

Radon Update in Castlegar

Donna Schmidt Lung Cancer Prevention Society

<http://dsradonprevention.org/>

Presentation 30 November 2020
BC Lung Association

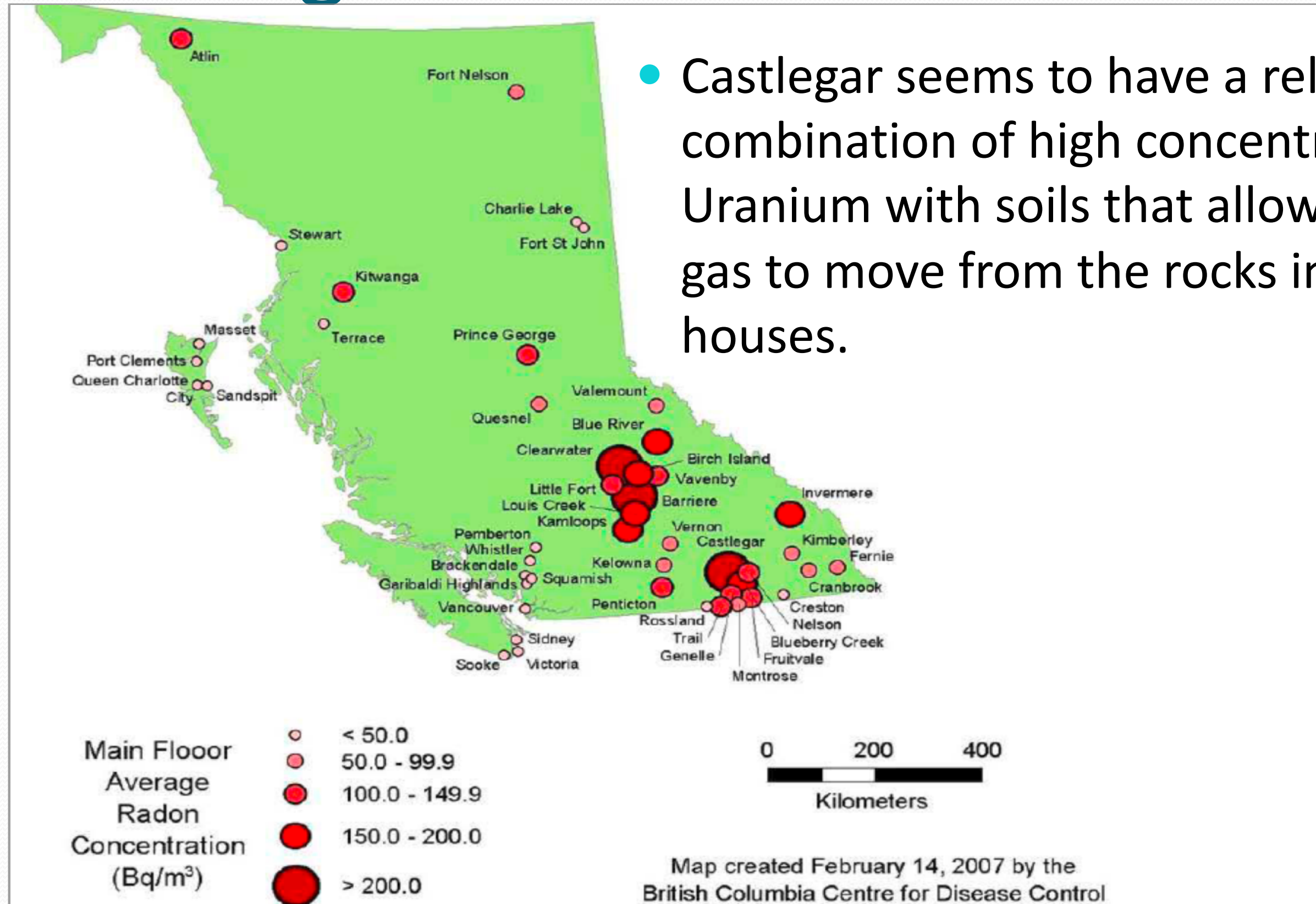


Background

- The Donna Schmidt Lung Cancer Prevention Society was set up to promote radon testing and awareness in Castlegar and was established by Dana Schmidt and his son, Brian Schmidt (2011 Nobel Laureate Physics), following the death of their spouse/mother in 2009.
- The DSLCPS shared the entire database through the spring of 2020 with the BC Center for Disease Control to further the broader understanding of radon in our Province with confidential data maintained.

Castlegar and Radon

- Castlegar seems to have a relatively unique combination of high concentrations of Uranium with soils that allow the Radon gas to move from the rocks into people's houses.



Castlegar and West Kootenay Radon Levels

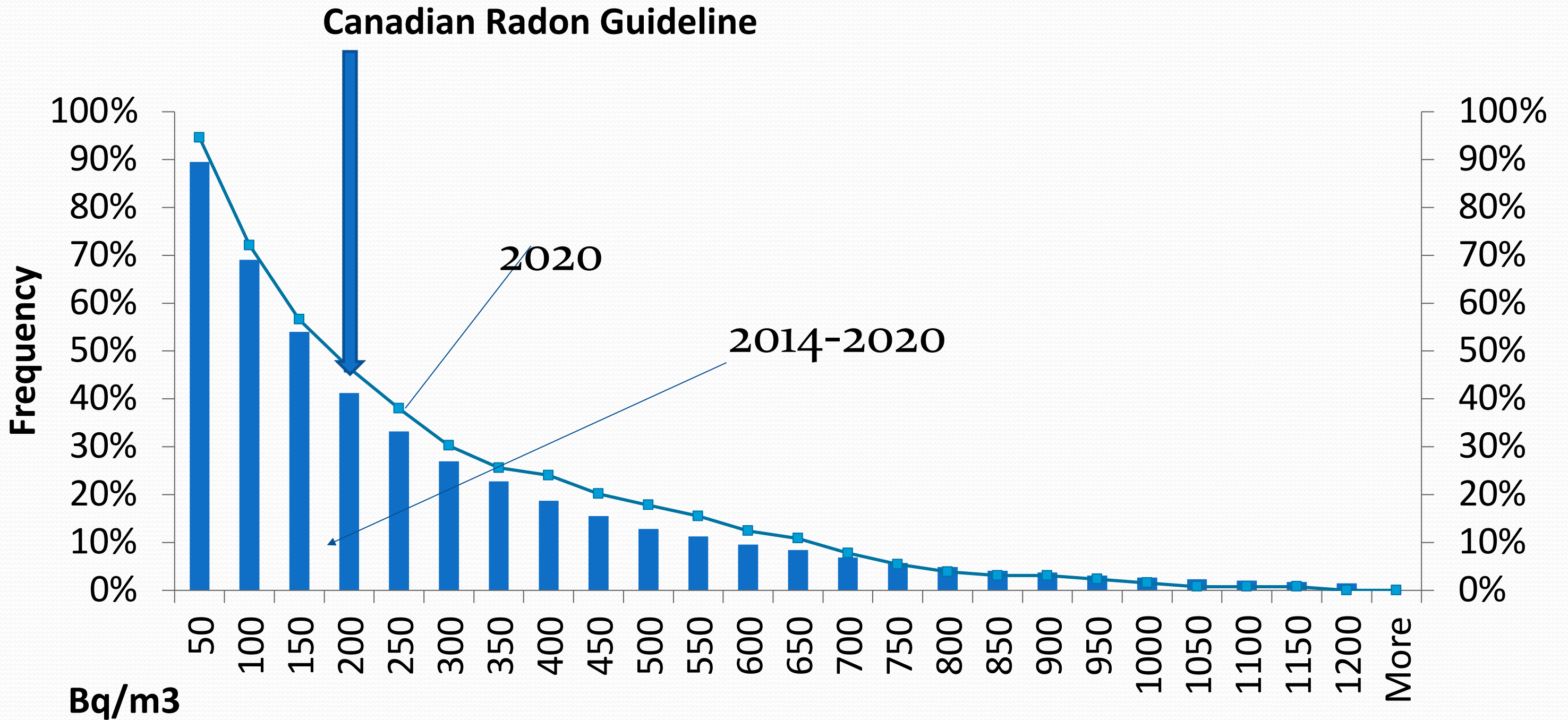
More than 3000 Detectors have been distributed and tracked (others given without tracking information) since 2009.

More than 80% Returned (2600) and entered into the database;

Typical exposures were for 120 days beginning in Fall or Winter.

41% above Canadian Standards (200 Bq/m³; 54 % above US EPA standard (150 Bq/m³)

West Kootenay Exceedances From 2014 to Present Compared with 2020



West Kootenay Radon Levels from Puck Samples indicate that radon levels haven't changed with new homes sampled having the same frequency of Exceedance as observed a decade ago.

Demand for radon measurements remains constant through 2020.

West Kootenay Sampling History

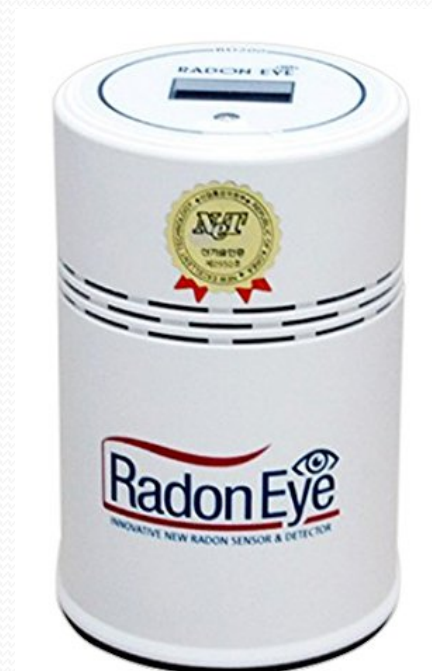
Donna Schmidt Lung Cancer Prevention Society

			Sample Year					
Data	#	Type	2020	2019	2018	2017	2016	2015
Invalid	83	Pucks	162	207	330	322	394	427
Other issues	45	Corentium	?	105				
All Samples	1906	Total	162	312	330	322	394	427
No Data	6.7%							

Comparison with pucks?

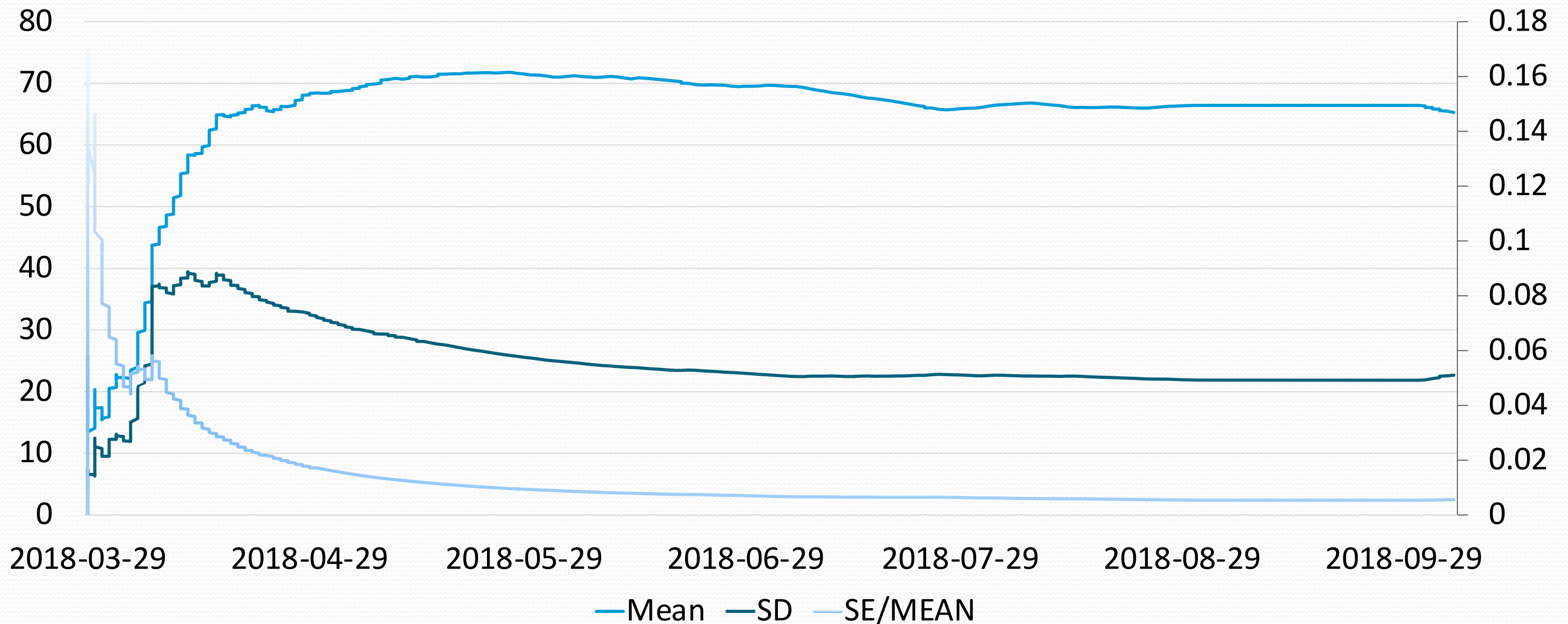
- Limited comparisons of a single Accustar Long Term Puck with a Corentium Detector and a RadonEye hourly Monitor, and a Pro Series 3 Monitor:

• Detector Type	Duration (Days)	Reading (Bq/m ³)
• Corentium	143	50
• RadonEye	143	88
• ProSeries 3	143	89
• Accustar	143	67



Effect of Sampling Duration on Radon Measurement Stability (RadonEye Hourly)

Radon Measurement Variability over Time



Beginning in the Fall of 2020 the DSLCPS
has discontinued distribution of pucks.
Corentium Airthings Electronic Detectors have been
available at the local Castlegar Library for checkout for
the past two years



How well did the Library Loan Program Perform?

DSLCPs 2019 Summary Data			
Library Electronic Detectors Status			
23 January 2020			
Detector #	# Checkouts		
1	8		
2	12		
3	9		
4	15		
5	11		
6	14		
7	12		
8	14		
9	9		
10	1	Lost Not returned	
Total	105		
Costs	Cost per sample (one year only)		
\$1,250.00	\$11.90		

Pucks Returned 2019		
Results		219
Invalid		16
Good Results		213
Costs	Cost per sample	
\$3,832.50		\$17.99
(not counting those not returned or used)		

**Kootenay Library Federation – Donna Schmidt Lung
Cancer Prevention Society
BC Lung Association (LA)**

***Planned Distribution of radon testing kits by DSLCPS
December 2020***

Library Name	Number of kits
Castlegar Public Library	9 previously provided in 2018 by DSLCPS + 1 DSLCPS 2020
Creston Valley Public Library	2 LA+5 DSLCPS
Kaslo & District Public Library	1 LA+5 DSLCPS
Nakusp Public Library	1 LA+5 DSLCPS
Nelson Public Library	1 LA +9 DSLCPA
Trail & District Public Library	2 LA + 5 DSLCPA

Future: What is needed to further reduce lung cancer deaths from radon

- Mandatory reporting of radon levels required for real estate transactions.
- Mandatory mitigation if radon levels exceed Guidelines.
- Without these measures older homes will remain a health hazard as incentives for radon reduction are minimal.
- Need more Certified Mitigators in the Kootenay's. We only have one who is overbooked. Lost two over the past year.

<http://dsradonprevention.org/>

- Radon Detectors from the Donna Schmidt Lung Cancer Prevention Society are now available at the public libraries in as of 15 December 2020:
 - Castlegar
 - Nelson
 - Trail
 - Creston
 - Nakusp
 - Kaslo
- Detectors are also available at other Libraries throughout British Columbia from the Lung Association



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