

# National database on the effects of disturbances and salvage logging in Canadian boreal forest

## HARVESTING AFTER NATURAL DISTURBANCES

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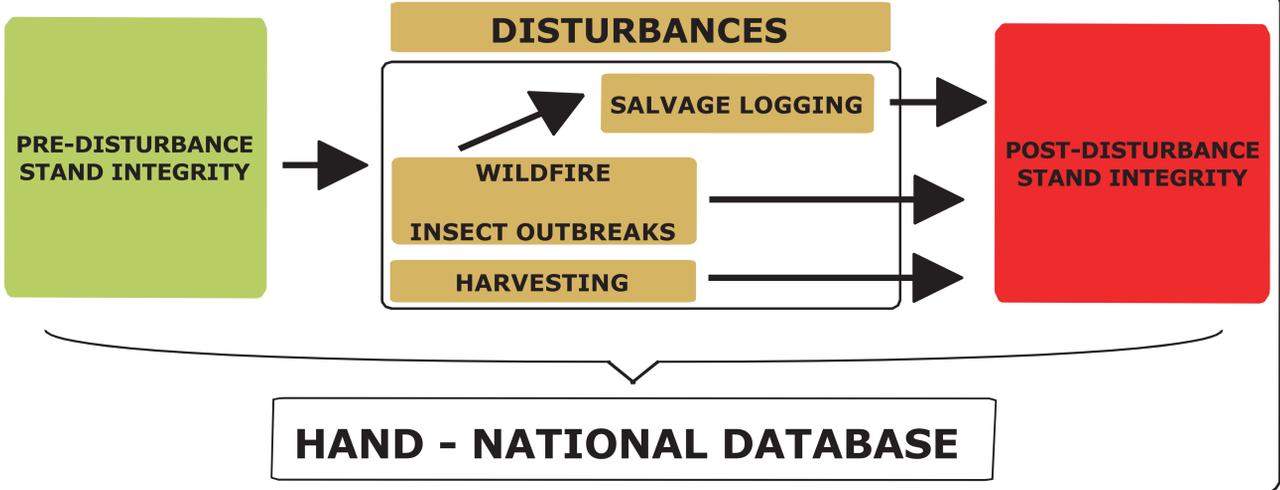
Natural disturbances such as wildfire and insect outbreaks generate a significant flow of deadwood in Canadian forests.

This key biological legacy shapes the trajectory of forest recovery by supporting a variety of ecological processes (biodiversity, regeneration, nutrient cycling), but also undergoes increasing human pressure through salvage logging.

Since North American boreal forests are becoming more and more prone to natural disturbances with increasing impacts of climate change, salvage logging is also expected to increase.

Knowledge gaps surrounding post-disturbance ecosystems and the impacts of salvage logging on ecosystem integrity in North American boreal forests lessen our ability to recommend improvements to harvesting practices after natural disturbances.

Therefore, the integration of data on ecological processes after natural disturbances and salvage logging, from different regions of Canada, could contribute to adapting harvesting practices to disturbance type.



**TARGET DATA**

- NUTRIENT AND CARBON CYCLING**
  - Soil & water
- STAND COMPOSITION & STRUCTURE**
  - Live trees
  - Saplings & seedlings (regeneration)
  - Dead trees (snags & CWD)
- BIODIVERSITY**
  - Birds
  - Plants (vascular & non-vascular)
  - Insects
  - Mammals

### General objectives

Assess the impact of salvage logging on ecosystem integrity after the following natural disturbances:

- Fire
- Mountain pine beetle outbreak
- Spruce budworm outbreak

### Ecological Target

- Better understand post-disturbed ecosystems in order to suggest guidelines for implementing sustainable salvage logging

### IDENTIFY DATA NEEDS

**HAND database workshop**  
**META-DATA REQUEST FORM**

FIELD	FIELD DESCRIPTION	EXAMPLE	DATASET 1 - ANSWER			
<b>GENERAL SAMPLING SCHEME</b>						
General geographical location/Study area	Describe in a general way the study area (province, region, city, name of a river, a lake, a district, etc.)	"Ontario, Island Lake"	ANSWER			
Sampling years	From year to year (e.g., 2006 to present (2016))	"2006 to present (2016)"	ANSWER			
Purpose and subject of the study	Describe the purpose and subject of the study	"Ecosystem response to spruce budworm defoliation"	ANSWER			
Sampling intervals	If sampling has been done every year during the sampling years, indicate "CONTINUOUS" in the answer column. If not, indicate the time interval	"Before, one, two and four years (2010) after treatment"	ANSWER			
Sampling dates	It can be a specific date(s) during a year OR a sampling time interval in months or days	"Once a year from July to mid-August"	ANSWER			
<b>SITE-LEVEL INFORMATION</b>						
<b>Regional information</b>						
Project name	What is the title of this project?	"SBW PERCO"	ANSWER			
Topic addressed by the study	What is the topic of the study?	"Stand composition and structure"	TOPIC 1	TOPIC 2	TOPIC 3	TOPIC 4
Taxon	What is the taxon of interest?	"Tree"	Taxa #1	Taxa #2	Taxa #3	Taxa #4
Sampling unit	What is the sampling unit for each topic of interest included in the study?	"Plot"	Sampling unit - Topic 1	Sampling unit - Topic 2	Sampling unit - Topic 3	Sampling unit - Topic 4
Description of the study area	Give a short description of the experimental design in which your sampling unit is.	"Study area includes 10 plots of size 40 60m x 100m"	Experimental design 1	Experimental design 2	Experimental design 3	Experimental design 4
Number of sites/plots/quadrats	How many replicates of the sampling unit in there in the study area?	"2"	# of S. Unit - 1	# of S. Unit - 2	# of S. Unit - 3	# of S. Unit - 4
Distance between sampled sites	What is the average distance between each sampling unit if known?	"5-30 km"	Distance 1	Distance 2	Distance 3	Distance 4
Altitude (meters)	What is the altitude of the study area?	"215-670"	ANSWER			
Latitude	Give a general LATITUDE coordinate of the study area (just 40 digits or UTM coordinates (datum=Zone))	"48.8385" or "201428 WGS84 49"	ANSWER			
Longitude	Give a general LONGITUDE coordinate of the study area (just 40 digits or UTM coordinates (datum=Zone))	"-77.8665" or "548929 WGS84 19"	ANSWER			
Forest type	What is the forest type?	"Spike pine forest"	ANSWER			

### FIND POTENTIAL COLLABORATORS

**NATIONAL DATABASE NETWORK:** Governmental, industrial & academic researchers

### NETWORK OBJECTIVES:

Foster collaborations & data exchange:

Make available collected information via the HAND database in order to support large-scale projects

### COORDINATE DATA ACQUISITION INITIATIVE

**DATA MANAGEMENT PROTOCOL STANDARDIZATION**  
**FIELD CAMPAIGN COORDINATION**

### WANT TO PARTICIPATE?

We are actively seeking collaborators who have data on abiotic and biotic variables after:

- Wildfire
- Mountain pine beetle outbreaks
- Spruce budworm outbreaks

