ADDITIONAL AREAS ASSESSMENT

AINSWORTH HOT SPRINGS

Considerations for Wildland Urban Interface Management for Selected Areas in the Regional District of Central Kootenay

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1.0 Introduction

The Regional District of Central Kootenay requested that 13 additional communities be included in the Regional District's wildfire risk assessment and that key values at risk and fuel hazards be identified for each of the communities. Each community document has been prepared separately for ease of distribution.

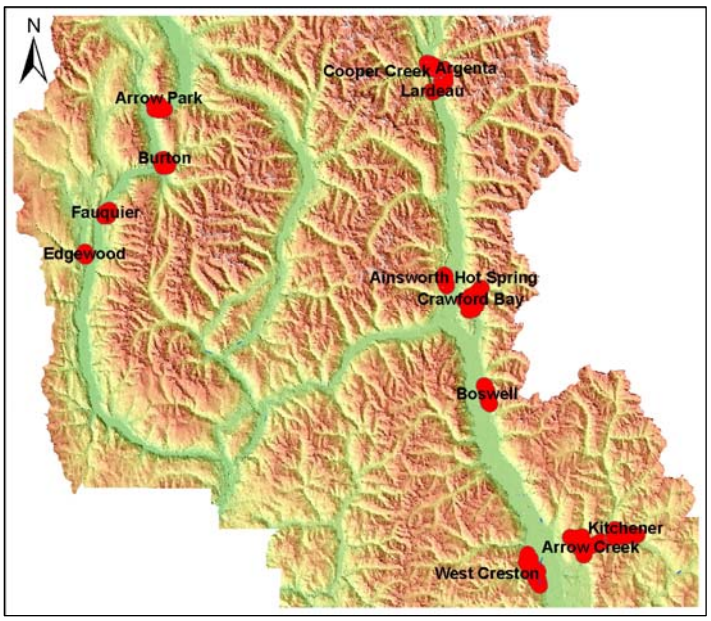
2.0 Overview

As these communities are outside existing Fire Protection Areas (FPA) and no other administrative boundaries exist to define them spatially, housing points around the identified areas were buffered by 2 km to delineate community study areas. Maps were made showing access limitations, ownership, fuel type, wildfire probability and consequence, and treatment priority. Several maps included in the more detailed Community Wildfire Protection Plans are not included in these reports. Interface maps were not completed as these areas are all intermix due to their low density and because the method of establishing priorities for fuel treatments takes structure location into account. Due to the relatively small study areas, fire history maps were not produced as the amount of data in the study areas is also correspondingly small and is therefore less useful for creating a picture of fire causes, frequencies and sizes. Pilot projects were not recommended due to less extensive ground-truthing in these communities. Recommendations regarding education, hazard mitigation measures and fuel treatment priorities are included for each community.

2.1 Study Area

Map 1 shows the additional communities, which include:

- Arrow Park
- Burton
- Fauquier
- Edgewood
- Cooper Creek
- Argenta
- Lardeau
- Ainsworth
- Crawford Bay
- Boswell
- Kitchener
- Arrow Creek
- West Creston



Map 1. Overview of additional communities.

3.0 Ainsworth Hot Springs

3.1 Description and Key Concerns

Ainsworth Hot Springs is located on Highway 31. There are 67 houses recorded in the cadastral data for this area. Forest fuels of concern around the community are primarily C3. House setbacks from forest edges do not reflect FireSmart principles, although setbacks from the hot springs are generally adequate. Egress from this community is via Highway 31. There is limited egress for houses located on Loon Lake Road and North Street (Map 2). Map 3 shows land ownership in the study area.

3.2 Probability and Consequence

Map 5 shows that most of the community has moderate to high probability and moderate consequence of wildfire. Variation in consequence is largely a function of where development exists and its density. This indicates that the values assessed for fire risk as part of this project are likely to be severely impacted by a fire.

3.3 Fuels and Treatment Areas

Forest fuels in the community are primarily C3 (Map 4) (Appendix 1 – Fuel Type Descriptions). Treatment efforts should be directed to the fuels identified as Priority 1 (Table 1 and Map 6). These consist of hazardous fuels within 250 m of identified structures. Priority 2 fuels are a secondary focus, subject to available resources, and may be considered in conjunction with Priority 1 fuels when larger treatment areas are feasible or additional areas are required due to tenure constraints. Priority 2 fuels are defined as C2 and C4 fuels; these are the most hazardous fuel types located between 250 m and 1 km of identified structures. If possible, an annual program that strategically targets progressive fuel reduction in these areas should be implemented. Priority 3 fuels are the remaining hazardous fuels within the study area. Given the scale of Priority 3 fuels, treatment is not likely to be economically or logistically feasible for the majority of these areas; however portions of these areas may be useful in the strategic location of fuel treatments in the future.

Table 1. Priority fuels adjacent to Ainsworth Hot Springs.

Priority Rating	Public Lands (ha)	Private Lands (ha)	Grand Total (ha)
1	28	57	85
2	89	5	94
3	609	63	671
Total Area	726	125	850

4.0 Recommendations

Recommendation 1: Signage consisting of current fire danger, campfire bans and general warnings regarding fire safety should be posted at all major entrances to the community and updated with current fire information as required.

Recommendation 2: The Regional District should work with the community on FireSmart preparation and planning. Due to the isolation of the community, self reliance and preparedness prior to a wildfire is vital. Public education programs should be enhanced by integrating a unit of "FireSmart" and wildfire safety into the curriculum of the local elementary school in order to promote the principles of community wildfire protection at a young age and improve community awareness over time. This unit could be part of a general emergency preparedness teaching program.

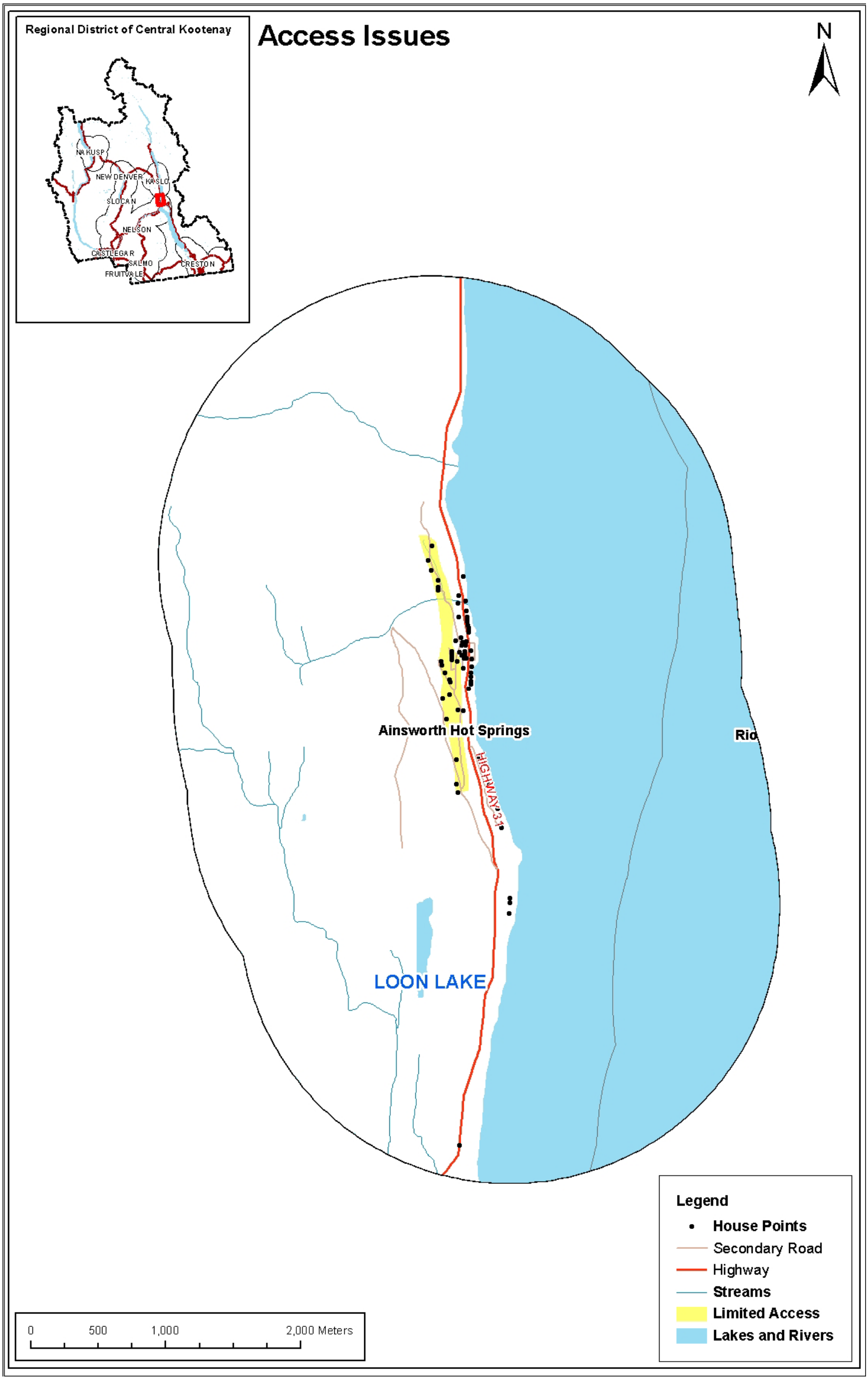
Recommendation 3: The RDCK should investigate the potential for working with the Ministry of Transportation and Highways to maintain major roadways as fuel breaks through communities. This would be achieved by thinning the understory and raising the height to live crown on either side of the roadway to a depth of 50 m.

Recommendation 4: The RDCK should work with FortisBC to ensure that the Right-of-Way is maintained as a fuel break.

Recommendation 5: The RDCK should consider establishing standpipes at safe locations adjacent to bridges and other water access points. Gravity fill tanks or permanent pumps should be located strategically to facilitate rapid response in these key areas. These measures will aid suppression efforts in areas with no established Fire Protection Areas.

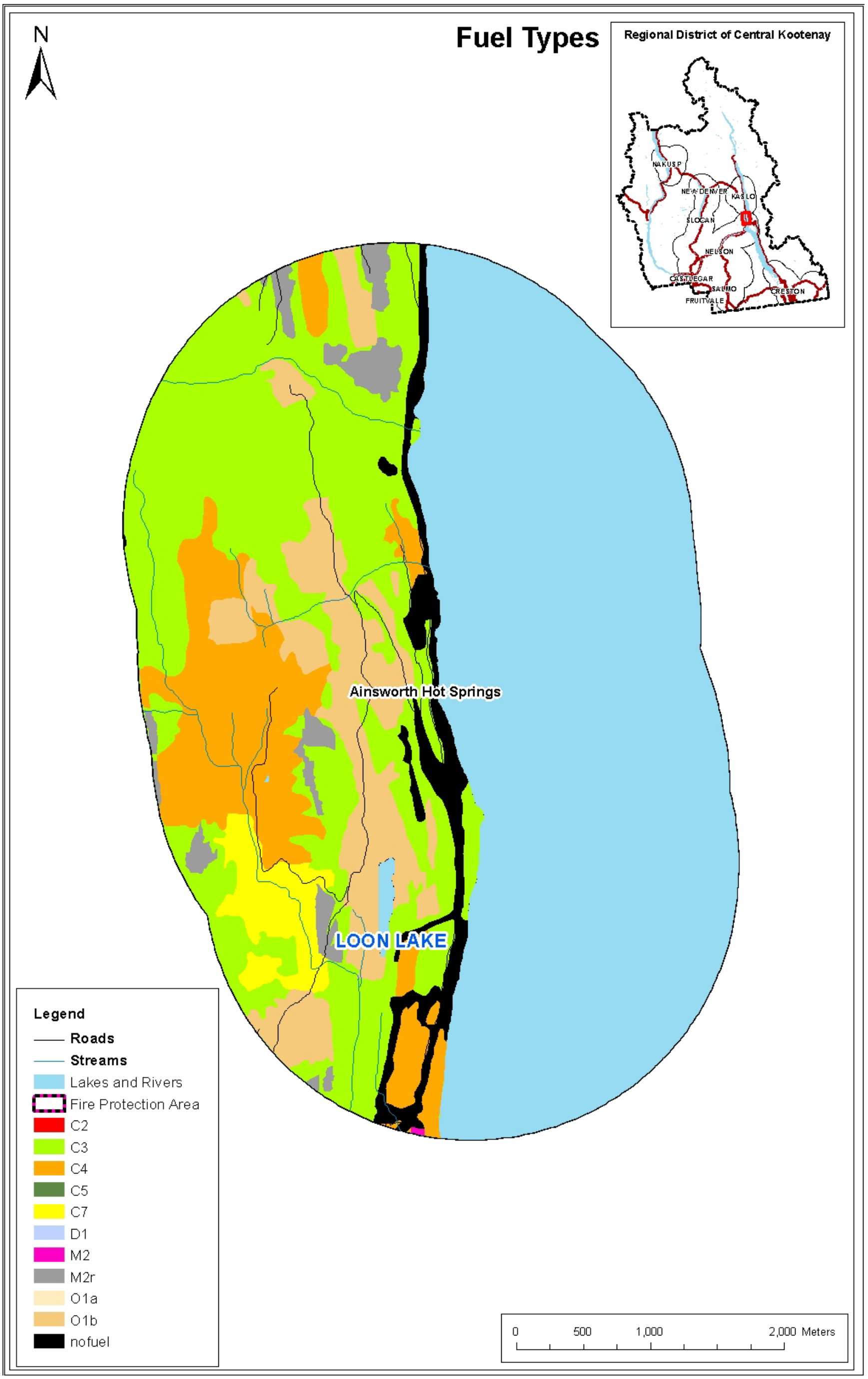
Recommendation 6: Where population size is sufficient to support them, the RDCK should consider establishing Fire Protection Areas and volunteer fire departments that can provide protection to groups of communities.

5.0 Maps

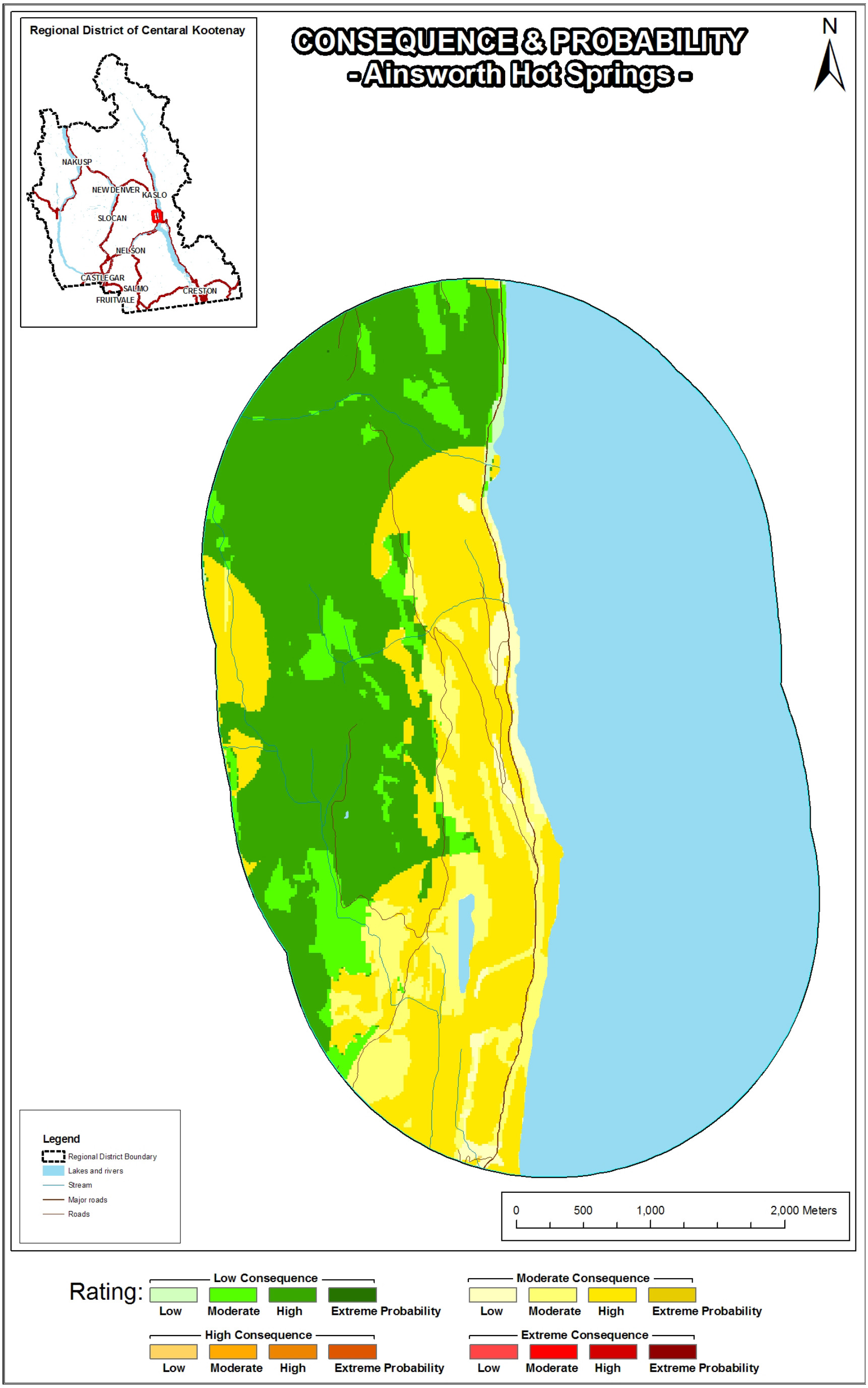


Map 2. Access limitation identified in the study area.

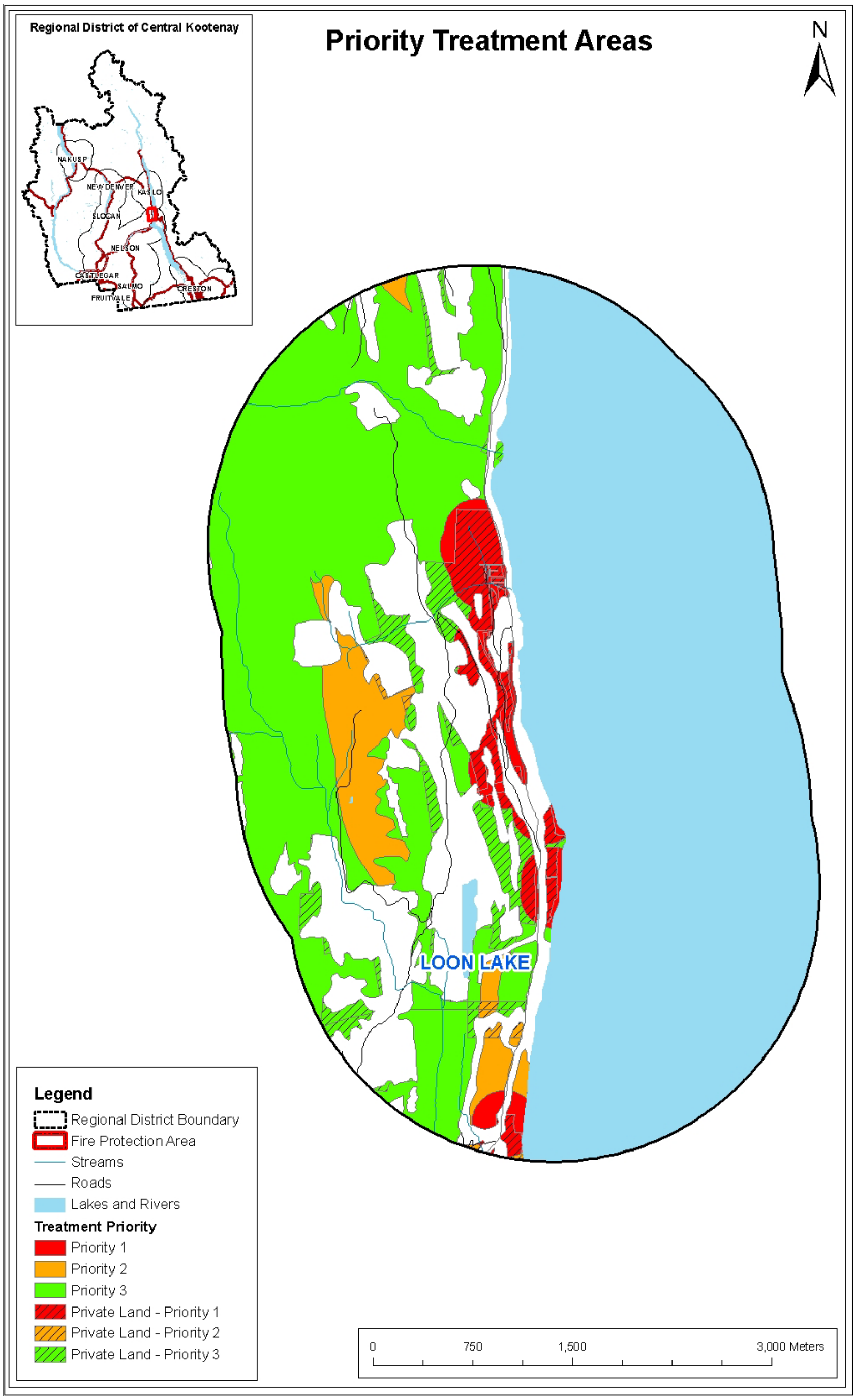
Map 3. Ownership map of the study area.



Map 4. Fuel types in the study area.



Map 5. Probability and Consequence for the study area.



Map 6. Priority treatment areas for the study area.

Appendix 1 – Fuel Type Descriptions

Fuel Type Descriptions

The following is a general description of the dominant fuel types within the study area

C2 fuel type

Structure Classification	Regeneration to Pole sapling
Dominant Tree Species	*Pseudotsuga menziesii* (Douglas-fir), *Tsuga heterophylla* (western hemlock), *Thuja plicata* (western redcedar), *Larix occidentalis,* (western larch), *Pinus contorta* (lodgepole pine) and *Abies lasiocarpa* (subalpine fir)
Tree Species Type	> 80% Coniferous
Understory Vegetation	Sparse – None (< 10% cover)
Age	10-20 yrs
Height	<10 m
Stand Density	>2000 stems/ha
Crown Closure	80 – 100 %
Height to Live Crown	Average 2 m
Surface Fuel Loading	< 3 kg/m^2
Burn Difficulty	Moderate to high; however, if fire is wind driven then there is a high potential for extreme fire behaviour and active crown fire.

Figure 1. Example of a high-density pole sapling western hemlock-amabilis fir stand – classified as a C2 fuel type.

C3 fuel type

Structure Classification	Late Pole sapling to late young forest
Dominant Tree Species	*Pseudotsuga menziesii* (Douglas-fir), *Tsuga heterophylla* (western hemlock), *Thuja plicata* (western redcedar), *Larix occidentalis,* (western larch), *Pinus contorta* (lodgepole pine) and *Abies lasiocarpa* (subalpine fir)
Tree Species Type	> 80% Coniferous
Understory Vegetation	Low (< 50% cover)
Age	40 – 80 yrs
Height	20 – 33 m
Stand Density	700 – 1,200 stems/ha
Crown Closure	40 – 80 %
Height to Live Crown	Average 8 m
Surface Fuel Loading	< 5 kg/m^2
Burn Difficulty	Moderate; however, if fire is wind driven then there is a high potential for extreme fire behaviour and active crown fire.

Figure 2. Example of evenly stocked, moderate density second growth stand – classified as a C3 fuel type.

C4 fuel type

Structure Classification	Late Pole sapling to Young Forest
Dominant Tree Species	*Pseudotsuga menziesii* (Douglas-fir), *Tsuga heterophylla* (western hemlock), *Thuja plicata* (western redcedar), *Larix occidentalis,* (western larch), *Pinus contorta* (lodgepole pine) and *Abies lasiocarpa* (subalpine fir)
Tree Species Type	> 80% Coniferous
Understory Vegetation	Low (< 25% cover)
Age	20 – 40 yrs
Height	10 – 20 m
Stand Density	700 – 2000 stems/ha
Crown Closure	40 – 80 %
Height to Live Crown	Average 4 m
Surface Fuel Loading	< 5 kg/m^2
Burn Difficulty	Moderate to high; however, if fire is wind driven then there is a high potential for extreme fire behaviour and active crown fire.

Figure 3. Example of a moderate to high-density second growth stand of hemlock and Douglas-fir classified as a C4 fuel type.