

BCTOX

BC Toxicology News Monthly Bulletin

Monthly / Vol. 2 / No. 6

June - 2017

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BC Toxicology Pictures of the Month



Drinking water problems in White Rock

White Rock residents were looking for answers to dirty (discolored) water. [Related issues; --- To treat water, pipes have to be flushed in order to remove some of the built-up sediment.--- Water quality is meeting Health Canada standards in general though. --- A new water treatment plant is scheduled to be completed in 2019]. 2017-06-14 [Peace Arch New](#) [Photo's date/place were not given]



Milk Recalled from B.C.

Milk recalled from B.C. (11 products) and from Vancouver Island (8 product) (Photo adopted from the Times colonist). After 'Harmful Extraneous Material' Discovered. Photos of some of the milk products that are being recalled. Recalled products should be thrown out or returned to the store where they were purchased (2017-06-15) [Times colonist](#)



About Us



Aims and Scope:

BC Toxicology News Monthly Bulletin (BCTOX) aims to popularise the knowledge of toxicology and expand use and the awareness of Toxicology News in British Columbia, Canada. It tries to engage health and environmental professionals with online published toxicology news, publicly available information, and by providing short communications. BCTOX mainly focuses on adapting or summarizing relevant toxicology news in BC. The Bulletin accepts and welcomes contributions from professionals and the public as long as they meet BCTOX standards.

This bulletin is not official and for the most parts is not peer-reviewed. It does not cover all the news, and is not responsible for the accuracy of the news from media. It is, however, BC related, informative, handpicked and fun to read. The provided contents are not necessarily BCTOX's views.

How to access the original news items? If you click on the link related to each one of the provided stories, it will take you to the original site of the news.

Publication Frequency: BCTOX is published monthly in English by Reza Afshari.

Provided information in [GRAY](#) is not related to the current issue, but could be of interest.

ISSN: 2560-645X

Policies:

Open Access Policy: This bulletin provides open access to all its content.

Fee: BCTOX is free-of-charge for readers and contributors.

Copyright Statement

BCTOX's content is currently prepared by Reza Afshari. The bulletin retains the copyright of their articles and will be able to archive pre-print, post-print, and publisher's versions.

Archiving. Digital Archiving: In addition to indexing database this Bulletin utilizes digital archive as well as hard copies to guarantee long-term preservation and restoration.

Publication Ethics

This bulletin follows International Committee of Medical Journal Editors (ICMJE)'s Recommendations. Authors (i) must declare any conflict of interest in a given manuscript, and we utilize COPE workflow to transparently handle it, (ii) follow ICMJE definition of author and contribution, and (iii) accept the ethical policy including regulation and malpractice statement.

Guide for Authors

From June 2017 (BCTOX 2017 2(6)) we publish original research, mini reviews, short communications, letters, case reports, and case series as long as they are limited to 400 words and the content is British Columbia related. These publications are peer reviewed.

References

References should be given in the Vancouver style and numbered consecutively in the order which they are first mentioned in the text. Citation in the text should be in line with text in parenthesis with Arabic numbering style.

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To contribute to the next issues, provide your opinion or report a mistake, please email us, your Feedback is greatly appreciated.

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New subscribers would be added to the mailing list upon their request.

If this bulletin is not of interest to you, let us know please so we do not to fill up your mailbox in future.

Major toxicological news in June

- 129 opioid overdose deaths in BC
- 19 milk products recalled in BC after harmful extraneous Heavy metals [?] found
- Drinking water quality in White Rock

Toxicology news in this month was focused on Fentanyl overdose followed by food recall and drinking water quality.

Housekeeping notices

A summary of all toxicology news is also provided in the third and fourth pages of each issue.

Summary of the Toxicology News in BC June 2017

Reza Afshari*, Environmental Health Services, BC Centre for Disease Control, BC. Reza.Afshari@bccdc.ca [Editorial Accepted 2017-06-30]

Housekeeping notices BCTOX has been modified from this issue (BCTOX 2017 June 2(6)). It is now accepting 400 words educational material, commentaries, and research abstracts (with data) as long as they are within the scope of the bulletin and meets our standards. We are going to publish up to four short [but not full papers] abstracts in each issue. This section of the journal is peer reviewed. From this issue, we will also have a section for **health authorities** to focus on more local news below the provincial level. More information is available in *Guide for Authors'* section. Any additional information could be obtained by direct communication with BCTOX's office.

Mode of news Similar to previous months, BC toxicology news in June was dominated by fentanyl overdoses and deaths. However, food recalls, quality of drinking water, and animal poisoning received higher attention.

Opioid (fentanyl) overdose crisis In May (last update), 129 cases died as a result of opioid overdoses in BC, which is almost three times higher as compared to the same month last year; however, it is 5% less than April 2017. The pattern of overdose deaths suggests that the sharp increase in deaths has reached a plateau, if not decreased, in recent months. Northern Health is the only health authority reporting a reduction in the number of deaths so far in 2017.

More political will was requested regarding the fentanyl crisis. "Overdose crisis" was presented as "our Ebola"; health policy makers were asking for more resources to be shifted towards opioid overdose crisis similar to what happened with Ebola.

According to media reports, the strategies that worked on dealing with opioid overdose crisis so far included (i) substitution treatments, (ii) providing safer drugs similar to the Crosstown heroin program [Crosstown is the first health-care facility in North America to administer hydromorphone and prescription heroin outside of a clinical trial], (iii) more patient or client-centered approach, (iv) supervised injection sites (Health Canada approved to open three more in Metro Vancouver), and (v) avoiding guilt, shame and cutting off pain medication.

VCH has developed a website for known or suspected contaminated drugs to be reported and circulating in the community, by filing a "bad dope" report www.vch.ca/overdose.

Marijuana was suggested as a less dangerous alternative for people who are struggling with chronic pain. Legalizing cannabis and opioid use are separate issues.

It was reported that nineteen teenagers have died of overdoses since January 2016 in BC and concerns have risen that teenage drug use may rise soon with year-end parties and summer concerts. Parents were asked to talk to kids about fentanyl before graduation season, and be frank, open, and non-judgmental.

Evidence emerged in June that increases in the number of healthy human organs donated for transplant is correlated with the increase in opioid overdose deaths. Currently 25% of transplanted organs in BC are donated by fentanyl overdose victims.

It was reported that 9 in 10 illicit drug overdose deaths occurred indoors, including more than half in private residences. *This should be focused within future strategic planning.*

Following the BC election, the proposed new Ministry of Mental Health and Addictions by both the BC NDP and the BC Greens received more attention in June. Caution and more thoughts were urged by health professionals to focus on *potential difficulties of splitting apart ministerial responsibilities and staffing.*

Alcohol City will allow grocers to have liquor stores within their stores, but not to put BC wine on their store shelves (access will increase to a limited extent). Hospital admissions due to alcohol abuse were the highest in BC amongst other provinces in 2015-16.

Food In this month, 19 milk products were recalled in BC after harmful extraneous material [heavy metals?] discovered.

Media reported cases who claimed they became sick after drinking recalled milk products. One case reported pain and cramps in her stomach, diarrhea and noticed blood in her stool. Currently RCMP is investigating a Quebec-based dairy regarding the recall.

"Toxicological" related food recalls in BC in June included milk, yogurt, corn chips, meatballs and spaghetti, chow Mein noodle, beef tendon balls and coconut rolls. Main reasons for food recalls in this month were harmful extraneous material including pieces of plastics and sharp metal objects, and allergens including undeclared egg, milk and mustard.

BCTOX reports that *Amanita muscaria*, *Amanita pantherina*, *Amanita phalloides* and *Amanita smithiana* are the most common *poisons mushrooms* in BC.

It was reported that laundry pod warning now includes adults with dementia in BC [as well as children].

Air Average temperature in June increased by more than 2.7°C. Air pollution (particulate matters (PM 2.5 and PM 10), CO, NO₂, O₃ and SO₂ were within acceptable limits in Vancouver.

BCTOX highlights a report from 2011 in which the apparent temperature in winter and elderly population mortality in Metro Vancouver were correlated.

Media reported that air pollution kills 7,000 Canadians every year, and cost the Canadian economy up to \$36 billion in 2015.

Water Quality of water in White Rock was popular among the news in June. Samples of dirty water were presented by the activities.

Related issues including flushing the pipes for treatment (to remove some of the built-up sediment) and standards of the quality of drinking water and completion of a new water treatment plant in 2019 were discussed.

The BC Ministry of Environment was ordered to disclose information related to a polluted drinking-water aquifer in the North Okanagan Valley near the city of Armstrong.

BCTOX reports an old outbreak of *copper poisoning* from standing water in pipes in school-age children in 2005 in BC.

The village of Zeballos won BC's best tap water taste prize of the year!



Marine bio toxins Domoic acid was not detected in any samples in March 2017; however, few positive samples were reported in April and May. The highest reported samples this year are related to early June. None of these samples were above the regulatory toxicology threshold in 2017.

Saxitoxin, in very high levels above regulatory limits, have been reported in 2017 and intensified in May and June.

[Reports show that the numbers of dead seabirds are increasing in southern California, which is blamed on Domoic acid.]

Soil In June, Supreme Court of Canada dismisses Shawnigan Lake soil dumping appeal and new soil dumping bylaw proposed in Cowichan Valley Regional District.

Wildfire The overall area burned in the province in 2017 fiscal year is 1,628 Ha. (up to 29th of June) (relatively low). Almost half of the total forest area burned (Ha.) in the current fiscal year in BC occurred in Prince George. As the temperatures climbed to record highs across the province in one weekend in June, the number of wildfires burning around B.C. increased.

Wildfire Averages from 2006 to 2016; mean (min - max) total fires was 1844 (653 (2011) - 3064 (2009)), total Hectares 154944 (12604 (2011) - 369 (2014)) and total cost 182 (54 (2011) - 297 (2014)) millions \$.

Historically, 39% of wildfire incidents in BC are caused by people and 61% by lightning.

Occupational Strict health and safety protocol requirements for asbestos exposure while working in older buildings was discussed in the media.

Starting this Summer, WorkSafe BC will be going through Prince George schools and facilities to look for signs of asbestos. The agency is enforcing all districts to create and conduct an Asbestos Management Plan in time for the 2018-19 year.

City of Powell River halts Olive Devaud renovations. Stop-work order issued for future international school student residences [asbestos].

Spills Flooding and contamination in Okanagan led to posting a "contamination event". Later algae bloom was added to raw sewage in northern arm of Okanagan Lake.

Spills including an estimated 3,000 litres of jet fuel were spilled onto the highway near Kennedy Lake (rain complicates containing process).

According to the reports, the deadline for investigation on Mount Polley tailings spill tragedy with a three-year time limit to lay charges under BC's Environmental Management Act is due in two months.

Animal high exposure In June, (i) *fentanyl* overdose in a dog was reported in Maple Ridge.

(ii) Doctor shopping with pets to get fentanyl and hydromorphone received attention. Apparently, there's no limitation on the drugs that veterinarians can write a script for in the province. *If this is*

true, this is an important issue and should be urgently addressed.

(iii) The deaths of eagles in Delta were blamed on lead toxicity (i.e. ingesting of lead from the bodies of smaller birds that have been wounded by the lead shot).

--- Floods this year keep regional district mosquito control team especially busy [insecticide use would increase].

Research articles It is shown that young people perceive take home naloxone training as a positive experience in BC, and their understandings, experiences and engagements with harm reduction is different and the existing infrastructure is limited. It was also concluded that to reduce harms, it is imperative to reorient attention toward the social, structural, and spatial contexts that surround injection drug use.

It was argued that the current safety standards for glyphosate-based herbicides should be reassessed. Authors reported that Use of glyphosate-based herbicides (GBHs) increased ≈ 100 -fold from 1974 to 2014.

In another article, investigators suggested European immigrants and African and Asian immigrants to Canada should be studied independently in environmental health studies, as genetics and the environmental exposure in these two populations are different.

References of this summary are given in each table separately.

SOLA DOSIS FACIT VENENUM

Only the dose makes the poison!

Paracelsus (1493 – 154 CE)

Articles

Copper Poisoning from Standing Water in Pipes Caused over 30 Illnesses in School-Age Children in 2005 in BC

Lorraine McIntyre*, Environmental Health Services, BC Centre for Disease Control, BC. *Lorraine.McIntyre@bccdc.ca [Original; Accepted 2017-06-26.]

Reconstituted chicken noodle soup sickened 30 children and 2 adults in a Maple Ridge school in April 2005.

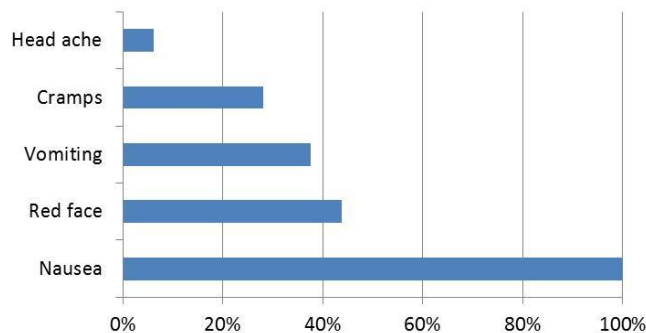
Illnesses occurred within 5 to 15 minutes of ingesting the soup. The median age of the children was 9 years.

Symptoms in the ill children included nausea (100%), red-face (44%), vomiting (38%), cramps (28%) and headache (6%) (Figure). Vomitus submitted for testing was negative for routine foodborne pathogens, but had a noticeable blue-green colour when received at the BCCDC food poisoning laboratory. Testing at a Canadian Food Inspection Agency laboratory revealed a very high level of copper (48 ppm) in the reconstituted soup remnants. Unopened soup cans from the same batch had no detectable levels of copper. Water samples taken from the building after flushing were also satisfactory (negative) for copper.

The soup was made in an old building that was rarely used, and was not a food premises. The condensed soup was emptied into a large pot, and water was added prior to the soup being mixed and heated in the premises. Serving size portions were ladled into Styrofoam containers, then packed into a box for transport to the school classroom. The working theory was that water in the pipes was left standing for a prolonged period of time, allowing copper to leach out from the pipes. When using water as a food ingredient, it is always advisable to flush out old standing water before use. This advice is also relevant in schools with water fountains that may be prone to metal issues from older pipes and corrosive water.¹

The short incubation period of these illnesses (less than 15 minutes) and blue-green colour of the vomitus were immediately suggestive of heavy metal exposure to copper. Copper poisoning symptom onsets vary, usually developing in less than one hour but can begin up to 8 hours post-ingestion.² In this outbreak a very high level of copper in the soup remnants confirmed the diagnosis. Other metals that arise from either standing water or foods stored in metallic containers with a similar symptom onset include antimony, tin, and zinc.² Typical of copper exposures, no diarrhea occurred in the children, a symptom often reported in zinc and tin metal exposures. Metal exposure illnesses are self-limiting requiring only supportive care.²

Symptoms in 30 children during a foodborne copper exposure



References:

¹ Barn, P., Nicol, A.-M. et al, 2014. Investigating elevated copper and lead levels in school drinking water. http://www.ccncse.ca/sites/default/files/Investigating-elevated-copper-lead-levels_Barn-2014.pdf

² Anderson Jr, E. Ratcliffe, et al. Diagnosis and Management of Foodborne Illnesses. 2004. <https://www.cdc.gov/mmwr/preview/mmwrhtml/rr5304a1.htm>

Population Mortality Attributed to Low Ambient Air Temperature in Vancouver

Goran Krstić*, Health Protection, Environmental Health Services, Fraser Health Authority, BC. *Goran.Krstic@fraserhealth.ca [Commentary; Accepted 2017-06-06.]

We previously (2011) reported that apparent temperature and elderly population mortality in Metro Vancouver, BC are correlated (Figure)¹. Temperature-attributable mortality rates appear to peak in cold season and remain statistically significant after adjusting for the effects of air pollution and other confounding factors.

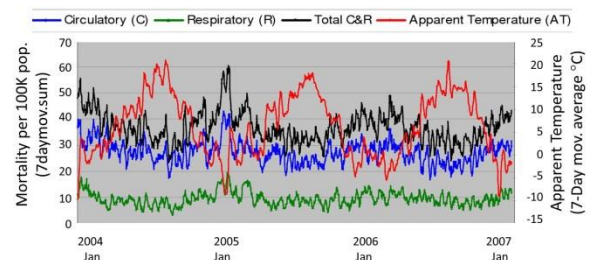
These results are in agreement with a World Health Organization's report on climate change and human health² and a recent comprehensive worldwide study of population mortality versus ambient air temperature in which all-cause mortality was primarily attributed to moderate and extreme cold temperatures^{3,4}.

These studies indicate that "milder winters would reduce the seasonal winter-time peak in deaths that occurs in temperate countries" and that a projected decrease in winter mortality due to milder winter temperatures may compensate for increases in summer mortality due to the increased frequency of heat-waves, particularly in countries with a high level of excess winter mortality, where "the beneficial impact may outweigh the detrimental"².

Therefore, in a changing climate, the priorities in health protection and improvement in health outcomes should be set in accordance with available epidemiological evidence, which suggests that potential population health impacts are expected from the projected high- and particularly from the low-ambient air temperature extremes.

Low temperature and death rates from all causes and from chronic bronchitis, pneumonia, ischaemic heart disease and cerebrovascular disease have shown to be related. Further modeling is needed to predict the extent of impact of climate change on different diseases.

The mild winter effect is the opposite of increased death rates from heat waves during summers.



References:

1. Krstić, G. Apparent temperature and air pollution vs. elderly population mortality in Metro Vancouver. *PLoS ONE* 2011 6(9): e25101.

2. McMichael, A.J., Campbell-Lendrum, D.H., Corvalán, C.F., et al. 2003. Climate change and human health: risks and responses. World Health Organization (WHO), Geneva, Switzerland.

3. Gasparrini, A., Guo, Y., Hashizume, M. et al. Mortality risk attributable to high and low ambient temperature: a multicountry observational study. *Lancet* 2015 386:369–75.

4. Dear, K., and Wang, Z. Climate and health: mortality attributable to heat and cold. *Lancet* 2015.386: 320-322.

Common Poisonous Amanita Mushrooms in BC

Paul Kroeger*, Vancouver Mycological Society, Vancouver, BC.
*kroeger.paul@gmail.com Short communication; Accepted 2017-06-26]

We are approaching summer and autumn in BC when people encounter a variety of wild mushrooms and may be exposed to poisonous species. *Amanita* mushrooms are notorious for causing poisonings in humans and animals. Four toxic *Amanita* species are common in British Columbia and they cause three distinct toxidromes:

Amanita muscaria and *A. pantherina* contain ibotenic acid and muscimol which cause central nervous system depression with inebriation and delirium. Trace amounts of muscarine are also present but are not toxicologically significant.

Amanita phalloides contain potentially deadly Amatoxins that damage or destroy the liver and kidneys

Amanita smithiana contains allenic norleucine and chlorocrotylglycine causing acute kidney damage that is not fatal but often results in extended debilitating illness.



Fly Agaric or *Amanita muscaria* (PK photos)

Fly Agaric is conspicuous, showy and familiar to most people as the classic toadstool, thus it's usually not eaten. It grows from the ground near both conifers and broadleaved trees and may be common and widespread in the late summer and autumn. It occurs in a variety of colour forms with almost white through yellow to orange to very dark red or even brown caps. Fly Agaric is rarely consumed in mistake for edible mushrooms but is intentionally ingested for its inebriating effect by some people. These people rarely come to medical attention.



Panther Mushroom or *Amanita pantherina* (PK photos)

Panther mushrooms have been the most frequent cause of mushroom poisoning in BC and the Pacific Northwest. A review of cases of poisoning by Panther mushrooms in BC reveals several incidents

of intentional ingestion seeking inebriation, many cases of incidental ingestion by toddlers or grazing pets, and many cases of adults mistaking it for an edible species. It should be noted that while a few people experiment with eating Fly Agarics and Panther Mushrooms for their inebriating effect, very few choose to use them again. *Amanita pantherina* has caused death when consumed by young puppies.



Death Cap or *Amanita phalloides* (PK photos)

Death Cap is the most dangerous mushroom, considered responsible for about 90% of mushroom fatalities around the world. It has spread rapidly since its introduction into the western coastal areas of North America. So far it has been found in BC primarily around the urban areas of Greater Vancouver and Greater Victoria growing with street trees or in park and institutional landscaping as well as on private properties. Trees with which it is associated in BC are European Beech, Hazelnut, Hornbeams, Lindens, English and red Oaks and Sweet chestnut. These are all non-native trees. Recently the death cap has been found associated with a native Garry Oak on Vancouver Island and may invade native habitats.



Smith's Amanita or *Amanita smithiana* (PK photos)

Smith's Amanita or *Amanita smithiana* causes serious but usually non-fatal poisoning with kidney failure when mistaken for the highly desired Pine Mushroom or *Tricholoma magnivelare*. It causes extended debilitating illness. It grows rooted deep in the ground near conifer trees in mature forests in late summer and fall, often solitary but may be locally numerous. *Amanita smithiana* is a medium sized to large striking white mushroom with a tall and robust stature, the stem is usually longer than the cap is wide but because the base is deeply rooted much of the stem may not be visible above the forest floor.

Reference: Benjamin, Denis R (1995) *Mushrooms: Poisons and Panaceas. A Handbook for Naturalists, Mycologists and Physicians.* ISBN 10: 0716726009 W.H. Freeman and Company.

Picture gallery of June



Click here for the picture
[Vancouver sun](#)

Flooding and contamination posting in Okanagan

Signs posted along Okanagan Indian Band properties after “contamination event”. Flooding. The signs recommend people and pets not come in contact with the waterfront or water. 2017-06-02 [INFONEWS VERNONMORNING STAR](#) (Photo from INFONEWS)



Click here for the picture [Vancouver sun](#)

asbestos found in older buildings

Now known to be a carcinogen, working with asbestos found in older buildings requires strict health and safety protocols. NICK PROCAYLO / 00045945A 2017-06-16 [Vancouver sun](#)

Picture from
[Chemical Processing](#)



Algae bloom, raw sewage in northern arm of Okanagan Lake

People advised not to go into or have any contact with the water, and the same goes for pets and livestock. 2017-06-26 [INFONEWS CBCNEWS Okanagan Indian Band/Facebook](#) (photo)



White Rock city's water

Top and above right, photos brought to Fraser Health Wednesday by White Rock resident Garry Wolgemuth (holding a bag of sediment) that he says show the impact of the city's water. 2017-06-14 [Peace Arch News](#) (with Permission)

For Debate

Risk transfer in toxicology

What is risk transfer?

Manipulating the problem so that the risk is transferred from one party to another.

What are the indications for risk transfer in environmental toxicology?

Please send your - up to 400 words - responses before July 20 to be published in BCTOX July issue.

→ → Who said controlling dust was harder than herding cats? If I had one of those fans it would be even easier! (risk transfer)
Picture from [Chemical Processing](#)



Click here for the picture
[CBCNEWS](#)

Jet fuel spill

A jet fuel spill last week closed Highway 4 on Vancouver Island, the only road access to Tofino, Ucluelet and Ahoasht First Nation (Dean Stoltz/CHEK News). 2017-06-20 [CBCNEWS](#) [Photo adopted from CBCNEWS]



Investigation on Mount Polley tailings spill

Investigation continues in Mount Polley tailings spill. There is a three-year time limit to lay charges under B.C.'s Environmental Management Act. The deadline is less than two months away 2017-06-20 [Citizen](#)



Fentanyl overdose in a dog in Maple Ridge

Maple Ridge veterinarian saves dog dying of drug (fentanyl) overdose. If the owner hadn't been honest, we would have lost that puppy. They dealt with a large amount of pot, and have seen occasional mushroom toxicity. 2017-06-22 [CBCNEWS](#) [CTVNEWS](#)



A message board for victims of overdose

A message board for victims of the overdose epidemic was unveiled in April in Vancouver's Downtown Eastside. It's a special place to leave messages to those lost friends & family caught up in the crisis. Mark van Manen/PNG Files. 2017-06-22 [The Province](#) [Photo adopted from The Province]



Eagles deaths and lead poisoning [?] in Delta

More eagles are being found gasping for breath, unable to eat, and suffering from lead poisoning that has already killed four of them this year. Advocates are concerned that eagles are ingesting lead from the bodies of smaller birds in B.C. and Washington State that have been wounded by the lead shot. --- It's been illegal to use lead shot while hunting migratory birds like ducks for some two decades in B.C. 2017-05-31 [CTVNEWS](#)



Doctor shopping with pets for opioids

Opioid abusers could be 'doctor shopping' with pets, vet warns fentanyl and hydromorphone are among the drugs available to treat pets. There's no limitation on the drugs that a veterinarian can write a script for (Dr. Frank Richardson). 2017-06-23 [CBCNEWS](#)

Selected articles related to toxicology in BC (June 2017)

Date	Author		Where
High dose acute exposure			
2017-06	Mitchell K, ... Jane Buxton	<i>Naloxone and the Inner City Youth Experience</i> . Authors found that young people perceived take home naloxone training as a positive experience that improved relationships with staff.	HARM REDUCT J. 2017 JUN
2017-06	Boyd J, et al.	Social-structural factors influencing <i>periods of injection cessation</i> among marginalized youth who inject drugs in Vancouver, Canada. Authors found to reduce harms, it is imperative to reorient attention toward the social, structural, and spatial contexts that surround injection drug use.	HARM REDUCT J. 2017 JUN 5;14(1):31.
2017-06	Angela Randal, Jane Buxton, Reza Afshari	Prevalence of the perceived <i>non-food allergies</i> were higher among Caucasians compared to non-Caucasians among BC residents from different countries of origin. A similar, but stronger pattern was found for diagnosed non-food allergies. Authors suggested when investigating Canadian immigrants, a distinction should be made between <i>European immigrants and African and Asian immigrants</i> in environmental studies, as genetics and the environment both are different.	CIPH. 2017 Jun 16;108(2):e217-e218.
2017-06	Bozinoff N et al.	Still "at risk": An examination of how street-involved young people understand, experience, and <i>engage with "harm reduction"</i> in Vancouver's inner city. Investigators concluded that young peoples' multiple understandings, experiences and engagements with harm reduction illustrate the limitations of the existing infrastructure in Vancouver in improving their broader life chances.	INT J DRUG POLICY. 2017 JUN 1;45:33-39.
Low dose chronic exposure			
2017-06	Vandenberg LN, ... Bruce Lanphear	Is it time to reassess current <i>safety standards for glyphosate-based herbicides</i> ? Authors reported that Use of glyphosate-based herbicides (GBHs) increased ~100-fold from 1974 to 2014. They concluded that current safety standards for GBHs are outdated and may fail to protect public health or the environment. They provided some suggestions.	J EPIDEMIOLOG COMMUNITY HEALTH. 2017 71(6):613-618.

For clarity of a local news, citation of each article is reported based on the following order; correspondence author, BC resident author (multicentre articles), and first author. The real order of authors could be found by clicking the link.

News from the Health authorities

First Nations Health Authority

Date	Description	Source
2017-06-01	<i>Swim in flooded water</i> FNHA's information bulletin: Do not swim in flooded water, water that looks murky, smells unpleasant, or has unusual high discoloration, if you have an open wound or infection, if you are sick from digestive/intestinal problem. Don't swallow water/put your head under water, if you're unsure of quality	INFONEWS
2017-06-07	<i>Drug overdose</i> First Nations leaders are calling for better data on the scope of national drug overdose deaths in their communities	NEWSCANADA
2017-06-07	<i>Contaminated water</i> Signs posted along Okanagan Indian Band properties after "contamination event". Flooding. The signs recommend people and pets not come in contact with the waterfront or water.	VERNONMORNING STAR
2017-06-19	<i>National Aboriginal Day</i> Meeting for National Aboriginal Day. BCCDC and Chee Mamuk (12:00 to 01:00) BCCDC Third floor Balcony	---

Fraser Health Authority

Date	Description	Source
2017-06-14	<i>Drugs</i> The most certain way to not overdose is to not consume illegal drugs. However, Fraser Health offers tips to those who will do anyway including (i) have someone to check on you, (ii) go slow, (iii) don't mix drugs or mix with alcohol, (iv) know the signs of an overdose, (v) test drugs if possible, (vi) know where first aid is and (vii) never leave a drink unattended.	RCI
2017-06-14	<i>Water White Rock</i> residents urge Fraser Health for answers on dirty (discolored) water. ---Water quality is meeting Health Canada standards. ---To treat water, pipes have to be flushed in order to remove some of the built-up sediment. --- A new water treatment plant, scheduled to be completed in 2019.	PEACEARCHNEWS
2017-06-06	<i>Drug consumption site</i> Surrey's first supervised consumption site set to open. Drug users will start injecting their own heroin or other illicit substances at a new supervised injection site opening this week in Surrey in an effort to curb a crisis in overdose deaths.	VANSUN



Interior Health Authority

Date	Description	Source
2017-06-12	Water Report; 20 per cent of Interior Health's water systems have had long-term quality issues. A little more than 240 of the systems (out of 1,900 in the health region) have had warnings posted every day of the past five years. IHA encourage water systems with years-long boil notices and water-quality advisories to make changes for their users. For the most part they are getting clean, safe water 70 per cent of the time. Nearly half of all the water systems in B.C. are located within Interior Health (Dr. Trevor Corneil). Region's drinking water quality needs improvement.	KAMLOOPSTHIS WEEK CBCNEWS INFONEWS
2017-06-08	Water Interior Health says region's drinking water quality needs improvement [Dr. Trevor Corneil]	CBCNEWS
2017-06-06	Overdose prevention unit Local drug outreach services in Kamloops opened a recreational vehicle repurposed to serve as a mobile overdose prevention unit.	INFONEWS
2017-06-05	Mine The City of Kamloops hosted a town hall meeting where Interior Health and a group of consultants presented the results of independent reviews of the Ajax mine (Dr. Kamran Golmohammadi and Ivor Norlin).	CASTANET
2017-06-02	Contaminated water The Okanagan Indian Band, meanwhile, has posted signs at its portion of Kin Beach between Vernon Creek and Tronson Road that read: 'Danger - Contaminated Water.'	INFONEWS

Northern Health Authority

Date	Description	Source
2017-06-21	Plant site emissions Parents upset over plans for mine near rural B.C. school. Graymont's proposed mine facility is 800 metres from a two-room school near Prince George. Plant site emissions would include PM10 and PM2.5 particulate and mercury particulate .	CBCNEWS
2017-06-14	Drugs Northern Health is the only health authority reporting a reduction in the number of opioid overdose deaths so far in 2017.	HUSTON TODAY
2017-06-06	Drugs Northern Health is the only BC health authority recording slight improvements in fatal overdoses in 2017	MYPRINCEGEO RGENOW
2017-06-05	Wildfire burning (5 Km south of Pantage Lake, 40 km northwest of Quesnel and 90 km southwest of Prince George). In June 5 th , it was estimated at 100 hectares and is still 25% contained.	My Prince George

Vancouver Coastal Health Authority

Date	Description	Source
2017-06-08	Drug overdose Vancouver Coastal Health Authority had the highest number (48) of illicit drug overdose deaths with fentanyl detected from January through February 2017, followed by Fraser Health (39) and Vancouver Island Health Authority (29).	NORTHILANDGAZETTE
2017-06-13	Prescription heroin Prescription heroin is more widely available in BC. --- Crosstown was the first health-care facility in North America to administer hydromorphone and prescription heroin outside of a clinical trial. Today 90 opioid addicts receive heroin and 20 receive hydromorphone (Dr. Scott MacDonald)	STRAIGHT
2017-06-09	Reporting of bad dope If you know of or suspect contaminated drugs are circulating in the community, you can file a "bad dope" report online at www.vch.ca/overdose (Dr. Paul Martiquet)	COASTREPORTED

Vancouver Island Health Authority

Date	Description	Source
2017-06-18	Toxic contaminated milk A Vancouver Island woman says her family became sick after drinking milk that's part of a sweeping B.C. recall. The woman says her family [her husband and their infant son threw up] consumed up to five jugs of homogenized milk.	CASTANET
2017-06-19	Toxic contaminated milk Nanaimo woman says drinking recalled milk caused intestinal bleeding. --- About 20 minutes later, I felt pain and cramps in my stomach and shortly after had to go to the bathroom. She then experienced severe diarrhea and noticed blood in her stool, which lasted for some time. The symptoms lessened after a day.	CTVNEWS
2017-06-08	Opioid overdose There have been patients that have been given large doses of Narcan in order to be revived, which is indicative of a powerful opiate like fentanyl	NORTHILANDGAZETTE
2017-06-07	Opioid overdose There are reports that fentanyl is being incorporated into MDMA, which is Ecstasy, and I think that really speaks to the drug trade (Dr Paul Hasselback).	ALBERNIVALLEY NEWS
2017-06-02	Opioid overdose The alert was issued by VIHA because the cluster of overdoses observed and was especially difficult to treat, (Dr Paul Hasselback)	TIMESCOLONIST

Toxic Spills/Dumps

Incident/ report date	Description	Source
2017-06-20	Fuel spill aftermath on Highway 4. "There was such high flows of rain it was very difficult to contain."	WESTERLYNEWS
2017-06-20	Unknown substance found at YVR mail sorting facility sends two to hospital. Two people were having problems breathing and had elevated heart rates. A further 12 people were being observed at the scene, but none were showing symptoms. A partial evacuation of the building was undertaken.	Van Sun
2017-06-20	Contaminants continue to flow south into Northwest Montana's world-class watersheds at alarming rates. As British Columbia's downstream neighbor, Montana has long been concerned about mining pollution spilling across the international border and into its world-class watersheds.	FLATHEADBEACON
2017-06-17 /20	First Nation critical of government response to fuel spill on Vancouver Island. A First Nation assisting in the cleanup of last week's jet fuel spill on Highway 4 north of Ucluelet, B.C. is criticizing the Ministry of Environment's response to the incident. An estimated 3,000 litres of jet fuel were spilled onto the highway and into Kennedy Lake. It was bound for Ucluelet to power logging helicopters. Kennedy Lake was just 10 feet away from the spill.	CBCNEWS CASTANET CTVNEWS GLOBALNEWS
2017-06-15	Supreme court of Canada dismisses appeal of Shawnigan soil case	Times Colonist
2017-06-07	Taseko Mines appeals libel loss to environmental opponents. Taseko Mines back in court against Wilderness Committee in tailings pond war of words. [New Prosperity gold and copper mine, near Williams Lake]	Van Metro


Pesticide (Insecticides, glyphosate)

Incident/ report date	Description	Source
2017-06-27	Floods this year keep regional district mosquito control team especially busy (insecticide use)	OSOYOOSTIMES
2017-06-09	Opinion: Health minister to suspend glyphosate re-registration	BCLOCALNEWS
2017-06-27	Tips! To get rid of ants; purchase a borax solution or an insecticide with Boran in the ingredient list. Liquid bait is best for killing ants. Don't put down liquid bait and then spray insecticide as well —that just stops the ants from eating the bait!	CBCNEWS

Mold, Asbestos

Incident/ report date	Description	Source
2017-06-27	Safety concerns raised after landscapers cut tree that crashes into Surrey home slated for demolition, the house contained asbestos.	GLOBAL NEWS
2017-06-20	SD57 submitting request to fund Asbestos control program. Starting this Summer, WorkSafe BC will be going through Prince George schools and facilities to look for signs of asbestos. The agency is enforcing all districts, including SD57, to create and conduct an Asbestos Management Plan in time for the 2018-19 year.	MYPRINCEGEORGE
2017-06-16	BC contractor exposed to asbestos talked about his difficult experience.	NATIONALPOST
2017-06-16	A report on B.C. contractor exposed to asbestos in 2008	VAN SUN
2017-06-09	Eight burned-out subsidized-housing units won't be replaced [asbestos warning is posted along the fence]	TIMES COLONIST
2017-06-07	City of Powell River halts Olive Devaud renovations. Stop-work order issued for future international school student residences [asbestos]	POWER RIVER PEAK VAN SUN

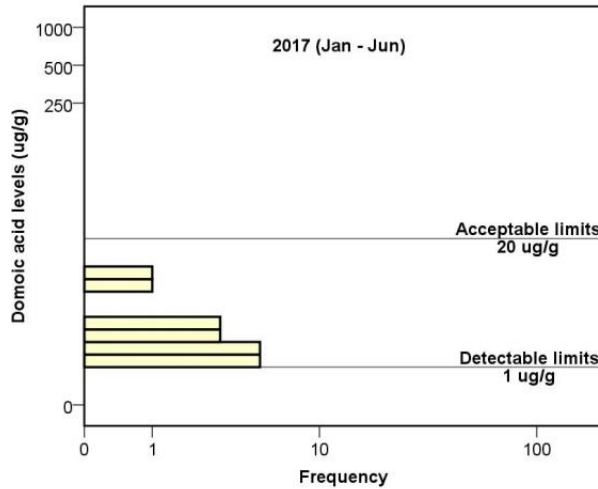
Acute & chronic toxicities

Incident date	Who	News	Distribution/Link
Acute			
2017-06-16	Laundry pod warning now includes adults with dementia in BC [as well as children].		CTVNEWS
chronic			

Marine biotoxins

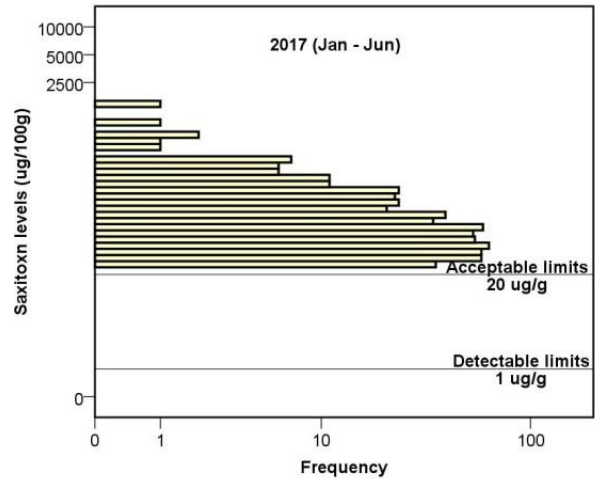
Marine biotoxins (January to May 2017)

Domoic acid (ug/g)
Amnesic shellfish poisoning SP

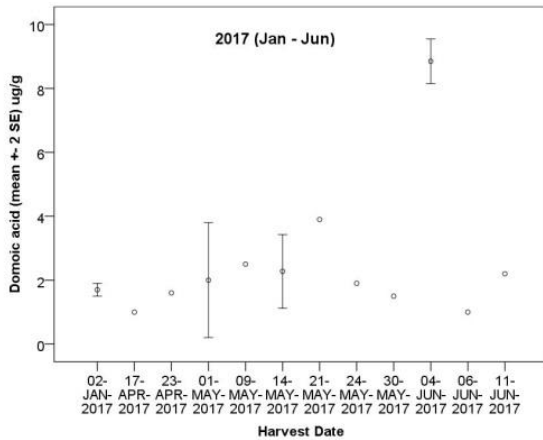


Histogram of concentrations of detected Domoic acid among [shellfish] samples in BC (January to June 2017) (n=18 detected out of 1559 samples) [BCTOX Graph]

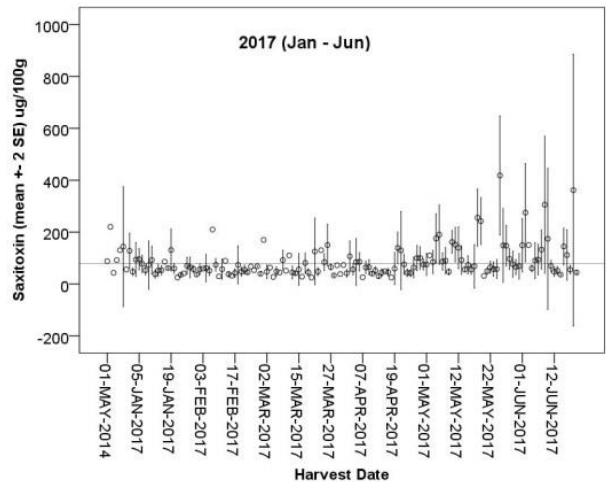
Saxitoxin (ugeq/100g)
Paralytic shellfish poisoning



Histogram of Saxitoxin concentrations among [shellfish] samples in BC (January to June 2017) (n=601 detected out of 1699 samples) [BCTOX Graph]



Mean (\pm SEM) concentrations of Domoic acid (ug/g) among [shellfish] samples in BC (January to June 2017) (n=18 detected out of 1559 samples) [This graph is prepared to imply the trend, and it should be interpreted with caution] [BCTOX Graph]



Mean (\pm SEM) concentrations of Saxitoxin (ug/100g) among [shellfish] samples in BC (January to June 2017) (n=601 detected out of 1699 samples) [This graph is prepared to imply the trend, and it should be interpreted with caution] [BCTOX Graph]

Marine biotoxins

Incident/report date	Description	Source
2017-06-28	US Unusual balance of nutrients allowed algae to build up high concentrations of neurotoxin	Chemistry World
2017-06-07	California Domoic Acid Poisonings Subside After Hundreds of Birds, Marine Mammals Die.	NOOZHAWK

2017-06-07	California	Domoic Acid Poisonings Subside After Hundreds of Birds, Marine Mammals Die.	NOOZHAWK
		Since Jan., 80 pelicans have gone through the Santa Barbara Wildlife Care Network Of those, 48 died or had to be put to sleep. In May 52 pelicans taken in for help, June has had 3 so far.	
2017-06-06	California	Deadly domoic acid found in scallops, clams, mussels recreationally harvested. Californians Do not eat recreationally harvested bivalve shellfish	MYNEWSLA.COM
2017-05-31	US	Domoic acid hurt jobs, along with clams. (i) Food bank use surged, and (ii) Food deliveries declined	COASTWEEKENDEVENTS

Food high exposure

Incident/ report date	Description	Source
2017-06-18	BC A Vancouver Island woman says her family became sick after drinking milk that's part of a sweeping B.C. recall. The woman says her family [her husband and their infant son throw up] consumed up to five jugs of homogenized milk.	CASTANET
2017-06-19	BC Nanaimo woman says drinking recalled milk caused intestinal bleeding. --- About 20 minutes later, I felt pain and cramps in my stomach and shortly after had to go to the bathroom. She then experienced severe diarrhea and noticed blood in her stool, which lasted for some time. The symptoms lessened after a day.	CTVNEWS
2017-06-15/18	BC Milk Recalled In B.C. After 'Harmful Extraneous Material' Discovered. RCMP is investigating after a Quebec-based dairy recalled some of its milk products that are distributed in British Columbia due to what a federal agency calls "harmful extraneous material." The CFIA says all of the affected products are sold in both two and four litre jugs with best-before dates up to and including July 3, 2017.	HUFFPOST TIMES COLONIST CBCNEWS
2017-06-13	BC Some milk on Vancouver Island recalled for possible "sharp metal objects".	CBCNEWS
2017-06-12	BC OTTAWA — Loblaw Companies Ltd. (TSX:L) is recalling some milk products sold on Vancouver Island because they may contain pieces of metal.	NORFOLCN EWS

"Toxicology" related food recalls

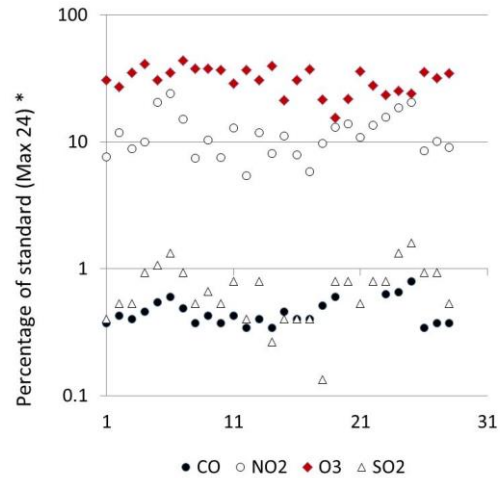
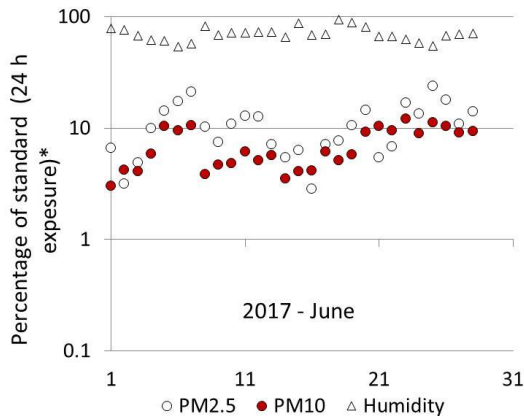
Incident date	Food (Company / Firm)	Reason to recall	Hazard classification	Link
2017-06-21	Jack 'n Jill brand Chippy Barbecue Flavored Corn Chips	Undeclared mustard (Allergen)	1	BC+
2017-06-15	Various Agropur Cooperative milk products may be unsafe	Harmful extraneous material	1	BC
2017-06-12	Foremost brand milk products recalled due	Possible sharp metal objects	-	BC
2017-06-09	Updated - iögo yogurt products recalled	Potential presence of pieces of plastic	2	NATIONAL
2017-06-09	Fresh Selections brand Meatballs & Spaghetti	Undeclared milk (Allergen)	-	NATIONAL
2017-06-09	iögo nanö Strawberry Drinkable Yogurt	Potential presence of pieces of plastic	2	NATIONAL
2017-06-06	Stir-Fry Chow Mein Noodle manufactured for Best & Fresh Co. Ltd.	Undeclared egg (Allergen)	1	? NATIONAL
2017-06-06	RI Wang Food brand beef tendon balls	Undeclared egg (Allergen)	1	NATIONAL
2017-06-01	JHC brand Thai Coconut Rolls	Undeclared egg (Allergen)	1	NATIONAL

^{CFIA} Canadian Food Inspection Agency, ^{? National} Possibly National.

Air high exposure

Incident/ report date	Description	Source
2017-06-05	In collaboration with scientists from UBC New hyper-local air pollution map unveiled. Engineering researchers at The University of Texas at Austin have developed the most detailed and extensive local map of air pollution ever produced for an urban area, using specially equipped Google Street View cars to measure air quality on a block-by-block basis.	Science Daily
2017-06-19	--- As it stands, air pollution kills 7,000 Canadians every year, but Canada is the only wealthy industrialized national that lacks enforceable national standards for air quality.	National observer
2017-06-01	Pollution is costing the Canadian economy tens of billions of dollars a year, with air pollution alone taking up \$36 billion in 2015	IPOLITICS

Air temperature and pollution



Air pollution (Particulate matters ; ° 2.5 and • 10 µg/m³, Δ humidity)
Percentage of average 24 h exposure and acceptable levels (EPA) for 24 h exposure.

Vancouver-Airport - 2017-05 (up to 28).

Data obtained from the [Ministry of Environment](#) [BCTOX graph]

*This graph is hypothetical (incorporating to average daily standard should be treated with caution).

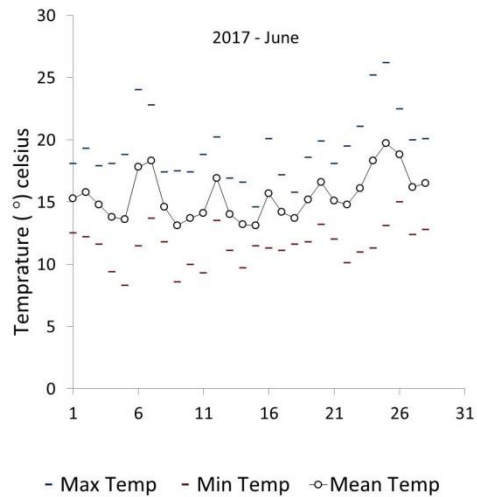
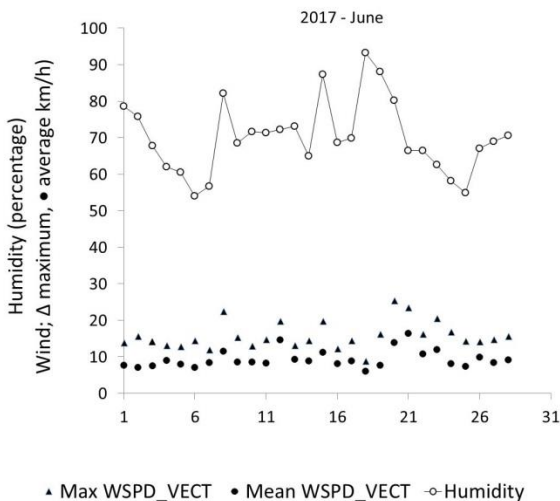
Air pollution

Percentage of Max 1 h exposure per day and acceptable levels for 1 hour exposure (EPA).

Vancouver-Airport - 2017-06 (up to 28).

Data obtained from the [Ministry of Environment](#) [BCTOX graph]

* This graph is hypothetical (incorporating to average daily standard should be treated with caution).



Air temperature (C), Vancouver international airport, 2017-06 (up to 28) Data obtained from [Government of Canada](#) [BCTOX graph]

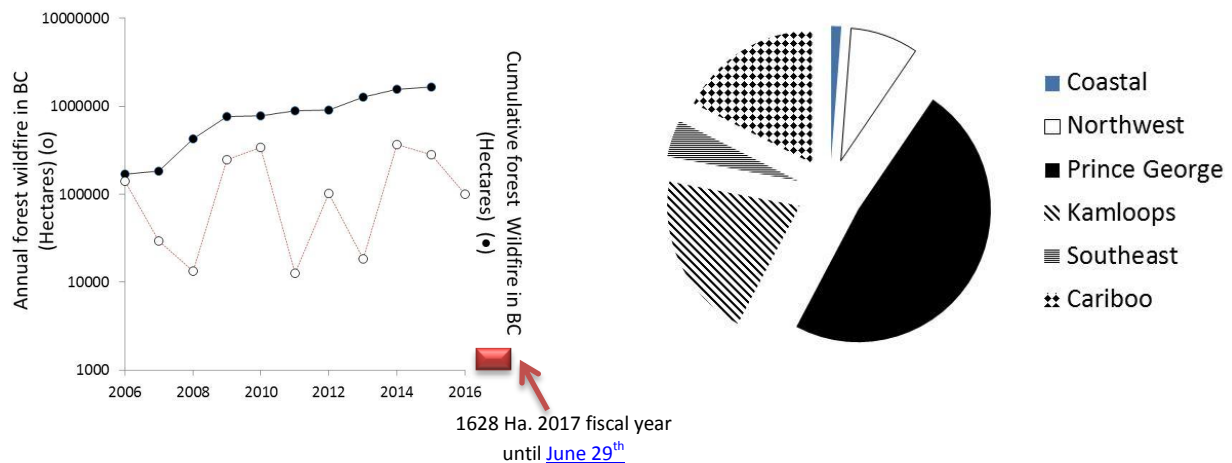
Average temperature increased by more than 2.7 °C

Forests

Incident date	Who	Description	Source
2017-06-27		Lightning sparks numerous fires across southeastern BC	CTVNEWS
2017-06-26		As the temperatures climbed to record highs across the province in one weekend in June, the number of wildfires burning around B.C. increased.	GLOBALNEWS
2017-06-26		Wildfire burning near Garnet Valley between Peachland and Summerland	GLOBALNEWS
2017-06-05		Wildfire burning (5 Km south of Pantage Lake, 40 km northwest of Quesnel and 90 km southwest of Prince George). In June 5 th , it was estimated at 100 hectares and is still 25% contained.	MYPRINCEGEORGE
2017-06-05		For up-to-date information on current wildfire activity, burning restrictions, road closures and air quality advisories, call 1 888 3-FOREST (1 888 336-7378) or visit: www.bcwildfire.ca	WLTRIBUNE.CO.

Wildfire Averages from 2006 to 2016; mean (min - max) total fires was 1844 (653 (2011)- 3064 (2009)), total Hectares 154944 (12604 (2011) – 369 (2014) and total Cost 182 (54 (2011) - 297 (2014)) millions\$. Among them 39% caused by people and 61% caused by lightning.

Total area burned until June 29 current fiscal year is 1,628 Ha.



Annual and cumulative forest wildfire in BC (Hectares) (2006 to 2016)
Source of data [WildfireBC](#) [BCTOX Graph]

Total Area Burned (Ha.)(current fiscal year) (1628 Ha. The current fiscal year until [June 29th](#)) [BCTOX Graph]



Photo adopted from Global news [A wildfire burning 40 km southwest of Lac La Hache BC Wildfire Service / Natasha Broznitsky] [GLOBALNEWS](#)

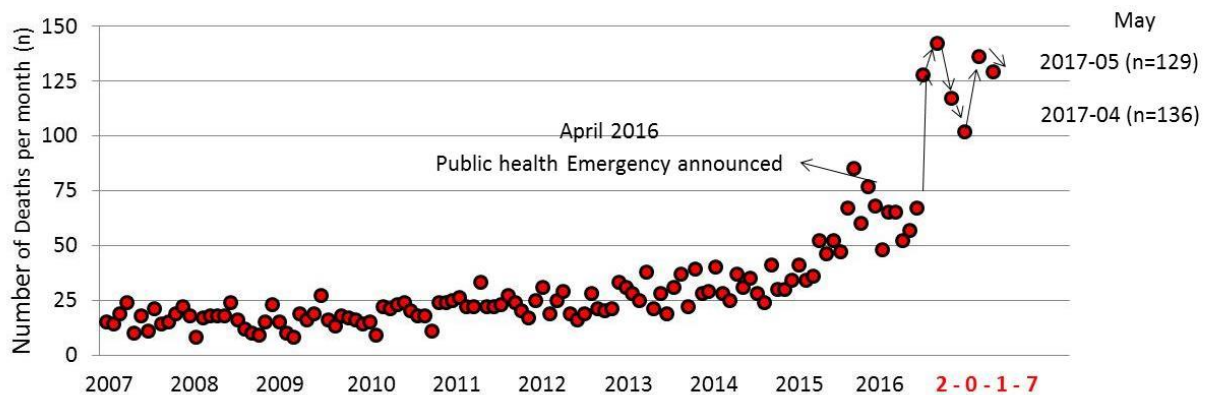
[Drinking] water high exposure

Incident/ report date	Description	Source
2017-06-29	The B.C. Ministry of Environment has been ordered "to disclose, without delay" information related to a polluted drinking-water aquifer in the North Okanagan Valley near the city of Armstrong.	GLOBAL&MAIL
2017-06-29	[Letter] The Glade Creek Community Watershed is under threat from proposed logging. Province needs to get serious about protecting water.	CASTLEGARNEWS
2017-06-28	Opinion: Energy industry's thirst for water threatens First Nations' rights. Natural gas companies had built dozens of large dams during a poorly regulated building spree.	VanSUN
2017-06-08	White Rock city's water Top and above right, photos brought to Fraser Health Wednesday by White Rock resident Garry Wolgemuth (holding a bag of sediment) that he says show the impact of the city's water.	VanSUMN
2017-06-08	Interior Health says region's drinking water quality needs improvement [Dr. Trevor Corneil]	CBCNEWS
2017-05-30	At the fourth annual tap water taste test, the village of Zeballos beats out nine competitors to win 'B.C.'s best tap water' prize	

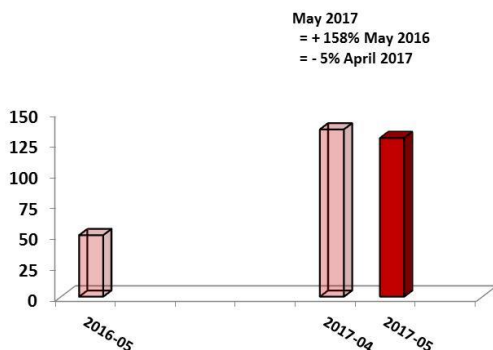
Soil high exposure

Incident/ report date	Contaminant	Area	Report	Source
2017-06-27	Mercury	ON	Ontario commits \$85 million to clean up 'gross neglect' at Grassy Narrows. Generations sickened by mercury poisoning prompt province to agree to fund cleanup.	CBCNEWS
2017-06-20	Contaminated soil		Supreme Court of Canada dismisses Shawnigan Lake soil dumping appeal	CBCNEWS
2017-05-30			New soil dumping bylaw proposed in Cowichan Valley Regional District	LAKECOWICH ANGAZETTE

Fentanyl high exposure



Fentanyl overdose induced deaths per month in BC (2007 to May 2017) [BCTOX graph] [LAST UPDATE]



The number of opioid overdose deaths in May 2017 was 158% higher than May last year and 5% lower than last month [BCTOX graph] [LAST UPDATE]

Incident/ report date	Who	No of samples/Results	Source
2017-06-23	Patient	Pain drove B.C. woman and 'thousands' to street drugs after medication cut off	CTVNEWS
2017-06-24	Widow	Guilt and shame of addiction stole a B.C. man's life.	CBCNEWS
2017-06-23	Mayor Gregor Robertson	Takes B.C. government to task for not committing to halting fentanyl crisis	STRAIGHT
2017-06-13	Dr. Perry Kendall	Alcohol; City will allow grocers to have liquor stores within their stores but not to put BC wine on their store shelves. --- Increased availability leads to people drinking more alcohol. Therefore "a store within a store model" is a safer option.	NEWS1130
2017-06-13	Dr. Perry Kendall	Alcohol; B.C. had nearly 15,000 hospital admissions in 2015-16 due to alcohol abuse, making it No. 1 among the provinces in that category, according to a new federal report.	THE PROVINCE
2017-06-14	Dr. Perry Kendall	Marijuana; --- Marijuana may offer a less dangerous alternative for people who are struggling with chronic pain.	CTVNEWS
2017-06-14	Dr. Jane Philpott	Marijuana; --- Legalizing cannabis and opioid use are separate issues and that the potential harms and benefits of marijuana still need to be fully explored.	CTVNEWS
2017-06-13		The province plans to make prescription heroin more widely available, not only to treat severe addictions, but also to save people from the fentanyl crisis and overdose deaths	STRAIGHT
2017-06-20	B.C. Transplant	Amid the growing death toll of Canada's ongoing opioid epidemic, there's evidence of a correlating increase in the number of healthy human organs available for transplant. 25 per cent of transplanted organs in B.C. donated by fentanyl OD victims	CTVNEWS
2017-06-16	Dr. Mark Tyndall	Frontline workers meet to find new strategies to combat B.C.'s opioid crisis. What has worked: (1) substitution treatments (2) safer drugs, referred to the Crosstown heroin program Drug users hold solution. A patient or client-centred approach is needed	CBCNEWS CASTANET
2017-06-22	Dr. Perry Kendall	--- 19 B.C. teenagers have died of overdoses since January 2016 and concerned that teenage drug use may rise soon with year-end parties and summer concerts.	THE PROVINCE
2017-06-16	Dr. Perry Kendall	--- B.C.'s health officer urges parents to talk to kids about fentanyl before graduation season. --- Be frank, open, non-judgmental.	CBCNEWS
2017-06-16	Dr. Perry Kendall	Re: Creating a new Ministry of Mental Health and Addictions --- Urge caution and thought and elaborated on the difficulty of splitting apart ministerial responsibilities and staffing proposed by both the BC NDP and the BC Greens.	THE GLOBAL AND MAIL TIMES COLONIST
2017-06-14		Northern Health is the only health authority reporting a reduction in the number of deaths so far in 2017	HUSTON TODAY
2017-06-14		9 in 10 illicit drug overdose deaths occurred indoors, including more than half in private residences	HUSTON TODAY
2017-06-13	Dr. Scott MacDonald	Prescription heroin is more widely available in BC. --- Crosstown was the first health-care facility in North America to administer hydromorphone and prescription heroin outside of a clinical trial. Today 90 opioid addicts receive heroin and 20 receive hydromorphone.	STRAIGHT
2017-06-13	Dr Jane Philpott	[federal health minister] It's going to get worse before it gets better:' on opioid crisis	CBCNEWS
		Health Canada approved to open three more supervised injection sites in Metro Vancouver	THE PROVINCE
2017-06-09	Dr. Mark Tyndall	Overdose crisis is our Ebola. --- We spent last year worrying about an Ebola outbreak in B.C. and spent millions of dollars and a lot of resources on that and I think we need to put the same kind of focus on this catastrophe.	CBCNEWS
2017-06-09	Dr. Paul Martiquet	If you know of or suspect contaminated drugs are circulating in the community, you can file a "bad dope" report online at www.vch.ca/overdose	COASTREPORTED
2017-06-02	Van mayor	Fentanyl crisis 'a bloodbath,'	CBCNEWS
017-06-01	---	B.C. opioid crisis: Province on pace for more than 1,400 overdose deaths in 2017	VANSUN



Others (conferences, meetings jobs)

Meetings

Date	Title	Where
2017-06-29	Environmental Health Seminar: BCIT Environmental Health Student Presentations --- Evaluation of the daycare managers' knowledge, attitude, and practice on lead in drinking water at daycares licensed by Fraser Health Authority, Speaker: Jill Lin, BCIT Environmental Health Student --- Assessing the risk of lead exposure to children from drinking water in Metro Vancouver child care facilities. Speaker: Thomas Quach, BCIT Environmental Health Student	EHS-BCCDC Webinar
2017-06-13	Vancouver Mycology Society meeting is on Tuesday June 13th at 7:30pm	Van Dusen Garden

Other conferences

Date	Title	Where
2017-10-01/04	Canadian Ecotoxicity Workshop, 44th CEW 2017	GUELPH
2017-11-29 to 2017-12-01	The Society of Toxicology of Canada 49th Annual Symposium, Winter 2017 November 29–December 1, 2017	MONTRÉAL
2017-10-11/15	North American Congress of Clinical Toxicology (NACCT) Congress 2017	VANCOUVER

Toxicology jobs in BC

Date	Title	Where
2017-10-11/15	Scientific Director, Provincial Toxicology Centre	PHSA-VAN
2017-07-17 Closing date	Senior Human Health Risk Assessment Specialist, Ministry of Health	HR

Others

Incident/ report date	Who	Area Location	Description	Source
2017-06-29			Opposition grows in Alaska and BC to new development of Tulsequah Chief mine; BC government urged to clean it up or close it down.	SITNEWS
2017-06-20			Species at Risk Act failing to protect critical habitat. Fifteen years after Canada's Species at Risk Act was implemented, a new study shows the majority of listed species are in the same situation as painted turtles; waiting for legally mandated critical habitat designation.	CBCNEWS
2017-06-20			Government of Canada investing \$7.85 million into three cleantech companies	BETAKIT
2017-06-22			Elements in the movies	THE SPECTRUM
2017-05-31			Hundreds of dead seabirds, sea lions wash up in southern California (blamed on Domoic acid)	HP CBS VCSTAR