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DATA PAPER

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Historical pesticide applications for the treatment of eastern spruce budworm infestations in New Brunswick

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Abstract

Pesticides have been used in Canada since 1945 as part of large-scale aerial spray applications to control insect pests on forested lands. Some of the pesticides used historically were efficacious, nonselective, persistent, and have led to serious impacts on the environment. A well known, and extensively documented example is the large-scale aerial spray programs in New Brunswick, Canada. From 1952 to 1993, 97% of the 6.2 million ha of the forested lands of New Brunswick were treated with at least one application of one insecticide, the majority of which were applied to control outbreaks of eastern spruce budworm (*Choristoneura fumiferana*). The most well known insecticide was dichlorodiphenyltrichloroethane (DDT), applied from 1952 to 1968, which still persists in treated soils and adjacent water bodies, and caused the individual and cumulative ecosystem effects that can still be measured today. The insecticides that replaced DDT were nonpersistent and unlikely to be found today. However, during the years of application some of the insecticides were likely to have impacted local ecosystems to some degree. To aid future studies on the efficacy and environmental impact of these insecticides we created a digital spatial data set of known pesticide application in New Brunswick forestry from 1952 to 1993. The data set includes active ingredient, formulation, application rate, tank mix, aircraft type, and other ancillary information. The current version of the data is available on the New Brunswick

KEYWORDS
aminocarb, *Bacillus thuringiensis kurstaki*, BT, *Choristoneura fumiferana*, DDT, eastern spruce budworm, fenitrothion, insecticide application, New Brunswick, Canada, phosphamidon, spray

CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

The complete data set is available as Supporting Information. The historical pesticide applications data set is also available for download directly from the New Brunswick Department of Natural Resources and Energy Development, GIS Open Data (https://www2.gnb.ca/content/gnb/en/departments/erd/open-data/data_download.html) in the forestry section as the "Digitized Pest Management Records."

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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