LINC Lasqueti Island Nature Conservancy

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Cetaceans - From Beast to Beloved

by Fred DeNisco

Photos: top orcas, below humpback by Martin Wale, Saturna Island Marine Research and Education Society

Humpbacks, greys, minkes, orcas, and even sperm whales have existed in the Salish Sea for thousands of years—long before European settlers arrived on this land. Over the past 250 years, we have radically altered the landscape of these animals' ecosystems and their lives. While our early relationship with them was rooted in hunting and capture, the whales of the Salish Sea are now symbols of pride across our region.

The following section explores some of these changes for one of the most iconic species of our region, the killer whale.

Fred DeNisco is an educational creator out of Vancouver, BC focusing on connecting people to the Orcas in their local waters and around the world. He engages his audience with research, current events, and resources to connect people to the species physically. Fred encourages people to engage with their curiosity, explore the natural world, and get excited about this awe-inspiring species.

The Orcinus orca

1964 The director of the Vancouver Aquarium, Murray Newman, had an idea: to create a life-size model of a Killer Whale. At this point, the public understood the species to be a vicious killer that would tear you apart given the chance.

To accomplish his idea, Newman hired Samuel Burich and Josef Bauer to camp on the coast of Saturna Island and kill an orca to photograph it underwater. After months on the island, the two arose on the day they were set to depart and spotted a pod for the first time.

They manned the harpoon at the end of the cliff, aimed for the smallest whale in the pod, and connected. The orcas began circling and engaging with the injured whale. For the two men, this could only mean one thing: the pod was going to eat the small whale, and their efforts had been wasted. They couldn't have been more wrong.

Bauer and Burich soon realized that the animals were trying to help the injured one. This behavior went against everything the western world thought about

orcas up until this point. Word began to spread around the island, and residents arrived at the coast—armed.

One man took a vessel out to act as a barrier between the armed residents and the whales, while the other called Newman, describing the unprecedented behavior. This presented Newman with an even bigger opportunity than he'd hoped, and rather than building the model of the orca, he had the men bring the little whale to Vancouver with the harpoon still in it.

The whale was received with great excitement and provided a view for spectators while scientists got their first glimpse into the world of orcas.

The whale was named Moby Doll and remained at the Burrard Dry Dock for two months before passing. By then, the seed had been planted. This mysterious species was not what people thought, and the following year would change the course of history for humans and orcas forever.

1965 After a storm in Namu, British Columbia, two fishermen discovered a large male orca trapped in a cove by their gear. With all the press about Moby Doll, their immediate thought was to try and sell the whale. Newman and the Vancouver Aquarium declined due to a lack of a way to transport the whale and other issues. However, he wasn't the only one in the market.

Ted Griffin, the owner of the Seattle Aquarium, had been attempting to catch an orca for some time. When he got the call from the fishermen, he was ecstatic but didn't have the funds necessary to complete the purchase. He went on to raise the money from friends and local businesses with the promise of returns when he brought the whale back to Seattle. Once the funds were secure, he flew to Namu to seal the deal. The fishermen set one final condition for the sale: an arm wrestle. Griffin won, securing the whale.

Transporting the whale from Namu to Seattle posed new challenges. Ted and local residents constructed a floating sea pen, and a tow boat was hired to transport the 4-ton whale, aptly named Namu after the town by one of its residents. The journey was successful, and upon arrival, Namu became an international sensation.

Ted would go on to further challenge the notion that orcas were bloodthirsty killers after a dare from his brother: to swim with the whale. Just a year prior, it had been monumental to Burich and Bauer that the

Orca Spyhop, *Photo Maureen Welton, Saturna Island Marine Research and Education Society*

animals don't eat each other, so having proof that man could be in the water with these animals and form bonds shattered the world's perception of the species forever.

Ted's ambition didn't end with Namu. He sought to capture a female orca as a mate for Namu, marking the first time an orca was captured for public display. However, Namu and the female were not a good match. The female was eventually sold to SeaWorld in San Diego, where she was renamed "Shamu," starting the famous SeaWorld brand.

Sadly, Namu died just a year after arriving at the Seattle Aquarium, likely due to pollution in the harbor. This tragedy led Ted Griffin to create Namu Inc., a company dedicated to capturing orcas for marine parks. Over the next few years, Ted and others captured orcas from the coasts of Washington and British Columbia, selling them to aquariums worldwide.

Namu Inc. unknowingly captured the entire population of Southern Resident Killer Whales (SRKW) at the time, releasing most after taking many of the youngest generation to sell to aquariums.

With nearly five years of captivity, the Canadian Government determined if orcas were going to be captured and sold, they needed to have a tally of the wild animals as they did for other fisheries stocks. In 1970, there were two more imperative occurrences that would change the fate of orcas in our waters. Michael

Bigg was hired by the Department of Fisheries and Oceans in Canada to perform a census of orcas.

Michael Bigg

Counting orcas is no small task, so Bigg enlisted help from residents, fishermen, tugboat operators, and anyone else who lived, worked, or played remotely close to the water to participate in an annual count of the whales on a particular day each year.

As his time with the animals grew, he believed the shape of orca dorsal fins remained relatively consistent, allowing researchers to identify and keep track of individuals over long periods. To test his hypothesis, he cut two notches into the dorsal fin of an adult male orca during a capture event set to be released. He and his team then confirmed that the notches remained over time every time they encountered the whale thereafter.

This discovery paved the way for photo-identification, which provides researchers with a non-invasive way to track populations of orcas around the world.

Our Local Populations

The Salish Sea is home to two primary ecotypes of orcas: Resident and Transient orcas. Resident orcas mainly feed on fish, while Transient orcas, also known as Bigg's orcas, hunt marine mammals. Although the two groups can interbreed, they have been genetically distinct for over 350,000 years. Interestingly, the Resident orcas in the Salish Sea are more closely related to orcas in Norway than to the Transients with whom they share the waters.

The Resident orcas are divided into two populations: the Northern Residents, classified as "threatened," and the Southern Residents, which are critically endangered, with only 74 individuals remaining. Both populations rely heavily on salmon, but their future is uncertain due to habitat destruction, pollution, and dwindling food sources. The Transient orcas are more numerous, numbering in the high hundreds, but they face their own challenges, such as biomagnification—the accumulation of toxins as they move up the food chain.

Current Threats

Resident orcas experience their environment largely through sound. It is how they communicate, see, hunt and understand the waters around them. Orcas have an organ in their head called the melon, that organizes clicks and whistles going out, and those sounds are received back through their jaw, or mandible. With the advent of engine-powered sea travel, the acoustic landscape of these environments have become more and more polluted in an invisible way.

Vessel noise has been known to have adverse effects on Southern Resident Orcas foraging, or hunting behaviors, and many efforts have been put in place in an attempt to free up the acoustic landscape for the animals. Here in Canada, the Enhancing Cetacean and Habitat Observation, or ECHO, program out of the Port of Vancouver has put in voluntary slow down zones in critical SRKW habitat which has seen an average of 87% participation by vessels. We also have the Whale Alert Report System manned by Ocean Wise and the Whale Report app, where anyone can enter a sighting of a marine mammal. After being verified the information would be transmitted to vessels in the area. (Off Saturna and Pender there is a SRKW temporary protection zone that Susie Washington-Smyth notes, "After 5 years boaters are still entering the two Interim Sanctuary Zones off Saturna and Pender even though it is against the law to do so June - November.)

But the work isn't over. While slow down zones have yielded positive results, ongoing developments like the TransMountain pipeline and Roberts Bank Terminal 2 will bring more vessels through these waters increasing noise, the probability of accidents, and habitat destruction.

Ongoing Conservation Efforts

Conservation efforts to protect orcas have never been more important. Governments, researchers, and non-profit organizations are working together to address the various threats facing orcas and their ecosystems. These groups aim to protect habitats, reduce pollution, and ensure the availability of salmon, a primary food source for the Resident orcas.

For more information about ongoing conservation efforts, consider supporting the following organizations: Bay Cetology, Orca Lab, Raincoast Conservation Foundation, Saturna Island Marine Research and Education Society, Georgia Strait Alliance, Sea Change Marine Conservation Society, and Ocean Wise. **(see page 8 for more information)**

Shining a Light on the Hidden World of Plankton

by Anna Smith

Have you ever wondered what tiny critters are swimming around unseen in our ocean waters? There is a whole magical world full of minute and beautiful creatures living right under our noses! These tiny animals are called plankton, and they are key to the health and survival of nearly every species in the ocean. Plankton are important sources of food throughout the marine food web, being eaten by a myriad of animals like anemones, clams, young fish, sockeye salmon, and even huge baleen whales!

Plankton are also extremely important when it comes to the reproduction of thousands of species. Some species remain in the plankton their whole lives. While other animals found within the plancton are growing and changing from free floating larvae or eggs to increasingly more complex forms until they eventually transition out of the plankton into their next habitat.

Crab and other crustacean larvae are extremely common in plankton and shift through multiple different body forms as they grow. Many crab species, like the Dungeness crab, reproduce by releasing their larvae into the water from special appendages along their abdomen called swimmerets. These larvae are fairly simple at first and are referred to as zoea. As they grow and metamorphose they become more and more complex, shifting through several zoeal stages before they moult and become the final planktonic stage called a megalops. Megalopae are excellent swimmers and closely resemble miniature crabs, complete with teeny tiny claws. Their main purpose is to seek out the appropriate habitat (eel grass for example) for their next stage of life as a fully formed tiny scuttling crab!

For the past three years, the Hakai Institute has been spearheading a community led research project called Sentinels of Change to track the population size, health, and seasonal patterns of Dungeness crab larvae in the Salish Sea. This information will be used to determine the health of our local Dungeness crab populations and guide decisions on important topics like commercial harvesting limits and habitat conservation.

It may surprise you to know that this project was taking place right off our very own False Bay dock! In 2022 and 2023, I operated a plankton light trap from April to September identifying and tracking the various species of plankton on a daily basis. For the first year, the light trap was located on the small dock outside the lagoon near Prowse Point. This location showed incredible biodiversity, but it was difficult to get to in all weather conditions. For ease of access, the trap was moved to the False Bay dock in 2023. Happily, this more populated area still produced many different species, including hundreds of Dungeness and other crab larvae.

You may have seen a bright glowing light off the side of the dock at night and wondered what on earth it was for. Enticing aliens? Helping young fish that are afraid of the dark? Actually, that glowing bucket was in fact a plankton light trap. Many planktonic animals are attracted to light and can be lured into the trap at night through funnels as they try to get as close as possible to the light. They become trapped inside allowing them to be collected, identified, and released the following day. I had the pleasure of encountering an astonishing array of different animals caught in the trap from fully planktonic creatures like copepods and bright orange bristleworms, to adorable larval fish and crabs, and even huge mussel worms that were over a foot long!

There are currently 27 other light traps in operation across the Salish Sea with 35 community partners and approximately 250 participants. These traps are maintained and operated by community volunteers and offer a fantastic opportunity to get involved with an important citizen science project. Not to mention getting to see amazing and strange creatures you might never have encountered before! Last year over 181,320 Dungeness megalopae were captured in these traps, with the highest numbers being seen in West Vancouver (44,222) and on Mayne Island (39,367).

If you are interested in learning more about the project, please feel free to reach out to me or visit the links below. I am considering running the light trap again this year, so if you are interested in helping or just coming down to the view the catch of the day let me know!

Best fishes from your friendly neighbourhood marine biologist, Anna Smith.

If you want to dive deeper into the project and its results more information can be found at https://sentinels.hakai.org/approaches/light-traps.

You can also learn about the sister project running in the US at https://www.pnwcrab.com/larval-crab-monitoring.

Samples photographed by Anna Smith

Nereid worm epitoke (5 cm). An epitoke is the reproductive portion of the worm that separates and swims to the surface at night, releasing eggs and sperm into the water.

Dungeness crab megalops (3 mm) captured in 2023.

Left: Seed shrimp (ostracods) surrounding a juvenile Tidepool Snailfish (7 mm). This small fish has modified pelvic fins that form a suction cup that help it stick to rocks and seaweed!

Right: Orange bristleworm (Epigamia magna, 1 cm) captured in 2023.

Pacific white-sided dolphins seen in Howe Sound and Vancouver in late February

Two reports of around 30 dolphins were reported in Howe Sound and Vancouver.

According to the Pacific Whale Watch Association, "The animals largely disappeared from B.C.'s coast in the early 2000s, but they have started reappearing over the past decade in pods of up to 200—though elsewhere, they have been known to swim in schools of thousands."

Our friends at SIMRES (simres.ca) put it succinctly: "Marine explorer Jacques-Yves Cousteau famously said "People protect what they love." We feel the same way and believe that the best way to protect our endlessly fascinating marine world is to know more about it. We encourage marine and ecological research and organize events that allow experts to talk about their work. We support academic science research, volunteer-based data collection for scientific research, and public educational events. As we learn more about the Salish Sea and what lives in it, we come to love it fiercely and are empowered to make the changes that will protect it."

More About Fire on Lasqueti

by Ken Lertzman

With spring on the horizon, many people's thoughts turn to nagging worries about our hot, dry summers and the risk of wildfire. This is perhaps especially true this year as spring comes on the heels of the recent extreme fire events in Southern California. Last summer, LINC published an article on how to think about fire in the forests on Lasqueti - here we're doing a brief follow up to that.

Fire is natural part of the ecology of Lasqueti's forests. Historically, fires were probably mostly patchy and of low- to medium-severity, with lots of large trees surviving. You can see the evidence of these fires in the charring on the bark of most older Douglas-fir trees. These veteran survivors illustrate the inherent fire tolerance of older Douglas-firs, with their thick, insulating bark and sparse, tall crowns that often tower above the surrounding younger forest. There was almost certainly an Indigenous role in setting and managing these fires, as Indigenous people used fire as a management tool throughout our region.

Most people's primary worry about fire relates to protecting their home and its immediate surroundings. Everyone should do what they can to make their home a safer space. Your most important resource to achieve this is FireSmart. FireSmart is a program to provide guidance for increasing resilience to wildfire for home-owners and communities at the wildland-urban interface, the "WUI". All of Lasqueti is essentially in the WUI. The FireSmart recommendations are based on a huge amount of real-world experience in what has and has not worked to protect homes and property when a fire is burning towards your house from the surrounding forest.

Everyone should read through the FireSmart recommendations and think carefully about how they might apply to your home and its immediate surroundings. Lots of material is available on-line, for instance: https://firesmartbc.ca/7-tips-to-firesmart-your-property-this-spring. Information is also available through our Regional District: https://www.qathet.ca/services/emergency-services/regional-firesmart-program/. We also have several individuals in the Lasqueti community trained to do FireSmart assessments – and they can provide a free FireSmart assessment of your home and property. If you have questions about this program, you can contact these folks for more details (Wendy Bartholomew offered to be listed as a FireSmart contact here).

We have all been shocked by photos of the destruction in places like Fort MacMurray, Jasper, and the suburbs of Los Angeles. But a close look at these images will show that there are often at least a few houses still intact—even when other houses less than 10 meters away on either side burned to the ground. This is rarely due to chance. Houses that are built and maintained with fire resistant features have dramatically improved odds of surviving even a severe wildfire event.

Historically, house fires on Lasqueti have originated not from the forest, but from our own appliances and activities. I checked with our past and present fire chiefs and they agreed that all the fires that burned homes here in the past many decades have arisen from human activities and infrastructure in and around those homes. The main culprits are woodstoves, propane appliances and fittings, and generator sheds. If you are concerned about your home burning, the historical record and many years of experience indicate that the most important thing you can do is pay attention to all these potential sources of fire that we install and light ourselves.

Remember that FireSmart is concerned with the construction of your home and the flammability and continuity of fuels in its immediate surroundings, not the forest as a whole. FireSmart focusses on intense efforts within a circle of 30 m radius around your home, with the zone of greatest priority within 10 m of the home. Strategies for reducing the risks of wildfire in the forest beyond this perimeter are different than those for this area close to our homes.

A lot of research has gone into understanding what characteristics of forests lead to greater resilience to fires or increase the likelihood that fire suppression efforts will be effective. These strategies focus on maintaining or enhancing characteristics of the forest that are relatively resistant to burning or to spreading a fire horizontally or vertically. This includes retaining resistant tree species such as hardwoods or large mature conifers, reducing both the amount and the continuity of fine fuel loads (such as dead grasses, dry leaf litter, and branches), and reducing ladder fuels that can facilitate a surface fire spreading vertically into the tree crowns. Canopy cover is a good thing: shade from a forest or a shrubby canopy can keep the fine fuels on the ground from drying and reduce the overall flammability of the landscape. Maintaining a diverse and productive forest overstory and understory is consistent with supporting a fire-resilient forest. It is important to note, however, that under extreme weather conditions, all of these tactics can be overwhelmed by extended periods of drought and high winds. Eliminating sources of ignition can sometimes be the only variable under direct human control: most forest fire ignitions in the Salish Sea area originate from human activities.

Fire behaviour is driven by a combination of fuels, landscape, and weather. We live in world where climate change means that this equation is increasingly dominated by extreme weather patterns that push fires to overcome their historical controls (such as natural or human created fire breaks). After more than a century without significant fires on Lasqueti, and with the super-charging effect of hotter, drier summers, future wildfires may be more severe than those of the past. It is more important than ever that we pay attention to the factors that increase or decrease the risks to our lives and property.

If you are interested in reading a rather terrifying exploration of the interacting relationships between weather, fuels, and fire, "Fire Weather" by John Vaillant is well written and non-technical. He focusses on the relatively new phenomenon of extreme megafires, with examples of various locations around the world, but with a strong Canadian context in the Fort McMurray fires of 2016. He does a good job of exploring the connections between fossil fuels and climate change as drivers of changing fire behaviour.

Ken Lertzman is a forest ecologist with several decades of experience researching the ecology of fires in the forests of British Columbia

Changing Climate and Changing Fire Regimes in BC

There are many research papers that document various aspects of how human caused changes in climate are changing the frequency, severity, and extent of wildfires across North America. Recent work has highlighted the importance of changing vapour pressure deficit (VPD) as a driver of fires[1]. Vapor pressure deficit is a measure of the drying power of the atmosphere: the difference between the amount of moisture that's actually in the air and the amount of moisture that air could hold when saturated. When VPD is high, the dry air causes more rapid water loss from living plants and more rapid drying of fuels. A consistently elevated VPD means that wildfires ignite more easily and spread faster.

One recent study[2] used climate model data to look at the role of emissions from the world's top fossil-fuel producers and cement manufacturers. They found that these sources were responsible for about half of the long-term rise in VPD between 1901 and 2021. They concluded that almost 40 per cent of the area burned by wildfires in western United States and southwestern Canada over the last four decades could be explained by these changes in atmospheric drying.

Another recent paper focussed on fires in BC forests[3]. They started with the observation that BC experienced

1 J.T. Abatzoglou, J.T and A.P. Williams. 2016. Impact of anthropogenic climate change on wildfire across western US forests. *Proc. Natl. Acad. Sci. U.S.A.* 113 (42):11770-11775, https://doi.org/10.1073/pnas.1607171113

2 Dahl, C.A., J.T. Abatzoglou, and others. 2023. Quantifying the contribution of major carbon producers to increases in vapor pressure deficit and burned area in western US and southwestern Canadian forests. Enviromental Research Letters. 18:064011. DOI 10.1088/1748-9326/acbce8

3 Parisien, MA., Q.E. Barber, M.L. Bourbonnais, and others. 2023. Abrupt, climate-induced increase in wildfires in British Columbia since the mid-2000s. *Commun Earth Environ* 4:309. https://doi.org/10.1038/s43247-023-00977-1

More About Whales Local Networks

Text primarily by Susie Washington-Smyth

Photo by Maureen Welton, SIMRES

Everywhere, boaters should stay at least 400 m away from whales. Most cetacean scientists say 1000m is probably a safe distance (the State of Washington has this for orcas). And if you see whales close by, turn off your motor until they pass.

There are two Interim Sanctuary Zones off of Saturna and Pender Islands. After 5 years, boaters are still entering the two Interim Sanctuary Zones even though it is against the law to do so June - November. There are over 100 sighters registered from Saturna, Pender, Mayne and Galano Islands in the Southern Gulf Islands Whale Sighting network (SGIWSN). Take a look at the ***Spyhopper.ca*** site and be inspired by the eight species they are recording, the audio sounds of individuals, like Spouter, Nootka, Nan (among the other 73 Southern Residents) and Dreamer, Valiant, Hammer (a few humpbacks in the record.)

Spyhopper is a visualization tool for community scientists, whale enthusiasts and researchers. The current partners include Simon Fraser University, Saturna Island Marine Research and Education Society (SIMRES) and the Southern Gulf Island Whale Sighting Network (SGIWSN).

Sighters observe, record, and identify all cetaceans from land. We collaborate with WSÁNEĆ Marine Guardians and Straitwatch, Transport Canada, Parks Canada, and DFO Enforcement.

Data collection includes visual reports, photos, distances from shore often verified with range finders, and hydrophone recordings. **Our data can be seen at spyhopper.ca. (SGIWSN)**

Total Commercial Vessels June 1 – Oct 31, 2024: 2650
Total Percent Increase in June 1 – Oct 31, 2024 : 24.2%

Comox Valley Wildlife Sightings Facebook Page

Sharing real time cetacean sightings around Vancouver Island. https://www.facebook.com/Comoxvalleywildlifesightings/

Herons Courting photos from this facebook page along with many amazing cetacean sightings. Permission for photos above from Rocklene King, Hornby Island

----------More About Fire from page 7----------

its four most severe wildfire seasons of the last half-century during previous 7 years, all of which were characterized by extreme weather (think of our 2021 heat dome). They combined historical and projected climate data with data sets on historical fires, evacuations, and suppression costs, plus the record of other forest disturbances (such as logging and Mountain Pine Beetle) to conduct a statistical analysis to tease out which variables appeared responsible for patterns of fire over time.

They found that around 2000-2005, there was a shift in the climate regime in BC away from the previously prevailing wet conditions, resulting in two decades of increasingly dry and flammable forests. This helped drive the recent spike in wildfire activity, which is likely to continue over the next century. Though there was a trend of wetter weather until 2005, rapid warming led to an increase in evaporative demand – drying out forest fuels. They found that, overall, the length of the fire season and total area burned have increased in BC since the early 20th century – and the area burned each year correlates significantly to the atmospheric moisture deficit. But atmospheric moisture deficit is only part of the story. The authors also addressed contributions from historical changes in the forests due to building the railroads, logging, changing settlement patterns and other human activities. They conclude "The compound effects of climate-induced moisture changes and altered fuels now force British Columbians to confront the harsh reality of more frequent years of intense and prolonged wildfire activity."

Bufflehead

A common winter species of diving duck

Photo and article by Sheila Harrington

Each October I wait excitedly for the arrival of the migrating Bufflehead. These are our smallest diving ducks. The males are absolutely stunning with their tricoloured green, blue, purple and black heads. The females are a grey/white with a single white circular patch on their cheek.

For the past few years, they have arrived in Boat Cove and then left in the spring close to the same date!

Arrived		Left:
2020:	Oct 16	April 27
2021:	Oct 30	April 27
2022:	Nov 7	April 27
2023:	Oct 28	April 27
2024:	Oct 23	April 23

When I looked at my ebird data for the past five years I was amazed by this consistent schedule. There are usually up to 13 individuals in Boat Cove each year, and many more in other areas around Lasqueti. They migrate to interior lakes for mating in the summer. I wonder how they are doing when they are mating and nesting in cavities during these fire prone times, and when they are caring for their fledglings. They nest in Northern Flicker and sometimes Pileated woodpecker nest holes.

To my surprise, this winter I saw close to a hundred Buffleheads daily at the Esquimalt Migratory Bird Sanctuary. We walked this semi-protected haven for migrating waterfowl this winter in December and January. It is just off the Strait of Juan de Fuca where we also saw at least three fully loaded container ships anchored offshore daily.

Buffleheads are related to the less common Goldeneyes. They are highly adaptive, diving down to find insects, shrimp, crabs, amphipods, isopods, snails, mussels, herring eggs, and sculpins. In the inland lakes and wetlands where they breed they eat damselfly and dragonfly larvae, midge larvae, water boatmen, mayfly larvae, caddisfly larvae and zooplankton.

They are a delight to watch as they bob their heads, run after each other, and dive–rising again about 13 seconds later, having eaten their catch underwater. All about Birds, from the Cornell lab describes their behaviour:

"They hold their wings tightly against their bodies underwater and use only their feet to propel themselves. At the end of a dive, they may bob to the surface like a cork. Throughout the day they alternate between bouts of feeding, swimming alertly, preening, and sleeping. Bufflehead are seldom seen on dry land: females walk only when they lead their ducklings from the nest to the water or when they're forced to switch ponds with their ducklings. Males court females by flying over them, skiing to a stop on the water with their crests raised, and bobbing their heads. During the breeding season, territorial birds attack intruders by flying or swimming underwater at them and thrashing at them with their wings. When a pair of Buffleheads intrudes into a nearby territory, the male that owns the territory often chases the intruding female and her mate follows them in hot pursuit. Males leave their mates during incubation in order to molt, but return to the same mate multiple years in a row (one of the few duck species in which this is true)."

Herring - The keystone species in the Salish Sea

by Sheila Harrington

Left - herring in natural habitat - Photo Rebecca Benjamin-Carey

Right - Matt Grinell, who took this photo, explained, "We do these reconnaissance flights in herring season to locate spawns, and then we have divers assess the eggs within a week to 10 days. Divers determine the length and width of the spawn, and count the number of layers of eggs. The goal of this is to determine the biomass of spawning fish

The herring fill the seas around Denman and Hornby Islands, and sometimes along the east coast from Nanaimo up to Comox and Campbell River. Once found throughout the coast, within the Salish Sea they now spawn only in this local area in March.

Harvesting of herring began over 100 years ago on the BC coast, reaching its peak in the mid-20th century. Thanks to archeological evidence and local knowledge, we now know herring was once the primary source of food from the Salish Sea. Recent research by McKechnie and colleagues showed that in archaeological sites from Washington State to SE Alaska, herring has been hyperabundant for millennia. In archaeological sites in the Salish Sea, herring bones can represent 80-100% of the fish bones present in middens.

Management of herring fisheries on the south coast takes place in the context of a species that was depleted in numbers largely before data began to be systematically collected. In 2023, three of the five historically active Pacific herring fishing grounds were unable to support the seine and gillnet commercial fishery, and remain closed to harvest.

Pacific herring is the keystone species (the foundation of the food supply) for most of the sea birds, larger fish, salmon, dolphins, and sea mammals along the coast. The health of herring populations also greatly affects other fisheries such as Chinook salmon which faced a complete commercial and recreation ban in California this season. As a major prey species for Chinook salmon, Pacific herring are the key for survival of the endangered southern resident killer whale population.

Due to its steep decline, for the past few decades there has been only one commercial herring run in the Salish Sea – right around Denman and Hornby. Now, in March, these two islands are filled with a luscious chalky-blue milt full of the males' seminal fluid, which triggers both the males and females. The females then deposit their eggs on the seaweed, eelgrass, beaches and rocks.

For the past five years, Conservancy Hornby Island (CHI) developed a strategy to change the laws and the politics around the herring fishery. Acquiring data from the Province and First Nations, they advanced a deep understanding about the herring, both the year round and migratory schools, their life cycles, and the spring fishery–which is all about getting the roe (eggs). Unbelievably only 10% is used for human consumption, with the other 90% ground up for fish farm food, livestock and pet food, and fertilizer.

HerringFest is March 13-15 on Hornby island. The event is full of boat tours and evenings of music, art and films all about the herring and the Salish Sea.

The WSÁNEC Hereditary Chiefs in partnership with the Herring Conservation and Restoration Society, the University of Victoria Environmental Studies, and CHI held a Forum earlier this year. The over 240 participants set a course to work together to Let the Herring LIve. They are committed to stop the commercial fishery and bring back traditional forms of herring spawning stewardship.

UPCOMING EVENTS

Saturday, March 22, Spurge Purge

We've made such a difference already! Come join us to remove more of this toxic, invasive plant which has spread into neighbouring areas.

9:30 - 12:20 - meet at Collin's place with loppers, gloves and determination! We'll feed you a great lunch after. **Confirm your attendance and lunch linc@lasqueti.ca**

Right: Trumpeter Swans at Collins Swamp - a regular migrant to his amazing wetland on Lasqueti. Photo Sheila Harrington.

Photo by Jenny Balke

Friday - Saturday, April 11 - 12, Beaver Tales: talk and walk with Denman Island's Jenny Balke

Friday April 11th, evening talk, 7 pm at the Arts Centre. Join Jenny Balke to learn about these determined mammals who once filled much of North America with wetlands creating habitats for many other wildlife species. Saturday morning join Jenny for a walk through the Osland Reserve, where the beaver have enlarged the wetland there. Meet at the hall at 10 am with your lunch to carpool to the site. Times are tentative. Stay tuned for more details.

Jenny has been a self-employed professional wildlife biologist working around BC since 1990. Beginning her career as a large animal veterinarian, then a reproductive researcher, and finally a field biologist, she has worked for the interests of critters from elephants to butterflies. Moving to Denman Island in 1988, she has been committed to encouraging the stewardship of our native ecology. While doing inventory and education for wildlife and their habitats, she's often taken a stand for those species, which come into conflict with human interests. On Friday and Saturday, Jenny will share her enthusiasm and knowledge of these trouble-makers and their antics.

Photo by Sheila Harrington

Birds In our Region: Talk and Walk with Pierre Geoffray

Sunday, May 4th 8:30 am - 10:30 (tentative meet-up at the JFC)

Join us for a walk with Pierre Geoffray, who oversees the E-bird sightings in the Powell River region, including Lasqueti Island. Learn to identify and record the birds around us through visual and sound identification. Bring your binoculars and learn how to use E-Bird, an app and collaborative program created by Cornell University, now used internationally. Please download the E-bird and Merlin apps before-hand for the best experience. Get set to spend hours exploring other sightings in our area by E-bird users with photos and sounds!

Lasqueti Island Nature Conservancy - Annual General Meeting - May 31st, 2025

Join us for this year's AGM and field trip to a conservation site on Lasqueti. Come find out why our work is important on the island and in the larger context of the Salish Sea, and what aspects of our work and play you might want to join in on!

Seen In Passing

Sharp Shinned Hawk
who lew into the window at Terry & Doane's this winter.
Photo Terry Theiss

Western Toad, a "species of special concern" is seen in large numbers on Lasqueti in the spring. Photo Gordon Scott

An osprey nest sighted high up a fir tree near Sophia's new south end home. Photo Sophia Rosenberg

Swallowtail Butterfly larva - the second stage after the egg stage, leading to the pupa and then the adult butterfly.
Photo Susan Morrison

This Stellar Sealion was chasing snow thrown at it by False Bay school kids at French Creek last month
Photo Sheila Harrington

Western Black Widow spider which is deadly to its mate. Its venom is quickly diluted by most adult humans.
Photo Elizabeth (Liz) Eppich

LINC Lasqueti Island Nature Conservancy

Help conserve and steward nature on Lasqueti
Share your wildlife stories & photos,
and join in on our events.

2024-25 Board of Directors:
Gordon Scott, Wendy Schneible, Ken Lertzman, James Schwartz, Duane West, Kaia Bryce, Peter Sorensen, Norm Stacey, Martha Konig,

Newtletter Editor & Layout: Sheila Harrington; editorial assistance Norm Stacey and Gordon Scott
All past Newtletters and more are on our website https://linc.lasqueti.ca

Engage in conservation. Give a donation. Become a member: $10-$20 annually.
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