



Biosolids are applied to forested areas from woodlot roads (left). Woodlot soils are sampled annually to determine nutrient requirements (right).

FOREST FERTILIZATION USING THE MUNICIPALITY OF NORTH COWICHAN BIOSOLIDS

Client: Municipality of North Cowichan

Biosolids act as a soil conditioner and serve as a nutrient source. Local British Columbia (BC) forest soils lack nutrients required which often limits tree growth. Biosolids forest fertilization provides a residuals management opportunity for the biosolids generator and a forest fertilization opportunity for the woodlot owner. Soil conditioning occurs when an amendment is added to soil to improve its physical properties as they relate to growth and productivity. The addition of organic matter improves overall soil tilth, water-holding capacity, bulk density, free air space and soil structure. Biosolids are applied to forests to improve productivity of the forest and increase tree growth rates.

Vancouver Island University (VIU) manages over 1,700 ha of forestland near Nanaimo, BC. Based on the results of research conducted elsewhere in the province, VIU and SYLVIS identified an opportunity to use biosolids to increase site productivity and improve tree growth. A biosolids forest fertilization research and demonstration project was implemented at the VIU Woodlot. SYLVIS participated in a comprehensive stakeholder consultation program providing scientific and technical expertise. Based on the results of monitoring, research and the input from stakeholders, an operational scale biosolids forest fertilization program was initiated. SYLVIS identified the opportunity to the Municipality of North Cowichan (MNC) as a beneficial use option for their biosolids.

Biosolids from the Regional District of Nanaimo (RDN) and the MNC are currently being applied to the forestland under a Land Application Plan (LAP) authored by SYLVIS. SYLVIS is responsible for biosolids application using specialized equipment which applies dewatered biosolids up to 30 m into the forest stands. SYLVIS is also responsible for ensuring the program is conducted in compliance with all regulations. This successful, long-term biosolids management program was initiated through the partnership of numerous stakeholders and biosolids generators. Proactive stakeholder consultation and environmental monitoring supports the program objectives. SYLVIS was an integral part of the initial research and consultation activities and currently provides biosolids management services to the MNC.

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