

Comox Valley Naturalists Society

June 2019 Newsletter



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President's Corner

Water runs through it

By Jim Boulter

More and more, people are realizing that climate change will affect every living organism in some measure, and that someone has to take this bull by the horns. Or we let the bull run over us. While not everyone agrees with the root causes of climate change, it would be foolhardy to ignore the recent historical trends that show record high average temperatures, increasing storm severity and duration, rising sea levels, and loss of glacier volumes. Given that many of these effects have a positive feedback in the system, we would be unwise to ignore these warnings in the belief that somehow, something will occur to restore the balance that the earth has had in the last few centuries.

The summer solstice has only just arrived, and we are already faced with the threat of a drought. On June 7, the BC Government announced a Level 3 drought rating for Vancouver Island, which calls for a voluntary restriction in water use. While the Comox Valley water supply for domestic use is backstopped by Comox Lake, many important streams on the Island are fed from shallow groundwater sources, and these sources have not been adequately recharged by the recent rains.

And the Comox Valley is not the only place where this is happening. GRACE satellites have been actively monitoring the Earth since March 2002 and are revealing changes to our aquifers. These Gravity Recovery And Climate Experiment birds can measure small changes in the gravity and show how these masses are distributed

and vary over time. What is showing up is interesting, and alarming.

By measuring fine-scale mass density around the globe, water levels of tides and seasonal variations of water can be determined in real time. Researchers are even able to measure the level of subsurface aquifers, and have been recording their deviations over time. Data shows that 17 of the world's 37 largest aquifers are running a deficit budget—water is being withdrawn faster than it is being recharged. The report goes on to cite further data on loss rates and 13 are considered alarming; that is, estimated reserves are insufficient to provide water into the near future. These aquifers are going dry.

The three worst-performing aquifers in the world are the Arabian Aquifer in the Middle East, the Indus Basin in northwest India and Pakistan, and the Murzuk-Djado Basin underlying Libya and Niger. The US hit the list with both California's Central Valley Aquifer and the Ogallala Aquifer, which runs from South Dakota to northern Texas under 8 states. The Ogallala has lost 300 feet of water since 1900, with 1/3 of the loss occurring between 2001 and 2011. The usual suspects for the loss of the Ogallala are present: irrigation to factory farms, and resource extraction, in this area oil and coal mining.

It is hard to deny that this loss of fresh water is caused by humans. Poor regulations, wasteful practices and a low-to-zero cost to the user, be they a grubstake farmer on 5 acres or a multinational employing 3 workers per square mile, water wells are a fact of life in the dry plains. We need sunlight, water and some growing medium to produce food, and sun and water do not always come to the same place and at the times needed. Sunlight we can find in the central plains, far away from the mountain water sources. Of course the closest water is "only" a few hundred feet below us, so why not use it. It's mine, right? And if you can get a land lease from the state at a subsidized rate of \$1 per acre-year, your farm

could be as large as a small state, and likely use more water than that state does, for next to nothing.

A recent Global Agriculture report entitled “Agriculture at a Crossroads” states that agriculture uses about 70% of the “blue water” available. Blue water is that from surface and groundwater sources. The report divides North American water usage into 3 broad categories: municipal usage is 15%, agriculture is 45% and industry is 40%. In Canada we use an average of 269 litres a day of water per person, with 10% going to drinking, 25% for cleaning, 30% for toilets and 35% for bathing, but this pales when compared to the 16,000 litres of water required to bring 1 pound of beef to the table.

Industrial use of water is highly variable, but looking at some of the headline industries such as oil sands and fracking shows about 2.5 barrels of water for each barrel of bitumen pulled from the ground. This does not include refining, transportation, and so on, nor does it include the long-term removal of the waste water from the system. Fracking a gas or oil well is incredibly water-wasteful, with an average of 2.6 million gallons of water needed for each fracture, which some wells need many times to be productive. This can peak to 9 million gallons of water for some wells. And this is highly contaminated water that is being forced into subsurface galleries, further reducing our ground water reserves.

Looking ahead, if our children and their children are going to thrive, water will have to become more expensive for everyone. We may waste water every time we flush a toilet, but at least residential use is paid for. Use of “free water” in industry and agriculture is a form of a government subsidy, and the hidden cost of excessive use and polluted water is not built into a litre of gas or sirloin-tip steak.

There are a number of things we can do to reduce our personal water footprint, but what is really needed is a large shift in our demands on all resources. It is estimated that 60% of the total mammalian biomass on the planet is in livestock—cattle, pigs, and chickens. Humans are 36%, and only 4% is for all wild mammals. One study in 2017 determined that our demand for meat could be the cause of up to 60% of the world’s biodiversity losses, with deforestation, ocean dead zones and land degradation being the major side-effects of the meat industry.

We may even have to reconfigure our water delivery system. The Canadian government has looked at using reclaimed water for toilet use. Like feeding our backyard chickens kitchen scraps, the idea here is to capture

domestic “grey water” from bathing and laundry, run it through a device that removes the pollutants, and use the water for the toilet. Given the figures above, if we used our bathing water to run our toilets, we could reduce domestic use by up to 30%.

A poll surveyed 1200 scientists with expertise in the field from 80 countries in 2011 for suggestions for dealing with our impending water crisis, and the consensus result produced 19 areas we need to focus on. While relying heavily on new technologies, education and regulation, the list includes suggestions such as recycling waste water, pollution abatement and improving water catchment. One unsettling item the pollsters uncovered was that most of the respondents believe that it is the government’s job to ensure we have access to clean water. But was it not technology and governments that got us into this mess in the first place, and would top-down solutions be accepted?

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1. https://archive.ipcc.ch/pdf/assessment-report/ar5/wg1/WG1AR5_SPM_FINAL.pdf
 2. <https://web.archive.org/web/20130512224731/http://www.climatewatch.noaa.gov/article/2012/2011-state-of-the-climate-sea-level#>
 3. <https://news.gov.bc.ca/releases/2019FLNR0162-001197>
 4. <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/2015WR017349>
 5. https://en.wikipedia.org/wiki/Ogallala_Aquifer#Accelerated_decline_in_aquifer_storage
 6. <https://www.globalagriculture.org/report-topics/water.html>
 7. <https://www.mcgill.ca/waterislife/waterathome/how-much-are-we-using>
 8. https://energyeducation.ca/encyclopedia/water_impact_s_of_oil_sands
 9. <https://www.scientificamerican.com/article/water-use-rises-as-fracking-expands/>
 10. https://en.wikipedia.org/wiki/Meat#Environmental_impact
 11. *ibid*
 12. <https://www.canada.ca/en/health-canada/services/publications/healthy-living/canadian-guidelines-domestic-reclaimed-water-use-toilet-urinal-flushing.html>
 13. <https://www.circleofblue.org/2010/world/experts-name-the-top-19-solutions-to-the-global-freshwater-crisis/>

Poem: River

By David Bell

The banks of the river
 Guide the water
 From the mountains
 To the sea.

From lifeless snow
 Life's brought down
 Through green land
 To the green sea.

And from the sea
 Life flows back
 To the mountain.
 An endless cycle.

The life-blood of the river
 Wears away the land
 And builds the land
 Out into the sea,

And the rain that falls
 And the wind that blows
 Back to the snow –
 The circle is complete.

The banks of the river
 Alive with life
 From the mountains
 To the sea.

To enjoy more of Mr. Bell's poems, see
<https://www.facebook.com/DMBpoem4me/>

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Conservation Activities: Little River Nature Park

By Murray Little



Pond at Little River Nature Park. Photo: Terry Thormin

Little River Nature Park is a small but interesting park, close by the BC Ferries Little River terminal. Most visitors are familiar with the carpark off Wilkinson road, and the couple of small lakes therein. Some may also venture down the path on the east which wends its way round the end of the pond, and gets into the development further round. There, on private land, you may see some prickly gorse bushes and some large broom.

But if you check the map at the carpark, you can see that inside the development there are some other interesting areas. To get there, you can walk along the beach to the narrow path between the housing, or you can walk through the B.C. Ferries property on the north side of the river. Or, for the brave at heart, you can turn a blind eye to the sign which says "Private Property - Entry only for residents and guests". It says nothing about not walking in, so in we go. Once you cross the bridge over the Little River, on both sides you can see the beach plain plant community, which has a lot of very interesting plants, including the rein orchid and the broomrape – both of which should be in flower later in June. It is here where a small band of dedicated volunteers have been taking out broom and red dead-nettle for some years. So it seems that as soon as you get a handle on one invasive plant, others are brought to mind. In this case the Regional District asked us also to deal with the curly dock, which is spreading.

South of the river, on the east side is the estuarine/salt marsh community, which has a different community of

plants, also interesting, but seems to be more prone to invasives. We have taken the broom from here too, but have not really approached the blackberry, of which there is a little, or the dock, which is much more frequent on this portion.

Our volunteers have picked Wednesdays as a preferred day – but not every Wednesday. Also we like to start at 9.00 am, and go for an hour or maybe two before it gets too hot. If you would like to help out in this rather unique area, please contact Murray Little or Karen Cummins and we can contact you when we next schedule an invasive day. To contact Murray, send email to scotspine65@gmail.com.



Little River Park scene: Common green darners ovipositing.
Photo: Terry Thormin

CVN 2019 Bursary Award

By Kathleen Wilkinson



Jillian Stelfox receiving CVN Bursary from Jim Boulter.
Photo: Mark R. Isfeld Secondary School

The 2019 recipient of our \$1000 bursary award is Jillian Stelfox, who will be graduating this spring from Mark R. Isfeld Secondary School and enrolling in the Bachelor of Science (Ecology) program at the University of Calgary this fall. She intends to pursue a career as an ecologist or wildlife biologist, with a goal of promoting conservation.



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Jillian has participated in G.P. Vanier School's Explore program, and the Young Women in Ocean Literacy and Leadership camp, which encouraged her interest in the environment. Her record as a volunteer is impressive and includes involvement in the following environmental initiatives:

- 5 years as a member of the Isfeld Environment Club, including 2 years as Club vice-president
- Salmon count with the Tsolum River Restoration Society
- Removal of invasive species with Broombusters and Project Watershed, and planting native species with Project Watershed
- Lead organizer of Isfeld's 2019 Eco-Fair
- Participant in numerous beach cleanups; a lead organizer in 2018 and 2019
- Fund-raised for MARS Wildlife Rescue Centre

In addition Jillian has been an outstanding student, achieving Honour Roll status for the past 3 years, while also participating in school and extracurricular sports. Her references speak very highly of her commitment and passion for the natural world. Congratulations Jillian, and we wish you much success in your studies and future endeavours!

Editorial: Bursary Funding

At our annual general meeting in February, the Treasurer's report showed information about the funding of our annual bursary that may be of some concern. As of this month we have funds of a bit over \$2800 reserved for the bursary. This is good and will support at least two more bursary awards of \$1000 each. (Note that the reserved funds would be only in the \$1800 range except that one bursary from an earlier year was never collected.)

The concern comes because the current situation is not sustainable. The reserved funds came mostly from earnings from the annual BC Nature Conference that we hosted in 2016, and we're drawing them down each year with only a little replenishment. Although our membership form includes an option for making a donation to the bursary fund, the amounts being donated in the last few years have been insufficient to fully fund the \$1000 bursary in the year, reaching a maximum of only about a half of the goal this year so far and as little as \$50 in 2015.

The CVN Board of Directors is currently exploring some other methods of funding the bursary, with the hope

even of expanding to two awards each year. These deliberations are ongoing and may take some time to come to fruition.

In the meantime, the present method of funding through voluntary member contributions remains our main hope of continuing the bursary. If a majority of us regularly donated just \$10 per year, we would be close to the required funding for the bursary. Although the main reminder of this is on the annual membership form, donations, of course, are gratefully accepted at any time of the year.

The veteran members who started the bursary recognized the importance of supporting and encouraging a new generation of naturalists, biological scientists, and environmentalists, and are still passionate about that today. We hope you share that passion. If you can comfortably do so, please consider making a bursary donation (if you did not already do so this year), and consider repeating this generosity in future years.

As a further incentive, remember that donations of \$20 or more are eligible for a receipt for income tax purposes. Just request one from our Treasurer.

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Upcoming CVNS Activities

General Instructions for Field Trips

- All walks are club events and reserved for members only, unless otherwise stated. Typically, one walk each month is open to the public.
- Meet either at the carpooling location or the trailhead 10 minutes before the specified time, unless otherwise announced. Carpooling locations are usually the old Thrifty's in downtown Courtenay or the Courtenay Country Market north of the city.
- Participants are responsible for their own safety.
- Walks typically take at least 2 hours.
- Wear clothing and footwear suitable for the conditions.
- Bring water and a snack (or lunch for longer trips).
- No dogs please.

Schedule

This information reflects planning as of our publishing date and is subject to change. Watch for the latest information and additional details in the President's weekly announcements and on the website.

The nature walks and hikes listed below are all joint events with the **Strathcona Wilderness Institute (SWI)**. All events start at the SWI Centre, Paradise Meadows, unless otherwise indicated. Sturdy footwear is essential. Be prepared for sudden changes in the weather in the mountains. Always carry water. No dogs, please.

There is no charge for these events, but as a volunteer-run non-profit organization, SWI relies on your support through donations.

Saturday, July 6: 8:30 am. Subalpine ecosystems - McKenzie Meadows (or Lady Lake). An easy, 3 km one-way hike from trailhead into McKenzie & Douglas Lakes & the Meadows. Leader: Loys Maingon. Experience a subalpine meadow without a boardwalk. Meet at parking area on the Parkway just off Highway 19 at 8.30 am to carpool – a vehicle with good clearance is necessary for logging road access. In case the logging road is closed (high fire risk), we will hike to Lady Lake from the Paradise Meadows trailhead. Any changes to the original plan will be announced on the SWI website.

Sunday, July 7: 9:00 am. Guided hike – Kwai Lake Circuit. CDMC member Janet Beggs will lead this moderate day-hike (15.8 km round trip, 8 hrs) by way of Battleship and Croteau Lakes to Kwai and back by Lake Helen MacKenzie. Pack a lunch.

Saturday, July 13: 9:30 am. Interpretive walk at Paradise Meadows – Ice Age history of the Park. Palaeobotanist Randal Mindell will lead this easy walk around the Meadows looking at peaks and valleys, glacial erosion and deposition.

Sunday, July 14: 9:00 am. Guided hike to Divers and Rossiter's Lakes. Naturalist Kathryn Landry will lead this moderate day-hike to Divers and Rossiter's lakes (11 km round trip, 6+ hrs). Pack water, lunch and a swimsuit.

Saturday, July 20: 9:00 am. Guided hike to Mt Elma. CDMC member Janet Beggs will lead this moderate day-hike (~12 km round trip, 7 hr) with some steep sections. Pack water and lunch.

Sunday, July 21: 10:30 am. Guided hike to Upper Myra Falls, Buttle Lake area. Palaeobotanist Randal Mindell will lead this easy 7 km round trip hike to the Upper Myra Falls, looking at rocks and plants. Pack a lunch. Meet at 10:30 at the trailhead, located beyond the mine at the end of Westmin Road (approx. 40 km from the junction with Highway 28).

Saturday, July 27: Interpretive walk at Paradise Meadows. Details TBA.

Sunday, July 28: Hike in the Forbidden Plateau area. Details TBA.

Reminder for Field Trip Leaders

All field trip participants who are not members must sign our Informed Consent and Assumption of Risk Agreement.



Bog bird's foot trefoil (*Hosackia pinnata*) at Harewood Plains in Nanaimo.
Photo: Krista Kaptein

The Botany Group visited Harewood on May 27.

About the Society

Website

<http://comoxvalleynaturalist.bc.ca>

General Email Address

coordinator@comoxvalleynaturalist.bc.ca

Mailing Address

Comox Valley Naturalists Society
Box 3222
Courtenay BC, V9N 5N4

Board of Directors

President: Jim Boulter

(coordinator@comoxvalleynaturalist.bc.ca)

Vice-President: David Innes

Secretary: Gabriel Bau

Treasurer: Isabella Erni (TreasurerCVNS@gmail.com)

BC Nature Director: Sharon Niscak

Project Director: Loys Maingon

Wetlands Restoration Director: Murray Little;

Alternate: Karen Cummins

Group Leaders and Other Volunteers

Membership Secretary: (cvnsmembership@gmail.com)

Birding: Kelly Kline (cvnbirds@gmail.com)

Botany: Alison Maingon

(botany@comoxvalleynaturalist.bc.ca)

Shoreline: Randal Mindell (cvnsshoreline@gmail.com)

Photography: Terry Thormin

Conservation: Loys Maingon

Garry Oak Restoration: Loys Maingon

Environmental Heritage and Culture: Gordon Olsen

(coordinator@comoxvalleynaturalist.bc.ca)

Swan Count: Ernie Stefanik, Krista Kaptein

(ernie.stefanik@gmail.com)

Comox Valley Conservation Partners liaison: Murray Little

Trip Planning: Loys Maingon

Bursary Committee: Kathleen Wilkinson, Lynn Gray

(coordinator@comoxvalleynaturalist.bc.ca)

Tree of the Year Committee: Cathy Storey, Fred Newhouse

Coffee Committee: Iris Stefan, Judy Chrysler, Kelly Kline

Website: Isabella Erni, Krista Kaptein

(site_info@comoxvalleynaturalist.bc.ca)

Facebook: Jillian Jones (cvnaturefacebook@gmail.com)

Newsletter Advertising: Kathie Woodley

Newsletter Editors: Sharon Niscak, David Orford

(newsletter@comoxvalleynaturalist.bc.ca)

Constitution and Bylaws

Available in PDF form on this web page:

<http://comoxvalleynaturalist.bc.ca/about-us/>

Membership

Includes membership in BC Nature.

Membership form (including the Informed Consent and Assumption of Risk Agreement) is available at meetings and on the website.

Fee: \$30 per year per adult or family (2 adults plus children 16 and under)

Pay at general meetings, on the website using PayPal, or mail a cheque payable to Comox Valley Nature to:

CVNS Membership Secretary

Box 3222

Courtenay BC, V9N 5N4

Membership runs for the calendar year, and is considered lapsed 90 days after year end. Lapsed members are removed from the CVNS and BC Nature membership lists.

Change of address, phone number or email: Please advise the Membership Secretary.

Meetings

Monthly general meetings are held on the 3rd Sunday of the month at 7:00 p.m. in the Florence Filberg Centre, 411 Anderton Avenue, Courtenay.

June meeting: Potluck at a member's house.

No general meeting in July, August, or December.

Bird meetings: First Thursday of the month, 7:00 p.m. at the Filberg Centre Soroptimist Lounge, Courtenay. For information, send email to cvnbirds@gmail.com.

Botany meetings: Second Monday of the month at a member's home, 12:00 p.m. An email is sent prior to the meeting to confirm location and topic.

Botany walks (weather permitting) follow the meeting and are also scheduled at other times. To be included on the botany list, send email to botany@comoxvalleynaturalist.bc.ca.

Newsletter

The newsletter is published 3 times per year (March, June, and November). The full-colour version is emailed in PDF form to all members on the email list, and a few

printed copies (black and white) are available at general meetings and in the CVNS outbox in the Evergreen Lounge at the Florence Filberg Centre.

The newsletter depends on your contributions. Please consider contributing an article or note on any topic of general interest to other members such as natural history, conservation activities, trips, unusual sightings, or a book review. You can send your contribution by email to newsletter@comoxvalleynaturalist.bc.ca.

We would appreciate receiving articles by the first day of the publication month. All articles are subject to editing.

NatureKids

CVNS has a cooperative relationship with NatureKids Comox Valley, a separate nature club for children which is part of the NatureKids BC organization. For more information, see <http://www.naturekidsbc.ca/>.