

2017 Water testing results following aerial treatments of Btk (*Bacillus thuringiensis* var. *kurstaki*)

In June 2017, forested areas in the Charlo River and Bathurst Harbour watersheds were sprayed with one application of Btk to control a growing spruce budworm population in that area. Btk is a naturally occurring bacterium that has been used for decades to control caterpillar pests in organic agriculture greenhouses and forestry. Btk is being used in the early intervention research to control spruce budworm populations.

The Charlo River and Bathurst Harbour watersheds provide drinking water to several communities in northern New Brunswick. In response to concerns about water quality, a water monitoring project was initiated by the Healthy Forest Partnership. Water samples were collected from within the Charlo River and Bathurst Harbour watershed's main source of water supply and their reservoirs (Charlo River and Middle River, respectively). Samples were taken 1 week prior to treatments and 2 days and 2 weeks after the spraying of Btk.

The toxicity of Btk is measured as the number of colony forming units (CFU) per millilitre (mL) of water. Numerous tests conducted over decades on rodents determined that no toxicity occurred up to 125 000 000 CFU/ml. The highest level of Btk was found in the Middle reservoir (23 CFU/mL). This level is over 200 000 times less than what is considered to be toxic.

The 2017 Early Intervention Strategy research treatments resulted in what are essentially trace levels of Btk. Even at worse case scenarios, no adverse effects on birds, mammals or aquatic species for Btk. Only feeding larvae are susceptible

If you would like a copy of the water report, please contact the Healthy Forest Partnership via the website (healthyforestpartnership.ca) or telephone (1-844-216-3040).

Site Name	1 week pre-treatment (CFU/ml)	+2day post-treatment (CFU/ml)	+2week post-treatment (CFU/ml)
Charlo River	0.14	2.5	0.8
Charlo Reservoir	3.2	21	2.9
Middle River	0.3	23	5.6
Middle Reservoir	0	3.6	0.9

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