Island Remnants on Foothills and Mountain Landscapes of Alberta: Methods

Alberta Foothills Disturbance Ecology Methodology Series
Report No. 1

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Foothills Model Forest.
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Foothills Model Forest is one of eleven Model Forests that make up the Canadian Model Forest Network. As such, Foothills Model Forest is a non-profit organization representing a wide array of industrial, academic, government and non-government partners, and is located in Hinton, Alberta. The three principal partners representing the agencies with vested management authority for the lands that comprise the Foothills Model Forest, include Weldwood of Canada Ltd. (Hinton Division), Alberta Sustainable Resource Development and Jasper National Park. These lands encompass a combined area of more than 2.75 million hectares under active resource management.

The Canadian Forest Service of Natural Resources Canada is also a principal partner in each of the eleven Model Forest organizations and provides the primary funding and administrative support to Canada's Model Forest Program.

The Foothills Model Forest mission: We are a unique partnership dedicated to providing practical solutions for stewardship and sustainability on Alberta forestlands. What we learn will be:

- reflected in on-the-ground practice throughout Alberta and elsewhere in Canada, where applicable
- incorporated in forest and environmental policy and changes;
- widely disseminated to and understood by a broad spectrum of society.

This will be the result of a solid, credible, recognized program of science, technology, demonstration and outreach.

ACKNOWLEDGEMENTS

This research was possible only through the hard work and dedication of many individuals. First and foremost, Weldwood of Canada Ltd. (Hinton Division), Jasper National Park, the Canadian Forest Service, Alberta Newsprint Company, Weyerhaeuser Company Ltd., Alberta Sustainable Resource Development, and the Alberta Forest Products Association generously supported the natural disturbance research presented in this report.

The Foothills Model Forest (FtMF) Natural Disturbance Program was the vision of two individuals; Hugh Lougheed from Weldwood of Canada Ltd., and Dan Farr, then with the Foothills Model Forest. Since then, the unflagging support of the FtMF Natural Disturbance activity team is reflected in the thoroughness of the research, and quality of the data. We would like to thank Dan, Hugh, Gord Stenhouse (then with Weldwood), George Mercer, Al Westhaver and Dave Smith from Jasper National Park, Don Harrison, Herman Stegehuis, and Bob Anderson from Alberta Sustainable Resource Development, Greg Branton from Alberta Newsprint Company, and Rick Blackwood, Mark Storie and Don Podlubny from the Foothills Model Forest for their perpetual faith and support. Also, many thanks to the FtMF Board of Directors, and in particular Bob Udell, for their unrelenting belief in the Natural Disturbance Program.

The FtMF Natural Disturbance Program was fortunate to inherit some exceptional raw age data thanks mostly to the vision and efforts of Jack Wright, formerly of Weldwood of Canada Ltd, and Gerald Tande, who did his graduate work in Jasper National Park. These data were complimented by the meticulous work of MP Rogeau who coordinated all of our outstanding stand-origin sampling and mapping. Kim MacLean was instrumental in putting together the island remnants database and some preliminary analysis. Christian Weik of the FtMF has also been instrumental in providing any and all forms of GIS support to our research program in general, and these data in particular.

To the numerous field crews who tirelessly cut and cored trees across the FtMF, and sanded and counted rings on those rainy days, thank you for your efforts. Also, thanks to Dr. Bill Baker for providing valuable input during the early stages of this project.

EXECUTIVE SUMMARY

This first report in the FtMF Natural Disturbance Program methodology series defines a new and important report type – the "methods report". In this report we detail how data was collected for the study of island remnants in west-central Alberta. The methods we used are unique in many ways: in most cases, we only included fires that had post-fire aerial photos available within 2 years of the fire (making identification of partially disturbed islands possible) and we measured islands at a very high resolution (0.02 hectares). Indeed, the fact that islands less than two hectares account for over 26% of the total area in islands points to the importance of resolution.

The methods we used were necessarily new (as islands have not been investigated at this level of detail to date) and we have had many inquiries about them. Hopefully the information gained and lessons we learned through this project will help guide other researchers who are undertaking similar projects.

INTRODUCTION AND REPORT OVERVIEW

This report is divided into several related parts:

Part 1 is a general overview of the FtMF Natural Disturbance Program, and is common to all reports in the research and methodology series.

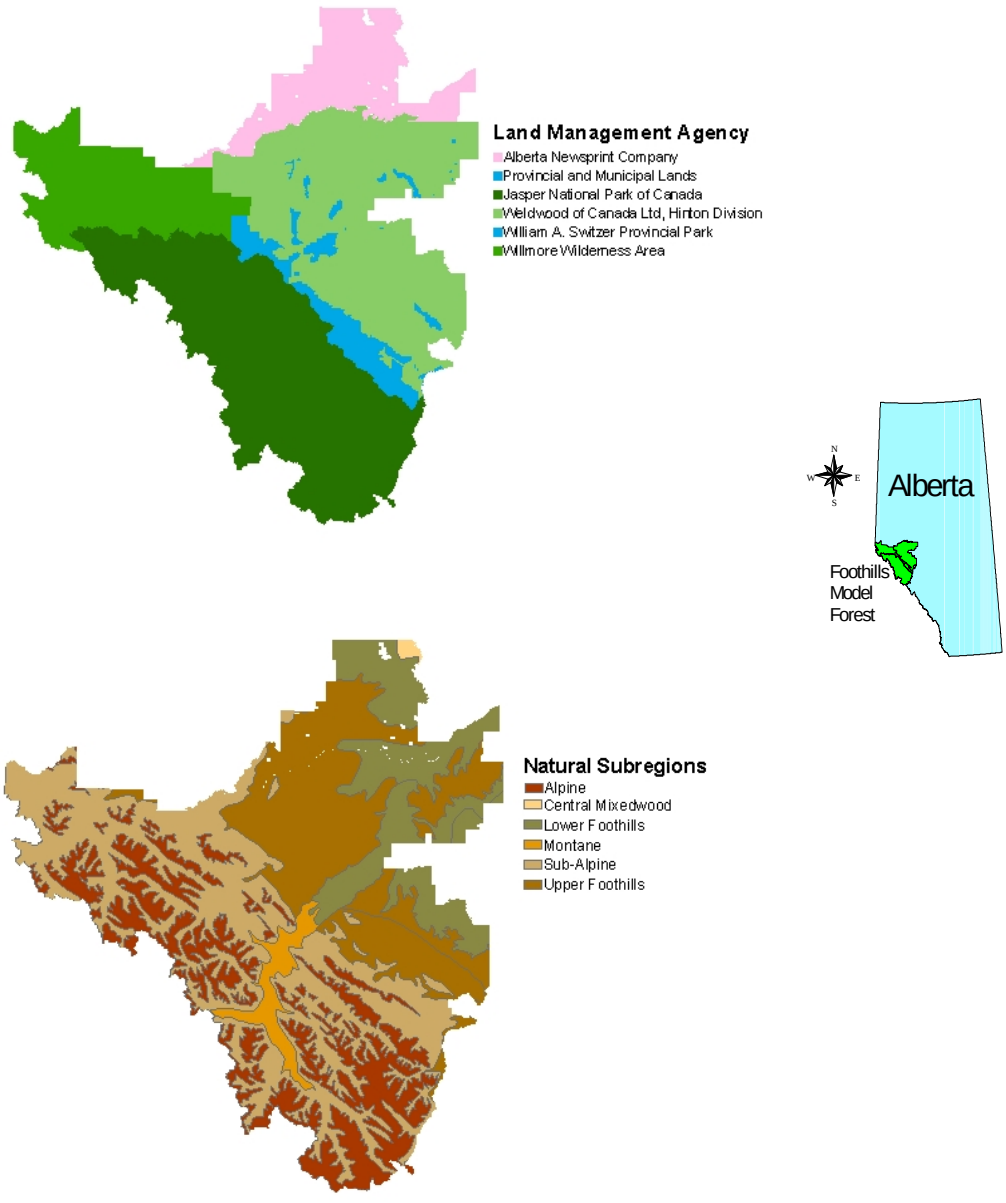
Part 2 details the methods we used for this project.

Appendix 1 provides information on the air photo projects available for 19 of the sample fires.

Appendix 2 provides detailed maps of 24 of the sample fires.

Part 1: THE FtMF NATURAL DISTURBANCE PROGRAM

In 1995, the Foothills Model Forest (FtMF) in Hinton, Alberta initiated a research program to describe natural and cultural disturbance patterns across over 2.75 million hectares of foothills and mountain landscapes (Figures 1 and 2). The main purpose of the research is to provide FtMF partners and co-operators with a complete picture of how natural and cultural disturbances have historically shaped these landscapes. Ultimately, each partner intends to use this information to help guide policy and management towards developing more ecologically sustainable land management practices.



Figures 1 and 2. Foothills Model Forest administrative areas and ecological zones.

The Foothills Model Forest Natural Disturbance Program is a co-operative venture, led by a team of representatives from the Foothills Model Forest, Weldwood of Canada, Alberta Sustainable Resource Development (SRD), Jasper National Park (JNP), and Alberta Newsprint Company (ANC). The comprehensive research program is partitioned into over 40 inter-related projects, each of which address a single disturbance question at a single scale. All projects are linked through a long-term research plan which includes details of the purpose and methods for each project and how they link together to form a complete picture of natural disturbance patterns. It also defines ground-rules for conducting the research to maintain focus, assess progress, respond to new information, and effect the timely completion of the work. These self-imposed ground-rules are as follows:

1) The main assumption driving this research program is: *In the absence of information on alternatives, using natural disturbance patterns to guide management is one of the best possible means of achieving ecological sustainability.* Therefore, our main research focus is on patterns, and the disturbance processes responsible for those patterns. This is not to say that the ecological responses to those patterns are not important, but that they are secondary issues/questions for which more basic knowledge and extensive research is required.

2) Since both natural and cultural disturbances affect pattern, the program implicitly considers all types of disturbances. The danger of the deliberate isolation and study of different types of disturbance agents is the assumption of pre-conceived, and possibly incorrect, relationships between pattern and process.

3) The research is driven by operational needs, and the results are designed to be readily interpreted. This means that the research must consider translations of results to management practices. This is being accomplished in two ways. First, direct linkages have been sought to monitoring programs through the description of pattern(s). Although the output of this research is non-species specific, it is highly quantitative, and it is possible in many cases to define “natural baselines”, making it ideally suited to monitoring. The second means of developing operational translations is through experimentation and demonstration. This allows for the evaluation of operational changes in terms of a) the success of creating the desired pattern(s), b) the biological responses of species and processes not part of the original research, c) practicality, and d) socio-economic impacts.

4.) Finally, internalizing the research is to be avoided. High-quality research must be conducted by professionals, openly peer-reviewed, presented at public meetings, conferences and tours, and published in FtMF NDP Quicknotes, internal reports, news updates, posters, and refereed journals. A communications plan has been developed for the FtMF Natural Disturbance Program to guide the dissemination and integration of the research.

SOME DEFINITIONS

The term "landscape" has many meanings at many different scales. As a research document, a "landscape" in this report refers to *an ecosystem large enough to allow observation and understanding of the interaction of disturbance, geomorphology and topography with the biota*. In other words, a large collection of forest stands whose common link is their dynamic relationship of disturbance to the land features (Forman and Godron 1986). In the foothills of Alberta, a landscape may be anywhere from 100,000 to 1,000,000 hectares. Like any ecological definition, this one is arguable, but it does allow some convenient scale distinctions to be made:

1) Regional

Several landscapes spatially related and commonly influenced by regional climatic patterns. The FtMF study area is a region in which several large landscapes have been identified with unique topographic, biotic, and pattern (disturbance) features. Beyond a region is a biome.

2) Landscape

Ecosystems that share common disturbance and land associations, as well as the resulting arboreal (tree) relationships with disturbance and land features. The ecologically based natural subregions have proven useful in defining landscapes (which include the Lower Foothills, Upper Foothills, Subalpine East, Subalpine JNP, and the Montane – see Figure 2).

3) Sub-landscape

Sections of one or more landscapes that exhibit a combination of ecological, social, and economic characteristics. Sub-landscapes can be defined in different ways depending upon management needs. For example, in our research, sub-landscapes are arbitrarily chosen blocks within landscapes in which more detailed analysis will be completed at higher levels of resolution.

4) Event / Meso

Areas within or between landscapes that at some point in time are commonly affected by a single disturbance such as a forest fire. Events include one or more disturbance patches, and may cross landscape boundaries. They may also include both forested and non-forested patches.

5) Patch

Contiguous areas of land that share common physical or biological characteristics. Age patches share year or year-range of origin (such as old forest), type patches depict areas of common tree species combinations, and Alberta Vegetation Inventory patches define complex combinations of age, tree species, density and height, other vegetation, and other site factors. There are also *disturbance patches*, which have been affected similarly by a disturbance event, and *remnant patches*, which are any areas that have not been disturbed within a disturbance event.

6) Island

One type of remnant patch within a disturbance patch. There are no size limits on islands at this point, but they tend to be small. Islands may also be any combination of age, type and may be operable or inoperable.

7) Matrix

All undisturbed land outside the boundaries of disturbance events. Thus, any part of a landscape that is not within an event is matrix. *Matrix remnants* are undisturbed residual land within an event that are physically attached to the surrounding matrix.

The geographical terminology used in this document is as follows. The FtMF consists of two major land areas divided by the foothills of the Rocky Mountains (see Figure 1). To the west of the foothills lies approximately 1.1 million hectares of Jasper National Park. To the east of the mountains is an area of approximately the same size, which covers the Weldwood Forest Management Agreement Area (FMA) but also includes William A. Switzer Provincial Park, the town site of Hinton, a large coal mine, and a strip of land under the management of Alberta SRD. Outside the boundary of the FtMF, but still in our study area is approximately 370,000 hectares representing the ANC FMA (Figure 1). The area to the west of the foothills is Jasper National Park, and will be referred to as such. Since the area to the east of the mountains is a mixture of tenure, it will simply be referred to as the "Foothills East".

Although the Willmore Wilderness Area is a part of the FtMF, it will not be discussed in this report since little or no data exists for this area.

Within Jasper National Park, three natural subregions exist: the Montane, Subalpine, and the Alpine. In the Foothills East there are also three natural subregions: Lower Foothills, Upper Foothills, and Subalpine (Figure 2). To avoid confusing the two subalpine areas, they will be referred to as the "Subalpine JNP" and "Subalpine East".

THE DISTURBANCE ECOLOGY METHODOLOGY SERIES

This methods report is the firstin a series that will be published by the Foothills Model Forest on methods we use to study natural disturbance dynamics on foothills and mountain landscapes in Alberta. We also publish a research series that details the results of our research- the reports currently available in this series are listed below.

For more information on the FtMF Natural Disturbance Program, or the Foothills Model Forest, please contact the Foothills Model Forest in Hinton, Alberta at (780) 865-8330 or visit our website at: http://www.fmf.ab.ca. Copies of reports and Quicknotes are available on the website in Adobe Reader® format.

Reports available in the research series:

Andison, D.W. 1999. Assessing forest age data in foothills and mountain landscapes in Alberta. Alberta Foothills Disturbance Ecology Research Series, Report No. 1, December, 1999. Foothills Model Forest, Hinton, Alberta.

Andison, D.W. 2000. Landscape-level fire activity on foothills and mountain landscapes in Alberta. Alberta Foothills Disturbance Ecology Research Series, Report No. 2, July, 2000. Foothills Model Forest, Hinton, Alberta.

Andison, D.W., and K. McCleary 2002. Disturbance in riparian zones in foothills and mountain landscapes of Alberta. Alberta Foothills Disturbance Ecology Research Series, Report No. 3, February, 2002. Foothills Model Forest, Hinton, Alberta.

Andison, D.W. 2003. Patch and event sizes on foothills and mountain landscapes of Alberta. Alberta Foothills Disturbance Ecology Research Series, Report No. 4, March, 2003. Foothills Model Forest, Hinton, Alberta.

Andison, D.W. 2003. Disturbance events on foothills and mountain landscapes of Alberta. Part 1. Alberta Foothills Disturbance Ecology Research Series, Report No. 5, November, 2003. Foothills Model Forest, Hinton, Alberta.

Andison, D.W. 2004. Island remnants on foothills and mountain landscapes of Alberta. Part II on residuals. Alberta Foothills Disturbance Ecology Research Series, Report No. 6, November, 2004. Foothills Model Forest, Hinton, Alberta.

Part 2: ISLAND REMNANTS

INTRODUCTION

Within disturbed patches created by fires, there are patches of residual vegetation created by skips and partial burns (DeLong and Tanner 1996, Eberhart and Woodard 1987). We understand little about the patterns of these "island remnants". Such information is needed if natural disturbance "emulation" is the desired management paradigm in the Rocky Mountain and Foothills natural regions of Alberta.

When we initiated this study, only three other studies had been conducted on island remnants. DeLong and Tanner (1996) studied island remnants in northern BC and Eberhart and Woodard (1987) and the Alberta Research Council (2001) conducted studies in Alberta. This is the first study of residuals in the Alberta foothills. In addition to differences in location between this study and others, there are also important methodological differences.

The methods we used were unique in two ways: in most cases, we only included fires that had post-fire aerial photos available within 2 years of the fire (making identification of partially disturbed islands possible) and we measured islands at a very high resolution (down to 0.02 hectares). The detail available in these data provide us with the ability to delve into great detail on residual patterns. Indeed, the fact that islands less than two hectares account for over 26% of the total area in islands points to the importance of this high level of resolution.

In this report, we detail how and which data we gathered to identify existing fires, criteria we used for including fires in our study, and methods we used to interpret island remnants on aerial photos.

STUDY AREA

Our study area included the Subalpine, Upper Foothills and Lower Foothills natural subregions of Alberta. Isolated pockets of Foothills natural regions in the Saddle Hills, Clear Hills, Pelican Mountains, Bragg Creek and Swan Hills (east of Highway 43) were not included (Figure 3).

METHODS

FIRE SELECTION

We used several screening criteria to select fires for inclusion in this study. An initial list of candidate fires was generated using the Forest Fire History Maps of Alberta, 1931 to 1983 (Delisle and Hall 1987) (Table 1). This document provided us with maps of 1,678 fires greater than 200 ha that occurred in Alberta between 1931 and 1983. Boundaries of the Upper Foothills, Lower Foothills and Subalpine natural subregions were traced onto 1:500 000 scale maps for the western half of the province. We then entered the legal land descriptions for each fire within the study area into the Air Photo Services - Government of Alberta (Edmonton, phone 427-3520) database to obtain a list of fires that had air photos available (Appendix 1). At this stage, we used air photo project dates to determine flight date, even though photos may have been taken over several years.

Of the 208 fires located within the study area, we selected those that were most appropriate for delineation of remnant islands. The following are the first set of criteria we used for fire selection:

1. air photos available within the first year after the fire at a scale of 1:20 000 or larger,
2. no overlap with other fires and
3. located completely within one natural subregion (Table 2)

Fires 1133, 1209 and 1236 conformed to this set of criteria. We rejected 11 other possible fires for the following reasons: photos were unavailable after the event, different fires overlapped making interpretation difficult or the area was not forested. Ignoring the criteria screening, we added five fires to our sample (1118, 1120, 1206, 1216 and 1635) based on their locations within the Forest Management Agreement areas (FMAs) of two project partners: Weldwood of Canada (Hinton Division) and Weyerhaeuser Canada (Alberta Operations).

To increase the sample size, we applied a second set of more lenient criteria to all fires within the study area:

1. air photos available within two years after the fire at a scale of 1:20 000 or larger,
2. no overlap with other fires,
3. located completely within one natural subregion and
4. historical maps available

Using these criteria, we selected five fires: 1071, 1072, 1073, 1119 and 1499.

To further increase the sample size, we applied a third set of criteria to all fires in the study area:

1. air photos available within five years at a scale of 1:20 000 or larger,
2. no overlap with other fires,
3. located completely within one natural subregion and
4. historical maps available

Three additional fires met these criteria: 1070, 1140 and 1451.

To include fires in our sample representing the Upper Foothills natural subregion, we applied a fourth set of criteria to all fires in the study area:

1. air photos available within five years at a scale of 1:20 000 or larger,
2. no overlap with other fires and
3. either completely or partially in the Upper Foothills natural subregion

Using these criteria we added four more fires to the sample: 585, 843, 875b, and 1360, bringing the total sample size to 20 fires. We discovered the existence of fire 875b at the Edmonton Air Photo Services division- it is not listed in Delisle and Hall.

To increase the sample size to 25, we applied a fifth set of criteria to all fires within the study area:

1. air photos available within two years at a scale of 1:20 000 or larger,
2. less than or equal to 3000 hectares,
3. no overlap with other fires and
4. regardless of crossing natural regions or subregions

Using these criteria we identified two more candidate fires, numbers 762 and 1060.

We found the three remaining fires- LFS reference numbers 24E-2-56, 56-3-56 and DW1-15-70- by searching through Lands and Forest Service historical maps. These maps showed fires that had burned in the province from 1954 to 1995. Criteria we used in this search were:

1. on historical maps but listed not in Delisle and Hall,
2. air photos available within two years,
3. within the study area boundaries,
4. greater than 100 ha,
5. no overlap with other fires and
6. having clear fire boundaries

Out of the 25 selected fires, two were in the Subalpine, three were in the Subalpine/Upper Foothills, six were in the Upper Foothills, one was in the Upper Foothills/ Lower Foothills and 13 were in the Lower Foothills natural subregion.

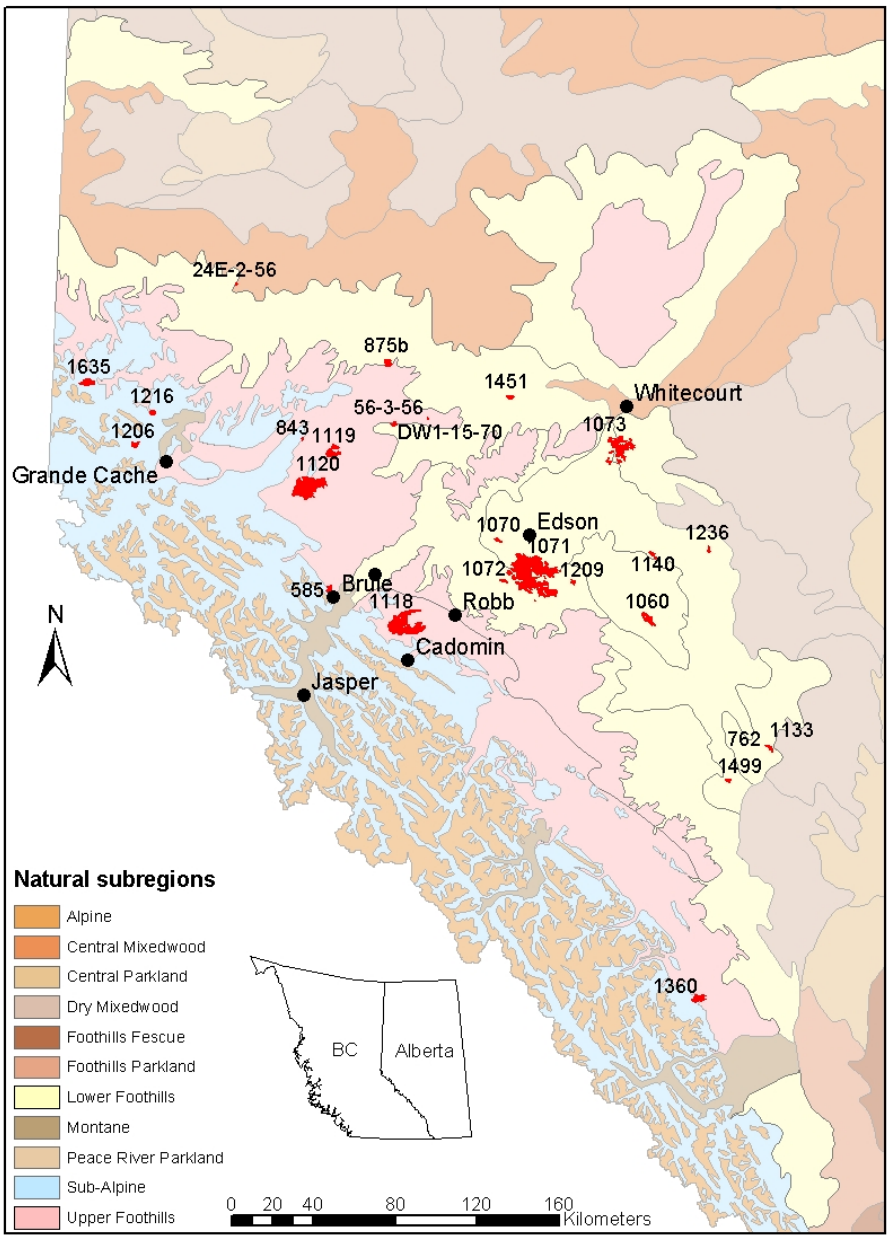


Figure 3. Partial map of Alberta showing natural subregions and locations of 25 sample fires for FtMF island remnant study.

PHOTO INTERPRETATION

DATA

NTS Map Sheets

We obtained National Topographic System 1:20,000 mapsheets (Maptown, phone 429-2600) for most of the fires to explore accessibility for fieldwork and for grid reference information to aid the interpretation of historical fire maps (Table 3).

Aerial Photographs

We obtained post-fire aerial photographs from Air Photo Services (Table 4).

Historical Maps

Historical maps of fire boundaries were obtained from Lowell Lyseng, Senior Technologist, Forest Resource Information Branch, Land and Forest Service of Alberta Environmental Protection (phone 422-5294). We could not locate historical maps for some fires, including those that occurred prior to 1954 and miscellaneous others (fire 1499) (Table 5). We digitized fire boundaries, percent burned within the outer perimeter and Phase I forest cover types present before the fires.

Forest Cover Series

We obtained Phase I Forest Cover Series maps from Doug Langner, Supervisor of Vegetation Data Mapping, Data Acquisition Branch, Resource Data Division of Alberta Environmental Protection (phone: 422-0918). The maps are referenced by 1:50 000 NTS grid reference even though scales of these maps are actually 1:40 000 and 1:63 360 (Table 6). Air photos taken of the entire province from 1943 to 1951 at scales ranging from 1:15 840 to 1:40 000 and photos taken from 1957 to 1960 of the Rocky Mountain Forest Reserve at a scale of 1:15 840 were interpreted to produce these maps. The mapsheets were sometimes updated with fire boundaries or used as base maps for the historical fire maps. We obtained Phase II and Phase III forest cover maps for fires (Table 6) that required forest cover more recent than Phase I.

Fire Suppression

We located provincial fire reports, fire damage reports, letters, fire boundary updates and fire suppression sketches for each of the fires at Records Data Management (phone 415-0405) for fires that occurred from 1933-1961, and at the Provincial Archives (phone 427-1750) for post-1961 fires. Some of the fire suppression information included with the reports is summarized in Table 7, with the exception of fire 875b. Hand drawn maps, included with the reports, sometimes depicted general locations of “dozer” and hand-constructed fireguards. We entered this information digitally referencing cadastral data, Phase I forest cover, fire perimeter and/or creeks already available as a digital coverage in a Geographic Information System (GIS). We used “on-screen digitizing” to create digital layers of fire origin, fire camps, dams, heliports, air tanker lines and pump locations. We saved this information as shapefiles and added them to the maps we created for each fire. Due to the lack of sophisticated mapping techniques and the reasons for recording suppression effort, we suggest that this information be used cautiously, especially when speculating reasons for remnant island formation and location.

Digital Elevation Models and Digital Base Files

We ordered digital elevation model (DEM) and 1:20 000 base position files (Table 8) through the Resource Data Division of Alberta Environmental Protection (phone 427-7374). DEM's were used to derive slope and aspect. We used digital base position files to create mylar maps of the fire areas. The location of attributes such as roads, creeks, seismic lines and railways aided the transfer of information from interpreted air photos to the base map. Because of the incompatibility of these files with individual operating systems, we recommend that a GIS specialist be consulted before ordering these types of digital data.

INTERPRETATION

Pre-Burn Forest Cover

The forest cover information provided by the Phase I forest cover series lacked detail due to the small scale of interpreted air photos (1:40 000 being the most common) and possibly due to a lack of standard interpretation procedures. Currently, the province requires that all forest cover interpretation be done by a certified AVI Photo Interpreter and that they use air photos at a scale of at least 1:20 000. The Resource Data Division of Alberta Environmental Protection supplies detailed proposal guidelines and terms of reference for contractors qualified and interested in Alberta Vegetation Inventory interpretation and contract work is monitored by the department (Resource Data Division, 1997), but these standards were not in place at the time of interpretation for Phase 1 maps.

Because of the uncertainty related to detail and interpretation quality of Phase I forest cover data, we decided to purchase pre-burn photos for the sample fires and interpret the pre-fire forest cover. Following research at Air Photo Services, we purchased pre-burn air photos for 21 of the 25 fires (Table 4). Fires 585, 762 and 875b had no pre-burn photography available and photos were not purchased for the Moose Creek Fire (1071) due to the high cost of the photos and interpretation. With the exception of fire 843, all the photos were at a scale of 1:21 120 or larger, with 19 of the fires having photos with a scale of 1:15 840. Simon Reid Collins, Forest Resource Consultants (phone 484-8461) interpreted these photos (with the exception of fires 1118 and 1120, due to lack of funding) and created a digital coverage of pre-burn forest cover to current AVI standards for 19 of the study fires.

Post-Burn Forest Cover

We interpreted remnant islands and fire perimeter for 10 of the 25 selected fires using stereo photo pairs, a stereoscope, a magnifier light and historical maps, if available. We drew a 100 cm^2 block on the center of each photo to avoid distortion of features and scale toward the edges. We occasionally interpreted areas outside of this block because of insufficient side-lap of photos between flight lines. With the aid of historical fire maps, the perimeter of the fire was first outlined. Within this outer fire perimeter, we used a blue pencil to delineate "class I" islands, defined as groups of live standing trees that formed a canopy and contained no visible evidence of burnt trees. When working with photography at scales of 1:21 120 or larger, it became evident that some remnant islands contained burnt or down trees, and therefore we identified a second class of island. Class II islands were defined as having 50%-99% live trees (canopy cover), but with burnt trees evident. These islands were delineated with a green pencil. Single live standing trees were only occasionally visible, depending on scale of photography, film emulsion and underlying ground cover, and therefore we did not identify them in this study.

The boundaries we delineated differed in some areas from those on historical maps due to the following possible reasons:

1. photos used were not the same as those used for interpretation on historical maps,
2. photos used for interpretation were taken at a small scale (fires 1635, 1:60 000; 1118 and 1120, 1:31 680),
3. photos were taken 7 to 13 years after the fire had occurred (fires 1118, 1120 and 1206), and
4. interpreter subjectivity

Unfortunately, historical fire maps did not indicate the scale, date and film type for air photos used. It is possible that photos taken for the purposes of delineating a fire were hazy due to smoke, taken along haphazard flight lines (e.g., only perimeter flown completely), not indexed, and probably destroyed after the maps were completed, as they were used primarily for fire fighting (Lowell Lyseng, pers. comm.).

Once we realized the inherent complexity of interpretation, we decided to have the interpretation done by a certified AVI interpreter. We contracted the Forestry Corps to interpret, transfer, digitize and spatially reference the 25 sample fires. We chose the following extent and condition codes to describe islands (Resource Data Division 1997):

Extent (loss of crown, %)	Interpretation and database code
0	0
1-25	1
26-50	2
51-75	3
76-94	4
100	5

Interpretation of fires with extent loss codes was still very subjective but the classification standards and methods used were consistent with the Government of Alberta guidelines for the Alberta Vegetation Inventory.

Work was completed in November 1998. The name of this coverage is *resid98_new* (this coverage replaces all previous versions). It is located on a CD titled *FMF – Island Remnants, Version 2*.

Originally, we also asked the Forestry Corps to provide digital coverage of pre-fire forest cover, available from Phase I or historical fire maps, for selected fires. But as explained previously, we abandoned this work in favour of having the photos interpreted to current AVI standards. The incomplete digital coverage of work completed by the Forestry Corps on forest cover is available on the CD titled *Island Remnants-Sept. 98,* the name of the coverage is *forest*.

REASONS FOR ISLAND FORMATION

We gathered climate data for the 25 fires in the hopes of relating island formation patterns to climate. Ultimately, this work was never completed but we list below what climate data is available in Alberta.

CLIMATE DATA

We obtained climate data for each of the 25 fires to reconstruct fire indices and codes using the Canadian Forest Fire Behaviour Prediction (FBP) System (Hirsch 1996). This information can be used to explain fire movement and patterns of remnants left within the fires. We needed wind speed, temperature, relative humidity and precipitation to derive the following attributes from the Fire Weather Index (FWI) System:

1. *Fine Fuel Moisture Code* (FFMC)-moisture content of litter and other cured fuels
2. *Initial Spread Index* (ISI)-relative expected rate of fire spread based on FFMC and wind speed
3. *Buildup Index* (BUI)- relative measure of the amount of fuel that becomes available for combustion as drying occurs based on the Duff Moisture Code (DMC) and the Drought Code (DC).

These measurements taken together provide relative fire potential in a standard fuel type, on level terrain from noon weather observations. FWI outputs, together with wind speed and direction, are required as inputs for the FBP system.

We investigated three sources of climate station data: Atmospheric and Environment Sciences University of Alberta, Alberta Environmental Protection Land and Forest Service Forest Protection Division and Environment Canada Atmospheric Environment Branch Climate Services Unit.

Atmospheric and Environment Sciences- University of Alberta

Terry Thompson (Meteorology Technician, University of Alberta, phone 492-5406) gave us daily climate station data for 23 out of 25 fires. No data was available for fires 843 or 875b. We copied the historical climate data onto CD and queried climate stations (Table 9) by river basin/district for the following areas: Athabasca River, Rocky Mountains, Peace River and North Saskatchewan River. Climate data was stored by station number, year then month (i.e. “301008”, 1952, 6) in a comma delimited file. Wind data was not recorded at these stations.

Alberta Environmental Protection- Land and Forest Service (LFS)-Forest Protection Division

Paul Kruger (Fire Weather Specialist, phone 422-8895), Lisa Jackson-Avis (Meteorologist, phone 422-7228), Cordy Tymstra (Fire Ecology Officer, phone 427-8690) and Kurt Frederick (Fire Behaviour Officer, phone 427-8085) helped us research what climate data was available at the Forest Protection Branch. Results from this search provided daily wind data for three of the study fires- 1360, 1499 and 1635. No records were available for winter periods, no wind data was available before 1965 and only monthly reports were available for the 1950’s. From 1965-1975, values were recorded in imperial units and afterwards in metric units. Data was available for fires DW1-15-70 and DW1-6-74 but this data was not available at LFS in Edmonton.

LFS was in the process of entering historical reports from weather stations into a database that would ease the process of obtaining historical weather data. They were also researching other sources of climate data, such as circumpolar surface maps. Once the data is obtained, they will reconstruct fire codes and indices for sample fires with complete climate data available. Cordy Tymstra is coordinating this part of the project.

Environment Canada- Atmospheric Environment Branch- Climate Services Unit

Data on main station hourly surface wind was available from Environment Canada. Jim Ross (Superintendent, phone 951-8875) and Jacques Laflemme confirmed that historical wind data was only available at main stations, which are located in larger towns (Calgary, Edmonton). We questioned the applicability of this data to surrounding areas. Because of the questionable applicability and high cost of purchasing this data ($1392), we decided not to obtain it.

RESULTS

FIRE DESCRIPTIONS

The following is a summary of topography, air photo scale, year, film type and specific interpretation problems we encountered for each of the fires:

MARSH HEAD CREEK FIRE (DW1-15-70)

The Marsh Head Creek Fire burned 28 hectares following a lightning strike in the Upper Foothills, south west of Fox Creek. Photos were taken on August 22, 1970 with IR 2424 film at a scale of 1:15 840.

LITTLE SMOKY FIRE (#843)

The Little Smoky burn of 1950 occurred in the transitional zone between the Upper Foothills and the Subalpine natural subregions, covering 37 hectares. This fire was thought to have started from lightning, just north of Horse Creek. The fire was spotty over a south to southeast facing slope with patches at the toe and crest of the slope as well. The interpretation was initially difficult due to the number of snags and the month of photography (September 1951) but upon closer inspection, leaves could be seen on the unburned deciduous species, easing identification of the burnt area. Photographs were taken at a scale of 1:15 840 with panchromatic super xx film.

OPEN CREEK A FIRE (#762)

The Open Creek A fire burned 40 hectares of gentle, east facing slopes in the Lower Foothills in 1949. Interpreted photos were taken in 1950 at a scale of 1:40 000 with panchromatic super xx film. Photos were also available at a scale of 1:15 840 taken in September of 1951 but the burned areas were very difficult to distinguish on the landscape because of numerous shrubby areas. This fire was located roughly 2 kilometers south of where it was reported to have occurred by the Department of Lands and Mines, Forest Service. There was no evidence of fire to the north of the burn.

CUTBANK RIVER FIRE (#24E-2-56)

The Cutbank River Fire occurred in 1956 in the Lower Foothills and was 59 hectares. This fire left few islands and many snags within a small area. Photos were taken in August 1957 with IR 2424 film.

LITTLE SUNDANCE CREEK FIRE (#1070)

The Little Sundance Creek burn of 1956 was 164 hectares. This burn occurred over a flat area in the Lower Foothills natural subregion. The fire appeared to skim around wet areas, burning the surrounding trees. Photography was taken at a scale of 1:15 840 with IR 2424 film in September 1961.

THE CRIMSON LAKE FIRE (#1499)

The Crimson Lake burn of 1979 spanned the border of Crimson Lake Provincial Park in the Lower Foothills north of Rocky Mountain House. This 190 hectare burn was south of Buster Creek on northeast facing slopes. Photos were taken in 1981 with panchromatic 2405 film. These were the largest-scale photos used (1:10 000) in this study, and therefore showed the most detail. Many live trees were visible that were difficult to fit in the classes of islands defined, and were therefore not delineated.

BERLAND RIVER NORTH FIRE (#56-3-56)
The Berland River North Fire covered 194 hectares in the Upper Foothills. Photos were taken in August 1957 with IR 2424 film. This fire was difficult to interpret because of varying canopy closure within the burn.

THE PEMBINA RIVER FIRE (#1236)
The Pembina River burn of 1961 covered 198 hectares of flat, boggy terrain north of an unnamed creek flowing southeast into the Pembina River. Photos were taken in 1961 at a scale of 1:15 840 with unspecified IR film. Most of the forest cover was deciduous mixed with shrub lands and photos were not difficult to interpret.

OPEN CREEK FIRE (#1133)
The Open Creek burn of 1958 covered 203 hectares in the Lower Foothills north of Rocky Mountain House. The fire was reported to have been caused by a fishermen's cigarette. The majority of the fire occurred on a west facing gradual slope leading down to an old creek bed. Photos were taken in September of 1958 at a scale of 1:15 840 with IR 2424 film.

THE WOLF CREEK FIRE (#1209)
The Wolf Creek burn of 1961 covered 215 hectares in the Lower Foothills on gradual, southwest facing slopes, east of the creek. Photos were taken within a year of the burn at a scale of 1:15 840. Light toned objects blended together while the burnt areas showed up very black with this unspecified IR emulsion.The northern perimeter of this burn appears to have a fire break constructed around it which may have affected the spread of this fire. Photos were difficult to interpret because of the details lost in the extremes of black and white contrasts.

THE ERITH FIRE (#1072)
The Erith River burn of 1956 encompassed 222 hectares in the Lower Foothills natural sub- region on a flat, boggy area at the toe of a northwest facing slope, just east of the confluence of the Embarras and Erith rivers. Air photos were taken in 1957 at a scale of 1:15 840, with infrared Kodak 2424 film emulsion. This particular film was used for the entire project flown in 1958 and it should be noted that it was entered incorrectly in the Government of Alberta air photo database in Edmonton, and therefore shown as Super XX across from project 58- "___" on all project lists. The photos for this fire were very black and streaky, making it difficult to delineate islands.

BIGORAY CREEK FIRE (#1140)
The Bigoray Creek burn of 1958 covered 278 hectares in the Lower Foothills natural sub region. Photos were taken three years after the fire but the burn showed black on the photos, thereby making the boundary very distinguishable. Photos were taken at a scale of 1:15 840 using infrared film in September 1961.

ATHABASCA FIRE (#1451)
The Athabasca burn of 1974 was 365 hectares and occurred in the Lower Foothills natural subregion east of Highway 947. Photos were taken using infrared film at 1:15 000 in June 1978.

PRAIRIE CREEK FIRE (#1216)
The Prairie Creek burn of 1961 covered 409 hectares. It ignited following a lightning strike in the Subalpine natural subregion north of Grande Cache. The majority of the burn occurred on south and southwest slopes, east of La Force Creek. Fire and island boundaries were easily distinguishable. Photographs were taken in June 1970 using infrared film at a scale of 1:18 000.

THE SHEEP CREEK FIRE (#1206)

The Sheep Creek burn of 1961 covered 439 hectares in the Subalpine natural subregion north of Grande Cache. Photos were taken in 1974 at a scale of 1:21 120 with IR 2424 film emulsion, which portrayed grey tones from the amount of IR reflectivity of an object rather than the density of an object's color, as with panchromatic films. These photos had well defined features for interpretation but unfortunately most of the fire fell on the edges of the photos where details were fuzzy and distorted.

BRULE FIRE (#585)

The Brule burn of 1946 covered 634 hectares in the Upper Foothills. The fire originated from a spark that was thrown from the Brule Lumber Company mill into a slash pile. The fire occurred on steep south facing slopes north of Oldhouse Creek before crossing the creek to north facing slopes. Photography used to interpret this fire was taken in September 1951 at a scale of 1:15 840 with panchromatic super xx film. Interpretation was difficult due to lack of discrimination between burnt and live standing trees and absence of tree cover in the southwest region of the burn.

LITTLE TONY CREEK FIRE (#875B)

The Little Tony Creek burn of 1950 occurred in a transitional zone between the Upper and Lower Foothills, bounded by the Waskahigan River to the northwest and Tony Creek to the southeast. Topography is relatively flat and swampy with steeper southeast slopes facing towards Tony Creek. This fire was distributed over the landscape with one burnt patch on the east side of Tony Creek, at the toe of a north facing slope. This fire was not recorded by the Department of Lands and Mines of Alberta, so the cause is unknown. Two fires burned approximately 5 km to the west during June and July but burn evidence was not seen on the photos taken in July and September 1950. Photos were taken at a scale of 1:15 840 using panchromatic super xx film. The photos depicted the burnt areas and remnant islands quite clearly and were therefore not difficult to interpret.

RAT CREEK FIRE (#1060)

The Rat Creek burn of 1956 occurred in the Lower Foothills on a level area along Rat Creek, covering 697 hectares. This fire was reported to have started from a burning brush pile along a gas line. It appeared very patchy, probably because of the shrubby areas present. The fire itself was very clean with few snags or islands present. Photos were taken in August 1957 using IR film at a scale of 1:15 840.

TIMBER CREEK FIRE (#1360)

The Timber Creek burn of 1970 was 1163 hectares and occurred in a transitional zone between the Subalpine and Upper Foothills natural subregions. The photos were taken in August 1970 with IR 2424 film at a scale of 1:15 840. Photos were of good quality for interpretation.

THE HORSE CREEK FIRE (#1119)

The Horse Creek burn of 1956 occurred in the Upper Foothills and spanned across the Berland River at its confluence with Horse Creek, covering 1162 hectares. It burned a relatively flat area at the bottom of east facing slopes that included grass and shrublands. Photos were taken in September of 1958 at a scale of 1:15 840 using IR 2424 film. The photos were clear to interpret and were taken with a suitable exposure for IR film that avoided the creation of dark shadows.

THE LICK CREEK FIRE (#1635)

The Lick Creek burn of 1982 covered 1300 hectares in the Subalpine and Upper Foothills north of Willmore Wilderness Park and the Kakwa River. The burn occurred on the steep west facing slopes of Lick Creek and the northeast slopes of Hat Creek. Photos were taken the year following the burn with panchromatic 2405 film but at a scale of only 1:60 000. Remnants were hard to identify using stand texture changes at this scale. While researching the availability of pre-burn photos for this fire, we discovered clearer post-burn photos. These photos were taken in July of 1982 at a scale of 1:15 000 and we recommend that this fire be re-interpreted using these photos.

MCLEOD RIVER FIRE (#1073)

The McLeod River burn of 1956 was 3638 hectares. The burn occurred east of the McLeod River on plateaus in the Lower Foothills south of Whitecourt. The boundaries were very hard to interpret because the fire seemed to skip around the wet areas that were abundant in the area. There were many discrepancies between the boundary drawn on the historical fire map and the boundary visible on the photo. The photography used to interpret the fire was 1:15 840, IR 2424, taken from June to August 1958.

THE GREGG RIVER FIRE (#1118)

The Gregg River burn of 1956 covered 8886 hectares in the Upper Foothills and the Subalpine natural subregions. It is located south of the Gregg River and mostly west of the McLeod River. Photos were taken in 1963 at a scale of 1: 31 680 . Film emulsion was panchromatic 2402 which was a medium speed film sensitive to 720 nm, with similar characteristics as the panchromatic 2405 (used in lower light conditions).

THE SMITH CREEK FIRE (#1120)

The Smith Creek burn of 1956 covered 9117 hectares in the Upper Foothills north of Hinton, mostly south and east of the Berland River. This fire occurred between the Berland River and Hightower Creek. The photos used for interpretation were taken 7 years after the fire in 1963 at a scale of 1:31 680 with panchromatic 2402 film emulsion. These photos were of excellent quality for interpretation, but the small scale made it difficult to interpret remnant patches of varying densities.

THE MOOSE CREEK FIRE (#1071)

The Moose Creek fire covered 15 908 hectares in the Lower Foothills south of Edson. This fire was contained between the Embarras River to the west and Wolf Creek to the east. The fire was reported to have started from brush ignited by a settler. Photos were taken in October of 1957 at a scale of 1:15 840 with IR 2424 film.

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Table 1 Fires reported by Delisle and Hall (1987) within the FtMF island remnants study area.

Fire ref. number[1]	Year	Fire name	LFS fire number[2]	Location (s-t-r-m)	Size (ha)	Cause[3]	Natural subregion[4]
31	1936	Wolf Creek	n/a	11-45-8-5	568	U	LF
33	1936	House Mountain	n/a	3-59-12-5	767	M	LF
45	1938	Lynx Creek	n/a	27-62-13-6	3 497	M	SA / UF
74	1938	Fish Lake	n/a	28-65-26-5	1 619	U	LF / CM
80	1939	Little Red River	n/a	16-28-7-5	4 897	L	UF
138	1940	Muir	n/a	18-48-7-5	303	U	LF
142	1940	Spring	n/a	2-53-11-5	563	M	LF
143	1940	McLeod River	n/a	12-57-13-5	1 475	U	LF
192	1941	South End	n/a	8-42-7-5	16 107	M	LF
193	1941	Washout Meadows	n/a	29-45-6-5	335	M	LF
194	1941	Goyen	n/a	32-45-7-5	694	M	LF
195	1941	McDougall	n/a	18-45-6-5	1 040	U	LF
196	1941	Horseshoe Lake	n/a	29-44-6-5	809	U	LF
197	1941	Mink Creek	n/a	18-45-5-5	934	U	LF
198	1941	McTighe	n/a	33-42-7-5	5 141	U	LF
199	1941	Wolf Spring	n/a	2-44-8-5	8 413	U	LF
200	1941	West Side	n/a	21-46-6-5	213	U	LF
201	1941	Maywood	n/a	1-46-6-5	382	U	LF
202	1941	Adams Slash	n/a	14-43-6-5	318	U	LF
203	1941	Cranberry Creek	n/a	32-43-6-5	13 197	U	LF
205	1941	Sorenson	n/a	32-38-7-5	202	M	LF
207	1941	Burnt Lake	n/a	10-35-6-5	324	M	LF
209	1941	Cow Lake	n/a	30-38-7-5	5 504	U	LF
210	1941	Frisco	n/a	31-41-6-5	12 027	M	LF
211	1941	Diamond	n/a	19-42-8-5	8 806	M	LF
212	1941	Ferrier	n/a	14-39-8-5	283	M	LF
213	1941	Lemming	n/a	28-41-8-5	1 101	M	LF
214	1941	Island Lake	n/a	15-44-6-5	372	U	LF
215	1941	Buck Creek	n/a	31-47-6-5	5 764	M	LF / DM
225	1941	Pinedale	n/a	13-52-15-5	389	U	LF
226	1941	Peers	n/a	15-53-14-5	520	U	LF
227	1941	Yates	n/a	23-53-16-5	1 295	M	LF
229	1941	Carrot Creek	n/a	24-52-14-5	575	M	LF
230	1946	Big Four	n/a	13-55-16-5	365	M	LF
231	1941	Shining Bank Valley	n/a	13-56-15-5	716	M	LF
232	1941	Old Man Fire	n/a	16-58-16-5	8 095	M	UF / LF
241	1941	Oke	n/a	24-49-21-5	1 457	M	UF / LF
242	1941	Little Smoky River	n/a	29-59-1-6	259	U	UF
243	1941	Smoky River	n/a	14-60-6-6	2 331	M	UF
244	1941	Kaps	n/a	21-49-10-5	9 437	M	LF
245	1941	Elk Hill	n/a	23-46-13-5	9 654	M	LF
246	1941	Hattonford	n/a	5-56-12-5	2 145	M	LF
247	1941	River	n/a	19-48-7-5	206	M	LF
248	1941	Feero	n/a	28-48-8-5	3 383	M	LF
249	1941	Pawlux	n/a	2-50-8-5	587	M	LF
250	1941	Youngs	n/a	26-50-9-5	1 789	M	LF
252	1941	Wolfe hill	n/a	25-55-11-5	439	M	LF

Fire ref. number[1]	Year	Fire name	LFS fire number[2]	Location (s-t-r-m)	Size (ha)	Cause[3]	Natural subregion[4]
253	1941	Reno	n/a	14-52-9-5	605	M	LF
254	1941	Muskeg Creek	n/a	17-52-9-5	761	M	LF
255	1941	Deby	n/a	30-48-8-5	441	M	LF
256	1941	Garneau	n/a	16-48-8-5	728	M	LF
257	1941	Buttercup	n/a	2-53-13-5	267	M	LF
258	1941	Baldwin	n/a	16-49-8-5	259	M	LF
259	1941	Buck	n/a	26-52-13-5	1 040	M	LF
260	1941	St. Marie	n/a	1-54-13-5	635	M	LF
261	1941	Messenger Lake	n/a	17-55-12-5	1 234	M	LF
262	1941	Robinson	n/a	35-47-8-5	575	M	LF
263	1941	Hystead	n/a	4-50-8-5	1 319	M	LF
264	1941	Hanson	n/a	11-51-11-5	3 165	M	LF
265	1941	Leaman	n/a	1-53-11-5	2 339	M	LF
266	1941	Alder	n/a	7-52-10-5	2 614	M	LF
267	1941	Benson	n/a	4-52-11-5	413	M	LF
268	1941	Lobstic	n/a	31-52-12-5	1 874	U	LF
277	1941	Red Rock Creek	n/a	35-62-10-6	1 004	U	SA
302	1941	Mahasca Highway	n/a	32-56-12-5	1 279	M	LF
312	1941	Correction Line	n/a	4-58-13-5	215	U	UF / LF
346	1942	Bear Lake	n/a	14-62-19-5	1 619	U	UF / CM
381	1943	McDougall Slash	n/a	25-45-7-5	777	M	LF
434	1944	Big Prairie	n/a	15-30-6-5	737	U	LF
462	1944	Pembina Slash	n/a	10-50-8-5	299	U	LF
463	1944	Wolf Creek	n/a	13-46-8-5	267	U	LF
466	1941	Sheep	n/a	01-54-18-5	322	U	LF
556	1945	Main Camp	n/a	23-47-7-5	842	M	LF / DM
557	1945	Branch Creek	n/a	12-51-17-5	1 210	U	LF
558	1945	Lewis Creek	n/a	11-56-23-5	303	L	UF
564	1945	Simmonette	n/a	16-64-27-5	7 238	L	LF
565	1945	Simmonette #2	n/a	16-65-26-5	259	L	LF
585	1946	Brule	n/a	28-50-27-5	526	M	UF
586	1946	Waterless	n/a	27-52-10-5	795	U	LF
619	1946	Stoney Raven	n/a	4-35-7-5	678	M	LF
622	1946	Camp Six	n/a	32-45-8-5	941	M	LF
623	1946	Berg hill	n/a	1-44-6-5	1 392	M	LF
624	1946	Range Line	n/a	24-53-15-5	271	U	LF
625	1946	Long Lake	n/a	14-55-15-5	769	M	LF
626	1946	Railway Mile 107.8	n/a	12-54-14-5	385	M	LF
641	1946	River Flats	n/a	11-49-9-5	299	U	LF
642	1946	Deep Creek	n/a	4-48-9-5	664	U	LF
643	1946	Spruce Creek	n/a	30-49-9-5	437	M	LF
646	1947	Sheep Creek	n/a	6-39-7-5	356	U	LF
647	1947	Beaver Creeks	n/a	27-41-7-5	1 153	M	LF
648	1947	Wolf Creek	n/a	31-42-6-5	1 117	M	LF
649	1947	Pine Grove	n/a	25-54-12-5	202	U	LF
657	1947	Old Camp	n/a	16-42-6-5	631	M	LF
723	1949	Ferguson	n/a	9-32-6-5	643	U	LF
724	1949	Brazeau #10	n/a	25-47-8-5	287	U	LF

Fire ref. number[1]	Year	Fire name	LFS fire number[2]	Location (s-t-r-m)	Size (ha)	Cause[3]	Natural subregion[4]
725	1949	Settlers Berth	n/a	10-48-8-5	571	M	LF
726	1949	Municipal #2	n/a	12-52-8-5	512	M	LF
727	1949	Carrot Creek #3	n/a	34-52-13-5	1 230	M	LF
728	1949	Chiplake South	n/a	34-52-10-5	9 992	M	LF
739	1949	Waterloo	n/a	9-35-6-5	8 272	M	LF
740	1949	Mud Creek	n/a	17-34-6-5	1 036	M	LF
741	1949	Burnstick	n/a	7-35-6-5	518	M	LF
743	1949	Buster Ridge	n/a	11-41-8-5	217	M	LF
744	1949	Lobstick	n/a	31-41-6-5	530	M	LF
745	1949	Twin Bridges	n/a	4-38-7-5	291	M	LF
746	1949	Hudson Bay	n/a	9-36-8-5	886	M	LF
748	1949	Frisco	n/a	10-40-7-5	817	M	LF
750	1949	North Country	n/a	12-41-7-5	850	M	LF
751	1949	Gosling Lake	n/a	13-44-6-5	975	M	LF
752	1949	Alder Flats	n/a	30-45-7-5	506	M	LF
753	1949	Range Line	n/a	10-4-6-5	229	M	LF
754	1949	Settlers Ridge	n/a	3-42-6-5	263	M	LF
755	1949	Washout	n/a	1-46-7-5	1 655	M	LF
756	1949	Old Slash	n/a	17-45-6-5	2 149	M	LF
757	1949	Muskeg Creek	n/a	21-46-7-5	728	U	LF
758	1949	Muskeg	n/a	35-46-7-5	599	U	LF
760	1949	Base Line	n/a	6-45-5-5	291	M	LF
762	1949	Open Creek	n/a	36-42-6-5	202	M	LF
763	1949	Elk Creek	n/a	5-45-8-5	3 533	L	LF
764	1949	Many Ridges	n/a	23-45-3-5	3 683	U	LF / CM
803	1949	Whitecourt #44	n/a	25-58-12-5	672	M	LF
807	1949	Whitecourt #79	n/a	26-56-13-5	213	M	LF
843	1950	Little Smoky	n/a	7-58-1-6	259	L	SA / UF
846	1950	Mayberne	n/a	17-59-21-5	484	M	UF
847	1950	Mayberne #17	n/a	12-60-20-5	4 609	L	LF
870	1950	Binder	n/a	9-41-7-5	1 991	U	LF
871	1950	Brazeau #5	n/a	20-50-8-5	737	U	LF
875	1950	Tony Creek	n/a	4-62-25-5	17 653	L	UF / LF
875b	1950	"Little" Tony Creek	n/a	4-62-25-5	n/a	U	LF
886	1951	Paddle River	n/a	8-56-10-5	271	M	LF
888	1951	Wolf Spring	n/a	17-42-6-5	360	U	LF
889	1951	Grove #1	n/a	11-49-8-5	672	M	LF
890	1951	Horse Creek	n/a	28-54-18-5	1 026	M	LF
891	1951	Spring Hill	n/a	3-53-14-5	846	M	LF
937	1953	Winfield	n/a	23-46-4-5	364	U	LF
941	1953	Lookout	n/a	34-59-12-5	2 661	U	LF
943	1953	Edson Trail	n/a	1-65-22	6 216	M	LF / CM
989	1954	District 5 #1	n/a	24-47-8-5	202	U	LF
1070	1956	Little Sundance Cr.	7-1-56	13-53-19-5	539	U	LF
1071	1956	Moose Creek	7-1-56	22-51-17-5	18 572	M	LF
1072	1956	Erith River	7-1-56	16-51-18-5	243	L	LF
1096	1956	Amundson	21B-2-56	33-62-3-5	262	L	LF
1114	1956	Windfall Creek	36-1-56	9-58-17-5	4 136	M	UF / LF

Fire ref. number[1]	Year	Fire name	LFS fire number[2]	Location (s-t-r-m)	Size (ha)	Cause[3]	Natural subregion[4]
1118	1956	Gregg River	49-1-56	33-48-23-5	9 325	M	UF
1119	1956	Horse Creek	57-1-56	35-57-27-5	1 443	M	UF
1120	1956	Smith Creek	57-2-56	21-51-1-6	7 675	L	UF
1132	1958	Clearwater	5-58	7-43-13-5	1 486	M	UF / LF
1190	1959	Seabolt Creek	53-2-59	16-49-25-5	347	M	SA / UF
1206	1961	Sheep Creek	55-1-61	33-57-10-6	445	L	SA
1208	1961	Moose Creek W.	7-10-61	13-52-18-5	717	L	LF
1209	1961	Wolf River	7-9-61	12-51-15-5	237	L	LF
1210	1961	Lynx Creek	23B-2-61	15-56-20-5	10 913	L	UF / LF
1216	1961	n/a	24W-9-61	10-59-9-6	361	L	SA
1217	1961	Smoky South	24E-4-61	27-64-3-6	1 061	L	LF / CM
1218	1961	Cutbank River	24E-7-61	3-64-7-6	3 630	L	LF
1219	1961	Smoky North	21B-6-61	9-65-3-6	1 459	L	LF
1222	1961	Ante Creek	22-11&12-61	18-65-25-5	393	L	LF
1239	1961	Kaybob	36-17-61	4-61-19-5	451	L	LF
1241	1961	Tony Creek S.	23A-3-61	20-61-22-5	356	L	UF / LF
1277	1967	Berland River	DE2-12-67	35-57-25-5	926	L	UF
1332	1968	January Creek	DW2-13-68	21-53-14-5	2 667	M	LF
1339	1968	BNP-Vermilion Pass	n/a	24-26-15-5	2 023	L	A / SA
1345	1969	Alford Creek	DR1-1-69	12-36-8-5	1 137	M	UF / LF
1360	1970	Timber Creek	DB7-4-70	5-30-9-5	1 477	M	SA / UF
1448	1974	Kakwa River	DG2-12-74	10-64-3-6	313	L	LF
1451	1974	Athabasca	DW1-6-74	2-60-18-5	398	M	LF
1563	1980	JNP-Fire #3-Kidney L.	n/a	27-50-3-6	223	L	SA
1635	1982	Lick Creek	DG2-13-82	34-60-12-6	654	L	SA / UF

1 Numbers correspond to those given in Delisle and Hall (1983)

2 Numbers correspond to Alberta Land and Forest Service

3 L = lightning, M = man-caused, U = unknown (Delisle and Hall 1983)

4 A= Alpine, SA= Subalpine, UF= Upper Foothills, LF= Lower Foothills, CM= Central Mixedwood, DM= Dry Mixedwood

Table 2. Fires considered for the FtMF island remnants study.

Fire ref. number	Year	Scale => 1:20 000 and…						
		Photos within 1yr	Photos within 2yr	Photos within 5yr	No overlap	Orthos available	Within one subregion	Historical maps
31	1936	no	no	no	yes	no	yes	no
33	1936	no	no	no	yes	no	yes	no
45	1938	no	no	no	yes	no	no	no
74	1938	no	no	no	yes	no	no	no
80	1939	no	no	yes	yes	no	yes	no
138	1940	no	no	no	no	no	yes	no
142	1940	no	no	no	no	no	yes	no
143	1940	no	no	no	yes	no	yes	no
192	1941	no	no	no	yes	no	yes	no
193	1941	no	no	no	yes	no	yes	no
194	1941	no	no	no	yes	no	yes	no
195	1941	no	no	no	no	no	yes	no
196	1941	no	no	no	no	no	yes	no
197	1941	no	no	no	yes	no	yes	no
198	1941	no	no	no	no	no	yes	no
199	1941	no	no	no	yes	no	yes	no
200	1941	no	no	no	yes	no	yes	no
201	1941	no	no	no	yes	no	yes	no
202	1941	no	no	no	no	no	yes	no
203	1941	no	no	no	no	no	yes	no
205	1941	no	no	no	yes	no	yes	no
207	1941	no	no	no	yes	no	yes	no
209	1941	no	no	no	no	no	yes	no
210	1941	no	no	no	no	no	yes	no
211	1941	no	no	no	yes	no	yes	no
212	1941	no	no	yes	yes	no	yes	no
213	1941	no	no	no	yes	no	yes	no
214	1941	no	no	no	yes	no	yes	no
215	1941	no	no	no	no	no	no	no
225	1941	no	no	no	yes	no	yes	no
226	1941	no	no	no	yes	no	yes	no
227	1941	no	no	no	yes	no	yes	no
229	1941	no	no	no	yes	no	yes	no
230	1946	no	no	no	yes	no	yes	no
231	1941	no	no	no	yes	no	yes	no
232	1941	no	no	no	yes	no	no	no
241	1941	no	no	no	yes	yes	no	no
242	1941	no	no	no	yes	no	yes	no
243	1941	no	no	no	yes	no	yes	no
244	1941	no	no	no	no	no	yes	no
245	1941	no	no	yes	yes	no	yes	no
246	1941	no	no	no	yes	no	yes	no
247	1941	no	no	no	no	no	yes	no
248	1941	no	no	no	yes	no	yes	no
249	1941	no	no	no	yes	no	yes	no
250	1941	no	no	no	yes	no	yes	no

Fire ref. number	Year	Scale => 1:20 000 and...						
		Photos within 1yr	Photos within 2yr	Photos within 5yr	No overlap	Orthos available	Within one subregion	Historical maps
252	1941	no	no	no	yes	no	yes	no
253	1941	no	no	no	yes	no	yes	no
254	1941	no	no	no	yes	no	yes	no
255	1941	no	no	no	yes	no	yes	no
256	1941	no	no	no	yes	no	yes	no
257	1941	no	no	no	yes	no	yes	no
258	1941	no	no	no	yes	no	yes	no
259	1941	no	no	no	no	no	yes	no
260	1941	no	no	no	yes	no	yes	no
261	1941	no	no	no	yes	no	yes	no
262	1941	no	no	no	yes	no	yes	no
263	1941	no	no	no	no	no	yes	no
264	1941	no	no	no	yes	no	yes	no
265	1941	no	no	no	no	no	yes	no
266	1941	no	no	no	no	no	yes	no
267	1941	no	no	no	no	no	yes	no
268	1941	no	no	no	no	no	yes	no
277	1941	no	no	no	yes	no	yes	no
302	1941	no	no	no	yes	no	yes	no
312	1941	no	no	no	yes	no	no	no
346	1942	no	no	no	yes	no	no	no
381	1943	no	no	no	no	no	yes	no
434	1944	possible	possible	possible	yes	no	yes	no
462	1944	no	no	no	no	no	yes	no
463	1944	no	no	no	yes	no	yes	no
466	1941	no	no	no	yes	no	yes	no
556	1945	no	no	no	no	no	no	no
557	1945	no	no	no	yes	no	yes	no
558	1945	no	no	no	yes	yes	yes	no
564	1945	no	no	no	yes	no	yes	no
565	1945	no	no	no	yes	no	yes	no
585	1946	no	no	yes	yes	yes	yes	no
586	1946	no	no	yes	yes	no	yes	no
619	1946	no	no	yes	yes	no	yes	no
622	1946	no	no	yes	yes	no	yes	no
623	1946	no	no	yes	yes	no	yes	no
624	1946	no	no	yes	yes	no	yes	no
625	1946	no	no	yes	yes	no	yes	no
626	1946	no	no	yes	yes	no	yes	no
641	1946	no	no	yes	yes	no	yes	no
642	1946	no	no	yes	yes	no	yes	no
643	1946	no	no	yes	no	no	yes	no
646	1947	no	no	yes	no	no	yes	no
647	1947	no	no	yes	no	no	yes	no
648	1947	no	no	yes	no	no	yes	no
649	1947	no	no	yes	yes	no	yes	no
657	1947	no	no	yes	no	no	yes	no

Fire ref. number	Year	Scale => 1:20 000 and...						
		Photos within 1yr	Photos within 2yr	Photos within 5yr	No overlap	Orthos available	Within one subregion	Historical maps
723	1949	no	yes	yes	yes	no	yes	no
724	1949	no	yes	yes	no	no	yes	no
725	1949	no	yes	yes	no	no	yes	no
726	1949	no	yes	yes	no	no	yes	no
727	1949	no	yes	yes	yes	no	yes	no
728	1949	no	yes	yes	yes	no	yes	no
739	1949	no	yes	yes	no	no	yes	no
740	1949	no	yes	yes	yes	no	yes	no
741	1949	no	yes	yes	no	no	yes	no
743	1949	no	yes	yes	yes	no	yes	no
744	1949	no	yes	yes	no	no	yes	no
745	1949	no	yes	yes	yes	no	yes	no
746	1949	no	yes	yes	no	no	yes	no
748	1949	no	yes	yes	yes	no	yes	no
750	1949	no	yes	yes	yes	no	yes	no
751	1949	no	yes	yes	yes	no	yes	no
752	1949	no	yes	yes	yes	no	yes	no
753	1949	no	yes	yes	no	no	yes	no
754	1949	no	yes	yes	yes	no	yes	no
755	1949	no	yes	yes	no	no	yes	no
756	1949	no	yes	yes	no	no	yes	no
757	1949	no	yes	yes	yes	no	yes	no
758	1949	no	yes	yes	yes	no	yes	no
760	1949	no	yes	yes	no	no	yes	no
762	1949	no	yes	yes	no	no	yes	no
763	1949	no	yes	yes	yes	no	yes	no
764	1949	no	no	no	yes	no	no	no
803	1949	no	yes	yes	no	no	yes	no
807	1949	no	yes	yes	yes	no	yes	no
843	1950	yes	yes	yes	yes	no	no	no
846	1950	yes	yes	yes	yes	no	yes	no
847	1950	yes	yes	yes	no	no	yes	no
870	1950	yes	yes	yes	no	no	yes	no
871	1950	yes	yes	yes	yes	no	yes	no
875	1950	yes	yes	yes	yes	no	no	no
875b	1950	no	no	no	no	no	no	no
886	1951	possible	possible	possible	no	no	yes	no
888	1951	yes	yes	yes	yes	no	yes	no
889	1951	possible	possible	possible	no	no	yes	no
890	1951	possible	possible	possible	yes	no	yes	no
891	1951	no	no	no	yes	no	yes	no
937	1953	no	no	no	yes	no	yes	no
941	1953	no	no	yes	no	no	yes	no
943	1953	no	no	yes	yes	no	no	no
989	1954	no	no	no	no	no	no	no
1070	1956	no	no	yes	yes	no	yes	yes
1071	1956	no	yes	yes	yes	no	yes	yes

Fire ref. number	Year	Scale => 1:20 000 and...						
		Photos within 1yr	Photos within 2yr	Photos within 5yr	No overlap	Orthos available	Within one subregion	Historical maps
1072	1956	no	yes	yes	yes	no	yes	yes
1096	1956	no	yes	yes	yes	no	yes	yes
1114	1956	no	yes	yes	yes	yes	no	yes
1118	1956	no	no	no	yes	yes	yes	yes
1119	1956	no	yes	yes	yes	yes	yes	yes
1120	1956	no	no	no	yes	yes	yes	yes
1132	1958	possible	possible	possible	yes	no	no	yes
1190	1959	no	no	no	yes	yes	no	yes
1206	1961	no	no	no	yes	yes	yes	yes
1208	1961	no	no	no	yes	no	yes	yes
1209	1961	yes	yes	yes	yes	no	yes	yes
1210	1961	no	no	no	yes	yes	no	yes
1216	1961	no	no	no	yes	no	yes	yes
1217	1961	no	no	no	yes	no	yes	yes
1218	1961	no	no	no	yes	no	yes	yes
1219	1961	no	no	no	yes	no	no	yes
1222	1961	no	no	no	yes	no	yes	yes
1239	1961	no	no	no	no	no	yes	yes
1241	1961	no	no	no	yes	no	no	yes
1277	1967	no	no	no	yes	yes	yes	yes
1332	1968	no	no	no	no	no	yes	yes
1339	1968	no	no	no	yes	no	no	no
1345	1969	yes	yes	yes	no	no	no	yes
1360	1970	possible	yes	yes	yes	no	no	yes
1448	1974	no	no	no	yes	yes	no	yes
1451	1974	no	no	yes	yes	no	yes	yes
1563	1980	no	no	no	yes	no	yes	yes
1635	1982	no	no	no	yes	yes	no	yes

Table 3. NTS map sheet coverage of FtMF island remnant fires.

Map number	Fire ref. number	Scale
83B/6	1499	1:50 000
83B/10	1133	1:50 000
83B/11	1499	1:50 000
83E/09	1120	1:50 000
83E/14	1206	1:50 000
83E/16	843	1:50 000
83E/16	1120	1:50 000
83F	585	1:250 000
83F	1070	1:250 000
83F	1071	1:250 000
83F	1072	1:250 000
83F	1118	1:250 000
83F	1119	1:250 000
83F	1120	1:250 000
83F	1209	1:250 000
83F/3	1118	1:50 000
83F/05	585	1:50 000
83F/4	1118	1:50 000
83F/7	1071	1:50 000
83F/7	1072	1:50 000
83F/8	1071	1:50 000
83F/8	1209	1:50 000
83F/10	1070	1:50 000
83F/13	1119	1:50 000
83F/13	1120	1:50 000
83G	1073	1:250 000
83G	1140	1:250 000
83G	1060	1:250 000
83G/05	1140	1:50 000
83G/6	1140	1:50 000
83G/6	1236	1:50 000
83G/11	1236	1:50 000
83G/12	1140	1:50 000
83G/13	1073	1:50 000
83J	1073	1:250 000
83J/04	1073	1:50 000
83K/2	1451	1:50 000
83K/03	DW1-15-70	1:50 000
83K/03	56-3-56	1:50 000
83K/4	1119	1:50 000
83K/5	875b	1:50 000
83K/06	875b	1:50 000
83L/1	843	1:50 000
83L/03	1216	1:50 000
83L/03	24-E2-56	1:250 000
83L/4	1635	1:50 000
82O/11	1360	1:50 000

Table 4. Air photos purchased for the FtMF island remnant fires.

Fire ref. number	Project name	Exposure date	Photo scale	Film emulsion	AS	Photos
585	51-83F	17-9-51	1:15 840	pan super xx	494	26-28
	51-83F	17-9-51	1:15 840	pan super xx	496	157-160
	51-83F	17-9-51	1:15 840	pan super xx	497	166-167
	96-128	13-8-96	1:20 000	IR 2424	4712	42
762	49-83B	23-9-50	1:40 000	pan super xx	148	81-82
	51-83B	14-9-51	1:15 840	pan super xx	525	109-111
	51-83B	14-9-51	1:15 840	pan super xx	525	174-176
843	49-83L	25-11-49	1:40 000	pan super xx	128	132-134
	51-83E	5-9-51	1:15 840	pan super xx	455	156-157
875b	51-83K	2-7-50	1:15 840	pan super xx	427	26-29
	51-83K	9-9-50	1:15 840	pan super xx	429	37-40
888*	51-83B	14-9-51	1:15 840	pan super xx	525	45-47
	51-83B	14-9-51	1:15 840	pan super xx	525	103-105
1060	51-83G	14-9-52	1:15 840	pan super xx	500	118-120
	51-83G	14-9-52	1:15 840	pan super xx	502	2-4
	51-83G	14-9-52	1:15 840	pan super xx	502	147-151
	58-83G	29-8-57	1:15 840	IR 2424	712	64-67
	58-83G	29-8-57	1:15 840	IR 2424	712	135-137
	58-83G	29-8-57	1:15 840	IR 2424	713	158-161
	58-83G	29-8-57	1:15 840	IR 2424	713	246-248
1070	51-83F	20-9-50	1:15 840	pan super xx	481	73-78
	51-83F	20-9-50	1:15 840	pan super xx	483	105-110
	61-83F	14-9-61	1:15 840	IR	782	28-31
	95-144	4-9-95	1:30 000	agfa 150	4657	70
1071	49-83F	3-9-51	1:40 000	pan super xx	138	7-12
	49-83F	5-9-51	1:40 000	pan super xx	137	244-248
	49-83F	30-7-52	1:40 000	pan super xx	137	33-40
	58-83F	10-10-57	1:15 840	IR 2424	710	8-22
	58-83F	10-10-57	1:15 840	IR 2424	708	1-11
	58-83F	10-10-57	1:15 840	IR 2424	709	1-17
	58-83F	10-10-57	1:15 840	IR 2424	709	141-152
	58-83F	9-10-57	1:15 840	IR 2424	709	69-85
	58-83F	9-10-57	1:15 840	IR 2424	710	80-92
	58-83F	9-10-57	1:15 840	IR 2424	710	149-162
	58-83F	9-10-57	1:15 840	IR 2424	711	79-90
	58-83F	9-10-57	1:15 840	IR 2424	711	153-165
1072	49-83F	8-7-52	1:40 000	pan super xx	138	182
	51-83F	9-7-52	1:15 840	pan super xx	491	50-53
	51-83F	31-7-52	1:15 840	pan super xx	492	146-148

Fire ref. number	Project name	Exposure date	Photo scale	Film emulsion	AS	Photos
	58-83F	9-10-57	1:15 840	IR 2424	710	75-78
	58-83F	9-10-57	1:15 840	IR 2424	710	147
1073	49-83E	17-8-50	1:40 000	pan super xx	128	76-78
	49-83F	17-8-50	1:40 000	pan super xx	129	71-74
	49-83F	17-8-50	1:40 000	pan super xx	130	210-212
	49-83F	17-8-50	1:40 000	pan super xx	130	214
	49-83F	3-11-49	1:40 000	pan super xx	129	178-182
	51-83G	16-9-51	1:15 840	pan super xx	456	259-271
	51-83G	6-9-51	1:15 840	pan super xx	456	22-32
	51-83G	10-7-51	1:15 840	pan super xx	457	120-133
	51-83G	19-7-51	1:15 840	pan super xx	458	77-87
	51-83G		1:15 840	pan super xx	459	125-129
	51-83G	5-9-51	1:15 840	pan super xx	460	226-235
	51-83G	22-9-50	1:15 840	pan super xx	461	180-189
	51-83G	22-9-50,10-7-51	1:15 840	pan super xx	462	87-95
	58-83G	16-8-58	1:15 840	IR 2424	700	225-235
	58-83G	24-6-58	1:15 840	IR 2424	701	181-191
	58-83G	24-6-58	1:15 840	IR 2424	702	153-163
	58-83G	24-6-58	1:15 840	IR 2424	703	155-162
	58-83G	24-6-58	1:15 840	IR 2424	704	140-147
	58-83G	24-6-58	1:15 840	IR 2424	705	242-248
1118	51-83F	17-9-51	1:15 840	pan super xx	498	31-37
	51-83F	17-9-51	1:15 840	pan super xx	499	30-39
	51-83F	8-7-52	1:15 840	pan super xx	500	26-35
	51-83F	23-9-52	1:15 840	pan super xx	500	200-209
	51-83F	8-7-52	1:15 840	pan super xx	501	21-30
	51-83F	8-7-52	1:15 840	pan super xx	502	45-55
	51-83F	23-9-52	1:15 840	pan super xx	503	87-96
	51-83F	8-7-52	1:15 840	pan super xx	503	120-135
	51-83F	29-7-52	1:15 840	pan super xx	504	140-150
	63-83F	2-7-63	1:31 680	pan 2402	859	51-58
	63-83F	2-7-63	1:31 680	pan 2402	859	81-89
	63-83F	2-7-63	1:31 680	pan 2402	859	116-121
1119	51-83F	15-9-52	1:15 840	pan super xx	459	232-237
	51-83F	15-9-52	1:15 840	pan super xx	460	117-121
	51-83F	6-9-51	1:15 840	pan super xx	456	163-166
	51-83F	6-9-51	1:15 840	pan super xx	457	2-7
	58-83F	24-9-58	1:15 840	IR 2424	702	67-74
	58-83F	24-9-58	1:15 840	IR 2424	703	67-73
	58-83F	24-9-58	1:15 840	IR 2424	704	60-68
1120	51-83E/F	6-9-51	1:15 840	pan super xx	466	184-196
	51-83E/F	14,15-9-51	1:15 840	pan super xx	467	110-126
	51-83E/F	16-9-51	1:15 840	pan super xx	468	57-68
	51-83E/F	16-9-51	1:15 840	pan super xx	470	172-180
	51-83E/F	10-10-52	1:15 840	pan super xx	471	8-15

Fire ref. number	Project name	Exposure date	Photo scale	Film emulsion	AS	Photos
	63-83F	1-7,23-6-63	1:30 680	pan 2402	857	155-164
	63-83F	18-6-63	1:30 680	pan 2402	857	62-63
	63-83F	18-6-63	1:30 680	pan 2402	857	107-113
24-E2-56	51-83L	7-9-50	1:15 840	pan super xx	400	73-75
	58-83L	29-8-57	1:15 840	IR 2424	670	57-59
	58-83L	4-9-57	1:15 840	IR 2424	671	64-66
56-3-56	51-83K	2-7-51	1:15 840	pan super xx	450	119-123
	51-83K	3-7-50	1:15 840	pan super xx	451	125-132
	58-83K	22-9-57	1:15 840	IR 2424	697	146-149
	58-83K	22-8-57	1:15 840	IR 2424	698	171-174
1133	51-83B	14-9-51	1:15 840	pan super xx	525	110-112
	58-83B	9-7-58	1:15 840	IR 2424	723	156-158
	58-83B	9-7-58	1:15 840	IR 2424	723	246-249
	51-83B	14-9-51	1:15 840	pan super xx	525	52-54
	62-83B	27-7-62	1:31 680	NA	822	181
1140	49-83G	10-10-50	1:40 000	pan super xx	136	16
	58-83G	10-10-57	1:15 840	IR 2424	708	44-48
	58-83G	10-10-57	1:15 840	IR 2424	708	102-105
	58-83G	10-10-57	1:15 840	IR 2424	709	185-187
	61-83G	13-9-61	1:15 840	IR	784	125-128
	61-83G	22-8-61	1:15 840	IR	784	47-51
	61-83G	22-8-61	1:15 840	IR	785	224-226
1206	49-83E	26-8-50	1:40 000	pan super xx	128	61
	58-83E	11-8-52	1:15 840	IR 2424	456	85-89
	58-83E	8-11-52	1:15 840	IR 2424	457	204-209
	74-95	16-9-74	1:21 120	IR 2424	1363	123-126
	74-95	16-9-74	1:21 120	IR 2424	1363	146-148
	93-131	9-28-93	1:40 000	agfa 150	4436	91
1209	58-83F	9-10-57	1:15 840	IR 2424	710	25-28
	58-83F	9-10-57	1:15 840	IR 2424	710	97-100
	61-83F	13-9-61	1:15 840	IR	786	55-57
	61-83F	13-9-61	1:15 840	IR	786	134-136
1216	58-83L	8-9-58	1:15 840	IR 2424	696	42-45
	58-83L	11-9-60	1:15 840	IR 2424	697	48-51
	67-83L	?-8-67	1:31 680	pan x	936	157-159
	70-27	3-6-70	1:18 000	IR 2424	1059	138-140
1236	51-83G	19-9-50	1:15 840	pan super xx	486	213-215
	51-83G	20-9-50	1:15 840	pan super xx	484	110-112
	61-83G	1-9-61	1:15 840	IR	784	141-142
	61-83G	22-8-61	1:15 840	IR	783	49-50

Fire ref. number	Project name	Exposure date	Photo scale	Film emulsion	AS	Photos
1360	58-82O	26-5,16-8-58	1:15 840	IR2424	741	15-24
	58-82O	26-5,16-8-58	1:15 840	IR2424	741	64-72
	58-82O	16-8-58	1:15 840	IR2424	742	222-228
	70-201E	30-8-70	1:15 840	IR2424	1079	236-243
	70-201E	30-8-70	1:15 840	IR2424	1079	247-254
	70-201E	30-8-70	1:15 840	IR2424	1079	258-264
DW1-15-70	51-83K	3-7-50	1:15 840	pan super xx	449	163-165
	70-21	22-8-70	1:15 840	IR 2424	1072	9-10
1451	70-21	22-8-70	1:15 840	IR 2424	1073	284-288
	70-21	22-8-70	1:15 840	IR 2424	1074	68-72
	78-48	1-6-78	1:15 000	IR 2424	1726	62-65
1499	76-35	23-4-76	1:20 000	NA	1470	307-314
	76-35	23-4-76	1:20 000	NA	1470	320-324
	77-105	6-6-77	1:31 680	pan 2405	1583	220
	81-178	11-9-81	1:10 000	pan 2405	2446	205-209
	81-178	11-9-81	1:10 000	pan 2405	2446	219-222
1635	75-1	6-9-75	1:21 120	IR 2424	1402	104-110
	75-1	9-7-75	1:21 120	IR 2424	1402	202-208
	79-32/82-121	8-7-82	1:15 000	IR 2424	2546	251-257
	79-32/82-121	8-7-82	1:15 000	IR 2424	2547	10-16
	80-124	9-9-80	1:60 000	pan 2405	2193	126-127
	83-144	29-9-83	1:60 000	pan 2405	2785	58-60

* (extra fire)

Table 5. Historical fire maps available for the FtMF island remnant fires.

Fire ref. number	Map number	LFS fire number	Location t-r-m	Map scale	Date prepared	Mapsheet (NTS 1:50 000)
585	n/a	n/a	n/a	n/a	n/a	n/a
762	n/a	n/a	n/a	n/a	n/a	n/a
843	n/a	n/a	n/a	n/a	n/a	n/a
875b	n/a	n/a	n/a	n/a	n/a	n/a
1060	n/a	n/a	n/a	n/a	n/a	n/a
1070	57a	7-1-1956	53-18,19-5	1"=40 mile	n/a	83F/10
1071	43a	7-2-56	51,52-17-5	1"=4 mile	n/a	83F/08
1072	56b	7-6-1956	51-18-5	1"=40 mile	n/a	83F/07
1073	55b	9-3-1956	57,58-12,13-5	1"=40 mile	n/a	83G/13
1118	60a	49-1-56	48,49-22~24-5	1"=40 mile	n/a	83F/03/04
1119	34	57-1-1956	57-26,27-5	1"=40 mile	n/a	83F/13
1120	36	57-2-1956	55,56-27-5 & 56,58-1,2-6	1"=40 mile	n/a	83F/13
24-E2-56	42	24-E2-56	65,66-5-6	4"=1 mile	n/a	83L/10
56-3-56	62b	56-3-56	58,59-23,24-5	n/a	n/a	83K/03
1133	85	2-4-1958	42-5,6-5	4"=1 mile	n/a	83B/10/11
1140	92	6-5-1958	52-11-5	1"=40 mile	n/a	83G/05/06/11/12
1206	215	55-1-1961	57-10-6	1"=40 mile	n/a	83E/14
1209	178	7-9-1961	50,51-15-5	1"=40 mile	n/a	83F/08
1216	190	59-9-6	59-9-6	1"=40 mile	n/a	83L/03
1236	n/a	n/a	n/a	n/a	n/a	n/a
1360	354	DB7-4-1970	29,30-9,10-5	4"=1 mile	11-9-70	82O/11
DW1-15-70	347	DW1-15-70	59-22-5	4"=1 mile	1970	83K/03
1451	463	DW1-6-1974	60-17,18-5	2"=1 mile	12-7-74	83K/01/02
1499	n/a	n/a	n/a	n/a	n/a	n/a
1635	604	DG2-13-1982	60-12-6	2"=1 mile	13-9-82	83L/04
(Additional fires for which maps were obtained)						
1057	61a	4-6-1956	45,48-3~5-5	1"=40 mile	n/a	83B/15/16
1059	58b	5-1-1956	50,51-8-5	1"=40 mile	n/a	83G/06
1067	63a	6-9-1956	52,53-8-5	1"=40 mile	n/a	83G/11
1068	43	7-2-1956	52-8-5	1"=4 mile	n/a	83F/08
1096	62a	21B-2-1956	62-3-6	1"=40 mile	n/a	83L/08
1114	67	36-1-1956	57 ~60-14~17-5	1"=40 mile	n/a	83F/16, 83K/01
1135	87	5-7-1958	51-7,8-5	1"=40 mile	n/a	83G/05/07
1139	90	6-2-1958	52-8-5	4"=1 mile	n/a	83G/06/11

Fire ref. number	Map number	LFS fire number	Location t-r-m	Map scale	Date prepared	Mapsheet (NTS 1:50 000)
1210	194	23B-2-1961	55~57-19~22-5	1"=40 mile	n/a	83F/14/15
1345	336	DR1-1-1969	35,36-8,9-5	n/a	n/a	83B/03
5-7-56	72a		51-8-5	n/a	n/a	83G/06
6-4-56	64c		54-12-5	n/a	n/a	83G/12
7-3-56	40		54-15,16-5	4"=1 mile	n/a	83F/09
16-2-56	44		62-7-4	4"=1 mile	n/a	73L/06/07
24-E3-56	46		61-7-6	4"=1 mile	n/a	83L/03/06
56-1-56	37		57-24-5	4"=1 mile	n/a	83F/13
8-2-58	94		55-16-5	4"=1 mile	n/a	83F/09
8-3-58	93		55-15-5	4"=1 mile	n/a	83F/09
5-17-58	133		45-12,13-5	4"=1 mile	n/a	83B/13
6-21-61	205		n/a	4"=1 mile	n/a	83F/09, 83G/12
DW6-3-69	334		63-20-5	4"=1 mile	06-69	83K/07

Table 6. Forest inventory maps obtained for the FtMF island remnant fires.

Fire ref. number	Map sheet	Legal land reference	Forest inventory	Map scale	Year published	Year(s) revised	Source photos year	Source photos project	Source photos scale	Shows fire?
585	83F/05		phase I	1:63 360	1952	1961-63	1943		1:24 000	Y
762	83B/10	42/6/5	phase II	1:31 680	NA	NA	NA	NA	NA	N
843	83E/16		phase I							
	83L/01		phase I	1:63 360	1951	n/a	1949		1:40 000	N
875b	83K/05		phase I	1:63 360	1951	1957-58, '63	1949		1:40 000	N
	83K/06		phase I	1:40 000	1951	1962	1949		1:40 000	N
1060	83G/04		phase I	1:40 000	1955	1959	1949		1:40 000	N
1070	83F/10		phase I	1:40 000	1952	1962	1950		1:40 000	N
1071	83F/07		phase I	1:40 000	1952	1962-63	1951		1:40 000	N
	83F/08		phase I	1:40 000	1952	1962-63	1951		1:40 000	N
1072	83F/07		phase I	1:40 000	1952	1962-63	1951		1:40 000	N
1073	83G/13		phase I	na	na	na	na		na	N
	83J/04		phase I	1:40 000	1950	1958, '63	1949		1:40 000	N
1118	83F/03		phase I	1:63 360	1953	1963	1949		1:40 000	N
	83F/06		phase I	1:63 360	1952	1961,'63-'64	1943	NA	1:24 000	N
1119	83F/13		phase I	1:63 360	1952	1963-64	1950		1:40 000	Y
1120	83E/09		phase I	1:63 360	1952	N/A	1943		1:24 000	Y
	83E/16		phase I							
	83F/13		phase I	1:63 360	1952	1963-64	1950		1:40 000	Y
24-E2-56	83L/10		phase I	1:40 000	1951	1962	1949	NA	1:40 000	N

Fire ref. number	Map sheet	Legal land reference	Forest inventory	Map scale	Year published	Year(s) revised	Source photos year	Source photos project	Source photos scale	Shows fire?
56-3-56	83K/03		phase I	1:63 360	1951	1957-'58,'63	1949		1:40 000	N
1133	83B/10		phase I	1:63 360	1951	n/a	1946		1:15 840	Y
	83B/10	42-5-5	phase II	1:31 680	NA	NA	NA	NA	NA	N
1140	83G/05		phase I	1:40 000	1955	1959	1951		1:40 000	N
	83G/06		phase I	1:40 000	1955	n/a	1951		1:40 000	N
	83G/12		phase I	1:63 360	1952	1961	1948		1:39 600	N
	83G/05/06/11/12	51-52/11-12/5	phase II	1:31 680	1964	1969	1961	C 610	NA	N
1206	83E/14		phase I	1:40 000	1952	1961, '63	1944		1:21 600	N
1209	83F/08		phase I	1:40 000	1952	1962-63	1951		1:40 000	N
1216	83L/03			na	na	na	na		na	N
	83L/03	59-60/9-10/6	phase II	1:31 680	1964	NA	1958, 1960	1388, 1956	NA	N
1236	83G/11		phase I	1:63 360	1952	n/a	1948		1:39 600	N
	83G/06		phase I	1:40 000	1955	1959	1951		1:40 000	N
1360	82O/06	29/10/5	phase III	1:15 000	NA	1979,'82,'89	1972	NA	1:21 120	N
	82O/06	29/9/5	phase III	1:15 000	NA	1979,'82,'89	1972	NA	1:21 120	N
	82O/11	30/9/5	phase III	1:15 000	NA	1979,'82,'83,'87-'89,'94-'97	1972	NA	1:21 120	N
	82O/11	30/1/5	phase III	1:15 000	NA	1979,'82-'83,'87-'89	1972	NA	1:21 120	N
DW1-15-70	83K/03		phase I	1:63 360	1951	1957-'58,'63	1949		1:40 000	N
	83K/03	59-60/21-22/5	phase II	1:31 680	1973-74	NA	1970	70-21	NA	Y
	83K/03	59/22/5	phase III	1:15 000	1980	1983,'90	1976	NA	1:15 000	N
1451	83K/02		phase I	1:40 000	1951	1959, '62, '63	1949		1:40 000	N
	83K/02	60/18/5	phase III	1:15 000	1977	1982-'83,'91-'92,'94	1970	NA	1:15 840	N
1499	83B/06		phase I	1:40 000	NA	1961	1950		n/a	N
	83B/07		phase I	1:40 000	1956	NA	1950	NA	1:40 000	N

Fire ref. number	Map sheet	Legal land reference	Forest inventory	Map scale	Year published	Year(s) revised	Source photos year	Source photos project	Source photos scale	Shows fire?
	83B/06	40/8/5	phase II	1:31 680	NA	NA	NA	NA	NA	N
	83B/06/11	41/8/5	phase II	1:31 680	NA	NA	NA	NA	NA	N
	83B/07	40/7/5	phase III	1:15 000	1982	1991,'93	1975,'76	NA	1:15 000	N
	83B/06	40/8/5	phase III	1:15 000	1982	1991,'95	1973,'75,'76	NA	1:15 000	N
	83B/10	41/7/5	phase III	1:15 000	1982	1984,'86,'91,'93	1975,'76	NA	1:15 000	N
	83B/11	41/8/5	phase III	1:15 000	1982	1984,'86,'90,'93,'95,'97	1975,'76	NA	1:15 000	N
1635	83L/04		phase I	1:63 360	1951	n/a	1944		1:21 600	N
extras:										
NA	83F/01/08	49-50/15-16/5	phase II	1:31 680	NA	NA	1957-58, '61	C 610	NA	N
NA	83J/04	59-60/11-12/5	phase II	1:31 680	1972	1975	1971	71-75	1:21 120	N
NA	83B/10/11	41/7/5	phase II	1:31 680	NA	NA	NA	NA	NA	N
NA	83K/01	60/17/5	phase III	1:15 000	1981	1982-'83,'85,'90,'97-'98	1978	NA	1:15 000	N
NA	83J/04	60/12/5	phase III	1:15 000	1980	1982,'85,'87,'89,'91,'96,'97	1977	NA	1:15 000	N

82 O/11 was not included in Phase I inventory

Table 7. Fire suppression data for FtMF island remnant fires.

Fire ref. number	Source	Onset		Hand constructed guards			Dozer constructed guards				Pump held	Aircraft	LFS	Actual	Diff
		hazard	Type of fire	meters	hours	lost(m)	meters	hours	lost(m)	fired	line (m)	used	size(ha)	size(ha)	(ha)
585	slab pile, Brule Lbr. Co. mill	NA	NA	0	0	0	0	0	0	1400	19219	no	520	634	-114
762	NA	NA	NA	0	0	0	0	0	0	0	9610	no	200	40	160
843	lightning	NA	NA	0	0	0	0	0	0	0	6370	no	256	35	221
875b	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	681	NA
1060	logging slash	9	grnd., crown	364	NA	0	12146	NA	0	NA	0	no	1019	697	322
1070	burning brush along gasline	extr.	grnd, surf.	910	250	910	9610	NA	7280	900	801	no	533	164	369
1071	sawdust pile on L.T.B. 1635	extr.	grnd, surf, crown	8008	NA	3203	30430	NA	8008	2640	2402	no	16740	15907	833
1072	spark blown from fire 7-5	8	surface, crown	637	100	0	4	113	0	0	637	no	256	222	34
1073	burning brush by settler	high	grass and timber	10410.4	8190	0	32032	2495	4404	0	0	no	5150	3638	1512
1118	campfire or cigarette	high	surface, crown	0	0	0	NA	NA	all	0	yes	no	7182	8880	-1698
1119	tarpaper trapper's shack	extr.	grnd, surf, crown	3822	3000	273	4550	196	0	0	0	yes	1426	1225	201
1120	lightning	extr.	grnd, surf, crown	3203.2	5000	0	6679	200	0		0	yes	7586	9117	-1531
24E-2-56	lightning	high	grnd., crown	409.5	7100	0	1059	231	0	0	0	no	87	107	-20
56-3-56	lightning	extr.	grnd., crown	4804.8	NA	0	6406	0	0	0	0	yes	184	194	-10
1133	fishermen's cigarette	extr.	grnd, surf, crown	2275	64	0	5278	102	0	400	0	no	250	203	47
1140	campfire	high	surface, crown	0	0	0	8208	194	0	0	1420	no	382	278	104
1206	lightning	extr.	grnd, surf, crown	2548	18337	182	6962	428.5	0	0	510	yes	440	439	1
1209	lightning	high	surface, crown	0	4770	0	7535	849	801	0	1602	yes	234	215	19
1216	lightning	5	surface, crown	16016	1765	637	0	0	0	150	819	yes	357	449	-92
1236	incendiary, matches	mod.	grnd, surf, crown	0	4859	0	14174	753	3363	0	0	no	355	198	157
1360	logging operation	NA	grnd, surf, crown	0	0	0	2311	2196	755	100	yes	yes	1460	2170	-710
DW1-15-70	lightning	8	grnd, surf, crown	603.33	NA	0	4784	NA	804	0	201	yes	62	28	34
1451	sparks from welder's torch	NA	NA	2412.41	22443	0	9648	620	0	0	yes	yes	393	365	28
1499	lightning	NA	NA	0	0	0	7505	101.5	0	0	732	yes	217	219	-2
1635	lightning	NA	NA	546	24052	0	6916	433	0	0	1092	yes	1169	1300	-131

Table 8. Digital data acquired for FtMF island remnants fires.

Fire ref. number	Mapsheet coverage 1:50 000	1:20 000	DEM	Tin	Grid	Slope	Aspect	Base position	Perimeter & Islands (I&II)	Historical map	Forest cover Phase I	Phase II	Phase III
585	83F/05	sw	Y	Y	N	N	N	Y	Y	N	N	N	N
762	83B/10	nw ne	Y	N	N	N	N	Y	Y	N	N	N	N
843	83E/16	ne	Y	Y	N	N	N	Y	Y	N	N	N	N
	83L/01	se	Y	Y	N	N	N	Y					
875 b	83K/05	se	Y	N	N	N	N	Y	Y	N	N	N	N
	83K/06	sw	Y	N	N	N	N	Y					
1060	83G/04	ne	Y	?	?	N	N	Y	Y	n/a	N	N	N
1070	83F/10	se	Y	Y	N	N	N	Y	Y	N	N	N	N
1071	83F/07	ne se	Y	Y	N	N	N	Y	Y	Y	Y	N	N
	83F/08	ne nw sw	Y	Y	N	N	N	Y					
	83F/09	sw	Y	Y	N	N	N	Y					
1072	83F/07	ne se	Y	Y	N	N	N	Y	Y	Y	Y	N	N
1073	83G/13	ne nw	Y	N	N	N	N	Y	Y	Y	Y	N	N
	83J/04	se sw	Y	N	N	N	N	Y					
1118	83F/03	ne nw	Y	Y	N	Y	Y	Y	Y	N	N	N	N
	83F/06	se sw	Y	Y	N	Y	Y	Y			N		
1119	83F/13	nw	Y	Y	N	Y	Y	Y	Y	Y	Y	N	N
1120	83E/09	ne	Y	Y	N	Y	Y	Y	Y	N	N	N	N
	83E/16	se	Y	Y	N	Y	Y	Y					
	83F/13	sw	Y	Y	N	Y	Y	Y					

Fire ref. number	Mapsheet coverage 1:50 000	1:20 000	DEM	Tin	Grid	Slope	Aspect	Base position	Perimeter & Islands (I&II)	Historical map	Forest cover Phase I	Phase II	Phase III
24-E2-56	83L/10	ne	Y	?	?	N	N	Y	Y	N	N	N	N
56-3-56	83K/03	sw	Y	Y	N	N	N	Y	Y	N	N	N	N
1133	83B/10	ne nw se	Y	N	N	N	N	Y	Y	Y	Y	N	N
1140	83G/05	ne	Y	N	N	N	N	Y	Y	N	N	N	N
	83G/06	nw	Y	N	N	N	N	Y					
	83G/12	se	Y	N	N	N	N	Y					
1206	83E/14	nw	Y	Y	N	N	N	Y	Y	Y	Y	N	N

Table 9. Climate stations relevant to FtMF island remnant fires.

				Latitude			Longitude			Elevation	Station		
Station	ID	Forest	Type	(°)	(')	decimal °	(°)	(')	decimal °	meters	#	Years	Fires
Athabasca	AT	ED	LO	53	25	53.42	117	47	117.78	1631	3060353	1955-57	585 1118 1120 1119
Entrance				53	23	53.38	117	41	117.68	991	3062440	1955-57	585 1118
Hinton	E6	ED	RZ	53	25	53.42	117	34	117.57	1014	3063340	1956-57	585 1118
Ansell	AN	ED	LO	53	31	53.52	116	21	116.35	957	3060235	1960-61	1209
Eagle	EA	WC	LO	54	28	54.47	116	25	116.42	1042	3062150	1973-75	1451
Edson				53	35	53.58	116	25	116.42	925	3062241	1960-61	1209
Edson				53	35	53.58	116	25	116.42	923	3062240	1955-60	1070 1071 1072 1209
Kaybob 3				54	7	54.12	116	38	116.63	1003	3063620	1973-74	1451
Lovett	LO	ED	LO	53	5	53.08	116	41	116.68	1445	3064040	1955-61	1070 1071 1072 1118 1209
Mayberne	MB	ED	LO	53	25	53.42	116	40	116.67	1491	3064240	1970-74/1955-74	1451 DW1-15-70/1070-72
Pass Creek	PS	WC	LO	54	14	54.23	116	50	116.83	1135	3065000	1955-74/1969-74	56-3-56/1451 DW1-15-70
Tom Hill Lo	TO			53	56	53.93	116	20	116.33	1295	3066495	1969-74	1451 DW1-15-70
Carrot Creek	CC	WC	LO	53	27	53.45	115	52	115.87	1044	3061360	55-62	1060 1209
Pimple Lo				54	30	54.50	115	28	115.47	1103	3065180	56-57	1073
Shining Bank	SO	ED	RZ	53	51	53.85	115	58	115.97	829	3065885	70-75	DW1-15-70 1451
Whitecourt airport	WC	WC	LO	54	8	54.13	115	40	115.67	741	3067370	55-57	1073
Wolf Lo				53	9	53.15	115	54	115.90	1099	3067620	56-62	1209 1060
Campsie				54	8	54.13	114	41	114.68	671	3061200	56-62	1236 1140 1073
Peavine				54	4	54.07	114	55	114.92	695	3065080	55-62	1073 1140 1236
Torrens Lo	TR	GP	LO	54	11	54.18	119	53	119.88	1829	3056510	81-83	1635
Jasper				52	53	52.88	118	4	118.07	1061	3053520	45-47	585
Bluehill Lo	BH	BC	LO	51	42	51.70	115	13	115.22	1951	3050725	69-71	1360
Mockingbird	MH	BC	LO	51	26	51.43	115	5	115.08	1905	3054592	69-71	1360
Red Deer				51	40	51.67	115	13	115.22	1451	3055485	69-71	1360
Copton Lo	CT	GP	LO	54	11	54.18	119	24	119.40	1856	3071860	60-62	1216 1206
Nose Mtn.	NM	GP	LO	54	33	54.55	119	35	119.58	1574	3074880	60-83/81-83	1635 1216 1206
Bald Mtn.	BD	GP	LO	54	49	54.82	118	55	118.92	939	3070480	56-57/55-57	24-E2-56
Economy Lo	EC	GP	LO	54	47	54.78	118	14	118.23	800	3072160	55-57	24-E2-56
Kakwa	KA	GP	LO	54	26	54.43	118	58	118.97	1213	3073585	60-62	1216
Simonette	SI	ED	LO	54	14	54.23	118	25	118.42	1274	3075940	56-57	1119 1120
Fox Creek	FC	WC	RS	54	24	54.40	116	56	116.93	841	3072735	69-74	DW1-15-70 1451
Aurora	AU	RM	LO	52	39	52.65	115	43	115.72	1341	3010410	78-80	1499
Brazeau Lo	BZ	RM	LO	53	1	53.02	115	25	115.42	1088	3010800	55-57	1060

				Latitude			Longitude			Elevation	Station		
Station	ID	Forest	Type	(°)	(')	decimal °	(°)	(')	decimal °	meters	#	Years	Fires
Clearwater	CW	RM	RS	51	59	51.98	115	15	115.25	1280	3011663	69-71	1360
Prairie Cr.	PK	RM	RS	52	15	52.25	115	18	115.30	1174	3015295	78-80	1499
Alder Flats	AF	RM	LO	52	48	52.80	114	49	114.82	1076	3010080	57-80	1133 1499
Buck Mtn.				53	1	53.02	114	42	114.70	1061	3010920	48-50	762
Rocky Mtn. H.	RM	RM	SA	52	26	52.43	114	55	114.92	988	3015522	78-80	1499

Appendix 1. Air photo projects available for the 25 sample fires.

Appendix I Figure 1. Air photo project numbers for fire 585.

DEC. 05' 97(FRI) 09:50 AIR PHOTO SERVICES TEL:403 422 9683 P. 006

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AERIAL PHOTO SELECTED PROJECT NUMBER LIST

Fire 585

	S	T	R	M
THE INPUT LEGAL DESCRIPTION:	23	050	27	5

PROJECT NUMBER	COVERAGE (P/C)		DATE	SCALE	EMULSION
96-128	Z	C	1996-08-11	1:20000	B&W IR
93-131	I	C	1993-08-20	1:40000	PAN 150
T92-193	B	P	1993-07-27	1: 7000	PAN 2405
91-052	A	C	1991-05-02	1:15000	CNEG 2445*
FB4-0018	A	C	1985-05-06	1:5000	PAN 2405
85-34	A	C	1985-07-03	1:15000	IR 2424
85-34		C	1985-07-03	1:15000	IR 2424
85-128	C	C	1985-05-09	1:60000	PAN 2405
82-186	B	C	1982-09-19	1:40000	CPOS 2443*
82-120	I	C	1982-00-00	1:15000	IR.2424
81-50	C	C	1981-08-08	1:60000	PAN 2405
81-047 83F	C	C	1981-00-00	1:30000	PAN 2405
80-101	M	C	1980-09-00	1:15000	IR 2424
577-188	R	C	1977-10-20	1:25000	PAN 2405
76-30	A	C	1976-07-05	1:15000	IR 2424
74-48	C	C	1974-09-15	1:21120	IR 2424
74-101		C	1974-09-14	1:30000	CPOS 2443*
74-24		C	1974-07-22	1:15840	IR 2424
73-177	B	C	1973-12-04	1: 6000	PAN 2405
63-83E	H	C	1963-07-16	1:31680	PAN 2402
51-83E	A	C	1951-00-00	1:15840	SUPER XX
49-83E	A	C	1949-00-00	1:40000	SUPER XX

Appendix I Figure 2. Air photo project numbers for fire 843.

DEC. -05'97(FRI) 09:50 AIR PHOTO SERVICES TEL:403 422 9683 P.007

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AERIAL PHOTO SELECTED PROJECT NUMBER LIST

	S	T	R	W
THE INPUT LEGAL DESCRIPTION:	07	058	01	6

Fire 843

PROJECT NUMBER	COVERAGE (P/C)		DATE	SCALE	EMULSION
95-96 BLK	C	C	1995-05-26	1:60 ??	AGFA 50
95-96 83L o	A	C	1995-05-26	1:48-50	AGFA 50
MOSAIC-615	A	C	1995-00-00	1:90000	96-413 U/C
93-131	B	C	1993-08-20	1:40000	PAN 150
91-078	C	C	1991-04-18	1:20000	PAN 200
90-002 ANC	B	C	1990-06-00	1:20000	IR 2424
90-132A	N	C	1990-00-00	1:40000	PAN 50
86-140	A	C	1986-00-00	1:40000	PAN 2405
83-148	B	C	1983-08-19	1:50000	CP06 3443A
83-144		C	1983-07-23	1:60000	PAN 2405
80-134		C	1980-09-08	1:60000	PAN 2405
75-1	C	C	1975-07-00	1:21120	IR 2424
58-83L	A	C	1958-00-00	1:15840	SUPER XX
51-83L	A	C	1951-00-00	1:15840	SUPER XX
51-83E	C	C	1951-00-00	1:15840	SUPER XX
49-83L	A	C	1949-00-00	1:40000	SUPER XX
49-83E	Q	C	1949-00-00	1:40000	SUPER XX

Appendix I Figure 3. Air photo project numbers for fire 875b.

DEC.-05'97(FRI) 09:49 AIR PHOTO SERVICES TEL:403 422 9683 P.002

REPORT NO.: APRSR1 1997-DEC-05 PAGE 1

AERIAL PHOTO SELECTED PROJECT NUMBER LIST

	S	T	R	W
THE INPUT LEGAL DESCRIPTION:	15	062	25	5

Fire 875b

PROJECT NUMBER	COVERAGE (P/C)		DATE	SCALE	EMULSION
95-96 BLK	B	C	1995-05-26	1:60 ??	AGFA 50
95-96 83K lg	A	C	1995-05-26	1:56-58	AGFA 50
91-197	B	C	1991-07-08	1:15000	IR 2424
91-042	B	C	1991-05-01	1:20000	PAN 200
90-031	B	C	1990-08-08	1:20000	PAN 200
88-184	A	C	1988-08-00	1:15000	PAN 200
85-123	H	C	1985-05-09	1:60000	PAN 2405
83-148	C	C	1983-08-19	1:50000	CPOS 2443*
83-95	A	C	1983-07-28	1:20000	PAN 2405
81-50		C	1981-08-08	1:60000	PAN 2405
80-124		C	1980-09-08	1:60000	PAN 2405
76-74		C	1976-07-09	1:15000	IR 2424
73-78	C	C	1973-07-10	1:21120	IR 2424
70-21		C	1970-08-05	1:15840	PAN 2405
70-21	C	C	1970-00-00	1:15840	IR 2424
58-83K	A	C	1958-00-00	1:15840	SUPER XX
51-83K	A	C	1951-00-00	1:15840	SUPER XX
49-83K	A	C	1949-00-00	1:40000	SUPER XX

Appendix I Figure 4. Air photo project numbers for fire 1070.

DEC. -05 97(FRI) 09:54 AIR PHOTO SERVICES TEL:403 422 9683 P. 019

REPORT NO.: APRSR1 1997-DEC-05 PAGE 1

AERIAL PHOTO SELECTED PROJECT NUMBER LIST

	S	T	R	W	Fire 1070
THE INPUT LEGAL DESCRIPTION:	13	053	19	5	

PROJECT NUMBER	COVERAGE (P/C)		DATE	SCALE	EMULSION
95-144	a	C	1995-08-25	1:30000	AGFA 150
95-119	F	C	1995-07-13	1:10000	AGFA 200
T94-18	O	C	1994-07-24	1:20000	PAN XX
94-79	A	C	1994-04-08	1:20000	AGFA 200
93-131	L	C	1993-08-20	1:40000	PAN 150
T91-077	Z	C	1991-00-00	1:20000	PAN XX
T90-185	Q	C	1990-10-00	1:20000	PAN XX
90-116	I	C	1990-00-00	1:20000	PAN 200
89-139	L	C	1989-07-28	1:20000	PAN 200
F88-014 3	W	C	1988-10-07	1:20000	PAN XX
88-299	A	C	1988-09-18	1:15000	PAN 50
S85-021H	M	P	1985-05-16	1:25000	PAN 2405
85-123	E	C	1985-05-09	1:60000	PAN 2405
SB2-015	G	P	1983-07-24	1:25000	PAN 2405
83-148		C	1983-08-19	1:50000	CPOS 2443A
S82-015A	G	C	1982-05-19	1:25000	PAN 2405
S81-027	A	C	1981-05-05	1:10000	PAN 2405
81-061		C	1981-09-10	1:15000	PAN 2405
81-50	C	C	1981-08-08	1:60000	PAN 2405
81-047 83F	G	C	1981-00-00	1:30000	PAN 2405
79-104		C	1979-07-17	1:20000	PAN 2405
S78-196	M	C	1978-04-25	1:25000	PAN 2405
77-108A		C	1977-06-18	1:50000	PAN 2405
73-3	Q	C	1973-08-29	1:21120	IR 2424
70-322 83F	C	C	1970-00-00	1:80000	PAN 3405
69-168	E	C	1969-07-24	1:31680	PAN 2405
65-83F	H	C	1965-00-00	1:31680	
64-83F	B	C	1964-00-00	1:31680	
61-83F	D	C	1961-00-00	1:15840	
51-83F	A	C	1951-00-00	1:15840	SUPER XX
49-83F	A	C	1949-00-00	1:40000	SUPER XX

Appendix I Figure 5. Air photo project numbers for fire 1071.

DEC. -05' 97(FRI) 09:54 AIR PHOTO SERVICES TEL:403 422 9683 P.018

REPORT NO.: APRSR1 1997-DEC-05 PAGE 1

AERIAL PHOTO SELECTED PROJECT NUMBER LIST

Fire 1071

THE INPUT LEGAL DESCRIPTION:	S	T	R	W
	22	051	17	5

PROJECT NUMBER	COVERAGE (P/C)		DATE	SCALE	EMULSION
95-115	C	C	1995-07-13	1:10000	AGFA 200
93-131	J	C	1993-08-20	1:40000	PAN 150
92-155	A	P	1992-07-30	1:10000	PAN 2424
90-036	A	C	1990-04-16	1:20000	IR 2424
89-139	K	C	1989-07-29	1:20000	PAN 200
86-160	E	C	1986-06-00	1:15000	PAN 2405
85-123	D	C	1985-05-09	1:60000	PAN 2405
82-186	A	C	1982-09-19	1:40000	CPOS 2443A
81-113		C	1981-09-14	1:15000	IR 2424
81-80	C	C	1981-08-08	1:60000	PAN 2405
77-108A		C	1977-06-18	1:50000	PAN 2405
73-3	G	C	1973-08-29	1:21120	IR 2424
70-322 83E	B	C	1970-00-00	1:80000	PAN 2405
69-168	E	C	1969-07-24	1:31680	PAN 2405
58-83E	C	C	1958-00-00	1:15840	SUPER XX
51-83E	A	C	1951-00-00	1:15840	SUPER XX
49-83E	A	C	1949-00-00	1:40000	SUPER XX

Appendix I Figure 6. Air photo project numbers for fire 1072.

DEC. -05 97(FRI) 09:49 AIR PHOTO SERVICES TEL:403 422 9683 P. 001

REPORT NO.: APRSP1 1997-DEC-05 PAGE 1

AERIAL PHOTO SELECTED PROJECT NUMBER LIST

Fire 1072

	S	T	R	M
THE INPUT LEGAL DESCRIPTION:	16	051	18	5

PROJECT NUMBER	COVERAGE (P/C)		DATE	SCALE	EMULSION
96-21	D	C	1996-07-29	1:20000	A 200
93-131	J	C	1993-08-20	1:40000	PAN 150
93-025 83F	A	C	1993-05-12	1:30000	A-200
89-139	K	C	1989-07-23	1:20000	PAN 200
86-160	E	C	1986-06-09	1:15000	PAN 2405
85-123	D	C	1985-05-09	1:60000	PAN 2405
82-186	A	C	1982-09-19	1:40000	CPOS 2443A
81-113		C	1981-09-14	1:15000	IR 2424
81-50	C	C	1981-08-08	1:60000	PAN 2405
F78-162A	R	P	1978-06-12	1:25000	PAN 2405
77-108A		C	1977-06-18	1:50000	PAN 2405
73-3	O	C	1973-08-29	1:21120	IR 2424
70-922 83F	B	C	1970-00-00	1:80000	PAN 2405
65-83F	G	C	1965-00-00	1:31680	
64-83F	A	C	1964-00-00	1:31680	
58-83F	I	C	1958-00-00	1:15840	SUPER XX
51-83F	A	C	1951-00-00	1:15840	SUPER XX
49-83F	A	C	1949-00-00	1:40000	SUPER XX

Appendix I Figure 7. Air photo project numbers for fire 1073.

DEC. -05' 97(FRI) 09:53 AIR PHOTO SERVCES TEL:403 422 9683 P.01?

REPORT NO.: APRSR1 1997-DEC-05 PAGE 1

AERIAL PHOTO SELECTED PROJECT NUMBER LIST

Fire 1073

	S	T	R	W
THE INPUT LEGAL DESCRIPTION:	07	057	12	5

PROJECT NUMBER	COVERAGE (P/C)		DATE	SCALE	EMULSION
96-139	E	C	1996-07-12	1:20000	B&W IR
95-144	M	C	1995-08-25	1:80000	AGFA 150
95-96 BLK	R	C	1995-05-26	1:60 ??	AGFA 50
95-96 836/y	A	C	1995-05-26	1:52-54	AGFA 50
95-29	C	C	1995-05-08	1:20000	AGFA 200
94-142	L	C	1994-00-00	1:15000	B&W IR
90-116	Q	C	1990-00-00	1:20000	PAN 200
89-090	B	C	1989-05-00	1:15000	PAN 2405
87-125	D	C	1987-08-19	1:15000	PAN 300
887-020	A	C	1987-05-06	1:25000	PAN 2405
85-123	G	C	1985-05-09	1:60000	PAN 2405
84-173	G	C	1984-06-14	1:15000	PAN 2405
E84-28-15	H	C	1984-00-00	1:50000	C.POS.
81-50	C	C	1981-08-08	1:60000	PAN 2405
81-047 836	L	C	1981-00-00	1:30000	PAN 2405
78-48	L	C	1978-00-00	1:15000	IR. 2424
77-37		C	1977-07-03	1:15000	IR 2424
77-108A		C	1977-06-18	1:50000	PAN 2405
73-3	T	C	1973-08-29	1:21120	IR 2424
70-322 836	A	C	1970-00-00	1:80000	PAN 2405
69-168		C	1969-07-24	1:31680	PAN 2405
58-836	O	C	1958-00-00	1:15840	SUPER XX
51-836	A	C	1951-00-00	1:15840	SUPER XX
49-836	A	C	1949-00-00	1:40000	SUPER XX
20-364	A	C	1920-00-00	1:N/A	LASER ONLY

Appendix I Figure 8. Air photo project numbers for fire 1118.

DEC. -05' 97(FRI) 09:49 AIR PHOTO SERVICES TEL:403 422 9683 P.003

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AERIAL PHOTO SELECTED PROJECT NUMBER LIST

Fire 1118

	S	T	R	M
THE INPUT LEGAL DESCRIPTION:	33	048	23	5

PROJECT NUMBER	COVERAGE (P/C)		DATE	SCALE	EMULSION
93-131	E	C	1993-08-20	1:40000	PAN 150
87-044	R	C	1987-09-00	1:15000	IR 2424
F86-012	B	P	1986-10-24	1:10000	PAN 2405
85-123	A	C	1985-05-09	1:60000	PAN 2405
82-186	A	C	1982-09-19	1:40000	CPOS 2443A
82-120	G	C	1982-00-00	1:15000	IR.2424
81-50	C	C	1981-08-08	1:60000	PAN 2405
78-110		C	1978-06-02	1:21120	CPOS 2443A
63-83F	F	C	1963-07-16	1:31680	PAN 2402
51-83F	A	C	1951-00-00	1:15840	SUPER XX
49-83F	A	C	1949-00-00	1:40000	SUPER XX

Appendix I Figure 9. Air photo project numbers for fire 1119.

DEC.-05'97(FRI) 09:49 AIR PHOTO SERVICES TEL:403 422 9683 P.004

REPORT NO.: APRSR1 1997-DEC-05 PAGE 1

AERIAL PHOTO SELECTED PROJECT NUMBER LIST

Fire 1119

	S	T	R	M
THE INPUT LEGAL DESCRIPTION:	15	057	27	5

PROJECT NUMBER	COVERAGE (P/C)		DATE	SCALE	EMULSION
93-131	R	C	1993-08-20	1:40000	PAN 150
90-001 ANC	G	C	1990-07-08	1:20000	IR 2424
85-123	G	C	1985-05-09	1:60000	PAN 2405
83-148	B	C	1983-08-19	1:50000	CPOS 2443A
81-50	C	C	1981-08-08	1:60000	PAN 2405
75-1	F	C	1975-07-00	1:21120	IR 2424
75-1	C	C	1975-07-00	1:21120	IR 2424
51-83F	A	C	1951-00-00	1:15840	SUPER XX
49-83F	A	C	1949-00-00	1:40000	SUPER XX

Appendix I Figure 10. Air photo project numbers for fire 1120.

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AERIAL PHOTO SELECTED PROJECT NUMBER LIST

Fire 1120

THE INPUT LEGAL DESCRIPTION:	S	T	R	W
	21	055	01	6

PROJECT NUMBER	COVERAGE (P/C)		DATE	SCALE	EMULSION
93-131	B	C	1993-08-20	1:40000	PAN 150
85-123	G	C	1985-05-09	1:60000	PAN 2405
82-120	N	C	1982-00-00	1:15000	IR.2424
81-50	E	C	1981-08-08	1:60000	PAN 2405
80-101	F	C	1980-09-00	1:15000	IR 2424
75-1	C	C	1975-07-00	1:21120	IR 2424
63-83E	B	C	1963-07-16	1:31680	PAN 2402
51-83E	C	C	1951-00-00	1:15840	SUPER XX
49-83E	D	C	1949-00-00	1:40000	SUPER XX

Appendix I Figure 11. Air photo project numbers for fire 1133.

DEC.-05 97(FRI) 09:53 AIR PHOTO SERVICES TEL:403 422 9683 P.016

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AERIAL PHOTO SELECTED PROJECT NUMBER LIST

	S	T	R	M
THE INPUT LEGAL DESCRIPTION:	30	042	05	5

Fire 1133

PROJECT NUMBER	COVERAGE (P/C)		DATE	SCALE	EMULSION
T93-19	D	C	1993-09-05	1:20000	PAN 150
93-176	a	C	1993-00-00	1:30000	PAN 150
T92-010	E	P	1992-06-16	1:20000	PAN 2X
90-213	A	C	1990-09-13	1:20000	PAN 150
88-131A 83B	D	C	1988-07-20	1:130M	PAN 50
T87-008	C	C	1987-09-19	1:25000	PAN 200
86-336	A	C	1986-09-06	1:30000	PAN 2405
E86-008	I	C	1986-04-20	1:30000	PAN 2405
86-227	I	C	1986-00-00	1:15000	IR 2424
84-104	I	C	1984-10-01	1:100M	PAN 2405
S84-011	B	P	1984-05-01	1:25000	PAN 2405
84-103	D	C	1984-07-10	1:60000	PAN 2402
84-174		C	1984-05-18	1:15000	PAN 2405
81-047 83B	F	C	1981-00-00	1:30000	PAN 2405
80-121	B	C	1980-09-08	1:60000	PAN 2405
80-015		C	1980-06-08	1:30000	PAN 2405
73-3	F	C	1973-08-29	1:21120	IR 2424
72-65	L	C	1972-06-28	1:21120	IR 2424
71-358	C	C	1971-10-04	1:24000	PAN 2405
70-322 83B	C	C	1970-00-00	1:80000	PAN 2405
69-167		C	1969-07-18	1:31680	PAN 2405
66-83B	F	P	1966-00-00	1:31680	
63-83B		C	1963-07-16	1:31680	PAN 2402
62-83B	K	C	1962-00-00	1:31680	
58-83B	Q	C	1958-00-00	1:15840	SUPER XX
51-83B	G	P	1951-00-00	1:15840	SUPER XX
51-83B	F	P	1951-00-00	1:15840	SUPER XX
49-83B	A	C	1949-00-00	1:40000	SUPER XX

Appendix I Figure 12. Air photo project numbers for fire 1140.

DEC. 05 97(FRI) 09:53 AIR PHOTO SERVICES TEL:403 422 9685 P.015

REPORT NO.: APRSR1 1997-DEC-05 PAGE 1

AERIAL PHOTO SELECTED PROJECT NUMBER LIST

Fire 1140

	S	T	R	W
THE INPUT LEGAL DESCRIPTION:	22	052	11	5

PROJECT NUMBER	COVERAGE (P/C)		DATE	SCALE	EMULSION
94-108	E	C	1994-10-24	1:60000	AGFA 150
94-107	H	C	1994-07-00	1:20000	PAN 2424
90-025	D	C	1990-04-16	1:20000	PAN 200
90-116	G	C	1990-00-00	1:20000	PAN 200
88-131C 83FG	R	C	1988-07-20	1:65000	CPDS 2443*
88-131A 83FG	Q	C	1988-07-20	1:130M	PAN 50
85-123	E	C	1985-05-09	1:60000	PAN 2405
81-50	C	C	1981-08-08	1:60000	PAN 2405
81-047 83G	F	C	1981-00-00	1:30000	PAN 2405
78-48	F	C	1978-00-00	1:15000	IR. 2424
77-37		C	1977-07-03	1:15000	IR 2424
77-108A		C	1977-06-18	1:50000	PAN 2405
74-98	B	C	1974-11-02	1:31680	IR 2424
70-322 83G	A	C	1970-00-00	1:80000	PAN 2405
69-168	B	C	1969-07-24	1:31680	PAN 2405
61-83G	D	C	1961-00-00	1:15840	
58-83G	N	C	1958-00-00	1:15840	SUPER XX
51-83G	A	C	1951-00-00	1:15840	SUPER XX
49-83G	A	C	1949-00-00	1:40000	SUPER XX

Appendix I Figure 13. Air photo project numbers for fire 1206.

DEC -05 97(FRI) 09:53 AIR PHOTO SERVICES TEL:403 422 9685 P.014

REPORT NO.: APR3R1 1997-DEC-05 PAGE 1

AERIAL PHOTO SELECTED PROJECT NUMBER LIST

Fire 1206

	S	T	R	W
THE INPUT LEGAL DESCRIPTION:	33	057	10	6

PROJECT NUMBER	COVERAGE (P/C)		DATE	SCALE	EMULSION
93-131	R	C	1993-08-20	1:40000	PAN 150
90-132A	G	C	1990-00-00	1:40000	PAN 50
89-178	A	C	1989-09-11	1:30000	PAN 50
86-140	A	C	1986-00-00	1:40000	PAN 2405
85-133	G	C	1985-08-09	1:60000	PAN 2405
77-94	R	C	1977-07-23	1:30000	PAN 2405
74-95	R	C	1974-09-16	1:21120	IR 2424
51-83E	C	C	1951-00-00	1:15840	SUPER XX
45-83E	R	C	1949-00-00	1:40000	SUPER XX

Appendix I Figure 14. Air photo project numbers for fire1209.

DEC.-05'97(FRI) 09:52 AIR PHOTO SERVICES TEL:403 422 9685 P.013

REPORT NO.: APRSR1 1997-DEC-05 PAGE 1

AERIAL PHOTO SELECTED PROJECT NUMBER LIST

Fire 1209

THE INPUT LEGAL DESCRIPTION:	S 03	T 051	R 19	W 5

PROJECT NUMBER	COVERAGE (P/C)		DATE	SCALE	EMULSION
97-16	C	C	1997-05-08	1:20000	AGFA 200
96-21	C	C	1996-07-29	1:20000	A 200
94-108	D	C	1994-10-24	1:60000	AGFA 150
94-120	A	C	1994-07-13	1:5000	COLOR NEGA
94-107	F	C	1994-07-06	1:20000	PAN 2424
93-131	I	C	1993-08-20	1:40000	PAN 150
93-024	B	C	1993-05-12	1:20000	AP200
92-003	C	C	1992-06-10	1:20000	PAN 200
91-072	R	C	1991-04-18	1:20000	PAN 200
90-036	A	C	1990-04-16	1:20000	IR 2424
90-116	F	C	1990-00-00	1:20000	PAN 200
89-139	K	C	1989-07-23	1:20000	PAN 200
88-047	A	C	1988-07-23	1:15000	PAN 200
85-123	D	C	1985-05-09	1:60000	PAN 3405
82-186	A	C	1982-09-19	1:40000	CPOS 2443A
81-50	C	C	1981-08-08	1:60000	PAN 3405
77-37		C	1977-07-03	1:15000	IR 2424
77-108A		C	1977-06-18	1:50000	PAN 3405
73-3	D	C	1973-08-29	1:21120	IR 2424
70-322 83E	B	C	1970-00-00	1:80000	PAN 3405
69-168	F	C	1969-07-24	1:31680	PAN 3405
61-83E	C	C	1961-00-00	1:15840	
58-83E	C	C	1958-00-00	1:15840	SUPER XX
51-83E	A	C	1951-00-00	1:15840	SUPER XX
49-83E	A	C	1949-00-00	1:40000	SUPER XX

Appendix I Figure 15. Air photo project numbers for fire 1236.

DEC. -05 97(FRI) 09:52 AIR PHOTO SERVCES TEL:403 422 9683 P.012

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AERIAL PHOTO SELECTED PROJECT NUMBER LIST

	S	T	R	W
THE INPUT LEGAL DESCRIPTION:	20	052	08	5

Fire 1236

PROJECT NUMBER	COVERAGE (P/C)		DATE	SCALE	EMULSION
95-144	F	C	1995-08-25	1:30000	AGFA 150
94-108	E	C	1994-10-24	1:60000	AGFA 150
90-116	G	C	1990-00-00	1:20000	PAN 200
88-131C 83E6	G	C	1988-07-20	1:65000	CPOS 2443A
88-131A 83E6	F	C	1988-07-20	1:130M	PAN 50
85-133	B	C	1985-05-16	1:15000	PAN 2405
85-129	E	C	1985-05-09	1:60000	PAN 3405
81-50	C	C	1981-08-08	1:60000	PAN 2405
81-047 83E	F	C	1981-00-00	1:30000	PAN 2405
78-48	F	C	1978-00-00	1:15000	IR. 2424
77-37		C	1977-07-03	1:15000	IR 2424
77-108A		C	1977-06-18	1:50000	PAN 2405
74-98	B	C	1974-11-02	1:31680	IR 2424
70-322 83E	A	C	1970-00-00	1:80000	PAN 2405
69-168	E	C	1969-07-24	1:31680	PAN 2405
61-83E	D	C	1961-00-00	1:15840	
51-83E	A	C	1951-00-00	1:15840	SUPER XX
49-83E	A	C	1949-00-00	1:40000	SUPER XX

Appendix I Figure 16. Air photo project numbers for fire 1360.

DEC.-05'97(FRI) 09:52 AIR PHOTO SERVICES TEL:403 422 9683 P.011

REPORT NO.: APRSR1 1997-DEC-05 PAGE 1

AERIAL PHOTO SELECTED PROJECT NUMBER LIST

	S	T	R	M	
THE INPUT LEGAL DESCRIPTION:	05	030	09	5	Fire 1360

PROJECT NUMBER	COVERAGE (P/C)		DATE	SCALE	EMULSION
93-113	H	C	1993-09-07	1:20000	IR 2424
92-103	R	C	1992-00-00	1:40000	PAN 150
89-148	B	C	1989-07-06	1:30000	CNEG 2445A
88-216	T	C	1988-00-00	1:40000	PAN 150
85-002	B	C	1985-07-06	1:20000	CNEG 2445A
72-65	C	C	1972-06-28	1:21120	IR 2424
70-201E		C	1970-08-30	1:15840	IR 2424
70-201D		C	1970-08-27	1:15840	IR 2424
70-201C		C	1970-08-25	1:15840	IR 2424
70-201B		C	1970-08-25	1:15840	IR 2424
70-201		C	1970-08-23	1:15840	IR 2424
58-820	M	C	1958-00-00	1:15840	SUPER XX
49-820	B	C	1949-00-00	1:40000	SUPER XX
ERFCB-820	S	C	1944-00-00	1:19000	LASER ONLY

Appendix I Figure 17. Air photo project numbers for fire 1451.

DEC.-05'97(FRI) 09:51 AIR PHOTO SERVICES TEL:403 422 9683 P.008

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AERIAL PHOTO SELECTED PROJECT NUMBER LIST

Fire 1451

	S	T	R	W
THE INPUT LEGAL DESCRIPTION:	02	060	18	5

PROJECT NUMBER	COVERAGE (P/C)		DATE	SCALE	EMULSION
96-26	H	C	1996-06-06	1:20000	AGFA 200
95-96 BLK	E	C	1995-05-26	1:60 ??	AGFA 50
95-96 83K y	A	C	1995-05-26	1:52-54	AGFA 50
94-106	C	C	1994-07-00	1:30000	2424
94-142	D	C	1994-00-00	1:15000	B&W IR
93-132	C	C	1993-10-11	1:40000	PAN 150
93-037	B	C	1993-05-12	1:20000	AP200
T91-072	L	C	1991-09-29	1:20000	PAN XX
91-217	D	C	1991-07-14	1:20000	IR 2424
91-194	B	C	1991-00-00	1:40000	PAN 150
90-002 ANC	G	C	1990-06-00	1:20000	IR 2424
E89-023	A	P	1989-09-24	1:5000	PAN
E89-001 2	J	P	1989-02-17	1:10000	PAN 2405
F88-023	E	C	1988-10-09	1:20000	PAN XX
E87-068	C	C	1987-10-09	1:25000	C NEG 2445
85-123	H	C	1985-05-09	1:60000	PAN 2405
83-148	B	C	1983-08-19	1:30000	CPOS 2443*
E82-03	A	C	1982-10-08	1:20000	C NEG 2445
81-50		C	1981-08-08	1:60000	PAN 2405
78-48	N	C	1978-00-00	1:15000	IR. 2424
77-37	D	C	1977-07-03	1:15000	IR 2424
70-21		C	1970-08-05	1:15840	PAN 2405
70-21	C	C	1970-00-00	1:15840	IR 2424
69-239		C	1969-05-08	1:24000	PAN 2405
58-83K	A	C	1958-00-00	1:15840	SUPER XX
51-83K	A	C	1951-00-00	1:15840	SUPER XX
49-83K	A	C	1949-00-00	1:40000	SUPER XX

Appendix I Figure 18. Air photo project numbers for fire 1499.

DEC. -05 97(FRI) 09:51 AIR PHOTO SERVICES TEL:403 422 9683 P.009

REPORT NO.: APRSR1 1997-DEC-05 PAGE 1

AERIAL PHOTO SELECTED PROJECT NUMBER LIST

Fire 1499

	S	T	R	M
THE INPUT LEGAL DESCRIPTION:	35	040	08	5

PROJECT NUMBER	COVERAGE (P/C)		DATE	SCALE	EMULSION
96-085 83B	C	C	1996-05-25	1:10000	KODAK 2405
95-94	B	C	1995-10-00	1:60000	AGFA 50
95-136	A	C	1995-07-19	1:20000	BW IR
93-176	X	C	1993-00-00	1:20000	PAN 150
91-193	E	C	1991-00-00	1:40000	PAN 150
88-131C 83B	E	C	1988-07-20	1:65000	CPOS 2443A
88-131A 83B	C	C	1988-07-20	1:130M	PAN 50
87-141	I	C	1987-09-00	1:20000	PAN 200
86-336	A	C	1986-09-06	1:30000	PAN 2405
86-227	G	C	1986-00-00	1:15000	IR 2424
85-078	D	C	1985-10-18	1:10000	PAN 2405
85-79	B	C	1985-05-01	1:30000	PAN 2405
84-104	G	C	1984-10-01	1:100M	PAN 2405
84-103	C	C	1984-07-10	1:60000	PAN 2402
81-178		C	1981-11-09	1:10000	PAN 2405
81-047 83B	E	C	1981-00-00	1:30000	PAN 2405
80-121	B	C	1980-05-08	1:60000	PAN 2405
78-33		C	1978-04-26	1:10000	PAN 2405
77-105	B	C	1977-06-06	1:31680	PAN 2405
S76-189	B	C	1976-07-02	1:25000	PAN 2405
76-72		C	1976-07-25	1:21120	IR 2424
76-35		C	1976-04-23	1:12000	PAN 2405
75-145	B	C	1975-07-11	1:21120	IR 2424
73-3	R	C	1973-08-29	1:21120	IR 2424
71-103		C	1971-05-02	1:12000	PAN 2405
70-35		C	1970-09-17	1:12000	IR 2424
70-822 83B	C	C	1970-00-00	1:80000	PAN 2405
69-167	B	C	1969-07-18	1:31680	PAN 2405
66-83B	E	C	1966-00-00	1:31680	
62-83B	D	C	1962-00-00	1:31680	
S60-207L	A	C	1960-10-27	1:12000	PAN 2405
58-83B	A	C	1958-00-00	1:15840	SUPER XX
51-83B	B	F	1951-00-00	1:15840	SUPER XX
49-83B	A	C	1949-00-00	1:40000	SUPER XX

Appendix I Figure 19. Air photo project numbers for fire 1635.

DEC.-05'97(FRI) 09:51 AIR PHOTO SERVICES TEL:403 422 9683 P.010

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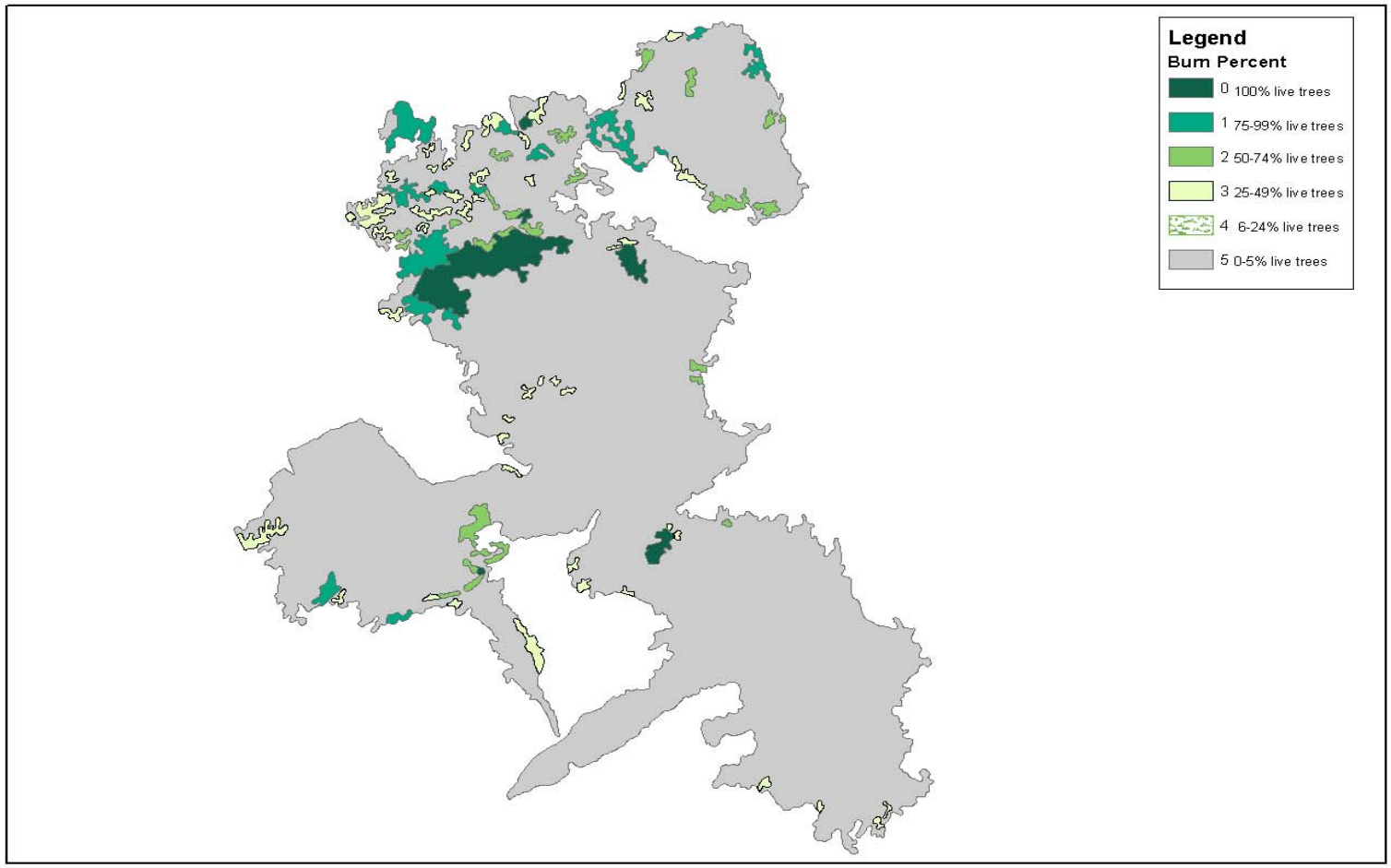
AERIAL PHOTO SELECTED PROJECT NUMBER LIST

Fire 1635

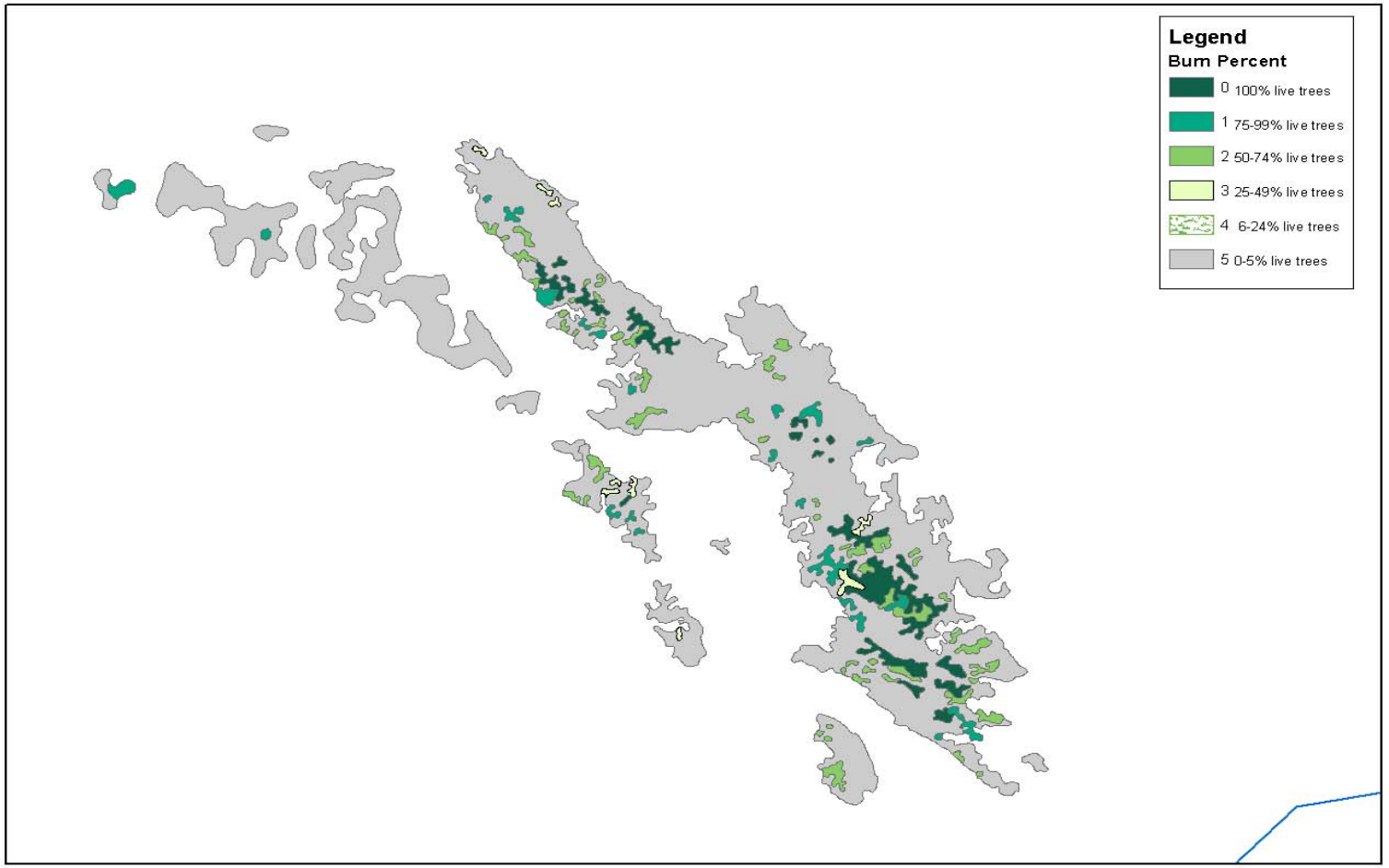
	S	T	R	W
THE INPUT LEGAL DESCRIPTION:	34	060	12	6

PROJECT NUMBER	COVERAGE (P/C)		DATE	SCALE	EMULSION
95-96 BLK	E	C	1995-05-26	1:60 ??	AGFA 50
95-96 83L p	A	C	1995-05-26	1:50-52	AGFA 50
MOSAIC-81S	B	C	1995-00-00	1:90000	96-413 U/C
86-140	A	C	1986-00-00	1:40000	PAN 2405
85-120		C	1985-07-31	1:60000	PAN 2405
83-144	A	C	1983-07-23	1:60000	PAN 2405
83-144		C	1983-07-23	1:60000	PAN 2405
80-124		C	1980-09-08	1:60000	PAN 2405
79-32	S	C	1979-06-18	1:15000	IR 2424
78B-190	I	P	1978-10-21	1:25000	PAN 2405
77-94	A	C	1977-07-23	1:30000	PAN 2405
75-1	A	C	1975-07-00	1:21120	IR 2424
58-83L	A	C	1958-00-00	1:15840	SUPER XX
51-83L	A	C	1951-00-00	1:15840	SUPER XX
49-83L	A	C	1949-00-00	1:40000	SUPER XX

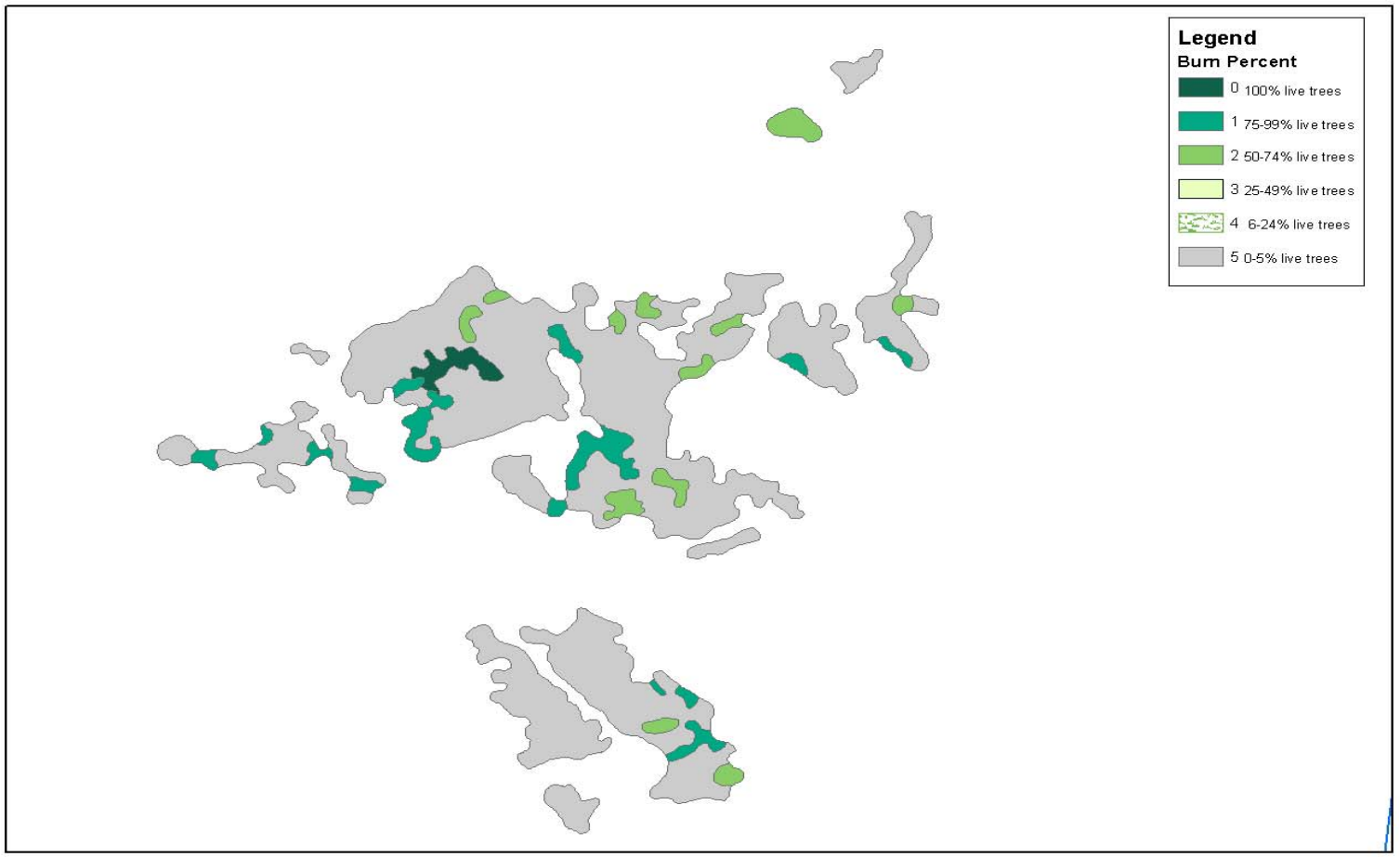
Appendix 2. Detailed maps of the sample fires.



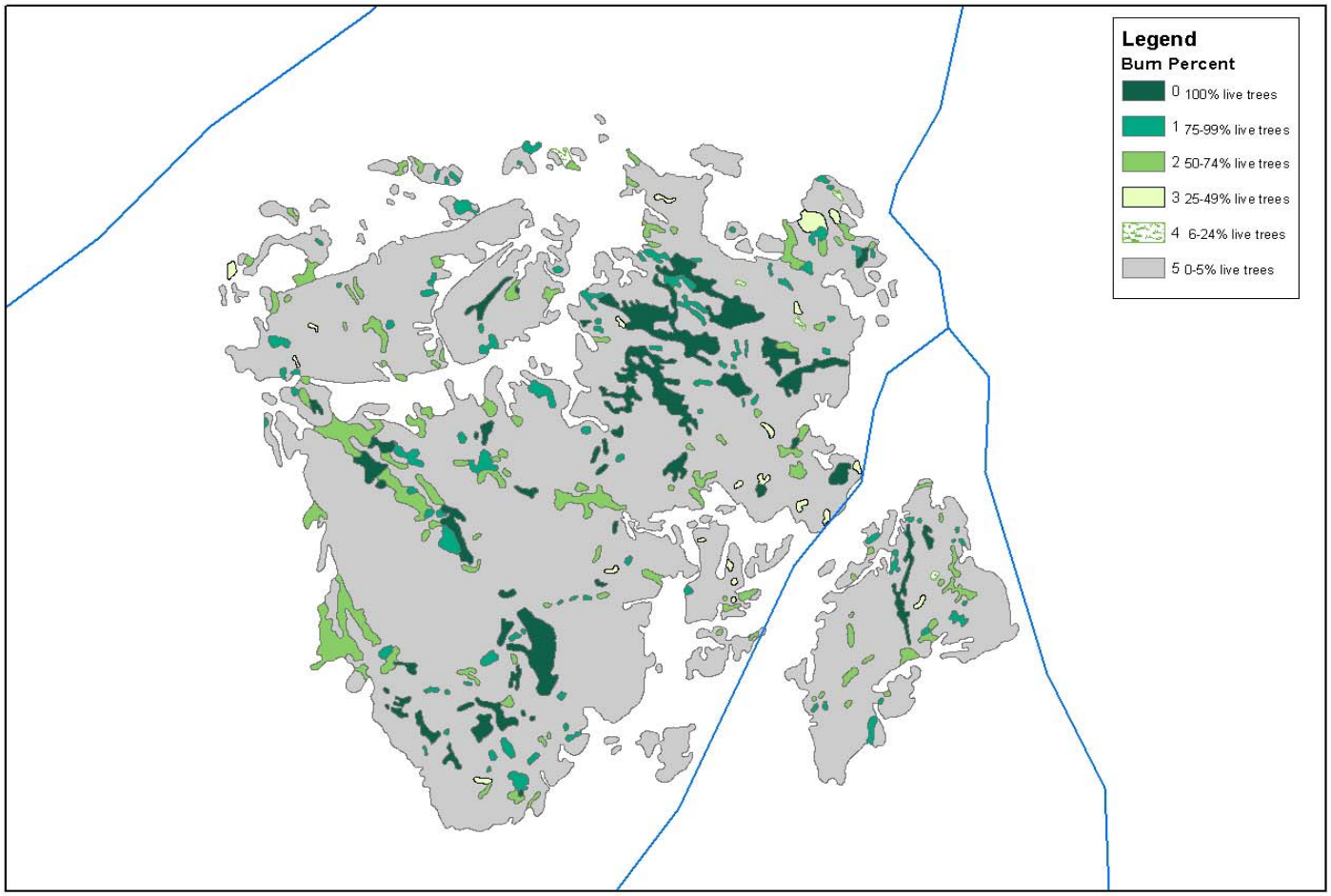
Appendix 2 Figure 1. Fire 585.



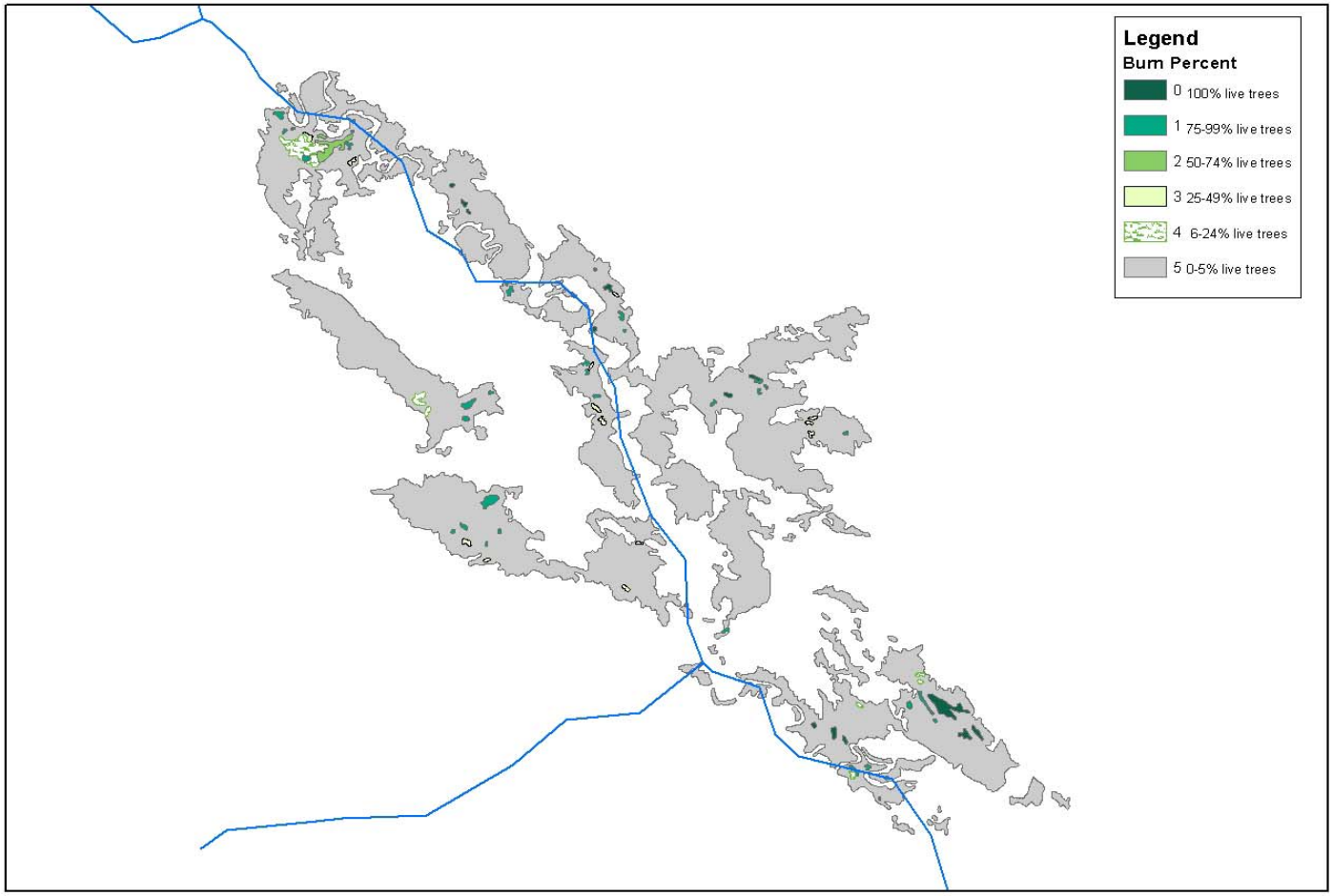
Appendix 2 Figure 2. Fire 762.



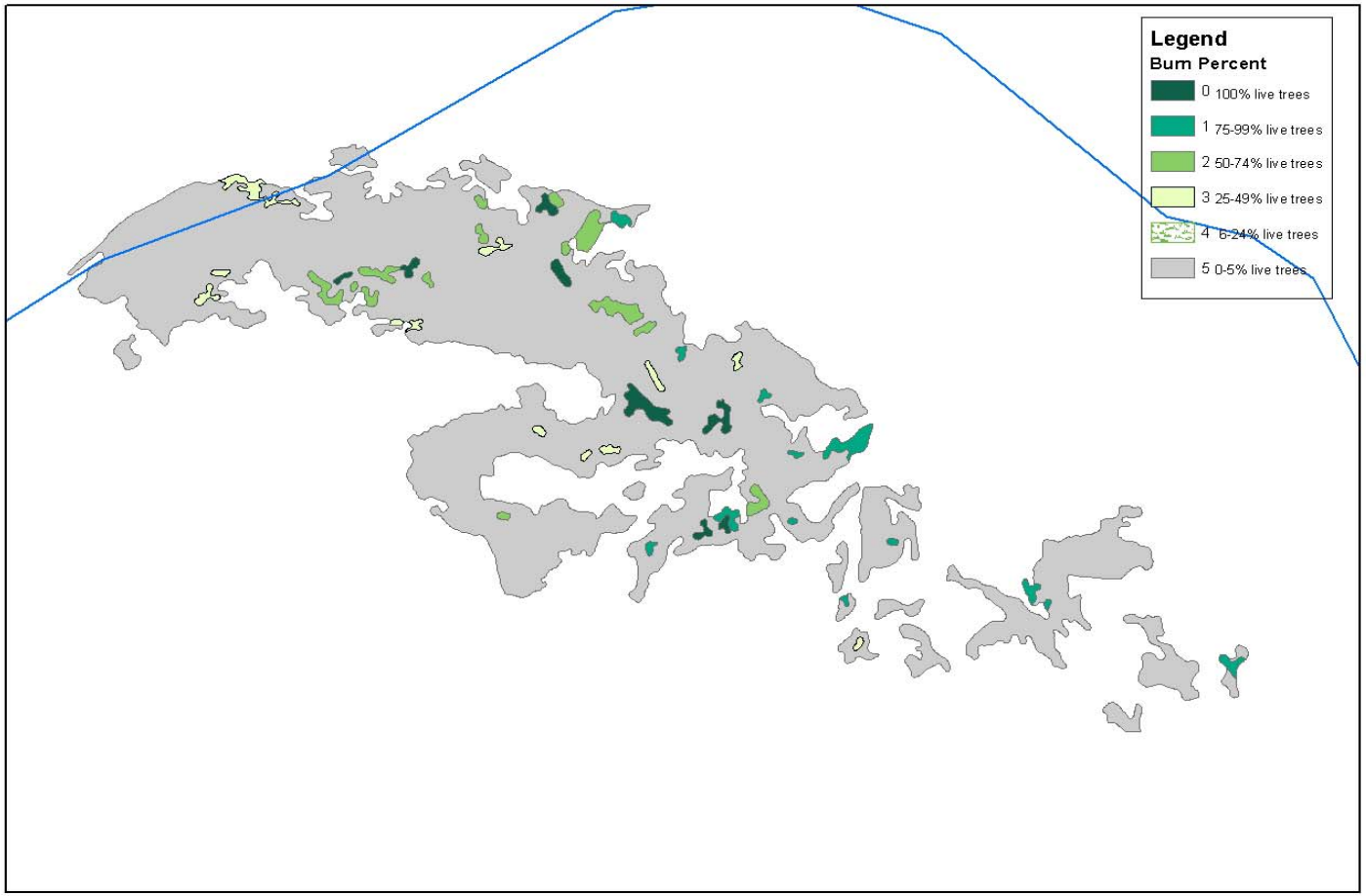
Appendix 2 Figure 3. Fire 843.



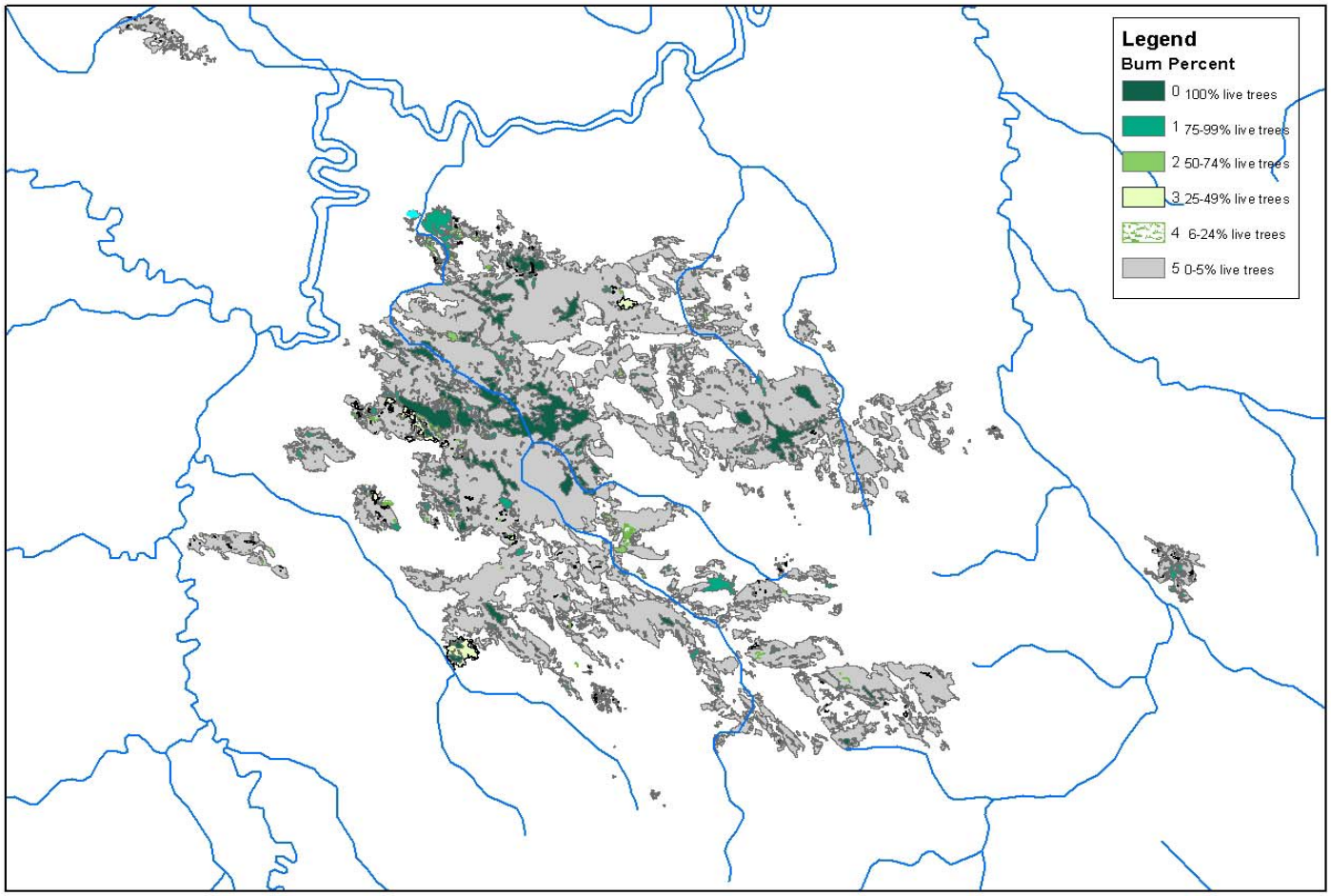
Appendix 2 Figure 4. Fire 875b.



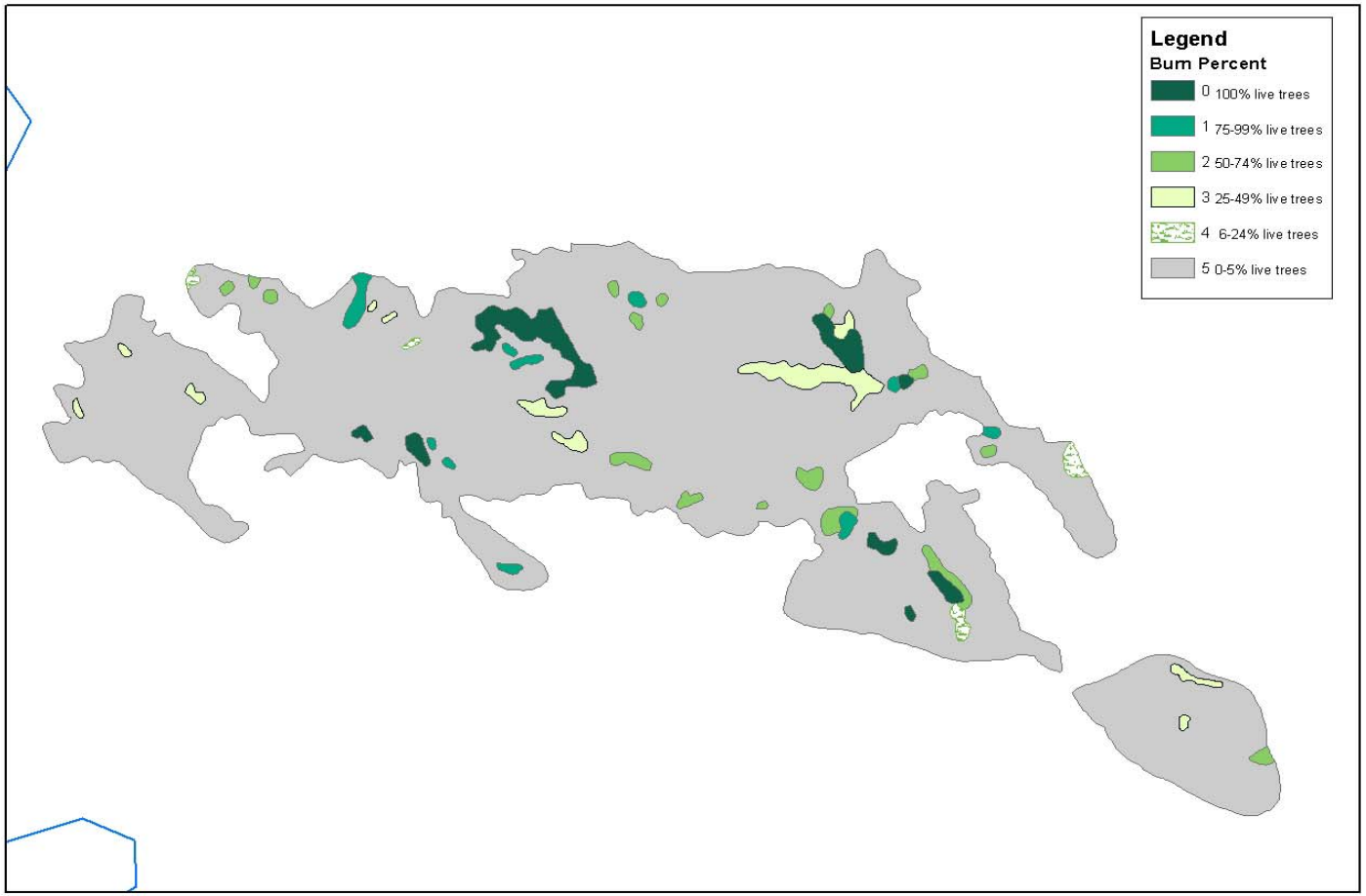
Appendix 2 Figure 5. Fire 1060.



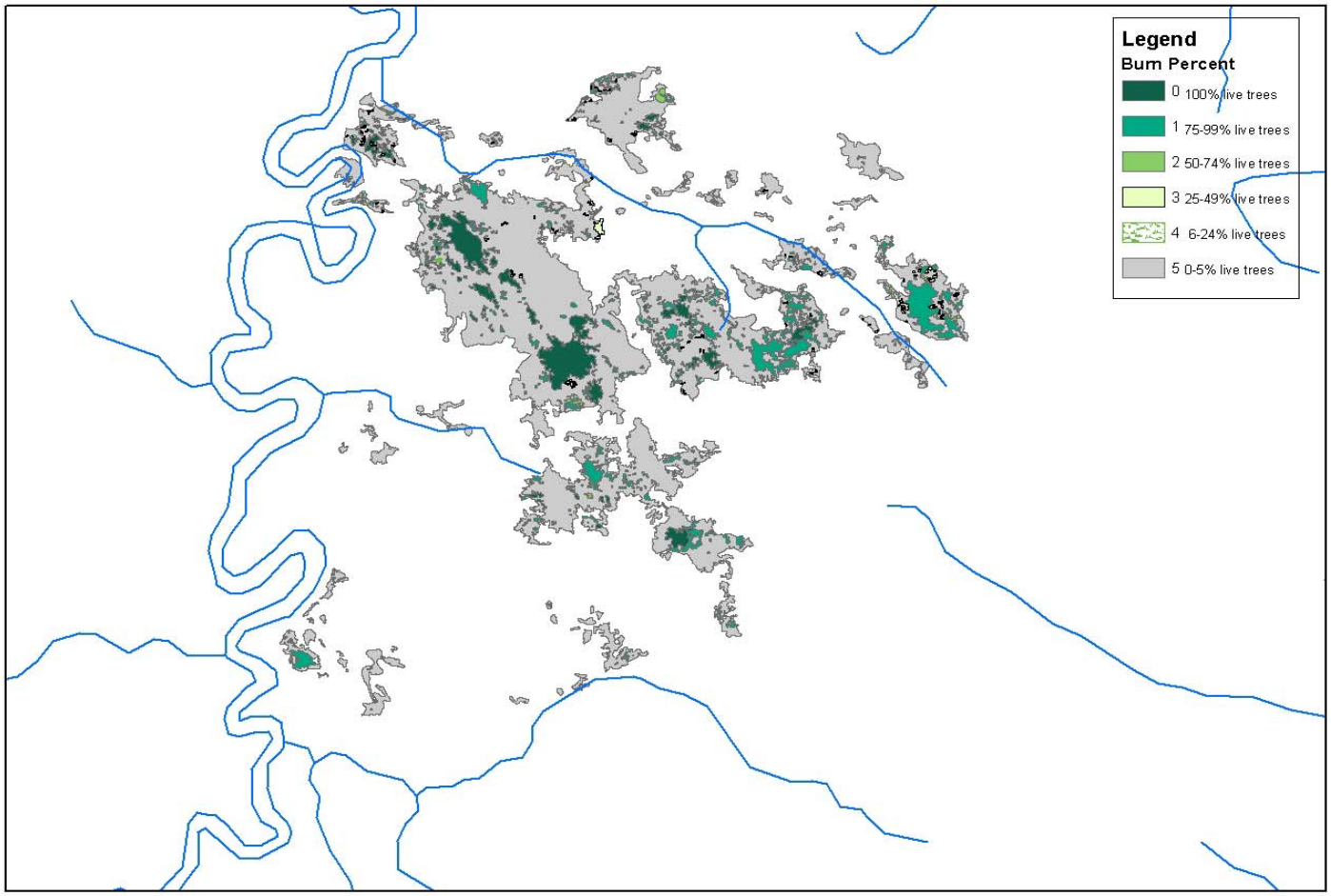
Appendix 2 Figure 6. Fire 1070.



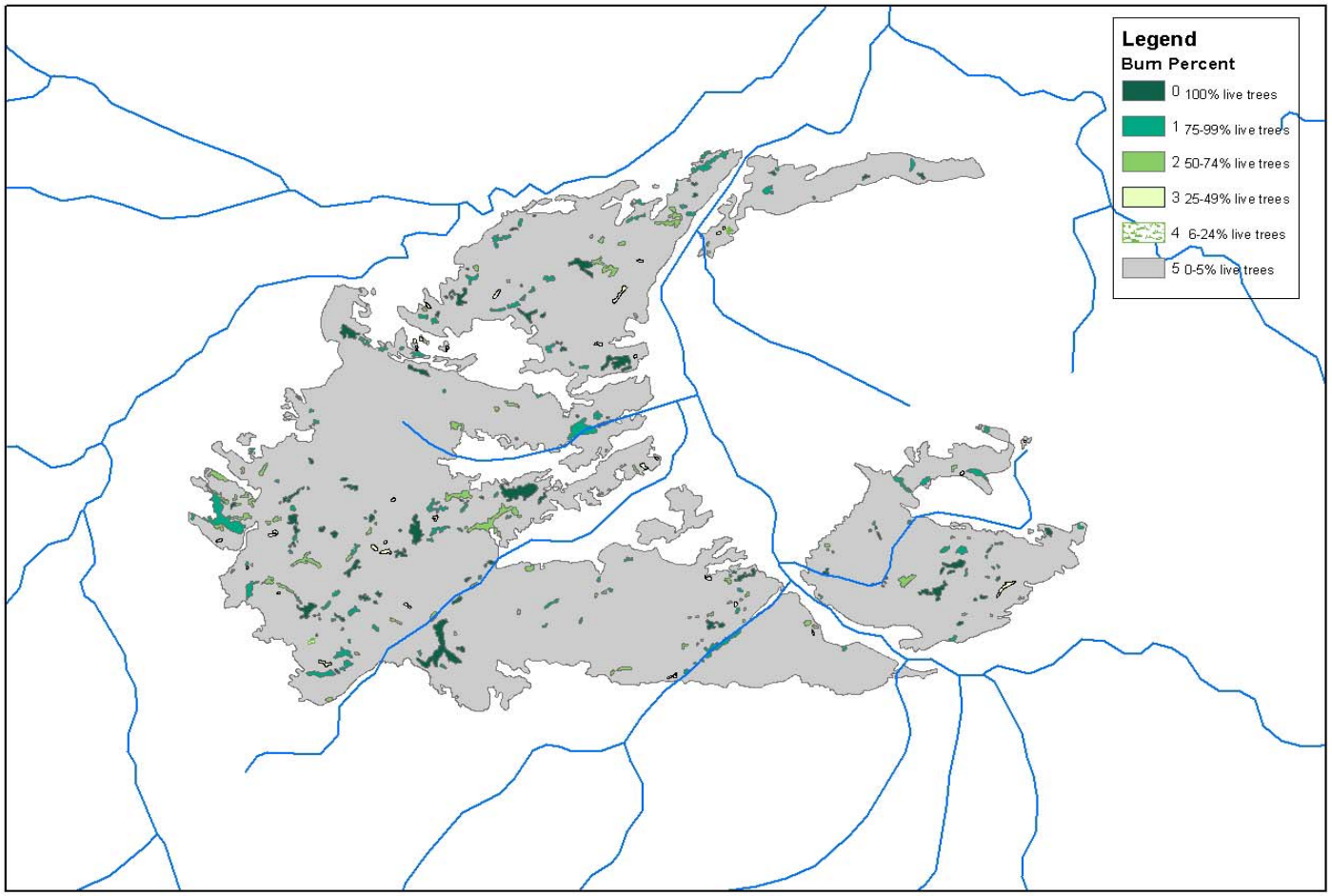
Appendix 2 Figure 7. Fire 1071.



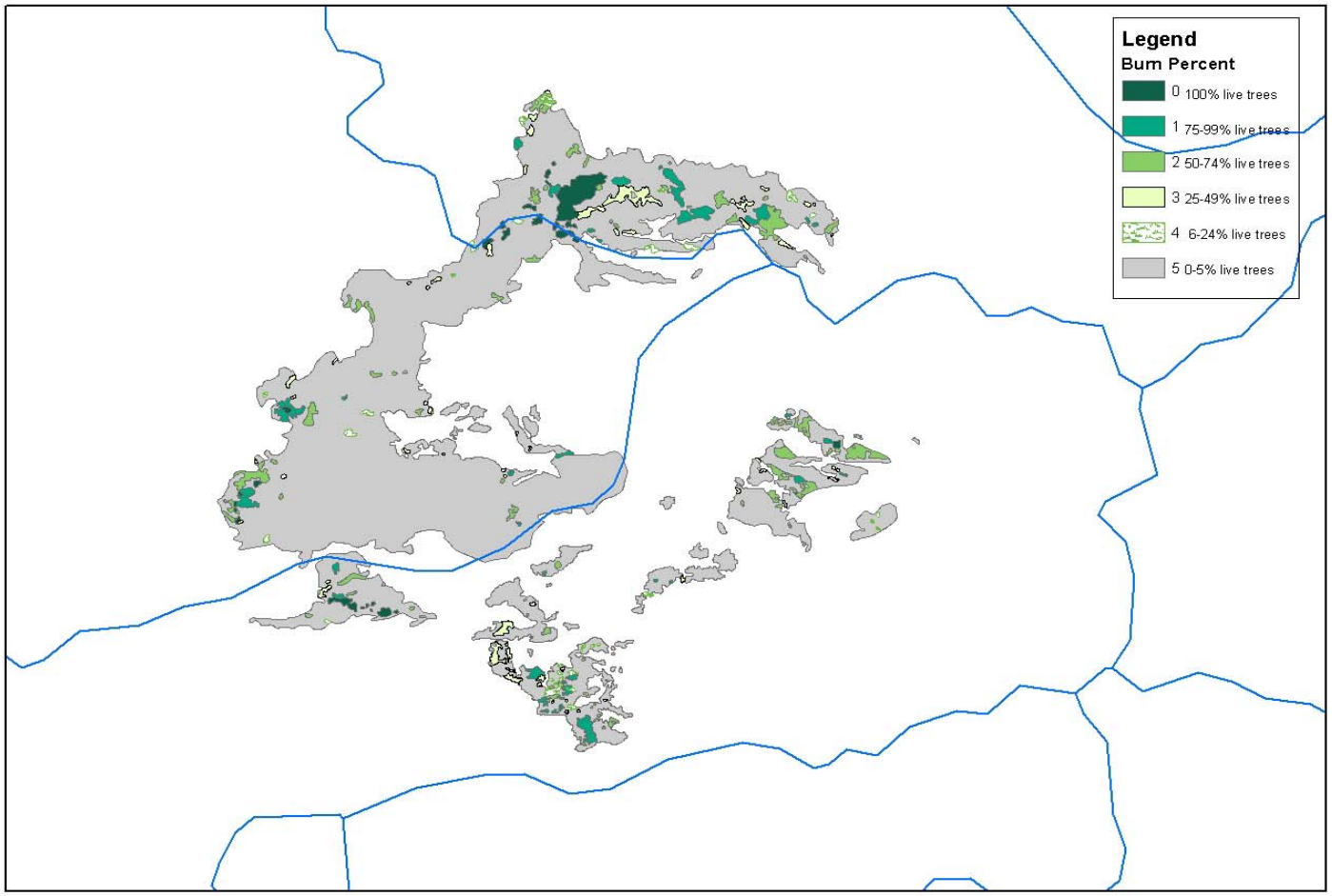
Appendix 2 Figure 8. Fire 1072.



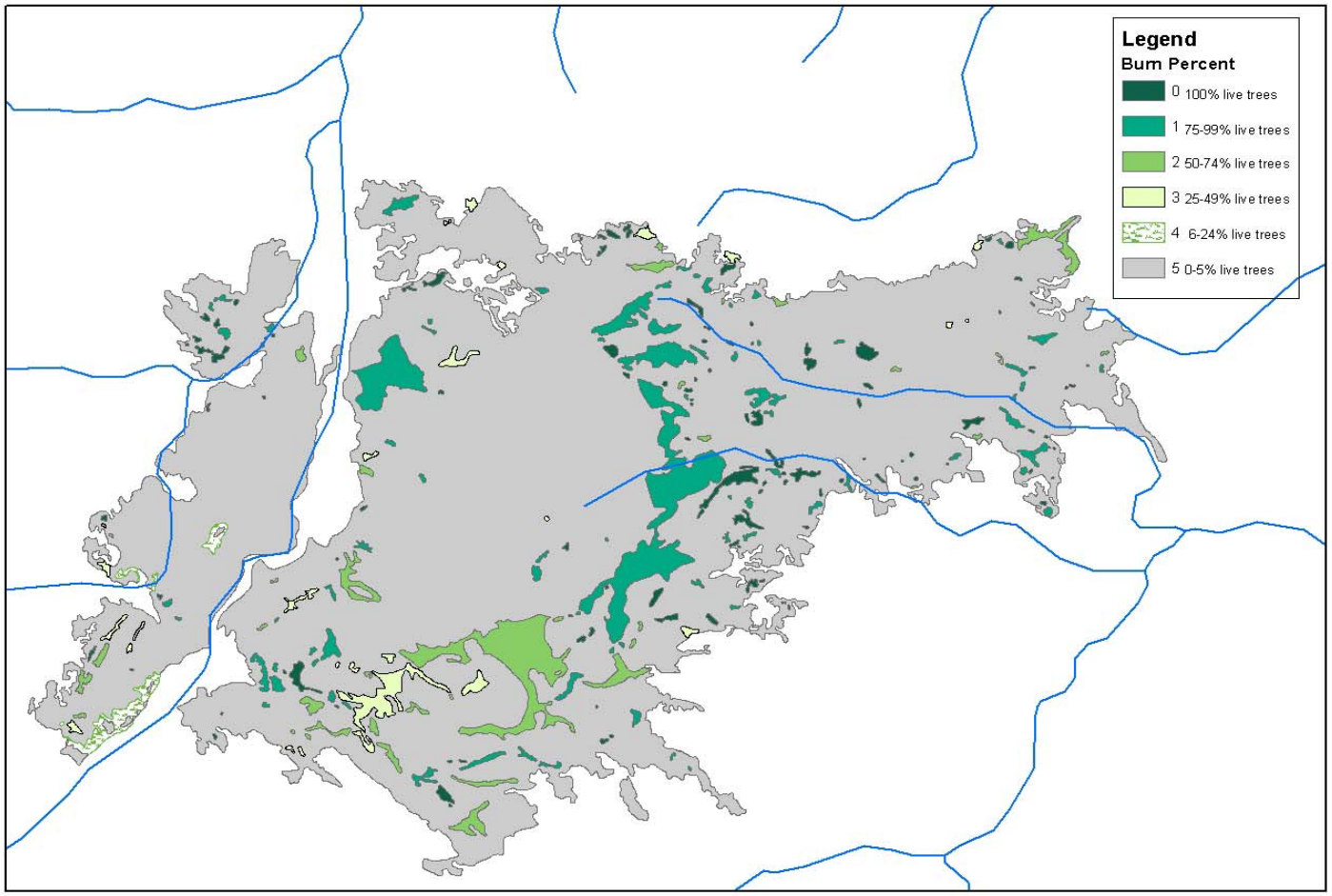
Appendix 2 Figure 9. Fire 1073.



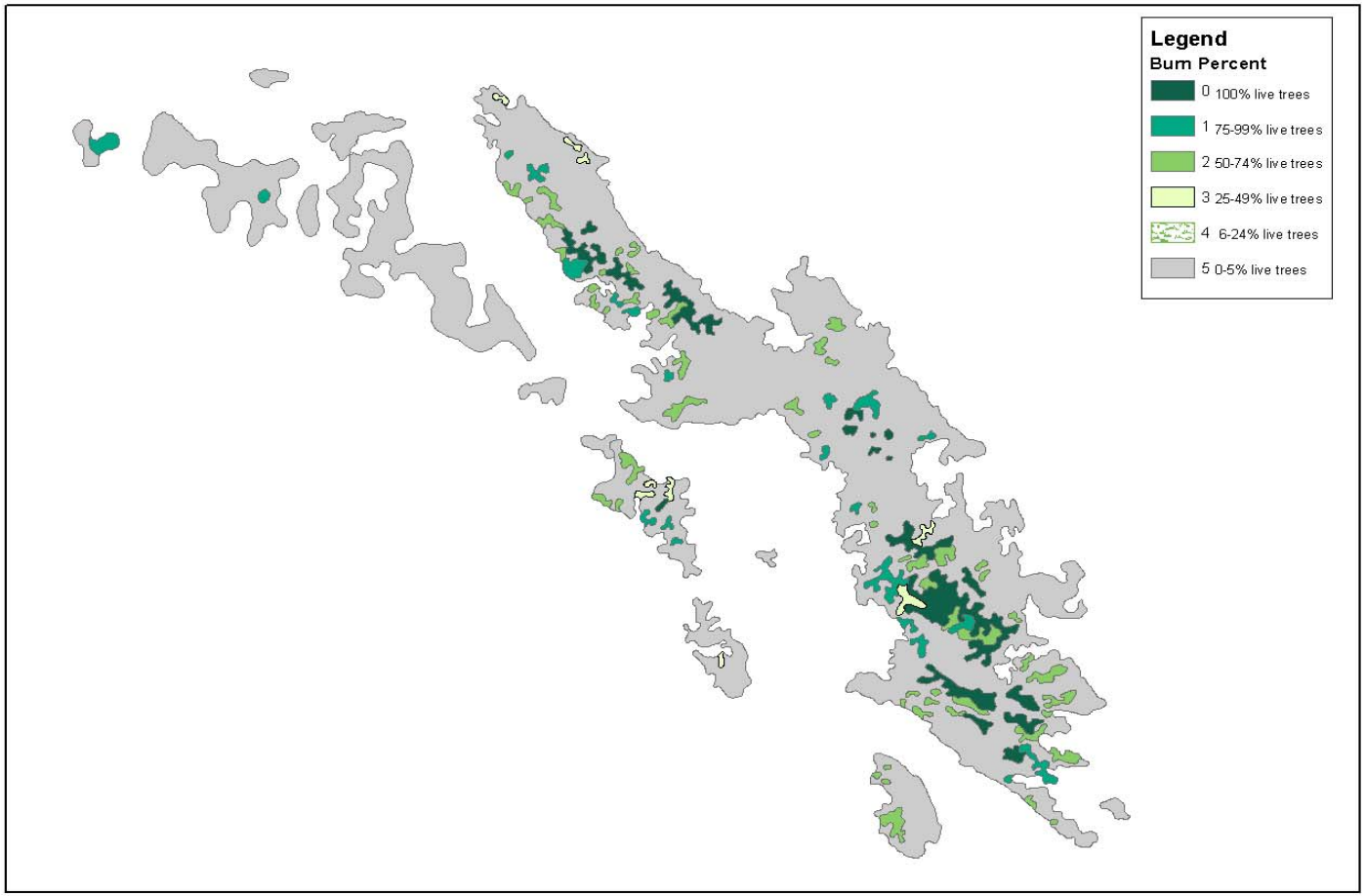
Appendix 2 Figure 10. Fire 1118.



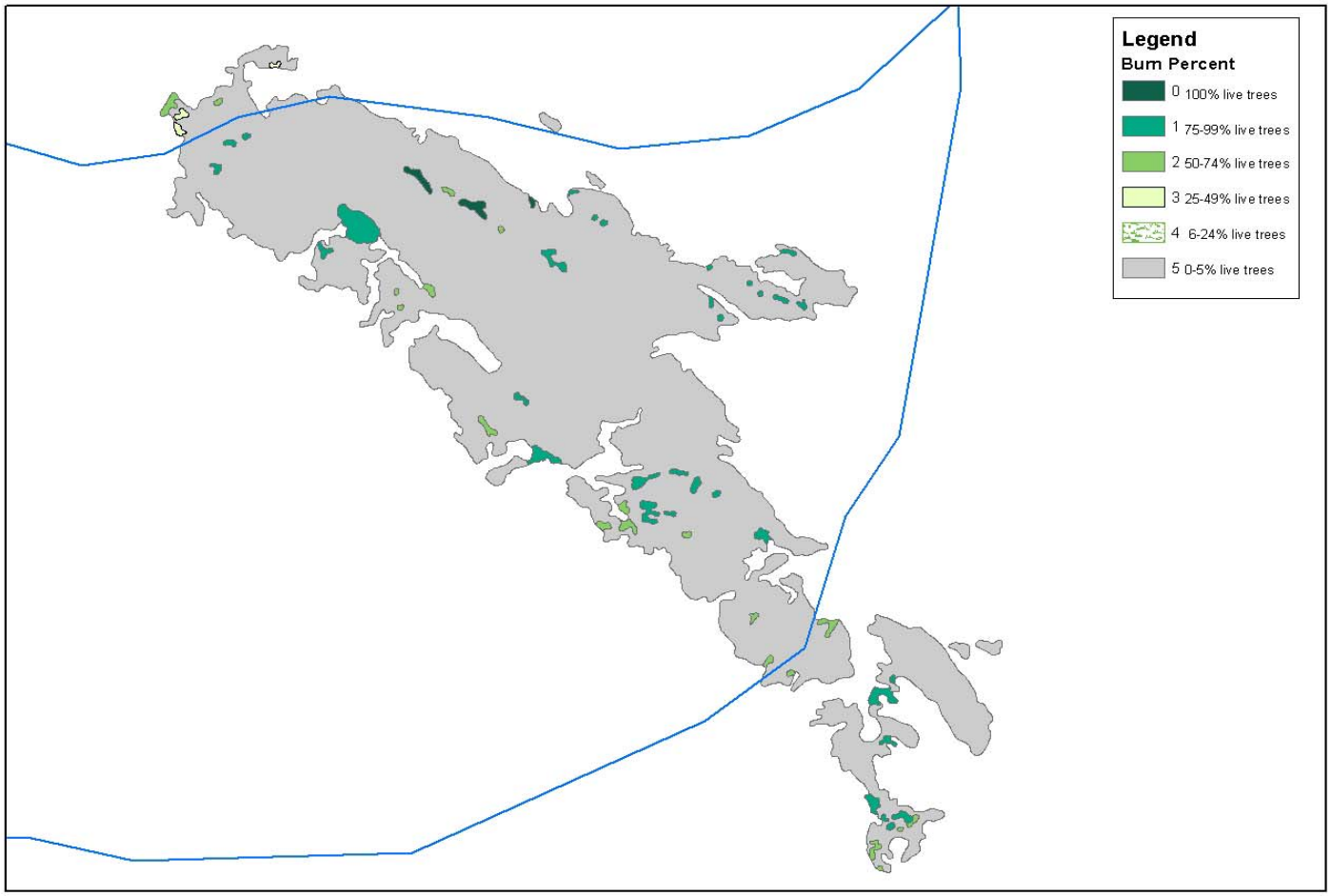
Appendix 2 Figure 11. Fire 1119.



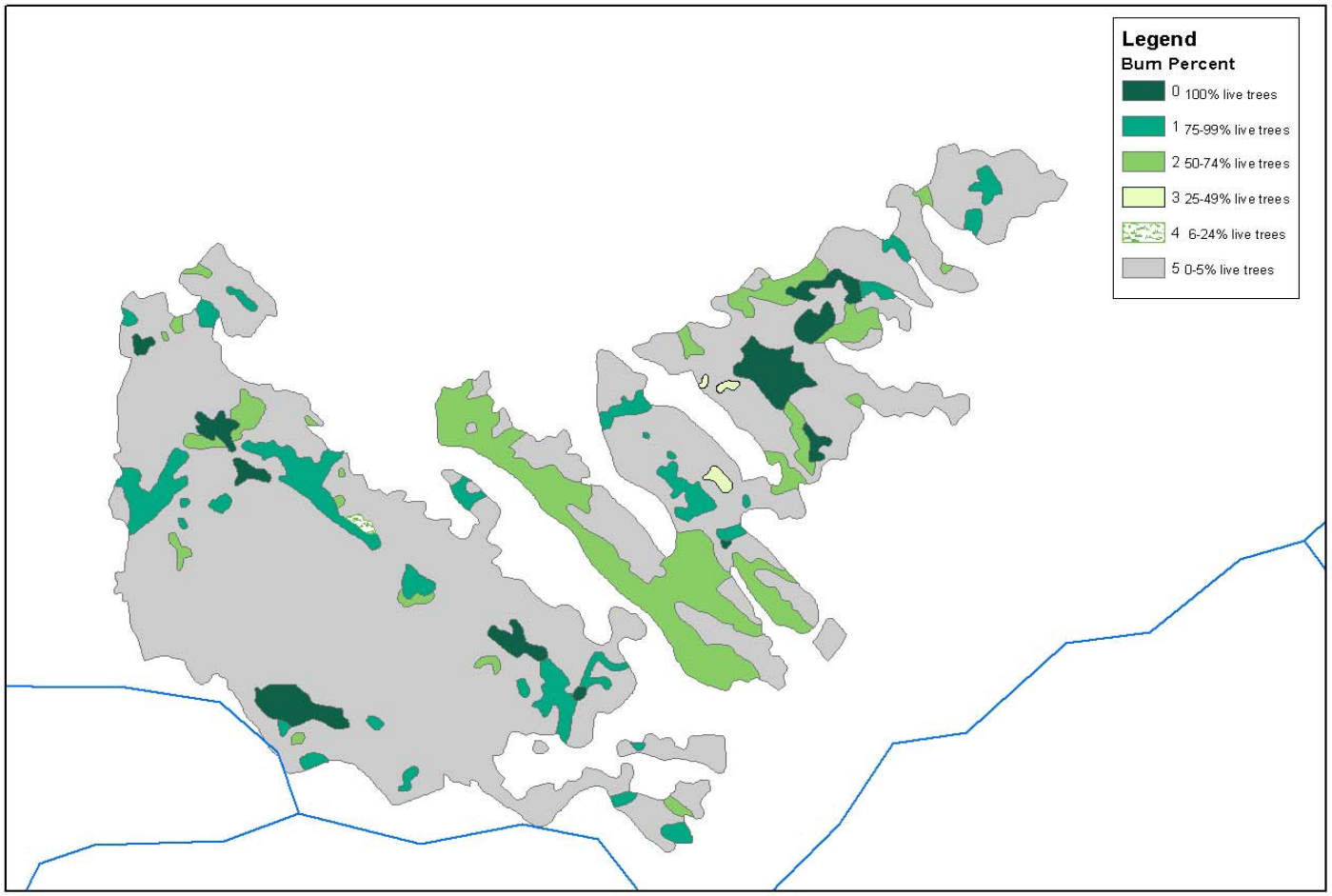
Appendix 2 Figure 12. Fire 1120.



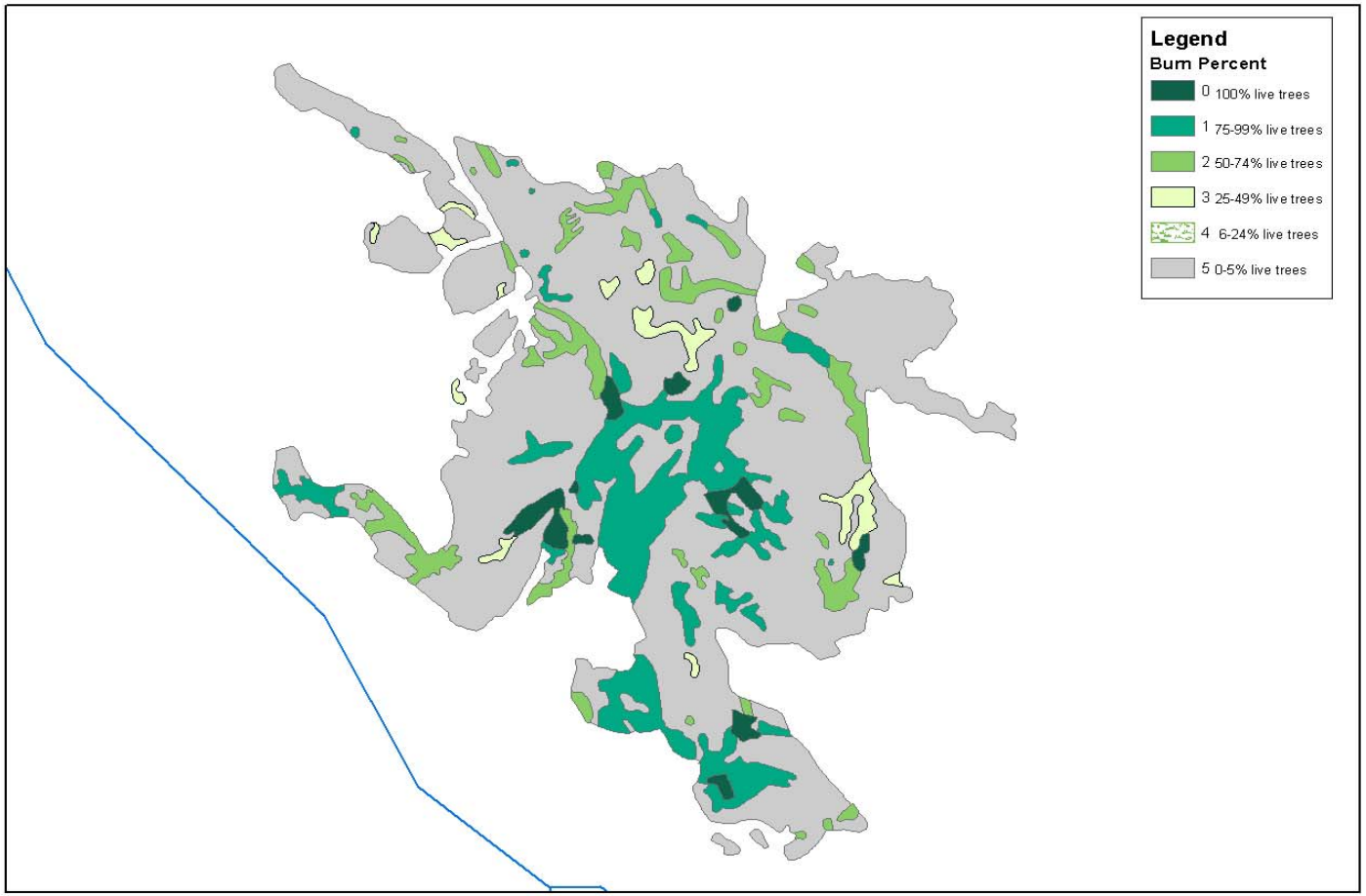
Appendix 2 Figure 13. Fire 1133.



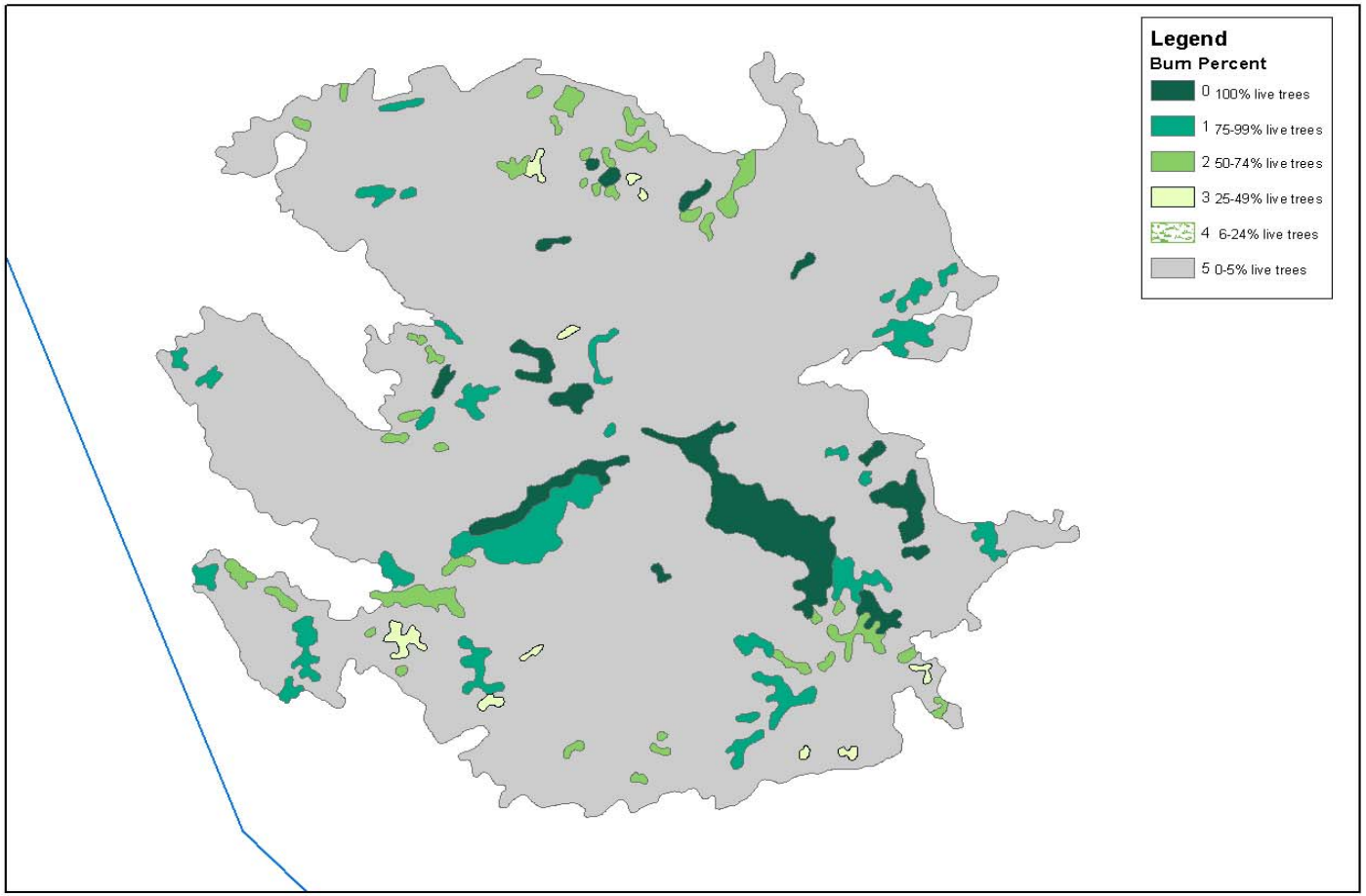
Appendix 2 Figure 14. Fire 1140.



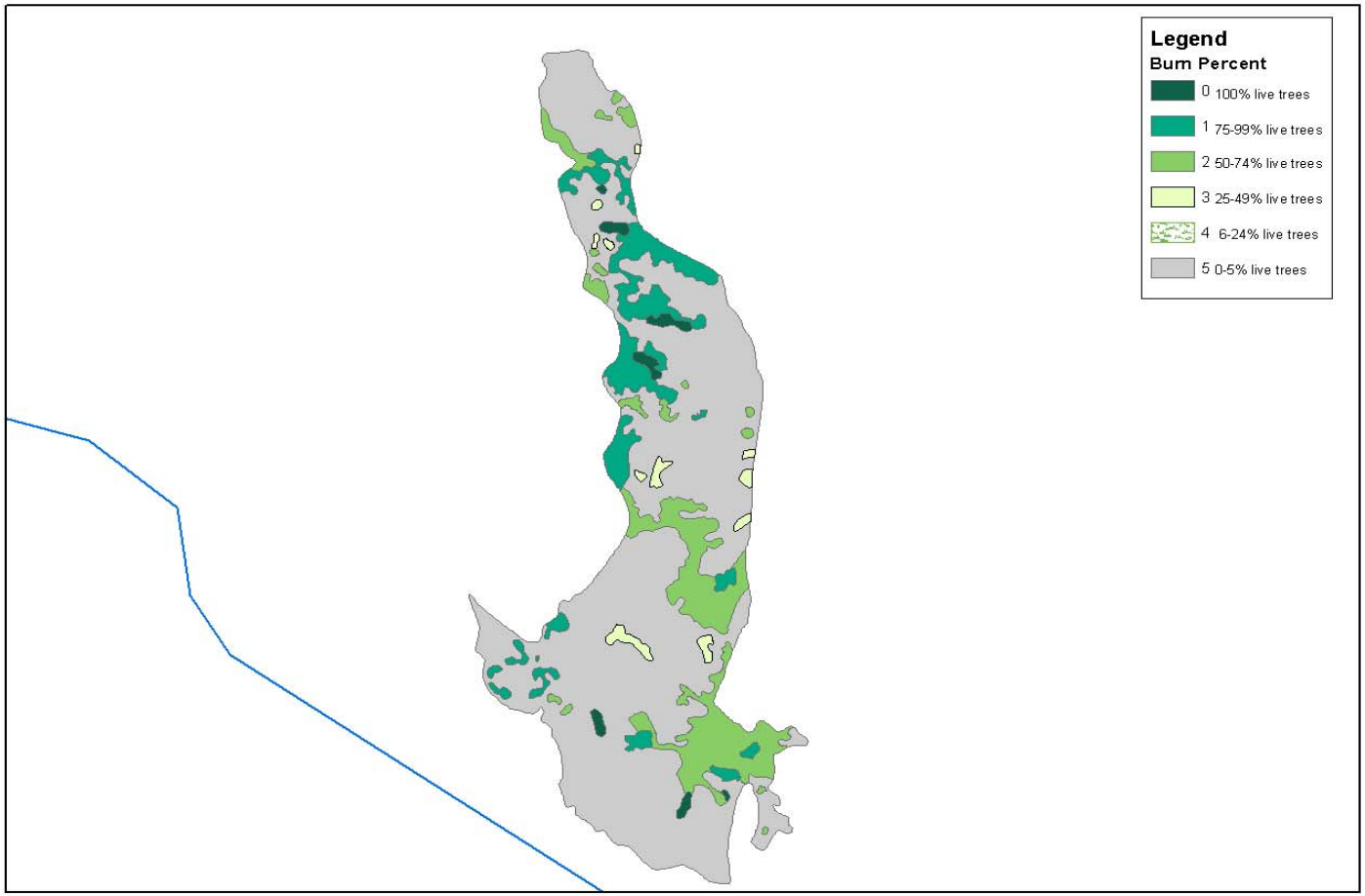
Appendix 2 Figure 15. Fire 1206.



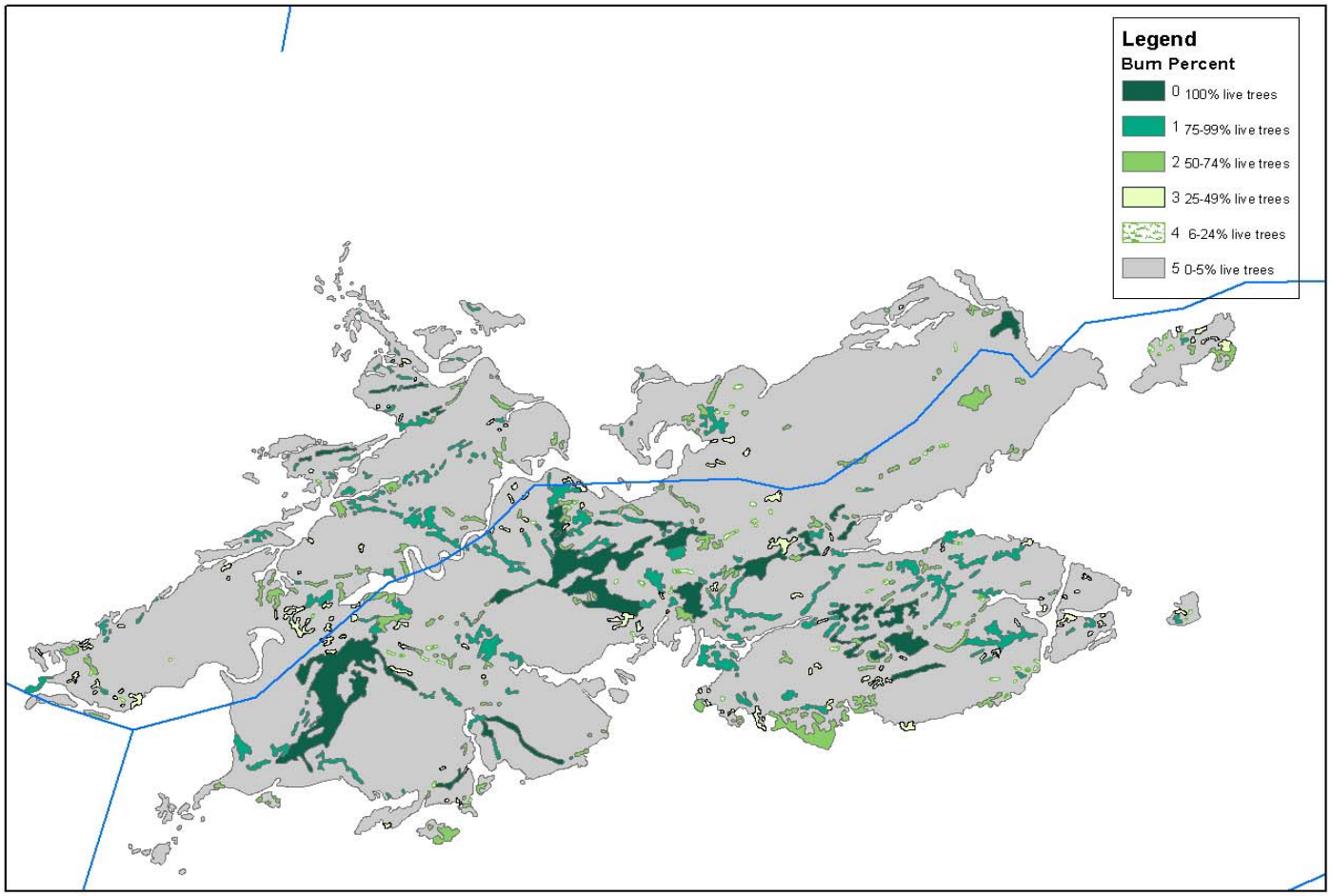
Appendix 2 Figure 16. Fire 1209.



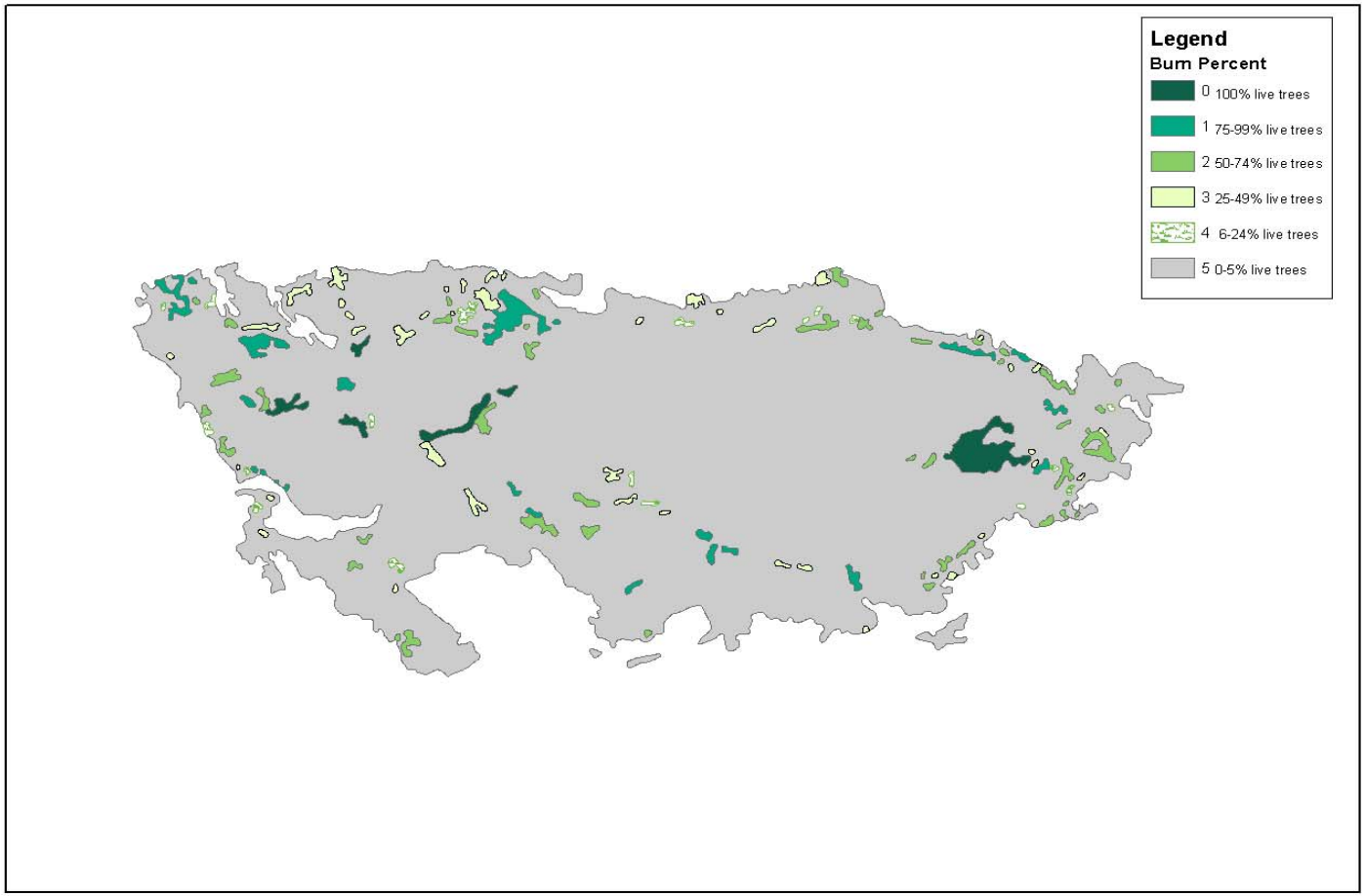
Appendix 2 Figure 17. Fire 1216.



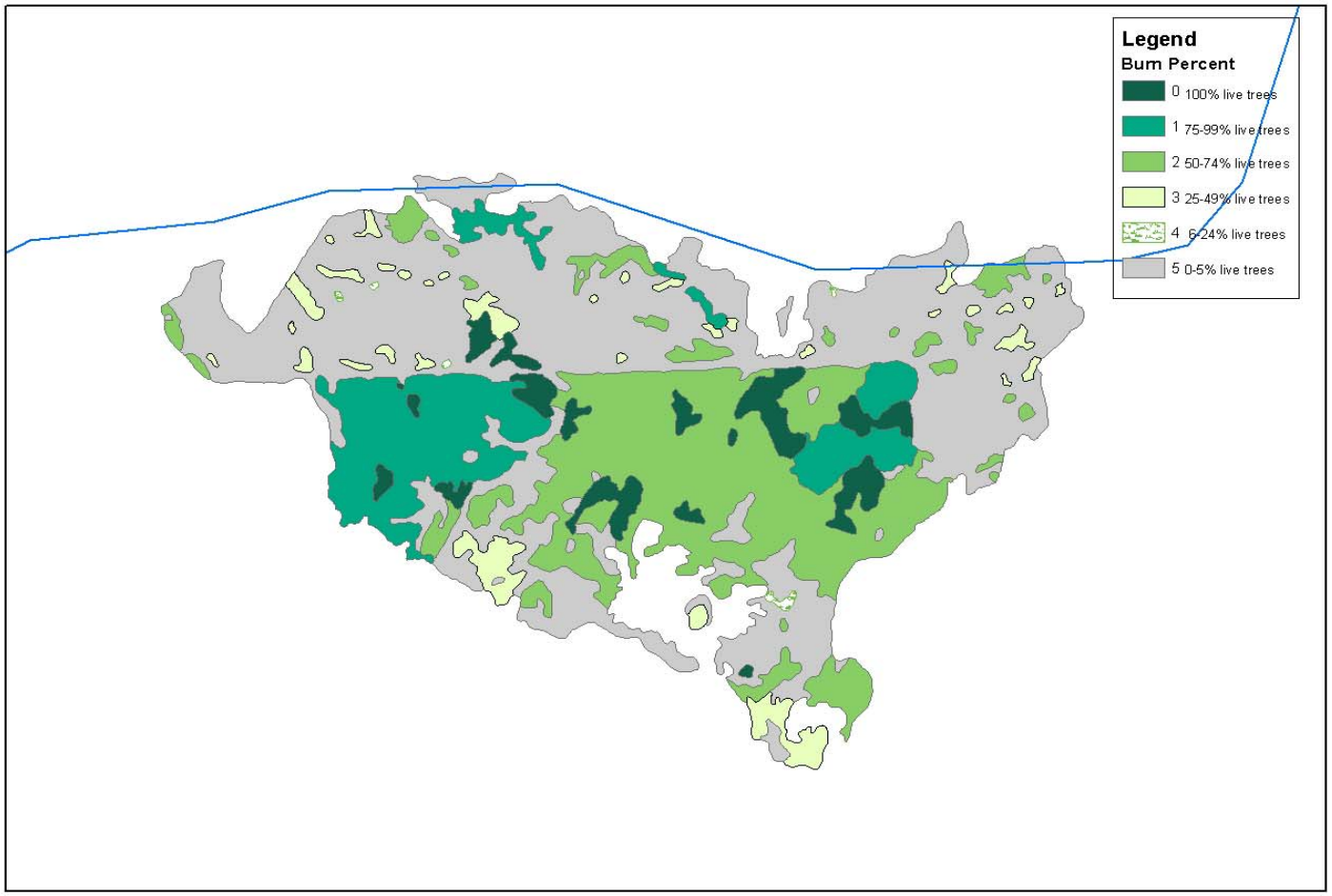
Appendix 2 Figure 18. Fire 1236.



Appendix 2 Figure 19. Fire 1360.

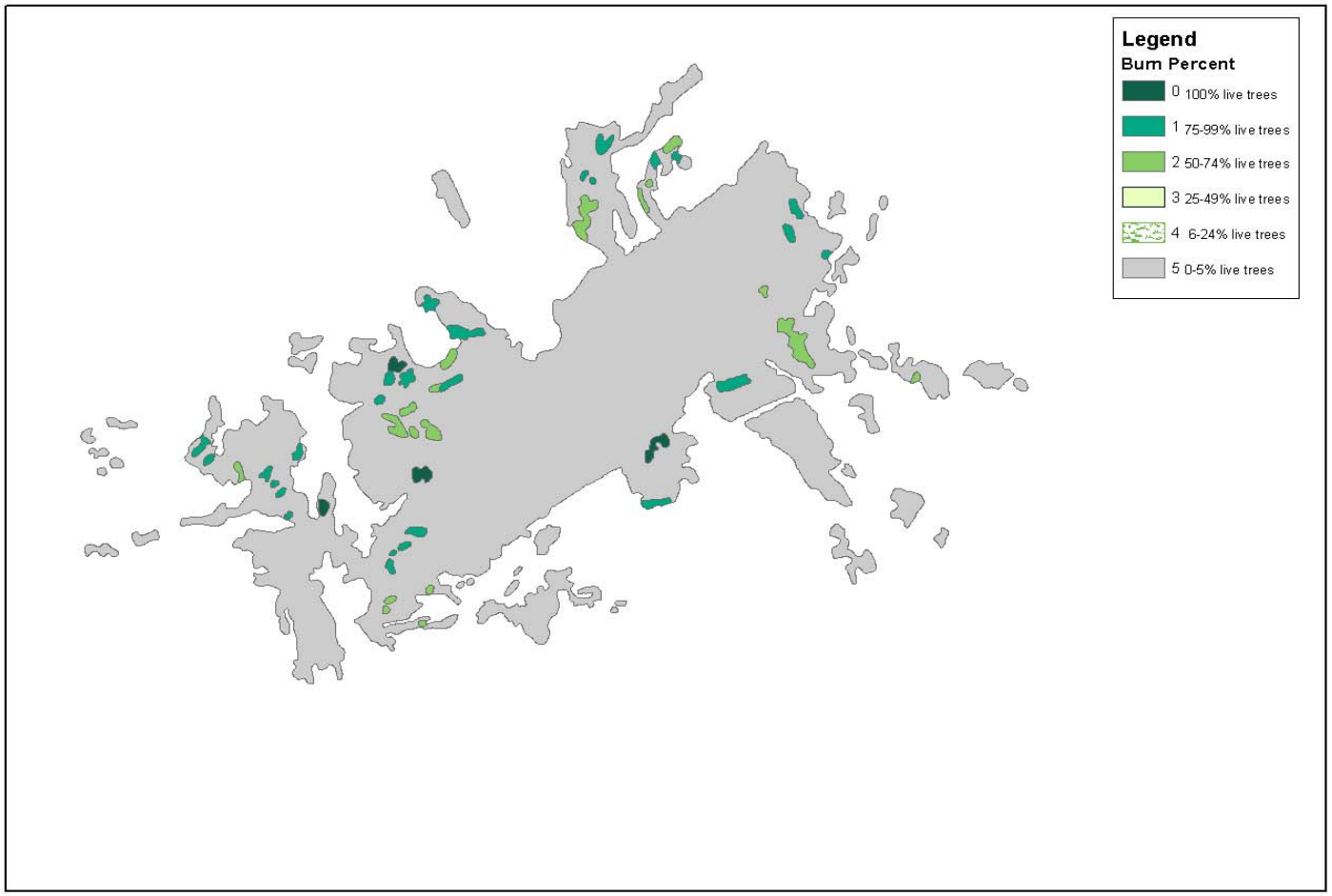


Appendix 2 Figure 20. Fire 1451.



Appendix 2 Figure 21. Fire 1499.

Appendix 2 Figure 22. Fire 24E-2-56.



Appendix 2 Figure 23. Fire 56-3-56.

Appendix 2 Figure 24. Fire DW-1-15-70.