Pink Mountain. The summit supports almost every flowering species that is found across the Canadian Arctic.

Fraser River ER #76 Warden's Report

By Bill and Bev Ramey

Great news – the Ecological Reserve Islands are still there, having withstood the November floods! Those floods resulted from the 'Atmospheric River' downpours that lasted several days and flooded the old lake bed at nearby Sumas Prairie, as well as parts of Merritt, the Nicola River, Coquihalla and Skagit. However, the gauge records of the Fraser River water level at Hope during the November floods show that it was not as high as the annual Fraser River freshet.

The 2021 November flood peak measured 6.9 metres at the Hope gauge, while the June 2021 annual freshet peak was higher at 8.8 metres. But lower down on the Fraser, at Mission, the gauge reading was relatively high during the November flooding, at a similar level to the June freshet. This makes sense as the Mission gauge is located downriver from the huge flooding input last November from the Chilliwack/Vedder and Sumas Rivers.

The Fraser River Ecological Reserve's islands are located above where the Chilliwack/Vedder/Sumas Rivers flow into the Fraser. The erosion of the riprap along the shoreline of Nicomen Island where we launch has accelerated and now a distance of about 100 metres of shoreline riprap has been washed out and caved into the river bed out of sight. For a short distance the underlying membrane tarp remains on the slope, but the riprap rocks that had been placed on it are gone.

The Ecological Reserve islands have fared well over the past year as there has been minimal losses of the eroding south and southeastern facing shorelines of the islands and as well there is a gravel bar forming a short distance offshore, visible at today's lower water level. Hopefully in the years to come this gravel bar might help protect this shoreline from erosion.

Deposits of sand and woody debris, looking downriver, Sumas Mtn distant horizon.

The islands look to have benefited from the upriver November flood erosion, that is, the north and northwestern accreting sides of the islands have had their height increased considerably with deposits of sand, silt and clays. The volume of deposited sediments is enormous. A very rough estimate is in the order of 15,000 gravel truck loads! (This crude estimate is based on 16.5 cubic yards per gravel truck, and area filled is about 1000 yards x 500 yards x .5 yard deep).

Sand, silt, and clay have been deposited based on location relative to the river flow and whether in back-eddies, main channels or slower-flow channels, as well as location as the flood levels resided. The height increase of deposits has been estimated based on filling that has taken place adjacent to what had been a bank that rose steeply upwards (about a metre in height) to the vegetated islands of horsetail, willow and cottonwood. Now with the new sediment deposits, the river bed is almost the same level as the vegetated islands.

In addition, where colonizing vegetation of cottonwoods or willows, had been vegetating the river bed, these young trees now have sand deposits rising up their small trunks and their lower branches now arise from below the new surface of the sand. Another visible feature of the filling/ depositing of flood sediments is that two of the major inner channels that formerly had gravels and small pools, interspersed with bunch grasses growing in the gravels, are now filled with deposits of silts and clays, again reducing the channel bank height up to almost the level of their horsetails, shrubs and trees.

These sediments would have settled out from the fast flowing Fraser River as it reached the slower flowing reach where the Ecological Reserve islands are located. That is, the gradient of the river flow gradu-

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Fraser River ER Warden's Report cont'd. from p. 7

ally slows downriver from Hope, and especially at the ER islands, as here the Fraser can expand to its widest width, about 1.5 kilometres across from mainland dykes on its southern and northern shores.

You may well ask, why are these un-dyked islands important ecologically? From the perspective of geomorphology, they help slow the force of the flooding Fraser. From the perspective of fish habitat, these un-dyked islands make valuable contributions of both food and habitat.

Recent studies by Mike Pearson et al (2021 Freshet Sampling as reported to the February 2022 Heart of the Fraser Strategy Session), documented the value of un-dyked Fraser River shorelines to fish, when their vegetation floods during the May-June freshet. When the vegetated shores flood, many insects become available for food for fish. Many small fish (fry and smolts) need the quieter waters of back channels, eddies and flooded swales to successfully increase in size.

Main stream sturgeon spawn during the months of Fraser freshet, benefitting from the high value food availability at that time. The estimated 30 million fry that hatch from the eggs laid by spawning Chinook in the nearby Harrison River (spawning dunes where the Chehalis flows into the Fraser) spend time in the main stem of the Fraser from March through June, and need the quieter waters of inner channels and flooded cottonwood forests. There are few un-dyked islands or shorelines remaining along the Fraser River to provide this invaluable service for fish.

Most of the river shoreline of the Fraser has been 'hardened' with riprapped dykes. The deposits of sediments from the November floods is sadly not beneficial for the Pink salmon that spawned last September on the gravel bars of the ER. Many of their spawning redds have been covered by deposited sediments. Their eggs would have been hatching around this time (March), and will likely not be successful with the deep covering of silt-sand-clay. There are however a few gravel areas remaining closer to faster flowing channels, so there may be a few successful areas with Pink salmon eggs hatching.

Entrance to the bank style beaver lodge.

During normal Fraser river flows between their September spawning and March hatching, there would not have been such extensive flooding, shifting of river channels and deposits of sand, silt and clay.

When walking about the islands and their channels at this low water level, we noticed a much larger quantity of driftwood debris than usually seen. The debris included battered whole trees with broken root balls, smaller branches, small bits of wooden pieces, and extensive small particles of decomposing organic matter. Several conifer branches were seen, which is not typical as from previous years the small amounts of driftwood debris would be from deciduous cottonwood trees. The force of the flood water and erosion shows well in a large Douglas fir log stranded on the shore by receding waters, looking very battered with broken trunk and large broken root ball.

A fun surprise was to see two small conifer branches that had been placed on the entrance to the tunnel where the beaver have burrowed into the bank to make their 'home-lodge' during low water levels. The two branches were Ponderosa Pine, showing its long three-clump needles. We wondered whether the beavers were attracted to this pine, as a gift from a far-away territory (perhaps Nicola River?) and the beavers purposefully used it to decorate their entranceway?

The river channel flow at the islands' downstream tip continues to flow southward to the southern larger river channel, similar to the change we observed last year.

We noticed only one campfire debris seen near to what looked like helicopter landing tracks. Several

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Old Growth Task Force Summary cont'd. from p. 9

recreational fixed-winged aircraft were flying overhead throughout the day, but none landed, no longer possible in most areas given that the formerly hardened gravel bars are now coated with shifting sands, silts and clays as well as debris.

The Osoberry shrubs (*Oemieria cerasiformis*) were flowering and the Snowberry (*Symphoricarpos albus*) was leafing out. The eagle's nest in the large cottonwood did not look like it had been expanded, but in the late afternoon we saw two adult eagles perched in the nest tree, on branches just below the nest. The lower eagle was plucking feathers from what looked like a duck, as seen through our spotting scope. Overall for birds we observed fewer species, but this has been the case for other birding outings in the Lower Mainland over this past winter.

We walked around most of the islands. The upper tip of the islands had a landed motor boat with a group of people, so we didn't observe birds in that area. Another motor boat had also landed on a northern shoreline and when talking with that couple, we learned they were walking about the gravel bars looking for agates. We'd talked earlier in the day with two couples when we were getting our gear ready at our vehicle and they were heading out walking the dykes of Nicomen Island, to reach shoreline gravel bars, also to search for agates, so this has become a popular activity.

Mammals

- Beaver signs throughout the islands
- Extensive deer tracks and one area with small bones found
- Extensive coyote tracks

Amphibians

- Egg masses of Northwestern Salamander found at same inland pool as previous years

Sand deposited around young cottonwood.

Molluscs

- Freshwater snails in a recently dried pool area

Arthropods

- Spider (many were running quickly in sandy areas, then would abruptly stop)
- Beetle (*Opisthius richardsoni*, previously identified on iNaturalist)

Birds

Birds have been entered on eBird at hotspot as follows: https://ebird.org/canada/hotspot/L844938

- Canada Goose – 525 (4 fly over near start, 21 loafing in calm bay btw ER and northern accreting island; 500 flying over from Chilliwack area towards Stave Lake late in afternoon)
- Trumpeter Swan – 43 (flying over in groups of 4 to 15 and loafing in calm bay btw ER and northern accreting islands; more seen feeding on Nicomen Island farmers' fields, but these not included in count)
- American Wigeon – 65 (15 loafing on log in calm bay btw ER and northern accreting islands; 50 fly over in one flock
- Mallard – 20 flying over in one flock
- Common Merganser – 13 both M & F (feeding in river in different channels in small groups from 2 to 5
- Glaucous-winged Gull – 5 (flying over as individuals)
- Double-crested Cormorant – 4 (two perched on log in river and 2 flying over)
- Anna's Hummingbird – 1
- Bald Eagle – 5 (2 immatures, 1 adult flew over, 2 adults perched in nest tree below nest and one eating a duck seen through spotting scope pulling out feathers)
- Red-tailed Hawk – 1 flying hunting and perched in large cottonwood
- Northern Flicker – 1 perched in tree
- Peregrine Falcon flying over hunting
- American Crow – 5 flying over
- American Robin – 4 (in vegetation, feeding)

President's Report Continued from page 2

his staff and representatives from BC Nature. Both meetings were amicable but little concrete progress was made toward the creation of more ERs or support for the existing ones. BC Parks lacks the authority to designate ERs on Crown Land as that is the mandate of the now former Ministry of Forests, Lands, Natural Resource Operations and Rural Development. BC Parks has allocated some resources to purchase private lands for protected area designation, including ERs, and FER provided information from Dr. Bruce Archibald of Simon Fraser University about significant fossil sites on private lands that may come up for sale. FER has also been approached by a few individuals who would like to see their lands designated as ecological reserves and has provided advice on who to contact in BC Parks as well as in land trust and land conservancy organizations. BC Parks does not have sufficient resources to complete management direction statements for the existing ERs that lack them or to address the internal (much less the external) threats to the ecological integrity of ERs.

Strategic Goal 4. Promote and Extend Knowledge of ERs

As well as the Zoom Out Zoom In film from 2021, two other National Firm Board heritage films called "The Forests and Vladimir Krajina" and "Triangle Island" are now digitized and on the FER website.

We partnered with BC Nature and the Elders Council for Parks in B.C. to increase awareness of ERs. BC Nature sent a letter to Ministers Heymann and Conroy with a resolution advocating for the ER system and better stewardship of existing ERs. On March 12, the Elders Council sent a letter to the Premier requesting more support for ERs.

Jenny Feick continued to be a prolific writer with articles in the newsletters of the Victoria Natural History Society and *BC Nature* magazine.

Trumpeter swans seen flying over the Fraser River Ecological Reserve.

Mike Fenger and Jenny Feick worked on a policy and communications piece on ecological reserves and Indigenous Peoples. FER recognizes and respects the First Nations within whose traditional territories ecological reserves exist. FER acknowledges that much of B.C. remains unceded land and appreciates the graciousness of the Indigenous hosts in areas containing ecological reserves. FER wants to clarify and support that traditional use of ecological reserves by Indigenous peoples is consistent with the *Ecological Reserves Act*. FER also wants to facilitate collaboration with Indigenous people in the stewardship of existing ecological reserves and the establishment of new ERs.

Strategic Goal 5. Sustain Volunteer organization

Due to the pandemic, the FER Board of Directors were not able to have any in-person meetings, they carried out all of their Board meetings on Zoom. Board members were not able to travel to visit any wardens or hold a field trip in 2021, so all of the interactions were via email, phone, or Zoom meetings.

In 2021, the Board identified the need for additional Directors and issued a Call for Interim Directors. Four individuals put their names forward and attended Board meetings starting in November. Three of them are interested in having their names stand as Directors.

The Board also identified the need to update its strategic plan. The major gap that the group wanted to address was to ensure that FER operated in a manner that honoured the *United Nations Declaration on the Rights of Indigenous Peoples Act* passed by the BC Legislature in October 2019. Ruth Beck, one of the individuals who responded to the call for interim directors, volunteered to assist the Board with its strategic planning as that is her area of expertise.

I'd like to acknowledge some directors who are not standing for re-election – Jenny Feick, Marilyn Lambert and Kate McKeown. Your contributions have been immensely helpful.

Louise Beinhauer (Newsletter Editor) and Michael Brimsmead (Treasurer) continue to provide excellent support to the Board.

Camas By The Sea

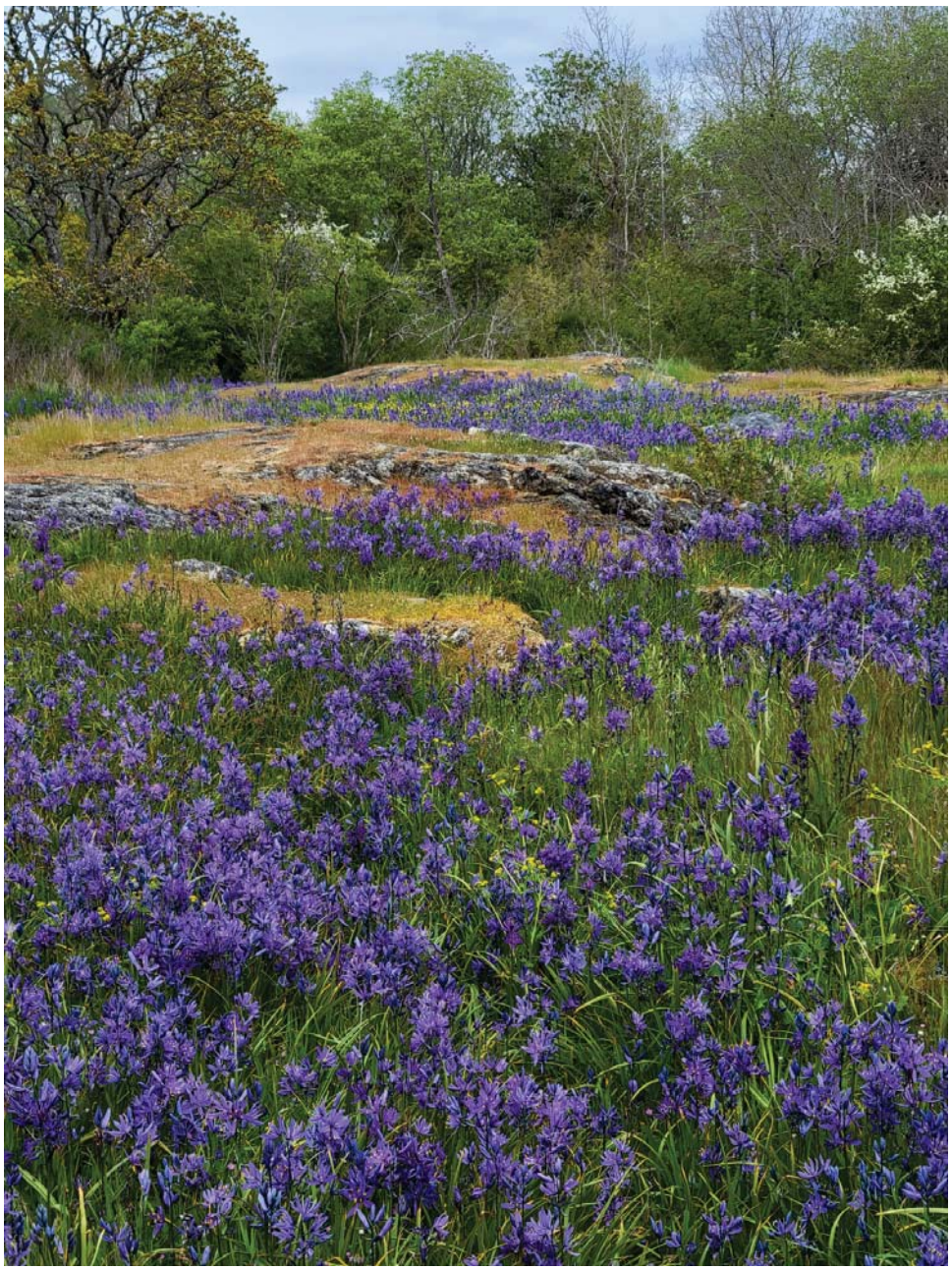
By Mary Rannie

It was a coolish May 1st that our Log editor Louise Beinhauer, her husband Fred, and I tended a booth for the Friends of Uplands Park Camus Day at Cattle Point, Victoria. We joined the celebration of camus at its height in that seaside location, promoting Friends of Ecological Reserves to the families, teachers, relaxed passersby. The event included live music, guided tours through the wildflower meadows, bird walks, food and drink, and activities geared towards children. As well as FER, a number of location conservation organization such as Friends of Bowker Creek, Habitat Acquisition Trust and the CRD had display booths.

This was only the second time that we have attended this event – the first was on April 28, 2019 which we enjoyed so much that we hoped we would be invited the following spring. Unfortunately COVID 19 had other plans.

FER sold our four wildflower placemats, Garry Oak Meadows, Douglas Fir Forests, Interior Grasslands and Alpine Flowers, which show the wildflowers in four different ecosystems in BC. These laminated wildflower displays created by FER board members received a lot of attention, as did the map we also provided (for a donation).

Our display panel showed this FER-produced map of the locations of the 154 ecological reserves in B.C., an impressive testimony to B.C.'s system of Ecological Reserves. It is a resource that alerts children to the presence of these benchmark natural communities and their importance during the climate change facing us. Teachers can create study units for their classes with all of these educational items, use them in outdoor classrooms and on nature walks. An estimated 500 interested attendees came out that day to see and be inspired by our display.



An example of the beautiful blues and rich purples of the Camus lilies among the rocky outcrops at Cattle Point.

Before packing up at the end of the afternoon, we treated ourselves to a walk along the shore bluffs, marveling at the camus-rich purples and blues, light and dark shades, amid the slender, vivid greens of the leaves and the grays of rocky outcroppings. A splendid spring event!

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Camas by the Sea Continued from page 11

Mary Rannie and Fred Beinhauer at the Friends of Ecological Reserves Display during the Friends of Uplands Park Camas Day celebration.

If It's Too Windy To Clean Up an Oil Spill Is it Too Windy to Ship Oil?

By Zoë Ducklow, *Capital Daily* (reprinted by permission)

Introduction

It's hard to believe that it's been seven years since FER was an intervenor at the National Energy Board's hearing on the TransMountain pipeline expansion. Since that time, we have participated in the first hearings and then in the reconsideration hearings.

As the time draws near to the completion of the expanded pipeline, I thought it was time for a bit of an update, especially when it comes to spill response. So thank you Zoë for allowing me to reprint your recent article.

Louise Beinhauer
LOG Editor

Western Canada Marine Response Corp crews practicing oil spill containment methods. (Photo: James MacDonald/Capital Daily)

On the southern point of Vancouver Island, between Port Renfrew to the west and the Saanich peninsula to the east, oil spill response teams have marked 100 points on a map. They represent lagoons, kelp beds, salmon migration routes, endangered bird nesting sites, rare plants, harvesting areas, historically significant spots, and places with economic importance. For each point, Western Canada Marine Response Corp (WCMRC) has a localized plan for how to deflect or exclude oil in the event of a spill.

The response plans are part of the WCMRC's mandate to deal with oil spills on BC's coast. The primary response will always be to get to the source first, but depending on where the spill is and the type of oil, these localized plans will help the response team protect these certain areas that are highly sensitive.

The company has consulted with municipalities, First Nations, and environmental groups for four years to identify these areas and develop protection plans; there are hundreds along BC's coast. Metchosin has three—Albert Head Lagoon, Witty's Lagoon, and Devonian Regional Park—though the municipality wants more.

Except the sites can't always be protected.

"Absorbent booms and skimmers work well in dead calm, but we suspect spills are more likely to happen in inclement weather," said Metchosin Coun. Andy MacKinnon.

Once the weather reaches Beaufort 4—a nautical meteorological classification for a "moderate breeze" with white caps, waves of one to two metres, and wind that moves small branches—the booms and skimmers start to lose effectiveness. The spill response company freely admits that fact.

"If you get really heavy waves, you're going to start to see oil go over booms, and skimmers just aren't going to be as effective," Michael Lowry, senior communications manager for WCMRC told The Westshore. "So that's kind of the limit for a spill response to me. That doesn't mean the operation shuts down. It just means that that equipment is not as effective."

Booms and skimmers work to contain and collect oil that floats on the surface. Some may evaporate, while a lot of it sinks or is absorbed into the water column. Worldwide, about 15% recovery is standard, Lowry told The Westshore.

Given the constraint on weather, "how about we don't ship oil when the seas are too rough to contain a spill?" MacKinnon suggested. "Well, WCMRC said that's a Transport Canada issue."

Metchosin does plan to write to Transport Canada to request weather constraints on oil shipments, but it's a big ask, and it's far outside of WCMRC's power. The corporation is funded fully by mandatory registration from shipping companies, with a fee of $1.928 per tonne of bulk oil. Last

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The Fields of Phragmites are No More??

By Garry Fletcher

I have had an ongoing question about the native Common Reed grass *Phragmites australis var americanus* and its occurrence in Ecological Reserves. Two reserves have had it listed in plant surveys in the past, but I have been unable to determine whether it still exists in those reserves.

Recently John Field, the Ecological Reserve Warden for Ambrose Lake ER wrote the following:

"Regarding Phragmites, the Wildlife Society's survey in 1988-1991 did not record it, which in retrospect is surprising. Dr. Kay Beamish who first found the species at Ambrose Lake ER in 1977, was an active consultant and participant in our survey, including doing most of the plant identifications. I wish I knew where to look for it, but I'll keep it in mind for future visits to the reserve. Judging by its size, it should be easy to find!"

The first record of it is in the 1968 species list of Beamish and it appears again in the 1977 species list. However in 1982 Lynne Milnes and Sydney Riley did not include Phragmites on their list.

The other Ecological Reserve where Phragmites was identified was the Galiano Island Bog ER which is listed in the "overview statement". A comparison was made of Harvey Janzen's and Hans Roemer's reports. Both Roemer and Janszen recorded it in 1980 and Hans Roemer recorded it again in 2000. In 2012 samples were collected from Galiano Island for DNA and morpholigical data by B. Brown and B. Smith.

Common Reed grass *Phragmites australis var americanus* at Garry Fletcher's farm.

But the mystery is not solved; we have yet to find any evidence of it still occurring in the Galiano Bog. I am hoping that it didn't meet the fate of mistaken identity as almost happened in the case I have referred to in the report I have liked here (https://metchosinmarine.ca/a-new-lease-on-life/) about the native Phragmites species from my Metchosin Coastal website.

Introduced species are no doubt one of the most serious challenges for us in the effort to preserve ecological integrity. Occasionally, however, we can mete out a death sentence to an innocent which can have serious consequences.

Phragmites australis var americanus reproduces both asexually by underground root-stalks as well as sexually by seeds born on panicles such as this.

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year they collected $34M in fees just from the bulk oil, which equates to roughly 17.7 million tonnes of bulk oil. That number will increase when the Trans Mountain Pipeline expansion is done, and so over the past few years WCMRC has increased its response capacity.

That's why it built new bases in Sidney, Ucluelet and Port Alberni, and Beecher Bay—to be completed next year—and doubled the size of its fleet. There used to only be one response base on the Island in Nanaimo, which gave a response time of between 18 and 72 hours. Now WCMRC is committed to being on site within six hours at the most.

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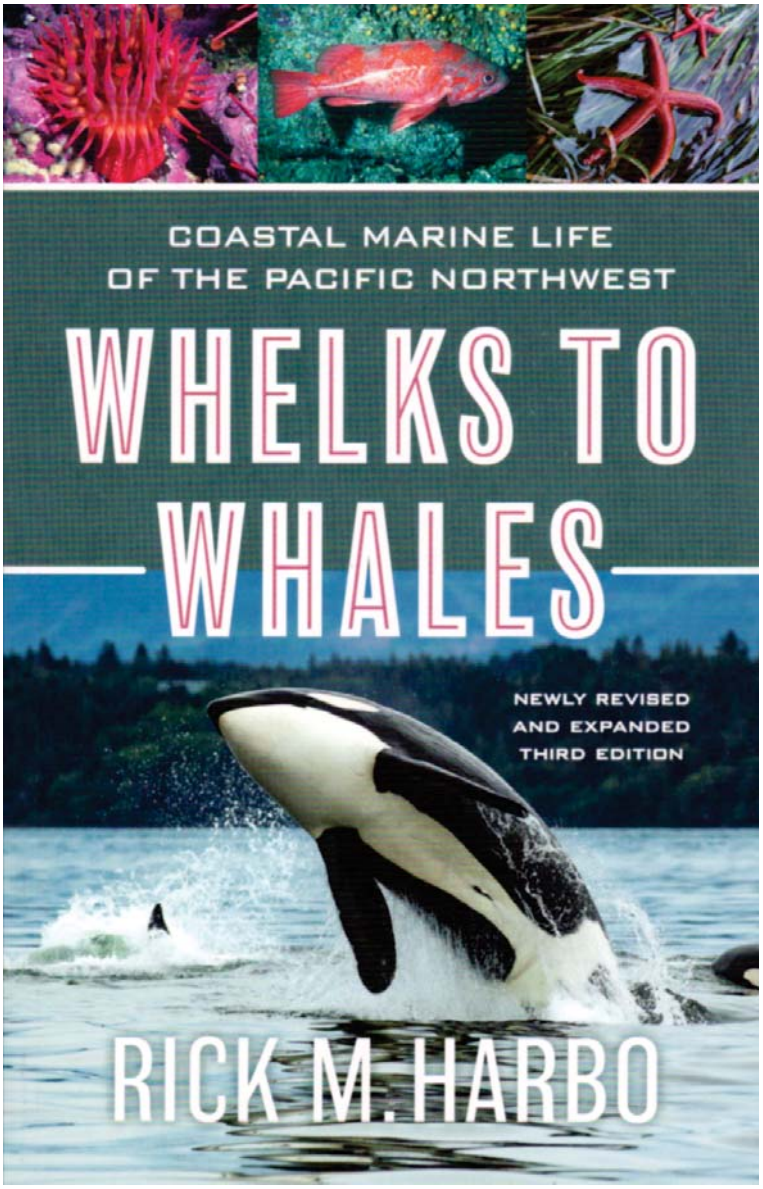

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Whelks to Whales: Coastal Marine Life of the Pacific Northwest by Rick M. Harbo is a newly revised and expanded 3rd edition. It includes additional photographs and up-to-date names. This full-colour field guide to the marine life of coastal B.C, Alaska, Washington, Oregon and N. California is perfect for divers, boaters and beachcombers. It is a ready reference to more than 400 of the most common species: the fascinating local sponges, jellyfish, crabs, shrimp, barnacles, clams, snails, seals, fish, whales, sea algae and hundred of other living things that can be observed and identified without being disturbed. The book is arranged for quick identification with colour-coded sections, full-colour photographs and comprehensive but concise information on size, range, habitat and facts of interest about each species. A glossary, checklist, reading list and full index are included.

This expanded third edition includes new material on identifying bivalves from their siphon shows, as well as current information on introduced and invasive marine species.

Rick M. Harbo, Bsc is a diver and a retired senior marine biologist with Fisheries and Oceans Canada. He currently volunteers as a research associate with the Royal BC Museum. Harbo lives in Nanaimo, BC.

The Log

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