# E.coli in Rangeland streams 2018: The problem continues.

This Report primarily covers stream testing in 2018 of several typical representative rangeland streams and is a followup to 4 previous reports: Along with new 2018 data and pics much of this report repeats comments in the earlier Reports.

**E.coli in Public Streams and Parks 2017**

https://www.boundaryalliance.org/e.coli2017.pdf

**E,coli in Public Streams: Patterns Related to the Presence of Range-Cattle**

http://www.boundaryalliance.org/e.colireport2016.pdf

**Patterns of E.coli Contamination in Public Land Streams related to the presence of range-cattle. Sept 2013**
http://www.boundaryalliance.org/e.coli_report2013.pdf

**E.coli Counts in Dryland Streams…….2009**
http://www.boundaryalliance.org/ecolireport2009.pdf

in which four typical dryland
streams in the Boundary area, BC were tested in 2007 through 2009.

As in previous reports, the patterns show that E.coli counts are almost entirely related to range-cattle presence or absence and that E.coli counts that could be attributable to wildlife ( in the absence of cattle) are negligible or frequently nil.

The representative streams tested are all Public Land (Range-land) streams where the Ministry of Forests & Range oversees and regulates range-use.

Monthly stream testing going back to 2007 firmly established the patterns of contamination to the point that further monthly testing at our own considerable expense is no longer necessary to prove the point. It is interesting however to periodically sample, when observations suggest, based on cattle activity in riparian zones, that contamination is likely.

In 2017 we sampled Johnstone Creek, Ingram Creek (adding to the body of information in previous reports) and areas in the Gilpin including Gilpin Creek. We note that Johnstone Creek and Gilpin Creek test locations are within Provincial Parks.

This project began testing a number of streams in 2007, sampling monthly when access was possible

starting March or April each year, through November or December. The testing on two of the streams

covered in this report now has data in this and prior reports for :

Ingram Creek: 2018, 2017,2016, 2015, 2009, 2008 plus partial in 2014

Johnstone Creek: 2018, 2017, 2016, 2015, 2013, 2009, 2008, 2007, plus partial in 2011,

In 2018 further evidence of the concerns raised in our 2017 and 2016 reports:

http://www.boundaryalliance.org/e.colireport2016.pdf
https://www.boundaryalliance.org/e.coli2017.pdf

"Observations during the 2015 2016 sampling also showed evidence of several disturbing trends in range management. These trends became apparent over various tenures ( see following pictures and Resource Links at the end of this report) in recent years and are likely a consequence of Range Branch moving from a "prescriptive" management model to one that allows tenure holders the freedom to determine their own practices. The "results based" model mentioned above, that fails to measure or adequately monitor actual range-use.
Now common problems are:
The failure of tenure holders to set-up or maintain waterers built and provided at great public expense. Failure to maintain waterers, is an old complaint, (see page 7, ***The Problem with Range Cattle*** **http://www.boundaryalliance.org/rangecattleproblem.pdf**
the excuses offered by ranchers and Range Branch are no longer relevant with the type of waterer installed in recent years.
Cattle drifting through various pastures on tenures, contrary to supposed Grazing Schedules. Once strict requirements as to grazing numbers and duration on various pastures no longer appear to apply. Tenure holders can therefore reduce their effort in maintaining pasture fencing or herd movement or oversight. This loose management results in longer use of cattle preferred areas, usually sensitive riparian zones and makes any worthwhile oversight evaluation of cattle effects on water quality and forage, unlikely.
Range Branch installation of infrastructure ( at public cost) that is not subsequently utilized or in the case of riparian fencing, fails to prevent damage as intended while increasing hazards to wildlife. See our article on fencing: Lost Lake, Gilpin Grasslands and a Random Act of Public Good.
http://www.boundaryalliance.org/lostlake.pdf

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## 2018 RESULTS

**Johnstone Creek** E.coli colony forming units per 100 ml

| | |
|---|---|
| June 7 2018 | 300 |
| Sept 4 2017 | 350 |
| July 13 2017 | 100 |
| See earlier reports for previous years | |

Johnstone Creek samples have often been higher in previous years however cattle presence is longer, thanks to a return to an earlier regime which sees a spring and autumn grazing period. Cattle now are in areas for months rather than weeks, sometimes moving at will through various fenced pastures that

were previously grazed for shorter periods. While this can result in lesser cattle densities it also results in longer cattle use of preferred areas, particularly riparian zones.

Notably this stream contamination is measured in a Provincial Park.
We have advised various officials including Park staff of the contamination that exists in JC and suggested at a minimum that campers be advised of the danger of using water from what appears to be a pristine creek. The public water pump source in the Campsite has been labeled as needing to be boiled which could prompt unwary public use of the stream. Signs we posted on the Park Bulletin Board in 2018 alerting the public to the possible stream contamination were promptly taken down by Parks?

**Ingram Creek** E.coli CFU per 100 ml

| | |
|---|---|
| Sept 2 2018 | Spilled sample |
| Sept 27 2017 | 13,300 |
| See earlier reports for previous years | |

This is a record count going back 10 years. This level of contamination is usually found only in dugouts.

As we noted in our 2016 Report:

"On or before the 2014 grazing season a fence of approx 1 km was constructed at public expense along Ingram Creek, possibly in response to our earlier concerns. The fence was placed at the drop-off to the stream bank,( see image 1) making it a significant hazard to wildlife and was not constructed as wildlife friendly fencing. The fence was presumably constructed to prevent cattle access to the creek and gravel was placed in the creek at a heavily used cattle access point. The fence has not worked as intended as cows bypassed the fence and accessed the stream from the unfenced steep side. In addition cows developed additional stream access points below the fence and "works". 2015 & 2016 testing showed that the new fence and "works" had no beneficial effect on water quality. This location was well suited to provision of an off-stream waterer as was suggested by the logging tenure holder however most poorly located & poorly planned waterers make little difference to stream damage and access, particularly where range tenure holders fail to set up or maintain them."
2018 Sept sample collected and spilled so no count. Heavy cattle concentrations in sampling area so likely saturated E.coli presence as before.

The following pictures help to explain the count
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image 1 2017 cattle resting in manure trampled area adjacent to stream access. Fence in background at the edge of stream bank. A hazard to wildlife and not a wildlife friendly design.

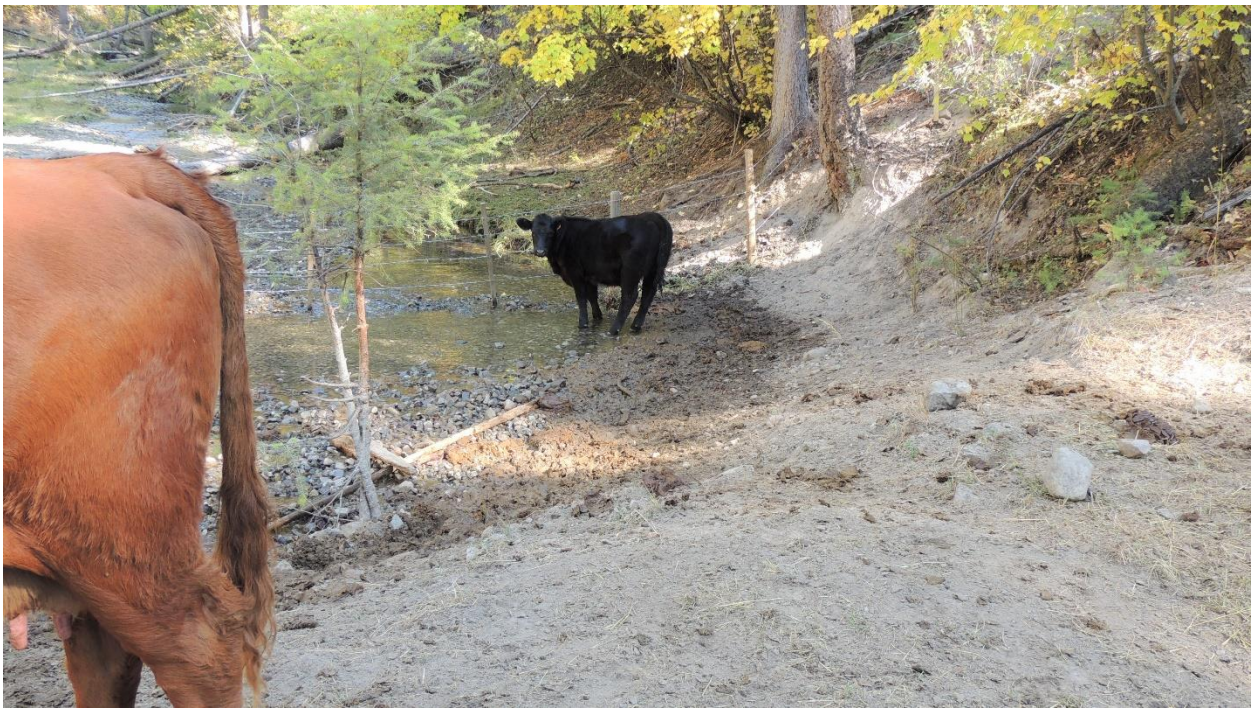

image 2 2017 a primary access point, shit covered. Area upstream supposedly fenced to keep cows out but many do end run around fence and trash the stream area above as they did before the fence.

Image 3 2017 a closeup of the shit covered area in image 2

Image 4 2017 shows the cattle accessed area above the fence that was intended to keep them out.

***1*** in 2018 the fence referred to in page 3 remained down most of the grazing season making a mockery of the public money spent to fence the stream for a kilometer above this point.

***2*** in 2018 as in **1** above, cattle were free to travel upstream through this supposedly protected zone. Stream bed and banks are trashed.

*3 area above stream and broken fence. Heavily logged in 2017 which encouraged blowdown of remainder in area in 2018. Area heavily cattle impacted so forest regrowth will suffer.*

*4 same area as above indicating the extent of blowdown*

*5 logged off area close to stream just to left.*

*6 part of denuded area above ingram creek.*

## Gilpin Area

**Gilpin Dugout** E.coli CFU per 100 ml

| | |
|---|---|
| July 18 2017 | 13,700 |
| | |

This sample from a dugout near Lost Lake and the Nature Trust area (fenced by volunteers) in the Gilpin Grasslands area. See our involvement in these initiatives in articles, pictures and videos at:

**Gilpin Grasslands Saga 2017 and 2018**

https://www.boundaryalliance.org/gilpin_saga_2017and2018.pdf

**Gilpin Grasslands Saga 2016**

http://www.boundaryalliance.org/gilpin_saga2016.pdfGilpin Grasslands Saga 2016

**Lost Lake, Gilpin Grasslands and a Random Act of Public Good.**

http://www.boundaryalliance.org/lostlake.pdf

**Wildlife Friendly Fencing Project on Nature Trust Land in the Gilpin**.
Our volunteer effort to protect land from cows and show a reluctant Range Branch how to construct effective wildlife friendly fencing.
youtube https://youtu.be/pwOy4O4pMA4

The 2017 sample was taken when it appeared cows might have been temporarily out of the area for about a week. As in other tenures, cows are now drifting between pastures as they feel inclined. That stinking mudhole is featured in the new video **Gilpin Grasslands Saga 2017 and 2018**
https://www.boundaryalliance.org/gilpin_saga_2017and2018.pdf

## Gilpin Creek

This creek is largely within a range cattle grazed area within a Provincial Park with the sampling taken (like Johnstone Creek) within the Park.
This area was the subject of the first part of the video link in the **Gilpin Grasslands Saga 2016**

http://www.boundaryalliance.org/gilpin_saga2016.pdf

when cattle made their way into an exclosure and trashed Gilpin Creek. In 2017 cattle were kept out of the exclosure, but a waterer uphill of the exclosure was never activated (like 2016 and probably earlier years) leaving cattle to access water out of Gilpin Creek upstream of the exclosure. Contaminated water came down through the bottom end of the exclosure to the sampling point.

In 2018 a new fence west of the Gilpin Park exclosure prevented cattle access to a nearby cattle waterer tub 9mentiioned above) just south of the new fence. Strangely, this waterer was functional for the first time in years but cows couldn't access it and therefore trashed the nearby creek and provided the E.coli overgrown sample below.

Gilpin Creek E.coli CFU per 100 ml

| | |
|---|---|
| Nov 15 2018 | Overgrown sample too many to count |
| Oct 15 2017 | 1250 |
| Aug 23 2016 | 1850 (with cattle present in exclosure) |
| | |

**DISCUSSION**

**In the Gilpin Saga 2016 we asked the question: Will the tenure holder do the right thing in 2017 to prevent damage? Will Range Branch, MFLNRO, ensure it?**

**The answer of course in 2017 was no, as it was in 2018.**

Range Branch and Parks Branch were, as in previous years, missing. In the other areas, the same applies.

**Cattle grazing on public land and Parks makes no economic or ecological sense. Government continues to avoid that discussion.**

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Tags: Gilpin Grasslands, Gilpin Grasslands Park. Johnstone Creek Park, wildlife friendly fencing, Ingram Creek, range-cattle problems, E.coli, cattle contamination, Range Branch BC, Parks Branch BC