

Gabriola Streamkeepers—Water levels and quality

## **Observations at Coats Marsh, Gabriola Island**

—with notes on Coats Marsh Creek, East Path Creek, and Stump Farm Streams.

### ***References:***

[RDN Coats Marsh Regional Park](#), 2011–2021 Management Plan, Appendix A.

[Coats Marsh hydrogeology](#) .

Coats Marsh RP and 707 CP Trail [Maps](#): Maps Y and Z.

Gabriola Stream and Wetlands [Atlas](#) .

Coats Marsh Species [Checklists](#) .

Coats Marsh – human disturbance of breeding and migratory [ducks and geese](#).

Coats Marsh Management - [paper on](#).

Coats Marsh brief [history](#).

### **Field observations—2022 (Jan.—Dec.)**

THIS FILE ([Field Observations 2022](#)) IS A SUPPLEMENT TO:

“[Observations at Coats Marsh, Gabriola Island](#)” File: 673.

For an up-to-date list of supplements see [here](#) .

January 3, 2022 (day 2361, 2192+169): NanRG cum. 861.7 mm (norm. 566 mm).

Thaw underway.

A bald eagle by the lake.

Beaver dam's major spillway flowing again.

Along the trails, snapped-off trees, frost-clipped twigs, and slushy footsteps the same grey colour as the underbellies of the ragged clouds.



NO ROAD HERE





January 11, 2022 (day 2369, 2192+177): NanRG cum. 921.0 mm (norm. 613 mm). Weir +585 mm WPB scale. cal. datum: weir -0.062 m]

Now-fading ice reached about 1½-inch thick during the cold spell. Not enough to attract skaters. Pond leveller approaching full capacity.

Numerous ravens scattered all over the park carrying on exceptionally noisy conversations. So varied in vocabulary and tone, it's impossible to discern what it might be all about.

January 13, 2022 (day 2371, 2192+179): NanRG cum. 942.6 mm (norm. 624 mm). Weir +631 mm WPB scale. cal. datum: weir -0.016 m]

Open water, cascading freely over the crest of the beaver dam.

There was a time when I visited the marsh to observe the wildlife. These days it's more often to hang out at the weir to examine, and sometimes discuss, infrastructure.





January 23, 2022 (day 2381, 2192+189): NanRG cum. 956.4 mm (norm. 680 mm). Weir +521 mm WPB scale. cal. datum: weir -0.126 m]

Less dramatic days. Precipitation has eased off.

There are a few winter resident ducks of the wetland around – ring-neckeds and buffleheads, but far fewer than usual. The only transients so far a flock of mallards, a one-day glimpse of widgeons, and brief sojourns of some Canada geese. Absent this season have been green-winged teals, shovellers, and hooded mergansers, species preferring secluded habitat and that are present elsewhere on the island. There have been no visits from trumpeter swans this year either, and conclusive photographs of pintails and yellowlegs remain on the “wanted” list.

Time to halt the well-intentioned but ill-advised RDN/NTBC draining of the marsh;

- the syphons are unable to handle the flow in winter from the extensive catchment area to the east once the aquifers there are fully charged. The destructive drawdown at the end of the dry season last year was quickly negated when autumn rain began;
- the syphoning has failed to protect the concrete weir from normal seasonal overflow on three occasions this wet season with no ill effects;

- the marsh needs to conserve water for the summer and to curb the growth of watershield that will otherwise completely choke the water surface;

- expert opinion on the integrity of beaver dams is that this dam is not going to fail catastrophically;

- local residents immediately downstream of the weir do not support the draining;

- disturbance by humans around the weir and dam may contribute to the reduction in wildlife including the now near three-month long absence of the beaver; and

maintaining the syphons is a waste of RDN Parks staff's time.



Without precommercial thinning, stands of pecker-poles like these are common in the RP and adjoining 707CP..



Green-winged teals at Dicks Swamp. Rarely seen at Coats Marsh.

January 31, 2022 (day 2389, 2192+197): NanRG cum. 969.6 mm  
(norm. 723 mm). Weir +509 mm WPB scale. RDN outer gauge 1210 mm.  
[cal. datum: weir -0.138 m, RDN outer gauge +0.260 m,  $\Delta = 0.40$  m]  
Precipitation in January within normal variation, 15% below long-term  
month's average.

Addendum to these notes added on rainfall statistics. Rainfall is  
increasing in the six months of winter but the trend is very weak and  
barely detectable amid all the normal weather vagaries.

One couple of hooded mergansers. Both preening, and in the process  
showing their seldom-seen fan-tails, very unusual in duck species;  
both sexes have them. They don't seem to be using them for display  
(other than to human photographers).



George Szanto in his book *Bog Tender* (p.99) remarks that five hooded  
mergansers were observed on McGuffies Swamp at the headwaters of East  
Path Creek in the CM lake catchment area in January. This would have  
been a decade or so ago now.

February 15, 2022 (day 2404, 2192+212): NanRG cum. 973.9 mm  
(norm. 794 mm).

Flock of ducks, in the 20-30 range, mostly quack-quacking mallards with a few ring-neckeds. Possibly one or two other species in the mix but none seen.

Somebody has been logging in the NE Arm. Heard today of an instance of a dog chasing a deer in the park, and causing or contributing to its death.

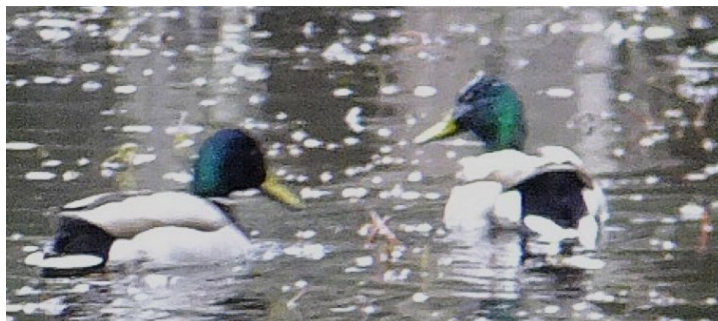
February 23, 2022 (day 2412, 2192+220): NanRG cum. 978.0 mm  
(norm. 829 mm). Weir +265 mm WPB scale. RDN outer gauge 968 mm.  
[cal. datum: weir -0.382 m, RDN outer gauge +0.018 m,  $\Delta = 0.40$  m]

Hardly any precipitation beyond a short shower of hail. Creeks have all stopped running and water down to summer levels.

A few transient mallards seen and heard at the beaver dam, left undisturbed. They had gone when I carefully checked again later.

Nothing else seen, but inspection perfunctory. Sticks moved around but unlikely the recent work of the beaver. It's been missing since early November.

Golden eagle (no, not an immature bald one) at the carcass of the deer pursued by a dog into the muddy fringe of the marsh where it died shortly after.



February 28, 2022 (day 2417, 2192+225): NanRG cum. 1028.6 mm  
(norm. 849 mm).

Precipitation in February, 51% below long-term month's average.  
Unusual, but not extremely so.

March 8, 2022 (day 2425, 2192+233): NanRG cum. 1040.0 mm  
(norm. 874 mm).

No visits, trying to reduce disturbance, but heard beaver is back.  
Geese and ducks reported on the lake.

Water levels variable, not clear what is going on despite an  
unverified second-hand report that the RDN syphoning is being  
discontinued until the fall.

Welcome news that dogs no longer allowed in the park as was always the  
case according to the 2011-2021 Management Plan, but widely ignored as  
there has been until now no signage to that effect. Posted maps  
(March 2021) imply that 707CP rules apply to the RP.

March 15, 2022 (day 2432, 2192+240): NanRG cum. 1057.4 mm  
(norm. 901 mm).

Quiet. Water level looking fairly normal. Ducks scattered over the  
lake. Fewer than average perhaps and only the usual winter regulars  
(no widgeons for example) but not bad. Pair of Canada geese. Not  
much open water in the NE Arm but squelchy underfoot. A mature in-  
flower *Daphne laureola* plant seemingly alone in this wetland - dealt  
with by a one-man workparty. These  
invasive plants remain rare in the RP.







March 19, 2022 (day 2436, 2192+244): NanRG  
cum. 1066.0 mm (norm. 914 mm).

Beaver dam overtopping. The pair of geese still here and boldly on patrol. RDN syphoning stopped on March 15 and won't start again until October. Protecting the northern red-legged frogs the reported reason.

March 26, 2022 (day 2443, 2192+251): NanRG  
cum. 1091.6 mm (norm. 934 mm).

A fair number of evergreen huckleberry plants (*Vaccinium ovatum*) have been infected this year with witches' broom rust (*Pucciniastrum goeppertianum*), though more so at the north end of the 707CP than in the RP itself.

This fungus causes the shoots of the huckleberry to swell and produce few or no leaves. It also infects the needles of balsam firs (*Abies grandis*).

Deer have seldom been seen this winter.



March 31, 2022 (day 2448, 2192+256): NanRG cum. 1094.2 mm (norm. 947 mm).

Precipitation in March, 40% below long-term month's average. Despite the slow start this spring, last winter's rain (Oct.-Mar.) was 12% above average, thanks in no small measure to the November downpours.

I can count the number of places I know on Gabriola where blackcaps (black raspberries) grow on the fingers of one hand, but although they are reliably said to grow in the East Path Creek catchment area, I've yet to find one there.



Often solitary, these shrubs (*Rubus leucodermis*), even when berryless are distinctive with arching, prickly, only sparsely-branched stems that frequently have an ash-white bloom not seen on roses, and their leaves are silver-undersided, and finely-toothed.



*Polyporus sulphureus* with their bright sulphur-yellow colour are easier to find in the park. They seem to prefer deciduous trees and shrubs as their hosts.

April 26, 2022 (day 2474, 2192+282): NanRG cum. 1227.6 mm (norm. 1003 mm).

Sunshine, showers, and swallows. Found two blackcap plants in the RP.



I've been walking right by them for years. Creeks running, the lake brim-full. Only geese seen on the lake. Renovated weir deck looks good. Morels about this year, albeit the false kind. *Gyromitra* sp. of some kind, but I'm not about to harvest them just to find out. I don't do that with wildflowers so I don't see why I should with mushrooms.

April 30, 2022 (day 2478, 2192+286): NanRG cum. 1254.4 mm (norm. 1011 mm).

Precipitation in April, a whopping 160% above long-term month's average, a new record for the month (160 mm cf. 137 mm in 2017). Despite this, annual rain this year is still 7% below average.

May 14, 2022 (day 2492, 2192+300): (\*\*) 1297.3 mm (norm. 1034 mm).

\*\* Nanaimo Airport gauge appears to be down this month. Until it's fixed, I'm using the mean of figures for Nanaimo City Yard, usually too high, with Entrance Island, usually too low, (Duncan and S. Gulf Islands as backups).

Having found blackcaps (black raspberries) in the area, I've been on the hunt for thimbleberries. Suspect that these are less common than they used to be. Found just one bedraggled plant in the park ecosystem so far. By the side of the trail. At one point it had been clipped despite the fact that thimbleberries are harmless.



Blue-eyed Mary's are rare within the park itself – there isn't much sandstone-plain habitat for them there – but mats of these *petites* flowers are to be found growing on the moss-cushioned benches of the escarpment that runs up from Hoggan Lake just the other side of the watershed of Coats Marsh Creek.

The benches are not always easy to reach, guarded as they are by thickets of waist-to-chest-high salal in gullies that traverse the slope. The ways up through them are tortuous and often force you to take the advice of the deer rather than obstinately paying heed to your own sense of direction.

May 19, 2022 (day 2497, 2192+305): (\*\*) 1316.3 mm (norm. 1042 mm).

\*\* Nanaimo Airport gauge still down.

Ducks with ducklings on the lake. No beaver for some weeks. Syphons inactive. Creeks running.

Trails muddy here and there; the earth sometimes "sings underfoot" as farmers used to say when it's squelchy or makes a squishy sound and thus is too wet to sow seed.

Pea-family plant, hairs absent to woolly, cf. *Vicia sativa* leaflets larger, elliptic not narrow to lanceolate, flowers showier but infrequent, appearing earlier in the year, tendrils similar. Purple peavine.

May 27, 2022 (day 2505, 2192+313): (\*\*).  
1321.1 mm (norm. 1055 mm).

\*\* Nanaimo Airport gauge still down.

Evening. Quiet. Syphons overgrown, looking like something from the past.





Lake fairly full. Coats Marsh Creek running but not vigorously. Blackcaps in flower. Mallards with ducklings. Grebes heard. Pair of mergansers. A ring-necked. Swallows. No bats yet.

Spring wildflowers having a good year.





May 31, 2022 (day 2509, 2192+317): (\*\*) 1327.6 mm (norm. 1061 mm).

\*\* Nanaimo Airport gauge still down.

Precipitation in May, 67% above long-term month's average. Plant-life is loving it. Annual rainfall so far this year just 1% above average. People remember May but forget February.

Thimbleberries as they should be (left in the nearby 707CP) in flower and as all I can find in the Coats Marsh Ecosystem so far (right).



June 11, 2022 (day 2520, 2192+328): (\*\*) 1381.9 mm (norm. 1077 mm).

\*\* Nanaimo Airport gauge out-of-service. Using the mean of Nanaimo City Yard and Entrance Island in the meanwhile.

I love the weather this spring; one moment the clouds grow black, betokening rain; drops moisten my face and patter on the salal; I pull on my hood and hurry to find a large tree where, often by the lake, a nonchalant jenny wren

shares my shelter; the rain increases furiously; then eases and is gone; the sky turns blue and a warm sun is shining once again; the now bepuddled trails become dappled; and raindrops glint in the grass or fall anew when a fleeting breeze ruffles the canopy, or I push my way through the bush. This succession of spring showers, brought on by occluded fronts forcing warm moisture-laden air aloft to dry out, is keeping the forest a myriad hues of green. It is a lovely season. As somebody in Winnie the Pooh says, I don't mind much what the weather does so long as I am out in it.

Several duck families out in the rain including one wood duck hen with four, possibly five, grown but unfledged ducklings. Violet-green swallows also out and about even in the heaviest of the rain. Even managed to get a blurry picture of one, an almost impossible task, as they soar over the water.

The lake full and water spilling over and around the beaver dam but in a controlled manner. The non-functioning syphons gradually being melded into the beaver's landscape. Coats Marsh Creek lively. Infrastructure intact.









There's been a black bear on the island for the past couple of weeks or so. Reported on Coats Drive and a good chance he crossed East Path Creek to get there, but no scat evidence yet. Said to be a once in 25-year event.

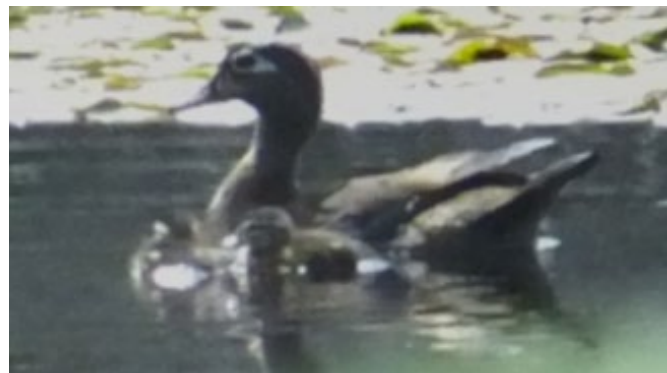


June 30, 2022 (day 2539, 2192+347): (\*\*) 1390.3 mm (norm. 1102 mm).

Precipitation in June, 53% above long-term month's average. Annual rainfall so far this year 3% above average. Some creeks still running.

New species, long overlooked and common in the low-lying greenery at the edges of the forest, creeping (trailing) snowberry (*Symphoricarpus mollis*). Its flowers are small (3-5 mm), pinkish like common snowberry, very seldom seen or noticed as the plants do not appear to flower *en masse*.

Male wood duck and hen with young ducklings: Idaho blue-eyed grass (*Sisyrinchium idahoense*); kneeling angelica (*Angelica genuflexa*); white + pink foxglove; a few small black ants (pavement ants?) exploring abandoned digger-bee nests? or miner ants of some kind? Powdery mildew on the bigleaf maples common this year. Western tent caterpillars everywhere, including the back of my neck.



July 4, 2022 (day 2543, 2192+351): (\*\*) 1409.7 mm (norm. 1107 mm).



Swainson's thrush. A bird you hear a lot among the trees but hardly ever see except perhaps in silhouette against the sky. In the old days, would have needed several rolls of film to photograph this one. For a long time I have been assuming that all the aspirated "whit" calls heard were Pacific-slope flycatchers, but this one proved me wrong.

Photograph right, unfamiliar? it shouldn't be. *Urtica dioica*.

July 14, 2022 (day 2553, 2192+361): (\*\*) 1421.2 mm (norm. 1115 mm). Weir +52 mm WPB scale. RDN outer gauge 1853 mm. [cal. datum: weir -0.595 m, RDN outer gauge +0.903 m,  $\Delta = 1.50$  m]



Weirpool level quite normal for time-of-year. Pond leveller only just below water level and flow just a dribble, not sufficient to keep Coats Marsh Creek from drying out before reaching the Marsh Trail culvert, but the "lake" is at an all-time high— 200 mm above the previous record.

Crossing the dam is now hazardous and not recommended, thick vegetation (rushes and above-head-high canary grass) and copious LWD on the downstream side, scarcely visible underfoot. The LWD appears to be mostly rotting fist-sized tree-branches put there either by the beaver or by water spilling over the brim of the dam. Two or three spillways to release water when the level is too high; also used by the beaver to cross the dam.





With the increased water-depth, some open water. Good to see.

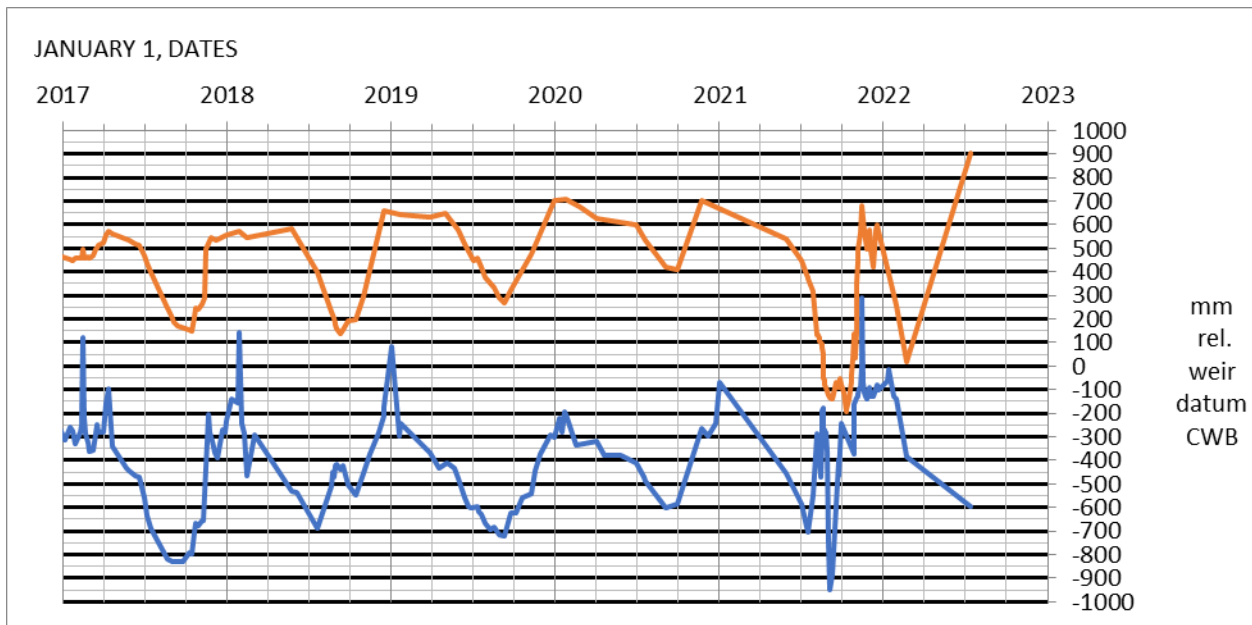


Mud berms now reducing flow around the ends of the dam. Syphon system not functioning and almost buried. No longer an eyesore.





Ducklings shedding their juvenile plumage. Saw 15 of them swimming single-file across some open water. Many others have probably left.



July 17, 2022 (day 2556, 2192+364): (\*\*) 1427.1 mm (norm. 1117 mm).

Observation year rainfall 28% above long-term average. High, but not a record.

### THAT CONCLUDES SEVENTH YEAR OF OBSERVATIONS AT THE MARSH.

July 22, 2022 (day 2561, 2557+4): (\*\*) 0.0 mm (norm. 6 mm).

Behind-the-times RDN has mowed the nearby 707 trails thereby turning interesting hymenopteran habitat into a forb-free imitation of a suburban-lawn monoculture. No unkempt, unruly nature here!

Sadly lost were thimbleberries along the edges, and the entire *Torilis japonica* patch in the 4-foot at the NE Arm spillway, the latter turning out not to be as invasive as at first feared and probably more at home in prairie habitats.



Little Creek still running if only a drindle.





The mixed stands of trees in the parafluvial zone make good habitat for beavers and cavity-nesting ducks. The zone is too wet for most conifers, and the dominant tree species by far is red alder, but there are occasionally other deciduous trees such as willows, crab-apples, cherries, and cascarras. The resident beaver spends quite a bit of its time at the east end of the lake where mixed stands are more common than around the weir.

Sand wasps in the hard-pan tread of a main trail.

Bats are back at the rocket house.

Transient species of lake ducks (those that need open water to take







flight) will appreciate the work of the beaver, who has made parts of the lake too deep for watershield.

Reed canary grass (RCG) is in several ways an invasive pain, but it does at least help reduce human disturbance.

July 31, 2022 (day 2570, 2557+13): (\*\*) 0.0 mm (norm. 19 mm).

Precipitation in July, 59% above long-term month's average, but summer arrived in the past ten days. Annual rainfall so far this year 5% above average. Some creeks either still trickling or ponded, but that won't last long.

August 7, 2022 (day 2577, 2557+20): (\*\*) 1.7 mm (norm. 25 mm).

Quiet, sunshine and soft breezes. Spring flowers are over; grass gone to seed, turned from green to golden yellow; no ravens; few song birds, only juncos, fox sparrows, and towhees seen; deer and fawns have retreated down to the coast.



*Therion morio*, one of hundreds of species of wasp that live here. This one specializes in caterpillars.

But the exotic flowering "weeds" – a few thistles not yet shedding down, ubiquitous cat's-ears, tansy ragwort, and end-of-their-season oxeye daisies – are keeping bees, wasps, beetles, hover flies, dragonflies, damselflies, butterflies, and more, very active.

The **red-listed** dark wood nymphs (*Cercyonis pegala* ssp. *incana*) are unusually numerous this year and have fluttered and flickered away from their usual grassy haunt to places where I've never seen them before, all the while rarely settling, and when they do, distaining to pose for the camera with open wings. Also saw a wasp buzzing a nymph which the butterfly successfully evaded with its erratic manoeuvring.

Woodland skippers also very numerous this year. Creeks dry. Lake level high and still habitat for a few ducks, mostly mallards.

August 14, 2022 (day 2584, 2557+27): (\*\*) 2.3 mm (norm. 28 mm).



Young mallards still on patrol, single-file. Counted ten. Possibly an extended family as there were mature hens around not taking part in the parade.

This late in the season must be second brood(s). A good sign of the state of the marsh, so much better than last year when the RDN's ill-advised syphoning began and rotting aquatic vegetation was the lake's most notable feature; an effort quickly negated once autumn rains began.



August 16, 2022 (day 2586, 2557+29): (\*\*) 2.4 mm (norm. 28 mm).  
Cistern +164 mm SCB. [cal. datum: cistern +0.531 m].

August 18, 2022 (day 2588, 2557+31): (\*\*) 2.4 mm (norm. 29 mm).  
Cistern +154 mm SCB. [cal. datum: cistern +0.521 m].

Evapotranspiration loss 5 mm/day for hot summer days, as has been measured before.

Visit at dusk. A delight. No wind and the darkening blue sky in the east streaked with high-altitude clouds catching for a few moments the last of the light from the setting sun and turning themselves a bright candy-floss pink. The surface of the water in the cistern dimpled by countless unseen insects as if by a shower. Dragonflies (blue dashers included) and small green treefrogs among the reeds. Ducks stretching and flapping their wings far off.

If only the experts planning this peaceful ecosystem's future would recognize that the beaver dam poses little danger. Mature beaver dams do not fail catastrophically, unless of course they are on a mountainside. Any backhoe operator who has been charged with removing one can testify to that. Breaches and overflows can be accommodated by increasing the flow-through capacity of the weir, which is the potential bottle-neck. A sluice-gate would work. There's little shortage of capacity in the water channel downstream of the weir, and the sluice-gate's main role would be to see that the level in the inner weirpool doesn't threaten to overflow the berm that protects the private property. There's been no hint of that so far largely because once the wooden deck across the weir is harmlessly inundated the effective width of the weir is increased ten-fold. It happened at least three-times last season.

The syphon experiment has been a failure. The syphons capacity is far too low, becoming irrelevant in flood conditions; the pipes are an eyesore; drawing the lake water-level down in summer is destructive on account of the wetland's shallowness, and is in any case ineffective because the "lake" replenishes itself in just two or three weeks in the fall; liability is largely a fiction; and the need for a regular human presence on the dam for maintenance of the syphons seriously disturbs the wildlife and wastes park operators' time.

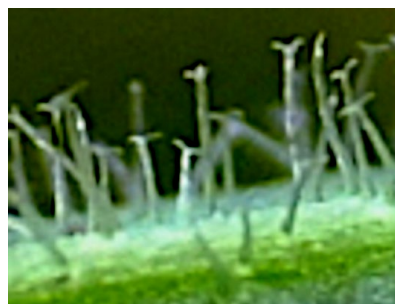
Let nature manage itself as much as possible; it does a much better job.

August 23, 2022 (day 2593, 2557+36): (\*\*) 3.1 mm (norm. 31 mm).

Lesser Hawkbits (*Leontodon saxatilis*)<sup>1</sup> finding a secluded spot to promulgate surrounded by head-high reed canary grass in Canary Grass Meadow. Woodland skippers.

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<sup>1</sup> Cat's ears? Leaves hairy, hence not *Hypochaeris glabra*. Stems leafless unbranched with single flower; basal leaves only shallowly lobed, hence not *H. radicata* either. Bristle tips forked, hence hawkbit.]



Consperse stink bug  
(consperse = thickly and  
irregularly dotted).  
Not everyone's favourite  
but this fellow was  
quite harmless, just  
eager to return to the  
meadow.

Canada goldenrod in bloom too nearby.

Hardly any sign of the powdery mildew (*Sawadarea* sp.) infecting the bigleaf maples elsewhere on the island.

August 29, 2022 (day 2599, 2557+42): (\*\*) 3.1 mm (norm. 34 mm).  
Cistern +109 mm SCB. [cal. datum: cistern +0.476 m].

Precipitation in August, 89% below long-term month's average. Not a record tho', we had no rain in August 1967. Annual rainfall so far this year 1% above average.

September 6, 2022 (day 2607, 2557+50): (\*\*) 3.3 mm (norm. 40 mm).

A succession of warm, cloudless days. Everything waiting patiently for the fall now that all of summer's tasks are done. No suthering in the high canopy, just a raven-less tranquillity, a silence broken only by the tap-tap-tapping of a woodpecker and the chattering of a squirrel. A stillness, broken only by a garter snake on the path; a lone young crow, recovering from a wound but lively and foraging like a towhee; the occasional flower of a lawn-weed suddenly nodding as a visiting insect comes and goes; militaristic-looking dragonflies on patrol; and sundry tiny UFOs in shafts of sunlight. Sun-burnt grass has become un-mown hay; greenery is green in the forest's shade but looks duller and dusty, limped by dryness. Moss in the clearings crunches underfoot, like snow; and tawny leaves litter the ground before their time.



Down at the lake, there're a few ducks, not many, but more than ever before at this time-of-year.

Pondweed easy to miss among the far more common watershield. *Potamogeton* spp., but *P.gramineus* (grass-leaved) or *P.epiphydrus* (ribbon-leaved). ~~Still not sure.~~ *Polygonum amphibium*, water smartweed.



September 15, 2022 (day 2616, 2557+59): (\*\*\*) 23.6 mm (norm. 50 mm).  
Cistern +61 mm SCB. [cal. datum: cistern +0.428 m].

\*\*\* El Verano rain gauge (significantly more than the amount on each of the other two, and heavy rain confirmed independently on Gabriola).

First rain of the fall. Estimated low point of the lake before that, cistern approx. +0.408 m, similar to late-September 2020.

Flocks of wood ducks on the water and circling overhead. Gone later that day.

September 19, 2022 (day 2620, 2557+63): (\*\*)  
23.7 mm (norm. 57 mm).

Northwest Hydraulic Consultants busy surveying the weir embayment. Looks like a heavyweight company. Observed was that the drainage trench that runs the length of the marsh was dug down to bedrock sometime in the years when it was just a pasture (<https://nickdoe.ca/pdfs/Webp697.pdf>).

Witch's hair (*Alectora sarmentosa*) and Methuselah's beard (*Dolichousnea longissima*) are easy to confuse. If in doubt, I tend to favour the former as it is more common, but



not always. Although M.'s beard is more likely to be found in old-growth, it still appears to be present locally within the RP.

September 28, 2022 (day 2629, 2557+72): (\*\*) 23.7 mm (norm. 76 mm).

Dusk. The fall equinox now passed, familiarity a better guide to the way home than the failing light. Stillness still. Bats over the water, flying so fast they're just a blur.<sup>2</sup> The beaver cruising along the northern shore; a welcome sight.

September 30, 2022 (day 2631, 2557+74): (\*\*) 23.7 mm (norm. 80 mm).

Precipitation in September, 53% below long-term month's average. Annual rainfall so far this year only 3% below average.



No transient waterbirds yet, always interesting to watch out for them. So important to keep human disturbance at a minimum at this time of year, unlike last year when the unnecessary and ineffective RDN syphon project was installed and activated.

Wood ducks will never be the fixtures in the ecosystem that the spotted towhees (*Pipilo maculatus*) are, but just recently it sometimes seems that way.

October 11, 2022 (day 2642, 2557+85): (\*\*) 23.7 mm (norm. 113 mm).

Cistern -4 mm SCB. [cal. datum: cistern +0.363 m].

Twenty-five days with not a drop of rain. At least a dozen or so wood ducks still around. Ravens have been back for a while. Coats Marsh Creek dry.

No transients, but there are overnights in the Farrow Spring wetland (MOTI Pit Pond). Mallards in their glossy winter coats.

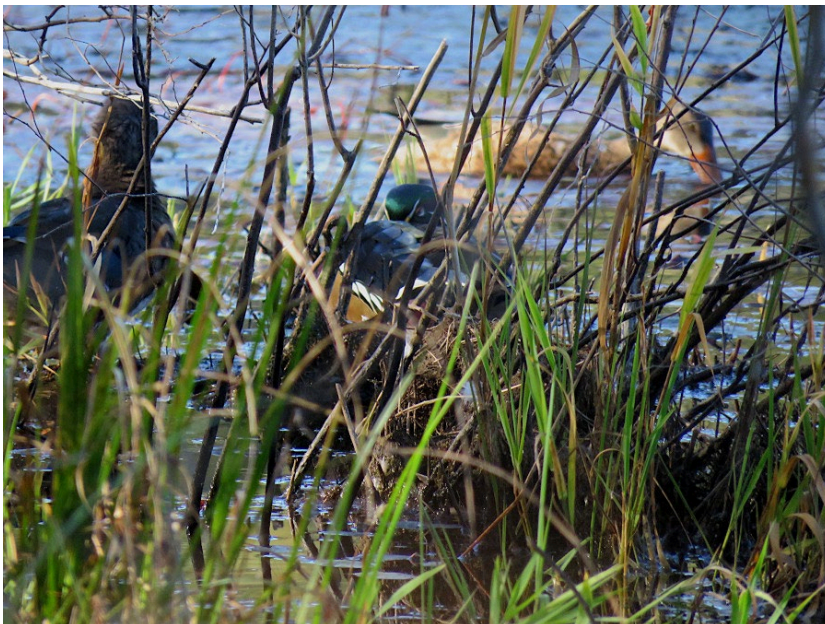
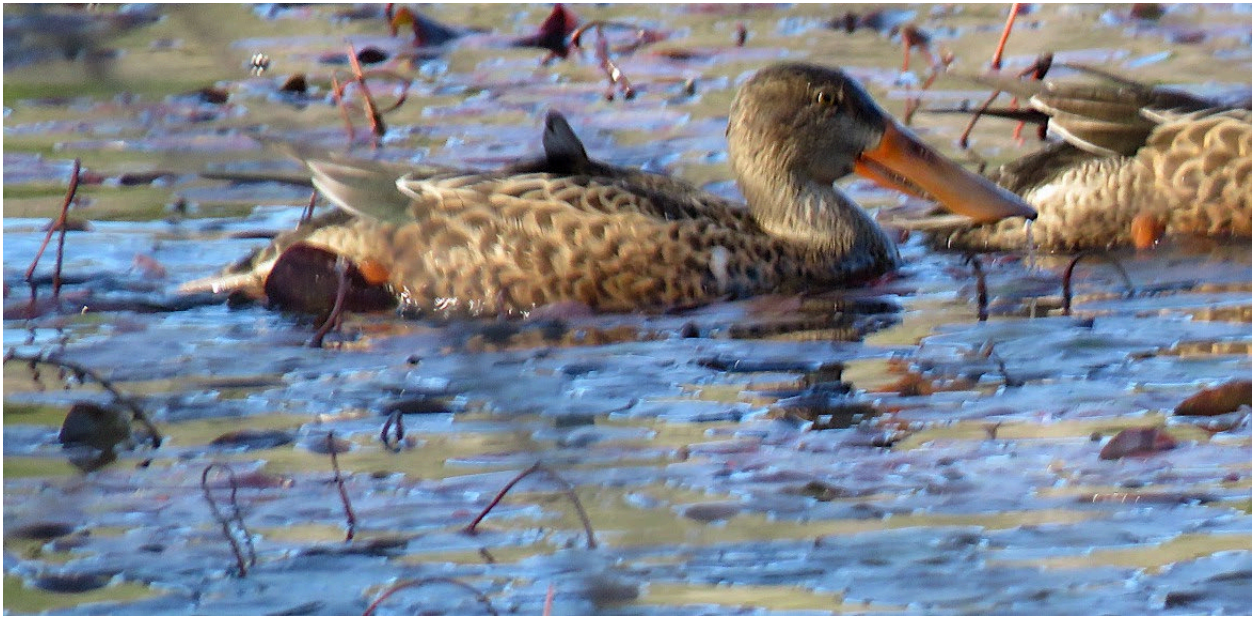


<sup>2</sup> Faster than the violet-green swallows that are here in summer.



October 14, 2022 (day 2645, 2557+88): (\*\*) 23.7 mm (norm. 128 mm).

Endless blue-sky days; nevertheless, the first winter-residents have arrived. Northern shovellers, mostly with bums-in-the-air, evidently hungry after their journey over the mountains from back east. Looking happy to be here. A paired-couple of relaxing wood ducks watch on from their vantage point among the reeds.





Jam-making berries have done rather poorly this year, but others like hips, haws, snowberries, and holly berries are exceptions as these on a holly bush in Canary Grass Meadow show.

Cedars flagging, a species slowly returning to the moist and shaded mountain-valley bottoms they came down from just a few millennia ago.



The evergreen huckleberries recovering nicely from the infestation of the witches-broom fungus.

Haying, if there had been any, would have been good. The seedy, golden grass stirring a deep-seated ancestral memory of the joy of a bountiful harvest.



Some of the leaves of the alders, shrivelling and yellowing, not waiting greenishly as they usually do until nights are cold and the daylight dims. The trees' denuded

branches a stark anachronism when silhouetted against a background of summery-skies.

New signage at the bat-house at the Stump Farm site. Signage that's needed, I suppose; but for me, an unwelcome, intrusive reminder of whom this intended nature reserve is actually really for.



Photograph taken by Libby Gunn included here with her permission (thank you).

Quote: "I took it on the afternoon of October 13 (I am working relief on Entrance Island light station and was in the Coast Guard helicopter en route from Nanaimo)."

There is an annotated version in the updated Brief History File [697](#).

October 18, 2022 (day 2649, 2557+92): (\*\*) 23.7 mm (norm. 139 mm).  
Cistern -21 mm SCB. [cal. datum: cistern +0.346 m].



Ring-necked ducks have arrived. The still air has a blue-grey haze, the faint smudge from distant wildfires. A warm welcome for these regular winter residents.

October 30, 2022 (day 2661, 2557+104): (\*\*) 63.1 mm (norm. 190 mm).

Rain at last, though light and hardly the atmospheric river predicted. Frequent dry spells occurring all day, seemingly with about the same frequency as commercials in a televised ice-hockey game.



Precipitation in October, 62% below long-term month's average.

Annual rainfall so far this year 11% below average.

Deer on the beaver dam.

Lush greenery has almost completely obscured the syphon system, which remains inactive.



Wood ducks (lots), both male and females, a new development in recent years. Only other waterbirds seen were a small group of Canada geese and a small group of mallards.

Ducks may well have been sheltering out-of-sight; they seem to do this in the afternoons no matter what the weather. Some species seldom seem to visit however; no northern pintails, ever, and no teals for several years. Greater yellowlegs also rare. All fairly common species on Dicks Swamp; perhaps they prefer the flooded fields there. Can only hope the widgeons and buffleheads will be back one day soon, like they always used to be in winter.

Water level in the weirpool very low, but in the outer lake, the level is normal at the end of the dry season.

November 19, 2022 (day 2681, 2557+124): (\*\*) 119.8 mm (norm. 294 mm).

Despite this being *una niña* (ENSO wet-cool) climate phase, it has not been very wet or even cloudy of late; a tad humid perhaps and cool with the first snow of the season on the 8th, and today a skim of ice along the shaded south-shore of the lake.





Newcomers. Buffleheads, all females, and several mixed groups of green-winged teals joining the wood ducks and ring-neckeds out in the sun. Teals haven't been seen here for five or six years.

Canada geese have been passers-by on migration, some honking flocks being quite large, but they don't stay long.



*Left:* Autumn snowdrops.

Mycenaceae of some sort, uninformed guess. Common in fall, tiny (<10mm cap, 1mm stalk); on Douglas-fir needles and rarely on well-rotted cones, often in moss, bell-shaped or conic cap w. knob; chalky white when fresh, with age turning tan and becoming duller starting with the knob and base of the stalk, margin maintaining its lightness; gregarious, single (not cespitose); gills adnexed/adnate, fairly close, uneven; cap easily detached; margin wavy (striate); when old, light brownish-gray (only rare individuals and groups reddish or orangey), the knob darker; no odour; no blue or yellow; flesh and the hollow-stalk watery. Too many species that nearly fit!



November 23, 2022 (day 2685, 2557+128): (\*\*) 128.9 mm (norm. 317 mm).



The bufflehead lads are in town checking out the scene.

Was that a blue-winged teal? Looked unusual but the camera failed to make sure of it. Both mallard and wood duck hens have a bit of blue in their wings, but not a lot.



Comment January 2023: it's a female wood duck, not a teal.



According to Pojar & MacKinnon, frog pelt lichen (*Peltigera neopolydactyla*)<sup>3</sup> comes in three colours: olive-green, milky blue, and dark slate-blue. Most other references I've looked at mention only gray (slate).

The olive-green variant, shown here growing in the park alongside the more common slate variant, sometimes has

upturned edges thereby revealing its whitish underside. When it does this, the edges often look at a glance like white flowers blooming at a very strange time of year.



Apothecia? spore cases, on the margins; (left).

Rhizines tufted (upper right, near finger);

holdfasts on the underside for anchoring the lichen to the substrate.

Veins on the underside, sometimes indistinct (lower right, near thumb); lichen veins are more like ribs than veins as they're structural and nothing flows through them.



<sup>3</sup> Many look-alikes in the Peltigeraceae family, don't quote me





Song sparrow in winter. At home in the marsh.

November 30, 2022 (day 2692, 2557+135): (\*\*) 147.8 mm (norm. 358 mm).

Frost making the browned fallen leaves of the alders and maples crunch like cornflakes underfoot. The lake surface mostly crizzled, like frosted glass, but there are likely ice-free hide-outs in the reeds and weirpool for some of the ducks.

Precipitation in November, 53% below long-term month's average. Annual rainfall so far this year 19% below average.

December 5, 2022 (day 2697, 2557+140): (\*\*\*\*) 228.7 mm (norm. 388 mm). \*\*\*\*Snowfall very variable (flakey). Based mainly on Gabriola.

There's been snow; powdery snow, as white as the white on the LED monitor I'm using to type these words, without hue or tint, and with only the faintest of grays. The landscape in the leafless-alder stands is just as one imagines it must always be in the winter up north in Canada.

Trudging the trails, each crump matching a heartbeat, is as if on the way up to some summit, or across a plain to some pole, or down some last alpine slope where finally is seen a village not far below where warmth and welcomeness will surely be.

Tall shrubs are arched over with their icy burden; twigs and small branches snapped from the alders by the frost and laden with pale bluish-green lichens litter the pristine white surface; and deadfalls lie across the way.

The trees in the sheltered backwoods stand motionless and silent as if in a painting or a photograph, and nothing moves through the evergreen undergrowth. It's deathly quiet. And the cold nips my fingertips.

December 9, 2022 (day 2701, 2557+144): (\*\*) 266.7 mm (norm. 413 mm).  
[rough estimate at the dam, cal. datum: +0.115 m]

Drizzle. A grey day. No sign of ducks out in the open. One duck, a mallard, circled the lake before settling somewhere at its far west end.

The lake level has dropped noticeably. Wouldn't think there had been much evaporation in the last two months though rainfall has continued to be well-below average, and all creeks in the area up until now have been nowhere close to running.

However, on checking today, I see that Coats Marsh Creek, the only outlet creek, is exceptionally running for no obvious natural reason. My guess is that the RDN and the Nature Trust BC Park Management, for reasons only clear to themselves,<sup>4</sup> must have started their misguided syphoning and quite unnecessary disturbance once again, just as the winter population of ducks was settling in.

Running water might have helped keep the weirpool relatively ice-free while the outer lake remained frozen; hence the choice of the mallard I saw reconnoitering.

A small mercy is that the dreary sky promises that the drizzle will become steady rain later on.

December 10, 2022 (day 2702, 2557+145): (\*\*) 277.1 mm (norm. 419 mm).



The cistern at the east end of the lake built for watering livestock when the marsh was drained. Normally the concrete walls are below water level. For some reason, the water in the cistern often remains ice-free when the lake surface is frozen. At such times, it used to serve as a refuge for ducks and it was not safe to come here until, as here, there was a thaw. Happens less often these days.

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<sup>4</sup> The current rainfall since mid-July is about 40% less than the long-term average.

[rough estimate at the cistern, cal. datum: +0.012 m]

No doubt syphoning underway, the lake level is at a summer-time low and exposed aquatic vegetation is apparent all around the shoreline. There are just a few female buffleheads and mallards out.

East Path Creek and Stump Farm Number 1 Stream running. Nothing yet from the NE Arm. The ravens are back.

December 25, 2022 (day 2717, 2557+160): (\*\*\*\*) 378.4 mm (norm. 511 mm). \*\*\*\*Snowfall very variable. Cistern -246 mm SCB. [cal. datum: cistern +0.121 m].

Snow, about 18 inches, and cold, down to  $-8^{\circ}\text{C}$ , then a rapid thaw up to  $+9^{\circ}\text{C}$  up here,  $2^{\circ}\text{C}$  less at sea level. The lake coated with slush, and the woods mysterious with mists as warm air struggles to displace the cold. The small, spherical, crystalline balls of ice arrayed along bare branches and adorning the fir-tree needle tips have become raindrops.

Lake level up and East Path Creek is running strongly; trails are "sloughs" and bepuddled everywhere; and ice holding a lot of water back. No trace of wildlife beyond deer tracks and one overly-optimistic frog heard coming out of hibernation.

December 27, 2022 (day 2719, 2557+162): (\*\*\*\*) 394.5 mm (norm.



523 mm). Cistern +297 mm SCB. [cal. datum: cistern +0.664 m].



Wet season begins in earnest. Cistern startlingly transformed to look like it usually does at this time of year (*photo above*).

Two spillways on the beaver dam flowing, and lake water is trickling over the whole of the crest of the dam, within inches of overflowing (*photo above*);

the lake level has risen over half a metre in just two days;

the SE corner of the wooden deck at the weir is at the weirpool surface level (*photo left*);

East Path Creek flowing across East Path, its culvert full, though the SE Arm wetland is not yet receiving water from the High Point Meadows;

Stump Farm Number 1 Stream also flowing more strongly than the



culvert under the Three Gates Trail can handle;

Flow from the NE Arm moving over East Path and through the trail's rocky substratum as it does most winters (*photo above*);

Stump Farm Number 2 Stream flowing but within its culvert;

Coats Marsh Creek flowing rapidly and noisily but not yet at previous flood levels; and

water is also flowing freely over East Path at the drainage point north of the NE Arm outlet.

Some ducks are back: ring-neckeds, buffleheads, and mallards; the usual suspects.

December 31, 2022 (day 2723, 2557+166):(\*\*\*\*) 402.9 mm (norm. 548 mm).

\*\*\*\* from December 17 to 31, precipitation records taken from Duncan and Entrance Island as appropriate when compared to Gabriola at El Verano and snow depths along Hess. Very variable. Several records absent or obscured by snow, and assumed to be wrongly scaled for SWE at Entrance Island.

Precipitation in December, 36% above long-term month's average. Annual rainfall his year was 10% below long-term average.

**2021 addendum on past rainfall moved to [File 698](#)**2022 Precipitation notes.

On or shortly before May 14, 2022, precipitation figures stopped being available from Nanaimo Airport (NanRG). Substitute figures for the rest of the year reported in this file were obtained mostly by averaging figures for Nanaimo City Yard and Entrance Island indicated by (\*\*).

Neither of these substitute sources was of high quality and were missing a few figures. Figures were taken for Duncan for Nanaimo City Yard and Southern Gulf Islands for Entrance Island where necessary. Exceptions occurred on September 15, (\*\*\*), when heavy showers on Gabriola indicated an underestimate, and on December 5, 25, 27, and 31, (\*\*\*\*), when heavy snow led to missing or inconsistent numbers.

In late December, Environment Canada introduced a new "location" to compensate for the loss of Nanaimo Airport figures described as Nanaimo but covering Duncan, East Vancouver Island, and Nanaimo. A comparison between the figures I used in this file and figures from the new site are as follows.

	this file	new Nanaimo			this file	new Nanaimo
Jan	147 (100%)	147		Jul	37 (86%)	43
Feb	59 (98%)	60		Aug	3 (150%)	2
Mar	66 (100%)	66		Sep	21 (175%)	12
Apr	160 (91%)	175		Oct	40 (71%)	56
May	73 (87%)	84		Nov	84 (69%)	121
Jun	63 (86%)	73		Dec	255 (109%)	235

Annual for this file 1007.4 mm (94%), for the new site 1073.2 mm.

The new location usually gives higher figures than the old method, presumably because the new location does not use data from the Gulf Islands. For historical trends, data more recent than March 2022 cannot be reliably used.

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