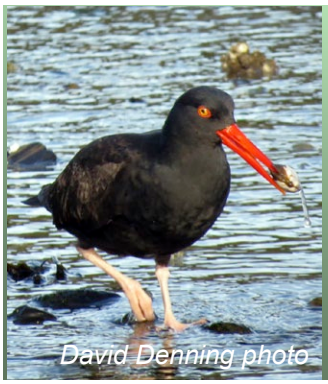


Oystercatcher

Salt Spring Trail and Nature Club
Newsletter
Winter 2018

The SSTNC Christmas Luncheon

will be held on
Tuesday Dec 11 at 12:00 noon
All Saints by-the-Sea Church
110 Park Drive
Tickets are $20.00
Available at Saltspring Soapworks (Ganges Alley)

Catering by El Taco Loco incudes hot items: any combination of grilled beef, chicken, or pork with white lime rice or refried beans.Toppings include salsa, lime pickled onions, cabbage, cheese, cilantro, fresh limes, jalapenos, Baja sauce, fresh guacamole, and lots of corn tortillas wraps. coffee, tea, punch & a selection of sweets are included. There will also be a cash bar (beer & wine).

Editor's Note

This is the last newsletter that will be mailed.

The mail out of the newsletter has fallen consistently for many years. Now, only 6 members receive it that way. Consequently, it is not worth the money or effort to have it printed. For those few members who receive it by mail, if you cannot arrange to get it electronically, please call me to work something out.

Index

President's Point of View

Sue Lehmann

For many members, the Tuesday outings are the backbone of our club. It's been great to see so many people enjoying the outdoor opportunities. This fall, I've attended outings offered by all three branches. The main difference between the groups is the amount of exertion. Hikes tend to be longer, steeper, and over uneven ground. Rambles are short, on quiet roads or groomed trails, and fairly level. Walks are somewhere in the middle. Moving between levels allows me to choose how much exercise I want or time I have available that day. It has also led me to explore new areas of our island; places I never knew existed. As an added bonus, I've met new people and re-connected with those I rarely see.

As the days get shorter and the weather wetter, the club executive has turned their attention toward two upcoming events. The Christmas Luncheon will be similar to last year's popular event, with catering by El Loco Taco. Tickets are $20 and will be available at Saltspring Soapworks' new location in Ganges Alley. We look forward to seeing many members there for a merry start to the holiday season.

This newsletter is published by the Salt Spring Trail and Nature Club, PO Box 203, Ganges PO, Salt Spring Island, BC, V8K 2V9. Editor: Gary Adams (gafrad@shaw.ca)
For information on the Board of Directors and weekly outings, please see our website: www.saltspringtnc.ca

Calendar of Events

Tuesday Dec 11, 2018
SSTNC Christmas Lunch
Our annual lunch will be at All Saints by-the-Sea Church, 110 Park Drive, at 12:00 noon. Tickets are $20.00 Available at Saltspring Soapworks (Ganges Alley). Short hikes will take place before the lunch.

Sunday, December 16, 2018
Christmas Bird Count
See article in this issue.

Thursday, January 31, 2019
Annual General Meeting
AGM is set for 11:30 in the Lions Hall. Lunch will be provided at noon, with the AGM itself at 12:30 and Linda Gilkinson will make a presentation at 1:30 entitled Where Have All the Bugs Gone.

Feb 18 - Feb 21, 2019
Great Backyard Bird Count
Bird Studies Canada sponsors a nationwide bird count blitz. For further information see their web site.

Thursday, Feb 21, 2019
How To Survive in the Wilderness
Learn important lesson on wlderness survial from 7-9 p.m. at the Salt Spring Library. Our speaker is Tudor Davies from Salt Spring Search and Rescue. The talk is open to the public.

May 2 - May 5, 2019
BC Nature Annual General Meeting
Next year's AGM is being hosted by the Cowichan Valley Naturalists' Society in Duncan. The agenda is now available at https://agm2019.naturecowichan.net/

The Annual General Meeting will be held on January 31. Most of the Executive are willing to stand for re-election, although for several this will be their final year. Serving on the executive is a window into all the activities and community involvement of the club. Most positions can be done according to your own schedule and we try to keep our meetings to a minimum. One position will definitely become vacant after the AGM - the Walk Coordinator. Rob has done a super job gathering a varied schedule of walks over the past year. Now it's time to pass the position to another member. Please consider this or another position on the executive. Our club cannot exist or be such a part of our community without the members who volunteer for the various functions within it. Any Exec Member can help you find the role that best suits you.

Salt Spring Island FreshWater Catalogue (SSIFWC) Project - In a Nutshell(?)

John Millson

What is this project you may (or may not) have heard about?

The intent of the SSI FreshWater Catalogue project (SSIFWC or FWC for short, not WC…) is to raise community awareness of the island's water diversity; help develop island watershed communities; data gathering to support island water resource quantification and quality studies, and to inform island watershed preservation/management activities.

The SSIFWC project utilizes a growing group of island-based volunteers to work in the field and help develop a freshwater "baseline" catalogue for Salt Spring Island, working under that well-known mantra "You can't manage what you don't measure (or don't know)".

Initiated in April 2018, the Salt Spring Island (SSI) FreshWater Catalogue (SSIFWC) project runs under the auspices of the SSI Water Protection Society (WPS). The SSIFWC project supports the "engage in and to otherwise promote the scientific study of and research into water resources" aspect of the WPS.

How is the SSIFWC work being done?

Like many island projects the SSIFWC project relies completely on volunteers: in the field as Watershed Stewardship Groups, or as individual "StreamCatchers" and "Reconnaissance" water feature scouts; indoors on data handling (trend analysis, graphing, map creation/manipulation etc.) and an "history of SSI water" historical review.


SSIFWC field sampling to-date - using the Oakton field device for water chemistry measurements

For an "holistic" FreshWater Catalogue, a compilation of historical records of surface water sources and how were these were

used (farmsteads, irrigation systems, dams, mills, mining?) is important. An historical perspective may directly impact our understanding of the water resources of the island (changes in water use and water availability, ground water recharge and climate change).

An online map of the island's water features and a historical review supplement will fulfil the remit of a planned digital and written "FreshWater Catalogue".

In the field, volunteers use a dedicated SSIFWC Data Collection App (and/or collated notes and emails), to capture information on what information to measure. Basic "FreshWater Catalogue" data is analyzed to develop sites for more serious "baseline" monitoring. As we acquire sufficient data we hope to leverage this information, to inform various ongoing SSI watershed and groundwater water resource projects.

We will use experienced scientists, hydrologists, aquatic ecologists, and hydrogeologists as "educators" for our field citizen science groups. These educators, folk who have the relevant knowledge and experience, are largely on the island, and are willing to share their knowledge at "SSIFWC educator events".

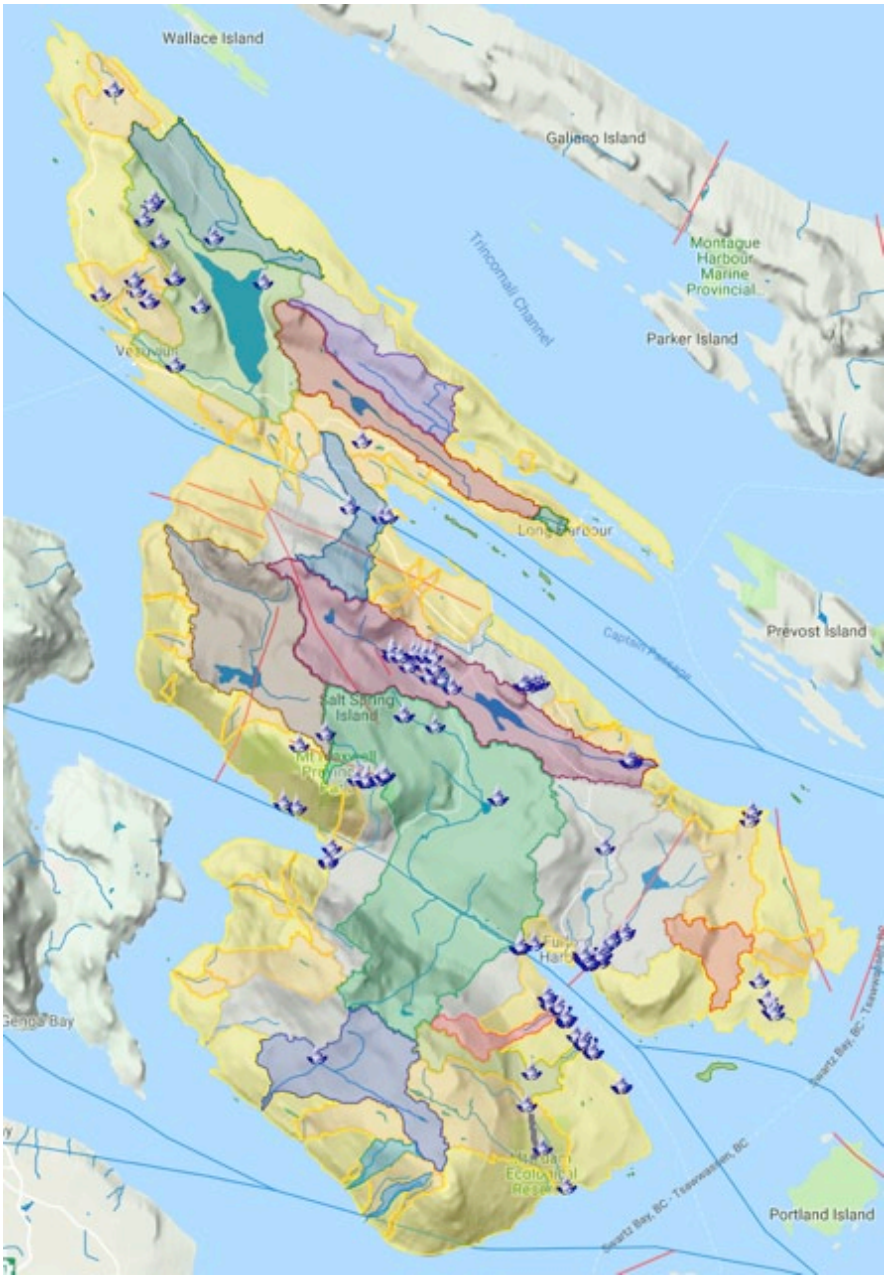
To conduct data collection and analysis, we have acquired an Oakton pH/Cond/TDS/Salinity Tester and have access to a Scoffer flow meter. An educator event for "calibrating and using the Oakton", and a "how to use a Scoffer flow meter" in planning.

What has been accomplished?

SSIFWC Watershed Stewardship Groups, "Streamkeepers" and "Reconnaissance" volunteers have collected freshwater data across 12+ of the SSI watersheds. The FreshWater Catalogue now contains nearly 300 field data points and two "new" streams. Field site "reconnaissance" has led to the establishment of seven "regular" data collection sites (in the south of the island), and to the identification of water features, and other potential regular data acquisition locations, across the island.

The freshwater data observations to-date, include tagged water feature (creek, pond, wetland) locations, with a subset of these sites containing information on water flow, Ph, conductivity, and temperature. The latest SSIFWC field data measurements are available in a SSIFWC project online map (GIS) environment (Map 1).

Our regular SSIFWC "periodic/repeat measurements" at a number of sites allow us to graph stream flow and chemistry data against some key atmospheric variables. Examples of our first compilations of SSIFWC creek measurement data, and Island Weather Station (Fulford School) precipitation data are available here. The data underpinning the graphed data is available and shared with the FLNR Fisheries and the Islands Trust.



Map 1. SSIFWC field sampling to-date. From the SSI Freshwater Catalogue online

Our challenges?

With a project in "start-up" we need to develop and maintain momentum: on volunteer recruitment, on systematic regular sampling and on expanding our data collection efforts across a larger number of the Island's watersheds - addressing the digital aspects of The FreshWater Catalogue.

With more volunteers we can expand our data collection and cataloguing efforts across more watersheds, and work on "deeper" watershed community development. We can also invest time in reviewing historical aspects of the island's water.

What is next?

The SSIFWC "scouting or reconnaissance" measurements have highlighted a number of sites/areas that need further attention. To allow us to work on these areas (and more) we are in the middle of a raising awareness of the project effort with a "SSIFWC Volunteers Needed! campaign.

To allow the SSIFWC project to be upscaled across the island's watersheds, to include regular sampling, and a reasonable selection of base data measurements at key sites, additional field equipment is necessary. With the need for further field equipment and an intended historical water archive review, a grant application is being considered.

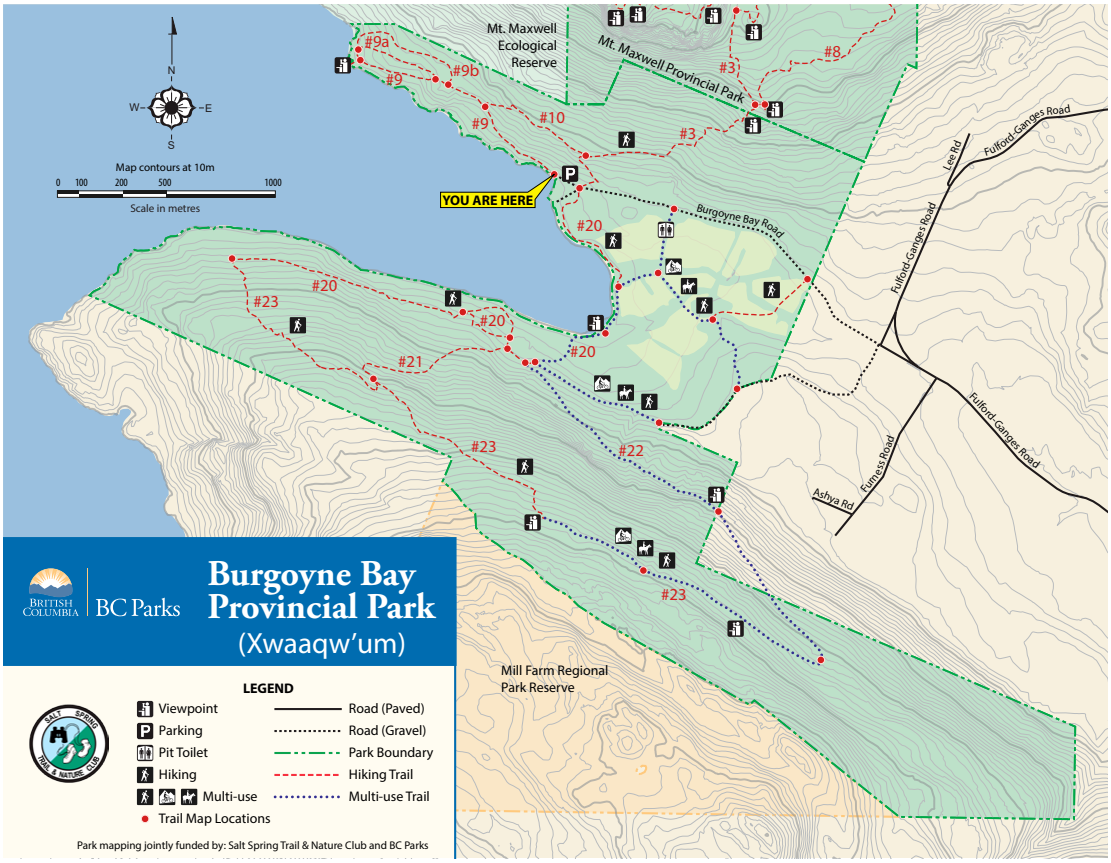
Making the data available to the public in the "the FreshWater Catalogue" is part of an ongoing WebGIS development effort, which will include data graphing. A dedicated SSIFWC webGIS product will allow catalogue sharing and use of the data in analysis and planning.

Trail Coordinator Report.

Gary Quiring, Trail Coordinator.

2018 has been a busy year for the Salt Spring Trail and Nature club's trail work ambitions.

Our trail day in May was a success and very well attended this year with almost 30 volunteers and BC Park staff. As reported in this summer's Oystercatcher, work was completed on a new section of trail on the south side of Burgoyne bay helping to form two loop trails. A small dedicated group of volunteers also completed further maintenance and clearing of the existing old logging road system on the lower flanks of Mt Sullivan, helping to firmly establish the historic, but "unofficial' trails in the area. Many kilometers of these old roads are now designated multi use, allowing for equestrian, mountain bike and foot traffic. At the upper elevations these trails also offer some unique views of Mt Maxwell and Sansum Narrows.



The final part of the project involved installing (many) posts for the navigational maps at all of the key intersections of the trail system and I am happy to report this work was completed in late September.

November 20th Trail Day. Photos by Sue Lehmann.

I hope everyone gets a chance to explore this area if they have not already had the opportunity.

The next plans for our BC Parks mapping project include installing maps on the trails in the North end of Ruckle Park. This area has not previously been included in the sign system in Ruckle. However, this part of the park sees many visitors enjoying the Hatfield trail and Yeo Beach and new maps will be helpful for people unfamiliar with the area.

Work on the club's second major project, the new trail at the Buddhist Retreat Center (KDOL) in the Mt Tuam area, has finally begun. After Trail layout and rough clearing took place, on Nov the 20th Trail day, 26 volunteers constructed the majority of the trail. What a great group and a great day out! This new trail promises to provide some amazing views as well as offering access to large sections of crown lands to the South right down to the ocean.

Thanks again to all those members who have contributed to these multi-year projects and we look forward to our continuing partnership with BC Parks and our long-term goal of improving of our island's trail network.

Happy Hiking!

Bears, Poison Ivy, and Rock Ovens

Tree Cutting – An Alternative Policy

One of the business items raised at the most recent Executive Meeting asked if the SSTNC had a position on the recent controversy surrounding a logging venture being conducted on Beddis Road. While several members expressed personal opinions on the subject, we all agreed that advocacy on this topic was not within the Club mandate. We did believe that we all have a vested interest in the good management of our island's forests and, to that end, Sharon Sullivan volunteered to research an alternative tree cutting policy that is currently implemented on Galiano Island.

Briefly, on Galiano, the bylaws state that residents require a development permit for non-cmmercial tree cutting activities. Some exemptions exist such as cutting approximately 3 large trees in a three-year period or in Private Managed Forests or some covenant areas. Garry oaks have a special protection status. A permit cannot preclude the development but it can add conditions. A fact sheet describing the bylaw and provisions can be found at http://www.islandstrust.bc.ca/media/278790/galiano_dpa3_facts_web.pdf

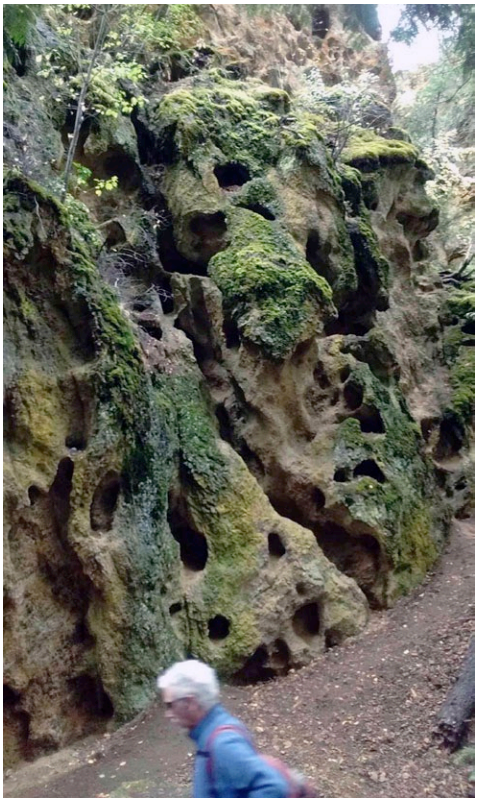
Apparently Salt Spring Island rejected a similar bylaw proposal during the last Official Community Plan review.

Kathleen Maser

Imagine a conference where you can live on the edge, the extreme edge with bears and poison ivy! BC Nature's Fall General Meeting took place in Kelowna, where, thank goodness, the wine flows freely. Attending a BC Nature conference is an amateur naturalist's dream, quite simply for the company you keep. I'm not yet talking about the bears and poison ivy, though.

Rick Gees leading a hike. Photo by Kathleen Maser.

These attendees from all over the province are the best of the best for just about any subject of natural history. They gained experience out in the field – they thrive in nature. Rick Gees, President of the local club and a Kelowna character, known for wearing shorts year-round, is one of these. He led a walk of unsuspecting types into Scenic Canyon, overshadowed by the impressive Layer Cake Mountain. The canary yellow colours of rabbitbrush that conveniently flowers in the fall, lit up the pathway as we descended into the gully. Not to be outdone was another low-lying bush draping pretty leaves, enticingly coloured in rosy-peach, flamingo and watermelon pink hues, begging us to pick them. And as we reached out, suddenly warning bells rang out loud and clear - not the distinctive 3 leaf-lobes of poison ivy! Yikes! What a deceitful bush! The poison is an oil contained in all parts of the shrub so you have to be very careful. (I know this to be true as years back my father was bedridden with horrible rashes after reclining on a bed of ivy on an Okanagan beach while wearing only a bathing suit.) Somewhat shaken, and considerably more alert, we followed the path



Rock ovens. Photo by Kathleen Maser.

towards the rock ovens. Cooling and shrinking volcanic rock formed these unique structures, which originated from lava bubbles, now prominently visible on the side of a large, moss-covered, rock cliff.

Over a hundred years ago, Chinese labourers used Scenic Canyon as a base camp while building the Kettle Valley Railway through Myra Canyon. At various points you can find big, shallow, blackened caves that they once used as rock ovens. Now, you might think it's a perfect place for the witch from Hansel and Gretel to appear!

We had to retrace our steps to take the path to Rick's next point of interest; the western bluebird boxes up the steep side of the gully. He explained that the boxes had been positioned on a remote slope, away from hikers where the path dead-ends on a sort of cliff edge. Not quite there and from the trail above, came a piercing call "There's a bear heading in your direction!" Unbelievably, Rick barely batted an eye, said not a word and strode on. What to do! Well hanging back alone, was out of the question. Scrambling to pull out the bear spray, we hurried to catch up. All of a sudden, that tingling sensation in the spine appeared. We knew we were being watched and there he was! Anxiousness fell away as we looked up in awe at the magnificence of this bear's black head, so large, peering down the slope from well above us. We couldn't see his body but figured he must have been standing up to peer down and over. For some reason those beautiful round black ears touched me, and I was no longer so afraid. In fact, he looked a trifle anxious himself!

Bear damage to wild cherry bush. Photo by Kathleen Maser.

We rounded the corner, admired the bluebird boxes, and set off nervously along the trail on which the bear had stood, but he was long gone, his tummy full of wild cherries! The flattened and battered bush we came upon was all the evidence we needed.

Hiking on the West Coast

Yvonne Gibbon

My husband Dave and I make a yearly trip to Tofino and Ucluelet to walk the beaches and trails. One sunny Friday In September we headed to Tofino to Tonquin Park which comprises of a series of boardwalks and stairs that lead down to a beautiful fairly secluded beach. People were tanning in their bathing suits and others were climbing the rocks looking for sea life.

Chesterman Beach. Photo by Yvonne Gibbon

Our next destination was MacKenzie Beach where the water is relatively smooth because of protection from the small islands surrounding it. Here we saw people on paddle boards and parents walking with their kids and dogs. We saw jelly fish, kelp, crabs, and some small clams.

Our next stop was Chesterman Beach where many surfers of all ages were enjoying the waves. An abundance of jelly-fish was scattered with clams, oysters and mussels all along the beach. There were many dogs fetching sticks from the water and

then shaking themselves dry. If you weren't careful, you'd get wet!

The next day we headed for Ucluelet where we walked the Wild Pacific Trail.

Most of the trail is fairly flat, going along the edge of a cliff with the ocean beating against the rocks below. The trail then turns inland and ends at He-Tin-Kis Park with a trail going down to Terrace Beach.

We ate salal and winter huckleberries along the way and enjoyed the fabulous wild west coast scenery. A fog horn constantly sounds -a sonic beacon anchored on an offshore platform. We were fortunate to escape both rain and fog, but if you travel there, be prepared for delays as road work is being done on the hill at the end of a Kennedy Lake. A schedule is available so you can avoid certain times of the day when work is being done. We feel blessed to have such beautiful beaches and scenery to enjoy on our west coast.

Mushrooms. Photo by Yvonne Gibbon.

Wild Beach Trail sign. Photo by Yvonne Gibbon.

Christmas Bird Count – Salt Spring's 30th!

Kathleen Maser

Members of the birding community are celebrating 30 years of bird counts on Salt Spring this year, with the count scheduled for Sunday, Dec.16. This is an exciting day for birders of all ability, as this count takes place all over North America. Having begun in 1900, it is by far the longest running Citizen Science project. Imagine knowing you will add to a century of scientific data! The collected information forms one of the world's largest set of data, and is used by conservation biologists and naturalists to assess population trends and determine changes. Local birders are concerned that this year they will see changes given the fires of the past summer in BC, and in the fall in the US. Even those with just a love for birds can get involved in the Christmas Bird Count. Beginning birders will be able to join a group that includes at least one experienced birdwatcher.

This year's coordinator is Peter McAllister (pbmcallister@gmail.com) who has experience from many bird counts. Kathleen Maser (khmaser@shaw.ca) is helping to organize the count and is the person to contact so that you can connect with the zone captain in your area. Your captain will want to know how comfortable you are with identifying winter birds and, if need be, will set you up with an experienced birder. There are also feeder watchers who count birds at their feeders for a portion of the day. Please get in touch with us!

(The Christmas Bird Count (CBC) is a program of the National Audubon Society, but is administered by Bird Studies Canada here at home.)

Citizen Science Bioblitz Provides Insights to Sea Star Recovery

David Denning

In August of 2018, 93 Salt Spring Island citizens ventured out along local seashores at low tide to help answer a nagging question: Will sea stars return to the Salish Sea? The question is raised not because *Pisaster ochraceus*, the common purple sea star, has completely disappeared from our local shores, but because a plague called Sea StarWasting Disease (SSWD) killed significant numbers of sea stars all along the Pacific Coast between 2014-2016. Most Salt Spring seashore enthusiasts observed a drastic reduction or complete loss of sea stars along their favourite shores, and many have been wondering what will happen to sea star populations.

In this article, I report the results of a citizen science initiative that looked at intertidal sea stars on beaches around Salt Spring Island, and some nearby minor islands. The initiative was designed to mobilize a number of citizen science observers to focus on a small set of biological questions using a 'rapid-assault' technique over a short interval. We called the initiative a 'Sea Star BioBlitz'.

David Denning instructing volunteers. at Fernwood Dock. Photo by Farley Cannon

Methods

To carry out a survey of intertidal sea stars requires sufficiently low tides that expose the sea stars in their natural habitat. The low tides of August 9-12 were chosen for the BioBlitz for several reasons, the most important of which was the need to avoid disturbing the under-rock nests of plain-fin midshipmen (*Porichthys notatus*), that nest in intertidal areas between May and late July.

All participants first attended a one-and-a-half-hour training session that introduced the data recording form and the observation protocols to be used in the study. Participants learned how to choose study sites, including identifying the rocky substrates at appropriate intertidal levels. They learned how to identify and measure the two-study species of sea star in the study without touching them. Touch avoidance is necessary to prevent spreading SSWD vectors should they be present on the animals being measured. The study focused on two sea star species normally found in intertidal areas of the Salish Sea – the common purple star (*Pisaster ochraceus*) and the mottled star (*Evasterias troschelii*).

Cluster of purple sea stars (top of photo) with juvenile mottled star (on left) and juvenile purple star to the left of the Toonie. Photo by David Denning.

Participants learned to distinguish the two species, to measure and record individual sea star diameters, and to assess individual sea stars for presence/absence of Sea Star Wasting Disease. Any diseased sea stars were recorded according to their stage of disease progression based on a 4-point scale.

Participants also learned how to look for juvenile sea stars, generally smaller than 6 cm diameter, and usually hidden beneath rocks or in wet crevices. The presence of juveniles in age classes from first year to fifth year indicates successful reproduction following the most devastating period of the Wasting Disease plague in 2014-2015

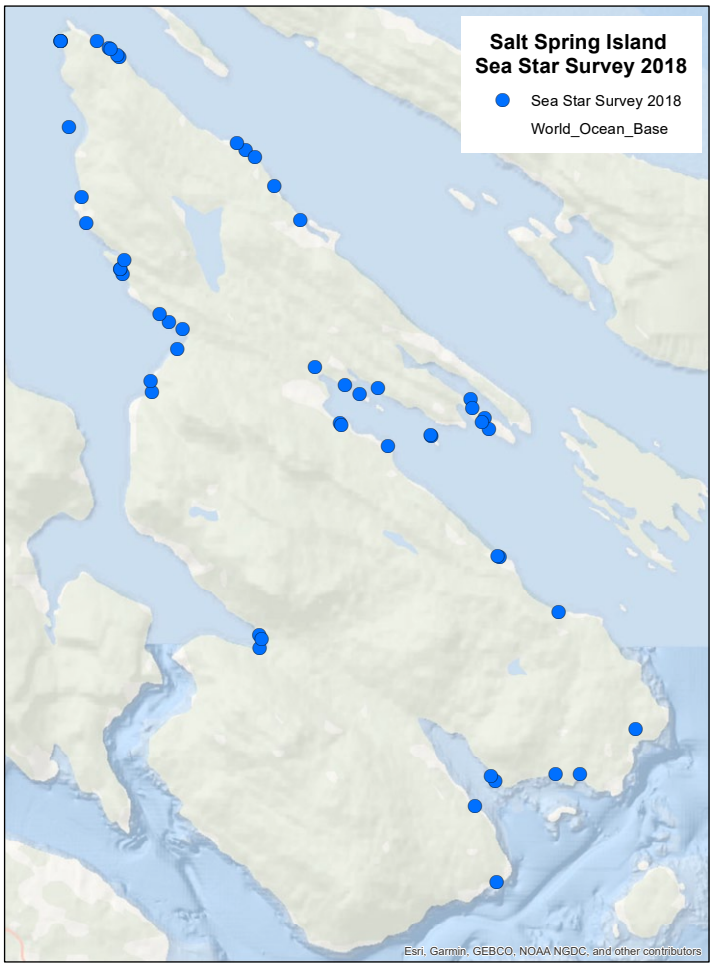
Fifty-three sites around Salt Spring Island were surveyed during the Bioblitz (Map 1). Site surveys lasted about 1.2 hours on average, and most were carried out by teams of two or more citizen scientists. In total, almost 137 hours of observations went into the Sea Star Bioblitz.

The fairly difficult work often requires observers to walk over and carefully scan a swath of rocky beach between 5 and 20 metres wide along the low tide line. Observers look for sea stars in cracks and crevices, along edges of boulders, and they even lift some of the smaller boulders in search of juvenile sea stars. Most of the surveys covered about 50 to 300 linear metres along the shoreline.

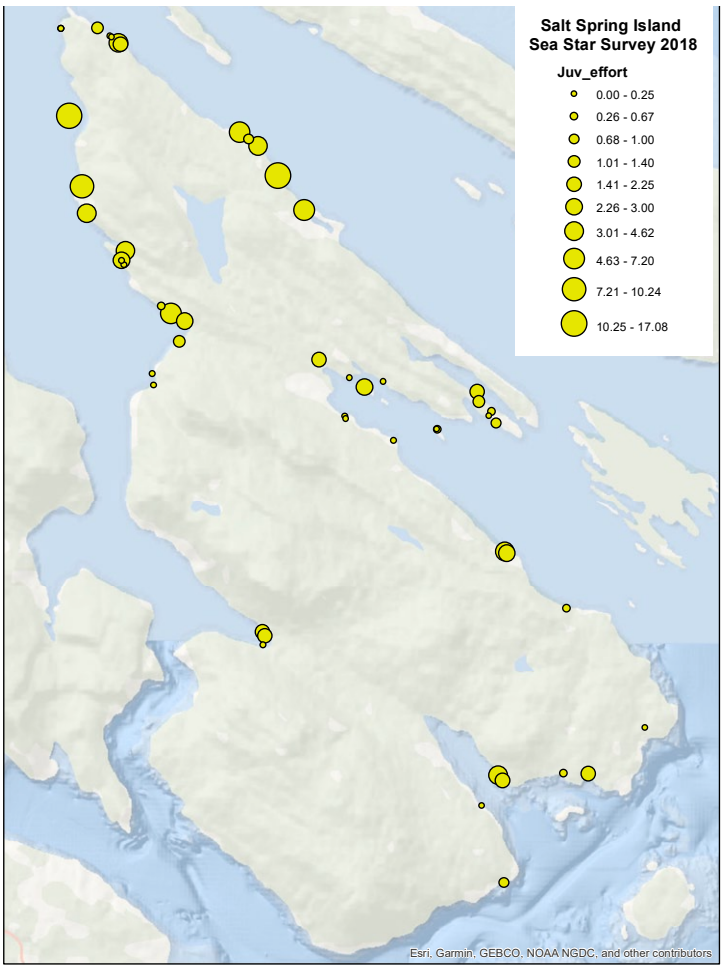
Survey group at Booth Bay. Photo by David Denning

Observation results

Citizen scientists recorded a total of 3579 adult Pisaster ochraceus and 406 adult Evasterias troschelii during the BioBlitz. This may seem like a large number of sea stars but keep in mind that the Bioblitz



Map 1. Sea Star BioBlitz survey locations (Prepared by Peter Morrison)



Map 2, The number of Purple Sea Star juveniles per hour of effort during Sea Star BioBlitz. Smallest corcles indicate no juveniles observed. Larger circles indicate relative 'hotspots' for Purple Sea Star recovery. (Map prepared by Peter Morrison)

team surveyed a combined total of over 10 kilometres of shoreline. This is roughly seven percent of the Island's total shoreline, which measures about 146 kilometers in length.

How does the observed number of adult purple sea stars compare to pre-Wasting Disease population levels? Fortunately, we have one data set that provides a reasonable baseline value for pre-Wasting Disease abundance (taken in May 2014, at the very beginning of the plague). That survey was carried out at Goat Island, in Ganges Harbour, by Peter McAllister, Nieke Visser, Bernadette McAllister and the author using a boat traveling as close as possible to the shore scanning the low intertidal zone with un-aided eyes as well as binoculars. That survey found a pre-Wasting Disease density of 1892 ± 80 purple sea stars per kilometre of shoreline. Based on this baseline density, the findings of the BioBlitz study indicate that sea star populations may now be around 10% to 20% of pre-Wasting Disease levels. However, a couple of factors raise questions about these values. One factor would be if sea star survival was higher in deeper, colder, waters and survivors subsequently migrated up into intertidal. Our yearly sea star counts on the Goat Island suggest that this migration did occur in 2016, 2017 and 2018, so it is likely that our BioBlitz determined values are a little high.

Finding Juveniles

Sea star reproduction is fascinating. Each spring, eggs and sperm are released directly into the sea, and if fertilization is successful, the zygote forms a larva that swims in the plankton for several weeks before settling to the bottom to begin life as a tiny (less than 4 mm) juvenile. In this study we somewhat arbitrarily defined juveniles as small sea stars less than eight cm total diameter. Such sea stars (for purple stars at least) are up to 4-5 years in age. If purple sea stars are 'coming back', then we should see a proliferation of juveniles along the seashore.

The problem is – juvenile sea stars tend to hide at low tide under rocks. The BioBlitz observers had to pick study beaches with 'turnable' rocks in the proper section of the intertidal zone and carefully turn each appropriate rock without damaging any of the special marine life that lives under these rocks. Part the of citizen science challenge!

A total of 352 juvenile *Pisaster* ochraceus were observed in the 53 BioBlitz survey plots. Juveniles represent about 9% of the total. Very few 'first year' juveniles were found, indicating that 'recruitment' (successful settlement of larvae to become juveniles) was low over the previous year.

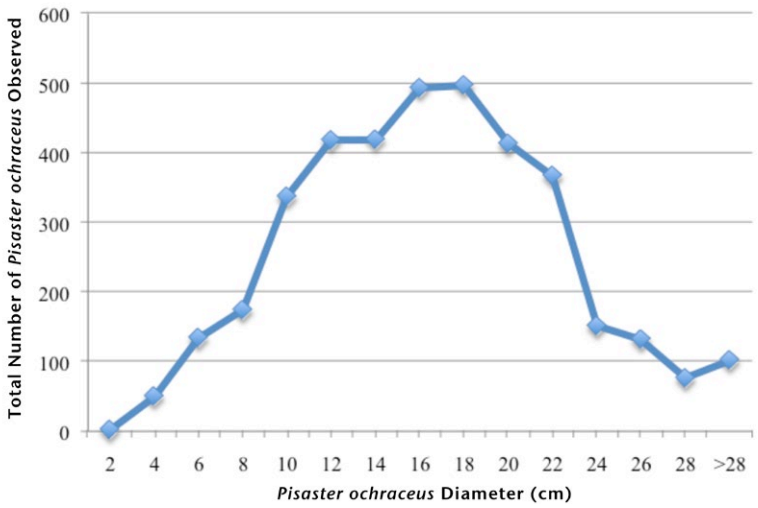


Table 1. The numbers of Pisaster ochraceus graphed by diameter.

In terms of sea star recruitment, it appears that beaches along the Northern portions of the Island are more successfully recruiting juvenile sea stars. The number of juveniles per hour of searching effort is shown on Map 2. The larger circles indicate locations where more juveniles were found per unit of effort. These locations may be "Recruitment Hotspots" and we will continue monitoring these locations in the future to determine if juvenile populations are building up.

Is Sea Star Wasting Disease plague continuing?

Our study found Sea Star Wasting Disease in 24 of the 53 study sites. A total of 82 individual purple sea stars were affected (2.3% of all *Pisaster* observed). The disease frequency in five sites was particularly high (24%, 27%, 83%, 6%, and 15% of observed adult P.o.), but excluding those sites, the frequency of SSWD animals is only 0.9% and 29 sites showed a complete absence of diseased individuals. Our results confirm what other studies along the Pacific Coast have shown: Sea Star Wasting Disease continues to affect *Pisaster* populations at a low level, with pockets of more serious outbreaks.

Although a specific type of virus called a *Densovirus* has been shown to be involved with several different sea star species affected by SSWD, recent research indicates it is not 'the cause' of SSWD, but is rather a contributing factor. In the case of purple sea stars there are at least two other agents – a tiny single-celled ciliate parasite, and increased temperature levels in the sea star's habitat.

In regards to sea temperature, the science-based models and predictions for global climate change as outlined in October's IPCC Report on halting global temperature rise to only +1.5°C are alarming., Sea stars, like most wildlife in our natural environments, are being heavily impacted by human-caused changes in their ecosystems. Clearly, we should continue to monitor sea stars to see how they are faring as we respond to the climate crisis by rapidly reducing our emissions of greenhouse gases.

Are Sea Star Populations Recovering?

Our study cannot answer this question, but it does give us insights. *Pisaster ochraceus* sea star populations have been reduced by at least 80% along our shores. Juvenile sea stars are present in the intertidal, but not in numbers that would indicate a surge of recruitment and rapid population growth. If anything, our study shows that while some recovery may be happening, it is extremely slow. Sea Star Wasting Disease is still eating away at populations of sea stars, and we have found alarming indications that it can break out in pockets. Add to these findings the dire predictions about the future of our globally warming world and we can only allow our results to provide little optimism about the recovery of our iconic shoreline Sea Stars.

The Experience

In closing this article, I would like to say that I was overwhelmed by the incredible enthusiasm of Citizens of Salt Spring Island who obviously care deeply about our marine environments and marine life. They bring a remarkable array of skills and dedication to help study conditions of the nature around us. My sincere

thanks to everyone who participated,. A special thanks to Rob Mason, Kathleen Maser, and Farley Cannon for their assistance in training sessions. Thanks also to Rob James and Peter Morrison for data management assistance.

Q'shintul: Walking Together

Kathleen Maser

The following is Genevieve Singleton;s account of an event that Rob and I attended in Duncan on September 28th. Unfortunately, we left early and didn't hear most speeches. We were there for the welcoming drumming at the start and a fantastic banquet that fed, I believe, close to 600 people. The atmosphere was phenomenal where all felt welcomed and comfortable.

> …No Pictures, not appropriate. I managed to get to this amazing event, Q'shintul: Walking Together. .... this is what I saw, a beautiful "big house" full of people who care, lots of orange shirts. I heard the Elders speak about the need to work together. I heard heartfelt thanks to Duncan Mayor Phil Kent, who is retiring, from Cowichan People for his work on reconciliation. I heard our Premier John Horgan talk about the journey we are on, making change together. I heard the Elders say to everyone, "You are needed., We are all needed, Stand with us." I watched John Horgan drum with the Elders and I was moved and happy. I saw a big house full of love.
>
> I was at this: Q'shintul: Walking Together event. We will gather as a community, with First Nations leaders and Elders, federal, provincial and municipal leaders and community members in the Somena Longhouse. It has been 10 years since we began our journey to build relationships and bridges between the First Nations and non-First Nations communities within the Cowichan valley. The North American Indigenous Games were a turning point for the community, the first time that many non-First Nations people in the community became aware of the enormity of the social, economic and cultural divide that exists in the region.
>
> The purpose of Q'shintul: Walking Together is to acknowledge what we have learned over the past 10 years, identify next steps on the reconciliation path and make a commitment for future generations in the Cowichan region.
>
> Genevieve Singleton

Box 203, Ganges PO
Salt Spring Island, BC
V8K 2V9

Publications mail agreement
No. 40049783