

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 hydrology](#) .

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

Gabriola Stream and Wetlands [Atlas](#) .

Coats Marsh Species [Checklists](#) .

Field observations—2016 (July—September)

THIS FILE ([Field Observations 2016-3](#)) IS A SUPPLEMENT TO:

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

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

July 2, 2016 (day +350)

Coats Marsh Creek from the stone culvert down to its confluence with the Stump Farm Streams has no flow, but there still are a few puddles. The bed is bare bedrock, and the rubble in the channel mostly channery and flaggy sandstone with only a smattering of volcanic or intrusive stones. The area must have emerged from the great melt at the end of the ice age with only a very thin remnant of ablation till, the sandy



loam soil of the banks being, I'd guess, glaciofluvial and organic-rich detrital sediment deposited after the sea had departed.

Some of the puddles are in hemispherical hollows. These are the result of chemical weathering of calcite-cemented concretions by humic and

other organic acids in the runoff from the forest. Life in the Mesozoic era, 65-70 million years ago, still providing habitat for life in our woods today.

Lovely three-leaf foamflowers (*Tiarella trifoliata* ssp. *unifoliata*) in the forest shade. A holly tree. Many snags, one with bark stripped away showing the trails of the borers.

Near the bridge, a great horned owl keeping a lackadaisical watch over activity on the trail.





Two or three boletes, caps dry and a bit scaly, flesh and tubes yellow, brownish where damaged. Most probably *Suillus caeruleus*, but I didn't tear them apart to make quite sure. Early for them.

Juvenile spotted towhees, a test because right now they're streaked just like sparrows. They bob their heads to keep their balance.

The boreal bluets play the same tricks with my vision as they do with the imperfect auto-focus of my point-and-shoot camera. When they fly

into my field of view, I see only a blue blur as my eyes continue to focus on what's behind them.

July 5, 2016 (day +353)

Rain a trace. Cistern level -114 mm SCB, a drop of 24mm in 6 days. Level at the weir +21mm WPB (scale), a substantial drop of 49mm. Private-property drain still running.

More *Russula* sp. maybe *xerampelina* with a pinkish-mauve cast on cap and stem, the cap deepening to brown at the centre but not darkly so. Not sure, but whatever; early this year.

Adult male hairy woodpecker (definitely not a bill-size-challenged Downy). Fox sparrows and chickadees in their usual abodes.



Hardhack in bloom by the water. Real tansy (*Tanacetum vulgare*) out in the clearings, their black-hole centred discs looking like a picture in an astronomy magazine. The other kind, tansy ragwort, those deer-poisoning and honey-spoiling weeds, are about to flower everywhere. There's no way the cinnabar-moth caterpillars can cope



with anything but a small fraction of them especially when they themselves are preyed on by carpenter ants (there's one above the caterpillar in the photo left).

Pineapple weed in the hard-packed tracks. Although it may be odd to be reporting such a familiar plant, it really was my first sight of it in the park, and it was



that sort of a day. Don't miss a chance to crush and smell it. It's a native plant, so in other continents it's an introduced weed.



A number of ducks out on the lake, mostly female mallards or juveniles, but I can't say that's all there were.

July 8, 2016 (day +356)

Rain 6.5mm. Cistern level -118 mm SCB, a drop of 4mm. Level at the weir +6mm WPB (scale), a drop of 15mm. Private-property drain still running.

Showers. The western sky a pall of nimbostratus; the eastern sky brighter, stratus-fractus with

white-edged sunlit patches allowing a peep through to the blue beyond. Wind in the canopy souging restlessly, sometimes pushing down to the ground. Thunderstorm that night.

Ducks not to be seen. On the east side, a solitary greater (or lesser?) yellowlegs (*Tringa* sp.) foraging purposefully as it waded through the reeds. Orange-crowned warblers (the grey-headed kind), one looking fluffy and young. Deptford pink (*Dianthus armeria*); there's a few in the 707CP too. They like calcareous soil, so perhaps they've found some concretions?



On the north side, several garter snakes but one with legs! -- a northwestern alligator lizard amongst Clyde's rubble (*Elgaria coerulea principis*).





A lone red admiral. Surprisingly, a humming bird, green, female, hard to identify despite her hovering a few feet



from my face. Many grasshoppers, some greenish-yellow, but the dragonflies and damselflies mostly in hiding.

Yet another early mushroom, *Reifpilz* (*Rozites caperata*) obviously edible by something. Beside the trail, others that had been there for some time with nothing showing any interest in them, including me. Finally I stooped and picked one. Curious, it had decurrent tubes like a bolete. My guess though, a polypore, tiger's eye, *Coltricia perennis*. They're related to

bracket fungus, and so very woody and leathery. Not surprising they had remained for so long unmolested.

Smelly tarweeds. *Madia glomerata*? Too soon to tell for certain, no flowers yet, but in the 4-foot of the NE Arm spillway. At the weir, water-plantain (*Alisma plantago-aquatica*)...stars in the night-sky flowers.

July 11, 2016 (day +359)

Rain 14mm. Cistern level -115 mm SCB, a rise of 3mm. Level at the weir +6mm WPB (scale), no change. Private-property drain running. Owner Lot 5 tells me it ran until August 10 last year. Berm construction so water-tight that water is unlikely to be seeping through it. The gap in the sandstone, where the weir is now, was blasted out by Bill Coats sometime in the 30's, not by the Hoggans as I had surmised. The drill holes are said (haven't found them myself) to look like those that were packed with black powder to pry the sandstone millstones free from the bedrock; also a Bill Coats

enterprise (1933-36). The creek just downstream of the weir is clearly a narrow "dug or blasted trench" (noted in the Management Report, A p.5, Dec. 2010).

New SPB established as the water is dropping off the scale. Pacific tree frog (pale green form *Pseudacris regilla*) in the bay. Water striders moving on six dimples (possibly *Limnoporus notabilis* and a second smaller more active species) in the cistern.



Groundsel has gone to seed. It's not common in the park, living mostly close to boundaries with residential properties. Solitary and tall; some of its flowers have rays rather than being brushes; a few have inconspicuous black tips to their bracts, but most tips are green. Hence, probably wood groundsel, *Senecio sylvaticus*, rather than the *vulgaris* kind.



In the clearings, the common burdock plants, *Arctium minus*, are now up to two metres tall.

I see no sign of the common mullein listed in the Management Report, A p.20, Dec. 2010. Maybe they saw foxglove stalks? It would be hard to tell what they were in mid-winter.

July 13, 2016 (day +361)

Rain 1mm. Cistern level -121 mm SCB, a drop of 6mm. Level at the weir +0mm WPB (scale), -124 mm (SPB16), also a drop of 6mm.



The marsh remarkably quiet and languorous. Distant traffic noise muffled and faint; few birds calling; even the flies are not buzzing; butterflies are sheltering; convection currents gently moving the air in the grasses but not a whisper from the trees; sunny with cumulus, but the clouds motionless, as if they were an oil-painting; not especially hot. Ah! but

the seed pods of the broom are popping. Heavy showers the next day.

In the 4-foot at the NE Arm spillway, a lovely, very graceful umbellifera. There's more in the east burn-pile clearing within the present park, and there are other places on Gabriola where it thrives.



First thought was that it was hartwort, a Mediterranean flower, but that's never been seen here and is rare even in England. It's most likely a *Torilis* sp. either "spreading hedge-parsley" *Torilis arvensis* or, less likely, "upright hedge-parsley" *Torilis japonica*. Rare enough that I had to use my ancient "Wildflowers of Britain and Northern Europe" book to find it. It's missing from most Pacific NW Wildflower books and red-listed (endangered) throughout the UK.



July 17, 2016 (day +365, the last day of the observational year)

Rain 4mm. Cistern level -128 mm SCB, a drop of 7mm. Level at the weir -137 mm (SPB16), a drop of 13mm. The

puddles in the Coats Marsh Creek channel immediately below the baffle are currently 2.92 m below the concrete (CWB) baseline. A few ducks in the weir bay.

Agaricus sp. (*arvensis*, *campestris*?) looking and smelling good.

Painted ladies, I think, fritillaries? anyway, orangey things among the thistles (butterflies I'm talking about).

Chocolate-brown wood nymphs (*Cercyonis oetus*), settling with their wings closed, refusing to be photographed, as is their wont. Two "eyes", one decidedly bigger than the other. Many Pacific forktail damselflies.

Pearly everlasting (*Anaphalis margaritacea*); so far I've not seen one displaying its yellow discs; the deer like to chomp off their heads while they're still young.

One species of tarweed at the NE Arm spillway is *Madia glomerata* but there appears to be another with a bigger flowerhead not yet in bloom,



broader and greyer leaves, and squat. *Madia sativa* perhaps, but they're not very tall.

Tansy ragwort out everywhere. It's related to groundsel and you can see that clearly in the buds.

The long-stalked hairy cats ears, *Hypochaeris radicata*, are putting on a show just by virtue of their numbers, coming close to outdoing the fast-fading ox eyes.

THAT CONCLUDES THE FIRST YEAR OF OBSERVATIONS AT THE MARSH ◇

SECOND YEAR OF OBSERVATIONS STARTS HERE

July 22, 2016 (day +370, 366+4)

Rain 0mm. Cistern level -140 mm SCB, a drop of 12mm. Level at the weir -166 mm (SPB16), a drop of 29mm.



Out-of-season violets, *Viola adunca*.

More chocolate-brown wood nymphs (*Cercyonis pegala*) in the clearings, larger than the *Cercyonis oetus* and with equal-sized "eyes".

Western pondhawks, *Erythemis collarata*, the females all-green.

In the muddy strand left by the receding water, marsh horsetail, *Equisetum palustre*.

July 29, 2016 (day +377, 366+11)

Rain 0mm. Cistern level -182 mm SCB, a drop of 42mm. Level at the weir -210 mm (SPB16), a drop of 44mm. Private-property drain running only very slowly, several ten's of seconds per litre.



Northwest wind has been strong the last few days, 5-8 knots mean, relative humidity 60%, temperature 20°C.



In the west clearing, Queen Anne's lace, for me "summer snow-flakes". And next to the wild marjoram, winter savory, *Satureja montana*.

On the Marsh Trail, a flock of dark-eyed juncos. Common on Gabriola, but this is the first time I've seen any within the boundaries of the park. Male mallards are now in their eclipse plumage.

Another great horned owl, this one near the Stanley Road entrance.

A mature western hemlock visible to the east from the East Path; they're rare in the regional park, where the most common conifer by far is Douglas-fir. There are grand firs too throughout the park, but western red-cedars are only locally common in damp areas and absent elsewhere.

July 31, 2016 (day +379, 366+13)

At Stump Farm, ladies tresses, *Spiranthes romanzoffiana*.

The bats at the farm are probably *Myotis californicus*.

August 05, 2016 (day +384, 366+18)

Rain 6mm. Cistern level -210 mm SCB, a drop of 28mm. Level at the weir -242 mm (SPB16), a drop of 32mm. No flow from private-property drain.

Very very quiet. Only crows (or ravens?) to be heard, and a few swallows and cedar waxwings to be seen over the lake.

August 11, 2016 (day +390, 366+24)

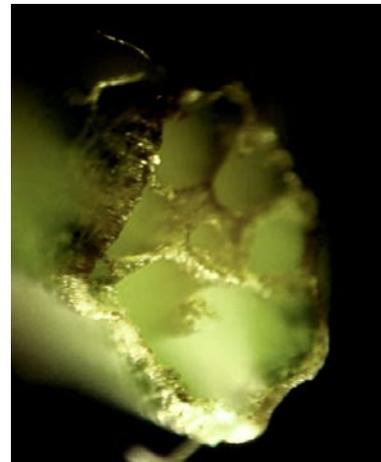
Rain 2mm. Cistern level -231 mm SCB, a drop of 21mm. Level at the weir -261 mm (SPB16), a drop of 19mm.

Evening. Only deer show any sign of activity. The languid dog days.

I've been trying to get a good picture of a cross-section of a marsh

horsetail stem, which would confirm that is indeed what it is. The best I can do is this:





A better picture is David Fenwick's:

http://www.aphotoflora.com/horsetail_equisetum_palustre_marsh.html

The species is uncommon in BC but not rare.

August 16, 2016 (day +395, 366+29)

No rain. Cistern level -254 mm SCB, a drop of 23mm. Level at the weir -283 mm (SPB16), a drop of 22mm. Warm sunny day with northwest wind. Nanaimo max/mean/min RH 92/64/32%, 28/21/14°C 11/4/0 knot.



Evening. A few birds around: hairy woodpecker; mallards; unidentified duck, very dark plumage; ravens; a pair of kingfishers? (far off, noisy, flashing white, perching on snags between short flights over the water, not swallows or redwings). Large formidable-looking dragonflies. Beavers, that's one on the left. Rarely seen in daylight.

August 21, 2016 (day +400, 366+34)

No rain in gauge, but spotting with rain as I left. A weak cold front passing by. It has been significantly hotter lately.

At cistern: air 21.8°C RH 30% Surface water (no-touch meter) 19.9°C. At weir (later in afternoon): air 18.8°C RH 35% Surface water (no-touch meter) 20.1°C. Need to check water temperature again with a regular thermometer, but it seems it reflects average daily temperature as one might expect for such a shallow lake.

Cistern level -278 mm SCB, a drop of 24mm. Level at the weir -309 mm (SPB16), a drop of 26mm.



Interesting walk.

A barred owl in an alder grove at the top end of East Path; red-legged frog at the weir; goldenrod near the water at the clearings; greater bladderwort (*Utricularia vulgaris*) stranded in the mud at the water's edge, a strange carnivorous flower that floats in the water; and a fresh-looking batch of "dandelions" on the trails, this time scrawny, smooth hawksbeard with narrow-leaves.

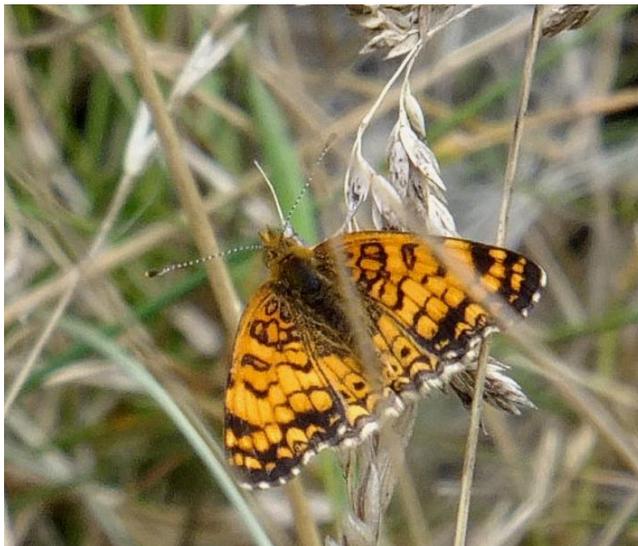
Found an isolated Himalayan blackberry plant, which I think I'll take out next time I visit, notwithstanding any required formalities.



A small outcrop of what looks like diatomaceous earth on the rough south-shore trail. If it were that, it would be exciting proof of the great age of the lake, but the deposit is rather dubious. Surface stratigraphy not good

(a hump brought up by a tree root or just a rubbish dump? No auger to hand). Indifferent to roasting in an oven, while diatomaceous earth

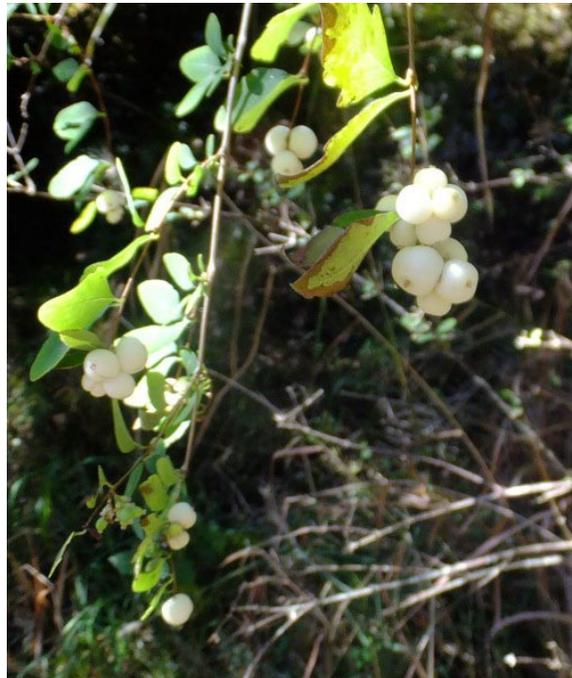
on Gabriola commonly turns pinkish when organic material burnt off. Could be just rotting cement or concrete, which is becoming a common anthropic rock. No reaction to acid, so kaolinite I guess also a possibility.



Moths and small butterflies in unusually high numbers. Possibly a satin moth? All white, greenish tinge, furry, near park entrance. Only one butterfly among the multitude willing to pose for me. I think a mylitta crescent-spot (*Phyciodes mylitta*) in the thistle field.

August 24, 2016 (day +403, 366+37)

I've decided to compile [species checklists](#), which means I have to pay more attention to the less-showy inhabitants of the marsh and to those with only botanical names. I started adding to the lists with bracket fungus (*Ganoderma applanatum*) on Douglas-fir and willow. It's common. It's also known as a "conk", which to me, as a kid, meant your nose. While photographing it, came across a snowberry bush. Snowberry is abundant on the dry south coast of the island, but not so up here.



You can't see ducks on the lake anymore, but in the evening you can hear them quacking.



August 26, 2016 (day +405, 366+39)

No rain. Cistern level -299 mm SCB, a drop of 21mm. Level at the weir -333 mm (SPB16), a drop of 24mm.

The water level is now low enough that you can wade along the south shore without getting a boot-full, unless, that is, something catches your eye just a little out of your depth, which it often does.



Deer fern (*Blechnum spicant*) dutifully recorded for the checklist among the normally flooded alders.

Mats of bladderworts. Ladies tresses. And new species, non-weedy ones to boot. Marsh speedwell (*Veronica scutellata*) and the late-summer bloomer, Eaton's aster (*Aster eatonii*) with its curious yellow disc florets.

At the cistern, a green tree frog hopped onto my forearm while I measured the water level. It stayed for a while. Why? For a bet? So he could brag to his mates? Because he was oblivious to the danger? Because he was adventurous, reckless, or both? How skillfully he positioned himself so I could not reach for my camera until he was back down in his hidey hole among the reeds. Others of his ilk were brown.



Of course, I've read David Haskell's "The Forest Unseen", and Franklin Russell's "Watchers at the Pond", naturalists who rigorously avoid anthropomorphizing, who mostly portray nature much as it mostly is, full of conflict and consumed by seeking to survive and propagate, but I dunno. I

sometimes like to think that little fellows like this have a shared sense of joyful curiosity. After all, what's 360-million years of evolution between friends.

August 28, 2016 (day +407, 366+41)

Checklists additions: lady fern, only locally common along creek banks, and red huckleberry, which you'd think would be common in the park but isn't. This is partly because Douglas-firs and alders are the dominant trees in the park and red huckleberries prefer to grow on cedar stumps and deadfalls, and perhaps also because the loggers didn't leave much cedar behind. I've only come across one plant in my wanderings. It was in the cedar grove along Coats Marsh Creek and was, at the time, berry-less and well-shaded, so, instead of showing its picture, I'm using bloggers' licence and showing one from the Turkey Shoot Road Swamp taken last June.



August 31, 2016 (day +410, 366+44)

Rain am. Cistern level -310 mm SCB, a drop of 11mm. Level at the weir -344 mm (SPB16), a drop of 11mm.

Very little going on, except there are slugs having a field day after the rain: banana and the introduced black ones. Ravens.

Times like these, while keeping species checklists, remind me of train-spotting when I was a kid. I was remembering how in the summer there was always a lull in rail traffic through our little station between 2 and 4 in the afternoon. Everything dozed in the sun. Just an occasional Hall, County, or no-name hauling a slow goods train. Then around 5, the first of the express trains came pounding through from London, bound for the west country, hauled by a King or Castle, followed by the slower stop-everywhere commuter trains. Always a chance of something new amidst the sooty-smoke and steam. It's been quiet like that here for the last week or two as we await the fall migrations.

September 4, 2016 (day +414, 366+48)

Rain 11.5mm. Cistern level -322 mm SCB, a drop of 12mm. Level at the weir -335 mm (SPB16), a rise of 9mm. Showers and summertime evaporation in a tussle? or the beavers playing games? Wind is more often from the southeast now as the high pressure ridges weaken.

Ducks out on the lake, about a dozen at least. Mallards recognizable, and a flock of smaller ones at the far west end of the lake, just possibly American widgeons, but even with x10 binocs not possible to be sure. Small birds that inhabit the forest's undergrowth appear to have migrated up into the canopy where they can be faintly heard but seldom seen.

Bushwhacked from the entrance between the lake and path around to the north-shore clearings. Several large ant nests and a couple of dead deer mice some distance apart. Not obvious why they died. Owls maybe?

Added to the checklists: Pacific ninebark, there's one at the Stanley Road entrance and another at the weir, must have looked at them dozens of times but not noticed them; pallid-



winged grasshopper, the dry gone-to-seed grass is full of grasshoppery



things, some flying like they were moths; bur-reed, a strange floating plant like bladderwort; whirligigs in the cistern; a moss and a sedge.

September 9, 2016 (day +419, 366+53)

Rain 8mm. Cistern level -311 mm SCB, a rise of 11mm. Level at the weir -217 mm (SPB16), a seemingly impossible sharp rise of 118mm unless the beaver dam is leaking.

An everybody-is-somewhere-else type Friday evening. No wind, no rain. So quiet. A duck on the lake, not a mallard. Blue-eyed darners,

watched one catch a flying ant. Ravens and a towhee or two, nothing else.

September 12, 2016 (day +422, 366+56)

Level at the weir -344 mm (SPB16). September 9 reading made in twilight with no flashlight must be wrong.



September 13, 2016
(day +423, 366+57)

No rain. Level at cistern -327 mm SCB, a fall of 16 mm in 4 days.

Pair of dabbling ducks on the lake, not mallards, not shy like widgeons, not seen up-ending, and no hint of a coloured speculum. Their non-breeding

plumage not helping much. ~~Most likely immature green-winged teals as blue-winged teals are rarely seen on Gabriola. They may have been here unrecognized for the past few weeks.~~

September 16, 2016 (day +426, 366+60)

No rain. Cistern level -339 mm SCB, a fall of 12mm. Level at the weir -352 mm (SPB16) a fall of 8 mm. Overcast and about to rain.



Dozens of Canada geese "western ssp." out on the lake. Must be around fifty. Unidentified ducks, the not-particularly-shy couple recorded



Sept.13, and another group of about five, some, but not all, with large white wing patches in flight. Very shy, good fliers, too far away to see

clearly. Common mergansers?? or if not, widgeons, goldeneyes?

September 18, 2016 (day +428, 366+62)

Rain 13 mm. Cistern level -326 mm SCB, a rise of 13mm. Active rain-laden sky, broken cumulus with rainbows. Ducks but no geese. HARMAC noisy.

September 22, 2016 (day +432, 366+66)

Rain 18.5 mm. Cistern level -319 mm SCB, a rise of 7mm. Level at the weir -310 mm (SPB16) a rise of 42 mm.



No geese but about twenty ducks with varied appearances, unfortunately all a long way from wherever I chose to observe them.

For sure, American coots with several pale seagull-looking offspring.

For sure too, a pair of wood ducks, the female with a very showy dark-blue speculum easily outclassing that of the mallards this time of year.



Other than that, juvenile-female- or eclipse-plumaged ducks? None identifiable. Possibly mallard hybrids but nothing fits. It's frustrating that bird guide books show mostly pictures of ducks in their courting plumage, and nothing of their everyday attire at other times of the year.



Scouler's willows growing along the south end of the 707's Three Gates Trail in the Stump Farm Number 1 Stream catchment area.



White-faced meadowhawks, actually striking

because they're mostly red, numerous. I wonder if the absence of fish is why the lake appears to be such good dragonfly habitat.

Chanterelles, bright egg-yellow rather than the-for-me "usual" orange, and the anastomosing shallow gills not running down the stem very far.

September 27, 2016 (day +437, 366+71)

Rain 9.5 mm. Cistern level -319 mm SCB, no change. Level at the weir -302 mm (SPB16) a rise of 8 mm.

The NW wind is blowing, big trees are rocking, gusts are ruffling your hair, and cones and twigs are raining down. A large black-tailed stag lets me approach unheard above the noise of the buffeting wind and the lack of underfoot crunch from the rain-soaked leaf litter.

One or two yellow-tubed boletes, possibly *B. edulis*;



pear-shaped puffballs; lilac *inocybes* growing in the duff.



A fox sparrow insisting on having his picture taken.



September 29, 2016 (day +439, 366+73)

No rain. Cistern level -322 mm SCB, a drop of 3 mm. Level at the weir -304 mm (SPB16), a drop of 2 mm.



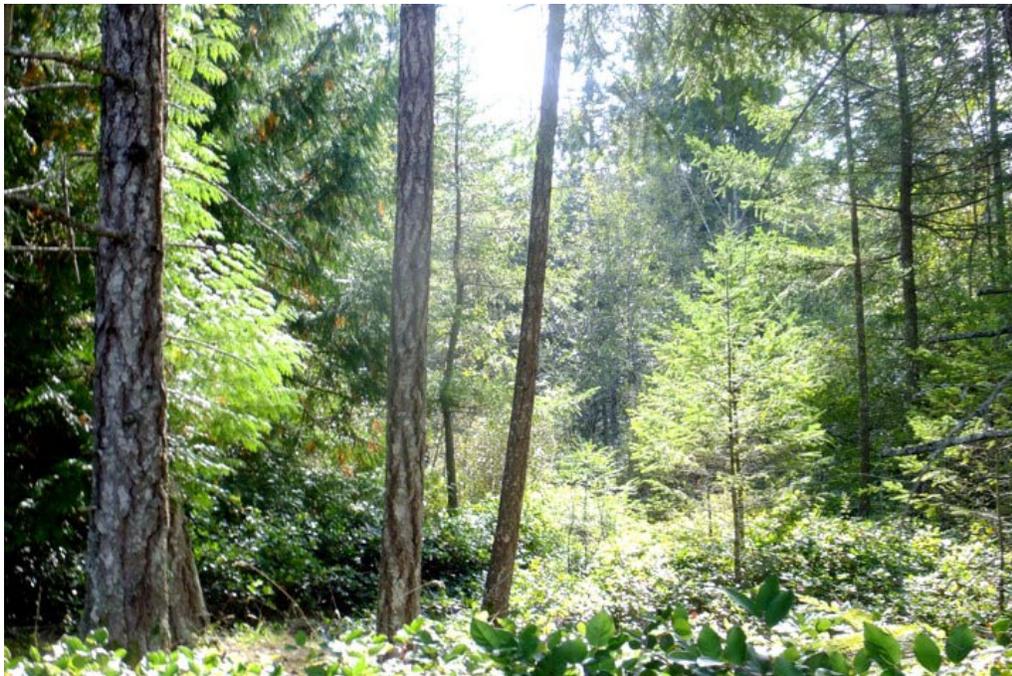
Perfect fall day. Blue sky, mild, light breezes.

Several small flocks of juncos and finches (possibly purple) feeding on translucent red honeysuckle berries; and along the Ridgeway, flickers doing likewise with the mat-red berries on some of the arbutus trees.



Willows in the SE Arm wetland including some that might be Sitkas, but don't quote me.

Migrant mallards joining the residents, the newbies jauntily showing off their new season's plumage.



THE END OF SUMMER.

Continued [here](#).

Previous [here](#) ◇