Wastewater Treatment

2024 BIOSOLIDS PRODUCTION SUMMARY

Capital Regional District | January 2025

Summary of Biosolids Production and End Use

In 2024, the Residuals Treatment Facility (RTF) produced 3,355 tonnes of dried Class A biosolids. 795 tonnes were used as alternative fuel at a cement manufacturing facility, per the Definitive Plan. 1,642 tonnes of biosolids were used in the reclamation of a gravel quarry near Cassidy BC. 918 tonnes were landfilled at Hartland. All biosolids produced at the RTF in 2024 met Class A standards.

Information on the CRD's biosolids beneficial use strategy can be found here. The Definitive Plan can be found here and the Contingency Plan can be found here.

Biosolids production and end use data for 2024 is as follows:

Biosolids Type	Produced	End Use		
		Definitive Plan [b]	Alternative Contingency Plan [c]	Hartland Landfill [d]
Dried [a] Class A	3,355 t	795 t	1,642 t	918 t
Non-Class A	0 t			0 t

[a] Greater than 90% solids

[b] Used as an alternative fuel at the Lafarge cement manufacturing facility in Richmond, BC

[c] Mixed with sand at Hartland Landfill and shipped to Cassidy for use in quarry reclamation.

[d] Class A Biosolids are rendered inert by mixing with soil and landfilled within leachate containment areas.

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Compliance Monitoring

The CRD's contractor, Hartland Resource Management Group (HRMG), tests biosolids produced at the RTF to ensure the biosolids are Class A, as defined by the British Columbia *Organic Matter Recycling Regulation* (OMRR). Testing is performed by CARO Analytical Services. OMRR specifies that for Class A biosolids, metals concentrations must not exceed "those specified in Trade Memorandum T-4-93 (September 1997), Standards for Metals in Fertilizers and Supplements, as amended from time to time." The latest version of OMRR can be found here and the latest version of Trade Memorandum T-4-93 can be found here. In June 2022, The Ministry of Environment and Climate Change Strategy announced the intention to amend OMRR, including new standards for Class A biosolids. Regulatory amendments are expected in 2025. The proposed OMRR Standards have been included in the table for reference. All biosolids met OMRR Class A criteria. Values reported in the table below represent the average, minimum and maximum of the 36 samples taken between January and December 2024.

Substance	OMRR Standard [a] (mg/kg dry weight)	Proposed OMRR Standard [b] (mg/kg dry weight)	Biosolids (mg/kg dry weight)		
			Average	Minimum	Maximum
Metals					
Arsenic (As)	666	41	2.13	1.45	2.86
Cadmium (Cd)	177	15	1.46	1.03	1.90
Chromium (Cr)	9,333	1000	43.8	28.0	60.5
Cobalt (Co)	1,333	150	3.69	2.36	5.36
Copper (Cu)	6,666	1500	436	339	621
Mercury (Hg)	44	4	0.568	0.446	0.794

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Molybdenum (Mo)	177	20	8.03	6.34	12.0
Nickel (Ni)	1,600	180	20.8	14.8	27.8
Lead (Pb)	4,444	300	29.1	21.9	39.2
Selenium (Se)	124	25	4.84	3.92	6.93
Thallium (Tl)	44	ns	<0.10	<0.10	<0.10
Vanadium (V)	5,777	ns	16.1	10.0	21.9
Zinc (Zn)	16,444	1820	824	641	1240
Fecal Coliforms					
MPN	1,000	1000	<3.0	<3.0	<3.0

[a] For metals, the maximum allowable concentrations for Class A biosolids are calculated based on a 500 kg/ha annual application rate; for fecal coliforms, the maximum allowable concentration is a fixed value

[b] Proposed OMRR standards are tabled for reference - standards subject to change once final OMRR amendment is published.

On October 18, 2024, the Canadian Food Inspection Agency (CFIA) began enforcing an interim standard for per-fluorooctane sulfonate (PFOS) in biosolids imported or sold in Canada as fertilizers. PFOS is used as an indicator for per-and polyfluoroalkyl substances (PFAS). The notice to industry is available here. The CRD tests biosolids produced at the RTF to ensure biosolids are compliant with this standard. Testing is performed by SGS AXYS Analytical Services.

Substance	CFIA Interim standard (µg/kg dry weight)	Biosolids (µg/kg dry weight)
PFOS	50	4.67