

Comox Valley Naturalists Society

June 2016 Newsletter



President's Message	1
Dulcie Hamilton	3
Conservation Reports	3
Notes from Other Sources	5
Karsts	6
BC's Magic LNG Realism	7
Upcoming CVNS Activities	11
About the Society	11

New CVNS President

In the last newsletter, we reported that the CVNS presidency was vacant after our 2016 AGM in February. As most of you know by now, that vacancy has been filled, and the Board of Directors for 2016 is now complete. Jim Boulter stepped up and was acclaimed as President at the April general meeting.

After Jim's excellent work on the BC Nature 2016 Conference, we're sure he'll do a great job as President.

Congratulations Jim! And many thanks for your service to CVNS.

President's Message

Where Have All the Children Gone

By Jim Boulter

When I was a preschooler, my parents were caretakers at Thetis Lake Park in Victoria for three years. I still remember the joy I had, running around the empty park in the offseason and watching the plants and animals come and go. My favorite spots in the park were the grass balls on the tops of the rocky bluffs, where I would lie on my belly and watch insects scurry around and over the tiny flowers.

We moved to an urban area when I started school, but I still enjoyed wandering the forests and creeks within range of my bike. I would take a peanut butter sandwich and my fishing rod, along with a hot dog wiener for bait, and look to catch that trout I knew was waiting for me. I

never caught that rainbow, and the wiener always ended up as part of my lunch, but I always came home happy. When my older brother and I reached our teens, we often spent our summers camping out at Goldstream Park and other campsites, learning how to cook beans and start a campfire.

Something happened when I graduated from high school and started university however. Getting out doors became more and more of a task; there were always so many other demands on us that a few hours, let alone a day or longer, could not be spared for Nature. My trips outside became a brief visit to our front yard lawn with my first daughter. After our second daughter was born there was even less time as my wife and I both went to work.

Looking back on this period of my life, I remember times during my commutes into Victoria when I would look at the forests and streams passing by and long to park the car and walk in the woods for a few hours. Rarely, I would pull out of the highway race, and stand by the car and look wistfully at the living world for a brief moment.

Years became decades and I had to wait for retirement to rejoin that living world. A conference of seasoned nature lovers had to be experienced before I realized how much I had missed along the way. The conference also made me realize that I was not alone in straying from a meaningful relationship with nature.

As I worked at the registration desk at the BC Nature Conference, or wandered among our visitors, I became very aware of a lack of a broad demographic. There were few people under the age of fifty, and virtually none in their twenties. More than a few of the people I met have spent their whole lives in nature, but many had stories similar to mine. Does nature just appeal to the young and the old? Does the need to experience the living world have to take a back seat to the artificial world of cars, concrete, and cash?

Looking for answers, I turned to the Internet to see what research on this issue I could find. I came across two papers that I found interesting. One is Youth Engagement with Nature and the Outdoors , and the second is Connecting America's Youth to Nature .

The first paper was the result of polling 664 young Canadians between 13 and 20 years old, the second surveyed 602 American youths between the ages of 13 and 18. Many of the issues identified in the papers were shared across the border, and come close to paralleling my early life.

The Canadian survey found that 70% of youths spend an hour or less outdoors, with almost 50% stating they were too busy to join outdoors programs. Most of this outdoor time is spent in their local neighborhoods, and given the fact that 81% of Canadians live in urban surroundings , this means their outdoors time involves streets and city parks.

Children that have parents that participate in outdoors activities tend to spend more time outside as they grow older and become more independent, while those with little nature experience do not become more attracted to the outdoors as they get older. School courses, school field trips, and summer programs provide access for some youths, but lack of local access, lack of time, and the cost of these programs limit their effectiveness.

The American survey looked into some of the causes for the lack of interest shown by many youth. 51% believe the environment is in extreme or serious trouble, with 71% blaming the older generation for its poor condition, and 2/3 lack faith in the government's ability to correct the problems. When asked the reasons for not spending time in nature, 36% said it was "uncomfortable because of bugs, heat etc.", 54% lacked access or transport to natural areas, and 31% feared injury from accidents or "gangs and crime".

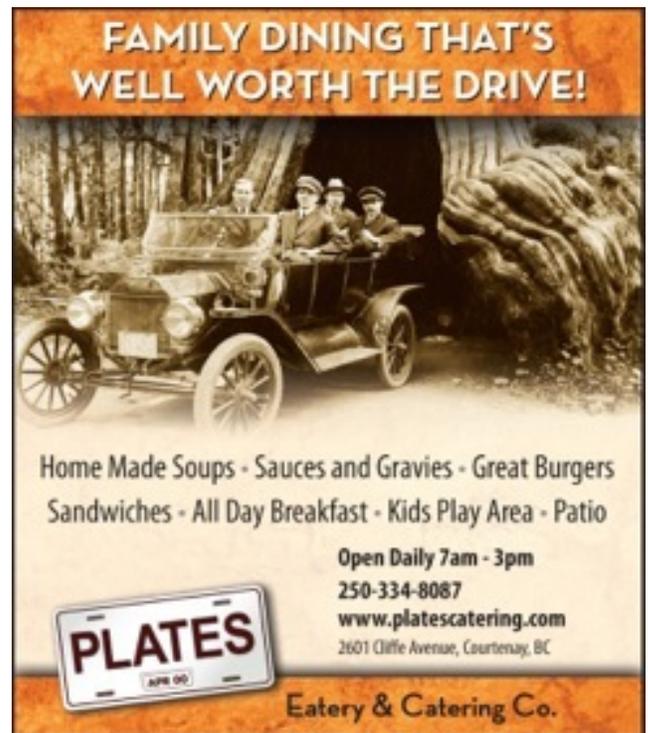
This survey also had a few comments to make on changing these perceptions. When asked to describe their encounters with nature, most of the youths with some experience had positive things to say about the experience. Even though less than 25% of the youth polled went on outdoor school field trips once a month, these activities are fondly remembered by most who had participated.

So are there any real answers here for those of us who care deeply about the natural world? You may not be able to make a horse drink the water, but taking children and youths into nature may be one way to encourage love of the outdoors. I know I plan to take our grandkids outside more often. Certainly, field trips such as the one

we are running with the Canadian Rangers in July are other ways to get youth involvement.

For those of us who are working parents, the choices become harder and the time more limited. As a population, we no longer have the farms and forests surrounding us, and falling in love with the living world is an ongoing process that, for most of us, slowly seeps into our hearts. It is not the sudden passion of love at first sight.

We may have little choice where we live and how we spend our days, at least while we are busy raising children and paying a mortgage, but many of us have left the concrete and steel behind and moved to the Comox Valley because nature is close by. Let us make an effort to invite young people along with us on our walks. Ask the schools to provide more outings in the wild, and hold the politicians to commitments to conservation. It is not all about jobs; remember what all work and no play did to Johnny.



FAMILY DINING THAT'S WELL WORTH THE DRIVE!

Home Made Soups - Sauces and Gravies - Great Burgers
Sandwiches - All Day Breakfast - Kids Play Area - Patio

Open Daily 7am - 3pm
250-334-8087
www.platescatering.com
2601 Cliffe Avenue, Courtenay, BC

PLATES
APR 00

Eatery & Catering Co.

Dulcie Hamilton

A Remembrance

By Sharon Niscak, with contributions from other members

Dulcie Hamilton was a long-standing member and twice president of the Comox-Strathcona Natural History Society, currently the Comox Valley Naturalists Society. Her love of nature was evident in all her pursuits. Dulcie's diligence and capacity for hard work were evident, whether it be working on the family farm or supervising trail building crews at Seal Bay Park. Her earliest years were spent on the family dairy farm in Saanichton and later on the family dairy farm in Comox (now Sims Farm).

As the oldest of four girls, she undoubtedly gained experience in organizing and supervising tasks around the farm. These skills were greatly appreciated when Dulcie volunteered to organize the work crews for trail building and amenities in Seal Bay Park. In Dulcie's capable hands the projects ran smoothly and efficiently. Trails were built and greatly appreciated by the many visitors to Seal Bay Park. A great deal of time, effort and planning were necessary to reserve this wonderful park, albeit its tenure tenuous. Dulcie played a significant role in acquiring this land as a nature park.

Several of her friends marveled at her strength and hardiness in all kinds of weather, including trudging through deep snow and swimming in the cool ocean at Goose Spit. Betty Brooks recalled following in Dulcie and her sisters' track in the snow when climbing the slopes up Mount Becher at night to join others at the Becher ski cabin. She also recalls Dulcie and her sister Georgie delivering bottles of milk in Comox when they ran the family dairy farm in the late 1940s. As Betty notes, "I marveled at their strength and hardiness in all kinds of weather".

Dulcie provided meeting space for Botany meetings at her Back Road home and farm. For over forty years, her farm provided organic produce and eggs. Many of us benefited from not only the produce and eggs, but also from her botanical knowledge. Her keen interest in mushrooms was shared during our many outings and educational programs. Dulcie's interest in flora, fauna and fungi expanded well beyond the farm fences. Her love of nature included the giant sequoia tree at the foot of her driveway with its eagle's nest. Over the years she counted and monitored trumpeter swans, led public walks (the first being March 3, 1968) and organized walks. She contributed many volunteer hours sharing her knowledge with joy and kindness. Her love of nature

stretched from the slopes of Strathcona Park to the kelp beds of the Salish Sea and included everything between.

In 2013 Dulcie received the prestigious Society's Lifetime Achievement Award for her 45 years of leadership in Comox Valley Nature. This award honours the conservation ethic of members over the decades and provides a sense of continuity with the future generations. The stewardship and conservation values shown by Dulcie over the past five decades highlight that good stewardship is a continuous dedication.

Dulcie touched our hearts and left a legacy to be cherished. Dulcie, as a friend noted, "is a gem" and lived up to her name.



Dulcie Hamilton, on receipt of the Society's Lifetime Achievement Award.

Photo: Loys Maingon

Conservation Reports

By Murray Little

TARGET 200: Erythronium Rescue

What a disaster! My target that is—a terribly pessimistic target. Frank said it should be 2000, and I thought he was jesting . . . maybe not.

What a success, CVN members—we reached the 200 target on the first day!

This is all taking place on what will be the right-of-way (ROW) for the "North Courtenay Connector". You can google this to see the MOTI bridge plans and the proposed route. Construction for the road ROW is to start in late summer, so we have some time yet for our rescue.

I have been working with the property owners, who have been very cooperative about the rescue plans, and I have kept MOTI informed also. They let me know when things like drilling rigs are going in to do some work.

One issue was when to collect the corms.¹ The problem is that it is best to wait until the corm has fully matured and is ready for the winter, but by that time all evidence has disappeared except for a fragile, small brown stem, usually hiding amongst other vegetation which has appeared since the lily was in flower. We decided to dig when the seed capsule started to turn brown. Then the seeds should be viable, and the bulbs just about ready.

Thanks to several members, I gathered about 250 pots, ready for the collection. We started out filling these pots, but early on day 1 we saw that we would run out of them, and so started to dig the corm out in a 6" square of soil, and these were packed together into a shallow pit. Here they could continue to develop normally, and were safe for future moving.

Over the three mornings and one afternoon, we took out 586 lily plants. **Thank you everyone** who came out to dig. Mack Laing Society came to dig, and took 50 back to plant on site. 50 have gone to Morrison Creek Stream-keepers for their sites. Frank dug out 30, and put them immediately in Puntledge Park. 10 went to Brooklyn Creek.

In addition, 22 lilies, several Solomon Seal, 3 Trillium, 3 Ribes, 3 bugbane, 4 sword fern and 2 lady fern plants went to various other new homes.

This morning I went out and dug out 50 corms, so we can still find them, and they are still there. In addition, we have permission to take other plants from the ROW— ferns, elderberry, swamp lantern, and various perennials and shrubs. Interested? Let me know.

In addition, I have a location with at least 100 Trilliums. Given our past success, I am applying the TARGET 200 for these Trilliums, which will be ready in about 10 days. I will let you know. Contact me if you can help.

1. A corm, is a short, vertical, swollen underground plant stem that serves as a storage organ for some plants to survive winter. It doesn't have fleshy "leaf-like" structures as a bulb does.



Comox Valley Conservation Strategy

One of the things which CVCS has been concerned about is natural cover in communities, including trees. We have been able to view a version of the proposed **Courtenay Tree Bylaw**, and have been able to comment on it.

The bylaw is being discussed at a couple of public meetings, one of which will be over by the time you read this. The other one is on Tuesday June 21st, from noon until 2.00 p.m. at the Courtenay library. Or else you can go online at www.Courtenay.ca/trees and complete the questionnaire. If the questionnaire appears to be too cumbersome, maybe these are the important ones to answer:

- Questions 1, 2 and 3 deal with how we value trees.
- Question 17 is about an "Urban Forest Strategy", which I think we really do need.

The other major concern is our water supply, and the health of the watershed, including Comox Lake. We are working towards a brochure which can be personalized and distributed by the Watershed groups. Look forward to this soon.

Wetland Restoration Project

2016 seems to be the year for significant anniversaries—a 100-year milestone of conservation in Canada (passage of the *Migratory Birds Convention Act*), CV Nature's 50th anniversary, and the Wetland Restoration Project's 20th. Well done, volunteer members who are determined to make the Valley a better place with more biodiversity and fewer invasive species.

In 2016 I have been handed the reins of the project, and Frank will continue to run the volunteer portion of it. We have 2 years remaining of our 3-year commitment with

the Regional District, and are working again with the City of Courtenay.

Volunteer group

Frank Hovenden's excellent work of the past many years has reduced the numbers of the invasive plants in and around the Courtenay River, and the estuary. Frank plans to organize at least one work party every month, and in so doing hopes to double the number of volunteer hours donated to the project. Work is continuing at the Courtenay Airpark, Puntledge Park, and the railway station, and maybe a CVRD park as well.

Professional work

There are areas where it is inadvisable to ask volunteers to venture, and we are again using Sellentin's Habitat Restoration for these areas. The major one is the Yellow Flag Iris in the headwaters of Morrison Creek. The crew has been working very hard, as the root masses are very heavy and difficult to extract. This work is being done in conjunction with the Morrison Creek Streamkeepers.

Coastal Invasives Committee

We are glad to welcome to the valley the Coastal Invasives Committee, which has moved from Victoria to an office in the Conservation Centre at Tin-Town. Rachele McElroy is running the office, and will be a great help to us in control of invasive species.

If you are interested in joining us as a volunteer, please contact me or Frank.



Notes from Other Sources

Heron Monitoring

The Canadian Wildlife Service (CWS) is hoping to more closely monitor Pacific Great Blue Heron nests along BC's coast and is requesting assistance in tracking them down. The Pacific Great Blue Heron (*Ardea herodias fannini*) is listed as a species of Special Concern under the Species at Risk Act. CWS is participating in a long-term monitoring program that records details about heron colonies, such as how many chicks are fledging, and the types of disturbances that are occurring.

To do this, CWS needs to know where these birds are nesting. Herons may return to an old location, reuse nesting sites from year to year, or they may find a new spot altogether. They might also change locations part way through the nesting season if they've been disturbed. So finding the sites each year can be a challenge. In some areas, like the Sunshine Coast, we've lost track of almost all the heron colonies.

You can report nest locations to pacific.hérons@canada.ca.

Bird Species in Crisis

(Source: Bird Studies Canada Latest News, June 1, 2016)

The first joint conservation assessment of the birds of Mexico, USA and Canada, *The State of North American's Birds 2016*, indicates that 37 per cent of the 1154 native bird species are in crisis on this continent. Without significant action, these species could face extinction. Loss of habitats is contributing to the declining populations. According to the report, the birds in tropical forest habitats and the ocean are of highest concern. It is imperative that countries work together on bird conservation. Bird Studies Canada's website points out ways that we can help.

Comox Valley Nature engages in bird surveys, and has an active Birding Group that meets regularly to identify and monitor bird in this area. The Trumpeter Swan count, and water bird surveys are avenues to be engaged in initiatives that monitor birds in this area.

Karsts

By Sharon Niscak

Karsts are formed from the dissolution of soluble rocks such as limestone, dolomite, and gypsum. The karst landscape is characterized by underground drainage systems with sinkholes and caves.

The role and importance of karsts in the ecosystem is a topic of interest to all who are concerned with climate change, the long term effects of resource extraction, and urban and rural impacts and contamination of ecosystems. It is noted that karst systems are fed by surface waters with minimal filtration. This is of concern in our forests when the surface substrates such as moss are disturbed because of resource extraction and industrial pursuits. Disturbing precious water cycles and karst systems has lasting effects on karst-dwelling species that rely upon karsts for survival. Aquifers also may be negatively impacted. With prolonged droughts and torrential floods, aquifer and karst system research is an imperative to understand and mitigate adverse effects.

The impact on karst regions is of both urban and rural environmental concern. Destabilization of the equilibrium between surface and underground karst components can cause sinkhole collapse, and contamination of vulnerable groundwater supplies. Urban pollution by sewage, paved areas, industrial chemicals, contaminated waste disposal, and garbage landfills is also of concern. In rural areas, pesticides, herbicides, feedlots, and intensive agricultural waste are sources of contamination. Destabilization by road and airport construction, intensive farming, and urbanization impact karst and aquifer systems.

Scientists are also concerned about nuclear waste contamination. This may be from spills, radioactive gases, liquids, or particles, including the radionuclides used in medicine. The fact that urban areas seek rural dump sites such as the toxic waste site above Shawnigan Lake highlights the need to understand our karst systems and the dynamics of water recycling.

A study investigating forest regeneration and the impacts of deforestation on the limestone slopes concluded that considerable loss of soil occurs after clearcutting and deliberate burning (Ford & Harding 1993)¹. In this northern Vancouver Island study, the recovery was slow, and steeper slopes remained barren. This indicates that both surface and karst underground systems are impacted by logging fragile areas.



River pool formed by dissolution of rock.

Photo by Sharon Niscak

In the current issue of *Sierra Life*, researcher Charly Caproff explains the importance of karst in the health of old-growth ecosystems with a research focus in the Walbran Valley.² Caproff notes that the pH of karst waters “ranges between 6.5 and 8.9 due to the neutralization reactions of slightly acidic rainwater”. Dissolved minerals, coupled with other factors such as temperature moderation and nutrient recycling, contribute to the unique characteristics of karst water. Field observations suggest that old-growth trees growing on karst substrates are larger and healthier than the trees on adjacent non-karst areas.

It is also interesting to note that in Alaska, fish bearing streams fed by karsts are 8 to 10 times more productive than non-karst-fed streams. This may be attributed to temperature moderation and nutrient richness (Caproff 2016).

Karst caves and water also plays a significant role in the aboriginal culture. Water from karst springs is thought to have special properties. Karst caves were also used for shelter and for ceremonial and burial by some Aboriginal Peoples. Karsts play an important part in our ancient history, and it is up to us to respect these marvelous karst systems.

The next time that I explore the Trent and Puntledge River bowls I will be thinking of the underground karsts that lie beneath our feet, and how nutrient and water recycling contributes to a healthy ecosystem. As an introduction to fascinating karst systems, may I suggest *Living with Karst: A Fragile Foundation* (Veni et al. 2001)³.

1. Charly Caproff. 2016. “Karst in the Walbran: From Magical Mineral Baths to Tolkien Giants”. *Sierra Life*.

2. K.A. Harding and D.C. Ford. 1993. “Impacts of primary deforestation upon limestone slopes in northern Vancouver Island, British Columbia”. *Environmental Geology* 21(3): 137-143.

3. George Veni et al. 2001. *Living with Karst: A Fragile Foundation*. American Geological Institute.
<https://www.agiweb.org/environment/publications/karst.pdf>.

Help Save CVNS History

Steph Nathan has a request for all CVN members: “The history of the CVN society is getting misplaced and lost, so I’m hoping we can at least catalogue some of it. I would like to figure out how many certificates, plaques, awards, and other framed pieces that our members have received on behalf of Comox Valley Naturalists’ projects and programs.”

Steph plans to collect, examine, photograph, and catalogue each piece to preserve them and so they can be displayed in the community. She would also like your help to identify public venues in the community where we can display these treasures on a rotating basis.

If you have CVN memorabilia or know the whereabouts of any pieces, please contact her at 250-334-7701 or Steph_N@shaw.ca.

BC’s Magic LNG Realism

By Loys Maingon

[This article first appeared in the summer issue of the *Bulletin of the Canadian Society of Environmental Biology*.]

As we enter summer, possibly the most significant science news have been the renewed and more extensive coral bleaching of the Great Barrier reef,¹ and the release of an unusual 52-page paper in *Atmospheric Chemistry and Physics*, entitled “Ice melt, sea level rise and superstorms: evidence from paleoclimate data, climate modeling and modern observations that 2°C global warming could be dangerous.”² These considerations, together with the recently observed unprecedented storms in Australia, and the extent and rate of their impacts on the shoreline, should give us all cause to pause and reflect about where we will be headed by 2050. I would hope that for most of us, especially scientists, both the ongoing events and the rigor of the climate research done to date may be of some concern.

Events in eastern Australia and at the poles may seem far removed from us, but ultimately they are part of a global reality that shapes our economies and our cultures.

The recent cycle of bleaching of coral at the Great Barrier Reef which is increasingly devastating about two thirds of this unique complex ecosystem has come as a surprise only to researchers who have not placed this ecosystem’s future in the context of climate change

trends. This phenomenon is not just about the UNESCO-protected Great Barrier Reef, a designated World Heritage Site which has for good reasons caught public attention. It is a global phenomenon which is affecting 93% of coral reefs whose total productivity supports half a billion people on this planet.³ So in many ways, the world’s coral reefs are our canaries in the coal mine, they are our touchstone to the one reality that we all have in common: the state of the planet.

The current collapse of the Great Barrier Reef is simply in keeping with modeling work published 2 years ago in *Nature*.⁴ As the authors of that article already pointed out in 2013:

Mass coral bleaching events have become a widespread phenomenon causing serious concerns with regard to the survival of corals. Triggered by high ocean temperatures, bleaching events are projected to increase in frequency and intensity. Here, we provide a comprehensive global study of coral bleaching in terms of global mean temperature change, based on an extended set of emissions scenarios and models. We show that preserving >10% of coral reefs worldwide would require limiting warming to below 1.5°C (atmosphere-ocean general circulation models (AOGCMs) range: 1.3–1.8°C) relative to pre-industrial levels.

The conclusions of that research should be a reminder that, whatever the limitations of mathematical models, the scenarios they have modeled have so far confirmed a fairly accurate approximation of our currently developing climate-change reality.

The implications of the two basic points concerning the limits of modeling and the impact of climate change on oceans made in 2013 study are also reiterated and reinforced by the March 2016 article “Ice melt, sea level rise and superstorms.” In this peer-reviewed article, Hansen’s team make the point that, as is observed with increasing frequency, the models are extremely conservative. These same conservative estimates on which we based the urgency of the Paris COP21 climate change agreement have so far greatly under-estimated the rate of increase in temperatures, ocean rises and storm intensity.

Hansen et al. propose that the models have not taken into account the impact of melting fresh water feedbacks at the poles and the ocean-warming mechanisms they drive. They argue that climate models do not factor in ice-sheet melting and its feedbacks. The rate of outflow at both Antarctica and Greenland create cold water lenses which increase and trap upwelling warm water. This in turn increases polar ice melting rates. Ice melt impacts are therefore exponential – they are not gradual – and therefore represent a major source of accelerated

global disturbances. Paleo-climate data show that ice sheet melting has always been extremely rapid and resulted in sudden gradient shifts and altered ecological states. In “the real world,” gradual transitions, which politicians seem to expect to be driven by economic policy, are a rare luxury.

“The real world,” as the current environmental state of affairs that has made possible the world as we know it today – the world of ecosystem services that has given us our current population carrying capacity and relative prosperity – is therefore far more sensitive to ice melt than our climate models suggest. It doesn’t matter where you live, if Greenland and Antarctic ice melts more quickly than expected, we should expect a much higher rate of ocean level increase this century than the models have predicted.

A.C.S.

COMPUTER SOLUTIONS

**Personalized service for
all your computer needs**

#7-2663 Kilpatrick
Courtenay, BC V9N 7C8
250-334-2000
info@acscomputersolutions.com
www.acscomputersolutions.com



Mention this ad for
50% off a full tune-up
(Reg. \$89.95)

Hansen et al. argue that ice-melt is probably already beginning to affect the ocean circulating system. The key point is that current models suggest a rise of 1m by 2100. If Hansen’s hypothesis is correct, multi-meter rise in ocean levels and increase in “superstorms” should be expected in a matter of decades: “Doubling times of 10, 20 or 40 years yield multi-meter sea level rise in about 50, 100 or 200 years.”⁵ While we are not yet at a point of no return, we have substantial reasons to accelerate the move away from a fossil fuel economy, if we want to reach sustainable targets. The paper states:

If the ocean continues to accumulate heat and increase melting of marine-terminating ice shelves of Antarctica and Greenland, a point will be reached at which it is impossible to avoid large-scale ice sheet disintegration with sea level rise of at least several meters.... The economic and social cost of losing functionality of all coastal cities is practically incalculable.”⁶

And that leads Hansen to conclude the obvious, and lay out exactly what the ethical obligations of scientists are:

If scientists don’t say it then politicians will tell you what’s needed and that will be based upon politics rather than

science. I don’t see any reason to not make the whole story clear, or to draw a line and say ‘I’m not going to step beyond this.’⁶

However, BC – perhaps more than most of Canada – continues to live in a bizarre form of alternate reality within which climate change considerations are made to reassure the public which now inevitably witnesses climate change impacts almost monthly, while no actual action (if any) is taken to address a developing problem that is deeply anchored in reality. While Hansen and his colleagues distinguish between the reality of the climate models and “the real world,” most of our governments do not. The political “real world” seems strictly based on expediency, short-term economic returns, and dubious economic models. The environment continues to be a concept to be paid lip service to, as the exploitation of “resources” continues to be the economic priority.

Mary Polak, BC’s Minister of Environment, recently demonstrated the degree of contempt in which she holds the scientific community, and shortly thereafter treated the international stage to a demonstration of BC’s “world-class climate leadership.”

Although a series of excellent reports have pointed out that the continued accelerated development of fossil fuels is inconsistent with COP21 targets, and will in fact cause us to continue to exceed our targets, BC’s government continues to claim that the promotion of oil and gas infrastructure and the development of LNG which has no known market should be the centerpiece of climate change strategy.⁷ That BC’s LNG and continued oil and gas development are contrary to BC’s environmental and climate change interests has been sufficiently clear to 90 leading climate scientists who signed a letter to that effect directed to Catherine McKenna, the federal Minister of Environment and Climate Change, stating clearly that:

[the] project would add between 18.5 and 22.5% to British Columbia’s (BC) total GHG emissions. This would make it virtually impossible for BC to meet its GHG emission reduction targets, and would undermine Canada’s international climate change commitments.⁸

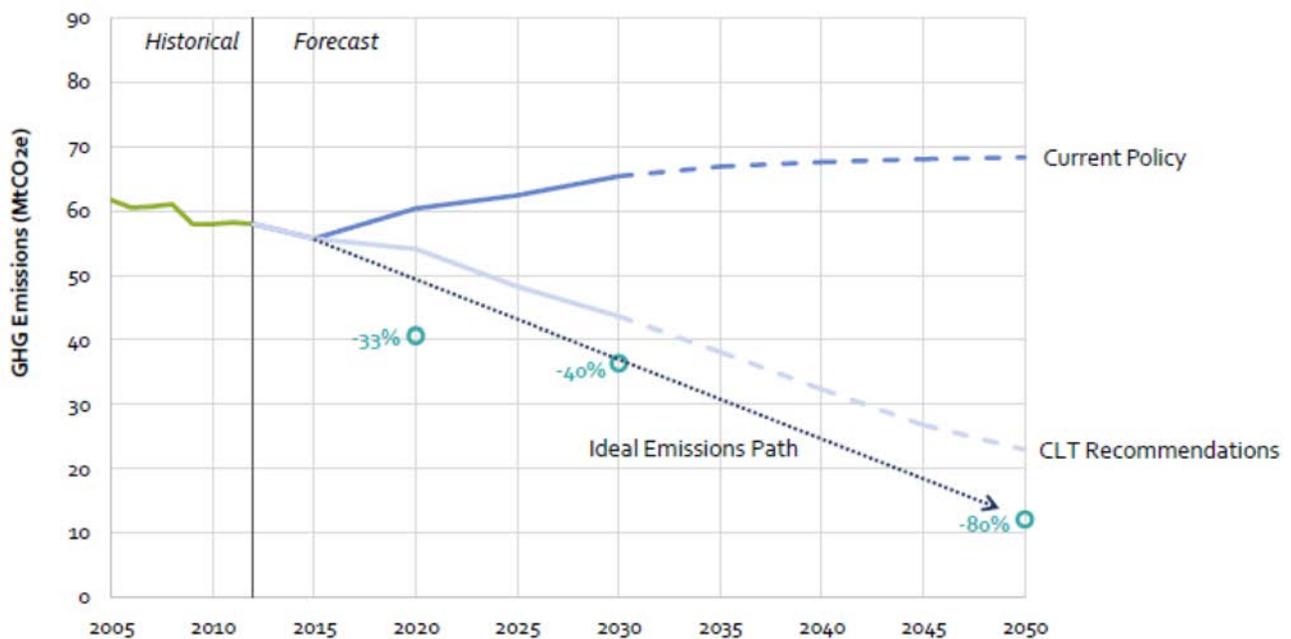
The reaction of BC’s Minister of the Environment was to denigrate the concern of these scientists by explaining to the public that: “*Their assumption from the beginning doesn’t meet with reality.*”⁹ Following what is now common practice, the minister made futuristic claims that LNG was the “transition” fuel that would replace coal around the world and new technology would be developed to reduce impacts. In hearing these assertions made by the minister, the public assumes that BC’s government has a consistent and progressive climate

change policy. Indeed, the province’s often heard claims of being an international “climate leader” were repeated a few days later by the minister and the premier at the signing of Pacific North America Climate Agreement in San Francisco.¹⁰ The political reality is otherwise, as noted by Andrew Weaver, who has correctly pointed out that BC is a “climate laggard.”¹¹

In 2015 BC’s government appointed a “Climate Change Leadership Team” consisting largely and almost exclusively of well- known government supporters. In late October the team produced the rosy report tasked to build all assumptions around and supporting the government’s LNG strategy and consisting of 32 recommendations.¹¹ As the figure below shows, even supporters of the current government have to admit that while the Campbell government took early baby steps to develop progressive climate policies in 2005, the Clark government has since 2011 dismantled those policies and the institutions that supported them, and has taken a radically contrary direction.

Furthermore, the government has shut down programs that facilitated and financed “transitions”, such as the Pacific Carbon Trust. Although BC touts its reputation as being one of the first to institute a carbon tax, the tax was halted as of 2011 and is now only a vestige. The BC Hydro “Live Smart” program that supported households has been eradicated. Even cap-and-trade enabling legislation has been repealed to make life easier for big source emitters. In Weaver’s words: “*We have a new Greenhouse Gas Industrial Reporting and Control Act that introduces an “emissions intensity” framework that is more about supporting an LNG industry than limiting emissions.*”¹²

In this light it should be increasingly obvious that the LNG reality alluded to by Minister Polak is largely at odds with the reality that drove 90 scientists to direct a letter to the federal Minister of Environment. While the minister’s words seem to magically conjure a world where one can “grow the economy” without consequences for nature and the planet, the magic



BC Climate Leadership Team Report, “Greenhouse Gas Emissions Forecast” page 26.

As Andrew Weaver has pointed out, BC has consistently failed to meet its GHG emissions targets, will not meet the 2020 target, and is currently the 3rd largest polluter in Canada. Current government policy has also amended The Clean Energy Act to exclude emissions from liquefaction in the LNG industry, and thereby improve the image, not the reality of GHG accounting.

quickly yields to scientific pragmatism. The distant, seemingly unimportant events in Australia, Antarctica or Greenland are sufficiently removed to have an unsettling air of unreality, but they are essential to our daily existence.

That is largely the context for the current environmental concern of a large number of BC residents who have come to distrust the provincial and federal governments’

pronouncements and their relation to the National Energy Board, all of which seem to favour short-term pro-business priorities. Perhaps it is the proximity to the ocean and its impact on our climate, but a sense of the long-term impact of oil and gas development is a growing concern in BC. Ironically, in a province where the government gives little support to alternatives, there is a growing interest in developing alternatives that comes with a growing and well-articulated rejection of the development of fossil fuel infrastructure, and which includes a rejection of an LNG economy. A substantial segment of the population understands that science's reality does not seem to give us the luxury of "transitioning" as we should have 40 years ago, when science first made the problem and its implications clear to us.

That rejection has become the focus of the concerns expressed by municipalities in the Fraser Valley and by First Nations, in which Mayor Gregor Robertson has taken the lead. In many ways this is not surprising. At the COP21 Paris conference, Justin Trudeau drew heavily on Mayor Robertson's well-known environmentally progressive image, to bolster his own credibility. The problem now lies in how ready we are to acknowledge the reality of the problems posed by climate change, and the extent to which we realize that we live in an increasingly highly connected world, where chaos is indeed on the wing of a butterfly.

The problem put to us in Hansen et al.'s paper, is essentially whether politicians are ready to acknowledge the urgency of our situation, and acknowledge that science must be boosted to be the basis of decision making.¹³

1. <https://www.theguardian.com/environment/2016/jun/07/the-great-barrier-reef-a-catastrophe-laid-bare>
2. <https://www.theguardian.com/environment/planet-oz/2016/mar/24/has-veteran-climate-scientist-james-hansen-foretold-the-loss-of-all-coastal-cities-with-latest-study>; <http://www.atmos-chem-phys.net/16/3761/2016/>
3. <https://www.theguardian.com/environment/2016/jun/07/the-great-barrier-reef-a-catastrophe-laid-bare>
4. <http://www.nature.com/nclimate/journal/v3/n2/full/nclimate1674.html>
5. <http://www.atmos-chem-phys.net/16/3761/2016/>
6. <https://www.theguardian.com/science/2016/mar/22/sea-level-rise-james-hansen-climate-change-scientist>; <https://www.theguardian.com/environment/planet-oz/2016/mar/24/has-veteran-climate-scientist-james-hansen-foretold-the-loss-of-all-coastal-cities-with-latest-study>

7. <https://www.politicalternatives.ca/publications/reports/can-canada-expand-oil-and-gas-product-on-build-pipelines-and-keep-its-climate>; <https://www.politicalternatives.ca/publications/reports/can-canada-expand-oil-and-gas-product-on-build-pipelines-and-keep-its-climate>
8. http://media.wix.com/ugd/f85bab_86eaddc3c8f04f5f967f0a5ccb333cda.pdf
9. <http://www.cbc.ca/news/canada/british-colombia/polak-ling-letter-1.3608162>
10. <http://www.cbc.ca/news/canada/british-colombia/bc-pacific-north-america-climate-leadership-agreement-1.3612141>
11. http://engage.gov.bc.ca/climateleadership/files/2015/11/CLT-recommendations-to-government_Final.pdf
12. <http://www.andrewweavermla.ca/2016/06/02/british-colombia-moving-climate-leader-climate-aggard/>
13. <http://www.theguardian.com/australia-news/commentisfree/2016/jun/13/figure-things-we-can-do-right-now-to-save-the-great-barrier-reef>



Cowbird, Black Creek.

Photo: Charles Brandt



**We now sell
Art Supplies!**

BLUE HERON BOOKS

Birdwatching Books available
Nautical Charts for sale

1775 Comox Ave. 339-6111

Upcoming CVNS Activities

Volunteers to lead walks are heartily welcome. Please volunteer to be a guide.

General Instructions for Field Trip Participants:

- All walks are club events and reserved for members only, unless otherwise stated. Typically, one walk each month is opened to the public.
- Car-pool at the Old Church Theatre, 755 Harmston Avenue in Courtenay, or meet guides at trail heads, unless otherwise announced. Arrive at the meeting area 10 minutes prior to the appointed time.
- Wear clothing and footwear suitable for the conditions.
- Bring water and a snack.
- No dogs please.
- Share travelling expenses when car-pooling.

Schedule

This schedule is subject to change. Please check the website and watch for e-mails.

Saturday, June 25: (Public Walk) Aquatic ecology at Cumberland Marsh (with Cumberland Recreation), 9:00 AM- 12:00 PM. Meet at Jumbo's Cabin where there is a small parking area off Comox Lake Road. For access to the parking area, watch for the No. 1 Japanese Town site sign on Comox Lake Road. This walk is free for CVN members. A fee of \$8 will be charged by Cumberland Recreation to the general public.

Saturday July 2: Sutton Pass Ecological Reserve, Port Alberni. Meet at Harmston at 8:30AM for car pooling. Bring a packed lunch. See http://www.env.gov.bc.ca/bcparks/eco_reserve/sutton_er.html#Location.

Saturday, July 9: Wood Mountain hike. Forbidden Plateau. Meet at Harmston at 9:00AM. See <http://islandmountainrides.com/riding-regions/forbidden-plateau>.

Saturday, July 16: Allen Lake hike. Cumberland Forest. Meet at Harmston at 9:00AM. See http://beautifulcomoxvalley.blogspot.ca/2012/10/allen-lake-cumberland_9.html.

Saturday, July 23: Battleship Lake and Lady Lake, Mount Washington. Meet at the parking lot at 9:00AM at the bottom of Strathcona Parkway, just off the Inland Highway.

Saturday, July 30: (Public Walk). Vanier Park. Meet at the Recreation Centre parking lot at 9:00AM.

Saturday, August 6: McKenzie Lake. Meet to car pool at the parking lot at the bottom of Strathcona Parkway, just off the Inland Highway at 9:00AM.

Saturday, August 13: Upper Trent River, Inland from the Island Highway bridge. Meet at Harmston at 9:00AM to car pool.

Saturday, August 20: Nile Creek. Meet at Harmston at 9:00AM to car pool.

Saturday, August 27: Rosewall Creek. Meet at Harmston at 9:00AM to car pool.

Sunday, September 4: (Public Walk) Pub-to-pub walk at Oyster River/Salmon Point. Meet at 10:00AM at the Courtenay Country Market on the Old Highway (19A), across from the Golf Course just north of Courtenay or at 10:30AM at Oyster River Regional Park. Sunday brunch/lunch at Salmon Point Restaurant.

Reminder for Field Trip Leaders

All field trip participants who are non-members must sign the waiver recognizing that there are risks inherent in all outdoor activities.

About the Society

Website

comoxvalleynaturalists.bc.ca

General E-mail Address

coordinator@comoxvalleynaturalists.bc.ca

Mailing Address

Comox Valley Naturalists Society
Box 3222
Courtenay BC
V9N 5N4

Board of Directors

President: Jim Boulter
(coordinator@comoxvalleynaturalists.bc.ca)

Past President: Loys Maingon

Vice-President: Jarrett Krentzel

Secretary: Gabriel Baubaiges

Treasurer: Isabella Erni (TreasurerCVNS@gmail.com)

FBCN Director: Sharon Niscak

Group Leaders and Other Volunteers

Birding: David Robinson

Botany: Karin Franzen, Alison Maingon

Families Group: Jocie Brooks, Jarrett Krentzel

Conservation: Loys Maingon

Photography: Terry Thormin

Wetland Restoration: Murray Little

Comox Valley Environmental Council liaison: Jarrett Krentzel

Comox Valley Conservation Strategy liaison: Murray Little

Membership Secretary: Maris Ratel

Speakers: Loys Maingon

Trip Planning: Joyce Bainbridge

Web Administrator: Krista Kaptein

Newsletter Advertising: Kathie Woodley

Newsletter Editors: Sharon Niscak, David Orford

Constitution

Available in PDF form on this web page:
<http://comoxvalleynaturalists.bc.ca/about-us/>

Membership

One adult: \$30; Family: \$40;

Junior (12-17): \$10; Student (18-22): \$15

Mail cheque (payable to Comox Valley Nature) to:
 CVNS Membership Secretary
 314 Aitken Street
 Comox BC
 V9M 1N4

Receipts are provided at meetings, or include a self-addressed stamped envelope.

Membership fee is due January 1. If not paid by March 30, names are removed from the CVNS and BC Nature lists. New memberships started after September include the following full calendar year.

Change of address, phone number or e-mail: 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 Soroptimist Lounge, Courtenay. For information, contact David Robinson.

Botany meetings: Second Monday of the month at a member's home, 12:00 p.m. An e-mail 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, contact Karin Franzen or Alison Maingon.

Newsletter

The newsletter is published 3 times per year (March, June, and November). It is e-mailed to members, and is also available at the monthly meetings. If you wish to receive printed copies by Canada Post, the fee is \$5.00 per year.

The newsletter depends on your contributions. Please consider contributing an article or note on any topic of general interest to other members—for example: natural history, conservation activities, trips, or unusual sightings. You can send your contribution by e-mail to newsletter@comoxvalleynaturalists.bc.ca.

We would appreciate receiving articles by the first day of the publication month.

All articles are subject to editing for grammar, spelling, length, and readability.