

PARKSVILLE WETLANDS

BACKGROUND

For many years, the City worked to acquire the property known as the Ermineskin lands and in 2017, purchased the 35.9 hectares or 97 acres property from the Ermineskin Cree Nation for \$1.3 million, to be maintained as park in perpetuity for the enjoyment of future generations.

Before the City assumed ownership, the area now known as the Parksville Wetlands, was logged in the early 1950s and then again in the late 1990s. Development of the subdivisions north of the wetlands were initiated in the 1980s and historical records indicate the wetlands were modified due to logging activity and urban development resulting in drainage courses through the area.

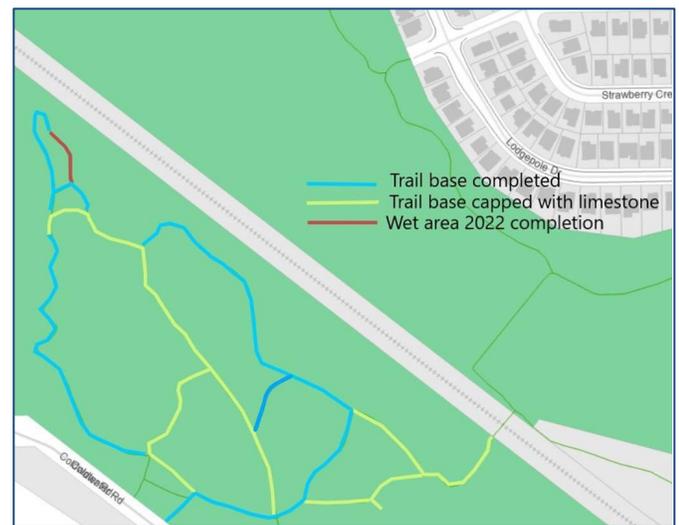
A report from 1994 indicates the two creeks, Romney Creek and Carey Creek, which flow through the wetlands, had been extensively channelized and culverted for subdivision development.

The Parksville Wetlands has naturalized itself into wetland over the past three decades through a combination of land clearing for development, soil type, and diversion of drainage water into the park. Multiple studies and reports over the past 25 plus years have identified areas for improvement and best practice including, but not limited to:

- Trail development to manage human impacts as natural areas are sometimes misused by people/pets straying from paths and others setting up structures or camps
- Trail development to increase connectivity and low impact recreation
- Trail development to provide access to natural areas for those with mobility issues
- Complete regular maintenance and inspection to ensure the area is safe for users
- Complete native plant restoration
- Reduce the impacts of invasive species
- Increase connectivity with accompanying educational signage to foster understanding of the natural assets
- Support the vitality of urban biodiversity by maintaining a network of connected natural areas

The Parksville Wetlands are public lands used for bird watching, walking and the opportunity to quietly enjoy the natural surroundings. Maintenance of the park is performed by City staff, keeping the park, as much as possible, in its natural state.

Significant replanting occurs annually in the City of Parksville with 3,000 trees planted in 2021 and about 7,300 trees planted over the past three years. Many plantings have occurred in the wetlands over the years by City staff, community groups and students.



CARING FOR THE WETLANDS

The City of Parksville values natural spaces for biodiversity, conservation, habitat and for recreation. Stewardship is demonstrated in the City's Official Community Plan, the Parks, Trails and Open Space Master Plan and the new Urban Forest Master Plan, along with many other studies and reports which reference protection of our green spaces.

Main trails are double track and constructed to an approximate three-metre width with an additional area of about one metre on each side, five metres in total. Lesser trails developed off this double track trail reduce to a two-metre width and are for pedestrian use only. Trail routes are chosen to reduce the impact to urban canopy and sensitive areas. Trails typically stay to higher ground and detour around established conifers where possible.

Consideration is given to maintain the natural flow of water through methods that allow for the equalization of water on either side of the trail. This is achieved through culverts and by using clear rock as the base of the trail. The trail bed is made from rock ranging from eight centimetres to twenty centimetres in size to provide pore spaces beneath the trail for water to seep through; trails are not meant to be a dam. Wood removed from the trail route is piled alongside the trail and covered with the organics excavated from the trail bed in a permaculture method called *hügelkultur*.

Hügelkultur is used to ease fire concerns and to make for planting berms along the trail. The gradual decay of the wood sequesters carbon in the soil, provides for aeration of the soil, makes for a consistent long-term supply of nutrients, and stores water better through periods of drought. The berms help manage the water in the wetlands by keeping it in ponding areas while also keeping pedestrians and their dogs on the trail. Breaks in the berms lead to sensitive wet areas directing the water to where it would flow naturally before the trail installation.

Existing drainage in the wetlands is maintained with drainage entering the park in multiple locations on the Coldwater Roadside. Water flows from the Inland Highway and Errington into drainage courses and culverts that make their way north through the park. Drainage leaves the park in four main areas: the intersection of Despard and Chestnut, along the Maple Glen Linear Park, the end of Foxtail Avenue and the intersection of Hirst and Renz. This drainage system, in place for many decades, pre-exists the park.



Water flow is vital for tree health; when the wetlands is oversaturated and water becomes stagnant, several species of trees are susceptible to damage and we have seen many alders destroyed due to these conditions. A recent LIDAR assessment showed the wetlands has an existing canopy of about 133,000 square metres and store about 291,000 kilograms of carbon. A balanced approach is vital for wetland health.

The City has decades of experience in their staff who care for the Parksville Wetlands and all our natural parks and spaces. Many of them hold multiple certifications and include four arborists, three certified tree assessors, one riparian area assessor, one wildlife danger tree assessor, six horticultural technicians, and six provincially certified red seal horticulturists. City staff are dedicated and have a passion for stewardship of all these areas. Staff training and extensive experience is crucial for the maintenance and restoration of City parks.





Recently completed trail (left)
Trail work completed 2021 showing limestone cap (right)
Trail work completed in 2019 showing regrowth (bottom left)



FIRE SAFETY

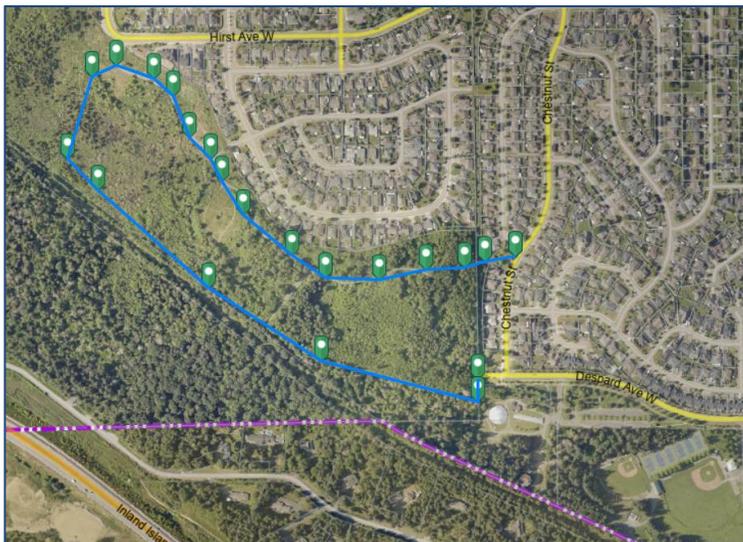
As we learn to react and adapt to changing climate conditions, there is realization the protection of the Parksville Wetlands may come down to access. Following fires in 2020 and 2021, it became obvious a network of trails needed to be built to allow for access for both emergencies and maintenance.

We experienced a fire of about 700 square metres and another fire which burned a section of the wetlands in a more treed area. Without safe emergency access, the potential for loss within our wetlands and the risk to nearby residential areas is high. The section of park south of the railway, contains almost 200 dead standing trees.

It is critical for access to allow emergency services reasonable escape routes. Without this access, firefighters could be engulfed, or an inaccessible fire could reach beyond the wetlands to homes in our community.

The City looked at a variety of regional trail standards from the area and through the Municipal Insurance Association of BC, chose to build on one developed by the Regional Municipality of Whistler.

Development of a trail system within the Parksville Wetlands is a priority for the City. Staff are now able to safely access the site to mitigate the hazards from trees and remove dead wood based on our urban forest strategy to manage fire fuel load maximums for the area. Emergency services are now able to enter the area knowing there is a safe egress (*shown in photos below*).



RECENT WORK

Parks staff have been working diligently over the last few months to complete an almost 600 metre trail to connect the last segment of a 2.3 kilometre loop in the northside of the Wetlands. This section of the park was cleared entirely a few decades ago as a part of the Ermineskin subdivision and is made up mostly of pioneer species such as grasses, red alder, deciduous shrubs, and some shore pine.

Trail routes are selected to reduce impact to urban canopy and sensitive areas. Organic materials from the chosen trail route were piled to the side of the trail employing a permaculture method used to ease fire concerns and to make for planting of berms along the trail. The berms help manage the water in the wetlands by keeping it in ponding areas while also keeping pedestrians and pets on the trail. A look at the trail built in 2019 connecting Renz Road to Chestnut, demonstrates how quickly the trail re-naturalizes in a few short months and how popular the trails have become.

Staff consider the natural flow of the water in the park and take steps to ensure that equalization of water on both sides of the trail is maintained. This process is assured by a combination of culverts, shallow trenches and by the profile of the trail bed. The base is comprised of clear rock in various sizes to maintain pore spaces between the rock. Water can make its way through the pore spaces.

The drainage system that led to the Hirst Avenue and Renz Road catch basin was cleaned of organics, standard practice with ditches and drainage courses throughout the City. Consideration was given to eliminate this drainage course once the trail was built; however, after monitoring, it is was determined this course may still be required. The height of the overflow has been raised which in turn increases the depth of the basin or drainage channel. A deeper channel allows for the retention of more water in the wetlands providing additional percolation time. The raised height will stop the flow of water into the storm basin earlier in the year while still allowing for overflow in times of heavy rain.

The City will regularly monitor this drainage course for flow over the next several years. The various watercourses through the park will allow for ground percolation to occur for most of the water and for overflow to continue as it has for many decades during the wet season.

A key component in the City's park planning is to ensure access for all. The new trails and trail improvements offer easy access to the older and new trail system for many more users of all levels of mobility. The new limestone capping also helps with those who are visually impaired. Inclusivity makes us better as a community.

The Parksville aquifer which runs south to north under the west boundary of Parksville (Springwood area) has shown quite an increase in water levels this winter. Three of the eight City groundwater production wells have been artesianing since fall 2021; the first time in a decade and extremely encouraging. This rebound in water levels is partly due to the Englishman River Water Treatment Plant and our dedication to active water containment in the wetlands. The plant uses water from the Englishman River which allows the groundwater wells to rest during the wetter recharge time of year.



Photos showing trail drainage



Hirst Avenue drainage (above)



*Foxtail Avenue drainage (left),
Despard Avenue drainage (above)*



WHAT'S NEXT FOR THE PARKSVILLE WETLANDS?

Overflow height adjustment - near the Renz Road outflow, we have raised the height of the overflow which in turn will increase the depth of the basin, or in this case, the drainage channel. Regular monitoring will ensure the right balance of water retention/percolation and drainage.

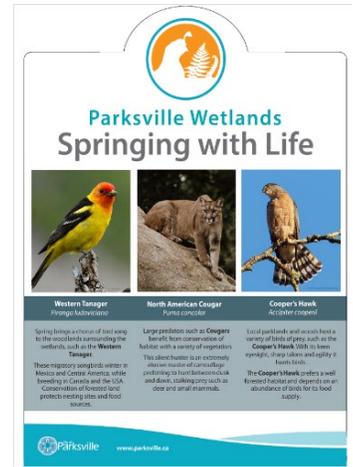
Restoration - work is underway along the trail route with plantings and seeding of native plants. Soon the hügelkultur berms will germinate and help naturalize the trail. Seeds native to the wetlands including Large-leaf Avens, Canada Goldenrod and Stinging Nettle have been planted with other plantings scheduled.

Signage - requesting people and their pets stay on the trail

Interpretive signage - educational signage highlighting the native flora and fauna of the park produced by Vancouver Island University and the Mount Arrowsmith Biosphere Reserve Research Institute (MABRRI) is now in production to be installed soon. We are also working with the Mount Arrowsmith Naturalists to produce native plant informational signs starting with ten plants found in the wetlands. A member of the Qualicum First Nations is consulting with staff to provide the Hul'q'umi'num names and verifying First Nations usage of plants

Benches - consideration for possible benches being explored

Trail capping - capping the trail with limestone



New trail with berms helps to eliminate trampling off trail.



New plant seedings – Large Leaf Avens, Canada Golden Rod and Stinging Nettle

[Parksville Wetlands](#)

