

# Biosolids

## Focus on Forest Fertilization

### RDN Biosolids

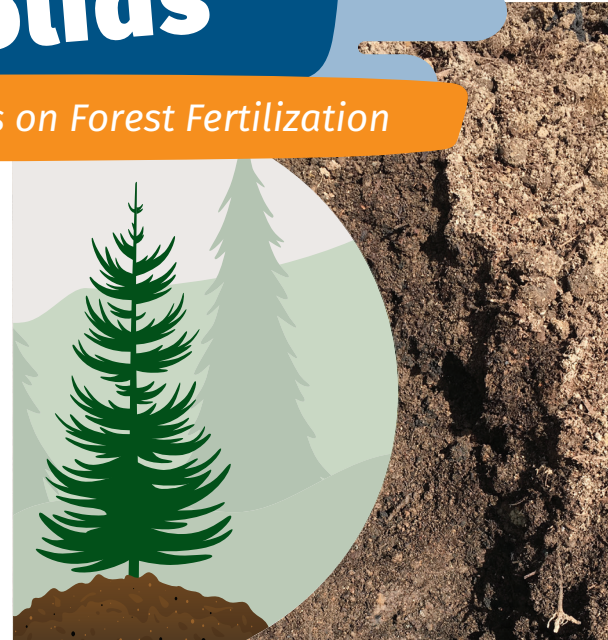
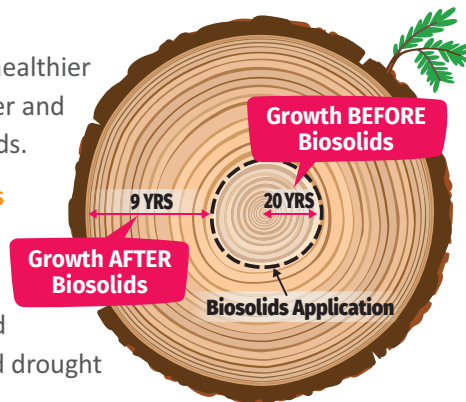
The Regional District of Nanaimo (RDN) strives to be a leader in biosolids management and is a two-time winner of the Northwest Biosolids 'Excellence in Biosolids' award. This award recognizes biosolids programs that demonstrate cost-effective and environmentally beneficial practices.

Currently, the RDN manages biosolids in a soil fabrication program and a forest fertilization program. Read on for more information on biosolids forest fertilization.

### Forest Fertilization

Forest fertilization using RDN biosolids has many benefits:

- Biosolids release nutrients over several years, providing a sustained source of nourishment.
- Biosolids fertilization produces healthier looking trees with greener, longer and more numerous needles and buds.
- **Trees fertilized by RDN biosolids show an increase in growth.**
- The organic matter in biosolids increases the soil's ability to hold water. This helps trees withstand drought conditions.
- Biosolids fertilization decreases runoff and soil erosion by building healthy soils that support trees and understory growth.



Biosolids are the solids recovered from the wastewater treatment process and stabilized to meet provincial regulations for quality.

Biosolids are high in nutrients that are essential for healthy plant growth. Biosolids can be applied to forests as an alternative to commercial fertilizers.

If RDN biosolids are not beneficially used, they are sent to the RDN Landfill. Diverting biosolids from the Regional Landfill:

- aligns with the targets set out in the RDN **Solid Waste Management Plan**.
- meets goals set in the RDN **Liquid Waste Management Plan**.

### Soil Carbon Sequestration

Biosolids forest fertilization helps meet targets for carbon emission reduction by returning carbon back to the soil where it can be **stored for thousands of years**. It also helps trees grow bigger and faster which pulls even more carbon out of the atmosphere and combats climate change.





# Blackjack Ridge Forest Fertilization

In 2021, the RDN Board awarded a contract to SYLVIS Environmental Services Inc. (SYLVIS). SYLVIS is operating the biosolids forest fertilization program in cooperation with Mosaic Forest Management (Mosaic). The fertilization site is on private forestlands in an area known as Blackjack Ridge, shown below.

Blackjack Ridge is an excellent candidate for biosolids forest fertilization because:

- The naturally available nutrients limit tree growth.
- Many trees are the ideal age for fertilization.
- The area has enough suitable land to manage RDN biosolids for the next 20 years.

Currently, the forest fertilization program manages all biosolids from the Greater Nanaimo Pollution Centre, which is 85% of the RDN's annual biosolids production.

# Key Considerations

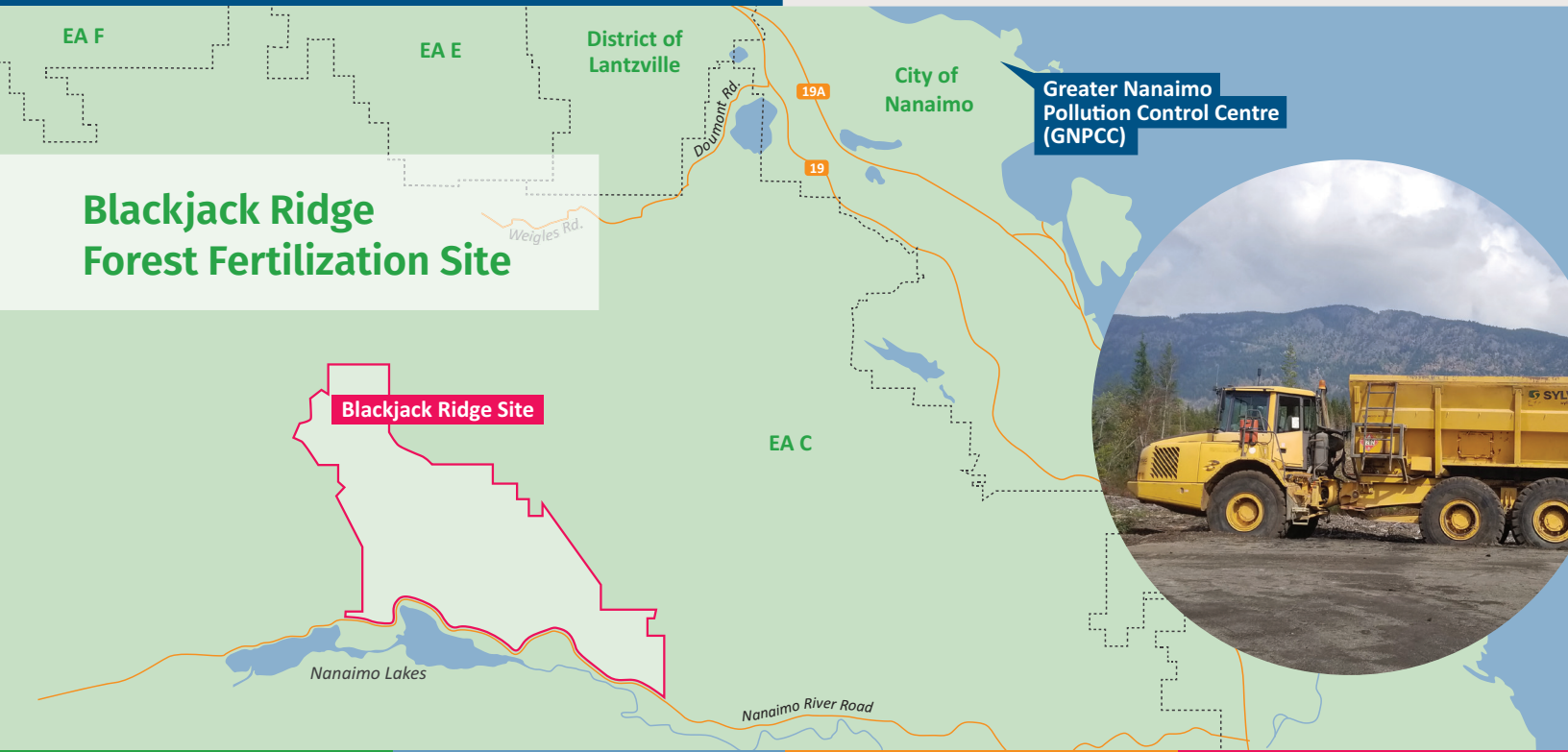


*The RDN biosolids management program aims to maximize the benefits of biosolids use while upholding strict standards for the protection of human and environmental health.*

The Blackjack Ridge forest fertilization program protects drinking water and groundwater.

- The Blackjack Ridge site is not in the Jump Lake watershed which provides drinking water to the City of Nanaimo.
- An independent hydrogeological review determined that the program will not affect groundwater quality.

SYLVIS's operations go beyond the requirements of the Organic Matter Recycling Regulation, which regulates the production and use of biosolids so that human and environmental health are protected. The Blackjack Ridge forest fertilization program includes soil sampling before and after biosolids applications.



# Blackjack Ridge Forest Fertilization Site

Blackjack Ridge Site

Greater Nanaimo Pollution Control Centre (GNPCC)



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