**Wonders of the Salish Sea 2023, Newsletter #1 -** Welcome - Schedule - Hosts & Partners - Recordings - Field Trips - Awesome Videos - Salish Sea News & Weather - Schedule Details - Planning Committee

**WELCOME** to the 7th season of Wonders of the Salish Sea (WSS)!

We're excited to see all the new people joining this year, and very pleased to welcome back our many "alumni." We have another inspiring series of presentations lined up. On this journey through the Salish Sea, we'll meet magnificent marine mammals; beaked creatures (including octopuses!), small fish that have a big impact; and giants … in the seaweed world that is. All this will be grounded in the many stories that bring this wondrous ecosystem to life; Indigenous, science-based, and our very own. You'll find the full presentation details and presenter bios, at the end of this newsletter.

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## SCHEDULE 2023

**Monday, March 27**
7:00 – 7:55 **Your Salish Sea Story - Mira Lutz Castle**
8:05 – 9:00 **Origin Stories of the Salish Sea - Chris Arnett**

**Monday, April 3**
7:00 – 7:55 **What feces can tell us about the health of the endangered southern resident killer whales - Deborah Giles**
8:05 – 9:00 **Seals and Sea Lions: Ecosystem Allies or Ocean Pests? - Joan Lopez**

**April 10 – Happy long weekend!**

**Monday, April 17**
7:00 – 7:55 **Pacific Flyway - Rob Butler**
8:05 – 9:00 **Forage Fish: small species with a big impact - Alanna Vivani**

**Monday, April 24**
7:00 – 7:55 **Kelp Forest Restoration - Christopher Neufeld**
8:05 – 9:00 **Charismatic Cephalopods of the Salish Sea - Phoebe Churney**

*(See presentation descriptions below)*

**HOSTS AND PARTNERS**
You might be wondering who "we" are. The dedicated **WSS planning committee** has been behind the scenes of all 7 seasons of WSS. See short bios of our members below. WSS is a volunteer-run program without any affiliation; however, we can only do it with the generosity of our presenters and the kindness of our hosts. When the program was delivered in person in Vancouver BC from 2016 to 2019, our hosts were Vancouver Parks and Recreation; in 2021, our first virtual year, Nature Vancouver filled that role; and for 2022 and 2023 Transition Salt Spring (TSS) has been our host. **Many thanks to TSS** for taking WSS on for a second year. Special recognition goes to Erinanne, tech specialist; Rob, for making our videos; and Anne, our TSS liaison.

This year we are pleased to welcome some partner organizations: Sound Water Stewards (Island County - Camano and Whidbey Islands, WA) and Year of the Salish Sea, (Vancouver, Burnaby, BC). During the program, you'll meet representatives from these grassroot organizations, and we'll feature the great work that they do.

**RECORDINGS**
Don't worry if you are not available Monday nights or have to miss a night. The presentations are recorded and made available to you within a week of the presentation date.

**FIELD TRIPS**
Last year we were able to organize a few field trips to bring the in-person component to the program. These occurred in the Seattle area, (dock-fouling), Salt Spring Island (forage fish surveying), and Vancouver (intertidal exploration). We're hoping for even more field trips this year. *Please let us know if you would like to organize or lead a field trip in your area!*

**AWESOME VIDEOS**
Operation Babyfish: The Search for Itsy-Bitsy Rockfish, Salish Sea Wild, SeaDoc Society. Rockfish are the Salish Sea's most colorful family of fish, and some can live more than 150 years! But despite their super-longevity genes and venomous spines, a number of our local rockfish are in deep trouble.

Sockeye Salmon Run, Adams River, BC, 2022. Bob Turner. Adams River Sockeye, their life cycle, migration and spawning, along with the river and the people who celebrate it.

**SALISH SEA NEWS AND WEATHER**
Check out this "weekday news from around the Salish Sea" i.e., both sides of the border, compiled by Mike Sato as a community service. You get the tug weather too!

**Some good news …**
Fish farms in shíshálh Nation swiya to be removed by February 2023, Coast Reporter

First Nations leaders, federal officials create marine refuge on B.C. Central Coast, CBC News

Nuxalk Nation celebrates return of totem pole from Royal B.C. Museum, Times Colonist
Record-breaking year for whale sightings in Salish Sea. Seattle Times.

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**SCHEDULE 2023 DETAILS**

**Monday, March 27**

**7:00 – 7:55 Your Salish Sea Story. Mira Lutz Castle.**

What is your favorite Salish Sea memory? In what ways is your life shaped by this sea? Journey through ecosystems from snow caps to white caps and below the waves to explore how life here has been shaped by the unique geology and hydrology of this grand estuary and vice versa. Along the way, Mira will share excerpts from her own discoveries as an estuarine scientist and some of the joy she has had in developing and seeing the far-reaching impact of the curriculum she developed with SeaDoc Society, based on their book, Explore the Salish Sea: A Nature Guide for Kids. In this journey we will celebrate some of the ways people seek to know, connect with, protect, and heal this beautiful estuary through Indigenous and Western science and education, and ways you may join the ranks of these Salish Sea Heroes. Since you are attending this series, you may, indeed, already be one.

Mira Lutz Castle was raised visiting the shores of the south Puget Sound, digging clams, fishing, paddling, and learning to respect all life. She earned a B.S. in Biology with a marine emphasis, a teaching certificate, and a Masters of Environmental Science in Marine and Estuarine Science all at Western Washington University. She has conducted research on blue carbon in eelgrass meadows and most recently developed the Explore the Salish Sea curriculum for SeaDoc Society, based on the book of the same name. Mira is now consulting with Pacific Education Institute who is carrying this curriculum forward in Washington and BC.

**8:05 – 9:00 Origin Stories of the Salish Sea. Chris Arnett.**

There are two origin stories for the Salish Sea—one indigenous, the other non-indigenous. Both attempt to explain the world. Non-indigenous ways of knowing

often use evolutionary-based models of culture that depict a trajectory of social and cultural development over time culminating in the 19th century Central Coast Salish encountered and described by non-indigenous people as a class society of hereditary nobles, commoners, and slaves. This model, with its emphasis on conflict and inequality, is often used to interpret indigenous material culture going back thousands of years. While many aspects of indigenous culture have disappeared, indigenous Origin Stories have survived and offer a perspective of an indigenous value system that predates non-indigenous ways of knowing and grounds ancient teachings to place, both challenging and supporting current archaeological interpretations.
Join Chris for an informative talk about the archeology, uses of the marine environment and Origin Stories of the Salish Sea as told by the Coast Salish people over thousands of years.

Chris Arnett is an independent archaeologist and heritage consultant. He holds a PhD (2016) in Anthropology from the University of British Columbia. His dissertation "Rock Art of Nlaka'pamux: Indigenous Theory and Practice on the British Columbia Plateau" focused on the integration of historical, archaeological and indigenous knowledge in the study of places with rock art. He has worked with First Nations Communities (Penelakut, Tsleil-Waututh, Lil'wat, Nlaka'pamux [Lytton and Kanaka Bar], Upper Similkameen, and Gitgat'a) on rock art and other archaeological and ethnographic research since 1985. He lives on Salt Spring Island, British Columbia.

**Monday, April 3**

**7:00 – 7:55. What feces can tell us about the health of the endangered southern resident killer whales. Deborah Giles**

Wild Orca's whale health monitoring program utilizes non-invasive methods to reveal a near real-time window into the health of the Southern Resident killer whales (SRKW) population. Wild Orca works to fill knowledge gaps about the relationship between human pressures on the endangered SRKWs and their recovery needs. Giles, as she prefers to be called, Research Director for Wild Orca, will share how she conducts this research with the help of her highly trained assistant, Eba, the poop-sniffing dog. Along the way, we'll also learn about the lives of these salmon-eating orcas.

Giles is one of the world's leading experts on the Southern Resident killer whales. Starting as a research assistant in 2005, then the subject of her graduate studies and her entire professional career since receiving her PhD, making Giles one of the few scientists to have focused almost exclusively on this iconic population. Giles collaborates with government scientists and other researchers to enhance understanding of the many impacts on the whales from overfishing, pollution, and noise. She represents their

interests with policymakers, and is frequently interviewed as one of the principal voices calling for the recovery of these endangered orcas.

Eba is a mixed-breed dog, originally from Sacramento, now living in WA. Eba graduated from UW's Conservation Canines program giving her the skills to be a scent-detection dog along with her trainer and adoptive parent Giles. Due to her important role in orca research, Eba has received some notoriety, having been featured in shows on PBS, Netflix, BBC, and Disney +. You can read more about Eba here.

**8:05 – 9:00 Seals and Sea Lions - Ecosystem Allies or Ocean Pests? Joan Lopez**

Seals and sea lions are among the most numerous and frequently sighted marine mammals in the Salish Sea. But what is their role? In recent years, there has been a growing movement to reduce their numbers, in an effort to restore salmon populations. Are they the culprits, or team players in a balanced ecosystem? This presentation will introduce the seals and sea lions that reside in the Salish Sea, and discuss their impacts on the ecosystem, both negative and positive.

Joan Lopez is a marine educator, employed as a nature guide with a local whale watching company for two decades. She holds a BSc from UBC, with a specialty in Marine Biology. She also chairs the Marine Biology Committee of Nature Vancouver, and is on the planning committee for Wonders of the Salish Sea.

**Monday, April 17**

**7:00 – 7:55 Pacific Flyway. Rob Butler**

Stretching from the Arctic regions of northeastern Russia, Alaska, and western Canada and along the Pacific coastlines of North, Central, and South America, the Pacific Flyway traverses some of our planet's greatest climatic and topographic extremes. Defined by water, the flyway encompasses a sweeping expanse of coastal and offshore marine ecosystems and an inland archipelago of freshwater wetlands. Hemispheric in scope, this integrated network of ecosystems is linked by its moving parts--the millions of migratory birds whose lives depend on this 10,000-mile (16,000-km) corridor as they travel between their breeding and overwintering grounds. Butler will cover facts about specific bird species, how they survive during their migration, and where they travel. With a focus on the Salish Seas stopovers, Dr. Butler will show the importance of internationally protecting the varied habitats essential to these birds' survival including our own backyard coastline.

Robert W. Butler is a unique mix of scientist, artist and public speaker. He holds graduate degrees from Simon Fraser University (MSc) and the University of British Columbia

(PhD). He served as a research scientist of birds with the Canadian Wildlife Service and adjunct professor. Pacific Flyway is his third book written for the public, with a fourth on crows in preparation. His art has appeared in regional and national shows and featured in magazines and newspapers. You can find more about Rob at www.robbutler.ca.

**8:05 – 9:00 Forage Fish – small species with a big impact. Alanna Vivani.**

In marine systems, small schooling fish are called forage fish and, in the Salish Sea, these include Pacific sand lance, surf smelt, and Pacific herring to name a few. Forage fish species are an important food source for a variety of top predators including large pelagic fish e.g., tuna, salmon; bottom fish, such as rockfish and lingcod; marine mammals including humpback whales, and many birds such as gulls, cormorants and puffins. Alanna will describe how surveys of these forage fish are conducted, where the fish are found, and the health of the populations in our local waters. The work by the Mount Arrowsmith Biosphere Region Research Institute (MABRRI) is relevant to the entire food web of the Salish Sea. What you learn here will complement many other presentations in this series.

Alanna Vivani is a Senior Research Assistant with MABRRI focusing on both the Forage Fish Spawning Habitat Monitoring Project and Wetland Mapping. She has a BSc in Biology from Vancouver Island University (2018) and has studied sea otter foraging behaviour and occupation time. Her work with MABRRI demonstrates her interest and knowledge in marine conservation, and she is dedicated to protecting the ecosystems of Vancouver Island and surrounding coastal British Columbia.

**Monday, April 24**

**7:00 – 7:55 Kelp Forest Restoration. Christopher Neufeld**

Kelp forests support the conservation and protection of many culturally, and commercially valued species, such as salon, herring, and even whales. In British Columbia, including in the Salish Sea, canopy forming kelps (Giant Kelp and Bull Kelp) have experienced significant recent declines, accelerated by the co-occurring threats of marine heatwaves and overgrazing by sea urchins. This talk will focus on the status of Salish Sea kelp forests, and describe efforts underway to reverse these losses for the benefit of all who depend on these foundational coastal ecosystems.

Christopher J. Neufeld is a Research Scientist at the Bamfield Marine Sciences Centre and Project Lead for the Kelp Rescue Initiative**,** a growing effort launched in 2021 with the mission of restoring kelp forests on BC's coasts. Dr. Neufeld's work centres on how marine heatwaves are altering B.C.'s kelp forests, and on developing scalable solutions to reverse these losses. He has spoken about his work on coastal ecology and kelp forest

resilience in national and international venues and in the popular media (CBC's Quirks and Quarks, NPR's Science Friday, National Geographic).

**8:05 – 9:00 Charismatic Cephalopods of the Salish Sea. Phoebe Churney**

Dive into the world of octopuses of the Salish Sea with Phoebe! We will learn about three species endemic to the area varying from her personal interactions to the physiology, intelligence, and behavior of these ink-credible creatures.

Phoebe Churney hails from Brunswick, Maine, USA. She is a senior at Maine Maritime Academy (MMA) pursuing a dual degree in Marine Biology and Small Vessel Operations with minors in Physical Science and Oceanography. During the summer of 2021, Phoebe was invited by Dr. Alan Verde of MMA to conduct research on octopuses at Rosario Marine Beach Laboratory (RBML) in Anacortes, WA. While at RBML, she worked as a Scientific Diver-in-Training and completed 46 scientific dives that involved transects for density and bottle preference data of *Octopus rubescens*, and night dives to collect and observe *Muusoctopus leioderma*. Additionally, Phoebe held the position of Lead Aquarist for the laboratory and was directly involved in caring for the octopuses before they were returned to their collection sites. Phoebe is excited to be sharing her experiences and knowledge of octopuses found in the Salish Sea.

**Field Trips!** No dates or locations yet. More information to come.

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**PLANNING COMMITTEE**

Abby Schwarz
Abby is a marine biologist specializing in the behavioural ecology of fishes. Her research includes 1) how fishes use sounds to communicate, 2) how fishes respond to shipping noise, and 3) why so many fishes change sex (many do!). Now retired from teaching at Langara College, she is passionate about public outreach, believing that we only protect what we love, and we only love what we understand. Abby is also a musician and is currently singing in a community choir. Abby's favourite Salish Sea animal is the Pacific herring.

Anne Parkinson
A lifelong passion for all things water, Anne pursued an MSc in Marine Biology at UVic and was a contract diver, biology teacher, aquaculture researcher and finally the Biology Cooperative Education Coordinator (UVic) for 21 years. Now retired, she continues through Transition Salt Spring Marine Stewardship to advocate for the health of the Salish Sea. To keep her fins wet, she swims all year with the Salt Spring Seals. Favourite magical moment: swimming with a 'smack' of ctenophores (comb jellies or gooseberries) right up against my mask and watching the bands of iridescent ctenes (combs) doing 'the wave'.

Deborah Simpson
After a career in health care, Deborah turned her interests to nearby nature and environmental issues. Introduced to the wonders of the Salish Sea by a chance encounter with the Southern Resident Killer Whales in 2012, Deborah wanted to know everything about these amazing animals and their habitat. To this end, she attended many of the wonderful ocean related education programs offered in both BC and the WA, and eventually ended up at Royal Roads University to study Environmental Education. Wonders of the Salish Sea is a result of this study. Deborah also volunteers with Nature Vancouver and NatureKids BC. Deborah's favourite Salish Sea critter is the chiton (all kinds!).

Joan Lopez
Joan is a marine educator, employed as a nature guide with a local whale watching company for two decades. She holds a BSc from UBC, with a specialty in Marine Biology. She also chairs the Marine Biology Committee of Nature Vancouver, and is one of the presenters for this season of Wonders of the Salish Sea. Joan has explored many underwater locales in the Salish Sea while scuba diving. Her favourite living thing in the Salish Sea is bull kelp, because it looks beautiful flowing just at the surface, is habitat for so many other creatures, buffers the waves approaching shorelines, and killer whales seem to love swimming through it and having it caress their bodies.

Liz Freyman
Liz's favourite activity is going on outdoor adventures with family and friends, especially if there's an ocean involved. During the day, Liz works as an Environmental Impact Assessment Biologist for the BC Ministry of Environment and Climate Change Strategy with a speciality in water quality and waste management. She gets energized by all the people eager to learn about the Salish Sea. Favorite Salish Sea animal: the moon snail!

Sheila Byers
Sheila, a registered professional marine biologist, has spent her career focusing on marine invertebrates. Her specialty is the taxonomy of marine worms, with molluscs as a close second. Her 15 years of volunteer effort with the Marine Life Sanctuaries Society of BC have contributed to the protection of fragile glass sponge reefs in Átl'ka7tsem/Howe Sound. She has been a volunteer with Nature Vancouver, Marine Biology Section since 2002 leading many intertidal explorations. Sheila is currently the Curatorial Assistant of the Marine Invertebrate Collection at the Beaty Biodiversity Museum, UBC. One of Sheila's favourite worms is the *Osedax* - an extraordinary bone-eating worm.

Alyana Lalani
We would like to acknowledge Alyana who helps with WSS when she can, between her studies in Oceanography at UBC and her many volunteer jobs.

**Wonders of the Salish Sea takes place on the traditional, ancestral, and unceded territories of the Coast Salish Peoples.**