

Our Backyard

A NEWSLETTER ON THE NATURAL ENVIRONMENT IN SAANICH



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In This Issue:

[What are “Ecosystem Services”?](#) | [Cuthbert Holmes Park and the Colquitz River Estuary: New Wildlife Sites](#) | [Saanich Environmental Award Winners 2019](#) | [Park Petiquette is as Easy as 1, 2, 3](#) | [Pulling Together Volunteer Feature](#) | [Konukson Park](#) | [Lochside Pollinator Meadow](#) | [3 Things We Can Do To Help Pollinators](#)





What are “Ecosystem Services”?

By Thomas Munson, District of Saanich
Senior Environmental Planner

Do natural ecosystems serve us? This is not meant from a ‘dominion over the earth and all its species’ perspective, but from the perspective of benefits that we as humans can recognize as being provided by the natural world.

The most obvious ecosystem services include the food we eat, the water we drink, and the plant materials we use for fuel, building materials, and medicines. There are also many, less visible, ecosystem services such as the climate regulation and natural flood defences provided by forests, the billions of tonnes of carbon stored by peatlands, or the pollination of crops by insects. Even less visible are cultural ecosystem services such as the inspiration we take from wildlife and the natural environment.

Let’s consider a practical example in Saanich – the urban forest. What benefits do trees provide that create healthy, livable, and sustainable cities? Some of the recognized benefits include:

- Reduction of stormwater run-off by interception of rainfall, which reduces the impact of rapid flow of water to nearby streams, lakes, and the ocean;
- Providing habitat for many species of wildlife, insects, and plants;
- Capturing and filtering of air pollutants;

- Production of oxygen and capture of carbon dioxide;
- Shading of our built structures and reduction of daytime temperatures;
- Improving the appearance and real estate value of neighbourhoods; and
- Increasing human well-being through providing areas for recreation and ecological restoration activities.

These ecological benefits can collectively be called ‘ecosystem services’. Their value has long been overlooked as cities developed and expanded, removing forests, paving meadows, capturing streams in pipes to move water more quickly away from urban centers and houses. Now there is a trend regionally and nationally to recognize these ecosystem services, and to reverse the alteration or removal of natural ecosystems for our convenience. The Municipal Natural Assets Initiative (MNAI) is a national non-government organization that is driving this process of natural asset management.

Valuation and recognition of the benefits provided by natural ecosystems is the first step in reversing their decline. Several local municipal examples exemplify this process. The Town of Gibsons on the Sunshine Coast was one of the first to recognize the value of its natural assets – watersheds, forests, aquifers, and foreshores. The town realized that the watershed above the town, in



its natural state, was providing the equivalent or better ecosystem services in terms of stormwater management, flood protection and provision of clean drinking water, than would similar engineered systems. The town undertook a study to understand the value of these natural ecosystem services by:

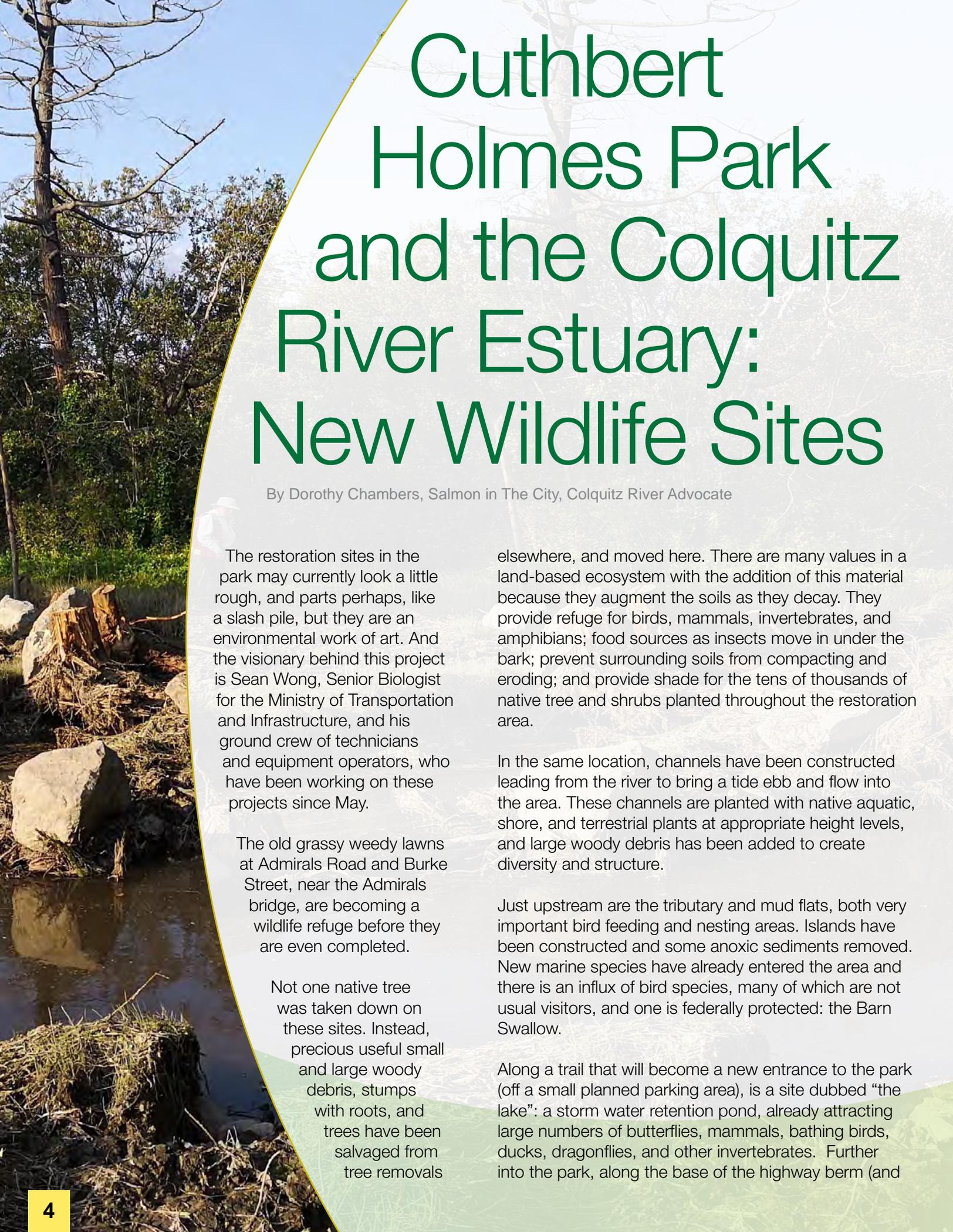
- Developing an inventory of the natural assets and their condition within its jurisdiction;
- Describing the ecosystem services that these natural assets provide;
- Estimating in ‘ballpark’ terms the value of these natural assets in terms of the costs to replace them with engineered alternatives; and
- Determining the value of the ecosystem services from each natural asset.

With this information on the valuation of natural assets and ecosystem services, the Town of Gibsons became the first jurisdiction in North America to integrate natural assets into their development and financial planning. The Town’s planning process:

- Considers new developments holistically to see whether new amenities can provide an equivalent level of service to that provided by natural assets; and
- Determines whether existing natural assets can be preserved, maintained, or enhanced before proposing new assets, or allowing developers to clear land.

Closer to home, the City of Nanaimo has used the local Buttertubs Marsh Conservation Area (BMCA) as its first example of valuation of the benefits of natural assets. The BMCA is a reclaimed wetland and floodplain adjacent to the Millstone River in Nanaimo. The City undertook a study to assign a financial value to the BMCA for its stormwater services based on the cost of replacing those natural services (water quality control and floodwater management) with an engineered alternative. Using a model for stormwater management developed by the US Environmental Protection Agency, the City of Nanaimo quantified BMCA storage benefits for detention of stormwater, and quantified the attenuation (slowing) of flood flows in the Millstone River afforded by storage of excess water in the adjacent wetland marsh. Their conclusions were that the existing wetland and floodplain provide the equivalent economic value in nature-based stormwater storage compared to the cost of design and construction of an alternative engineered storage structure. And the value of BMCA increases when climate change scenarios are evaluated.

These municipalities are now expanding their studies in natural asset inventory and valuation and incorporating the results into their infrastructure and financial planning processes. Ecosystem services and natural assets in Saanich benefit all of us.



Cuthbert Holmes Park and the Colquitz River Estuary: New Wildlife Sites

By Dorothy Chambers, Salmon in The City, Colquitz River Advocate

The restoration sites in the park may currently look a little rough, and parts perhaps, like a slash pile, but they are an environmental work of art. And the visionary behind this project is Sean Wong, Senior Biologist for the Ministry of Transportation and Infrastructure, and his ground crew of technicians and equipment operators, who have been working on these projects since May.

The old grassy weedy lawns at Admirals Road and Burke Street, near the Admirals bridge, are becoming a wildlife refuge before they are even completed.

Not one native tree was taken down on these sites. Instead, precious useful small and large woody debris, stumps with roots, and trees have been salvaged from tree removals

elsewhere, and moved here. There are many values in a land-based ecosystem with the addition of this material because they augment the soils as they decay. They provide refuge for birds, mammals, invertebrates, and amphibians; food sources as insects move in under the bark; prevent surrounding soils from compacting and eroding; and provide shade for the tens of thousands of native tree and shrubs planted throughout the restoration area.

In the same location, channels have been constructed leading from the river to bring a tide ebb and flow into the area. These channels are planted with native aquatic, shore, and terrestrial plants at appropriate height levels, and large woody debris has been added to create diversity and structure.

Just upstream are the tributary and mud flats, both very important bird feeding and nesting areas. Islands have been constructed and some anoxic sediments removed. New marine species have already entered the area and there is an influx of bird species, many of which are not usual visitors, and one is federally protected: the Barn Swallow.

Along a trail that will become a new entrance to the park (off a small planned parking area), is a site dubbed “the lake”: a storm water retention pond, already attracting large numbers of butterflies, mammals, bathing birds, ducks, dragonflies, and other invertebrates. Further into the park, along the base of the highway berm (and

still under construction) is another storm water runoff area, becoming a beautiful wetland and another small lake in an area that was previously a weedy and grassy field near the river. Not only will this area provide a wildlife refuge, but it filters the runoff water before it empties into the Colquitz.

Oyster shells and alluvial gravels have been added in aquatic areas to improve water quality and provide a better substrate for aquatic organisms.

Invasive plant removals have occurred in restored areas, salvaged soil from the site has been used to establish thousands of native plants in the form of seedlings, transplants, live cuttings, and potted stock. These have been added to newly constructed tidal marsh benches and islands, wetland areas, the river riparian zone, and upland terrestrial habitats.

The vertical tree poles seen at these sites not only attract resting/hunting birds, but many will be equipped with nesting boxes suitable for different species, including bats. These sites and nest boxes will be monitored by community groups.

Also underway and continuing into the future are fish and invertebrate species surveys in partnership with local community stewards like Salmon In The City and World Fisheries Trust. Water quality monitors will be in place and meters used to collect data on temperature, dissolved oxygen, sediment levels, and other parameters in the river and restored aquatic habitats.

Visible from the park towards the highway is the new berm. The lower portions facing the park have been designed by Dave Polster, a bioengineer, with a technique called Rough and Loose. Again, it may temporarily look like a slash pile, but the concept not only assists with preventing large volume runoff from the slope above, it is augmented with large woody debris, Red Alder seeds, and many other native tree seedlings, to become a beautiful forest along what will be a public pathway. It has been noted by many parks walkers that the berm is very effective with visual and sound attenuation.



A smaller and new berm has just been started that was previously slated to be a hydroseeded embankment and somewhat barren clearing is being added just east of Admirals Road with additions of native plantings and more woody debris to create an additional green space and wildlife habitat.

This has been a project with extensive collaboration and support between provincial and federal Ministry's, many departments from the Municipality of Saanich, the CRD, multiple conservation groups, and non-governmental organizations.

Please respect that these areas are still contained within the active McKenzie Interchange construction site, and are not yet accessible for the public. They are also constructed to be wildlife refuge areas and are off-limits for dogs running at large.

a park visitor
Photo: Megan Sim



Individual Environmental Achievement - Harry Drage

Harry received the individual environmental achievement award in honour of his leadership for the environmental stewardship of Haro Woods and Konukson Park. Harry was a leading force for the ecological restoration of Haro Woods, inspiring many volunteers to join the project. He then became lead steward for the last 15 years, restoring the ecosystems of Konukson Park with a large team of volunteers - twice a week, year-round. Leading thousands of hours of volunteer contribution, Konukson Park has been transformed through dedication and methodic work. Harry's commitment has included applying for grants, supporting students and research, being an advocate for the park, engaging and leading community volunteers and inspiring the neighbourhood with the preservation of these natural areas.

Honourable Mention: Prospect Lake Elementary (teachers - led by Laurel Evans, Jane Schwann and Anita Ko) - for their commitment to creating opportunities for students to learn through nature and become stewards of the natural environment.

Volunteer Organization - Garry Oak Ecosystems Recovery Team

The Garry Oak Ecosystems Recovery Team (GOERT) was being recognized for their volunteer achievements in protecting and restoring Garry Oak ecosystems in Saanich and beyond. This team has worked with many partners, including Saanich, to protect and restore remaining rare Garry Oak ecosystems in Saanich – including local parks and private lands. Garry Oak ecosystems are one of the most endangered and biodiverse ecosystems in Canada and a very special part of the Saanich landscape. GOERT has developed partnerships and important tools invaluable to supporting restoration, stewardship, research, and the protection of local biodiversity.

Business - MAC Renovations

MAC Renovations received the business award for their leadership in energy efficiency and implementing the Step Code. This Saanich business trained staff and used the Step Code in their work before it became a requirement. They rebuilt their new West Saanich Road office to a step 4 level, serving as a model for the important Step Code initiative to create net-zero energy ready buildings. Their renovation included a building seal approach, heat pump system, 50-year metal roof, high efficiency doors and windows, on-demand water heaters, vehicle charging stations, showers to support staff to ride or jog to work, pre-wiring for solar, and a wastewater treatment system. MAC Renovations have focused their work on building sustainability and provide education grants to all employees every year to promote their professional development.

Youth - 10th Garry Oak Scouts

The 10th Garry Oak Scouts were recognized with this year's Youth Award for their commitment to hands-on environmental stewardship in Saanich Parks. The leaders and youth have been committed to actively supporting ecological restoration, such as helping to plant hundreds of native trees and working hard to remove invasive species in a number of parks. The 10th Garry Oak Scouts were instrumental in the ecological restoration of the new Lindsay Trail project on the Colquitz River near Royal Oak and have also helped build and install bird boxes in Saanich Parks. The Scouts' active environmental stewardship helps to protect and restore local ecosystems for the benefit of all and instills life-long values of community participation and environmental action.

2019



Biodiversity Conservation - Oluna and Adolf Ceska

Oluna and Adolf Ceska were recognized with the 2019 Biodiversity Conservation award for their significant scientific research on fungi at Observatory Hill in Saanich. Without financial support, their research on Observatory Hill has become a lifetime project, documenting and studying the fungi and ecosystem relationships over this 185 acre site of rare Garry Oak and Coastal Douglas-fir ecosystems. Their work has supported the work of other scientists across the province and their long-term, detailed study, will provide a benchmark to understanding the impacts of climate change. Principal researcher Oluna, with the support of her botanist husband Adolf, have categorized, classified and discovered over 1,400 species of fungi on the site, described by Professor Joseph Ammerati of the University of Washington as “the longest, most detailed biodiversity study in North America”.

Honourable Mention: Habitat Acquisition Trust (HAT) - for their programs enhancing wildlife habitat and protecting biodiversity in Saanich.

Sustainability - Dean Murdock

Dean Murdock, former Saanich Councillor, was honoured for his leadership in local food security, alternative transportation, and environmental stewardship. Sustainability is about integrating environmental, social, and economic values and Dean showed a remarkable ability to pursue all of these things at once in a meaningful and productive manner. Whether it was getting people out of cars, into fields, or away from oil tanks, Dean helped to bring people on board with his enthusiasm, knowledge and leadership.

Long Term Achievement - Mary Haig-Brown

Mary Haig-Brown was recognized for her long-term achievement as a leader in nature conservation and education in the Prospect Lake/Tod Creek Watershed, where she has volunteered extensively over the last 40 years. Mary has been involved with and led countless initiatives in the community: studies and management plans for the area, the formation of the Friends of Tod Creek Watershed, working with students from elementary to post-secondary, serving with community groups such as Peninsula Streams, Habitat Acquisition Trust, and, for the last 8 years, as a member of the Saanich Environment and Natural Areas Advisory Committee. In her letter of support for Mary, MLA Lana Popham noted: “even with the hours of work, planning, weed-pulling, and advocating, perhaps the richest gift that Ms. Haig-Brown has bestowed upon the people of Saanich is the mentorship she offers to young and old alike.



Park Petiquette is as easy as 1, 2, 3!

By Sophie Eckard, Saanich Parks
(Student Parks Technician)

Summer is the perfect time for exploring Saanich's beautiful parks. Whether you're hitting the trails or heading to the beaches, our parks are even more enjoyable with family – and, for some, family includes Fido! When taking your pooch to these special places, you can help create a paws-itive experience for everyone by remembering to:

1. Pick up after your dog. Not only is uncollected dog waste unpleasant to step in, but it can also harm the environment and spread disease in dogs, humans, and wildlife. Bring your own supplies and dispose of doggy doo bags in garbage containers, not along roads, trail sides, or into trees and bushes!
2. Obey leash laws. Only a few of our parks have dog restrictions. All others allow dogs that are on leash or under effective control (i.e. within sight and will immediately return to you when called). Look for park signs reminding you where and when dogs are permitted (or check out bit.ly/DogsinParks) and respect those who are afraid of dogs by controlling your pet.
3. Be mindful of the environment. Keep your dog on the trails to minimize impacts on nature. Watch to make sure your dog isn't disrupting wildlife or running through areas that are home to sensitive plants and animals.

Seasonal restrictions:

May 1 – August 31

- Cadboro-Gyro Park or the Cadboro Bay public beach after 9 a.m.
- Cordova Bay Beach after 9 a.m.
- Mount Douglas Park Beach and adjacent picnic/parking area
- Whitehead Park

March 1 – October 31

- Fenced baseball fields

All-year restrictions:

- Swan Lake Christmas Hill Nature Sanctuary
- Quick's Bottom Park
- Artificial turf fields
- Rithet's Bog other than leashed on the perimeter trail
- Within 50 metres of Kings Pond in Cedar Hill Park except on a leash on the chip trail

Dogs must be on a leash:

- On school grounds
- Within 10 metres of playground equipment
- In the Royal Oak Burial Park
- On the Lochside Trail within the Blenkinsop Lake area (see CRD bylaws for further trail regulations)
- In Cedar Hill Park, including all trails
- Along the perimeter trail in Rithet's Bog



PULLING TOGETHER

Volunteer Feature



By Paul Bishop, Cedar Hill Park, Pulling Together Volunteer

Having lived near Cedar Hill Park since 1972 and retired from the Ministry of Forests in 2004, Paul read a notice in the local paper requesting volunteers to help Cedar Hill Golf Course staff remove invasive plants from several natural areas of the park. Being aware of trail users' interest and comments, Paul volunteered, and after several sessions, asked if he could continue on a regular basis. Happily, the request was granted.

Having grown up in the Comox Valley, Paul studied Civil and Structural Technology at BCIT, graduating in 1968. In 1969, he wrote the Ministry of Forests' Assistant Ranger examination in Victoria and was hired as the dispatcher in the Courtenay Ranger Station for the 1969 fire season. Lucky break, live at home! That fall he transferred to the Engineering Services Division in Victoria. Staff with that division worked all over B.C. on surveys, designs, and construction for roads, forest nurseries, seed orchards, research stations, forest fire fighting facilities, and the marine fleet.

Paul has an interest in local and provincial history, collecting books on people, buildings, places, early railroads, forestry, and plants, some books new and some old, visiting locations of interest and walking areas. He also finds time to maintain an interest in collector cars, explore family genealogy, volunteer at the Forest Discovery Centre in Duncan, and continue memberships in the Land Conservancy of BC and Comox Valley Naturalists Society.

An active and dedicated Pulling Together Program volunteer in Cedar Hill Park since about 2008, Paul has helped remove invasive species in almost every area of this well-loved and busy park. Paul enjoys watching what happens throughout the year when invasive plants such as Scotch Broom and Himalayan Blackberry are removed. Interest in the Pulling Together Program from the community has grown over the years "I see it as a privilege to be able to give hands-on care to the land in Saanich."

Photos: Jillian Tuson, District of Saanich Parks Department



Konukson Park

By Harry Drage, *Pulling Together* Volunteer

Welcome to one of the least-known parks within the Municipality of Saanich. It is tucked away at the further-most point of Vancouver Island, which geographically juts out into Haro Strait east of Cadboro Bay. A small forested gem about 10 hectares in size, this park is dominated by mature Douglas-fir and an assortment of plants, including invasives such as English Ivy, English Holly, Scotch Broom, and Himalayan Blackberry. Previously called Sea Point Park, in 1972, it was renamed Konukson, a First Nations word referring to the geographical shape of 10 Mile Point.



Before our team of ten volunteers began working in 2007 (twice a week from March to November), the density of invasive plants was such that few native plants were able to survive. English Ivy was the predominant invasive and covered approximately 90 percent of the site. However,

after an estimated 9,000 hours of volunteer weed-pulling, there has been a significant recovery of native plants, including ferns and many deciduous species, such as Oceanspray, Common Snowberry, Trailing Blackberry, Camas, and Black Cottonwood.

The contribution to the improved biodiversity of the site was recognized by the Municipality of Saanich in 2012, when the volunteer team was honoured with the annual Environmental Volunteer Organization Award.



Work continues to be done on this site by volunteers. If you are interested in being part of an enthusiastic and fun-loving team whose work is visibly rewarding, please contact Pulling Together Volunteer Coordinator Jenny Eastman at Saanich Parks. She can be reached at jenny.eastman@saanich.ca or by calling 250-475-5522.





Lochside Pollinator Meadow

Submitted by Saanich Native Plants, with Peninsula Streams and the Pollinator Partnership

Peninsula Streams Society, Pollinator Partnership Canada, and Saanich Native Plants have partnered to restore a half-acre Garry Oak meadow along the Lochside Trail in Saanich. The restored site provides essential habitat for threatened native pollinators and other local species, as well as an aesthetically pleasing and educational community space for local residents and Lochside Trail cyclists, pedestrians, and others.

An initial site survey in 2017 found very little existing native vegetation and a low diversity of pollinators. The original top layer of soil had been removed years ago and the area was primarily covered with invasive grasses. Seed was collected from the few native species still present on the site. Don Mann mechanically removed the vegetation layer before weed-free soil was brought in with the help of Peninsula Landscape Supplies. Baseline surveys for pollinators lead by Pollinator Partnership Canada, with the help of Reynolds Secondary students, yielded minimal observations.

In September 2018, work started with help from local volunteers and businesses to plant more than 2,000 native plants in just one morning! The restoration work also included a diverse native seed mix of more than 40 native species broadcast over the site. Vernal pools were created by digging small depressions in the hard clay soils. These pools now host a unique array of species adapted to winter flooding and summer drying while also providing nesting habitat for ground-nesting bees.

This spring passersby and volunteers have enjoyed observing the meadow through its first season. Sea Blush

and Small-flowered Blue-eyed Mary dominated the view in early spring, followed by a flush of Farewell-to-Spring, Woolly Sunflower, and Self-heal. As the season progresses the native bunchgrasses will turn to amber and highlight the blooming Yarrow. While the drier parts of the meadow die back for the season, wetter parts of the meadow will be vibrant with late-flowering species like Fireweed, Canada Goldenrod, and Douglas' Aster. These flowers will not only be beautiful, but will also provide nectar for late-season pollinators.

Volunteers continue to steward the meadow by weeding non-native invasive species. Pollinator monitoring is ongoing, and we look forward to making observations and learning from the meadow for years to come. Preliminary pollinator surveys this season show a dramatic change in the abundance and diversity of pollinator species already!

This project is supported by BC Hydro, Victoria Foundation, North Quadra Community Association, Don Mann Excavating, Habitat Conservation Trust Fund, and Bee BC Program, and is a clear demonstration of what can be done on parcels of underutilized lands to enhance our local environment in Saanich.

The Lochside Pollinator Meadow is easily viewed from the Lochside Trail just north of McKenzie Avenue and Borden Street. Please contact peninsulastreams@gmail.com if you are interested in volunteering or would like to know more about the project. For more information about pollinators visit <https://www.pollinator.org/pollinators>

Photo: Brian Koval



3 Things We Can Do To Help Pollinators

By Claudia Copley, Royal BC Museum Entomologist



1. Plant Native Plants in Your Garden

When wild habitats in our region are replaced by houses, lawns, and roads, wild bee populations can suffer. You can help native pollinators like the endangered Western Bumble Bee and others by helping to provide corridors of habitat that join protected parklands together by adding native plants to your yard. This will give bees somewhere to find food near where they are nesting. Many other species that live where you live will benefit as well, since native birds and butterflies are also adapted to feeding on the wild plants they evolved with. Your garden will become an oasis for wildlife!

2. Buy Organically-Grown Food

We want bees visiting food crops because they have the important job of pollination. But pesticides meant to kill insects are often used on fruit and vegetable crops, and this can harm non-target species like pollinators. You can keep your own health and that of bees in mind when you are shopping for food by choosing organically-grown as often as possible.

3. Be Pesticide-Free

Even when we think our own garden is pesticide-free, we may not realize that the plants we bought from the store to put in our garden have been treated with pesticides such as neonicotinoids. These toxic substances are taken up by the plant and distributed to all of its tissues, including the pollen that bees collect to feed to their young. So ask questions before you buy bedding plants, or better yet, save seeds, grow your own plants, or exchange plants with a friend!



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