

## Plants - weaving an intricate web of life

by Wendy Schneible and James Schwartz

I'm curious about the connections between plants, insects and birds and the important part we can play in sustaining them. Native plants have been getting a lot of attention lately. But if I want to grow food and a colourful garden, why plant a green-leafed shrub with drab beige flowers when I can plant an engineered relative with purple leaves and pink flowers? That's much more exciting. On the surface it does seem more interesting, that is, until you start noticing the caterpillars, then the birds eating the caterpillars, then you see the predator birds chasing the smaller ones. Then you notice the bees, wasps, flies, dragonflies, beetles, snakes, lizards, toads, frogs... all in a web of activity, each player meshing with the others. Add migrating birds to the scene, and it is a 'world wide web'. This observation of John Muir's has been quoted a zillion times, but it's worth repeating:

***"When we try to pick out anything by itself, we find it hitched to everything else in the Universe."***

Are native plant enthusiasts asking us to plant a garden with nothing but natives? Growing food is a more immediate priority for me than pleasing the hoverflies, and I enjoy foreign plant guests in the garden. Our goal is to have 70% of our land be in natives, (Doug Tallamy's suggestion) which leaves lots of space for food and exotics. However, it's not a question of natives OR food—they work together. How can natives enhance your food



Red Admiral Butterfly on *verbena bonariensis*

production? While the pollinators are busy with the thimbleberry flowers, likely they will notice the flowers on your peas or pears and fertilize them too. And when the birds are drawn to the insects they find munching on nearby nettles or arbutus, they may also stop and pick a few from your lettuce. Even the hummingbirds will glean tiny insects like aphids.

Although caterpillars may only be able to eat a couple or just one plant species, the bees and butterflies can forage on a wider variety of flowers, including some imports. When the ceanothus is buzzing in the spring the bees are happy, even though it is a native from further south.

Lots of our veggies and herbs, like the umbelliferaes, (parsley, fennel, celery, cilantro) the alliums (leeks garlic onions) and the brassicas (kales, broccoli, mustards) all have flowers that can feed the insects. Just leave a few to flower. Others, like marigolds or sweet alyssum, can be tucked in next to food crops.

The easiest way to grow natives is to not do anything, other than put up a fence. The seed bank is incredibly long lasting, and the birds will deliver fruit seeds by air mail. You'll be amazed by which plants will appear. You may have to do some weeding to edit out the vigorous non-natives like thistles and Himalayan blackberries, but the rest will happen on its own.

The Xerces Society website has lots of information on native invertebrates, including a list of plant species in our area which benefit pollinators. The books of Doug

Tallamy are fantastic reading. VIRL has *Bringing Nature Home* and *Nature's Best Hope*, both fascinating reads. Then I just received another new book, *Garden Allies The Insects, Birds and other Animals that Keep Your Garden Beautiful and Thriving*, by Frédérique Lavoipierre. It explores the garden community from the microbial level to the vertebrates. Beautiful drawings too! Hope you check them out!

Wendy Schneible

Here are some plants to encourage and benefit birdlife. Some you can grow in your garden, and others are the natives that we can let live – or even fence to protect them from the browsers (deer and sheep) which are unfortunately eating many of these plants and tree seedlings – especially in the south end!

**Native trees and shrubs that provide both food and shelter, as well as add attractive interest to your landscape:**

**Birds love the fruit on these native trees:**

dogwoods *Amelanchier* *Cornus* species:  
 bunchberry *C. canadensis*,  
 pacific dogwood *C. nultali*, red twig *C. Stolonifera*,  
 osoberry/indian plum *Oemleria cerasiformis*,  
 pacific madrone *Arbutus menziesii*,  
 hawthorn *Crataegus douglasii*,  
 red elder *Sambucus racemose*,  
 pacific crabapple *Malus fusca*,  
 service berry or saskatoon *Frugivorus*.

**Trees and shrubs for seed eating birds:**

ocean spray *Holodiscus discolor*,  
 red alder *Alnus rubra*,  
 mock orange *Philadelphus lewisii*.

**Perennial and annual plants that provide abundant seed when you allow them to remain uncut into the winter:**

sunflowers *Helianthus* species,  
 echinacea *Rudbeckia* species,  
 cosmos *Coreopsis*.

**plants birds like for both flower and fruit:**

honeysuckles *Loniceria* species,  
 hardy fuchsia *Fuchsia Magellanica*.  
 flowering current *Ribes sanguine*,  
 salmon berry *Rubus spectabilis*,



hover fly on fennel flower *Surphus*  
 Photo Wendy Schneible



mating hover flies in Simmah's  
 garden Photo Heather Crawford

**Other native shrubs and trees that provide food for birds and insects;**

willows *Salix* species,  
 nootka rose *Rosa nutkana*,  
 huckleberry *Vaccinium parvifolium*,  
 gooseberry *Ribes divaracatum*,  
 blackberry and native brambles *Rubus* species,  
 camas *Camassia quamash* and *leichlinii*,  
 nettles *Urtica dioica*,  
 fireweed *Epilobium angustifolium*,  
 pearly everlasting *Anaphalis margaritacea*.

**Many imported exotics have become favoured food sources:**

Cotoneaster species  
 Pyracantha species,  
 mountain ash *Sorbus aucuparia*,  
 virginia creeper *Parthenocissus quinquefolia*.

**Plants attracting caterpillars:**

goldenrod *Solidago*,  
 sunflowers *Helianthus*,  
 strawberry *Fragaria*,  
 rose mallow *Hibiscus*,  
 Joe Pye weed *Eupatorium*,  
 lupine *Lupinus*

We can help protect habitat for insects, birds and other pollinators. 85% of flowering plants depend on them. A third of our own food crop depend on these pollinators, and 24% of birds and mammals depend on plants' fruit and seeds. (Source Linda Gilkeson – "Where have all the insects Gone?")



# Bee Talk

by Linda Gilkeson



Where are the bees? Several people have noted how few bees seem to be around (and others have noticed how few butterflies there are...). There are several reasons for this, starting with the sad fact that insect populations of all kinds have been decreasing worldwide for decades. *Estimates are that we have lost 60% or more of total biomass of insects.* For causes of insect decline and what you can do to help reverse the trend, see a pdf of my talk, "Where Have All the Insects

Gone" <http://www.lindagilkeson.ca/pdf/Where%20Have%20Insects%20Gone%202022%20web.pdf>

There are also periods when bees temporarily disappear because they are visiting flowers up in trees, such as maple or arbutus/madrone. Or they are away in the bush, visiting oceanspray, blackberries, or snowberry, where they are less likely to be seen. When those flowers fade, bees move back to foraging in gardens and crops where they are more visible. Another reason for seeing fewer bees at this time of year is that many species of native bees are only active as adults in the spring anyway. If you are familiar with mason bees/blue orchard bees, you know the adult bees all die off in late May, having built nests, fetched pollen and laid all their eggs. The bee larvae remain for the rest of the year developing safely inside

their cocoons in the nest; they spend the winter there and new adult bees emerge in early spring.

There are some bees, such as bumblebees and leafcutter bees, that are active from early spring to fall. In late summer/early fall, a colony of bumble bees produces new queens. The queens mate, then all but the queens die off. Queens that survive winter go on singlehandedly to start new colonies in the spring. If you ever

wondered why bumble bees look so big in the spring, it is because what we see first are queens. For bumble bees and others present all season, access to pollen and nectar for the entire summer is essential for the colony to survive long enough to produce queens for next year's colonies.

In our region with very dry summers there are few plants in bloom to keep them going (and browsing by deer (*and sheep*) has eliminated a lot of understory native plants that could have fed bees). It is estimated that about half of bumble bee colonies in the Lower Mainland starve to death over the summer.

To fill this gap in bee forage, do what you can to grow flowers that bloom in late summer and into the fall: goldenrod and Douglas aster are two of the very best perenni-

als, benefiting many pollinators. Others: nodding onion, clovers, Shasta daisies, black-eyed Susans, Sedum, pearly everlasting, penstemons. For lots more information on native bees, see: Simon Fraser University Pollination Ecology lab: [https://www.sfu.ca/people/eelle/bee\\_info.html](https://www.sfu.ca/people/eelle/bee_info.html) and Pollinator Partnership Canada: <https://pollinatorpartnership.ca/en/>



Above: Bumblebee *Bombus vosnesenskii* on apple blossom

Left: Leafcutter Bee on goldenrod



# Something Fishy

by Norm Stacey

If you had placed a hydrophone (underwater microphone) in Lasqueti's intertidal waters this summer, you might have heard a loud humming that Californian houseboaters at one time attributed to secret military activity or aliens. This humming actually has a much more interesting origin - it's the male courtship song of the plainfin midshipman *Porichthys notatus* and you can listen to it here: <https://ocr.org/sounds/midshipman/>

The midshipman is common around Lasqueti and gets its name from the rows of light organs or photophores in their skin that resemble the buttons on a navy uniform. Large males prepare nest cavities in rocky areas. They then rapidly contract sonic muscles, which are attached to the swim bladder, to create the humming vocalizations that attract ripe females to spawn. Once the eggs are attached to the nest ceiling, the female leaves and the male defends the eggs and young until they are old enough to leave the nest.

In addition to these large (Type I) males who hum and guard the nest, there are smaller but sexually mature (Type II) males who don't grow as big, don't hum, and don't defend nests or young. Instead, they display an alternative mating tactic, either sneaking into a guarded nest when a female enters, or covertly wafting sperm into a nest as the female spawns. These small Type II males have testes that are proportionately far bigger than those of the large males, an obvious adaptation for this form of cuckoldry. Having two types of males in one species is termed diandry and likely has evolved in midshipman because good nest sites - and therefore spawning opportunities for Type I males - are limited.

Diandry is not unique to midshipman but found in numerous fishes. For example, both Pacific and Atlantic salmon typically have both large, aggressive 'hooknose' males that defend nest-building females, and smaller sneaker males that rush in when the hooknose male



Midshipman: Photos - from INaturalist Alex Heyman



and female are spawning. The most obvious of the sneakers are the small jacks that return from sea one or more years before the hooknoses. But much less well known are the sneaker males that mature precociously when they are just parr,

the freshwater stage in the salmon life cycle before they go to sea; the precocious parr never go to sea and attempt to spawn with returning females when they are only a small fraction of the size of their sea-run hooknose competitors.

Having more than one type of reproductive male is just one example of fish reproductive diversity. Although most fish are egg laying or oviparous, a surprising number give birth to live young, with a spectrum of reproductive adaptations in between. At one extreme are fish like herring *Clupea harengus pallasii*, sandlance *Ammodytes personatus*, and surf smelt *Hypomesus pretiosus* that simply lay unfertilized eggs, and at the other end of the spectrum are fish that nurture their young internally. Some have very long pregnancies, such as the local dogfish *Squalus suckleyi* which gives birth after 23 months of gestation. The shiner perch *Cymatogaster aggregata*, which are numerous under the False Bay dock, give birth to young that are already sexually mature. Between these extremes are internally fertilizing fish like the skates that lay fertilized but undeveloped eggs and the rockfishes that retain their eggs until hatching but don't nourish their larval young.

Perhaps the most fascinating aspect of fish reproductive diversity is hermaphroditism - being able to reproduce as both a male and a female during an individual's lifetime. Some fish are simultaneous hermaphrodites, meaning that both genders are functional at the same time, and in a few cases they can even self-fertilize. But the majority are sequential hermaphrodites—either protogynous (first female, then becoming male) or protandrous (first male, then becoming female). These types of hermaphroditism tend to evolve when there is a clear reproductive advantage to being either male or female.

Protogyny (female first) occurs in many marine species in which a large male is able to control spawning access to a harem of females. Here, females are guaranteed to spawn regardless of their size. The large male has huge reproductive success, but small males—if they existed—would be prevented from spawning. Presence of the large male (which began life as a female) maintains the social structure. If he dies, or is removed experimentally, the largest female in the harem can adopt male coloration and behavior within hours and, within a few weeks, becomes a fully functional male.

The blackeye goby *Rhinogobiops nicholsii*, common in Lasqueti's subtidal area, is a protogynous hermaphrodite. All blackeyes initially mature as females and only the largest dominant females ever become males. This system likely is an adaptation to the scarcity of good nesting sites which, as with midshipman, are defended by the male.

The classic example of protandric (male first) fish are the 30 species of clownfish (Amphiprion species: think 'Nemo'). Anemones will host a breeding clownfish pair as well as several juvenile males. The largest clownfish of the pair is always female because egg production, which determines the reproductive success of the pair, increases with female body size. If the female is removed, the mature male quickly becomes a female and the largest juvenile male becomes sexually mature. So, in Nemo's case, removing his mother would allow his father to change sex to a female and Nemo to grow up and spawn with his former father (who is now his mother).

In black-eyed gobies and clownfish, sex change is unidirectional and permanent. Other types of hermaphroditic fish can change in either direction, and may change many times. As with the clownfish, some

Japanese gobies associate as breeding pairs with anemones. However, if you add a goby pair of any size/gender combination to an anemone, you always end up with a large female and a small male.

So next time you're out in the boat, remember that below are some of the gold medal winners for vertebrate reproductive innovation. And also consider that Orcas and other vocal whales aren't the only ones affected by our boat noises. Research published this year found that even the sound of an outboard motor caused the midshipmen in Brentwood Bay to change their courtship humming.



Above: Shiner Perch Photo by Bethany Weeks

Below schematic figure by Andy Bass (Cornell University)

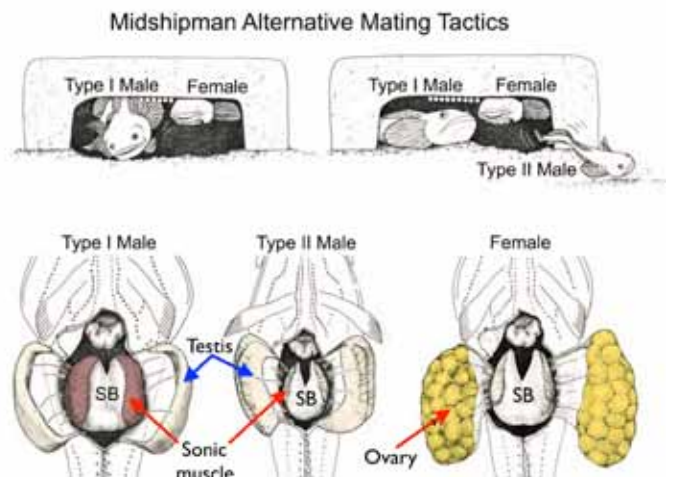


Figure legend. The plainfin midshipman has two kinds of male. Type I males prepare spawning nests, call to females, and defend eggs and young. Smaller Type II males attempt to fertilize eggs when the Type I male and female are spawning. Type II males (like females) lack the highly developed sonic muscles of Type I males but have proportionately larger testes than Type I males. SB = swim bladder. Reprinted from *Hormones & Behavior* (2024) 161, 105507 with permission from AH Bass.

# Invasive Species

## European Green Crab

Adapted by Anna Smith from Andy Lamb's  
ThINC article "Coming to a Neighbourhood  
Near You: European Green Crab"

Terrestrial invasive species are very familiar to Lasqueti Islanders. Scotch broom, bullfrogs, spurge, and Himalayan blackberry are just some of the many invaders that have found our island to be very much to their liking. Over the years, efforts to eradicate or even just control the spread of invasive species has been a focus for folks concerned about the fate of native plants and animals negatively impacted by these invaders. While some are worse than others, only determined and ongoing effort is likely to be successful even for small, defined areas.

The marine environment surrounding Lasqueti Island is also subjected to colonization by many foreign and often undesirable species such as Sargassum algae, varnish clams, the Japanese mud snail, various species of tunicates, and the Pacific oyster. The marine environment also poses a much more difficult setting for the control and eradication of invasive species, as simply detecting and reaching these organisms underwater is a barrier for most islanders. This challenge is further compounded by the fact that many of these organisms release their young into the plankton, where they drift freely from location to location. The European green crab is one such invader and is soon very likely to be encountered in the shallow bays and beaches of Lasqueti Island.

This invasive crustacean, scientifically called *Carcinus maenas* (which translates to "raving mad crab"), has had a long slow journey to our neighbourhood. It first appeared on the West coast of North America, at San Francisco Bay, in 1989. It arrived from the East coast of North America where it had previously gained a foot hold after hitchhiking in the ballast water of ships



European Green Crab Photo by Greg Jensen

arriving from Europe. This crab has steadily marched along both coasts expanding its territory through planktonic dispersion and accidental human introduction from boat users and contaminated seaweed used to pack fresh seafood such as oysters.

The European green crab is readily recognizable but is by no means the only green coloured crab on our coast. It

has five spines on either side of its carapace (shell that forms the "back" of the crab) next to each eye together with three rounded "bumps" between the eyes. The adult carapace (up to 10 cm across) is dark green mottled with yellow. Juvenile colouration is much more variable.

Its steady advance from California to British Columbia is a result of several important factors. It is very adaptable and can live in various shallow habitats with a wide variety of temperatures and salinities. Adult females can produce up to 185,000 eggs once or twice a year. Upon hatching, the planktonic larvae readily drift with the ocean currents and can easily settle in new areas. Climate change, shifting ocean currents, and warming ocean temperatures also enable the European green crab to infiltrate additional territories and out compete native species.

Although it had "traveled" up the outside of Vancouver Island earlier, it was not until 2016 that the European green crab was documented in the Salish Sea. First found in Wescott Bay, San Juan Island, this invader was soon collected in Boundary Bay, Burgoyne Bay, Saltspring Island, and Ladysmith Harbour. Finally, a specimen was found at Penelakut Spit last year.

This crab has been able to adapt and thrive in foreign territory literally around the world. Shallow, sandy/



Marine Island, now owned by BC Parks Foundation photo Gordon Scott



## Ten acre Marine Island protected

*(adapted from BC Parks Media release)*

Just offshore from Lasqueti Island's north end lies Marine Island—what a gem!

“There’s so many things about this island that make it distinct,” says Dr. Ken Lertzman, Professor Emeritus, School of Resource Management, Simon Fraser University. “Normally in this area, you have either old growth or a younger forest that has come back after logging. But the forest on Marine Island is intermediate between those two. There is little evidence to suggest it’s been logged, but it hasn’t yet developed true old growth character. It has beautiful mature Douglas-fir and Western Redcedar that is well on its way to becoming old growth.”

The shoreline geology is also unique, with beautiful complex rock formations. The south and western sides of the island are surrounded by extensive mud flats and sensitive eelgrass beds—home to diverse intertidal species

“Initial archaeological observations have found evidence of a midden with a house platform,” says Dr. Lertzman. “Analyses are being conducted to determine its age.”

The property has had several private owners over the last half century, including the American singer Boz Scaggs, who owned the property in the 1970’s. More recently it was purchased at appraised market value from Brian Ford, who kept it in its natural state. It remains a safe haven for potential species at risk, including two bat species, the Marbled Murrelet and the Sharp-tailed snake.

The BC Parks Foundation is currently developing a long-term management plan for the island and will be talking to LINC, First Nations, neighbours, and others. The island is private and closed to public visitation until a formal plan is in place. You may see LINC members conducting surveys and other stewardship activities there. If you would like to join them, you can contact LINC at [linc@lasqueti.ca](mailto:linc@lasqueti.ca).

### Green Crab - continued from page 6

muddy bays and inlets with marine algae and sea-grasses supply its “happy places”. They are often found in the upper intertidal zone in shallow bays with freshwater input but can move to deeper habitats once successfully established. They have been able to adapt and feed on a wide variety of naïve prey, while avoiding potential predators that are unfamiliar with them. On a positive note, the European green crab is highly cannibalistic which should aid in control efforts.

These factors have major impacts on ecology and fisheries throughout the regions the European green crab has invaded. Important commercial species of clams, oysters and crabs have been significantly impacted. The European green crab preys particularly on juveniles of such species. In addition, it often up-roots eelgrass plants resulting in large scale destruction of critical rearing habitat for variety of species including salmon and rockfish.

How the European green crab will affect Lasqueti Island’s marine ecology is uncertain but you can do your part to help reduce its impact and track its movement across the Salish Sea. It is important, however, to keep in mind that there are species of native crabs that are green, so please do not collect or kill any old green coloured crab! If you find a crab that you think might be this invader you can report your find to DFO by emailing [EAEPacific.MPO@dfo-mpo.gc.ca](mailto:EAEPacific.MPO@dfo-mpo.gc.ca) with pictures of the crab, the exact GPS location, the date you found it, and any identifying features. You can also call or text Anna Smith and she will get back to you as soon as possible about the identity of your suspect crab.

# Mt. Trematon Biodiversity Study

by Duane West



Right: Trematon—inside the fence from outside. The richest herb and shrub community inside the plot.

Above left: Ocean spray outside the enclosure showing browsing.

Above right: Ocean spray inside the enclosure. Three years ago it

It's been three growing seasons since the Mount Trematon Nature Reserve enclosure was completed in the late fall of 2021. In that time a selection of native shrubs that were planted have established themselves and are thriving.

Watered the first two summers regularly, and last summer enough to weather the dry months, the survival rate inside the enclosure was close to 100%. Outside the enclosure where the plants received the same treatment, only a few Evergreen huckleberry *Vaccinium ovatum* are hanging on from the plantings.

What is even more impressive is how the native vegetation inside the fence has responded. Ocean spray *Holodiscus discolor* has shown explosive regeneration from the root crowns. Species like Serviceberry *Amelanchier alnifolia*, that are native to the site but were not included in the replanting group, have sprouted and will take their place in the revived shrub community.

Since the Mount Trematon enclosure was built, wind downed trees which have breached the fence and deer were into the enclosure almost immediately. Each time, the deer were quickly assisted out and the fence restored. As a preventative measure, dead and dying alders along the fence were removed.

Any fenced enclosure comes with the obligation to maintain it and ensure it's working for its intended purpose. The extensive enclosure fence built decades ago in the Lasqueti Ecological Reserve has been breached many times and many places. Built to protect Seaside juniper *Juniperus maritima* regeneration inside has failed. The fence in Squitty Bay Provincial Park while in good condition has also been rendered ineffective by sheep bypassing the end of the fence at low tides.

This fall an additional area will be added to the Mount Trematon enclosure. Just to the northwest is a rich area of native vegetation not represented in the existing enclosure. Partially floodplain, the area includes a lush area of deer fern and an area of salal. These areas are currently being degraded by browsers (deer and sheep), but they hold strong potential for natural recovery once fenced. The new enclosure is being funded by the Islands Trust Conservancy with volunteer labour coordinated by LINC.

If you are in the Mount Trematon Nature Reserve area, make a point of checking out the enclosure. Walking along any section of the fence will give you the opportunity to observe the difference in the plant communities inside the fence. Focus at the ground level and the shrubs. Witness the result of three years' relief from browsing and grazing on the forest.



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## Holly Haul

by James Schwartz



Many hands make light work. On Sunday, September 29th, a small group of valiant volunteers tackled the prickly problem of invading holly on the Point Young Conservation property. Preventing invasive species from gaining a strong hold on conservation properties allows the indigenous vegetation to regenerate and thrive. Relatively large areas of undeveloped land in the Coastal Douglas fir zone have become rare. We are fortunate here on Lasqueti to have such an area of protected land for us and future generations to enjoy.

Thank you to Jodi, Martha and Bill, Hilary, Anna Dodds, Danat, Wendy and Bruce and James for pulling, digging and when necessary sawing out hundreds of the young trees, virtually eliminating holly from this piece of land. A delicious lunch was provided by Ian Rusconi. Some follow up by LINC will be necessary to keep this property free from further invasion.

The Invasive Species Council of BC writes:

“English holly berries are toxic to humans and pets. English holly has become a serious invasive because of its adaptability to grow in shade or sun, and how easy its seeds are spread by birds. It will crowd out native species as well as monopolize groundwater.

LOCAL ARTIST RONALDO NORDEN has generously donated his time and skill to create a unique art piece for LINC’s upcoming year-end fund raiser. Starting with his sketching of the lake at the John Osland Nature Reserve, Ronaldo has transferred his image onto metal, employing an ancient method of etching using acid washes. Then, using the 16th



century style printing press at his island studio, he and his assistants will hand print each impression of this limited edition. These prints are 5 3/4” x 3 1/2” on French cotton rag paper. Numbered and signed, these art works will be put up for sale by LINC with all profits going to the nature conservancy’s projects. Once readied for marketing, LINC plans to have a short film documenting the artist and his print methods on our newly improved website, [linc.lasqueti.ca](http://linc.lasqueti.ca)

# Salish Sea Clean up Crew (The Salish Shes)



Some of the rugged Salish Shes stopping between beaches after adding to their storage pile at Squitty Bay. Photos Sheila Harrington

The Salish Shes, plus Mark Bottomley, have spent 14 days this fall cleaning up waste from the beaches. They went to Nelson Island, Thormanby (in the park, which Marks says was really bad), the east side of Texada, a third the way up and the south end of Lasqueti and surrounding islands. They covered a lot of area. On Lasqueti itself, the crew reported that the areas they've been going to for 4-5 years were pretty clean, but new beaches were inundated with garbage. The biggest challenge is the ground up Styrofoam, which is becoming part of the ground working its way up the beaches and into the surrounding forest very deep. Mark suggested that most of it is coming from docks and commercial aquaculture.

*Styrofoam® has long been used by the Aquaculture Industry to provide lightweight inexpensive flotation. Unfortunately the sun and the brine have been breaking it down into microscopic inorganic particles dispersed by wind and tides. Studies by Captain Charles Moore and the Algalita Foundation found that even in the middle of the Pacific Ocean, plastic nodules have been found to outweigh plankton by a ratio of six to one. Unending amounts of plastic pellets wash onto beaches worldwide, one beach in New Zealand was found to contain over 100,000 pellets per square meter - all of which are contaminating marine life and the human food chain.<sup>1</sup>*

*"By 1986, styrene was found in 100 percent of all samples of human fat tissue taken as part of a U.S. Environmental Protection Agency (EPA) Human Tissue Survey. Researchers found that Styrofoam® cups lose weight when in use, meaning that styrene is oozing into the foods and drinks we consume. It then ends up stored in our fatty tissue, where it can build up to levels that can cause fatigue, nervousness, difficulty sleeping, blood abnormalities, and even carcinogenic effects."<sup>2</sup>*

Thankfully, by 2023 new regulations for commercial aquaculture require that all exposed foam be removed and that new foam must be fully encased in a rigid, durable, non-toxic shell.<sup>3</sup>

1 Canadian Aquaculture Styrofoam-Encasement, Final Report, Bee Islets Growers Corporation, (Cortes Island) AIMAP 2012-P02

2 (source: <http://www.greenhome.com/info/news/41.shtml>)

3 <https://www.pac.dfo-mpo.gc.ca/aquaculture/licence-permis/docs/licence-cond-permis-shell-coq/index-eng.html>

Prior to this Ocean Legacy funded work, Peter Dietsch, Donald Gordon, and David Eugster coordinated other dedicated volunteers. Although this currently funded project has been on-going for four years, Mark suggested it may not continue in the future. Contact our MLA (currently Adam Walker) and/or the Regional District to tell them to keep funding this, as the problem is not going away.

This year the team is trying to cut back on the amount of material slated for the landfill, reduce transportation costs and offer intact and useful items to the local community. Anna Smith contributed this news:

"The Salish Shes greatly appreciated the support from the community with their new reuse and repurposing project this year. We were able to divert approximately 160 kg worth of found items to new owners in the community! The most popular items were boat bumpers, scotchman buoys, rope, aquaculture trays, gas cans, and barrels. There were some creative minds out there with plans to turn plastic mesh and aquaculture trays into herb and nut drying racks, rope into chairs, hard plastic sheets into playhouse roofs, and barrels into large plant pots. There was a whole array of useful items found with tennis balls, small foam floats, and aquaculture trays being the most common. Many of these items would have been relegated to the garbage dump, as only some things can be feasibly recycled by the Ocean Legacy Foundation. The Salish Shes hope to continue this project again next year and look forward to seeing what uses Lasqueti's weird and wonderful minds can come up with for the next crop of ocean treasures."

# High Tide

The harbour seemed 'messy' yesterday morning. All was calm but I felt unsettled looking out at the sea. Overcast skies created a flat greasy surface on the water. On this background, the many pieces of driftwood scattered about stood out, obvious and distracting. They appeared 'out of place' in the serene scene. This flotsom and jetsam had been unsettled during the night by a very high tide, gently floating debris away from places it had been deposited by storms during the winter.

Today is brighter and some of the debris has disappeared, floating with the currents, so the water surface is beginning to clear. The beach feels cleaner and livelier.

This is also true of ourselves; so much like our minds. Stormy emotion throws debris up on the dry shores of our mind and into tight spots in our bodies where daily currents of thought cannot reach. There it stays, until a calm tide of love sweeps up under it, gently dislodging the clutter and allowing it to enter the streams of consciousness, to be re-distributed in the flow of life.

poem by Shelley Easthope of Pender Island in her book, *Reflections of Medicine Beach*.



Medicine Beach, Pender Island, photo Sheila Harrington

"There's hope," says author and conservationist Rob Butler, who worked for decades as a biologist for the Canadian Wildlife Service. "If you just give things a break, species will come back."



healthy kelp beds Photo Shari White

Butler is one of eight scientists contributing to a nature and wildlife art exhibition with the word hope in the title. **The show is called *Drawing Connections: 40 Years of Art and Hope for the Salish Sea. It's open to the end of the year in Sidney, near the Swartz Bay ferry terminal on Vancouver Island.***

Here are the species featured in this exhibition in Sidney:

Bald Eagles, (hunting and killing for parts, DDT) Peregrine Falcons, (DDT) Trumpeter Swans (hunted and protected habitat) Sea Otters (hunted to near extinction, 1969 Canadian and U.S. biologists captured 89 sea otters in Alaska and flew them to Checleset Bay on the remote northwest coast of Vancouver Island. Humpbacks (hunted, now 800) Marmots, lost habitat (their ancestors were bred in captivity in intensive recovery programs, then released – now 316) Red-tailed Hawks (trapped and hunted) elephant seals hunted (when made illegal 45 – now 250,000)

It's wonderful to see some positive action and increased awareness that other species beyond the human have intrinsic rights.

BC and federal government goals for habitat protection: 30% x 2030

LINC's goal in its 2022–26 Strategic Plan is to protect 15–20% of Lasqueti and surrounding islands, a 100% increase from 2022.

# Seen In Passing



earth star mushroom seen by a trail to the Schumack land  
*photo Terry Theiss*



shaggy scalycap, *Pholiota squarrosa*, not considered edible  
*photo James Schwartz*



Red Admiral Butterfly  
*photo James Schwartz*



moon jellies under the False Bay dock in early October, *photo by Bruce Beales*, part of the family who own Lindberg island



nighthawk nestling  
*photo Doane Grinell*



leafcutter bee on flower  
*Photo Linda Gilkeson*



Do you want to support conservation and stewardship on Lasqueti?  
Contact [linc@lasqueti.ca](mailto:linc@lasqueti.ca) for further information

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