# VILLAGE OF NAKUSP

# COMMUNITY WILDFIRE PROTECTION PLAN

Considerations for Wildland Urban Interface Management in the Village of Nakusp, British Columbia

# PART 2

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# 1.0 Village of Nakusp

# 1.1 Study Area

The Village of Nakusp is a rural community located on the shores of Upper Arrow Lake in the Selkirk Mountains (refer to Figure 1). At an elevation of approximately 450m, the Village is situated in a valley surrounded by mountains, lakes, rivers and streams. Natural hot springs are a popular attraction. The City of Nelson is located approximately 150km to the south east of Nakusp and Vernon is approximately 193 km to the west of Nakusp. The municipal boundary of Nakusp contains a total land area of approximately 908 ha.

The total study area that makes up this plan includes the municipal boundary and a 2 km buffer that consists of map sheet numbers: 082K.021, 082K.022, and 082K.032. The total study area is 6965 ha. An ownership map of the study area is shown in Map 1.



Figure 1. View of topographic relief of the Village of Nakusp looking north (sourced from Google EarthTM, 2007).

#### 1.1.1 Population

The 2006 Census recorded the population of Nakusp at 1,524, a 10.2% decrease from the previous population of 1,698 persons in 2001<sup>1</sup>.

## 1.1.2 Economy

The economy of Nakusp is largely based on the forest industry. The Village has become the centre of a large pole and lumber industry. A large fire within and/or adjacent to the community could have both short and long term implications to the stability of the Nakusp economy.

#### 1.1.3 *Infrastructure*

The Nakusp Volunteer Fire Department (Figure 2), Nakusp Search and Rescue and Arrow Lakes Hospital are critical to emergency response service in the community. However, in the event of a localized emergency within the Village, adjacent municipalities with health care and emergency response facilities may also be able to provide emergency response. The Fire Department and hospital provide the foundation for incident response during a large fire event and therefore must be prepared to deal with large and complex situations.

Emergency response is dependent on electrical and water service within the community. The Village has its own gravity fed municipal water system. Water for fire fighting is sourced from hydrants and two tanker storage reservoirs. Nearby rivers and lakes could also provide a source of water for fire fighting.

Electrical service to the community comes from a network of transmission infrastructure. A large fire has the potential to impact this service by causing a disruption in network distribution through direct or indirect means. For example, heat from the flames or fallen trees associated with a fire event may cause power outages. Consideration must be given to protecting this critical service and providing power back up at key facilities to ensure that the emergency response functions are reliable.

The key infrastructure discussed above was considered as part of the Wildfire Risk Management System. The results of this analysis indicate that consideration should be given to protection of the critical infrastructure identified above.

http://www12.statcan.ca/english/profil01/CP01/Details/Page.cfm?Lang=E&Geo1=CSD&Code1=5903050 &Geo2=PR&Code2=59&Data=Count&SearchText=Nakusp&SearchType=Begins&SearchPR=01&B1=All&Custom=



Figure 2. Nakusp Fire Hall.

#### 1.2 Fuels

## 1.2.1 Fuel Type Summary

Table 1 summarizes the fuel types by area. A description of each fuel type is provided in Appendix 1. Map 2 shows the fuel types for the study area.

Table 1. Summary of fuel types based on the total study area

	C2	C3	C4	C5	<b>C</b> 7	D1	M2	O1b	Non	Total
Area (ha)	44	1,163	919	1,019	248	9	140	1,188	2,235	6,965
% Total	1	17	13	15	4	<1	2	17	32	100

# 1.3 Historic Ignitions

The MOFR fire reporting system was used to compile a database of fires back to 1950 in the WRMS study area. Map 3 shows the ignition locations within the Village. The average number of fires per year by decade is as follows: 1950-59-0.9; 1960-69-0.8; 1970-79-1.9; 1980-89-2.1; 1990-1999-1.6. The average number of fires per year reported in the period 2000-2005 is 1.2. The most significant fire year in recent history was 1979 when 7 fires were reported in the study area.

Table 2 summarizes the fires that have occurred between 1950 and 2005 in the study area by size class and cause (lightning and human caused). The total number of fires during this period was

80, of which 63% were the result of human causes. The remaining 37% of fire ignitions were lightning caused. Ninety-eight percent of all fires that burned between 1950 and 2005 were smaller than four hectares, while only 2 fires were greater than 4 hectares. The largest fire within the Village since 1950 occurred in 1974 and burned an area of 51.7 hectares.

Table 3 summarizes fire cause by decade. Through the time of record, human caused fires have far out-numbered those caused by lightning. On average, there have been 15 fires each decade (minimum 8 in the '60s and maximum 21 in the '80s). The majority of fires have been inconsequential in size.

Table 2. Fire history summary within the study area from 1950 - 2005.

Size Class (ha)	Total Number of Fires	% of Total	Lightning Caused	Human Caused
<4.0	78	97.5	30	48
4.0-10.0	1	1.25	-	1
>10.0	1	1.25	-	1
Total Fires	80	100	30	50

Table 3. Summary of fire cause within the study area.

Decade	Lightning	Direct Human <sup>1</sup>	Industrial <sup>2</sup>	Total
1950-1959	-	9	0	9
1960-1969	2	5	1	8
1970-1979	5	14	0	19
1980-1989	11	8	2	21
1990-1999	7	8	1	16
2000-2005	5	2	0	7
Total Fires	30	46	4	80

<sup>&</sup>lt;sup>1</sup> Campfire, smoker, incendiary, juvenile set, fire use

# 2.0 The Wildland Urban Interface

The Village of Nakusp is somewhat buffered from the wildland by cleared farmland. However, there are two portions of the community defined as interface where there is a clear edge between the developed area and the adjacent wildland. Another portion of the community is defined as intermix where there is less definition between development and the wildland. Map 4 shows areas within the community defined as interface and intermix.

<sup>&</sup>lt;sup>2</sup> Equipment, railway

# 3.0 Community Risk Profile

Map 5 shows the results of the wildfire risk assessment for the Village of Nakusp. The Village is defined as having high to extreme probability and consequence of wildfire. This indicates that there is a high probability of a wildfire event occurring and that the values assessed for fire risk as part of this project are likely to be severely impacted by a fire.

## 4.0 Action Plan

The Action Plan consists of the key elements of the Community Wildfire Protection Plan and provides recommendations addressing each element. Each of these elements is further explained in Part 3: Community Wildfire Protection Planning Background, which provides background information to support the Action Plan.

#### 4.1 Communication and Education

## 4.1.1 Objectives

- To educate residents and businesses on actions they can take to reduce fire risk on private property.
- To establish a sense of homeowner responsibility for reducing fire hazards.
- To raise the awareness of elected officials as to the resources required and the risk that wildfire poses to communities.
- To make residents and businesses aware that their communities are interface communities and to educate them about the associated risks.
- To increase awareness of the limitation of municipal and provincial fire fighting resources to encourage proactive and self-reliant attitudes.
- To work diligently to reduce ignitions during periods of high fire danger.
- To develop a community education program in the next two years.
- To establish a FireSmart home pilot project in the next five years.
- To enhance the community's website to better communicate wildfire protection planning to the community in the next two years.
- To improve fire danger and evacuation signage in the next two years.

#### 4.1.2 *Issues*

 The Nakusp website does not currently provide any information regarding wildfire risk or property protection. It would be beneficial to add information on what individual homeowners can do to protect their homes as well as information on up-to-date fire danger and fire restrictions.

• A pilot project in Nakusp was selected based on orthophoto interpretation. It is located along highway 23 just west of Nakusp Hot Springs. The primary reason for the selection of this site is to help secure egress from the hot springs. The project will focus on removing ladder fuels through light thinning and pruning, with some areas requiring more extensive thinning due to denser regeneration. The location of this pilot project will aid in education of the public as the hot springs experience heavy visitation. It will also provide an opportunity to test the viability of thinning along highway corridors throughout the region. Debris utilization options such as pile and burning on-site, and creating firewood for sale or free distribution should be tested for non-merchantable wood. Any merchantable timber should be considered for sale to offset treatment costs. Map 6 shows the pilot project area.

#### 4.1.3 Recommendations

**Recommendation 1:** The community should consider developing a communication plan to outline the purpose, methods and desired results of communication and education in the Village. The plan should cover the principles of fire risk to the community, fire behaviour, spotting, structure protection and vegetation management. Educational information and communication tools need to be stakeholder specific. To establish effective communication within target groups, the plan should identify spokespersons who can best establish communication ties with target audiences and provide the educational information required.

**Recommendation 2:** The community should investigate working with local developers to construct a FireSmart show home to be used as a tool to educate and communicate the principles of FireSmart to the public. The demonstration home would be built to FireSmart standards using recommended materials for interface communities. Additionally, vegetation adjacent to the home would be managed to guidelines outlined in the FireSmart program.

**Recommendation 3:** The community should consider applying for UBCM funding to carry out the identified fuel treatment pilot project along highway 23 that will strategically mitigate fuel hazard within the treatment area. This pilot project will provide a tool to demonstrate the principles of fuel hazard reduction treatments to the public and contribute to fire risk reduction along the highway.

**Recommendation 4:** The standard for website information about fire should include an outline of community fire risks and proactive steps individual homeowners can take to make their homes safer within the community. Other information, such as fire danger and

FireSmart principles, and a Home Hazard Assessment can also be maintained on the local website. A section should be included to provide information on campfire bans and wildfire hazard ratings to educate visitors and provide information to local residents.

**Recommendation 5:** The community should access local newspapers or community bulletins to deliver FireSmart educational materials and to communicate information on fire danger. **Ongoing** 

**Recommendation 6:** Signage consisting of current fire danger, campfire bans and general warnings regarding fire safety should be posted at all major entrances to the community or surrounding fire protection area and updated with current fire information as required.

**Recommendation 7:** The Village should consider working with other Central Kootenay municipalities, the Regional District of Central Kootenay and the MOFR to develop a regional approach to enhancing education and communication.

**Recommendation 8:** The Fire Department should work with the Nakusp and District Chamber of Commerce to educate the local business community, particularly businesses that depend on forest use (*i.e.*, tourism and recreation) on FireSmart preparation and planning. Public education programs should be enhanced by: 1) integrating a unit of "FireSmart" and wildfire safety into the local elementary school curriculum, promoting the principles of community wildfire protection at a young age in order to improve awareness over time. This unit could be part of a general emergency preparedness teaching program; 2) creating a "FireSmart" sticker program where Fire Department members attend residences and certify them as meeting "FireSmart" guidelines.

#### 4.2 Structure Protection

## 4.2.1 Objectives

- To adopt a FireSmart approach to site and structure hazard assessment and structure protection.
- To develop policy tools which adopt FireSmart standards over the next five years.

## 4.2.2 Issues

- Many homes do not meet the FireSmart structure hazard standards for interface fire safety.
- Currently there is no fire vulnerability standard for roofing material used in the Village.
   Many homes are constructed with unrated materials that are considered a major hazard

- during a large fire event. In addition to the vulnerability of roofing materials within the community, adjacent vegetation is often in contact with roofs, or roof surfaces are covered with litter fall and leaves from nearby trees. See examples in Figure 3, Figure 4 and Figure 5.
- Unrated roofing materials contribute significantly to fire risk. In the short term, a resolution to this issue is difficult given the significant cost to homeowners. However, over the long-term, altering the building code or bylaws to encourage a change in roofing materials when roof replacement of individual residences is required may be a solution.
- Combustible materials stored within 10 m of residences are also considered a significant issue. Woodpiles or other flammable materials adjacent to the home provide fuel and ignitable surfaces for embers.



Figure 3. Photograph showing unrated roofing material present on many homes within the wildland urban interface.



Figure 4. Example of home with wood siding and open decks.



Figure 5. Example of Nakusp home with open decks and no setback to forest vegetation.

#### 4.2.3 Recommendations

**Recommendation 9:** It is recommended that the Village conduct detailed FireSmart assessments of homes and businesses to further communicate and promote fire risk reduction on private property. The WRMS developed for the community indicates that many areas of the Village are at high risk from wildfire.

**Recommendation 10:** Many homes and businesses are built immediately adjacent to the forest edge. As a result, trees and vegetation are often in direct contact with homes. The community should consider incorporating building setbacks into bylaw with a minimum distance of 10 m when buildings border the forest interface.

**Recommendation 11:** The community should investigate the policy tools available for reducing wildfire risk within the Village. These include voluntary fire risk reduction for landowners, bylaws for building materials and subdivision establishment, covenants for vegetation set-backs, delineation of Wildfire Development Permit areas, incentives such as exclusion from a fire protection tax and education. Specifically, the community should investigate a process to create and/or review and revise existing bylaws to be consistent with the development of a FireSmart community. Consideration should be given to the creation of a Wildfire Bylaw that mandates sprinkler protection, provides for good access for emergency response, and specifies fuel management on both public and private property. **Ongoing** 

Recommendation 12: The Village should consider requiring roofing materials that are fire retardant with a Class A and Class B rating within new subdivisions. While it is recognized that wholesale changes to existing roofing materials within the community are not practical, a long-term replacement standard that is phased in over the roof rotation period would significantly reduce the vulnerability of the community. The community should consider obtaining legal advice regarding the implementation of building requirements that are more restrictive than the BC Building Code. While restrictions to rated roofing are not supported in the Code at this time, there are several communities which have undergone or are undergoing various processes (e.g., lobbying, legal opinion, declaration of hazard by Fire Chief) to enact roofing bylaws within their Wildfire Development Permit areas.

**Recommendation 13:** The community should consider working with the Building Policy Branch to create a policy structure that would enable the Village to better address wildland urban interface protection considerations for buildings.

**Recommendation 14:** Access constraints to residences should be addressed. Homeowners should be made aware of access constraints that may prevent the Fire Department from attending a wildland fire that could threaten their property.

**Recommendation 15:** Subdivision design plans should be reviewed by the Fire Department to ensure that suitable access routes exist, that hydrant accessibility is adequate where applicable, and that interface fire related issues are addressed.

# 4.3 Emergency Response

# 4.3.1 Objectives

- To develop an emergency response plan that enables effective evacuation, improves fire fighter suppression capability and maintains fire fighter safety.
- To improve access within isolated portions of the community over the next 10 years.
- To review the community's evacuation plan in the next 12 months.
- Over the next 12 months, to develop a contingency plan in the event that smoke requires evacuation of critical emergency service facilities.

#### **4.3.2** *Issues*

- Evacuation of residents and access for emergency personnel is an important consideration
  given the amount of forest fuels in close proximity to many homes. Within the areas
  identified in Map 7 there is only one access and evacuation route available to motor vehicles
  and emergency responders. The situation could be further complicated by smoke and poor
  visibility, creating the necessity for traffic control in some locations. The Village should
  consider establishing secondary or alternate evacuation routes for these locations.
- In addition to the evacuation of residents, safety of fire fighting personnel is a major
  consideration. Map 7 emphasizes that under extreme fire conditions it may be difficult for
  the Nakusp Volunteer Fire Department to access specific areas of the Village due to the
  potential for resources to be isolated or cut off. Defence of these locations would be
  secondary to safety considerations.

#### 4.3.3 Recommendations

**Recommendation 16:** A formal communication structure should be established with the MOFR so that information regarding fires in the region is communicated in a timely manner to the communities and Fire Departments adjacent to active fires. This might be best achieved through joint cooperation with the Regional District of Central Kootenay, other Central Kootenay municipalities and the MOFR. **Ongoing** 

**Recommendation 17:** Consideration should be given to developing a community evacuation plan. Appropriate evacuation routes should be mapped, considering Disaster Response Routes (DRR). Major evacuation routes should be signed and communicated to the public. The plan should identify loop roads and ensure access has sufficient width for two way traffic. In addition, alternative emergency responder access should be considered.

**Recommendation 18:** The Village should work towards improving access in areas of the community that are considered isolated and that have inadequately developed access for evacuation and fire control (for example, by opening dead end roads and connecting roads).

**Recommendation 19:** New subdivisions should be developed with access points that are suitable for evacuation and the movement of emergency response equipment. The number of access points and their capacity should be determined during subdivision design and be based on threshold densities of houses and vehicles within the subdivisions.

**Recommendation 20:** Where forested lands abut new subdivisions, consideration should be given to requiring roadways to be placed adjacent to those lands. If forested lands surround the subdivision, ring roads should be part of the subdivision design. These roads both improve access to the interface for emergency vehicles and provide a fuel break between the wildland and the subdivision.

**Recommendation 21:** During a large wildfire it is possible that critical infrastructure within the Village could be severely impacted by smoke. It is recommended that contingency plans be developed in the event that smoke causes evacuation of the community's incident command centres. The community should co-operate with provincial and regional governments to identify alternate incident command locations and a mobile facility in the event that the community is evacuated.

**Recommendation 22:** The Village should consider conducting a review of critical water infrastructure to determine whether water flow and pressure will be adequate in an interface fire emergency. The review should consider water supply, water delivery volumes/pressure, pumping capacity and vulnerability of reservoirs.

**Recommendation 23:** Given the values at risk identified in this plan, it is recommended that, during periods of high and extreme fire danger (danger class IV and V), the Village

work with adjacent municipalities and the Ministry of Forests and Range to maintain a local helicopter with a bucket on standby within 30 minutes of each community.

# 4.4 Training/Equipment

# 4.4.1 Objectives

- To ensure adequate and consistent training for fire fighter personnel and to build fire fighter experience.
- To continue to train all Fire Department personnel to the provincial standard (S100 and S215) on an annual basis.

#### **4.4.2** *Issues*

- The Nakusp Volunteer Fire Department has received training to Ministry of Forests and Range (MOFR) standards.
- The Fire Department currently has wildland fire fighting equipment including Compressed Air Foam System trucks and a mini pumper. In addition, the Village has portable generators for all water pumps. The Village does not have a sprinkler kit.

#### 4.4.3 Recommendations

**Recommendation 24:** The following training should be maintained/considered: 1) The S100 course training should be continued on an annual basis; 2) Municipal Parks outside staff should be trained in the S100 course; 3) A review of the S215 course instruction should be given on a yearly basis; 4) The S215 course instruction should be given to senior volunteers on an ongoing basis; and, 5) Incident Command System training should be given to all career and Paid On-Call Officers.

**Recommendation 25:** The Fire Department should meet with the MOFR prior to the fire season to review the incident command system structure in the event of a major wildland fire. As it may be most effective for this to occur at a regional level, these agencies should work with the community and Regional District staff to establish clear command structures and lines of communication with MOFR to ensure efficient operations during wildfire events. This should include designated radio channels and operating procedures.

**Recommendation 26:** The community should consider reviewing its existing inventory of interface fire fighting equipment to ensure that items such as large volume fire hoses, portable pumps and fire fighter personal protection equipment (PPE) are adequate to resource the interface area.

**Recommendation 27:** Given the wildfire risk profile of the Village, an emergency sprinkler kit capable of protecting 30 to 50 homes should be purchased and maintained in the community. Training of fire rescue personnel or a designate of the department should be reviewed annually to ensure that the mobilization and set up of the equipment can be effected efficiently during a fire event.

**Recommendation 28:** The community should consider working with other municipalities and the Regional District to coordinate the creation of a sub-regional mobile cache of wildland fire fighting equipment. This would reduce the cost of purchasing and maintaining the cache and provide additional resources in the event of a wildfire.

# 4.5 Vegetation (Fuel) Management

## 4.5.1 Objectives

- To proactively reduce potential fire behaviour, thereby increasing the probability of successful suppression and minimizing adverse impact.
- To reduce the hazardous fuel types (C2, C3, C4) found within and adjacent to the municipal boundary. Ideally, over the next five to ten years, the majority of these fuel types would be converted to deciduous fuel types or thinned and treated to reduce surface fuel loads and raise canopy base height.

#### 4.5.2 *Issues*

- The WRMS developed in support of this plan identified that the core area of the Village is at very high risk from wildfire. In addition, there are areas of extreme wildfire probability immediately adjacent to the interface. Public safety, and many of the important values, facilities and structures, may be severely impacted by a major fire.
- There are a number of hazardous stands of C2 (44 ha), C3 (1,163 ha) and C4 (919 ha) fuel types in the study area (Map 2). Treatment of other fuel types is not considered necessary. The areas of hazardous fuels should be the focus of a prioritized long-term fuel reduction program. An example of hazardous fuels in Nakusp is shown in Figure 6. While it is probably not feasible to treat all of these areas, it is possible to develop an annual program that strategically targets progressive fuel reduction in these areas over the next decade.
- Table 4, Table 5 and Map 8 identify and locate the polygons recommended for treatment by priority. The priority 1 treatment areas fall within the municipal boundary and are within 250 m of homes. Treating these areas would enhance the effectiveness of natural fuel breaks around the community. These areas should be the focus of initial treatment efforts. Priority 2 areas surround homes outside the municipal boundary and priority 3 areas pose a spotting hazard to Nakusp but are not within 250 m of homes.

• There are a number of existing natural and human constructed fuel breaks within the Village including the airstrip, Upper Arrow Lake and deciduous and grassland fuel types (refer to Map 9). Fire will travel quickly across grass fuel types; however, fire fighters can directly attack a grass fire.



Figure 6. Photo of dense second growth stand with low canopy base height.

Table 4. Criteria used to determine priority treatment areas

Priority 1	Within municipal boundary; C2, C3, or C4 fuels types located within 250 m
	of a structure
Priority 2	Outside the municipal boundary; C2, C3, C4 fuel types located within 250
	m of a structure
Priority 3	Outside or within municipal boundary; C2, C3, and C4 fuel types located
	farther than 250 m from structures.

**Table 5. Priority treatment areas.** 

Priority	Area (ha)
1	197.7
2	409.8
3	1,517.0
Total	2,124.4

#### 4.5.3 Recommendations

Recommendation 29: The community should investigate the potential for fuel management programs. A number of high hazard areas immediately adjacent to or embedded in the community have been identified as part of the wildfire risk assessment. These high hazard areas should be the focus of a progressive thinning program that is implemented over the next five to ten years. Thinning should be focused on the highest priority areas of C2, C3 and C4 fuel types identified in Map 8. In some areas it may be necessary to work closely with the RDCK and the province to implement treatments. The proposed Community Forest Agreement may provide opportunities for treatment of some of these fuels. A qualified professional forester (RPF), with a sound understanding of fire behaviour and fire suppression, should develop treatment prescriptions. Any treatments that take place on sloped sites must be prescribed with consideration given to slope stability. Where slope stability may be an issue, a Professional Geotechnical Engineer should review the treatment prescription. The community should also investigate the potential for working with private land owners to address hazardous fuels on private land.

**Recommendation 30:** The mountain pine beetle has the potential to cause significant changes in fuels and fire risk over the next decade and beyond. Where applicable, fuel treatment strategies should target removal of beetle susceptible lodgepole pine. The community should consider working with the province and private land owners to monitor and quantify changes in fire risk associated with the mountain pine beetle outbreak.

**Recommendation 31:** The provincial government and the UBCM have funding programs specifically to address wildfire hazard and the wildfire hazard associated with mountain pine beetle on Crown and municipal lands. The Village should consider applying for UBCM funding to carry out fuel treatments that will strategically mitigate fuel hazard within 2 km of the community. The 197.7 ha priority 1 treatment area would be the priority for funding.

**Recommendation 32:** The Village should investigate the potential for additional funding options, such as a cogeneration plant, a composting program or a minimal increase in property taxes, which could be used to encourage and aid property owners with fuel mitigation and to facilitate treatments on public lands. Efficiencies may be gained if this is coordinated at a regional level.

**Recommendation 33:** The Village should investigate the potential for partnering with residents to promote treatment of public lands adjacent to private property. Private land owners could be encouraged to not only clean their own yards of debris and brush but also to be responsible for the removal of debris and brush from immediately adjacent public

lands to a depth of 20 meters. Removal of material could be coordinated with a spring yard waste pickup program.

**Recommendation 34:** The Village should consider lobbying the province to identify and document hazardous fuel types on Crown lands that are not within 2 km of the boundary of the Community Assessment Area but that are within 5 km of residential areas that could be impacted by a wildland urban interface fire. Effort should be directed at encouraging the province to initiate a fuel treatment program for these lands. This may include coordinating lobbying initiatives with other local governments from within the Regional District of Central Kootenay.

**Recommendation 35:** The community should work with British Columbia Transmission Corporation to ensure that transmission infrastructure can be maintained and managed during a wildfire event.

# 4.6 Wildfire Rehabilitation Planning

## 4.6.1 Objectives

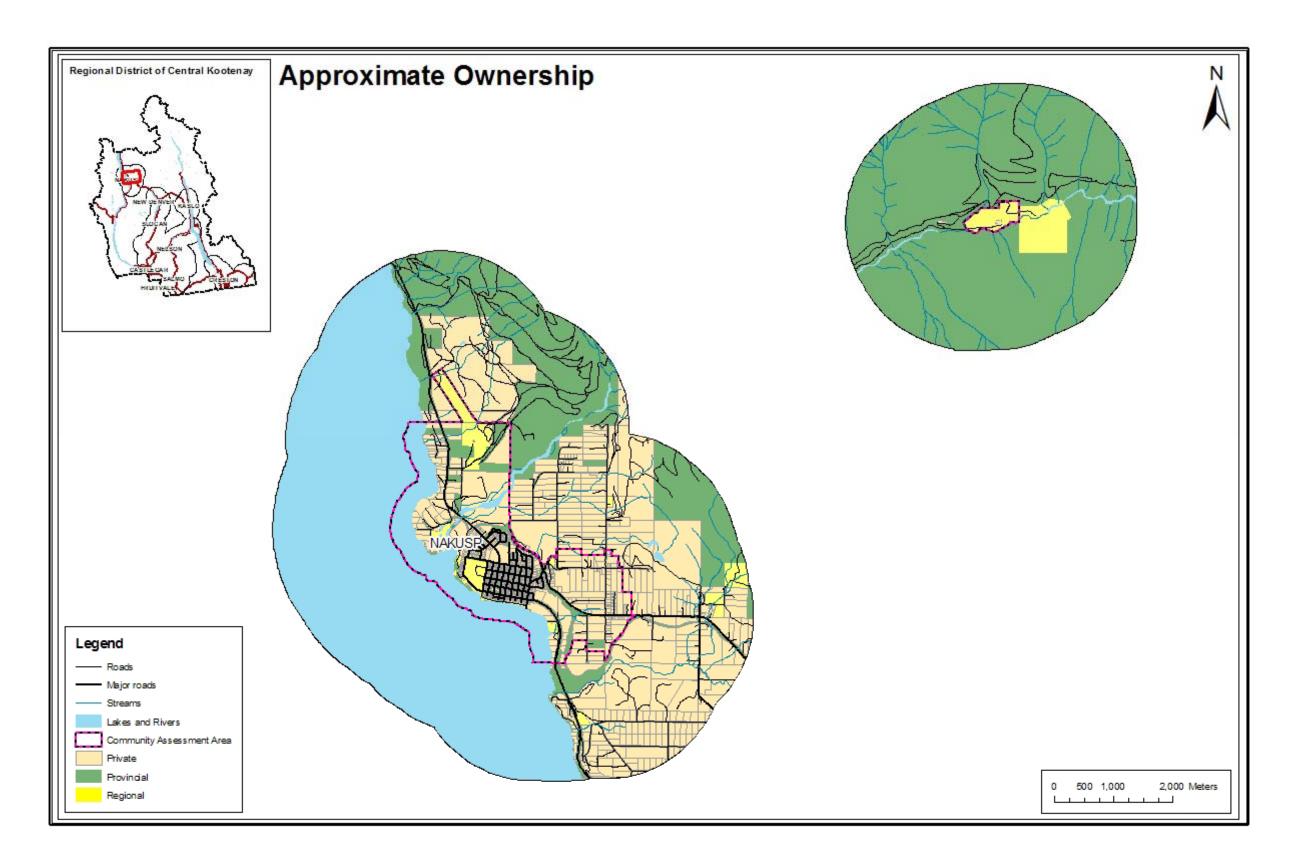
- To reduce the impact of negative post-wildfire effects on the community by preparing a strategic, effective and rapid post-wildfire response.
- To develop advanced planning for post-fire stabilization and rehabilitation in the next five years.

#### 4.6.2 *Issues*

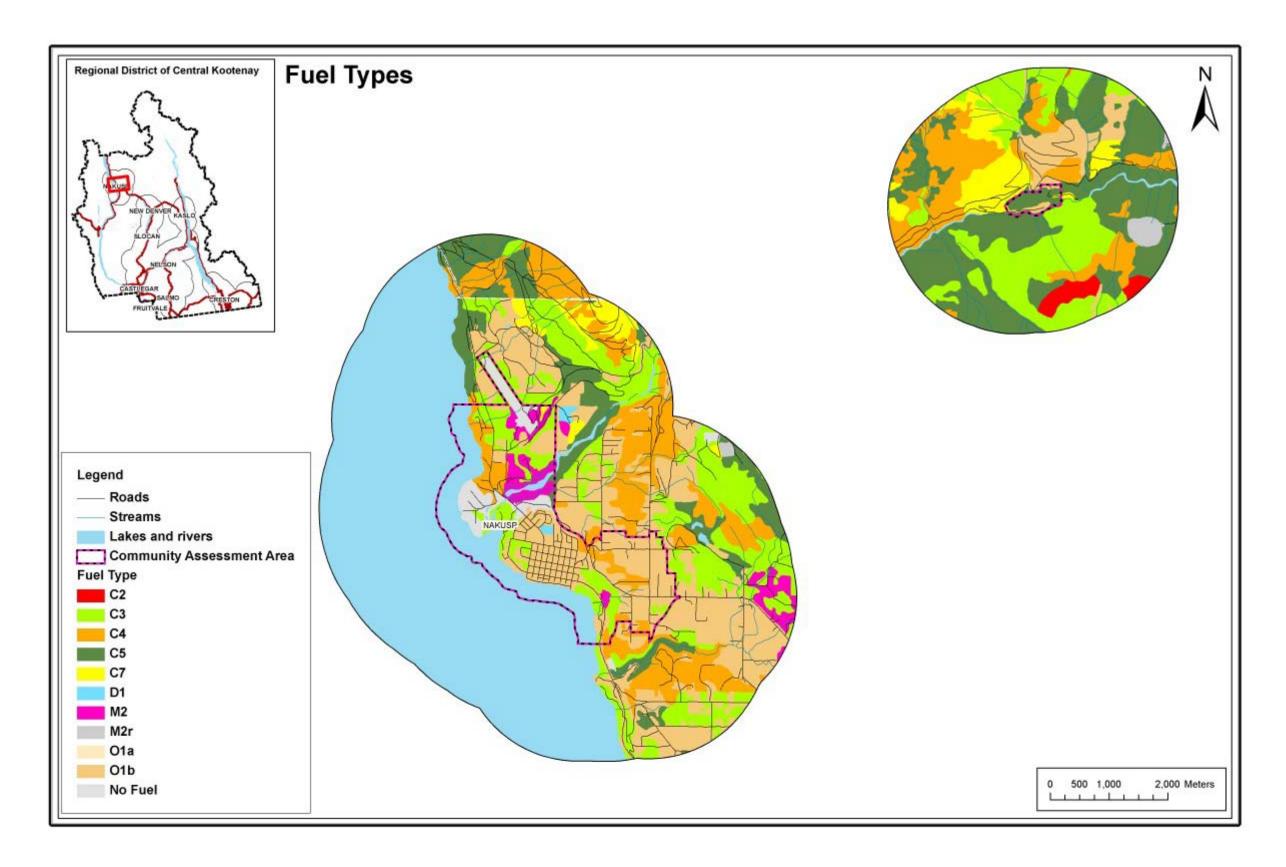
Nakusp's water supply is vulnerable to watershed disturbance.

#### 4.6.3 Recommendations

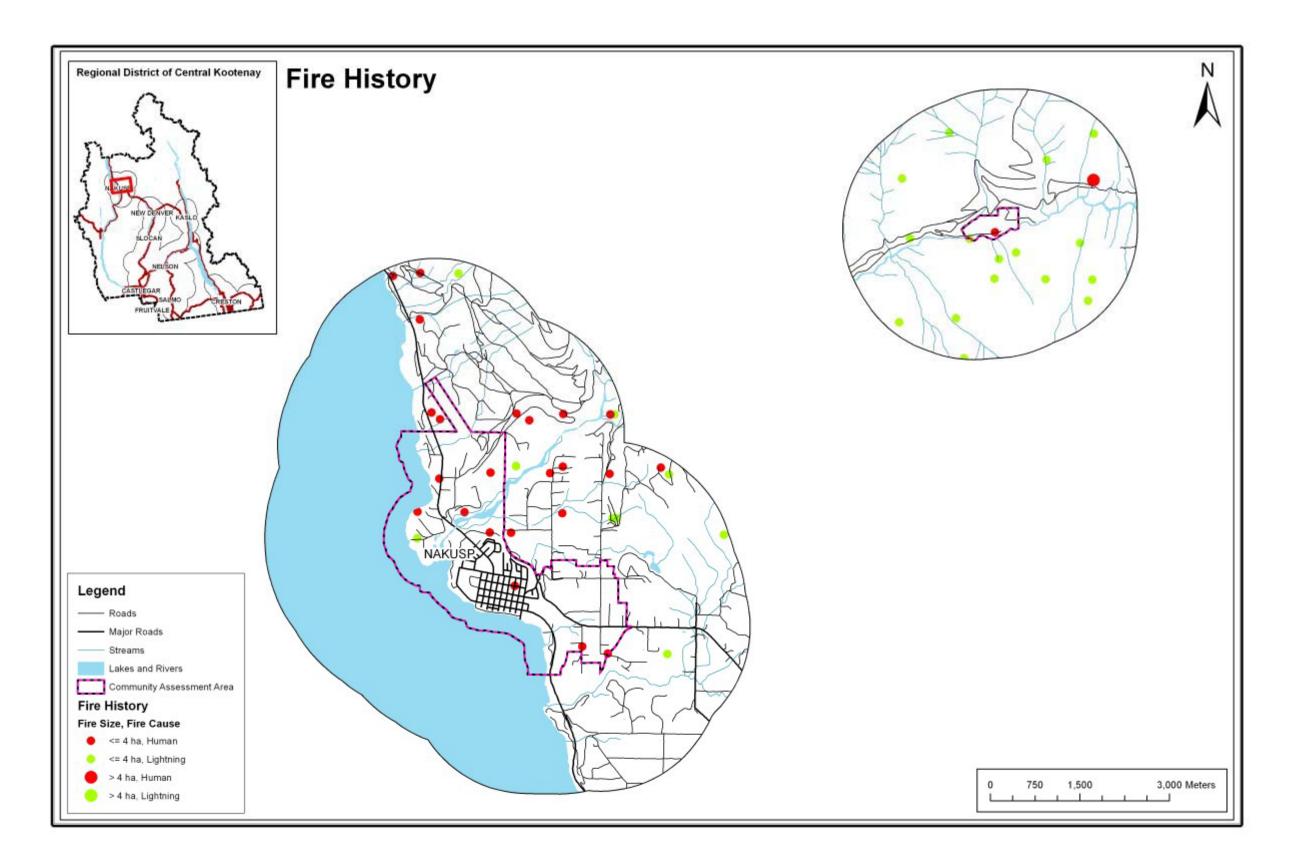
**Recommendation 36:** The community should develop a plan for post fire rehabilitation that considers the procurement of seed, seedlings and materials required to regenerate an extensive burn area (1,000-5,000 ha). The opportunity to conduct meaningful rehabilitation post fire will be limited to a short fall season (September to November). The focus of initial rehabilitation efforts should be on slope stabilization and infrastructure protection. These issues should form the foundation of an action plan that lays out the necessary steps to stabilize and rehabilitate the burn area.



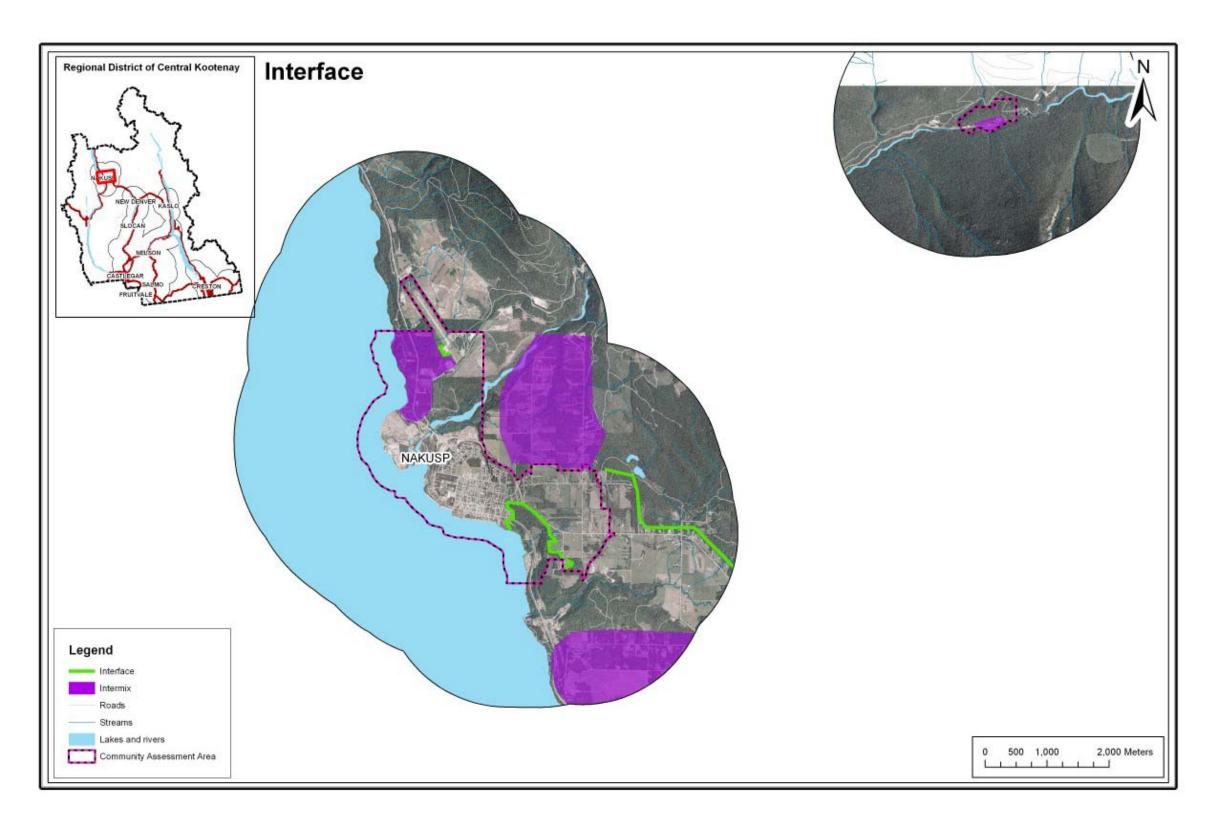
Map 1. Ownership map of the study area encompassing the Village of Nakusp.



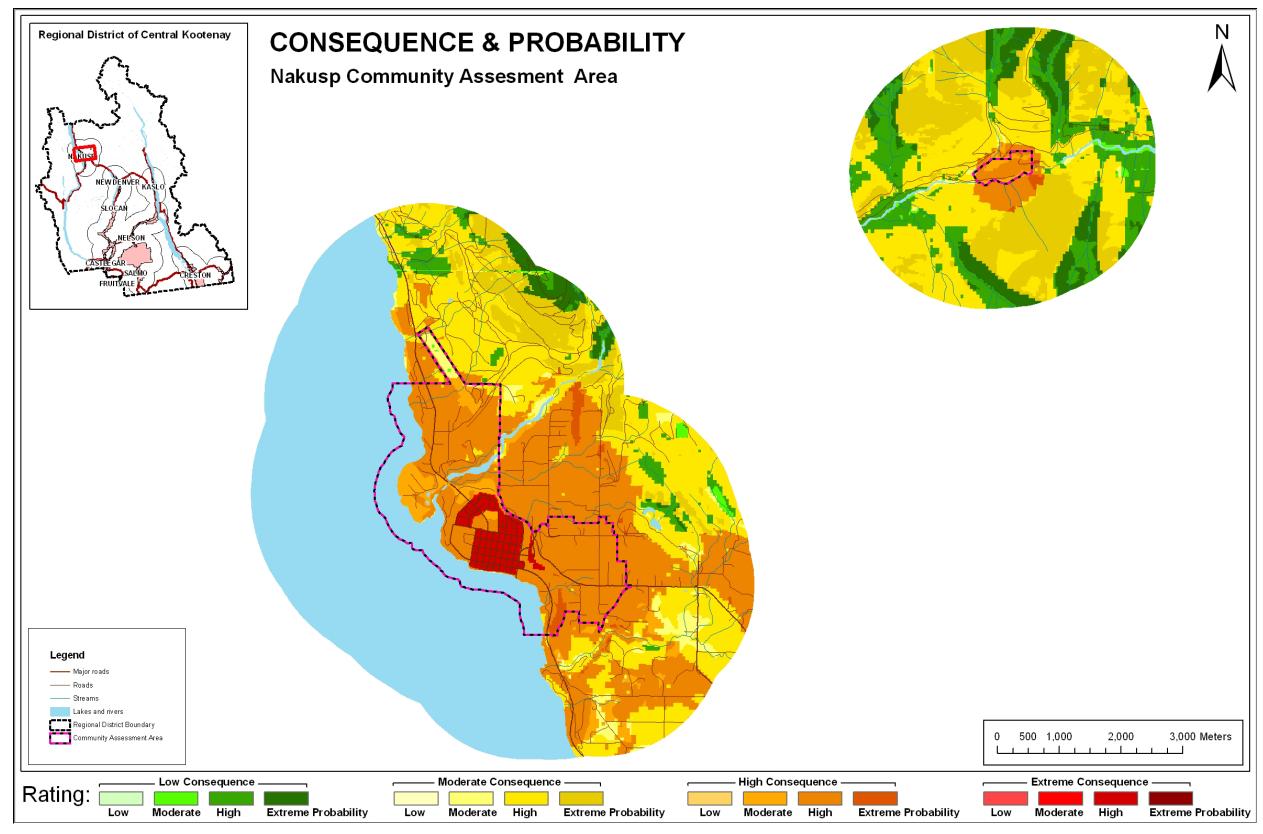
Map 2. Fuel type map for the Village of Nakusp.



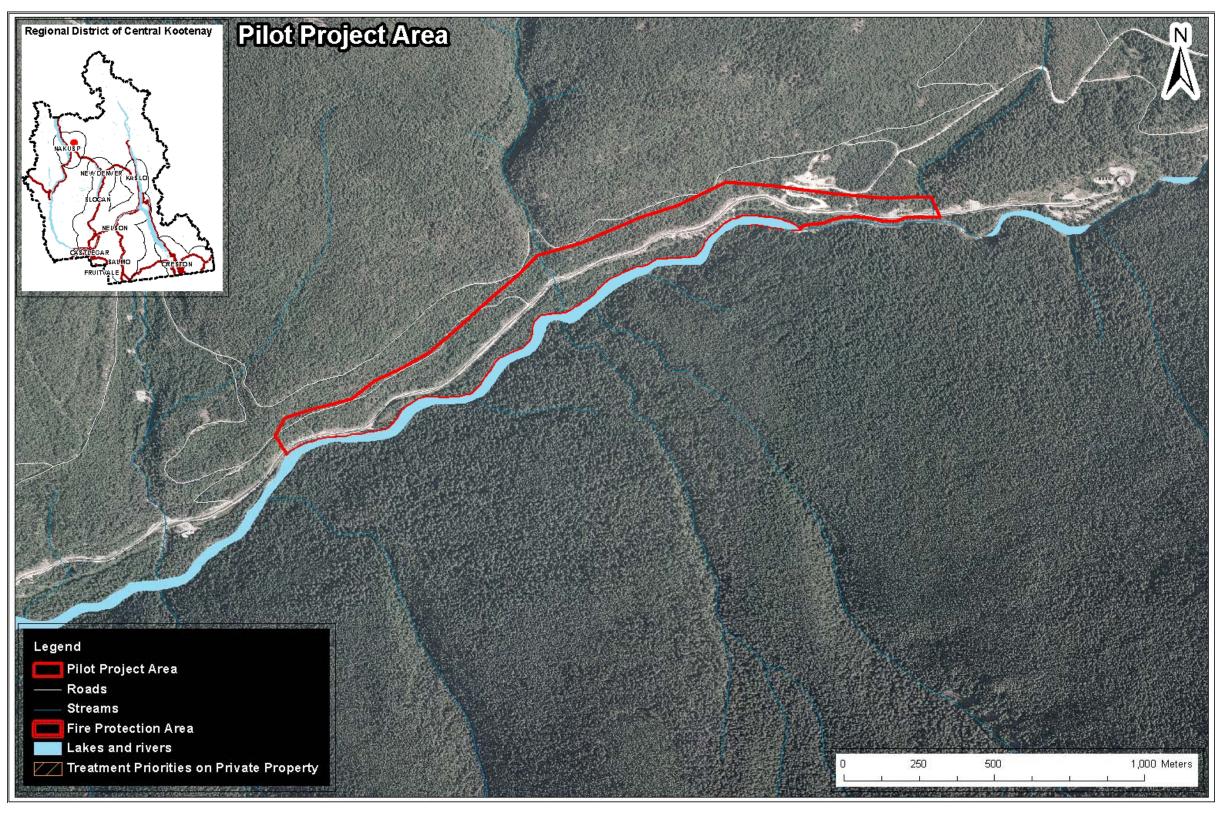
Map 3. Historic ignition locations.



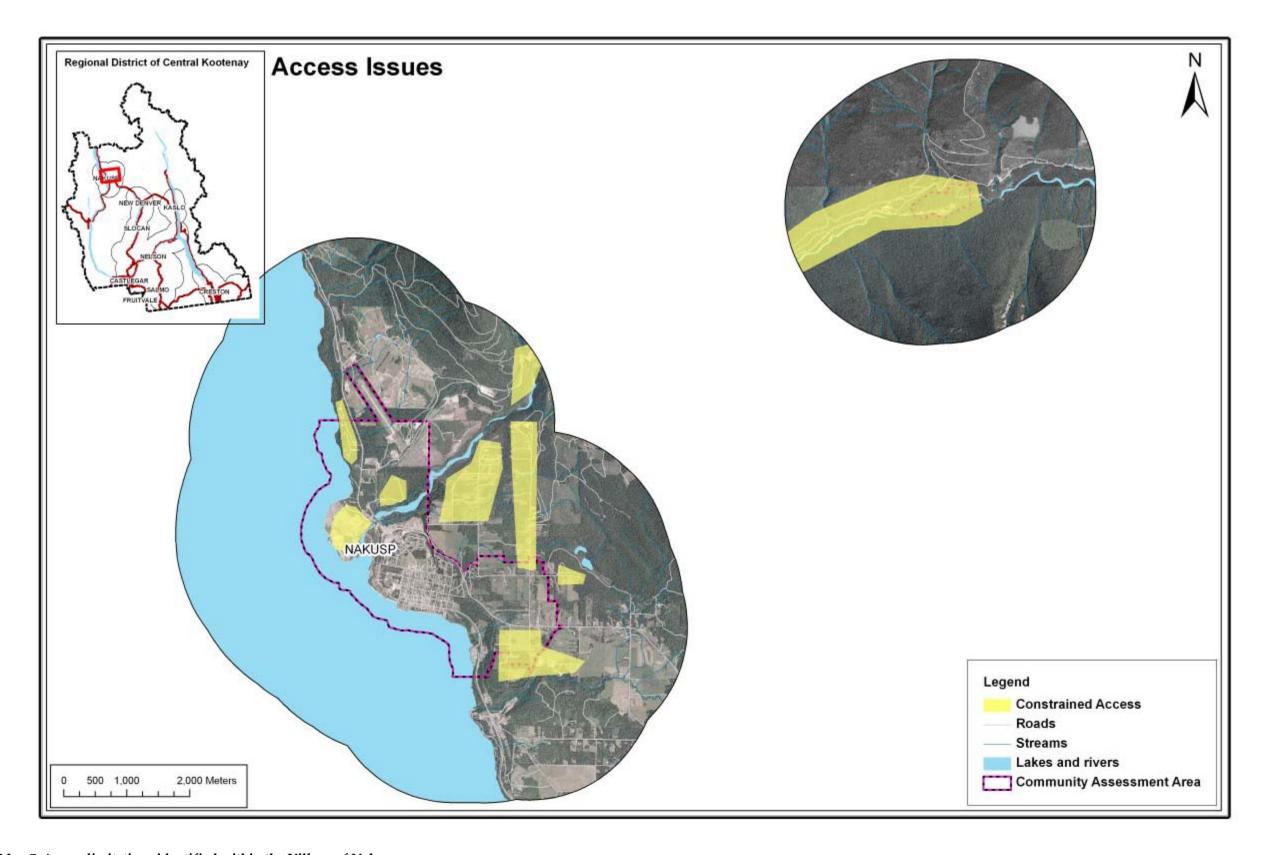
Map 4. Wildland urban interface within the Village of Nakusp.



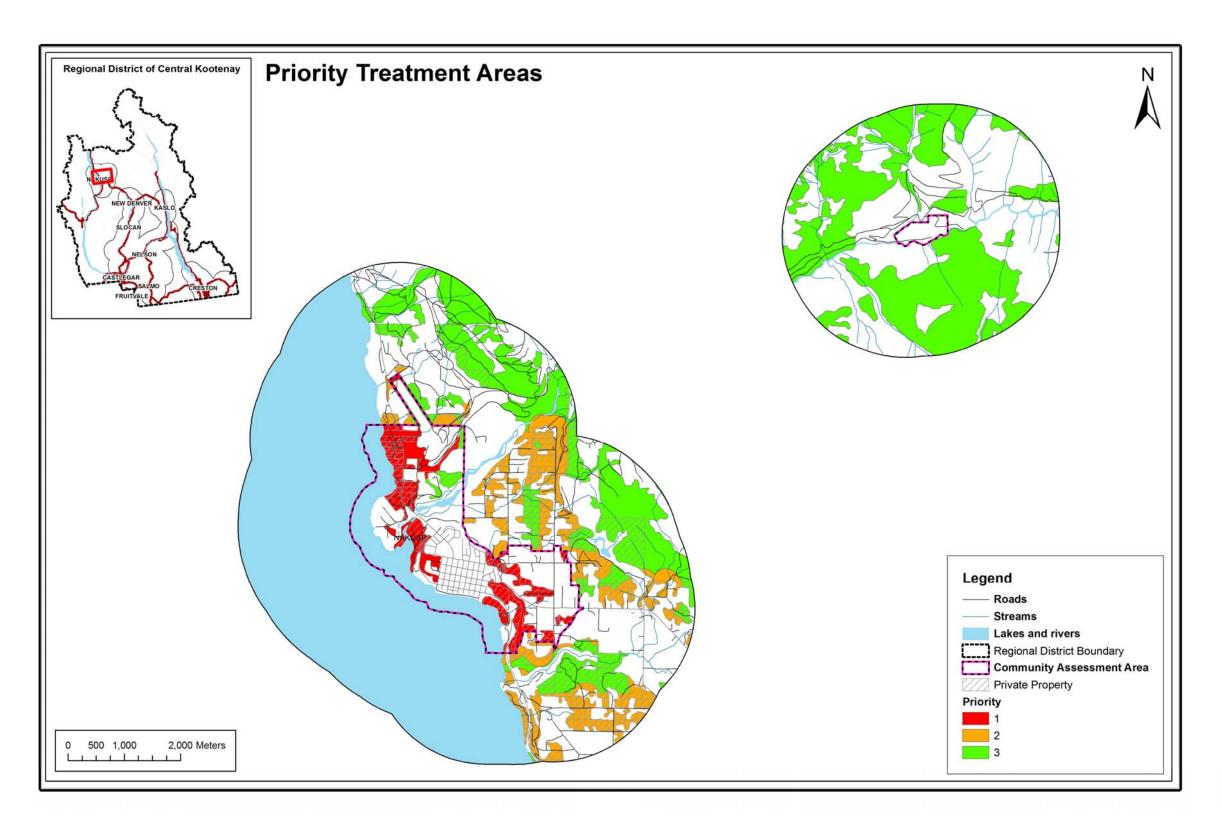
Map 5. Probability and consequence of wildfire in the Village of Nakusp.



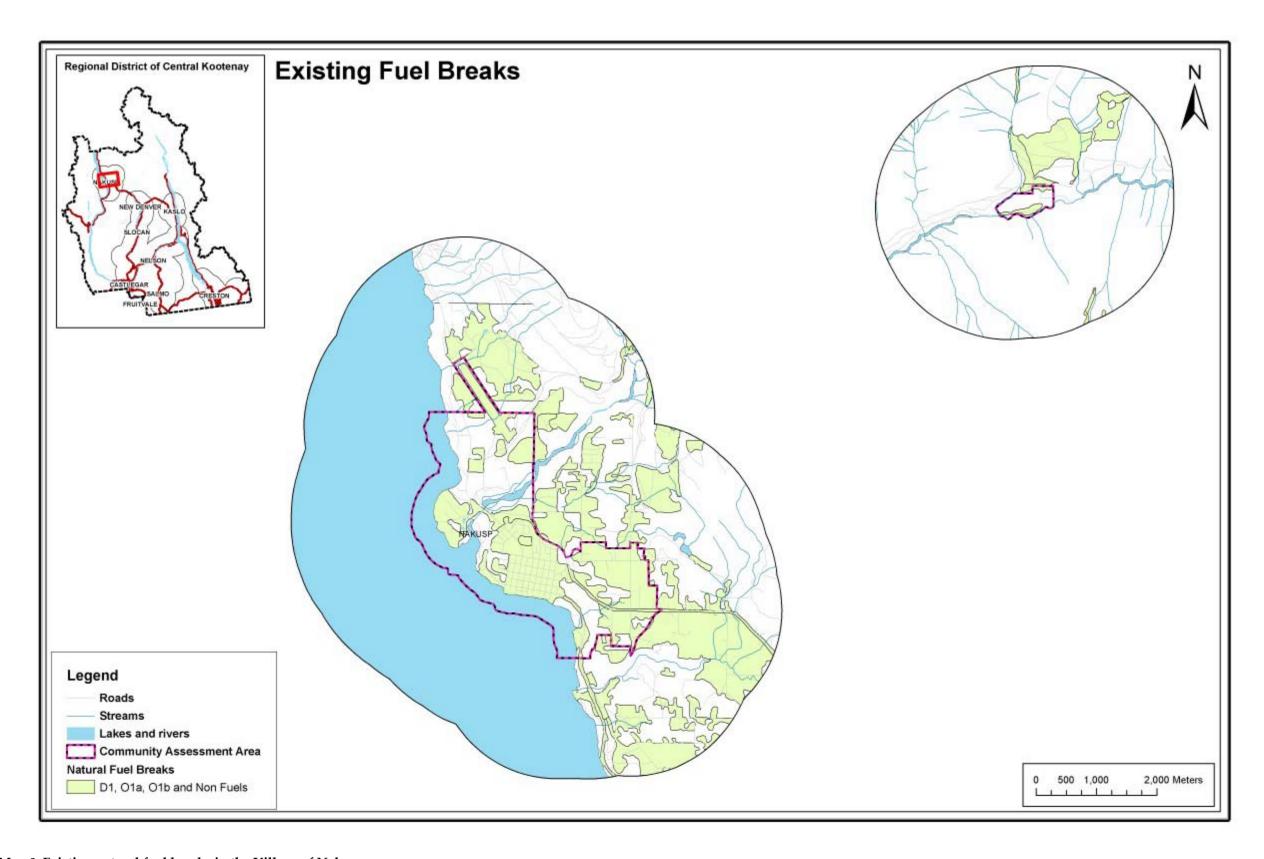
Map 6. Proposed pilot project west of Nakusp Hot Springs area in the Village of Nakusp.



Map 7. Access limitations identified within the Village of Nakusp.



Map 8. Priority treatment areas.



Map 9. Existing natural fuel breaks in the Village of Nakusp.