



VALDES ISLAND CONSERVANCY NEWSLETTER

President's Message Marja de Jong Westman



auction and continued building communication pathways with the Lyackson First Nation and representatives of Mosaic Forest Management (a fusion of Timberwest and Island Timberlands) and the Provincial Government. This newsletter addresses some key information on the important signature natural communities of Valdes Island (as seen along the island and community trail network), the role of

The Conservancy continues to be supported by an active volunteer board and a robust membership. Since last year's spring newsletter, we have focused on updating our website, gained registered charitable status, worked on several conservation projects with particular success seen with our Purple Martin nest boxes, joined the



Peregrine falcons were seen on the 2019 Bioblitz. Photo: Robert Alexander



Purple Martin nest box installation, 2017
Salish Sea Biodiversity Network, set up an INaturalist link for Valdes Island, held two Bioblitzes (one in June 2018 and another in May 2019), launched a new committee called Island Stories, saw the return of a silent fund-raising

fire in nature and fire safety on the island, the natural history of a few charming species, great ideas for kid's books, hot off-the-press updates about the island's bats and Purple Martins and the plan for the collection of cabinier's stories. Enjoy! Remember the AGM is set for Saturday, August 31st at 11:00 AM (Doug and Liz Cochran's cabin) and memberships are due now. Please spread the message through your island network. We look forward to your continued support and encourage your involvement on our board or on one of our committees. We look forward to seeing you though, before this, on August 3rd at the Tiller's Folly musical concert at Shah Point.



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Mission Statement

To conserve and protect the existing biological and cultural communities of Valdes Island and its environs.

Vision Statement

That Valdes Island be recognized for its globally-significant and locally-rare biological diversity.

BOARD MEMBERS

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- Marja de Jong Westman - President
- Warren Warttig - Vice President
- Diane Burton - Treasurer
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- Jason Camp
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NEWSLETTER

Mark and Jane Bateman

One of the first questions I get asked about oystercatchers is do they eat oysters? The answer is yes. Years ago while researching crows on Mitlenatch Island, I would watch oystercatchers eat oysters while I ate my breakfast. Their technique was to peck a hole in the shell through which they could reach and sever the adductor muscle of the oyster. The oyster on Mitlenatch is the Japanese oyster introduced there less than a century ago. Since then the oystercatchers had learned to open oysters. Whether oystercatchers had learned to eat the native oyster is not known, but in recent years oystercatchers have taken to eating the introduced varnish clam revealing their adaptability. Mussels and limpets are also on their menu.



Black Oystercatcher (*Haematopus bachmani*)
Photo: Robert Alexander

The Gulf Islands lie at the centre of the Baja to Aleutian range of the Black Oystercatcher (*Haematopus bachmani*) where about 200 pairs nest each year. Our oystercatcher is a North Pacific endemic. Ground nests are located mostly on small treeless rocky islands although there are now a few pairs nesting along the Tsawwassen Ferry terminal jetty. On Valdes their nesting sites include the small reef islands along the island's east side, even nesting successfully on the little rock in South Bay. Nests are well camouflaged and consist simply of a wee depression which parents carefully line with pebbles and shell bits. We often are alerted to their presence as they take flight and call out with loud, ringing scolding whistles. The preferred and most successful nest sites have an

adjacent reef or intertidal area where the parents (who may mate for life and live to 15 years) can escort their flightless young when the tide ebbs. Among the rocks, the oystercatchers pry off limpets and snails to feed their young. Nests located away from feeding areas require the parents to make provisioning trips to feed flightless young. The young oystercatchers, sporting a salt and pepper downy plumage and their chocolate etched eggs laid (1-4) on bare ground, are easy to overlook but the parents piping and distracting flights are tell tale signs to give them some space. Unlike the outer shores of British Columbia, the Gulf Islands rarely sees waves large enough to wash out shoreline oystercatcher nests. As a result the Salish Sea oystercatchers raise many young. It is incumbent for us to give oystercatchers the space they need to raise their young (they can't fly until at least 5 weeks of age) so that we will always have this iconic Salish Sea shorebird in our midst.

Although widespread, this noisy coastal species made it on the 2014 State of the Birds Watch List, which includes birds at risk of becoming endangered in the absence of conservation measures. It is a species particularly vulnerable to oil spills and pollutants in the intertidal environment.



Oystercatcher nest, note its composition of pebbles and pieces of shell. Nests are often reused.
Photo: Race Rock www.racerocks.ca

Useful links:

<https://www.audubon.org/field-guide/bird/black-oystercatcher>

https://www.allaboutbirds.org/guide/Black_Oystercatcher/overview

VALDES ISLAND CONSERVANCY, NOTICE OF AGM

Saturday, August 31st 2019 at 11:00am

Location: Doug & Liz Cochran's cabin

Membership must be current in order to vote.



Olive-sided Flycatcher...

Robin Weber, Biologist

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From atop a high snag or bare branch the Olive-sided Flycatcher (*Contopus cooperi*) declares its territory with a resounding quick-three-beers. When not loudly singing to defend its turf its emphatic pip-pip-pip call still serves to identify its lofty location to challengers as well as to alert birders like those on the birding walks of the Bioblitz.

A medium-sized songbird about 19 cm in length, the Olive-sided Flycatcher is nonetheless the largest breeding flycatcher in BC, aside from the kingbirds.



Olive-sided Flycatcher (*Contopus cooperi*)

The Olive-sided Flycatcher is found across northern North America's boreal forests, in coniferous forests of western North America's mountain ranges and in coastal coniferous forests such as those of Valdes Island. However, it is a long distant migrant having the longest migration route of any of the North American Flycatchers, travelling south to winter in Central America, the Andes and making it as far south as Bolivia.

We hear it near forest edges along the island's trails and logging roads, and near ponds and streams. Such areas tend to have a great abundance of flying insects, the primary food of all flycatcher species. As the flycatcher name suggests, they foray out from high positions, above the forest canopy, to nab bees, wasps, flies, winged ants, beetles in flight and flies usually catching and then consuming these with great acrobatic skill in mid-air. The more challenging items are taken back to the perch to be whacked against the branch to subdue them, then summarily dismembered and eaten.

Olive-sided Flycatchers typically lay 3 grey and

brown speckled buff coloured eggs in a nest near the tip of a conifer branch anywhere from 1.5 to 21 metres above the ground. The male feeds the female while she is incubating the eggs for about 16 days, then both adults feed the young. The young begin their first flights at about 21 to 23 days.

Recent studies of populations of Olive-sided Flycatchers through Breeding Bird Surveys and Breeding Bird Atlas Projects indicate the species is sharply declining. This is possibly due to loss of both summer breeding and wintering habitat. The Olive-sided Flycatcher is currently listed as threatened or endangered in many parts of its range in North America.

Information from many citizen science groups, such as the yearly bird counts on Valdes, are very important in establishing the status of animal and plant species throughout the world.

Useful links:

www.allaboutbirds.org/guide/Olive-sided...

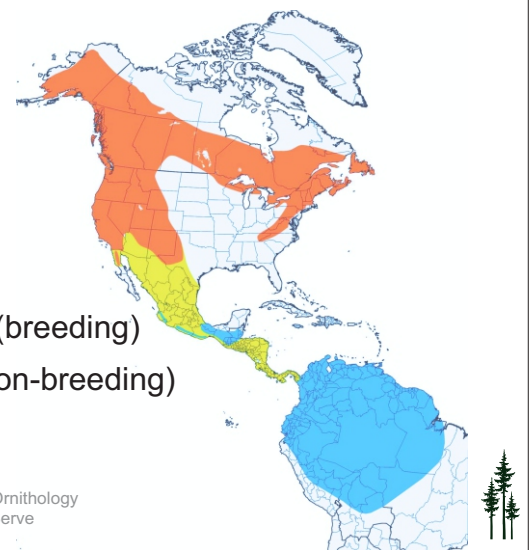
Partners in Flight. ebird.org/pa/news/olive-sided-flycatcher.

Boreal Songbird Initiative. Olive-Sided Flycatcher species

account. <https://www.borealbirds.org/bird/olive-sided-flycatcher>

The Atlas of the Breeding Birds Of British Columbia, 2008-2012. Bird Studies Canada. Delta, BC. (Olive-sided Flycatcher species account – Wayne C. Weber).

COSEWIC (Committee on the Status of Endangered Wildlife in Canada) Assessment and Status Report on the Olive-sided Flycatcher *Contopus cooperi* in Canada Jennie L. Pearce and David A. Kirk



LEGEND

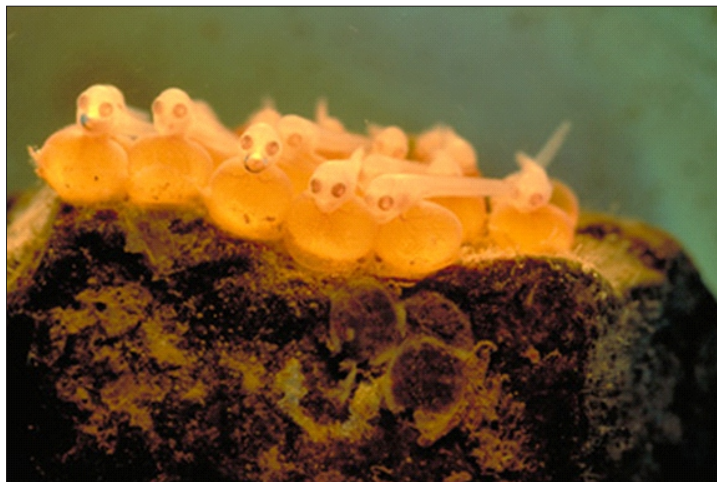
- Summer (breeding)
- Winter (non-breeding)
- Migration

Midshipman...

Jeff Marliave, Senior Research Scientist,
Vancouver Marine Science Centre

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Plainfin midshipmen (*Porichthys notatus*) are well known for their rows of luminescent organs on their belly in a pattern resembling the buttons on a midshipman's uniform. Do not be disappointed if you take a gently captured midshipman into the dark and do not see the buttons lighting up; some say a particular diet of luminescent crustaceans is needed for the glowing, but their buttons seem to stay dark in the Strait of Georgia region. Records indicate that they tend to bioluminescent during courtship and light up at night to attract prey. They are able to breathe air and are quite comfortable in shallow pools under rocks. On Valdes, we commonly find them on the rocky beaches of the island's westside but one has to take care when searching for them. It is here that they lay their amber coloured eggs.



Midshipman larvae readying to hatch
Photo: Cornell Chronicle, 2013

In the spring, this species migrates from deeper waters into the shallows of the rocky intertidal to breed. Males dig nests under rocks and then noisily lure females to these sites. Males have been known to call for over an hour to attract their

mates, although as beachwalkers we more often hear spurts of their defensive grunts.



See rows of light-producing organs called photophores. Light production relies on the fish having a dietary source of the chemical luciferin which when activated by its partner enzyme, luciferase will create light.

Of interest too, is the behavior of the multiple batches of eggs attached to the underside of a rock used by one territorial male as a nest site for successive spawning females. The embryos hatch out and remain attached until they develop into tiny replicas of the adult. During a low tide or slack water, these attached babies will start flushing the nest with tail sweeps if the carbon dioxide level starts to rise. When the babies swim off they hide in shell hash and just like adults, they will fluff silt over themselves so that only their eyes and jawline are evident, lying in wait for prey to gulp down.

Useful links:

<http://news.cornell.edu/stories/2013/07/human-hand-gestures-began-fish-brains>

<https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/photophorel>



YOUR VALDES ISLAND CONSERVANCY

This edition of our Newsletter highlights some of our recent initiatives. If you agree with our direction, please show your support by renewing your membership, and by encouraging your family and friends to join us, as well.

Membership fees help pay for our administrative costs, such as the publication and circulation of this Newsletter. Increased membership also supports our voice to Government, First Nations, industry and the public. Joining one of our Standing or Ad Hoc Committees is a great way to get involved in the Conservancy project that interests you the most! If you want to help guide the Conservancy and advance our Mission, please consider seeking a position as a Director. At our 2019 Annual General Meeting on August 31st, there will be four vacancies for nomination for two year terms.

Really? Fungus? (yawn). Perhaps the title should be “why” you need to know about fungus? Because it could potentially save your cabin, that’s why. There are two main types of fungal rot that affects Douglas-fir, a common tree species on the island: Cube Rot (or wood decay fungi) and Root Rot.

Cube Rot: Signs of cube rot will mean immediate removal of the infected tree. The signs manifest fairly late in the infection period so when signs emerge the tree is unsafe. The primary fungus responsible for cube rot infects the tree through a wound or broken branch (the most common being *Fomitopsis pinicola*). The primary sign is a conk (sometimes called a painters or artist conk because the white underside can be used as a canvas to paint on). Because the tree is potentially unsound, falling of the tree may also be unsafe for anyone but a professional faller.



Cube rot conk

Root Rot: Douglas-fir root rot is usually harder to detect initially. It is a naturally occurring, (normally) endemic fungus that infects Douglas-fir. The fungus can persist in the soil for decades even areas where all the Douglas-fir is removed (roots and all). In old growth forests the fungi are normally just found in small pockets. As a consequence of logging however, the fast growing seedlings are infected quickly. To add more bad news, Douglas-fir has a somewhat unique characteristic where their roots will naturally graft onto the roots of an adjacent Douglas-fir tree. This adaptation can be very beneficial during harsh growing periods (e.g. drought), but it also allows for the fast spread outside of the original pocket. In other words, given the history of logging on the island, there is a high likelihood you have one or more Douglas-fir that is infected with a root rot fungus (*Phellinus weirii*) on your property.

The first sign of root rot is a reduction in the amount of needles that are normally on the tree (thinning crown), chlorotic needle colour (yellowish) and reduced growth

rate (due to the loss of functional roots), this may be accompanied by abnormal amounts of pitch emanating from the tree trunk near the base (lowest 3m) of the tree (an artifact of the growth ring delamination). A fruiting body (also a type of conk) is also a sign of infection and sometimes emerges annually or every few years. This conk first appears as a single off-white protrusion off a root or the very bottom of the tree. At the mid-stage emersion, a series of light brown horizontal fans emerge from the single stem. At a late-stage emersion the underside is also brown and not suitable for painting artistic scenes. The conk will often last several months.



Mid-stage root rot conk



Late-stage root rot conk

As seen in the images provided, mid-stage root rot is a bit lighter in colour than late-stage root rot.

Root rot acts to delaminate the growth rings of the lower tree and especially the roots, making it prone to windthrow. It is slow to progress, but when the fruiting bodies start to appear, there is potential trouble ahead, especially if it is leaning towards your cabin. As with the cube rot, because the tree is potentially unsound, falling of the tree may also be unsafe for anyone but a professional faller.



Windthrown trees due to root rot

On our bay-to-bay Bioblitz walk (from Porlier to Starvation Bay) in 2018 we noted root rot in trees at several locations. The monoculture of planted seedlings often sets up the mature forest being vulnerable to this problem in later years.



During Bioblitz 2017, several Purple Martin boxes were installed at Yamanaka's docks in Porlier Pass, in the South Bay beaver pond and at Long Lake, north of Detwiller Point. Although the boxes at the beaver pond and Long Lake are often occupied by swallows (usually violet-greens), the boxes at Porlier are starting to support what will likely become a robust nesting colony of Purple Martins. From past newsletter issues you will recall that this species was nearly wiped out in BC and the nest box program was initiated to encourage their recovery. With active colonies at Sturdies Bay on Galiano Island and Newcastle Island by Nanaimo, we hope Valdes will be found even more attractive in the years to come. We are going to approach the Provincial Government about setting up boxes at Wakes Cove, at Kendrick Island with the West Vancouver Yacht Club and the businesses operating out of Silva Bay, Gabriola Island - having clusters of boxes on nearby islands should be beneficial.

Here are useful links:

https://www.allaboutbirds.org/guide/Purple_Martin/overview and

<http://www.georgiabasin.ca/puma.htm>



Nesting pair of Purple Martins (*Progne subis*), Valdes Island. A special thank you to Ian Bryce and Pete Reveley in ensuring some new boxes were installed in time this year! Photo: MdJW.

Now to the bats; for the first time we were fortunate to have a bat biologist join us for a Bioblitz. Mandy Kellner, Coordinator of the Community Bat Programs of BC and her daughter drove down from Revelstoke to help this year. Mandy set up two monitoring stations, one on the west side cliffs and another in Cochran's red alder-slough sedge wetland. The wetland provided the richest data with Mandy confirming we have at least 5 species of

bats on Valdes Island – hoary, silver-haired, California myotis, little brown myotis, and yuma myotis. There are very likely 3 other species in our neighbourhood.



The Hoary Bat (*Lasiurus cinereus*) is the largest bat found in Canada. Individuals of this species tend to roost solo in woodland trees and hunt over wetland areas. This species was picked up by Mandy's nocturnal monitor at the wetland near Cochran's where they were likely feasting on their favourite moths. One to four pups are born in early June after these bats have mated in the fall. Females store the sperm until they return in the spring to their summer grounds. Photo: Merlin Tuttle, Gold Country Bat Project.

Mandy was very encouraged by these findings as well by a common style of cabin building. Livingston's overlapping cedar shakes were considered prime roosting habitat! We enjoyed listening to the echolocations of these insect-foraging flying mammals from the comfort of Westman's deck after the annual potluck dinner. Stay tuned for a fuller bat story in next year's newsletter but in the meanwhile we hope you'll appreciate the significance of these findings as there is very real concern for the health and longevity of North America's bat populations. The spread of white-nose syndrome (fungal pathogen) is now considered one of the worst wildlife diseases and has led to the deaths of millions of bats. Islanders can assist in keeping it off the island by avoiding entry into the island's caves where bats are known to roost.

Here are useful links:

<http://www.bcbats.ca/index.php/bat-basics/bc-bat-species> and <https://www.whitenosesyndrome.org/>



Fire Proofing Your Cabin

Warren Warttig, RPBio

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A fact of life is that forests burn. Forest structure is shaped by different natural disturbance regimes of which fire is one of them. On the wet west coast, the primary disturbance regimes are wind and landslides. Wind is the most significant disturbance regime and is mostly manifested in patches of trees blowing down (as we saw in Stanley Park a few years ago). These are perfectly natural and predictable and not a “disaster” as many media outlets reported.

Large fires on most of the wet west coast are rare, but there is evidence of catastrophic fire events (large and hot fires where most of the plants burn) occurring with an average return interval of approximately 1,400 to 4500 years. The most prominent natural disturbance regime in interior of BC is fire, with a return interval of catastrophic fire events being as little as 45 years in the driest areas to 120 years elsewhere.

From recent research on Pender Island we know that the southern Gulf Islands has an average natural return interval of 88 years for catastrophic events. Non-catastrophic natural fires are more frequent (and human caused fires are likely even higher).

One of the problems with these figures is that we have been interfering with the natural process of fire through firefighting. It makes sense that we want to save valuable natural resources like timber and rangeland and other things like infrastructure and houses etc. But, by impeding natural burns, all of the branches and blown down trees accumulate on the ground like kindling (commonly known as “fuel loading”).

Fighting fires isn't going to stop anytime soon, so how do we prepare for the eventuality of a forest fire on Valdes?

Recent analysis of the catastrophic fire that swept through Fort McMurray can give us some clues.

From this analysis it was found that having a non-combustible roof was the greatest single predictor of a home surviving. A non-combustible roof combined with 10m of vegetation clearance was even higher at a 90% home survival rate.

Vegetation removal of dense highly flammable shrubs (e.g. cedar) within 3m of a home was also a strong component affecting home survival as was storage of highly combustible fluids and firewood greater than 5m away from the home.

In areas where there is fire dominated natural disturbance regime, many of the trees have

adapted to survive fires. Douglas-fir is one of these trees (and we have a lot of those) where this tree has a thick cork-like layer of bark that is fire resistant. Fires that stay on the ground and are never allowed to get into the crown of a tree are least dangerous. An effective method of preventing this is to proactively remove the fuel loading material (the fallen tree branches and other twigs) and burning them at an appropriate time and place each year. The most insidious fuel loading component is called “ladder fuels”; these are woody materials leaning up against a tree that facilitates fire movement from the ground into the crown of a tree. Once the fire has moved into the crown it is very difficult to contain.

Lastly, when fire season is upon us (April 1-September 30) and there is a high fire rating, avoid setting any fires. This includes wood stove fires.



Ground fire in a coastal Douglas-fir forest.



Crown fire in a coastal forest.

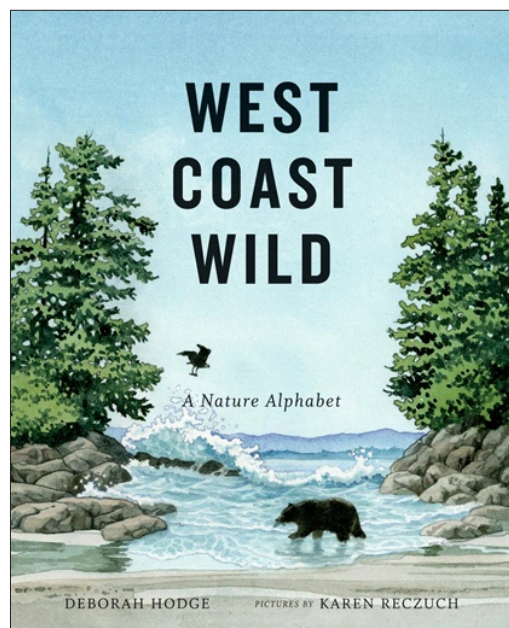


A trio of lovely children's books to stock any Valdes island library 8

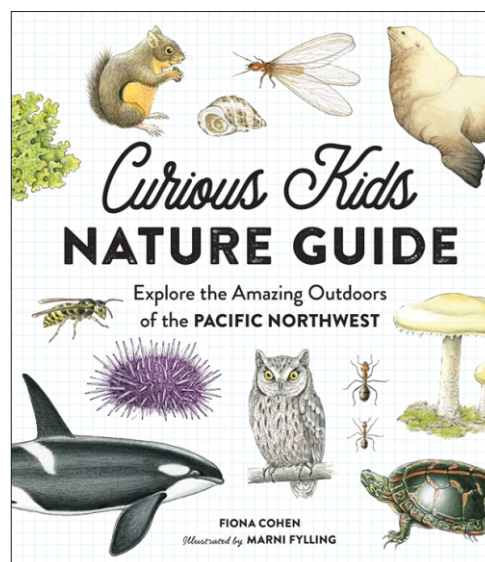
Anne Casselman, Biologist and Science Writer

Discovering a treasured kids book is both art and science. First there is the story, the illustrations, and the lasting power. And then there is simply the chemistry, or spark, that occurs between that small budding brain and the page.

Of course you could argue that while on Valdes (Lyackson) Island, a child needs no book about the natural world. It is all out there to be explored in person. True! But every child needs a goodnight story or perhaps, back at home in the city, some titles that remind them of the natural riches that await their next island adventure.



Deborah Hodge's *WEST COAST WILD: A NATURE ALPHABET* (Groundwood Books, 48 pp., \$19.95; ages 4-7) has a richness to it that is rare among alphabet books. At its heart this is a nature alphabet book — “D is for Dungeness crabs...” or “T is for tides...” — but it also gives every biota the attention it deserves to communicate big concepts simply, such as the role of salmon in the ecosystem, the longevity of quillback rockfish, or the promise of the intertidal zone. Hodge's words are perfectly complemented with stunning watercolour illustrations by Karen Reczuch, whose art is both accurate and dynamic. Here is a book that teems with life. What better way to learn the alphabet than through the lens of our natural world.



Building on the nature theme, *CURIIOUS KIDS NATURE GUIDE: EXPLORE THE AMAZING OUTDOORS OF THE PACIFIC NORTHWEST* (Sasquatch Books, 96pp., \$19.99; ages 5-9) by Fiona Cohen is the perfect field guide for any young explorer. Divided by ecosystem type (forest, beach, freshwater and backyards and urban parks) this smaller hardback is both a junior field guide and a compendium of fantastic animal facts. I suspect it could be enjoyed on several levels: used to identify an animal or plant on a hike, flipped through to sate curiosity about Marni Fyilling's illustrations, or to facilitate a proper deep dive and learn the ins and outs of our flora and fauna.

Of course we know that Valdes (Lyackson) has not been a truly wild place for many millennia. The island hosted seasonal villages of the Lyackson First Nation, whose intimate knowledge of the island is reflected in their detailed and many place names for different parts of it. Addressing one of Canada's more recent and damaging forms of colonialism, David A. Robertson's standout *WHEN WE WERE ALONE* (Highwater Press, 24pp., \$19.95; Grades K-3) manages to tackle the topic of Canada's residential school history for a young



audience. Robertson's treatment is deft and heartfelt. He navigates this highly charged and sensitive topic by distilling the subject matter in

such a way that makes it easy for little minds to connect with. As he points out “residential school history is a difficult subject to teach kids but it's something that all Canadians should know.” Julie Flett's beautiful illustrations add such joy and heartbreak to the tale, complementing the narrative structure of a young girl asking her grandmother about certain habits of hers, which leads the grandmother to recount the joys that the residential school system robbed from her, joys that she now cherishes. The end result is both appropriate for small minds and, for those adult readers among us, tear-jerking. No wonder this beautiful tale won a Governor General's award. Here is a book that naturally fosters understanding for the crimes our country committed against its indigenous peoples and empathy for its victims, a valuable step along our road to reconciliation.

Island Stories... Bruce Livingston

We know what we remember. But, do we remember what we know? So begins the telling of our Valdes Island Stories.

These tales began about 1960, or so. Of course, fifty-five or sixty years is hardly eventful, in the context of the preceding decades of industrial logging on the island, and of commercial fishing and whaling around the Island.

This recent history certainly pales in contrast to the Island tales of the Lyackson and other First Nations peoples. Theirs are Lyackson Island Stories, the name their ancestors gave the Island. If we don't start somewhere, we can never begin to tell any stories.

Of concern, too, are those stories that may be lost forever if our elders, and others, leave this world without sharing them in this record.

So we start on this journey of recollection, of collection, of assembly and of presentation. The pen to paper, the finger to a keyboard, and the touch to a recorder are our tools to catch this history.

Let's all think about what brought us to Valdes Island, how we began - and continue - our time here, and what makes it special for our families and friends. Let's see if we've kept those early photographs, or saved our first Valdes Island documents.

Maybe it's a funny story, or something more serious, that you'd like to share. Jot down a few notes, and we'll talk about it more this coming season, as we start assembling our Island Stories.

Any questions? Please contact:
Bruce Livingston (editor), Diane Burton,
Bill McElhanney, or Tony Westman (photographer)

Marja de Jong Westman, Biologist

While not the largest of the Gulf Islands, our 23 square kilometer island is noteworthy for many reasons other than size. Valdes Island sits in the Georgia Basin Lowlands, which encompasses the east side of Vancouver Island, the neighbouring Gulf Islands, stretches up to the Sunshine Coast and includes the islands of Howe Sound. With its Mediterranean-like climate, unique geological and biological history, the area supports a diversity of terrestrial species only rivaled in Canada by the Okanagan Valley. Thus the Georgia Basin Lowlands is identified as a unique ecological region in Canada.

(<http://www.shim.bc.ca/atlasses/sei/seidoc.htm>) In 1997, the sensitive ecosystem inventory project was launched amid concerns about widespread development occurring in the region. A sensitive ecosystem is one that is both rare and fragile and has a high number of species in relation to other ecosystems. It was hoped that the data collected would inform land-use decisions and support the area's ecological integrity over the long term, however, an updated report of 2007 indicates that habitat loss continues with the largest area of loss being 2nd growth forests. While disturbance and loss of habitat continues overall in the Georgia Lowland Basin, the natural areas of Valdes Island have not suffered the same fate and many of our undisturbed second growth forests are developing features of old-growth forests and the island still boasts significant coverage of other sensitive ecosystems, such as the woodland communities of Douglas-fir-shorepine-arbutus and Garry oak-arbutus; the herbaceous communities of coastal bluffs and rocky outcrops; and wetlands. With this knowledge in mind, on a Bioblitz 2018 walk our group set out to locate these special communities. The field notes from the walk we hope will serve as the foundation of a natural history brochure of the cabin and community trail network...such that islanders can enjoy a neighbourhood walk and a nature walk using the same footsteps.

The walk began in the Yamanaka's meadow, followed the roadways through first-growth replanted forests, and entered into the older second-growth forests of Shah Point. From there we walked the cabin trail and a section of the Blue Trail up to Westman's cabin in Starvation Bay. We identified special spots and their signature species. We even noted wildlife trees as they blessed us many times with sightings of nest holes of red-breasted sapsuckers and the energetically created holes of the pileated woodpecker! When not serenaded by woodpeckers we were listening for calls of the Pacific Chorus frogs, comparing the insect-eating habits of brown creepers and red-breasted nuthatches, checking on the health of trees (see Warren's article on fungus), studying the still-standing

veteran Douglas-firs for their arboreal lichen communities and in-bark bat habitat and often found ourselves crawling on our hands and knees trying to identify wee flowering plants.



Pileated woodpecker (*Dryocopus pileatus*) and its foraging holes which can be over a foot long. Carpenter ants are a favourite food and easily extracted by the bird's long barbed tongue. This species is a classic resident of old-growth forests. Woodpecker holes are used as nest sites for many of our owl species.



The red-breasted sapsucker (*Sphyrapicus ruber*) gets its name from drilling shallow linearly placed holes in trees and then sipping up the sap. However, like other woodpeckers, they eat insects too and don't build nests, instead simply using a tree cavity.



The red-breasted nuthatch (*Sitta canadensis*) and the brown creeper (*Certhia americana*) are both insect bark foragers with the nuthatches characteristically hopping up a tree and the creeper down. We heard both species on our island walk.

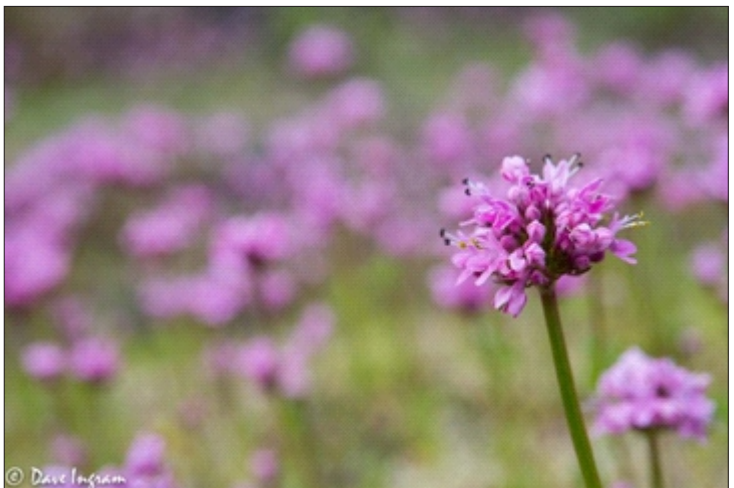


Brown creeper (*Certhia americana*)

We encountered our first coastal bluff ecosystem near Jason Camp's and found this system repeated at Hogan's, River's, Cochran's, Ferguson's and Livingston's although interestingly not all the same plants were found at each location. Characterized by little soil, little water storage, and exposure to wind and sea spray you tend to find reindeer lichen, sea blush, native onions, a hardy little fern called the parsley fern, harvest brodiaea, blue-eyed Mary, medicinal yarrow and various shrubs such as fragrant ocean spray, red currant, nootka rose and saskatoon. While individual species may be hardy, their shallow-roots are easily disturbed and full communities can be ruined beyond recovery by trampling feet and vehicles. It is advised to establish a single trail through these communities and if you ever encounter even a small sprig of Scotch broom, please remove it.



The harvest brodiaea (*Brodiaea coronaria*) and small-flowered blue-eyed Mary (*Collinsia parviflora*) appear as delightful surprises in the dried up mosses and grasses of the bluffs.



Sea blush (*Plectritis congesta*), is true to its name and gives the island's salted-air slopes a pink blush in early spring. Although it pops up every year and may appear perennial, swarms of this charming little plant actually start from seed each year. Sea blush is an annual plant. Photo: Dave Ingram



This flower grouping was seen only at one site. Here white brodiaea (*Triteleia hyacinthina*) is surrounded by the woolly sunflower (*Eriophyllum lanatum*). This brodiaea species is called the fool's onion because it doesn't belong to the *Allium* group which includes our native nodding onion (*Allium cernuum*).



Nodding onion (*Allium cernuum*).

Valdes Island's second growth forests (particularly those in the Crown Land green belt) are now considered mature and in the next 20 years will be classified as old forests. Old forests are characterized by the amount of their woody debris – fallen logs, standing snags, and gaps in the forest canopy which let patches of light to reach the undisturbed soils of the forest floor. Generally there is at least a two-layered understory of various shrub and herb species. You can see many of these features in the next picture taken along the Blue Trail last spring while I was working up a restoration plan for the riparian area of Deek's Creek. As walkers well know, the floor of these forests are often uneven due to the pits and mounds left by windthrown trees and deep layers of moss. These features and the abundance and diversity of lichens, mosses and fungus take a long time to "grow up".



Second growth forest of the community trail network Blue Trail, just south of Starvation Bay. Photo: Marja de Jong Westman

We are fortunate to have access to these healthy, biologically diverse forests on our walkabouts. During the Bioblitz walk, we took special note of the rich flowering understory of the drier forests of South Bay. Twinflower, hairy honeysuckle, saxifrage and starflower were all on show in undisturbed sites.



Starflower (*Trientalis borealis*) belongs to the primrose family and ranges from California north to the Yukon!

Twin flower (*Linnaea borealis*) is an evergreen ground cover named for its paired flower heads. According to some records, this was a favourite flower of the famous taxonomist Carl Linnaeus. It was named after him by the Dutch botanist and a patron, Jan Frederik Gronovius.



Twin flower (*Linnaea borealis*)

Significant stretches of wet forest were also encountered in South Bay. We enjoyed seeing a grand stand of western red cedar and the red alder-slough sedge wetland. The red alder-slough sedge ecosystem is well represented in the Crown Land green belt from South Bay to Starvation Bay and really is one of the Valdes island greatest natural features. It is red-listed, thus considered in danger of extinction. This ecosystem type is very limited in BC and of its original coverage, less than 0.5% is now left. As we watched for stinging nettles, we did spy a red-legged frog, several fully mature broad leaf maples, deer and lady ferns, and foamflower, making up the understory. This wetland type is always found in low-lying spots and relies on rich soils and seasonal winter flooding. It may be that it served as the ideal location for the farming of the Pacific Crabapple by coastal First Nations. These wetlands are vulnerable to changes in water flow brought on by building of cabins and trails and to invasion by what is a lovely looking plant but would take over the area if allowed to invade, the yellow-flag iris.



Red alder (*Alnus rubra*) is a tree often taken for granted but it is an important pioneer species being able to start up and grow in almost any location with its helpful root nodules full of nitrogen-fixing bacteria. Photo: tyroncreek wordpress.

The alder's companion in these wetlands is the slough sedge (*Carex obnupta*). Sedges are identified by having solid stems with edges and this species by its flower spikes. Its leaves are

used for the making of grass baskets by coastal First Nations.



Slough sedge (*Carex obnupta*)

Although relying on stream pools and ponds to breed, the red-legged frog (*Rana aurora*) will leave these spots after the breeding season and live out its summer days in the streamside vegetation searching out insects of all sorts and slugs!



Red-legged frog (*Rana aurora*)

Certainly one of the most picturesque of all our natural communities is the Douglas-fir-shorepine ecosystem, which is home to the iconic arbutus tree and Garry oak. The arbutus is known as a California relic and is at its most northerly distribution in BC. Given its limited range it is considered a species at risk (<http://www.sccp.ca/species-habitat/arbutus>). It is Canada's only broad-leaf evergreen and is a member of three red-listed communities; arbutus-hairy manzanita; Douglas-fir–arbutus; and Garry-oak-arbutus. The community of which it is a part is rarely 10 km from any coastline and at the foot of the trees you will find dull Oregon grape, chocolate and fawn lilies, stonecrop, salal and hairy manzanita.



Fawn lily (*Erythronium oregonum*) commonly referred to as the Easter lily is easily identified even while not in flower by its mottled leaves. The chocolate lily (*Fritillaria affinis*) is also a delicate perennial occurring in a limited area of southeastern BC.

On our long Bioblitz walk we crossed through representatives of all of these communities, with some of the largest patches found along the cabin trail from Noel Bay to Detwiller Point, however, they are likely the rarest of the sensitive ecosystems on Valdes Island.



Lodgepole or shorepine (*Pinus contorta*)

Despite its tolerance for life on dry rocky outcrops, studies indicate survival of Lodgepole pine, this at-risk species, will be negatively impacted by climate change. Its bark is not particularly fire-resistant but the heat of a fire does support the opening of the cone and release of its seeds.

<http://www.sccp.ca/species-habitat/lodgepole-shore-pine>

There is much to build on from this first gathering of natural history information for our trail brochure, but I thought this article might give you an idea of things to come.

Join us for a walk at next year's Bioblitz, won't you?





Biologist Robin Weber (centre) has been an enthusiastic supporter of the Valdes Island Bioblitz for several years. A keen birder who can identify birds both by sight and sound he has helped us identify over 50 species of the island's feathered friends. This group is captured during Bioblitz 2018, on their Porlier Pass to Starvation Bay walk.



Ramona de Graaf of Sea Watch Society, demonstrates the approach to conduct fish surveys for Pacific sand lance and surf smelt in Starvation Bay, during Bioblitz 2018. These fish species along with herring are a critical food source of other marine animals being an early step in the food chain. The vitality of their populations is now understood as being key to the survival and sustainability of the larger Salish Sea ecosystem.

We tried something different at this year's Bioblitz! The first day focussed on collecting data with a bird walk, a bird cruise around the island and a beach study at Cardale Point. The second day offered families an opportunity to participate in nature-focussed arts and crafts and take part in an intertidal exploration topped off with hands-on access to animals gathered by scuba divers. The weekend still included the ever popular community pot-luck dinner which was topped off by an after dinner session of listening to the echolocations of bats! Hard to beat.



Look closely at this opened horse gaper clam and you will see a pair of pea crabs which perfectly match the colour of the interior of the clam. The crabs most often enter as larvae and live out their lives in the clam's mantle cavity stealing food that enters. They are considered kleptoparasites.



Biologists, Marja de Jong Westman and Jeff Marliave with a group at Cardale Point. This beach is a highly productive clam bed and an important ancestral site for the Lyackson First Nation.



Family Bioblitz Day 2019, started with divers, Andy Lamb and Peter Luckham from Thetis Island, delivering a wonderful collection of subtidal marine invertebrates to Starvation Bay.



BC is home to the largest number of seastar species in the world with over 70 kinds being found here. Here, diver Peter Luckham shows off a vermillion star as his dive partner, Andy Lamb, sorts through the collection.



A delighted child holds a sea cucumber. This species protects itself by being camouflaged appearing to be spiny but actually being very soft. Rarely and only under extreme circumstances will it release components of its internal organ system. Like many other echinoderms, they do regenerate lost parts.



Bioblitzers eagerly await the dusk emergence of bats from Westman's cabin eaves.



Children of all ages enjoyed trying their hand at fish printing and seaweed pressing.



If you are wondering why your beach now has patches of "quick sand" look no further than this bay mud shrimp (*Neotrypaea californiensis*)! These shrimp create extensive networks of burrows and constantly remodel them. During our beach explorations, the footsteps of some 20 people triggered an interesting response. Within a few minutes tens of mud shrimp were observed on the sand's surface.

The Shah Point Bay community has constructed a small building to house first aid and fire suppression equipment. The longer term goal is to have similar structures located in all the main bays on the island. We hope that the entire island community will embrace the idea. At the moment we have a structure at Shah Point and there is a similar little house with First Aid equipment in South Bay along with Dr. Norm River's sauna further north also housing first aid equipment. A few other islanders have their own pumps and hoses and well stocked first aid kits, such as the Westmans in Starvation Bay with their neighbour Brent Berry. Brent is a search and rescue volunteer for the Sunshine Coast.

There has always been a need for First Aid equipment, but the need for effective fire suppression equipment is growing each year as the spring and summer droughts result in our fire season coming earlier and lasting longer. Scientists speak to this being the new normal. The material cost of the construction of the Shah Point building was approximately \$1500 and was shared among the neighbouring cabins--the cabins which would likely be the ones to access the equipment during a time of need. (Please note,

however, anyone on the island is welcome to use this equipment during an emergency). Dan built the cabin on his own and we are now in the process of securing supplies to be housed in the building. This safety shed will be open for tours when you come to Dan's for the Tiller's Folly, August 3rd concert.

Should you have any questions please contact either Dan at danwhitevaldes@gmail.com or Jason at jdcamp@gmail.com



Island Contacts...



A wonderful day on the island was shared July 6th 2019 with Lyackson First Nation Councillors, Frank Conibear, Brena Robinson, Jennifer Jones and executive assistant, Chris Thompson.

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