



linking people to nature on Lasqueti and surrounding islands

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We've got Bats! By Sheila Ray

This summer LINC joined The BC Community Bat Project, an organization funded by the Habitat Conservation Trust Foundation and the Habitat Stewardship Program, in partnership with the B.C. Ministry of the Environment. They are a network of concerned people and organizations dedicated to learning about and conserving bat populations in BC. As part of this project we spent three evenings counting bats as they emerged from the cedar shake roof of a house here on Lasqueti. It was truly awe inspiring to watch over two hundred bats leave their roost and begin their nighttime feeding. This was a bat nursery and these were female bats with their newly fledged pups.

Female bats gather in maternity colonies in early summer, where they give birth to one pup and remain until the pup is able to fly. Some species of bats have adapted to live in human structures, and colonies may be found under roofs or siding, or in attics, barns, or other buildings.

Bats are more often seen in summer. "In July and August, pups are learning to fly, and their early efforts may land them in locations where they are more likely to come in contact with humans", says Mandy Kellner, biologist and coordinator with the BC Community Bat Project.

If you find a dead bat, or one in your house, you should only touch it with gloves. Bats in BC have very low levels of rabies infections, but any risk of transmission should not be treated lightly. Contact a doctor or veterinarian if a person or pet could have come into direct contact (bitten, scratched etc.) with a bat.

"There are more deaths annually from dogs and bee stings than from bats." Some people feel having bats share their house is beneficial, especially for insect control. Others may

prefer to exclude the bats. Under the BC *Wildlife Act* it is illegal to exterminate or harm bats, and exclusion can only be done in the fall and winter after it is determined that the bats are no longer in the building.

BC's Bat Species and their threats

There are 16 species of bats in BC (17 if you count the one record of a Big Free-tailed bat that washed up in New Westminster in 1938), but not all of them occur in all parts of the province. There is still a great deal to learn about bats in British Columbia; with increased survey effort and better identification tools our understanding of bat species distribution may change. Do take photos of bats if you see them. The Pallid Bat (Threatened), Spotted Bat (Threatened) Little Brown Myotis (Endangered) and Northern Myotis (Endangered) have been listed under the federal Species at Risk.



Quoted information and photo

"There are many threats to these amazing creatures of the night including habitat loss, intentional extermination (which is illegal under the B.C. Wildlife Act), wind farm development, and most recently, White Nose Syndrome. Basically, bats need all the help they can get.

White-nose syndrome (WNS) is a devastating fungus that is killing millions of little brown bats in eastern Canada and US. It attacks bats during hibernation and is easily spread through the cave or mine. It is estimated that approximately 6 million bats have died. Experts predict that the common little brown bat will be extirpated from much of eastern North America by 2026. Luckily, this disease is not yet in BC, although it was reported in Washington State this year.

Habitat loss is putting pressure on bat populations. Bats require summer roosting habitat (such as large trees, caves, or cliffs), winter hibernation sites, and a good source of insects (like wetlands), all of which are impacted by human activities. Other factors such as human persecution and extermination, house cat predators, and pesticides impact their populations.

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Forage Fish Matters Microplastics and forage fish by Connie Haist

I remember when I bought my first polar fleece jacket in about 1990. I felt so happy to know that I was supporting the recycling movement by purchasing this fabric spun from used plastic pop bottles. However, in 2015, I was horrified to see the results of the water analysis from samples taken right here in False Bay I had sent in as part of a Microplastics Investigation Project. They showed, on average, 2 pieces of microplastic filaments per litre of water analyzed. One possible source was polar fleece (polypropylene) or other synthetic clothing (polyester, nylon, acrylic) filaments washed into the sea from human waste water. Whether it's our tarps, shedding tiny plastic bits until they feel like well worn fabric, our plastic garden covers and plant pots, our fraying synthetic ropes, floats breaking up into styrofoam bits or our wash water discharge, life on Lasqueti seems to demand that we participate in creating microplastics. The numbers are interesting to look at. From the north Salish Sea, they found 2 pieces of microplastic per litre of sea water; down in Squamish, they found a whopping 20 pieces of microplastic per litre!

Another culprit, plastic microbeads, have in recent years been purposefully produced and sold in such diverse products as tooth paste, skin scrubs, medications and industrial sand blasting products. Thankfully, the Canadian, American and some other governments have declared plastic microbeads to be toxic substances and are taking steps to phase out their inclusion in personal use products over the next 3 years. Until then, they will continue to be flushed into our waste waters, rivers and oceans.

Unfortunately, banning the production and use of plastic microbeads will not solve the problem of plastic trash, which continues to enter the marine environment. In addition to bits shedding from our clothing, much microplastic comes from larger pieces of plastic trash: remember those ocean gyres of plastic, slowly breaking down by sunlight and mechanical wear, creating ever smaller fragments of plastic which eventually becomes invisible, but still very present in the water column. Researchers have estimated that for every kilogram of plankton in the Pacific gyre, there are 6 kilograms of plastic.

We humans keep adding to the gyres and the oceans' burden. Aquaculture, fishing, boat yards, marinas, sewage treatment plants, grey water disposal systems, landfills and industrial plastics manufacturing are all direct sources of marine plastic. Even our inland urban centres are huge sources of marine trash delivered by our rivers and on the wind. Worldwide estimates are that one trillion plastic bags alone are used each year requiring 100 million barrels of oil! Global production of plastic increases by about 9% per year. In 2012, 288 million metric tons of plastic were produced worldwide. About 10% of municipal waste is plastic and 10% of all this plastic trash ends up in the ocean. This does not include those plastic microbeads which, until recently, were completely unknown and still remain unaccounted for.

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Guillaume Bickford and his barge, helping out with Lasqueti Styrofoam Day

Clean up of South End Beaches

Thanks to LSD-Lasqueti Styrofoam Day- some of our South End beaches can breathe a sigh of relief. Fingers of the South End coves collect what blows in on the winter winds, and much of that is styrofoam. Some of the beaches were deep with the white stuff! In just a few hours volunteers scoured the beaches from Tahini Bay to Point Young and filled 15 of those giant feed bags. The bags were then barged off-island and driven to a transfer station.

Organized by Dave Eugster and Peter Deitsche, they hope to make this an annual event encompassing more of the island's beaches. Many helped out with almost 30 people on-island, and a few people on the Parksville side who helped with feed bags.

Across the country there is momentum to get rid of garbage in our waterways. Though Peter and Dave acted independently, there is a project called the Great Canadian Shoreline Cleanup cosponsored by the Vancouver aquarium and WWF Canada. They are targeting lakes and rivers, and even storm sewers, as well as the oceans. Plastics continue to breakdown into microscopic particles that act like magnets, attracting pollutants and toxic chemicals. These particles can then be ingested by animals and lodge in their tissues. Research is showing that these toxins accumulate and can have negative effects on the organisms' health. So these days I have a different attitude about garbage: it might not have been mine to begin with, but now it's mine to pick up. **by Wendy Schneible**

Microplastics - continued

There are consequences to all of this plastic entering our marine environment. Plastic bags undulate like jellyfish, and tiny microplastic filaments look like plankton; marine creatures confuse this floating plastic with food. Breaking down, plastics release loose monomers which are toxic in themselves. They also contain toxic chemicals from the manufacturing process that leach into the water column and into the animals who ingest it.

The numbers are mind numbing. Floating plastic causes entanglement, digestive tract blockages and toxicity to one million seabirds which are killed each year. Hundreds of thousands of sea turtles, whales and other animals die. Estimates by the Scripps Institute of Oceanography (U. California) are that fish eat about 12,000 - 24,000 tons of plastic each year in the Pacific ocean alone. Microplastics are also eaten by filter feeders such as oysters, clams and mussels - would you like a little 'Polar Fleece' with your sushi?

Zooplankton also eat phytoplankton and inadvertently, microplastics. Now, remember our little forage fish that spawn from November until March here on our Lasqueti Island beaches. Surf smelt and Pacific sand lance eat plankton, and they can't tell the difference between real food and those microplastic filaments (2 per litre in False Bay) that are the same size as the phytoplankton naturally in their diet. They also eat the secondhand microplastics that have been ingested by the zooplankton, their other favourite food. Recent studies on forage fish in Europe have shown the detrimental affects that ingesting styrofoam micro-bits has on these species. It affects all stages of life for these forage fish and results in poor reproduction for those that survive. Then, up the food chain it goes. Yes, if you eat fish you are probably ingesting the toxins contained in plastic.

So, kudos to those who have helped to clean up our Lasqueti Island beaches this past summer and to those who just bend over and pick up plastic trash. Congratulations to those who search out and use alternatives to synthetics in their clothing and plastics in their daily life. Dare to imagine a plastic free island. Bellingham has banned plastic bags! The future is in our hands!

Citations are available on request. Connie Haist, a member of LINC and the Lasqueti Island Forage Fish Team (LIFFT)

Funding for this issue was generously provided by our members, donors and these fishy folks:



Osland Reserve with new Merganser nestboxes seen on our 2016 monitoring hike and a young Vulture photos C. Whiting



Bats - continued

Foraging habitat or areas where bats hunt for food may be eliminated or degraded as a result of draining wetlands, diverting waterways, eliminating ephemeral wet areas or reducing insect productivity.

Bats need three things: food, clean water and a safe roosting spot. By offering any of these things, you are creating bat habitat. Bat food in Canada consists of insects. Bats use aquatic features such as wetlands, ponds, channels, and rivers for drinking and foraging. Deciduous trees are important to bats not only as potential roost habitat, but also because of their role in production of invertebrate prey for bats. Maintaining continuous lines of forest or high shrubbery along riparian corridors as well as plant species diversity will provide good cover and a potential diverse invertebrate community. "

News about humpback whales in Salish Sea!

For the first time in over 100 years, humpbacks are returning to the Salish Sea in record numbers! Some are even stopping Orcas from killing their young and recently from killing a sea lion too! <http://tinyurl.com/jk79vwl>

To read a great report on the return of these giants and the state of whales in the Salish Sea and BC coast, read this article by Anne Murray, [Anne Murray: Big Mama and the return of the humpback whales to the Salish Sea, Georgia Strait, July 2015.](#)

Squitty Bay Day 2016 - Celebrating our Commons



Great weather, good food, fine music, friendly folks and a spectacular landscape all coalesced August 21st when Lasquetians gathered to celebrate our shared commons-Squitty Bay Provincial Marine Park. Sponsored by LINC, the event is designed to encourage exploration of the natural wonders of Squitty Bay and environs. And from all reports the day was a great success. Over 30 people ambled through knarly Coastal Douglas fir and juniper forests exploring the newest portions of the Park. Fifteen lucky sailors got a view of the intricate Lasqueti shoreline from the comfort of Craig Hardy's handsome cruiser. Though the water was cold, a few stout snorkelers did a quick underwater field trip in one of the park's many little pocket bays. Another group of hikers clambered to a magnificent view-point high above Squitty Bay while our local archeologist emphasized to a group of islanders the long history of human settlement in this place we now call home. Special thanks to James Schwartz, Jennifer McGown, Dana Leposky and Craig Hardy for volunteering to lead the field trips.

Of course it wasn't all work at Squitty Bay Day because it wouldn't be Lasqueti if we didn't have food and music to add to the mix. Tasty wraps from Bonnie Olesko and Anna DiFiore along with fresh corn on the cob prepared by Wendy Schneible kept everybody powered up throughout the day. Continuing a Squitty Bay Day tradition, Makeke Marimba topped off the wonderful celebration with driving rhythm and upbeat music culminating in a magical summer rain shower that anointed the revelers.

At the end of the day participants donated generously. LINC signed up 63 new and returning members and received over \$1,000.00 in cash

donations. Wow! A very big thank-you to our members, supporters, donors and everyone who came out and enjoyed a wonderful day at Squitty Bay.

Gordon Scott, President

Why conserve your land?

As population expands, we continue to fragment the Coastal Douglas fir forest (CDF), which we live in. The CDF is only found in .3% of B.C. 98% (42 of 43) of the ecological communities in the CDF are considered "at risk". Landowner's actions can help protect these areas - for our climate, bees, birds, and the many other species we depend on, and who depend on these habitats for their very lives!

If you are thinking about conserving either part or all of your land - now or after you pass into the next realm - there are many good options! If you own land that includes wetland, forest, or coastal bluff, you can protect it now for generations to come, or you can leave it in your Will to the Lasqueti Island Nature Conservancy.

Call us and we'll come visit and talk with you about options. There are many benefits to creating a Conservation Covenant on your land, and we'd be happy to talk with you about those options as well.

Donate to help nature on Lasqueti! LINC - 250-333-8754 or linc@lasqueti.ca

Top: Makeke Marimba and special guest Kurai Mubaiwa celebrate Squitty Bay

Below: Hikers with a Salish View, one of many tours that islanders and guests attended Aug 23 at Squitty Bay Day!

