WINGSPAN

WILD BIRD TRUST OF BRITISH COLUMBIA
MAPLEWOOD FLATS • SUMMER 2018 • FREE

DR. ROBERT WILLIAM ELNER
in conversation
An IOCongress 2018 Review

WILD BIRD HABITAT PLAN

TRADITIONAL ECOLOGICAL KNOWLEDGE
Restoration & Reconciliation

BUILDING A BETTER BIRD BLIND

CONCERNS FOR WILD BIRDS & OIL SPILLS HEIGHTENED

MEET THE ARTISTS
Coast Salish Cultural Heritage Project

CALL FOR ENTRIES:
25th Anniversary Photo Exhibition

Kingfisher Summer Camps!

12TH OSPREY FESTIVAL

Pacific Great Blue Heron
by Robert Alexander

VANCOUVER INTERNATIONAL BIRD FESTIVAL

Join me and 266* of my closest friends at the Vancouver International Bird Festival...

19 – 26 August 2018

Photo: Anna's Hummingbird/Liron Gertsman

Vancouver is home to 267* species of birds... Join us to celebrate the incredible diversity and the extraordinary wonders they bring to our lives.

* **Source:** Nature Vancouver, 2013. Seasonal checklist of birds of Greater Vancouver, BC.

30	Community Partners
40	Speakers from 10 Countries
50	Once-in-a-Lifetime Local and International Tours
100	Exhibitors and Sponsors
267	Local Stars*

International Ornithological Congress

Vancouver Board of Parks and Recreation

City of Vancouver

www.vanbirdfest.com

EDITORIAL

RECONCILIATION FOR COAST SALISH WILD BIRDS: OUR NEXT 25 YEARS!

Twenty-five years goes by quickly when you are busy and passionate about your work! 2018 marks the Wild Bird Trust of BC's 25th anniversary and this issue of *Wingspan* provides us with the time and space to consider those 25 years, the purpose of this movement, and where we are going. Enjoy a look back at the 25 years in an article on page 28, and learn how to join the celebrations.

2018 is also a big year on the birding community calendar as Vancouver hosts the International Ornithological Congress in August, alongside the Vancouver International Bird Festival, August 19th-26th, 2018. While you are making summer plans, mark your calendars and check out our back page for details on the 12th Osprey Festival, Aug 25th, with bird walks, acoustic music, food and community.

As we consider our successes at Maplewood Flats, we are also mindful of the Truth & Reconciliation Commission and its recommendations for all Canadians to do more for reconciliation and redress. While we are proud of what we have accomplished as an organisation in this quarter-century, the Wild Bird Trust Board of Directors is also mindful of our organisation's need to constructively engage with local Indigenous populations who have been stewards of Coast Salish wild birds since the last ice age left more than 13,000 years ago. 25 years is a mere 0.19% of that period of time, and it suggests we must be humble in recognizing our 25 years of accomplishments. After a century of industrialization of their unceded lands and waters, our Tsleil-Waututh Nation neighbours are working to support economic futures for their community through the development of lands (read about Maplewood North on page 18).

Our Habitat & Cultural – Use Management Plan is nearing completion with a series of workshops upcoming (see page 11) and has its sights on some major restoration projects over the next decade. We are also addressing the popularity of Maplewood Flats with visitor numbers climbing from 30,000, to 50,000 (in 2018), and an ex-

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WINGSPAN

YOUR GUIDE TO
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25TH ANNIVERSARY
SUMMER ISSUE 2018

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EDITORIAL CONTINUED...

pected 80,000 by 2020. Read about our efforts to mitigate human stressors on wildlife in our Habitat and Cultural-Use section.

Birdlife International warns that "One in eight of the world's bird species is deemed globally threatened and the fortunes of 222 Critically Endangered species are now so perilous that they are at risk of imminent extinction."

Our place-based habitat planning and recovery efforts are needed now more than ever to address this crisis. In the spirit of thinking globally and acting locally, we encourage you to participate as a volunteer and renew your membership in the Wild Bird Trust of BC (from $15-500).

We are grateful for the major contributions our organisation's founders and Board members have made over the past 25 years. These many volunteers built a healthy foundation for our future efforts for wild birds, and created the Corrigan Nature House as a home for education programs (see summer camps, page 38. With our passionate members working together with the general public and government partners, we look forward to the next 25 years!

Working together we will be adequately resourced to help save bird species, improve the biodiversity of local sites like Maplewood Flats, and advance reconciliation and redress efforts of bird lovers across the province!

Please share this issue of *Wingspan* and Happy 25th Year!

Irwin Oostindie, President
Jude Grass, Vice President

MAPLEWOOD FLATS WILDLIFE PHOTO GALLERY (OPPOSITE PAGE)

From the top clockwise: Tortoiseshell Butterfly; Nootka rose; Northern river otter; Male, black-tailed deer with young horns; Coyote.

Photo credit: Robert Alexander

Photo credit: Beth Neufeld

Photo credit: Perry Edwards

Photo credit: Perry Edwards

Photo credit: Robert Alexander

Photo by Ron Watts

IN CONVERSATION WITH DR. ROBERT WILLIAM ELNER, CONVENER, IOCONGRESS 2018

As Vancouver welcomes bird lovers from around the world to the 27th International Ornithological Congress (IOCongress2018) *Wingspan* offers readers an interview with its Convenor, Dr. Robert Elner. Considered the oldest and most prestigious of meetings for bird scientists, the Congress occurs every four years since first being held in Vienna, Austria, in 1884. As you will discover in the interview, Elner has been doing an admirable job bringing all the thousands of pieces together for this major international event this summer.

WINGSPAN: What is the significance of hosting IOC2018 in Vancouver, Canada's premier birding hotspot?

ROBERT ELNER: There are a number of elements that have come together. One is Vancouver winning the bid to host the IOCongress 2018, and rebranding it completely into a Canadian narrative. This makes it hugely more powerful. This is a very strong and prestigious academic group of ornithologists who've been going around the world since 1884 every four years, and so their scientific meeting is of a very high standard, and it really does bring together the best ornithologists in the world. But at the same time, there was not much public exposure to it. So what we have done is take the privilege of bringing that meeting here to

Vancouver and bring a huge number of associated messages after that Congress.

We've done this through a number of ways. We've been lucky enough to get the Vancouver Convention Centre, west building, and a lot of support from Tourism Vancouver, Simon Fraser University, the federal and the provincial governments, and that's enabled us to change the whole trajectory and model here. Essentially what we have done is an international game changer. So we have resources from those entities, and then it comes into partnerships with people like yourself, Wild Bird Trust, Artists for Conservation, and with what was Vancouver Bird Week, which has now been scheduled to coincide with IOCongress 2018 as the first Vancouver International Bird Festival (VIBF). When we bring the public into these types of events, not only does it increase the educational value but it also brings additional sponsorship opportunities. So business starts to come into the equation as well.

What opportunities exist for that calibre of scientific knowledge and ornithological research to rub shoulders with the public at the Congress and VIBF?

Basically we are bringing these delegates here, but we are bringing them out of their academic ivory tower, so to speak, by basically joining us on the bird tours, which we created largely for their benefit, but now really that has become a legacy item. We see bird tourism and creation of business around that as being of huge conservation value – particularly important to Indigenous People, in terms of combining traditional cultural values and knowledge with people looking to enter nature through birds. So that becomes an exciting and potentially lucrative proposition.

Have you learned from Aboriginal Tourism BC and ecotourism successes on the West Coast?

The fact is at the moment there are a number of Indigenous ecotourism lodges doing very well, and there can still be more of them. But generally, the season they operate in is relatively short. And so while they bring opportunities to those people, they don't necessarily provide a huge business underpinning. What birding does is actually very magical, because those birds basically arrive in the (tourism) shoulder seasons of the existing season. In the spring the birds are flying north to breed, so that period adds a couple weeks to the shoulder on the left side, and on the right side, the birds are returning late summer and fall to their overwintering grounds. So suddenly you have a relatively short ecotourism season which is extended considerably by the focus on birds.

Here in the lower mainland, birds have been stewarded as part of an integrated ecosystem management for thousands of years by Coast Salish People. The Wild Bird Trust of BC has been integrating traditional ecological knowledge into our conservation efforts. For people who are interested in learning more about these approaches, what are some of the opportunities to meet others at the Congress who are interested in conservation through an Indigenous inclusive approach?

The Congress provides an incredible vehicle and opportunity to do precisely that by the delegates themselves having those conversations and workshops. And more importantly, to actually experience it on their tours. So in the middle of the Congress on the 24th, all the delegates go off on bird tours and we've got a lot of them. But the one Wild Bird Trust is putting on is particularly special because (participants) actually talk to people incorporating traditional ecological knowledge in the tour package. So not only will the delegates be able to understand or look at the birds, but they will be better able to understand the TEK perspective around them.

And from my own experience in taking people for the last 20 years into the Amazon, and doing very similar things with the traditional people there, it's those mixings of bird watchers and people interested in nature coming into contact with TEK and values and culture that makes the whole experience absolutely priceless and stand out as something that the birds have brought together, but the people take away very different messages.

Why is the IOCongress important for BC's birding community?

It offers a whole new opportunity. So basically, the birding community in BC has been continuing on for about 100 years now in a very traditional manner in terms of people and groups going out birdwatching. And it's done very effectively and efficiently, and it's very important to those people and it has educational components as well, but once we basically move some of those tours into a different framework, such as you're doing, it vastly increases the conversation and becomes much more powerful.

On a business perspective that's the other thing we are trying to do. Traditionally, bird watchers would basically go out on their own or small groups and there wouldn't be any business behind it. If we look at Costa Rica and all over the world, people are anxious to come to Canada and watch birds, but really there is no real business around that, so what we're hoping to create is basically having business coming into it and First Nations coming into it to create packages. We received heavy support from

Destination BC and Vancouver Tourism who can really promote those tours as world class.

If we look around the world for that type of opportunity where you are mixing nature and traditional cultures through birds, there are very few opportunities. South Africa was, I think, the first country to promote and start this, and New Zealand is very good at it through the Maori. But elsewhere in the world, there isn't any other opportunities for people to actually do that. In most cases they can watch birds, but they are usually devoid of cultural and Indigenous aspects. So here we have a tremendous opportunity in Canada to basically build that business around traditional culture and benefit everyone – the communities themselves in terms of increasing economic opportunity in a very sustainable way – and also bring people here internationally to celebrate and better understand what we have here and what is an amazingly rich culture.

A lot of this effort has been on your shoulders. What type of air miles and engagement have you been clocking in the lead up? Which birders and associations are you particularly excited to have brought together from the global birding community?

In terms of our work on this, it started in 2013. My time has been pretty eaten up since then. It's all pro bono. I retired ten years ago from Environment and Climate Change Canada (I'm still an emeritus scientist). So basically for the last five years it's been a constant program for me. We brought in and are hosting the International Ornithologist Union, but we've also brought in the British Ornithological Union, and various big organizations from all over the world, including the Cornell Lab of Ornithology. We've been working very closely with Vancouver International Bird Festival, Artists for Conservation, obviously the Wild Bird Trust of BC, BC Field Ornithologists, and the Indigenous Tourism Association of BC stand out.

So all these people have come into the equation and it's really snowballed. This didn't start back in 2013 as a plan to be here as we are today. It started off as a simple plan to bring the Congress to BC and have some tours around it, but what it's actually done is catalyze a huge range of new partnerships and new and exciting initiatives. We even have the Vancouver Symphony Orchestra Brass Quintet involved. And it's still growing.

Will *Wingspan* readers be welcome to the Convention Centre or is it only for international delegates, and what opportunities are there at the Expo?

Basically it doesn't work without *Wingspan* readers, full stop. So there's tremendous opportunity. We have the bird expo going from the Wednesday Aug. 22nd to Saturday Aug. 25th and there will be different events each day. We have the Artists For Conservation creating what is probably going to go into the Guiness Book of World Records creating the world's largest mural of all nearly 700 species of endangered IUCN listed birds. That's a wow factor. We've got Purnima Barman coming from India, she won the Green Oscars (Whitley Awards). For the Canada Evening (delegates only) we have Margaret Atwood. We've got Birds for Peace, an amazing team coming on stage on Thursday Aug 23rd, which is an internationally renowned team of an Israeli, a Palestinian, and a Jordanian, with a Swiss orthologists—who have been working in the Middle East for decades in essentially war zones, but through birds, everyone working together in a hugely innovative, creative and peaceful way. So birds, even in a politically complex and violent situations, can still bring peace…that's their message there.

We have a Vancouver Opera costume exhibit created by First Nations coming in on display. We have a group of ancient coin collectors from BC coming in to display coins with birds on them. Canada Post will be there to launch five new bird stamps, with our logo on them. There are over 100 kids in bird costumes walking along the seawall up to the (Jack Poole) Plaza. So you know it just goes on and on!

Most important for (*Wingspan*) readers is they can actually go out on these trips during the week and on Friday Aug. 24th, with IOCongress 2018 delegates, go to Maplewood Flats and various other destinations in the lower mainland to watch birds.

Coast Salish Wild Birds, Cultural Adventure and Salmon Feast Friday August 24th.

Join IOCongress2018 delegates at Maplewood Flats for a Takaya Tours canoe paddle, salmon bbq, and birding activities. Fundraising tickets: iocongress2018coastsalish.eventbrite.ca

Photo credit: All by Robert Alexander except bottom left by Shoujun Ye

Meet Our 25th Anniversary Bird:

THE PACIFIC GREAT BLUE HERON / SMEKW'Á7

The Pacific Great Blue Heron (fannini subspecies) is a common visitor at the Maplewood Flats, and this year Wild Bird Trust recognizes the Pacific Great Blue Heron as the official 25th Anniversary Bird.

Pacific Great Blue Herons can be found throughout the Pacific Coast, from regions in Alaska to Washington State. Within Canada, the fannini subspecies is only found on the northern and southern coasts of British Columbia. These beautiful birds grow to an average height of one metre and approximately 97-137 centimetres in length. With their long legs and graceful necks, the Pacific Great Blue Heron are the largest heron species in North America. Did you know the Pacific Great Blue Heron have unique nesting relationships with eagles? Eagles protect the heron nests from other birds and scavengers – in exchange for an egg here and there!

In 2010, the Pacific Great Blue Heron was officially designated "Special Concern" under the Species at Risk Act (SARA) as a result of continued extirpation and habitat destruction in Canada. Roughly half of the species' global population breeds in Canada, and studies in BC show the reproductive rate since the 1970s is lower than in the past. Between 1972 to 1985 and 1998 to 1999, destruction of heron habitat on British Columbia's southern coast led to 21 colonies abandoning nesting sites.

The Pacific Great Blue Heron can be spotted at the Conservation Area along the water and even in fields. WBT member Robert Alexander has photographed birds at the Flats for several years, the Pacific Great Blue Heron included. "Pacific Great Blue Herons can look very reptilian at times, then suddenly a statue that does not move! Until like lightning it strikes and up comes a fish! As a photographer, I find Pacific Great Blue Herons are chameleons – one moment elegant and regal, the next moment looking goofy and funny!"

Photo by Robert ALexander

REINTRODUCING THE ANISE SWALLOW-TAIL BUTTERFLY TO BURRARD INLET

By Dr. Richard C. Beard, WBT Co-founder; Program Manager,
WBT Anise Swallowtail Restoration Project

One of British Columbia's most spectacular butterflies was eliminated from Burrard Inlet as the tidal salt marsh was reduced to about 5% of its original extent in the last century. The remaining 5%, of which The Conservation Area abuts the major portion, was itself largely covered by a blanket of log debris. The result was an almost complete extermination of the plants necessary for the butterfly's survival.

In our area, the Anise Swallowtail depends on two foodplants; its caterpillars feed on Cow Parsnip Heracleum lanatum and Wild Celery Angelica lucida. Both species were eaten by many First Nations and Cow Parsnip was also used medicinally. Its uses included using the root in the treatment of toothache and tea from the dried leaves to treat heartburn.

In 1993 we counted a total of only six Wild Celery and a couple of Cow Parsnip plants but we were encouraged by these few survivors. Restoration work began that same year with a massive clean-up of the wood debris and placement of log boom barriers to minimise further accumulation. The clean-up was a combined effort with the District of North Vancouver removing the large logs and about 100 volunteers carrying away the smaller wood pieces and other debris.

Six or eight plants, however, present little opportunity for recovery, so each year since 1993 we have given nature a helping hand by broadcasting seeds of Wild Celery in suitable places at The Conservation Area, generally at the margins of the salt marsh near the zone of the highest high tides. Due to this and to the 1993 debris removal, Wild Celery has recovered to occupy most of its available habitat, both on The Conservation Area's east and west sides.

We have also broadcast seed and planted young Cow Parsnip in various non-tidal areas, especially the West Meadow which was created at the time of the freshwater marsh construction in 1996. Our Native Plant Nursery has played a vital role in establishing and maintaining seedlings/young plants under the ongoing care of WBT staff and our regular volunteers.

With the current rate of expansion there might be enough plants to sustain a viable Anise Swallowtail population in just five or six years. This will need staff time and two or three volunteer events each year to control Himalayan Blackberry in the West Meadow and other areas where it would otherwise inhibit the growth of native plants. These maintained areas will provide the habitat for newly planted, and now naturally seeding, Cow Parsnip.

As a demonstration and learning project, we introduce a few Anise Swallowtail caterpillars, usually each July. These are gathered, along with Wild Celery and Cow Parsnip seeds, from Boundary Bay - Lower Mainland Headquarters for the Anise Swallowtail! More than this, Boundary Bay has provided the inspiration and generated most of the practical knowledge for this attempted restoration.

Can we re-establish a breeding population after an absence of perhaps 70 years? The Osprey and Purple Martins came back, so why not the Anise Swallowtail?

HABITAT & CULTURAL-USE MANAGEMENT PLAN UPDATE

The mandate of the Wild Bird Trust is to protect wild birds, wildlife, and their ecosystems through research, education, community engagement, and reconciliation. Numerous stressors including climate change, Trans Mountain pipeline expansion, predominance of non-indigenous plant species, low indigenous plant cover and diversity, an ever-increasing number of visitors to the site, and planned North Maplewood neighborhood expansion are having negative ecological effects on the Conservation Area. In response to these stressors and to ensure good long-term planning for the site, the WBT has been working for 17 months developing a Habitat & Cultural-Use Management Plan. The general goals of the Maplewood Flats Habitat & Cultural-Use Management Plan include: gathering baseline information of the site, collecting inventories of the natural communities of Maplewood Flats including birds, plants, small mammals, and amphibians, identifying site stressors and restoration projects, and designing strategies and projects to promote reconciliation with the Tsleil-Waututh Nation.

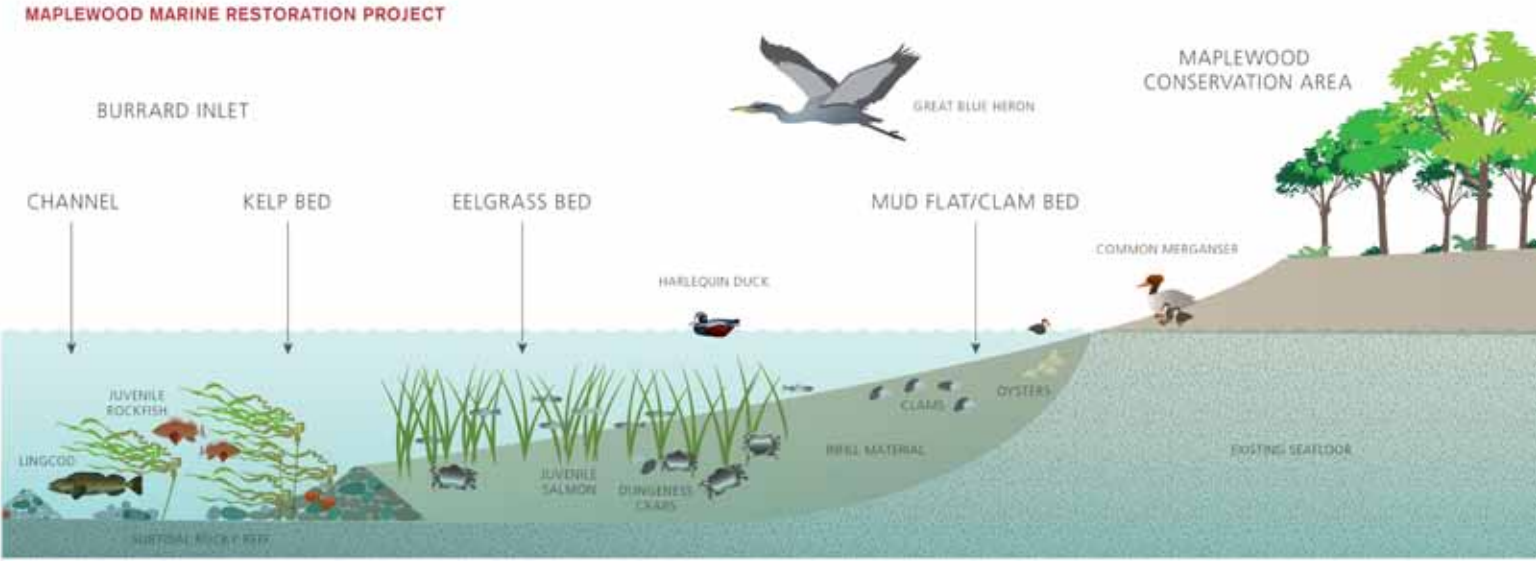
Several of these goals have been addressed over the past year:

- Amphibian surveys of wetlands were conducted Spring 2017 and 2018
- Plant and bird surveys were completed Summer 2017 (in addition to monthly bird counts)
- Plans for a barge channel restoration project have been drafted
- A site history and description of current conditions has been collated.
- Through research and several workshops with WBT board members and the public, preliminary goals and objectives, a list of site stressors, and a long list of projects have been developed
- Several Coast Salish art projects were commissioned and are in the process of being installed on site.

Reports on these goals are presented in this issue of *Wingspan*. The final stage of the planning process is to fit the projects into a timeline and develop funding, implementation, monitoring, maintenance, and public outreach plans for the prioritized projects. We are hosting bi-weekly workshops over the summer to finish the plan. If you are interested in participating in this last stage of the development of the plan, the workshops are open to WBT members and the Tsleil-Waututh Nation.

Tentative dates and times are: 3-6pm, June 17th, July 8th and 22nd, and August 19th at the Corrigan Nature House. Confirmed dates will be posted on Facebook, so keep an eye out!

THE MAPLEWOOD MARINE RESTORATION PROJECT



The Maplewood Marine Restoration Project is located south of the Conservation Area barge channel and bridge, within a deep waterlot basin up to nine metres deep. The site was dredged in the 1940s to support the gravel extraction business that used the barge channel, and was later used as a log storage facility. The project will enhance approximately seven hectares of low-value marine habitat into higher-value marine habitat for fish, birds and other wildlife.

The Project is an initiative of the Habitat Enhancement Program of the Vancouver Fraser Port Authority, and is actively engaging Tsleil-Waututh Nation and Wild Bird Trust of BC . Completion of all regulatory reviews is anticipated by mid-2019 with construction starting in fall 2019, for a period of approximately three to four months. To mitigate potential impacts to fish and fish habitat from construction, in-water work would be scheduled to occur within the fisheries least-risk work window for Burrard Inlet (August 16th to February 28th annually).

In May 2018, the Maplewood Marine Restoration Project team hosted a workshop, as requested by the Tsleil-Waututh Nation, to identify potential eelgrass donor and reference sites in Burrard Inlet for this proposed project. Based on input received, the project team is planning to conduct more boat- and diver-supported field assessments in late June within Burrard Inlet.

Environmental technician students from Musqueam and Squamish and elsewhere at Maplewood Flats

TEK: RESTORATION AND RECONCILIATION

We have occupied, hunted, fished, gathered, travelled, governed, acted as stewards of, and raised families on the land and in the water in our Territory since time out of mind. –Leonard George (TWN 2015, Cass 2017).

The Board of Directors of the Wild Bird Trust of BC recently identified reconciliation with Indigenous Peoples as an operational goal (for background, please visit the Truth and Reconciliation Commission at www.trc.ca). The WBT board is incorporating traditional ecological knowledge (TEK) into the management of the Conservation Area at Maplewood Flats, and showcasing this work further afield in the wild bird conservation sector. TEK is the knowledge, language, cultural practices, and beliefs guiding the relationships of living beings with each other and the environment. This knowledge is developed through years of careful observation and adaptive practices and is passed down through generations of Indigenous People on this land, typically through oral histories. TEK arose from the field of anthropology, but in the past two decades has become integrated into various government's natural resource management policies.

For thousands of years, "Burrard Inlet" and "Indian Arm" and the forests, mountains, and waterways surrounding the Conservation Area were the traditional territory of the Tsleil-Waututh Nation, the People of the Inlet. They – and all the Coast Salish People – lived for thousands of years, carefully stewarding their relationship with the land and use of the "resources". The trees, berries, fish, shellfish, freshwater, and wildlife were so carefully managed that for the last 100 years, European anthropologists did not even recognize that the landscape here had been intensively cultivated and maintained.

Ecological restoration using TEK could bring the Conservation Area ecosystem closer to historic conditions of the region, and support restoring traditional cultivation practices and language knowledge.

The Habitat & Cultural-Use Management Plan is outlining ways to blend restoration work, art, plant guides, and educational programs with reconciliation goals for the Maplewood Flats. Your participation is welcome!

REPORTING ON AMPHIBIAN SURVEYS AT MAPLEWOOD FLATS

By Chloe Hartley

As part of the site assessment for the Habitat & Cultural-Use Management Plan being prepared for Maplewood Flats, Andrea Paetow (RPBio, MSc E.R.) and Chloe Hartley surveyed the wetlands on site and found ample evidence of amphibian presence.

From left: Northwestern Salamander aquatic form; Northern Red-legged Frog pair; Pacific Tree Frog

Wearing waders, armed with clipboards and multi-meters to measure water conditions, Andrea and I slowly walked the perimeter of the wetlands looking for egg masses in the water. Northwestern salamander, Pacific chorus frog (tree frog), and red legged frog egg masses were found in the West pond. Northwestern salamander egg masses were found in the East pond. No eggs were spotted in the Dragonfly pond and feeder channel, nor in the Hide-away wetland. Red-legged frog egg masses were found in the Pocket Marsh this year, but not last year. We also have photographic and anecdotal evidence of rough legged newts on site. We found no evidence of American Bullfrogs on site although this species has recently been sighted in a wetland in West Vancouver.

Each amphibian species has unique preferences for different stages of their life cycles. The landscape and wetlands at Maplewood Flats are relatively newly created – it is possible that the site is missing key features to support all amphibian species expected to be present in this area. This fall a student research team from the BCIT Ecological Restoration Undergraduate program will be assessing the wetlands on site and will be reporting on potential restoration treatments for improving conditions for amphibians on site.

Turtles: On a sunny day, red eared sliders (Trachemys scripta) are frequently spotted sunning themselves in the west pond. Red-eared sliders are indigenous to the southern United States and Central America. Ecologists are concerned that these turtles are reproducing successfully in BC, but we have no evidence that breeding is taking place at Maplewood Flats. The turtles you see here have been released by pet owners. The red-eared slider is a predator of the Painted Turtle (Chrysemys picta), BC's only native turtle species. Painted turtles are a red-listed species considered endangered. They are not found at Maplewood Flats.

Snakes: The common garter snake (Thamnophis sirtalis) with the distinctive yellow stripe down the back is commonly sighted at Maplewood Flats. Adult garter snakes over-winter in underground dens called hibernacula, often shared with other snakes. Hopefully the resident snakes at Maplewood Flats have their hibernacula on the south side of Dollarton Highway! Females give birth to litters of 10-15 live young in July or August. Garter snakes often bask and forage near or in water, feeding on slugs, frogs, toads, salamanders (even the poisonous rough skinned newt), tadpoles, and insects.

AN EXAMINATION OF THE EFFECT OF TWO INVASIVE SPECIES

By Chloe Hartley

Chloe is a volunteer researcher at Maplewood Flats completing her Master's of Science in Ecological Restoration. Her research examines the relationship between invasive species, such as English Ivy and Himalayan Blackberry, and biodiversity. Her study includes plant and bird surveys—with the help of birder and Maplewood Flats volunteers Rob Lyske—that examine how non-indigenous plants impact natural sites.

In the summer of 2017, I surveyed the Maplewood Flats Conser-vation Area (MCA) identifying and counting plants and birds for my thesis research in the Master's of Science program in Ecological Restoration at SFU-BCIT. Results of the research are summarized here.

KEY RESEARCH FINDINGS

- As blackberry and ivy cover increase, diversity and percent cover of other plants decrease.
- Where either of the two species are predominant, overall species richness is lower.
- Birds at the conservation area are more frequently observed where the plant community has high diversity, no ivy, and lower blackberry cover.

IMPLICATIONS OF THE RESEARCH

The survey results indicate that when blackberry and ivy are predominant, indigenous species diversity decreases. Further, the principal component analysis indicates a pattern of greater bird presence in areas identified as high plant diversity and edge landscape and where blackberry and ivy are not the predominant plant cover.

There is a robust body of research that establishes links between high bird species diversity and high plant community structural complexity and diversity (Munro et al, 2011). The few published research papers on blackberry reveal that diverse indigenous plant communities are the preferred landscape of birds and small mammals (Astley, 2010; Packer et al, 2016; Crombie et al, 2016). Plant communities predominated by non-indigenous species had fewer birds and less complex bird guild distribution (Astley, 2010; Munro et al, 2011). Given that large portions of the landscape of Maplewood Flats are covered predominantly with blackberry and ivy, suitability of the site for bird and wildlife use may be increased if indigenous plant species cover and richness can be increased.

One part of the explanation for this is found in changes to food web complexity that occur when non-indigenous species are predominant. A recent study of the use of suburban backyards by chickadees found that indigenous plant species were "...more likely to host a higher biomass of caterpillars compared to non-native plants, and chickadees strongly preferred to forage in native plants that supported the most caterpillars. In addition, chickadees were less likely to breed in yards as the dominance of non-native plants increased…results demonstrate that non-native plants reduce habitat suitability for chickadees by reducing insect food available for breeding. Improving human-dominated landscapes as wildlife habitat should include increasing native, and arthropod-producing, plant species to effectively support the life history needs of insectivorous birds..." (Narango et al, 2017).

In situations where indigenous species diversity and structural complexity are scarce, invasive species are used by birds and wildlife. The studies referred to above found that in disturbed ecosystems, *Rubus* species are used by native fauna and that the structure provided by *R. armenia-*

INVASIVE SPECIES... CONT'D

cus can be important for wildlife (Crombie et al, 2016; Packer et al, 2016). In restoration, the resources used by birds and wildlife must be replaced, not just removed. An effective management response when invasive species cover large tracts of land is to clear the invasive species in stages and plant cleared sites heavily with indigenous species (Munro et al, 2011; Thompson, 2015; Packer et al, 2016). MCA is "missing" a range of indigenous plant species typically present in the Coastal Western hemlock maritime zone and many herbaceous and fern species are in low numbers on the site (Ceska and Scagel, 1989; Pojar et al, 1991; MacKenzie and Moran, 2004). Indigenous species should be replanted densely as non-indigenous species are removed (Munro et al, 2011; Caplan and Yeakley, 2013; Claeson and Bisson, 2013; Hallett et al, 2017). The Tsleil-Waututh Nation managed the landscape in and around Burrard inlet for thousands of years. Through consultation, collaboration and potentially, restoration of traditional practices, plant community restoration can be targeted to mirror the plant community cultivated by the Tsleil-Waututh.

The Conservation Area at Maplewood Flats is a beautiful and rare landscape on Burrard Inlet. I'd like to extend my thanks to the WBT board and volunteers who invited me to do this research. I'd also like to acknowledge that the conservation area is within the traditional and unceded territory of the Tsleil-Waututh Nation.

Wild Bird Trust a Co-Caretaker for English Bay and Burrard Inlet

Osprey point at sunset

Wild Bird Trust is teaming up with Stanley Park Ecology Society to be Co-Caretakers for the English Bay and Burrard Inlet Important Bird and Biodiversity Area (IBA). Since 1985, over 200 countries have created a global network of more than 10,000 IBAs with almost 600 in Canada and more than 80 in BC alone. The IBA program is dedicated to identifying bird sites, designating IBAs, protecting sites with the support of local community, individuals, groups, and governments, and monitoring IBAs to identify and address bird population trends and threats to conservation.

As IBA Caretakers, Wild Bird Trust will join an international network of volunteers who share a dedication to the long term conservation of sites that have critical importance to the world's bird species. As 89% of Canada's birds migrate beyond national borders, international cooperation and shared responsibility is essential to the conservation of birds and their environments.

English Bay and the Burrard Inlet IBA face several human-made conservation issues including pollution risk from shipping lanes, commercial and industrial development, domestic and urban waste water, recreational activities, and industrial and military effluents.

With increased tanker traffic through the area, several oil spills have occured in the IBA. The amount of oil shipped through the IBA by tankers departing from Burnaby has increased from 8000 metric tonnes in 2000 to nearly 4 million metric tonnes in 2010. Pollutants from urban and industrial activities have impacted water quality and in turn, food sources for waterfowl. Direct disturbance of birds on the water is an increasing concern as the amount of commercial and recreational boating has increased within the area.

Wild Bird Trust is devoted to protecting birds and wildlife. Together with the Stanley Park Ecology Society, Wild Bird Trust is excited to step in to the role of Co-Caretaker for the English Bay and Burrard Inlet.

BUILDING A BETTER BIRD BLIND

By Chloe Hartley

The Conservation Area at Maplewood Flats is experiencing ever higher visitor counts. The neighborhoods north and west of the Maplewood Flats are slated for development with the potential for approximately 20,000 more people by 2030 (DNV 2017). The development and ensuing influx of visitors to the site will inevitably have an effect on the wildlife here at Maplewood Flats. Impacts of disturbance on wildlife are complex; different species will have varying sensitivities, and sensitivity can even vary with the time of year. A study examining the effects of recreationalist on over-wintering water birds note that:

> "The short-term effects of disturbance include the alteration of spatio-temporal distribution of bird populations and the pressure on birds to move to alternative, poorer-quality habitat. In the medium term, while some birds can adjust to the human presence, disturbance can restrict access to feeding sites and induce an increase in intra- and interspecific competition. Finally, bird disturbance also leads to an increase in the birds' energy consumption (through successive flights) which weakens individuals, thus increasing mortality rates or indirectly decreasing their breeding success. In the long term, the impact of human disturbance is likely to reduce the overall carrying capacity of wintering or migration sites." (LeCorre et al, 2013).

Other research projects have observed that when some birds, such as waterfowl, are disturbed more than twice per hour, fewer birds return to the site the next day. In an effort to manage this disturbance yet maintain and even increase visitors to the site, Wild Bird Trust is developing a multi-faceted disturbance mitigation plan: The Human Buffer Research Project.

Step one is to target disturbance of the mudflats, an important site for migrating birds to rest and fatten up on their migration travels. The first project in this plan is to install a bird blind to enable wildlife viewing whilst reducing the disturbance effect on birds.

Wild Bird Trust is planning a bird blind design charette. We will put forth a request for proposal (RFP) with design and budget specifications in August 2018. The RFP will be advertised at the #IOCongress2018 events this summer, and sent to architecture and landscape architecture firms and programs. A Bird Blind Design Committee will assess submissions and award prizes to runners up and to the winning design.

What features would you like to see in a bird blind at Maplewood Flats? Designs could range from our humble and functional blind on the west boundary of the site to the stunning Loch Levin bird hide in Scotland. We welcome member ideas and submissions and if you are interested in joining the Maplewood Flats Human Buffer Research Project, please contact habitat@wildbirdtrust.org.

Photo: Kaylen Crosse (Darwin), Oliver Webbe (Darwin), Dennis Thomas (Tsleil-Waututh), Irwin Oostindie (Wild Bird Trust), Gabriel George Jr. (Tsleil-Waututh)

THE PAST AND FUTURE OF MAPLEWOOD NORTH

The Wild Bird Trust (WBT) has recently signed an agreement with Maplewood North (Darwin/TWN) Limited Partnership, which includes our support for the North Shore Innovation District, a residential and commercial development directly adjacent to the Conservation Area at Maplewood Flats.

For visitors to Maplewood Flats, the area across Dollarton Highway to the north is recognized as a newly-forested area and buffer for Maplewood Flats. Until the 1970s, however, it was a gravel pit operation, connected to Burrard Inlet via a barge channel through what is now the Conservation Area. Since 1993, the Wild Bird Trust has worked with our membership and our partners to restore the natural integrity of the site, as told in our 25th anniversary story printed in *Wingspan*. The WBT Board of Directors has made a decision to operate the Conservation Area at Maplewood Flats using Traditional Ecological Knowledge (TEK) in all of our work. We are mindful that for millennia, these areas were inhabited by Coast Salish Peoples and a diversity of wildlife.

European explorers and settlers brought smallpox to this region, decimating the population of the Tsleil-Waututh and other coastal peoples. The few survivors were forced onto the nearby reserve lands, their rights and title stripped, their children taken to residential schools, and their language and culture declared illegal. Without rights to defend themselves the area now referred to as 'Burrard Inlet' was industrialized around them. To the east of their reserve lands, development signs (as late as 1949) proclaimed that Asians not apply. With requisite large floor plans only (white) middle class residents would afford to live along Dollarton Highway. The Chevron refinery, gravel operations, TransMountain Pipeline and Westridge Terminal, housing subdivisions, and commercial development would consume the lands, waters, and wild-

life the Tsleil-Waututh had stewarded since the last Ice Age,13,000 years ago. Tsleil-Waututh were never consulted on any of these developments in their traditional lands and waters.

The Wild Bird Trust of BC recognizes that we can not maintain a wild bird sanctuary in isolation from these truths. We have been transforming our operations so that we can embrace a holistic approach to our conservation and restoration efforts. We also celebrate and promote socio-ecological approaches, which advance economic factors, and cooperatively manage the Conservation Area.

To overcome the structural poverty forced upon them by the Canadian government's Indian Act, and with no willing partner in Ottawa, the Tsleil-Waututh embarked upon an economic development strategy for its People. In recent years, the Tsleil-Waututh have pulled their community out of poverty, and have created employment and housing opportunities for their members and their families.

The Wild Bird Trust was informed of this newest iteration of Tsleil-Waututh's vision for economic development and a partnership with Darwin Construction, a family-owned construction and development company, headquartered on the North Shore since 1987. Darwin and the Tsleil-Waututh have agreed to build the North Shore Innovation District (commonly referred to as Maplewood North), adjacent to the Conservation Area. At 45 acres, the site is located between two ancestral villages: Tsleil-Waututh/Burrardview and Jol-gulhook/Seymour Creek. Archeologist Jesse Morin states, "The Tsleil-Waututh People who lived in these villages would have intensively relied on the surrounding areas to obtain all the resources they need to sustain themselves."

The proposed development will remove about 30 hectares of forest from the lands surrounding Maplewood Flats. To examine the impacts of this development, the Wild Bird Trust Habitat Committee used scientific research methods to assess the project. Workshops and field work reports were fed into our Maplewood Flats Habitat & Cultural-Use Management Plan currently underway. (See *Wingspan* Nov 2017 for background). Reporting to the Board of Directors, the research and findings in the Plan highlight the human stressors from increased public access and opportunities for increased restoration activities. By applying TEK theories to natural and social science planning for the area, we can integrate recognition of Tsleil-Waututh's presence in the area since time immemorial.

The development must continue to include a wildlife corridor for animals entering the Conservation Area at Maplewood Flats. Research findings state the biodiversity of Maplewood Flats can be increased through the reintroduction of Coast Salish plant materials to support a higher concentration of wildlife than at present, and this can serve to mitigate loss of habitat elsewhere. Also by increasing public infrastructure and educational systems in targeted locations, visitors can gain a deeper understanding of the historic presence of the Tsleil-Waututh.

The Wild Bird Trust has agreed to express its support for the Maplewood North development to interested parties, including the District of North Vancouver (DNV). Separately, the Habitat & Cultural-Use Management Plan is also collaborating with the DNV on hydrology strategies to bring groundwater from DNV and Maplewood North lands on the northside of Dollarton Highway to feed the water needs of either the eastern marsh areas or the barge channel. In these ways, WBT is actively participating in long-term planning for the area. WBT will continue to share our research and recommendations, and will participate in ongoing stakeholder sessions convened by the Maplewood North partners, as well as the DNV.

While loss of habitat is unavoidable with this development, actions can be taken within the project to reduce habitat loss. Designs which maintain as much natural landscape as possible can support species tolerant of human disturbance and can support connectivity. These include pocket marshes, naturalistic plantings, evergreen trees, rooftop gardens, treed streets, and wildlife-friendly culverts.

In addition to direct loss of habitat, the development will result in a decrease in species abundance and genetic diversity for plant species within the Maplewood North area. Following the light industry development to the west of the Conservation Area in the early 2000's, there was a notable influx of birds and small mammals. Due to the magnitude of the habitat loss at Maplewood North, the Conservation Area will not be able to sustain birds and wildlife displaced once the development begins. To accommodate this expected influx, we propose salvaging plants from the areas that are to be developed and relocating them to the WBT nursery operation onsite. This enables us to maintain some degree of genetic diversity from local plant stock within the ecosystems that remain at Maplewood Flats.

WBT will also aggressively introduce more Coast Salish plant materials in targeted areas of the site. Restoration of plant diversity and structural complexity at the Conservation Area will help support a richer wildlife community.

HABITAT ENHANCEMENT AT MAPLEWOOD FLATS

- Increasing wetland complexity
- Enhancing herbaceous understory and Coast Salish planting with interpretive display systems.
- Salvaging local plant stock from development area

MCCARTNEY CREEK WATER QUALITY

McCartney Creek hosts a small salmon run in the lower reach below the escarpment, and is the only remaining salmon bearing stream in Burrard Inlet East of the Seymour River. Salmon have specific water quality requirements that are easily compromised by development and loss of riparian habitat, including base flow, temperature and contaminants. The industry standard of 30-50m riparian buffers do not buffer these effects, as the removal of the large forested area will increase the flashiness of the stream and facilitate runoff of sediment (especially during development) and materials associated with urban environments. Classified as an endangered habitat in 1998 by the DFO, McCartney Creek's salmon population could be easily extirpated without thoughtful design and attentive implementation.

In addition to threatening the spawning salmon, the alteration to the hydrology and water quality of McCartney Creek will have implications for the mudflat and estuary ecosystem at the mouth of the creek. Sedimentation, contaminants, water temperature variations and altered flow and nutrient regimes all influence mudflat and estuary organisms. The magnitude of these changes is largely unknown and should be treated with caution.

The magnitude of impacts to the water quality of McCartney Creek can be mitigated first and foremost by maximizing the buffer width of the forested area surrounding the Creek. Within the development itself, rain gardens, bioswales, and permeable road and parking lot surfaces will also contribute to low temperature and reduced flashiness and runoff. Any steps taken to maximize infiltration in the development area will increase the retention time of water in the ground before it reaches McCartney Creek.

INCREASED HUMANS IN BIRD SANCTUARY

Even without the development, the Conservation Area is seeing a steady increase in use by the public. This activity is expected to increase dramatically once the development is completed. With limited capacity to monitor activity and enforce appropriate behaviour within the bird sanctuary, the increase in human visitation threatens the integrity of the Conservation Area and its ability to support wild birds. Noteably, the Conservation Area also lacks publicly-accessible bathrooms for visitors. The Board is addressing this issue at present.

WBT hosted a workshop to identify possible actions that can mitigate the human stressors to the ecosystems within the Conservation Area. The first of these actions will be construction of several bird blinds at key areas, including the mudflats, salt marsh and wetlands along the trails. Bird blinds will not only reduce disturbance to birds by human activity, but will also direct people to a specific location and reduce foot traffic off trail in these sensitive areas.

PROJECTS PROPOSED:

- Bird Blind construction and monitoring (effectiveness on bird behaviour)
  - Bird blinds to be located at Mudflats, Salt Marsh and Central Pond
- Monitoring Pedestrian Use at Maplewood Flats
  - Weekend surveys of foot traffic to monitor increase in use
  - Expand to weekday surveys if resources permit
- Installation of educational signage
  - Public interpretive panels (co-researched and developed by WBT ethnobotanists from Squamish and Tsleil-Waututh) will explain the complexity, sensitivity and cultural/ecological significance of Maplewood Flats and its inhabitants.
  - Education promotes public stewardship

SEYMOUR VALLEY – BURRARD INLET CONNECTIVITY

The loss of the habitat to the Maplewood North development will cause the mobile species to relocate to the Seymour Valley or to Maplewood Flats. However, since the Conservation Area and forested region to the north is the only remaining corridor

between the Seymour Valley and Burrard Inlet, the development will have serious impacts on species movement. The concept drawing from the DNV shows that effort has been made to maintain wildlife corridors through the development. However, design factors of these corridors can make or break their effectiveness. Poorly realized wildlife corridors have been shown to be corridors for predators and invasive species but not for other wildlife and organisms.

Design factors include width, plant species diversity, structural complexity, location of public trails, disturbance buffers, dog access, street crossings, and urban runoff management. Roads are barriers for many organisms (insects, plants, amphibians, small mammals), so wildlife crossing culverts can support connectivity for less mobile organisms. The challenge of public access to wildlife corridors is particularly important for movement of small mammals and sensitive bird species. If trails (for walking or biking) enter the corridors, it takes very little human or animal activity (mainly dogs and cats) to prevent the movement of sensitive species.

Efforts should be made to prevent human activity within the wildlife corridor as much as possible. This is especially true for the McCartney Creek corridor, since it doubles as a salmon run and is significantly wider than the only other corridor in the development area.

To learn more about the North Shore Innovation District visit www.nsidlands.ca or attend their Open House on June 20th, 6-8pm, at the Innovation Campus Gymnasium, 2420 Dollarton Hwy, North Vancouver.

With files from the Wild Bird Trust of BC Board of Directors and Habitat Committee. Members wishing to participate email: habitat@wildbirdtrust.org.

EARTH DAY PLANTING AT THE FLATS

On April 25th, Tsleil-Waututh Nation collaborated with Simon Fraser University's Environmental department and Wild Bird Trust to introduce students to the cultural and ecological importance of the Conservation Area. Students planted indigenous plant species while learning of the importance of ecosystem based conservation and archaeological recognition while out in the field.

The plant community at the Conservation Area at Maplewood Flats has recovered impressively since the conservation area was established thanks to wind, birds, and animals bringing in seeds, and to the dedicated WBT volunteer community planting plants over the years. However, the site does not have full representation of a typical plant community in a coastal BC forest. At this volunteer event, students planted skunk cabbage, foam flower, false lily-of-the-valley, blue camass and nodding onion, devils club and Arbutus trees – all iconic Coast Salish plants under-represented or missing from the conservation area.

Students were able to receive firsthand experience working in the field and learning techniques from the experienced staff from TWN and WBT. The plants for this event were partially funded by donations for pollinator plantings from a generous WBT member. These spring and early summer blooming flowering plants provide pollen at an important point in the life history of many native bee species. The Orchard ason Bee, for example, hatches out in the early spring and only lives for four to six weeks. Establishing patches of these early spring bloomers is critical for these solitary bees to collect enough pollen for their larvae to feed on.

Kevin Bell and Ernie Kennedy selected the plants for this event and the volunteers did a great job with planting. If all goes well, the plants will thrive and spread, and we will be graced with the beauty of camass flowers, the scent of skunk cabbage, and the hum of pollinators every spring at Maplewood Flats.

A special thank you to TWN representative Michelle George and archaeologist Ginevra Toniello for their presentations on the cultural history and importance of the Maplewood Flats to the Tsleil-Waututh people. Extended gratitude to Chloe Hartley from WBT, Professor Marnie Branfireun, Laurie Wood, and Leigh McGregor from SFU and Hillary Hyland, Lindsey Ogston, Shawana Michalek, and Haley Crozier from TWN's Treaty, Lands and Resource department for organizing and supporting such a wildly successful Earth Day event.

Wil George, Tsleil-Waututh, (upper-left) with other students from Musqueam and Squamish and elsewhere at Maplewood Flats

ENVIRONMENTAL TECHNICIAN PROGRAM COMES TO MAPLEWOOD FLATS

Wild Bird Trust welcomed students from Tsleil-Waututh, Squamish, Musqueam First Nations, Nanaimo, and as far away as Edmonton participating in the Environmental Technician Certificate Program at the Maplewood Flats. The program was run in partnership with the BC Oil and Gas Commission who sponsored students. The Environmental Technician Certificate Program is delivered by the Natural Resources Extension Program, a Continuing Education Department within the Faculty of Science and Technology at Vancouver Island University.

During the course, students learned about the Flora and Fauna of BC ecosystems and learned many of the core essential skills required to become an effective Environmental Technician working in the many industries and sectors that British Columbia's Natural Resource Sector has to offer. Students learned how to navigate using compass, maps, and GPS units which gave them the ability to confidently conduct forest, vegetation, stream, fish and invertebrate assessments. They also learned how to conduct proper in-stream works around how to install the best management practices for erosion and sediment control as well as Instream techniques for working in the construction field around water. During the program students were certified in electrofishing and conducted stock assessment procedures in streams in and around the North Vancouver area.

SALISH SEA NEARSHORE HABITAT RECOVERY PROJECT

Photo by Nikki Wright

Wild Bird Trust of BC welcomed the Salish Sea Nearshore Habitat Recovery Project to our Corrigan Nature House on June 8, 2018. Eelgrass restoration, marine debris removal and marine riparian restoration will be undertaken in four regions (Gulf Islands, Howe Sound, Sechelt and Burrard Inlet) over 5 years (2017-2022). This is a five-year project managed by SeaChange Marine Conservation Society and primarily funded by the Coastal Restoration Fund, a Department of Fisheries and Oceans Canada initiative.

The Burrard Inlet component of this project was launched at the Conservation Area at Maplewood Flats. 40 participants from local, regional, provincial and federal governments, First Nations, academia, ecological consulting and NGOs came together to learn about the project and share their ideas. Participants worked together, using an online mapping tool, to create collective maps showing existing restoration sites and potential restoration sites around Burrard Inlet.

A smaller working group will use these maps and other resource information to prioritize sites for restoration as part of this project. Participants were invited based on their previous involvement with restoration activities around Burrard Inlet or their role in authorizing nearshore restoration activities. The organizers are receiving positive feedback from this meeting and are excited to move forward with the next steps of the work.

For more information, please contact Nikki Wright, Project Manager at seachange@shaw.ca or Anu Rao, Burrard Inlet Regional Coordinator at anu@ekalogical.com. Ð

Trans Mountains Razor Wire Fence Close with Tsleil Watuth Nation in the background. Photo credit: John Preissl.

CONCERNS FOR WILD BIRDS AND OIL SPILLS HEIGHTENED

Prepared by the WBT Habitat Committee for the WBT Board of Directors

As the Wild Bird Trust of BC, who manages the Conservation Area at Maplewood Flats located on Burrard Inlet, we remain gravely concerned about the proposed expansion of the Trans Mountain Pipeline and Westridge Tanker Terminal.

Our primary responsibility, as our mission statement highlights, is "the protection of wild birds and their habitats, on the principle that all wildlife must benefit."

As part of our Habitat & Cultural-Use Management Plan research work, last winter we invited Kinder Morgan to present its case to our Habitat Committee and membership at a Habitat Stressors workshop. We were able to ask questions of direct concern to wild birds and their habitat. Our worst fears were not alleviated, they were enhanced – specifically with concerns to proposed mitigation measures for construction of the Terminal near Maplewood Flats, and lack of in-place protection for the mudflats when a tanker spill takes place in subsequent years.

A recent article in Canada's National Observer (June 12, 2018) by Mike De Souza regarding a leaked letter from the federal Fisheries and Oceans Department (DFO) confirmed our worst fears about construction activity. These quotations from the article say it best:

Aerial View, Port of Vancouver 21 #6-0942.

> Kinder Morgan put fish, porpoises, sea lions and other marine life in danger during recent construction work near an oil terminal in Vancouver, says a leaked federal letter that warns the company could face prosecution for its violations. The letter from the federal Fisheries and Oceans Department (DFO) notes that the company also went months without filing mandatory monitoring reports to the government and First Nations before federal officials noticed the Texas company was breaking the rules. The department sent the warning to an executive at the company's Canadian unit, Trans Mountain, in a letter dated June 6, 2018 and obtained by National Observer. That was just days after the Trudeau government announced a deal to take over the Trans Mountain pipeline expansion project and buy many of Kinder Morgan's Canadian assets for $4.5 billion. It has prompted environmental lawyer Eugene Kung to raise this question: "Down the line, if the feds become the owner, what does it look like for them to prosecute themselves?"

The warning letter identifies four different violations related to pile driving during expansion work on the Burrard Inlet in the metro Vancouver region near the Kinder Morgan terminal between January and May 2018. The company exceeded safe underwater noise limits for such marine species as the harbour porpoise and the Steller sea lion as it proceeded with the pile driving activity, according to a separate email sent by the federal department to members of an Indigenous Advisory and Monitoring Committee that was set up to keep tabs on the project:

> "Despite adjusting the mitigation measures after each of the six separate exceedances of the underwater noise threshold, the noise threshold continued to be exceeded after each subsequent attempt," Sandgathe wrote in the letter. "Despite failing to reduce noise levels to below the threshold, Trans Mountain nonetheless resumed pile driving after each exceedance."

WBT has stated previously that, "Trans Mountain's application doesn't provide for adequate and effective protection or cleanup of the… complex shoreline, particularly along the uniquely sensitive Maplewood Flats Conservation Area." In light of these recent revelations, it appears Kinder Morgan doesn't follow the law anyway, even when rules are in place to protect the environment.

In the Fall issue of Wingspan, we published a response to the proposed Trans Mountain expansion by the Mayor of the District of North Vancouver. Upon going through our own process of meeting

Trans Mountains Razor Wire Fence from Burnaby Mountain with Pile Driver. Photo credit: John Preissl.

with Trans Mountain and members, we reached a shared conclusion with Mayor Richard Walton:

> "Trans Mountain's application focused on what it deems to be the low likelihood of an oil spill but failed to adequately balance this risk against the very high environmental consequences of any size of spill."

As for a spill, the Port of Vancouver is a busy port with many ships moving in and out. The vast majority of ships would not create an ecological disaster in an accident. It is tankers carrying diluted bitumen that create the unique combination that spells disaster. Unlike most fuels, the bitumen separates and drifts to the bottom where, for all practical purposes, it can not be cleaned up. Instead, it slowly breaks down releasing toxic compounds into the aquatic environment for perhaps decades. Those compounds will contaminate all forms of biota within the Inlet which will easily move up the food chain to the birds feeding off the mudflats.

A spill can also have direct effects on the birds, as we have seen in images for decades from other spills. The oily substances picked up by the birds are not easily removed and renders their natural insulation ineffective, often resulting in fatalities. Metro Vancouver prides itself on the natural environment that we have been able to preserve in spite of our large size as a city. We could be a model for cities around the world. Unfortunately, we are now seeing the federal government impose on us an old form of thinking, and doing that places all this at risk. We cannot avoid the degraded state of so many cities around the world by doing what they do. We need to be and do better.

Increasing the traffic of tankers carrying the most damaging type of petroleum product through to the most inland and sensitive side of our port sevenfold is an unacceptable risk. Shipping accidents have happened in Burrard Inlet before this. The difference with these tankers is that the consequences of an accident are far more serious and may not be able to be remedied. The birds at the Conservation Area at Maplewood Flats will be at the front lines of any disaster in this harbour and we may not be able to save them in time from the toxic effects of any serious aquatic contamination. With no infrastructure currently in-place at Maplewood Flats to clean and wash wild birds, wildlife would be brought to Burnaby's Wildlife Rescue or they would wait for a specifically designed oil spill decontamination trailer system to arrive from Washington State. These are not sufficient systems to protect the last remaining mudflats in Vancouver's harbour, or the wildlife which depends on it.

LOOKING WAY BACK AND LOOKING FORWARD:

Wild Bird Trust marks 25 years in 2018

November 4th, 2018 marks the 25th anniversary of the official founding/ incorporation of WBT Wild Bird Trust of British Columbia. We are excited to celebrate the progress, the achievements, and the people who have made the journey possible. Thank you to all those involved over two and a half decades! What an extraordinary outcome from people's hard work and vision to protect wild birds and defend green space.

The Wild Bird Trust was founded in 1993, after being selected by the Port of Vancouver, the District of North Vancouver, and Environment Canada to operate The Conservation Area at Maplewood Flats. The Wild Bird Trust quickly met the challenge of turning a recently degraded industrial site into a sanctuary for wildlife, and formally opened to the public on September 16th, 1995. The event was attended by public representatives and partners, WBT's Patron Robert Bateman, and Rick Hansen who endorsed the new wheelchair-accessible trails.

Since the last ice age left the area more than 13,000 years ago, Coast Salish Peoples stewarded and lived harmoniously off these lands and waters. The remaining Tsleil-Waututh descendants from two waves of smallpox genocide would have their lands occupied and, under threat of force, be placed on an Indian Act reserve system. The colonial government barred them from participating in much of their culture, language, legal, land, water and harvesting rights.

The mudflats supported all forms of wildlife, and once stretched across the shoreline. But with this occupation came industrialization in this area on Burrard Inlet, beginning in 1920. After near attempts at a major deep sea port facility, marina and shopping mall / town centre projects, and the

removal of squatter shacks, the Flats began to regenerate by the 1980s, returning to a more natural role as a habitat for wildlife and food source. Alongside the rejuvenation of the Maplewood Flats, society itself was undergoing a change of attitude toward the environment. A growing number of people began to recognize the area as not only valuable, but also increasingly vulnerable.

Stamatis Zogaris, a fourteen-year-old member of the Vancouver Natural History Society, and Kevin Bell were bird watching on the site when Zogaris began questioning the future of the natural area. When Zogaris learned about the development plans to turn the land into a shopping mall with an "environmentally friendly" marina, he set in motion a plan to save the natural site. With the creation and distribution of a pair of leaflets and help from local media, the mission to save the Maplewood Flats gained momentum and attracted support from concerned locals. In 1987, the Maplewood Committee was born.

Working together with The Vancouver Natural History Society's Conservation Committee (co-chaired by Stephen Partington and Kevin Bell), Maplewood Committee volunteers joined local supporters in removing garbage from the District of North Vancouver, planting a number of donated shrubs and trees, and attending guided demonstration walks of the area. In 1988, Partington and Bell presented the sanctuary proposal to the District of North Vancouver council. Following the presentation, Bell was approached by an elderly man, Harvey Burt, who had a close relationship with the area since childhood.

In his lifetime, he had witnessed a marshland rich with wildlife decimated for industrial purposes. Harvey made sizable financial donations to the campaign that contributed to a new level of public awareness.

Advertisements in the North Shore News were made and a third leaflet was distributed by Bell and Alan Burgess. Support grew steadily, and when the Minister of the Department of Fisheries and Oceans (DFO) Tom Siddons acknowledged the campaign, stakeholders began to take note. With thousands of leaflets distributed and media support by North Shore News columnist Peggy Trendell-Whittaker, the Maplewood Committee garnered over 3,500 signatures advocating for the sanctuary. In the following election, several councillors made clear their support, and newly elected councillor Janice Harris was a key campaign supporter and activist.

In 1990, the District of North Vancouver designated both the Federal and DNV lands and intertidal area at Maplewood Flats a Conservation Area. With pressure placed on stakeholders by campaign organizers, the remaining areas of land overseen by the Port of Vancouver soon followed suit.

After ten years of advocacy, the campaign to save the last remaining piece of estuarine on the Burrard Inlet had finally come to an end. With 155 hectares available for a wildlife sanctuary, the need for an organization to rehabilitate and manage the new Conservation Area became apparent. In 1993, Dr. Richard C. Beard and Patricia M. Banning-Lover, both passionate about wildlife and knowledgeable about running an organization, stepped forward and established the non-profit society WBT Wild Bird Trust of British Columbia.

Wild Bird Trust's mission statement "Dedicated to the protection of wild birds and their habitat, on the principle that all wildlife must benefit" was brought to life through WBT's first project at the Conservation Area. With the support of thousands of volunteer hours spent on restoration, Wild Bird Trust created a "living classroom" for all to enjoy. The 75 acre site managed by Wild Bird Trust adjoins and helps protect the largest area of salt marsh and mudflats in Burrard Inlet.

The Wild Bird Trust has been successful in securing long-term tenure at the site, and has signed two long-term parallel agreements to March 31st, 2041.

Over the past 25 years, Wild Bird Trust has developed a variety of programs and services including "Return of the Osprey" Festival, monthly nature walks, and monthly bird surveys. Through tremendous fundraising efforts and generous funding from The British Columbia Waterfowl Society, Wild Bird Trust has installed major improvements, including over 3km of wheelchair-accessible trails with resting benches, a wetland with well and pump house, the Westcoast Bridge spanning the Barge Channel, a viewing platform, a Coast Salish plant nursery, and the Corrigan Nature House. Former WBT Vice-President, Landscape Architect Patrick Mooney who until 2014 also acted as Habitat Advisor, designed all the major enhancement projects at The Conservation Area, including the freshwater marsh system. The system was dedicated on May 10th 1997 and it was at this event that WBT Founders Beard and Banning-Lover were individually presented with the federal award Certificate of Environmental Stewardship (Local Hero).

The freshwater marsh system continues to act as a breeding habitat for Marsh Wrens, Common Yellowthroats, Wood Ducks, Blue-winged Teal, Red-winged Blackbirds, Pied-billed Grebes, Soras, Virginia Rails, and many other winged visitors. The

bird species list for The Conservation Area grew from 208 in 1993 to 250 in 2016.

In 2006, under Wild Bird Trust's stewardship, the site became the leading breeding colony for the migratory blue-listed Purple Martin. This program supports a destination refuge/nesting opportunity for this amazing bird which flies all the way from Brazil to nest in boxes supplied by Wild Bird Trust. In November 2007, after a struggle which spanned over a decade, Wild Bird Trust was successful in permanently protecting the Park Street Marsh Area on the western boundary of The Conservation Area.

This tiny freshwater marsh hosts upwards of five hundred wintering waterfowl. Red-listed White Pelicans on their migration to Stum Lake use this area to rest and refuel. This valuable intertidal area of true sanctuary includes the premier example of salt marsh in Burrard Inlet and is also a nursery for our resident population of Coastal Black-tailed Deer.

In 1994, Wild Bird Trust began the process of bringing back one of British Columbia's most spectacular butterflies – the Anise Swallowtail Butterfly – which was eliminated from Burrard Inlet as the tidal salt marsh was reduced to about 5% of its original extent in the last century. Through various restoration projects and research, Wild Bird Trust has worked hard to return The Conservation Area to its natural state and improve and enhance the habitat of the wildlife that depends on it.

Wild Bird Trust is honoured to be joined in protecting and restoring The Conservation Area at Maplewood Flats by Coast Salish birders, researchers, ethnobotanists, artists, storytellers, and volunteers in this journey. Community efforts towards reconciliation and redress are paramount for a healthy society and sharing Coast Salish knowledge is imperative in the success of the Conservation Area.

Wild Bird Trust's transformation of The Conservation Area is an example of how protection and enhancement of wildlife habitat can be compatible with education and public enjoyment. With ongoing habitat enhancement, and an integration of Traditional Ecological Knowledge (TEK) into research and planning, it is an inspiring model for sanctuaries elsewhere. The Wild Bird Trust uses a place-based framework and acknowledges the 13,000+ years of local Indigenous stewardship of these unceded lands and waters, and the long-standing role of the Tsleil-Waututh. After 25 years, Maplewood Flats can be a site of reconciliation in action to advance protection of Coast Salish wildlife and practise cross cultural dialogue.

Reaching forward to the next 25 years, the "Habitat & Cultural-Use Management Plan" is the management tool to plan future enhancements and mitigating human stressors. And surrounding the area, the Tsleil-Waututh are leading in marine research, environmental projects, and systems to protect the area for wild birds and all life.

The shared history and future between Tsleil-Waututh and Wild Bird Trust and Maplewood Flats was on hand at our past AGM, held in November 2017 at Tsleil-Waututh Community Centre (just 1km east of the Nature House). A strong showing of 80 members was present to learn plans for the Wild Bird Trust's 25th year, and they took time to acknowledge individuals who have contributed to the wellbeing of Maplewood Flats and the surrounding Salish Sea. Patricia Banning-Lover, (Ta'ah) Amy George, Iggy George, and Kevin Bell were all recognized for their years of service in these areas.

The work of honouring our founders and hard-working contributors is sure to be a tradition each year. The wild birds of these Coast Salish lands and waters depend on it. Knowing both the 25 year and 13,000+ year history of Maplewood Flats ensures we are in good shared hands, hearts, and minds for the next quarter-century and beyond.

COAST SALISH PLANTS

By Senaqwila Wyss

Hən̓q̓əmin̓əm̓: **słéwəns tə pipəha·m**
Sḵwx̱wú7mesh sníchim: **slhilhaw̓ín tl'a wéx̱es (little bed of the frog)**
Common name: **Common Plantain/frog leaf**
Scientific name : ***Plantago Major***

The common plantain also carries the nickname "nature's bandaid" due to its healing properties that are good for all skin ailments, including relief from insect bites or stings (mosquitoes, spiders, wasps, or bees). Pick the leaf, chew for a few seconds, and rub onto the sting to help relieve itchiness or irritation.

The leaves act as an anti-inflammatory to skin, and can also be applied to cuts, burns, scrapes, and irritations such as rashes or eczema. It can be made into a salve with virgin olive oil/coconut oils and beeswax to apply to the skin, and stored to preserve. The common plantain is an introduced plant, but has been used as a medicine for centuries. It can be identified by string-like fibres at the stem when the leaf is picked, as well as having a lighter bottom side than the top.

Hən̓q̓əmin̓əm̓: **qeɬa**
Sḵwx̱wú7mesh sníchim: **kaɬkay**
Common name: **Nootka rose**
Scientific name: ***Rosa nutkana***

This beautiful flower provides pollen for bees, and the rose hip can be gathered after the petals have fallen off and it has ripened (looks like a bright red bulb). These can be used in many ways as they are high in Vitamin C, D, E, flavonoids, and more. It should be noted that the seeds have a fuzz on them and should be processed by rinsing and removing texture, especially for those wanting to make jam or jelly. Rose hips may also be dried for a fruity tea. Pink petals if fallen can be gathered and saved for an oil, but not purposely picked when in bloom. These flowers can be easily mistaken for other pink roses such as woods, dwarf, or cluster roses.

Hən̓q̓əmin̓əm̓: **lələ̓c̓əɬp / səney̓əɬp**
Sḵwx̱wú7mesh sníchim: **séliy̓ay̓**
Common name: **Tall / short Oregon grape**
Scientific name: ***Mahonia aquifolium***

The Oregon grape has yellow roots and also dons bright yellow flowers in April. The yellow colour can signify the use of treating the liver. The berries are a dark blue colour, and not actually true "grapes" but hold more of a bitter taste. The roots can be dug, dried, and made into a tea that helps digestion, arthritis, stimulate the appetite, as well as to treat ulcers, heartburn, rheumatism, and kidney and skin disorders. The berries/grapes can be used to make jam, berry cakes, as well as eaten raw. They are high in antioxidants, and can be used to soothe the stomach and treat many forms of indigestion.

Senaqwila Wyss is from the Squamish Nation and carries intergenerational teachings about ethnobotany (indigenous plant use). She is a summer student at the Wild Bird Trust. Her knowledge has been passed on from her mother as well as some academic studies of ethnobotany.

COAST SALISH NURSERY

At the Conservation Area at Maplewood Flats, we are working to incorporate awareness of the plant species on site and their traditional uses. With time, we will expand our plant nursery selection to offer all the perennials, ground covers, shrubs, and trees native to the Maplewood Flats area. Native plants are locally adapted and thus require less time, effort, and water. Further, they provide important habitat that local birds and other wildlife depend on. We are excited to be launching brochures to accompany plant sales. These information sheets will describe proper plant placement and care, ecological information, and traditional uses.

Want to learn more about indigenous plant use? Join local Squamish ethnobotanist Senaqwila Wyss for on-site plant walks on Saturday June 16th, 23rd, and 30th from 12pm-1pm and learn about plant use for medicines, teas, edible berries, and more! Stop by the Maplewood Flats Coast Salish Nursery Saturdays 10am-2pm and check out our selection of plants for sale. We have great prices and a variety of species you won't find anywhere else. Stop by the plant sale to liven up your yard or balcony!

If you are interested in the nursery, please come out and volunteer for the summer – we are always excited to welcome more helpers! Experience is an asset, but we are eager to share our knowledge and help volunteers learn on site.

COAST SALISH WILD BIRDS LAND ON GRANVILLE ISLAND

In celebration of our 25th Anniversary and National Indigenous Peoples' Day, Wild Bird Trust has put reconciliation and redress work at the centre of the anniversary year. The WBT is honoured to be joined by Coast Salish artists from June 21st-24th for the Coast Salish Wild Birds at Granville Island event taking place at the Chain & Forge public square.

The weekend of activities will provide an opportunity for Coast Salish artists and ecologists to share images, stories, and songs about the wildlife and bird species common to the region whose existence is woven into Coast Salish stories, spoken and sung since time immemorial. Wild Bird Trust is inviting Coast Salish artists to chronicle past and present efforts by Indigenous Peoples engaged in the local environment, from Snauq to Wheyah-Wichen. We are featuring local wild birds as a reconciliation device between settler and Indigenous communities, and further recognizing these important spiritual and cultural emblems.

Join us in welcoming local artists and learn about Coast Salish culture through art, conversation, and fun activities for the whole family. Alongside artistic displays and performances, Coast Salish Plant Walks will be offered twice a day by a local Squamish Ethnobotanist.

Opening ceremonies will begin June 21st at 11am. Local Musqueam song and dance group Tsatsu Stalqaya will welcome guests with a live performance. Christie Lee Charles, Vancouver's fifth Poet Laureate, DJ Mukluk, Hope (Status Krew), Two Berries, and Tzo'kam will also take the stage and help launch the weekend's festivities. Following the launch, programs and exhibitions will begin at 11am each day and run until 4pm.

The Coast Salish Wild Birds at Granville Island event will be a great place for families to learn about Coast Salish culture together. Children joining the event will have the opportunity to learn about Coast Salish wild birds through drawing designs, singing bird songs, stenciling, and silkscreening alongside visiting artists. Activities throughout the weekend will be at no cost and will include a takeaway silkscreen for kids from a local Tsleil-Waututh artist.

This public engagement program connects Coast Salish culture with the greater Vancouver public, as well as regional conservation and the birding community. The reintroduction of Indigenous culture in these shared contemporary public spaces charts a collaborative path forward where the genuine history is honoured and deeper understandings can coexist. Celebrating our anniversary at Granville Island has been made possible with the generous sponsorship of Canada Mortgage & Housing Corporation (CMHC) Granville Island.

COAST SALISH CULTURAL HERITAGE PROJECT: MEET THE ARTISTS

In 2017, the Wild Bird Trust launched a long-term process of recognizing the cultural heritage of Maplewood Flats, with financial support from the BC Museums Association's "BC/Canada 150: Celebrating BC Communities and their Contributions to Canada" fund, and commitment to transition the organization's governance, programming, and membership. The WBT Board of Directors commissioned four local artists: Jordan Gallie, Ocean Hyland, James Harry, and Zac George who are now all involved in creating Coast Salish bird artwork for installation at the Conservation Area at Maplewood Flats. These new works build on existing public art installations at Maplewood, such as Ken Lum's squatter shacks, while also re-introducing Coast Salish cultural history to the site which borders Tsleil-Waututh.

Ocean Hyland

Ocean is a descendent and resident of the Coast Salish peoples' territory. She lives, creates, and learns in her traditional territory, Vancouver, British Columbia. Ocean's lineage also includes: Stó:lō, Sḵwx̱wú7mesh, Welch, Hawaiian, Irish, and Scottish, passed down from her maternal grandfather. Ocean carries the ancestral name Ts'simtelot, which she shares with her mother Charlene Aleck, an elected council at Tsleil-Waututh nation.

Ocean has a strong passion to learn the history of the land she lives on, and to use this knowledge to create art and raise awareness of the stories this land holds. She uses art as a platform to share her story as an Indigenous youth and express her connection to the land. An active participant in Kwekwecnewtxw: Protect the Inlet, an Indigenous movement against the Trans Mountain pipeline expansion, she has been actively engaged in the Watch House project on Burnaby mountain and plans to continue advocating over the summer.

This summer, Ocean has two contracted art installations at Maplewood Flats and Noons Creek Hatchery in Port Moody. Her project with Noons Creek Hatchery is a series of mural panels and community engagement projects coordinated by Tasha Faye Evans. Ocean will also be continuing language classes in her community. Ocean has been hired on at the Maplewood Flats to share the culture and knowledge she has learned from her family, community, and studies such as the Squamish language, history of the land, and traditional arts of the Coast Salish Peoples.

James Harry

James (Nexw'Kalus-Xwalacktun) Harry shares the ancestral name of his father, Xwalacktun, and is a local artist of the Squamish Nation (Swxwú7meshḵ) and European descent. James

draws inspirations from his father's work which has been recognized by the Squamish people and other Coast Salish nations.

James has a unique capacity for developing thematically significant work that connects all people to the ecology of place while building greater understanding between cultures. Using modern tools, materials, and techniques with deconstructed First Nations design and forms, James brings together the traditional and the contemporary while honouring the spirit in the woods and metals he combines: "The materials I work in --red and yellow cedar-- are deeply rooted in our being as Indigenous people of the Northwest Coast. My work reflects upon cedar's significance to the Squamish and Kwakwaka'wakw people, by exploring material and formline as visual language."

Wild Bird Trust has purchased a custom laser-cut sheet aluminum artwork featuring a heron by James to be displayed near the walking bridge and entrance to the barge channel on Burrard Inlet.

Zac George

Zac George Skokaylem is a member of the Tsleil-Waututh Nation and lives in Chehalis. His work is inspired by his late grandparents, Chief Dan and Amy George, and Robert and Betty Edge. Zac studied carving with Don Joe of Chehalis and is proud to use the Coast Salish artistic style. He lives the rich cultural lifestyle of the Salish People: he is a hunter and a fisherman and follows the traditional spirituality practiced by his people for centuries. Zac is known for his wood carving art and painting.

In honour of his grandfather, Chief Dan George, Zac was commissioned to create the Chief Dan George Welcome Pole that now rests outside Pacific Coliseum in Vancouver.

This summer, Zac will be creating two House posts for the Conservation Area at Maplewood Flats

that will remain as permanent installations outside the Nature House. Zac also has poles which will be raised at the new Cates Landing housing development further on Burrard Inlet.

Jordan Gallie

Jordan Gallie, a Tsleil-Waututh Nation artist, sees art as a platform for understanding. In 2016, Jordan was one of three artists who won a city-led competition to create art that encompassed their view of reconciliation and Vancouver. His piece, a glass design on cedar featuring a wolf's head, cedar rope, and an eagle, can be seen in Vancouver City Hall. In addition to glass pieces, Jordan also creates custom silver and gold jewelry inspired by Coast Salish designs.

Jordan has been commissioned to install a Coast Salish bird mural on the outside of the Corrigan Nature House at the Maplewood Flats, as well create custom etched bird designs on our entrance door windows.

Jordan Gallie with partner Crissy

Photo credit: Perry Edwards

CALL FOR ENTRIES: 25TH ANNIVERSARY PHOTO EXHIBITION

Calling all Wild Bird Trust of BC nature photographers! Whether you're a veteran or a novice nature-loving photographer (or a keen youth), we have a competition for you! In recognition of our 25th anniversary, the Wild Bird Trust of BC is holding a photo exhibition of images taken at the Conservation Area at Maplewood Flats.

The competition consists of two submitted photo contests (one for large format and one social media) and 12 winners will be selected in each category and exhibited at the inaugural Corrigan Nature House exhibition. Photographers will also have the option to have their winning photo submitted for consideration in our Coast Salish Wild Birds 18-month calendar (Sept 2018-Dec 2019). Winning photographers will also receive a 25th anniversary commemorative poster, a Wild Bird Trust of BC t-shirt, and will be invited to speak on a photographers' roundtable in August discussing photography in relation to the nature around us. The winners will be given 15.5" x 19.5" framed prints of their shots (one per winner).

The Flats are home to four blue-listed (at-risk) bird species, with a total of 249 species which have been spotted within the 76 acre protected area. There is also a huge variety of non-bird wildlife, as well as beautiful habitats and plants. This is a great opportunity to get out and have some friendly competition with fellow birders and nature buffs, or go out with the family and see who can snap the best photo.

Whether you snag a photo of a corvid, a killdeer, a fawn, a flower, or any other flora or fauna which visits or makes its home in the flats, we look forward to seeing all of your wonderful submissions, and we hope you have a fantastic time taking shots of the beautiful wildlife here on unceded Coast Salish lands and waters. **Online submission can be found here: http://bit.ly/WBTphoto**.

ENTRY CRITERIA:

- Select your category: Social media (typically Instagram, Facebook or Twitter with corresponding limited file upload sizes); High resolution digital (recommended approximately 4650 x 5850 pixels, but not mandatory).
- All file formats welcome. Include your last name in the file name i.e. LastName_Heron_Maplewood.jpg
- Picture must be taken at any point in the Conservation Area at Maplewood Flats
- Birds or other fauna, flora, or landscapes must be featured
- Cropping, sharpening, color correction and exposure manipulation are acceptable, but not required or recommended per se. All other editing, such as cloning, removal of distractions and composites, is not allowed
- Include name address and contact information.
- Title for the image
- Caption (details of how the image was taken, subject matter)
- Confirmation that the image was taken by the photographer and is property of the photographer
- Women, men, new birders, new citizens, youth, Indigenous,…All are welcome to participate!
- Must be a member-in-good-standing of the Wild Bird Trust of BC. Join online here ($15-500) http://bit.ly/supportwildbirds

Photo credit: Perry Edwards

Photo credit: John Lowman

Photo credit: Paul Kusmin

WILD BIRD TRUST
2018-2019 CALENDAR

The perfect gift for bird lovers, conservationists, naturalists, family, and friends.

Photo credit: Paul Kusmin

Photo credit: Paul Kusmin

Photo credit: Paul Kusmin

Photo credit: John Lowman

Photo credit: John Lowman

WINNERS OF OUR 25TH ANNIVERSARY

PHOTO EXHIBITION

WILL BE FEATURED!

Photo credit: Paul Kusmin

Photo credit: John Lowman

Photo credit: John Lowman

$20 EACH

18 month calendar from September 2018 to December 2019. Available starting August 2018.

To pre-order, contact admin@wildbirdttrust.org or phone 604.929.2379.

Photo credit: John Lowman

Children at Corrigan Nature House

KINGFISHER SUMMER CAMPS ARE BACK!

Looking for a summer camp that will be fun and educational for your kids? The Kingfisher Summer Camps are back for another season of exciting activities including Coast Salish plant walks, bird watching and scavenger hunts, art workshops, and more!

The Conservation Area at Maplewood Flats is the perfect getaway for kids, and our camps will keep them on their feet, exploring the trails, searching for critters, and learning about the local ecosystem in a safe and welcoming environment. Our outdoor classroom is full of learning opportunities for kids of all ages. With the support of local Coast Salish ethnobotanists, artists, and storytellers, our camps are also a great place for kids and teens to learn about the rich culture and history of the Maplewood Flats through the sharing of traditional knowledge. The Kingfisher Summer Camps are a great place for 'kids to be kids' while gaining important insights on reconciliation and Coast Salish education. Kingfisher Summer Camps help kids learn more about the environment and their role in protecting it – while having a lot of fun too!

YOUTH LEADERSHIP PROGRAM

Inquire about our Youth Leadership program as well (aged 16-18 years). Note: Programs scheduling and sessions subject to change.

BRINGING KIDS BACK TO NATURE

With school out for the summer, camps are perfect for the parent on-the-go, but they are also a place where kids can interact with their peers and the environment around them. Kingfisher Summer Camps are a chance for kids to step away from their screens and interact with nature firsthand. While our activities are geared toward ensuring all kids have fun, they are also packed with important knowledge and teachings about ecology and conservation. Our camps strive to introduce kids to nature in an interactive and educational setting that fosters understanding and respect for the land and its history. With the support of the Coast Salish community, Kingfisher Summer Camps are rooted in traditional ecological knowledge and create a unique educational setting for kids to learn about reconciliation in an accepting environment.

Our Kingfisher Summer Camp program is an opportunity for us to share our knowledge and passion for the land with the next generation of conservationists while supporting the Conservation Area. Funds from the Kingfisher Summer Camps program go back to the environment and help Wild Bird Trust maintain the Conservation Area and fund restoration projects.

CHOOSE YOUR WEEK!

1. **July 30th-August 3rd, 9am - 4pm**
2. **August 20th-24th, 9am - 4pm**

- Week-long, whole day, or half-day registration available.
- Elementary school age children (ages 7-9; 10-13.)
- Register online at: maplewoodflats.eventbrite.com
- For inquiries or subsidy info: kingfisherkids@wildbirdtrust.org

- **DAY 1:** Coast Salish plant walks (morning) and Sun Printing workshop/ Cyanotypes (afternoon)
- **DAY 2:** Birding Scavenger Hunt (morning) and Painting Bird and Salmon Art Class (afternoon)
- **DAY 3:** Shoreline ecosystem walk (morning) and Stories and Knowledge of the Tsleil-Waututh (afternoon)
- **DAY 4:** Bug & Plant Scavenger Hunt (morning) and Plant Box Building workshop (afternoon)
- **DAY 5:** Local History Storytelling walk (morning) and Block Printing Art Class (afternoon)

CAN YOU FIND THE BIRDS OF MAPLEWOOD FLATS?

WORD LIST

BALD EAGLE
BUSHTIT
BUTTLEHEAD
CANADA GOOSE
CROW
GREAT BLUE HERON
JUNCO
KINGFISHER
LOON
MALLARD
MERGANSER
OSPREY
PIGEON
ROBIN
SANDPIPER
SISKIN
SPARROW
TANAGER
WARBLER
WOOD DUCK
WOODPECKER
YELLOWTHROAT

C	W	W	N	W	N	E	S	N	W	X	B	Z	N	O
W	A	P	O	O	A	I	L	O	I	U	Q	O	T	S
O	R	N	O	R	S	R	O	G	T	B	R	Z	D	P
O	E	L	A	K	R	D	B	T	A	E	O	A	I	R
D	S	N	I	D	D	A	L	L	H	E	Z	R	K	E
P	N	N	O	U	A	E	P	E	E	V	D	G	E	Y
E	A	S	C	E	H	G	U	S	Z	R	R	L	B	X
C	G	K	Y	E	L	L	O	W	T	H	R	O	A	T
K	R	C	A	A	B	C	R	O	W	Q	T	S	C	B
E	E	D	W	T	Q	I	S	W	S	N	I	I	C	X
R	M	T	A	N	A	G	E	R	W	E	T	O	B	V
Z	R	E	H	S	I	F	G	N	I	K	H	C	C	G
U	R	S	A	N	D	P	I	P	E	R	S	N	Z	V
G	N	O	E	G	I	P	G	L	A	Z	U	U	F	K
V	D	R	A	L	L	A	M	S	X	E	B	J	M	B

SUPPORT KINGFISHER CHILDREN'S CAMPS

CONSIDER MAKING A TAX-DEDUCTIBLE DONATION TO SUPPORT CHILDREN ACCESSING THE 2018 PROGRAMS.

Email donate@wildbirdtrust.org to support Kingfisher Camp programs in this pre-tax year-end window. We need the support of members and the public with charitable donations to build life-changing children's education programs at Maplewood Flats. We must educate the next generation of conservationists!

To donate, contact: donate@wildbirdtrust.org
Inquiries: kingfisherkids@wildbirdtrust.org

Pacific Great Blue Heron / smeḵw'á7

Pacific Great Blue Heron / smeḵw'á7 by Jordan Gallie (Tsleil Waututh)

Salmonberry Story

By Al & Jude Grass

Pileated Belted Kingfisher.
Photo credit: Paul Kusmin

Salmonberry is a shrub with a fruit that looks like a raspberry. At Maplewood you can find it at the edges of trails and forest edges. Salmonberry flowers are pink and have five petals. In spring, Rufous hummingbirds, returning from their winter grounds in Mexico, visit the flowers as a Spring nectar source. It is often said that the Rufous hummingbird times its arrival in our area just as the salmonberry comes into bloom. Flowers are eaten by birds like the spotted towhee and song sparrow.

Not only does a flower contain nectar (sugar and energy) but it also contains pollen (protein). Flowers are also visited by insects like bumblebees and flies, who help to pollinate the flowers, ensuring a crop of fruit.

Salmonberry fruit is like a raspberry, blackberry, or thimbleberry (another wild plant at the Conservation Area). The fruits are made up of little "beads" -- each with a hard seed. When you munch on a salmonberry you are eating a bunch of berries! Salmonberry fruit comes in two colours: yellow and red. Yellow ones never turn red, they just lack the red colour pigment.

Birds like robins, towhees, song sparrows, and thrushes love the berries. In fact, one bird, the Swainson's thrush, is sometimes called "the Salmonberry Bird". Bears, raccoons, and others are also fond of the fruit.

When a bird like Swainson's thrush or a robin eats the fruit, it later 'poops' out seeds with a little fertilizer so that new plants can grow. The tender new growth of salmonberry is a favourite of deer. New bushes grow up with more flowers and fruit, and they make nesting and cover (from the weather and enemies) for the birds.

Where does salmonberry get its name? It's because a salmonberry looks like a cluster of salmon eggs (roe)!

It is a wonderful story – a bird eats the fruit and 'poops' out the seeds so other creatures benefit – nature's way!

Barking up the Wrong Tree: Dogs and Birds Don't Mix Well

By Donna Clark & Chloe Hartley

Dogs and birds don't mix well, from the bird's point of view. While some four-legged friends do not pose much of a disturbance and some birds are more resilient than others, the two are best kept apart. Unfortunately, even us humans are disturbing to birds. That's why we, too, need to respect the trail boundaries and stay off the beaches.

To prevent disturbances for wildlife at the Flats, we do not allow dogs beyond the bridge. We try to support dogs and their humans staying in the Bird Sanctuary/Conservation Area before crossing the bridge, but it is still at the expense of the birds. The separation of birds and dogs is common to bird sanctuaries, such as the Conservation Area at Maplewood Flats.

At certain times of the year, birds can be more sensitive to disturbances. Early Spring for birds is a time for settling in and building nests -- the last thing a bird needs is an unwelcome guest in their potential home! "In a review of 69 peer-reviewed studies on dog-wildlife interactions, only three concluded that dogs had no impact," (Hughes & MacDonald, 2013).

What can we do to give our bird friends more privacy? Besides restricted off-trail use and limiting dog-use of trails, we intend to improve vegetation as a buffer along the trail system. Wolf et al (2013) found that the quality of the vegetation along trails is a more important variable on bird diversity than disturbance. Structural complexity and plant diversity can exert several buffering factors: the rich habitat supports greater bird diversity and numbers, dense vegetation may prevent dogs and people from accessing birds, and vegetation provides dense cover. Improving the "habitat" can buffer the effects of both human and dog disturbance (Wolf, et al. 2013), and we strive to ensure the Maplewood Flats continues to be a welcoming home for birds.

Meet Tamiko!

Tamiko Suzuki recently joined the Board of Directors for the Wild Bird Trust as Volunteer Coordinator.

"Growing up wandering the woods in Vancouver and hiking throughout the North Shore, I've always loved nature and being out in our amazing forests. I always felt as only one person, I couldn't make a significant impact on larger environmental issues. On a special day back in 1998, this all changed. Helping my kids at 'Sports Day,' I was aghast when a fellow 'Soccer Mom' shouted, "don't touch them, they're dirty!" as we became inundated with beetles and worms. All the pounding feet of our little players on the rainy field had helped scare the earthworms and beetles out of their holes. It seemed to me, if our kids are being taught to hate and fear the creatures they see outside, how can they ever learn to love and appreciate nature? And, if they don't love nature, why would they ever want to protect it? Soon a fledgling group of teachers and parents had joined together to start the annual school-wide Earth Day celebration, where kids pulled ivy and planted seedlings on the banks of the nearby creek. We hoped they would learn another lesson: living beside them, there was beauty in nature."

Outside of her work with Wild Bird Trust, Tamiko is also focused on raising awareness about challenges facing Indigenous groups who are fighting mines, the mounting danger and problems from oil and gas pipelines, and the devastation of salmon stocks and other issues concerning open-pen fish farms on the BC Coast.

Report on Volunteer Workshops

We have started an exciting new volunteer program with the focus on ecological restoration and reconciliation work. At the Volunteer workshop held in May, people learned about the nearby Tsleil-Waututh community, the history of the North Shore residents that fought to save the land from development, and current research on supporting the regeneration of a healthy ecology.

The second workshop held in June for volunteers was a chance to hear from the new Board members and talk about some of the exciting new projects underway for the summer. In both workshops, the volunteers came with a wide background of skills and interests but were united in their love of nature and their desire to give back to the community.

How do I get involved?

The best way you can get involved and help us is for you to join one of our committees and learn about what is going on. Under the guidance of a Board or staff member, you will then be able to see where your skills can be of most use. The following are Committees or groups that are looking for volunteers.

1. **Habitat & Cultural-Use Management Planning**
2. **Programs Committee** - Education, Culture, events, programming
3. **Fundraising Committee** - Grant writing skills would be of great help
4. **Coast Salish Nursery** - Help the manager with Saturday sales, advertising, and maintenance of plants.
5. WBT celebrates its **25th Anniversary** at Granville Island with four days of programming June 21st - 24th. Help with activities.
6. **Kingfisher Summer Camps** - Assist camp leaders 2 weeks - July 30th-August 3rd; & August 20th-24th.
7. **International Ornithological Congress** - Host delegates with First Nations canoe paddling, salmon feast, bird walks and ecology programs on Friday August 24th.
8. **12th Osprey Festival** - Volunteers needed immediately to help plan and produce the event Saturday August 25th.
9. **Grounds maintenance** - trail maintenance and plantings (spring/summer), invasive plant removal (fall/winter)
10. **Office assistance** - Work on various jobs and projects under Board direction.

Note: you must be a mem-ber of Wild Bird Trust to join these meetings.

If you are interested in volunteering at the Conservation Area at Maplewood Flats, be sure to get in touch with Tamiko at: volunteer@wildbirdtrust.org.

Volunteer photos from top: WBT AGM, Purple Martin boxes, Marine restoration project.

HOW TO DONATE TO THE WILD BIRD TRUST

If you would like to make a charitable donation to support the Wild Bird Trust of BC, donate securely online at bit.ly/supportwildbirds, inquire at donate@wildbirdtrust.org, or phone (604) 929.2379.

Contributing to Conservation

By Donna Clark

There are so many ways for you to join us, to be meaningfully-involved in this work. You can join a committee, participate as a member-volunteer, come to our events, and donate. Or, all of these!

Your financial contributions support ongoing projects of great need including: mitigation of damage by human stressors by increasing Coast Salish plant vegetation buffers along the trails, improved signage, increasing access and education by more marginalized members of the community, a strategic habitat plan, washroom access during busy times of the week, and educational materials that support the love and connection to the site. Indeed, throughout this magazine you'll find examples of the great work we all do, mainly as volunteers, to maintain this beloved space and its birds and wildlife.

We need you and your donations, including your memberships, to maintain and expand the work of protecting the Conservation Area at Maplewood Flats wider work of the Wild Bird Trust of BC.

THANK YOU TO OUR SUPPORTERS

The Wild Bird Trust of BC would like to acknowledge recent donations from Lynn Valley Garden Club, North Shore Unitarian Church , Stong's Market, and North Shore Optimist Club. Your support for our ecological restoration work is considerable!

We would also like to acknowledge recent grant funding from the Government of BC "British Columbia | Canada 150: Celebrating B.C. Communities and their Contributions to Canada" administered by the BC Museums Association. Additional funding received by Canada Summer Jobs (Government of Canada), Aboriginal Community Career Employment Services Society (ACCESS), Canada Mortgage & Housing Corporation / Granville Island, and North Vancouver Recreation & Culture Commission.

JOIN THE WILD BIRD TRUST—PROTECT MAPLEWOOD FLATS!

Dedicated to wild birds and their habitats on the principle all wildlife must benefit. A charitable tax receipt will be issued for membership fees and donations (up to 15% of all donations may be designated for WBT administration).

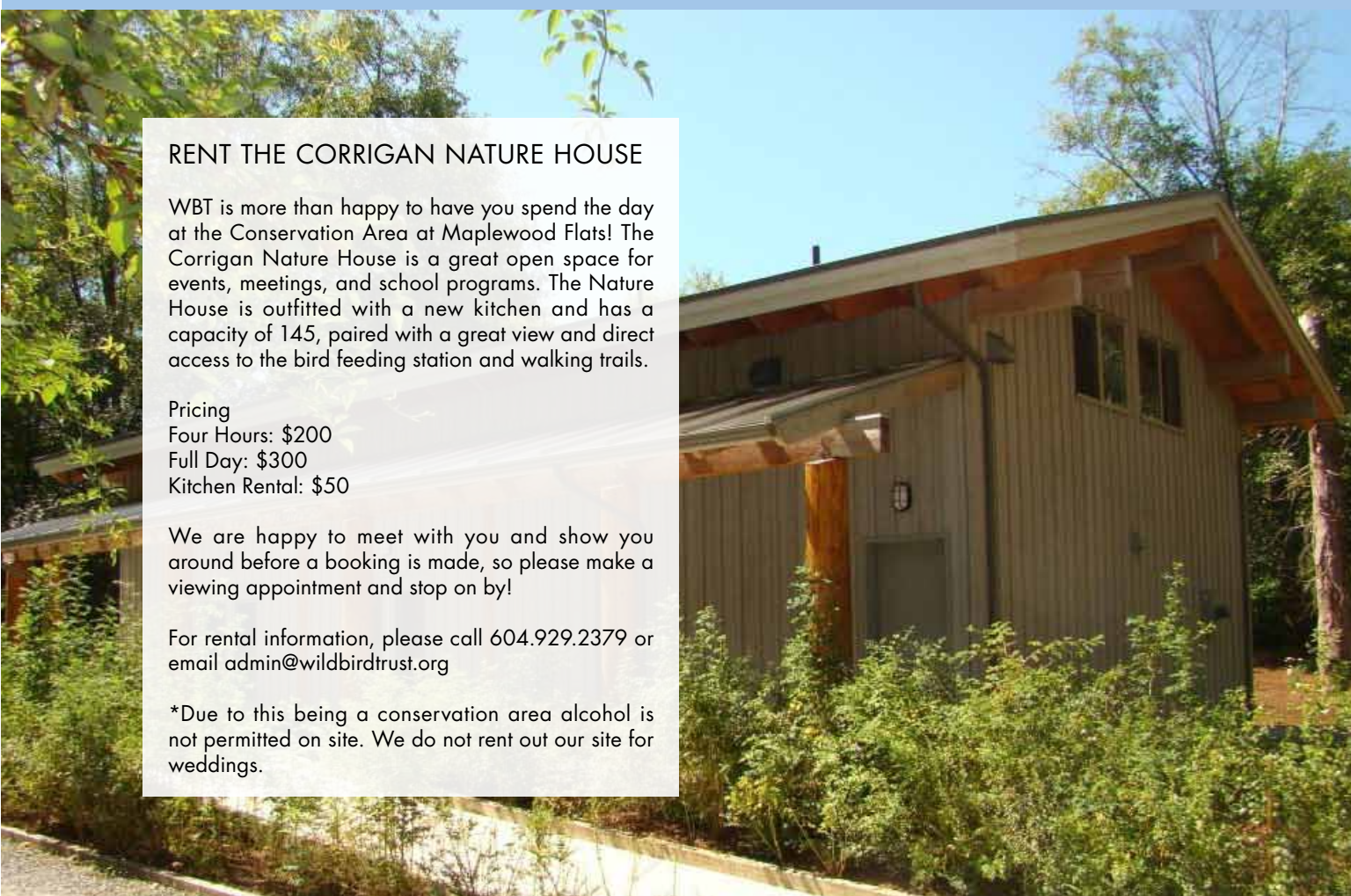
Single Membership:	❑ $30 per year	❑ $55 for 2 years
Family Membership:	❑ $40 per year	❑ $75 for 2 years
Student/Low Income	❑ $15 per year	
LIFE Membership:	❑ $500	Number in family: ____
Donation:	❑ $_____	

TOTAL: $

VISA card #: Name on VISA card: Expiry Date:
Member's name: Email:
Street address: City/Postal code:

Would you like to volunteer — we train! • Reception • Habitat Work • Committee work:_____
Please make cheque payable to: WBT WILD BIRD TRUST OF BRITISH COLUMBIA, 2649 Dollarton Highway, North Vancouver, BC, V7H 1B1.

You can also securely join or donate online at http://bit.ly/supportwildbirds



RENT THE CORRIGAN NATURE HOUSE

WBT is more than happy to have you spend the day at the Conservation Area at Maplewood Flats! The Corrigan Nature House is a great open space for events, meetings, and school programs. The Nature House is outfitted with a new kitchen and has a capacity of 145, paired with a great view and direct access to the bird feeding station and walking trails.

Pricing
Four Hours: $200
Full Day: $300
Kitchen Rental: $50

We are happy to meet with you and show you around before a booking is made, so please make a viewing appointment and stop on by!

For rental information, please call 604.929.2379 or email admin@wildbirdtrust.org

*Due to this being a conservation area alcohol is not permitted on site. We do not rent out our site for weddings.

Maplewood Flats is online!

Social media is a great way to share your experiences at The Conservation Area at Maplewood Flats, and also see what fellow visitors have spotted! Snap a great shot of a new bird? Posting your picture on social media and tagging #MaplewoodFlats can allow us – and fellow birders – to help you identify your new friend.

Staying in touch with our online platforms keeps you up to date on our events, announcements, and planned activities you don't want to miss. We hope to see you online!

FACEBOOK:

You can upload photos directly to our page:

1. Navigate to our Facebook page by typing in http://fb.me/MaplewoodFlats or type in @maplewoodflats in the search bar.
2. Click the "Photo" link above the "Write Something" box and upload your photo by browsing to the location of your photo and pressing "Open".
3. Click the "Share" button to upload the photo to our page.
4. Type @MaplewoodFlats to tag us!

INSTAGRAM:

To upload a photo or take a new one:

1. Tap (+) at the bottom of the screen.
2. Select "Library" or "Photo" to choose an existing photo or take a new one.
3. You can then add a caption with #MaplewoodFlats and @MaplewoodFlats to tag us in your photo.

TWITTER:

To post on Twitter:

1. Tap the tweet icon in the top right corner then tap the photo icon on the left above the keyboard.
2. Click Photo or Video to capture a new image or video or choose an existing one from your library.
3. In the description, add #MaplewoodFlats and @MaplewoodFlats to share your photo with us.

REMEMBER TO SHARE YOU PHOTOS WITH US BY POSTING TO OUR FACEBOOK PAGE OR TAGGING US WITH @MAPLEWOODFLATS OR #MAPLEWOOD FLATS IN INSTAGRAM OR TWITTER.
HAPPY SHARING!

Photo: David Mallari davemallari.com

Bench Program in The Conservation Area at Maplewood Flats

The Wild Bird Trust of BC provides members with opportunities to mark major life events in a meaningful way which also benefit the Conservation Area at Maplewood Flats. By purchasing a memorial tree, or memorial bench, residents may honour the memory of a departed friend or family member or celebrate new beginnings such as a birth or marriage. With this contribution from our members, valuable conservation and restoration work is supported. A portion of the contribution is tax deductible.

DEDICATED CONSERVATION-AREA BENCH - $3,000

The cost is borne by the individual, family or group wishing to dedicate the bench and covers the acquisition and installation of the metal bench as well as a custom bronze plaque (approximately 4" x 8").

For a period of 10 years, the bench will be maintained and if necessary, replaced by the Trust.

DEDICATED CONSERVATION-AREA SHARED BENCH OPTIONAL: $2000 FOR A SHARED BENCH, WITH ONE OTHER PERSON.

The bench sites will be made in consultation with the Conservation Area Manager, with the Manager making the final decision.

DEDICATED, CONSERVATION-AREA ARTIST BENCH - $5000

$5000/bench for 10 years, as above. This unique steel bench is custom designed and a sculptural installation fabricated by a local artist.

DEDICATED, COAST-SALISH TREE PLANTINGS - $1500

An individual, family or group may apply to have a dedicated, Coast-Salish tree planted on the Conservation Area. All fees are borne by those wishing to dedicate the tree and will cover the purchase and transport costs of the tree and a custom plaque with raised lettering.

The tree will be selected from the Wild Bird Trust Coast Salish Nursery, onsite at the Conservation Area, in consultation with the Site Manager. The Trust shall prepare the site, plant the dedicated tree, and install the memorial plaque. Please request our application form and submit to our Administrator.

Completed applications should be submitted to the Office Manager, Wild Bird Trust of BC, as follows:
Email: admin@wildbirdtrust.org
Post: Wild Bird Trust of BC, 2649 Dollarton Highway, North Vancouver, BC V7H 1B1.

Wild Birds Unlimited
Nature Shop

"Wild Bird Trust wishes to acknowledge the ongoing generous sponsorship of our bird feeding program by Wild Birds Unlimited. Thank you!"

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Robert Bateman, O.C., O.B.C., Artist and Naturalist

Join the Wild Bird Trust of BC online ($15-500)
http://bit.ly/supportwildbirds

MAPLEWOOD FLATS HOSTS 12TH OSPREY FESTIVAL

The 12th Osprey Festival taking place at the Conservation Area at Maplewood Flats is only a few months away! Wild Bird Trust is excited to bring together a community of nature lovers from around the corner and across Coast Salish Territory.

The event will feature workshops, traditional canoe paddles (tickets available onsite), guided walks, various speakers, live music, children's entertainment, and barbecue. We encourage everyone to come out, as we hope to welcome many first-timers from local neighbourhoods around Burrard Inlet. This is an opportunity to come inside the Corrigan Nature House for education workshops, speakers, and photography displays, wander the area for nature walks, and visit three stations at Otter Point, Osprey Point, and the Mudflats. We will have participation from the Tsleil-Waututh Nation, District of North Vancouver, and many environmental groups from the region.

If you are interested in learning about traditional Coast Salish use of plants, we will have ethnobotanists revealing names and information about the 320 acre site. If you would like to observe birds and other wildlife at the Conservation Area at Maplewood Flats, we will have scopes and observation stations set up at the three principal locations. Here you can observe the critters that call the Conservation Area home, and get advice from skilled birders and naturalists who will be available to help at all of the stations.

Be sure to bring your camera! Along with great views, there will also be a photography workshop open to visitors. If you snap a great shot, let us know through your social media channel and it may be featured on our own social media outlets or in future editions of *Wingspan*!

Join us on Saturday, August 25th for this free public event that showcases the wild birds we strive to protect here on Burrard Inlet.

GET INVOLVED!

VOLUNTEER INFORMATION:
volunteer@wildbirdtrust.org
INFO TABLES:
MaplewoodFlats@gmail.com
ACOUSTIC ACTS:
MaplewoodFlats@gmail.com

Guidelines for Trail Use

All visitors to Maplewood Flats must follow the posted rules and regulations, including but not limited to:

- Have fun and tag @MaplewoodFlats in your Instagram, Twitter and Facebook uploads.
- Washrooms are available during volunteer hours at both greeter hut and nature house.
- All visitors must stay on the trails. Failure to do so can cause serious damage to the ecosystems and their inhabitants.
- There are no bikes allowed in Maplewood Flats. There is a bike rack located adjacent to greeter hut near the trail entrance.
- There are no dogs allowed in Maplewood Flats past the bridge. Even on a leash, they disturb sensitive wildlife.
- When taking a photo or making an observation, do not touch or disturb the wildlife which you are observing (this includes no staging photographs).
- Please do not go on the beach or mudflats. These areas are particularly sensitive to disturbance.
- Report any emergencies to the police at 911.
- Keep coming back and consider joining the Wild Bird Trust online at joinwbt.eventbrite.ca

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12th Osprey Festival

Saturday, August 25th
10-4pm
Maplewood Flats
2649 Dollarton Highway

FREE FUN FOR THE WHOLE FAMILY!

Outdoor Acoustic Music Stage

COAST SALISH CULTURE

Nature Walks

BBQ FOODS

Children's Art-making

PLANT SALE

Info Tables

WBT
WILD BIRD TRUST
of British Columbia

Osprey
by Jordan Gallie
(Tsleil Waututh)

Go Green! Take Translink Bus #212
Info/RSVP: bit.ly/Osprey2018