Final Project Abstract:

During 2003-2004 the project team:

- updated the fire database with records from national parks in B.C. and the insect database with maps from 1920-1959 annual reports of the Vernon forest insect laboratory, and survey maps for 1998 and 1999 for Cariboo and Kamloops forest regions;
- completed corrections to the attributes of the 1920-1950 fire records with reference to approximately 500 microfilm fire reports and ledgers in the provincial archives;
- completed check of 1950-2000 spatial fire database against point records for completeness and derived estimates for missing polygons;
- completed intersection of fire and insect outbreak coverages with BEC and TSA/TFL/protected area and forest region/district coverages to add these attributes to the polygon records.
- compiled all of the insect outbreak attribute data (approximately 300 000 outbreak records) into an MS Access database;
- uploaded forest insect outbreak spatial and non spatial databases to the PFC Pest Archives web page/ ftp server so that it is publicly available.
- developed a forest fire web map viewer Wildfire Online and installed on the BC Ministry of Forests Protection Branch web site/server.
- carried out an analysis of the effects of changing disturbance rates on lodgepole pine susceptibility to MPB, and an analysis of MPB range expansion in a changing climate
- analysed the distribution of forest fires and forest insect outbreaks and frequencies by biogeoclimatic and administrative unit;
- obtained a copy of the seamless provincial forest inventory and determined the species/ age class distribution by BEC unit as part of an analysis of host susceptibility
- analysed the average and maximum size of fire and insect outbreak polygons by forest district as part of a review of the 60/40 harvest rule for the BC Ministry of Forests Forest Practices Branch.
- provided natural disturbance data to 16 researchers and resource managers for special projects.
- provided a forest fire history animation and interview for a Westland television program on forest fire for the Knowledge Network.
- made 2 presentation, prepared two papers using project data, and prepared one article about the project.

Further research is needed to quantify disturbance rates in relation to the amount of susceptible host species by ecological unit, and to explore means of incorporating natural disturbance risks in land management planning. A better understanding of the probability, frequency, pattern, and interactions between natural disturbance events (fire, insects) will help in the development of
sustainable management plans and practices in British Columbia. Greater public awareness of the scale of natural disturbances will help gain support for the management of disturbance events/outbreaks.