Community Wildfire Resiliency Plan

District of Central Saanich

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Submitted by:

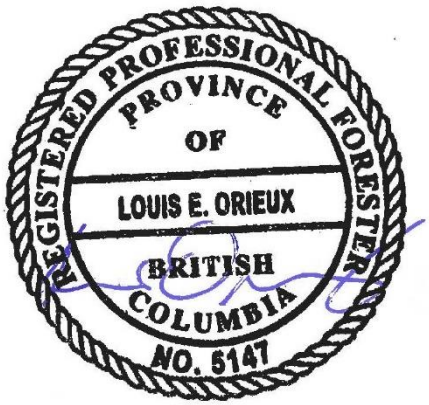
B.A. Blackwell & Associates Ltd.
270 – 18 Gostick Place
North Vancouver, BC, V7M 3G3
Ph: 604-986-8346
Email: bablackwell@bablackwell.com

Submitted to:
Ryan Vantreight
FireSmart Coordinator
Central Saanich Fire Department
District of Central Saanich
1512 Keating Cross Road
Saanichton BC, V8M 1W9
Ph: 250-415-8066
Email: Ryan.Vantreight@csaanich.ca

B.A. Blackwell & Associates Ltd.

Central Saanich

REGISTERED PROFESSIONAL SIGN AND SEAL

RPF PRINTED NAME
Louis Orieux
DATE SIGNED
August 1, 2024
I certify that the work described herein fulfills the standards expected of a member of the Association of British Columbia Forest Professionals and that I did personally supervise the work.
Registered Professional Forester Signature and Seal


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FREQUENTLY USED ACRONYMS

AOI	Area of Interest
BCWS	British Columbia Wildfire Service
BEC	Biogeoclimatic Ecosystem Classification
CFFDRS	Canadian Forest Fire Danger Rating System
CFRC	Community FireSmart Resiliency Committee
CI	Critical infrastructure
CLWRR	Crown Land Wildfire Risk Reduction
CRI	Community Resiliency Investment
CSFD	Central Saanich Fire Department
CWPP	Community Wildfire Protection Plan
CWRP	Community Wildfire Resiliency Plan
DPA	Development Permit Area
EOC	Emergency Operations Center
FBP	Fire Behaviour Prediction System
FCFS	FireSmart Community Funding and Supports
FESBC	Forest Enhancement Society of British Columbia
FMP	Fire Management Plan
FNESS	First Nations Emergency Services Society
FRPA	Forest & Range Practices Act
FSCCRP	FireSmart Canada Community Recognition Program
HIZ	Home Ignition Zone
HVRA	Hazard, Risk, and Vulnerability Analysis
LRMP	Land and Resource Management Plan
MOF	Ministry of Forests
NDT	Natural Disturbance Type
OCP	Official Community Plan
PEMO	Peninsula Emergency Measure Organization
REMP	Regional Emergency Management Partnership
SARA	Species at Risk Act
SPAS	Saanich Peninsula Alert System
SPU	Structure Protection Unit
UBCM	Union of BC Municipalities
WRR	Wildfire Risk Reduction
WTA	Wildfire Threat Assessment
WUI	Wildland Urban Interface

EXECUTIVE SUMMARY

In April 2024, B.A. Blackwell and Associates Ltd. was retained to assist the District of Central Saanich ('Central Saanich', 'District') in creating a Community Wildfire Resiliency Plan (CWRP). This CWRP is an update to Central Saanich's 2019 Community Wildfire Protection Plan. A CWRP is both a localized risk assessment and an action plan to improve wildfire resiliency in a region. CWRPs aim to develop strategic recommendations based on the seven FireSmart® principles (Education, Legislation and Planning, Development Considerations, Interagency Cooperation, Emergency Planning, and Vegetation Management) to assist communities in improving safety and reducing the risk of damage to property and critical infrastructure from wildfires.

The area of interest for this plan is Central Saanich's municipal boundary. The CWRP provides Central Saanich with an updated action plan to mitigate the wildfire risk to the community. The plan can be used to guide the improvement or development of emergency and evacuation plans, emergency response, communication and education programs, bylaw development, and the management of potentially hazardous vegetation within the eligible Wildland Urban Interface (WUI).

Wildfire management requires a multi-faceted approach for greatest efficacy and risk reduction outcomes. Recommendations and action items within this plan should be considered a toolbox of options to help reduce the wildfire threat to Central Saanich. The District will have to further prioritize implementation based on resources, strengths, constraints, and availability of funding, and regularly update the prioritization and course of action as variables change through time.

In the five years since the completion of the District's last community wildfire plan, major progress along the FireSmart Roadmap[1] has been achieved. One of the most significant changes is the hiring of a full-time FireSmart Coordinator under the 2022 UBCM FireSmart Community Funding and Supports (FCFS) program. The staff capacity offered by this dedicated position has allowed the District to offer free Home Partner Program assessments to residents, deliver community FireSmart presentations and workshops, and expand FireSmart-specific public education campaigns that were previously tasked to the Fire Department and Emergency Program.

The key to reducing structure loss in a WUI fire is to reduce structures' ignitability. Risk communication, education on the range of available activities, and the prioritization of activities should help home and property owners to feel empowered to complete simple risk reduction activities on their property. The next steps for the District are to ramp up initiatives and focus on removing barriers to vegetation management on private property. The District's FireSmart program is discussed in Section 5 of the document.

Although the District's FireSmart program is in the initial building, or 'engagement', phase, local policies have an advanced recognition of wildfire risk concerns. The District's new Official Community Plan fully recognizes the wildfire risk to rural forest neighbourhoods, and has policies that support FireSmart. With

[1] https://firesmartbc.ca/resource/the-firesmart-roadmap/

regards to planning and development, there are two major action items for the District: 1) consider a Wildfire Hazard Development Permit Area, and 2) consider revising the Tree Management Bylaw and Erosion Control and Tree Cutting Bylaw to exempt FireSmart vegetation management on private property.

By nature of geographic proximity, a regional water system, and cooperative emergency planning, Central Saanich has strong relationships with other municipalities on the Saanich Peninsula, and with the Capital Regional District. Despite the rarity of local wildfire callouts requiring BCWS aid, the Fire Department has maintained excellent cross-training and structural protection capacity through training and deployment to interface wildfire events. In 2023, Central Saanich firefighters were deployed to six separate interface fires. The Fire Department is currently completing the outfitting of a Structural Protection Unit (SPU) trailer using UBCM FCFS funding.

A key component of community wildfire resiliency for Central Saanich is to coordinate their FireSmart program with W̱JOŁEŁP (Tsartlip) and SȾÁUTW̱ (Tsawout) First Nations. As immediate neighbors within one Fire Protection Area, an understanding of values at risk, wildfire threat, and community priorities across jurisdictions are essential elements of wildfire resiliency. Through the development of this plan, preliminary conversations were held and information shared, and continuing to build these relationships is of key importance to the District. UBCM has approved Central Saanich to provide its FireSmart program and associated activities to the reserve communities. This opens a number of strategic funding and program opportunities with the broader goal of supporting each Nation's own FireSmart grant applications and programs. Continued collaboration will increase the likelihood that opportunities for joint initiatives are identified.

This plan also puts forward recommendations for two fuel management treatments in the municipality. These are areas in municipal public parks within neighborhoods that have higher wildfire risk – Rural Brentwood Bay and Rural Mt. Newton. Mitigation of surface and ladder fuels in these areas will not only serve to reduce potential fire behavior in these areas, but also demonstrate the principles of FireSmart landscaping to the public.

Twenty-three recommendations and action items are presented in Table 1 below, and are more thoroughly discussed in their appropriate sections within the document.

Table 1. Community Wildfire Resiliency Plan Recommendations

Item	Priority & *Roadmap Phase*	Recommendation	Rationale	Lead (Involved)	Timeframe	Metric for Success	Funding Source / Est. Cost / Person Hours
FireSmart Education - Section 5.1							
1 - FireSmart Coordinator	High *Foundational*	Continue to fund a full-time FireSmart Coordinator position with the Central Saanich Fire Department (CSFD).	A FireSmart Coordinator position is a requirement to receive funding from the UBCM CRI FireSmart Community Funding & Supports Program (as of the 2024 program year). A dedicated FireSmart Coordinator is an important way that local governments can ensure quality and continuity in their FireSmart program.	CSFD FireSmart	Ongoing	Sufficient capacity to deliver and grow FireSmart program.	Internal or CRI FCFS funding; FireSmart Positions (example $100,000 for a full-time position, including administration costs).
2 - FireSmart Staff	Moderate *Foundational*	Maintain trained FireSmart staff within the CSFD. Consider funding for additional full-time support positions (LFRs/WMS) if required.	As the Central Saanich FireSmart program grows, sufficient staff capacity is required to run initiatives. WMS training is a higher level of training that is a prerequisite for Home Partner Program assessments. LFR is suggested training for all full-time CSFD members and Emergency Program staff.	CSFD FireSmart	Ongoing	Sufficiently trained local representatives to keep up with demand.	CRI FCFS funding; LFR training is free. $350 for annual Wildfire Mitigation Specialist enrollment fee, and $1500+ for training.
3 - Continue FireSmart Promotion	High *Engagement*	Continue the existing communication elements of the Central Saanich FireSmart program, including posting signage, door-to-door delivery of print resources, social media updates, website updates, and community events, and expand where possible. Focus resources in the interface neighbourhoods of Rural Mt. Newton and Rural Brentwood.	The CFRC indicates that community awareness of wildfire risk is increasing, but uptake in FireSmart initiatives is still slow. As the areas with the highest wildfire risk, Rural Mt. Newton and Rural Brentwood are the most important neighbourhoods to prioritize.	CSFD FireSmart	Ongoing	Growth in number of Home Partner Program assessments requested, and attendance at events.	CRI FCFS funding; full-time FireSmart Coordinator position and resources for Education events (banners, brochures, promo items). Up to $5,500 additional funding per event.
4 - Initiate the Neighbourhood Recognition Program	High *Initiative*	Continue to promote and facilitate the FireSmart Canada Neighbourhood Recognition program. Start by identifying neighbourhood leaders (other staff may have possible contacts). Work with them to complete a Neighbourhood Assessment, Plan, and community event. A local FireSmart clean-up/BBQ is suggested and could be completed concurrently with the assessment. Work towards ~1 neighbourhood recognized/year.	The Neighbourhood Recognition Program is an excellent way to enhance wildfire resiliency, by fostering awareness, creating a sense of empowerment, and bringing neighbours together. Community clean-up events with refreshments are a great way to engage people and see real action take place on private property.	CSFD FireSmart (Central Saanich)	Ongoing	Number of neighbourhoods who have attained recognition; 5 by 2029.	CRI FCFS funding and CSFD FireSmart staff time. Up to ~$450/assessment and ~$1,100/plan. Up to $5,000 per community event.
5 - New FireSmart Avenues	Moderate *Integration*	Explore new community avenues for FireSmart promotion, leveraging resources such as the FireSmart BC Education Program (schools), FireSmart BC Library Program (libraries), and FireSmart BC Plant Tagging Program (garden centers and farmer's markets).	Other jurisdictions have had good uptake with these programs, and every pathway for community education helps in its own way.	CSFD FireSmart (Businesses / Organizations)	Ongoing	FireSmart messaging is being promoted/delivered in schools and at local nurseries.	CRI FCFS funding; Library program up to $550 per branch.

Item	Priority & *Roadmap Phase*	Recommendation	Rationale	Lead (Involved)	Timeframe	Metric for Success	Funding Source / Est. Cost / Person Hours
6 - Farm and Ranch Preparedness	Moderate *Expansion*	Promote the Farm and Ranch Wildfire Preparedness Program by offering free Hazard Assessments, and holding a workshop to assist agricultural producers in completing a Wildfire Plan.	A large portion of Central Saanich is agricultural, with unique hazards and special considerations for wildfire response and evacuation.	CSFD FireSmart (Ministry of Agriculture)	1 year	Number of farms/ranches with a Wildfire Plan; workshop attendance.	CRI FCFS funding up to $5,500 per event.
Administrative							
7 - Schedule CWRP Reviews	High *Foundational*	Schedule, at minimum, an annual review of the CWRP and plan for a 5-year CWRP update. As part of the annual CWRP review, release a short tracking report to communicate progress made - e.g. FireSmart 'By the Numbers'.	Effective CWRP implementation involves progress tracking. It is also important for awareness and community morale to document and communicate successes publicly.	CSFD FireSmart	Annually	An annual report is published and the CWRP is updated by 2029.	FireSmart Coordinator and CSFD staff time.
8 - Update Websites	High *Engagement*	Provide links to this plan on the Central Saanich FireSmart and Emergency Preparedness websites. Consider creating approachable 3-5 page 'CWRP At a Glance' documents that can be distributed as print resources (see CRD example).	Plan implementation will be most successful with buy-in from the public, as significant action on private land is required.	CSFD FireSmart / Central Saanich	Months	Plan is available online.	CRI FCFS funding: FireSmart Coordinator
Legislation and Development Considerations - Section 5.2 and Section 5.3							
9 - Consider a Wildfire Hazard DPA	High *Integration*	A) Consider implementing a Wildfire Hazard Development Permit Area (DPA). As part of the DPA process, B) review the Tree Management Bylaw, Environmentally Sensitive Area DPA, and Erosion Control and Tree Cutting Bylaw and align objectives between these policies and the proposed Wildfire Hazard DPA. A suggestion is to relax the permit requirement for removal of small conifer trees within the Home Ignition Zone.	There is ongoing development in rural forested areas of Central Saanich, and regulation of building construction and landscaping to adhere to FireSmart principles is the key to reducing home ignitability in a wildfire event. The OCP supports the consideration of a Wildfire Hazard DPA. As they stand currently, the District's environmental policies restrict tree removal on most forested rural properties.	Central Saanich CSFD and Planning	2 years	OCP revised to include a Wildfire Hazard DPA.	Incremental staff hours. CRI FCRS up to $10,700 per bylaw for development considerations.
10 - Consider a Landscaping Bylaw	Moderate *Integration*	Consider adopting a [Wildfire] Landscaping Bylaw to bring landscaping throughout the District in compliance with FireSmart guidelines. Example: prohibit conifer vegetation in the Immediate Zone of a residence or structure (0-1.5 m) and prohibit the planting of new conifer vegetation in the Intermediate Zone (1.5-10 m).	Ornamental conifer hedging is common throughout the municipality. Cedar and juniper species are both water-intensive and very flammable. Other jurisdictions (District of Squamish, City of Nelson) have successfully implemented a similar bylaw, which can be an effective communication tool regardless of enforcement capacity.	Central Saanich CSFD and Planning	3 Years	A Wildfire Landscaping Bylaw or similar is considered.	Incremental staff hours. CRI FCRS up to $10,700 per bylaw for development considerations.

Interagency Cooperation - Section 5.4							
11 - Build Local FireSmart Relationships	High *Foundational*	Continue building relationships with SȾÁUTW̱ (Tsawout) and W̱JOŁEŁP (Tsartlip) First Nations. Include discussions regarding: - Memorandums Of Understanding or Letter of Understanding for engagement and areas of shared interest/a path on where and how they can work together, versus specifically working together only on fire services. - Continued fire services agreements. - UBCM CRI FireSmart Community Funding & Supports funding application(s), as well as other grants, as applicable; - Updates on the Central Saanich Fire Department and FireSmart Program; - Implementation of any CWRP recommendations; - Progress of other emergency management planning. - Discussion of ongoing projects, priorities, and concerns.	As immediate neighbours within one Central Saanich Fire Protection Area, the wildfire resiliency of all are intertwined. Efficiencies could be gained by sharing or coordinating FireSmart programs between jurisdictions.	CSFD	1 year	FireSmart is included in MOUs and Central Saanich support for SȾÁUTW̱ (Tsawout) and W̱JOŁEŁP (Tsartlip) First Nations 2025 FireSmart funding application is provided.	At least 8 hours per meeting to prepare, participate and debrief. CRI FCFS ~$2000 per meeting.
12 - Regional FireSmart Committee	High *Foundational*	Maintain CSFD participation in the Capital Regional District Community Wildfire Resiliency Committee (CFRC).	This regional committee brings together FireSmart Coordinators from across the region and is an important avenue for communications. Challenges can be discussed and successes can be shared, helping improve all jurisdictions' FireSmart programs.	CSFD	Ongoing	CRD FCFS meetings continue as scheduled, with included guest speakers (meetings every three months, taking a break in the summer).	At least 8 CSFD hours per meeting to prepare, participate and debrief. CRI FCFS ~$2,200 per meeting.
13 - BCWS Involvement	Moderate *Foundational*	Maintain communication between BCWS and Saanich Peninsula Fire Departments. Continue inviting BCWS crews to community events (like the Emergency Preparedness Expo) or assist with a FireSmart community clean-up day.	Community events and clean-up days are a great opportunity for interagency cooperation.	CSFD	Ongoing	Engagement on an annual basis at minimum.	CRI FCFS ~$2,200 per meeting.
Cross Training & Fire Department Resources - Section 5.5							
Training							
14 - Continue Wildland Fire Training	High *Integration*	As Central Saanich's SPU is completed, ensure that all members are trained in proper use and continue to receive at minimum S-100 wildland training, including practice with CSFD wildland equipment.	Given the imminent completion of an SPU trailer, it is important for all members to be trained in sprinkler deployment.	CSFD	1 year and ongoing	All CSFD members receive SPU and S-100 training.	Possible compensation for training courses; CRI FCFS funding.
15 - Additional Wildland Fire Training	Moderate *Expansion*	Maintain department suitability for BCWS deployment; this may entail additional members trained in courses like SPP-WFF-1, WSPP-115, ENGB, TFL-1, and S290.	BCWS deployment helps build experience and skills that can be applied locally. CSFD resources and personnel were deployed to six interface fires in 2023.	CSFD	1 year and ongoing	CSFD remains eligible for BCWS deployment.	Compensation for course instructor/facilitation of spring training courses; CRI FCFS funding.
16 - Emergency Management Training	Moderate *Expansion*	Continue to offer training for Emergency Program staff and Peninsula Emergency Measures Organization (PEMO) volunteers as time and resources allow.	ICS-100 is an online course that provides an introduction to effective control of an emergency site; other levels of ICS provide more detailed training. BCWS uses the ICS system.	Central Saanich Emergency Management	1 year	Number of staff and volunteers that receive training annually.	UBCM CEPF program funding (EMRG courses) or CRI FCFS (ISC-100, WRR Basics).

Water							
17 - Fire Response Map	Moderate *Foundational*	The CSFD should continue to inventory and map any natural or additional water sources within their Fire Protection Area. Consider including relevant access/use information, such as access constraints or vehicle types, equipment required to access/pump water, amount of water available, etc.	The CSFD indicated that this was a work in process. Information on alternative water sources is valuable in the event of a wildfire that requires SPU deployment, as high volumes of shuttled water would be required.	CSFD (Engineering)	Ongoing	Alternative, natural water sources are mapped with additional relevant information.	Internal staff time and resources.
18 - Review Hydrant Coverage	Low *Foundational*	Regularly reevaluate the adequacy of hydrant coverage within the municipality, and consider installing additional fire hydrants in areas without coverage, especially as new homes are built in Rural Mt. Newton.	The CSFD has Superior Tanker Shuttle Service (STSS) accreditation and indicated that hydrant coverage is currently adequate, but additional hydrants would reduce water shuttling distances and allow for higher fire flows.	Engineering Department / CSFD	5 years	CSFD maintains STSS and is satisfied with water availability for firefighting.	Incremental staff time; funding possible.
Equipment							
19 - Structural Protection Unit	High *Initiative*	Complete (and maintain) the CSFD's Structural Protection Unit (SPU).	The CSFD indicated that sprinklers for structural protection will be valuable and that there are no other concerns with current wildland equipment.	CSFD	1 year	SPU is completed and maintained.	CRI FCFS up to $45,000 per year.
Emergency Planning - Section 5.6							
20 - Conduct Emergency Exercises	High *Foundational*	Along with emergency management partners, continue to hold emergency simulation exercises for wildfire events to test evacuation/emergency plans. Consider organizing an exercise for a fire in Gowlland Tod Provincial Park that requires the evacuation of Buchart Gardens.	Central Saanich recently completed an emergency exercise for a large wildfire event in Mt. Newton (Alec Road evacuation). Buchart Gardens is the other main area of concern. Exercises can help identify areas where roles, responsibilities, and operational guidelines can be clarified.	CSFD, PEMO, RCMP BCWS, BC Parks Buchart Gardens	2 years	Another multi-agency wildfire simulation exercise is conducted.	UBCM CEPF program funding (Emergency Operation Centres & Training) CRI FCFS Emergency Planning: up to $2,200 per meeting/tabletop.
21 - Update HVRA	High *Foundational*	Update Central Saanich's Hazard, Risk, and Vulnerability Assessment (HRVA) using the most current CWRP for wildfire threat and WUI risk.	Central Saanich's current HRVA was developed in 2007. Regularly updating this should be done. For wildfire threat and WUI risk, using the most current CWRP will provide the most accurate information.	Central Saanich	2 years	HRVA is updated. Updates are completed at least every five years.	Funding may be available through the CRI FCFS Emergency Planning.
22 - Consider Community Structure Protection Plan	Moderate *Expansion*	Consider working with BCWS, the Office of the Fire Commissioner (OFC), the Fire Chief's Association of BC, and North Saanich to have a Community Structure Protection Plan or similar pre-incident plan completed for Rural Mt. Newton.	Community Structure Protection Plans summarize a) basic information on values at risk, available resources, and level of risk; and, b) operational information usable by an Incident Management Team or Structural Protection Specialist including structure triage categories, safe zones, and resource requirements.	CSFD, North Saanich BCWS, BC Parks	5 years	A pre-incident plan is completed.	Funding may be available through the OFC.
23 - Civic Addressing	Moderate *Foundational*	Continue to promote the installation of visible and reflective addresses throughout Central Saanich.	Address visibility is generally good and the sign program has been effective.	CSFD	Ongoing	All properties have visible addresses.	CSFD staff time.

Vegetation Management - Section 5.7							
Residential FireSmart							
24 - Continue Home Hazard Assessments	High *Initiative*	Continue to offer free Home Partner Program assessments and the FireSmart rebate program throughout the District.	Home Partner Program assessments are a two-fold tactic to spread FireSmart awareness and incite mitigation action on private property.	CSFD FireSmart	Ongoing	Number of completed assessments grows.	CRI FCFS: up to $350/house; rebates 50% of eligible activities, up to $5000.
25 - Incentivize Neighbourhood Recognition Program	High *Initiative*	As part of the Neighbourhood Recognition Program (NRP), provide off-site vegetative debris disposal (i.e., community chipper program) for neighbourhoods participating in a FireSmart clean-up event. Consider allowing residents to request a green bin online for their street or neighbourhood, with the caveat that they have to participate in the NRP.	Free debris disposal is one of the most helpful services a local government can provide to support residential FireSmart. Tying debris disposal to the NRP can help encourage uptake.	CSFD FireSmart	Ongoing	Number of loads of debris removed / number of events held.	CRI FCFS funding
26 - Offer Greenwaste Pickup	Moderate *Initiative*	In addition to clean-up events, consider supporting vegetation removal by scheduling chipper days or green bins. Target rural neighbourhoods during the spring or fall, when most yard work is occurring.	Free debris disposal is one of the most helpful services a local government can provide to support residential FireSmart.	CSFD FireSmart	Ongoing	Number of loads of debris removed / neighbourhoods serviced.	CRI FCFS funding
27 - Offer a Rebate Program	Moderate *Initiative*	As part of homes that have had a free FireSmart Home Ignition Zone or Home Partner Program assessment, provide a rebate program for those that complete recommended FireSmart measures.	The UBCM FCFS rebate program is a great incentive for initiating FireSmart risk reduction measures on private structures and property. The current (2024) program allows for rebates of 50% of work/materials up to $5000.	CSFD FireSmart	Ongoing	Number of homes involved.	CRI FCFS funding
Fuel Treatments							
28 - FireSmart Greenspaces	Moderate *Expansion*	Consider applying for the FireSmart Culturally Significant Sites and Green Spaces (CSSGS) program to complete vegetation management on small areas of municipal land. Activities are restricted to pruning and brushing of trees <2 m tall (see FCFS Program Guide; must be overseen by a Wildfire Mitigation Specialist).	The CSSGS program is suitable for municipally owned areas that are too small to require a fuel management prescription and where pruning and removal of regenerating trees will substantially reduce the hazard. It can be applied to address vegetation work surrounding structures in municipal parks, small green spaces, and potentially for trail-side woody debris clean-up.	CSFD FireSmart	2+ years	The CSSGS program is leveraged for vegetation management funding.	CRI FCFS funding: up to $1100 per location for checklist and assessment, $25,000 for mitigation, and $850 for post-treatment assessment.
29 - Conduct Fuel Management	Moderate *Expansion*	Prescribe (Year 1) and implement (Year 2-5) the fuel treatments recommended in this plan. Consider installing signs at trailheads in completed treatment areas that highlight the FireSmart vegetation management work completed, along with before and after pictures.	Halden Park was recommended for treatment in the 2019 CWPP and is recommended again.	CSFD FireSmart (Consultant / Contractor)	5 years	Both areas are prescribed and treated.	CRI FCFS funding / internal funding.

SECTION 1 INTRODUCTION

1.1 OVERVIEW

In April 2024, B.A. Blackwell and Associates Ltd. was retained to assist the District of Central Saanich ('Central Saanich', 'District') in preparing a Community Wildfire Resiliency Plan (CWRP). This CWRP revisits the areas assessed in the Central Saanich 2019 Community Wildfire Protection Plan (CWPP), but with a focus on updated BC Wildfire Service (BCWS) fuel type mapping, an improved wildfire threat analysis methodology, and a focus on the seven FireSmart® disciplines.[2] This plan accounts for progress along the FireSmart Roadmap[3] that has occurred in the past five years, and takes advantage of the newest community wildfire planning framework in BC.

The Community Wildfire Resiliency Plan (CWRP) is the latest evolution in community wildfire planning in British Columbia. A CWRP has its roots in the Community Wildfire Protection Plan (CWPP) framework, which was originally established in BC in response to the series of devastating wildfires in 2003. Since then, many communities in BC have continued to face an ever-increasing threat of wildfire, as the 2017, 2018, and 2023 fire seasons proved to be three of the most historically damaging seasons on record. CWRPs are currently being developed at many jurisdictional and geographic scales, and are individually tailored to address the needs of different communities in response to their size, their capacity, and the unique threats that they face.

CWRPs are individually tailored to address the needs of different communities in response to their size, their capacity, and the unique threats that they face, and incorporate the latest understandings of wildfire risk and resiliency. The goal is to provide Central Saanich with a concrete action plan towards enhanced wildfire resiliency.

1.2 PLAN GOALS

This CWRP identifies the level of interface wildfire risk in Central Saanich and gives the community a current and accurate understanding of the threats to human life, infrastructure, and values at risk from wildfire. This CWRP is intended to serve as a framework to guide the implementation of specific actions and strategies to:

1) Increase the efficacy of fire suppression and emergency response,
2) Reduce potential impacts and losses to property and critical infrastructure from wildfire, and
3) Reduce wildfire behavior threat within the community.

[2] Education, Legislation & Planning, Development Considerations, Interagency Cooperation, Cross-Training, Emergency Planning and Vegetation Management
[3] https://firesmartbc.ca/resource/the-firesmart-roadmap/

To help guide and accomplish the above strategies, this CWRP will provide Central Saanich with:

1) An assessment of wildfire risk to the community,
2) An assessment of values at risk and potential consequences from wildfire,
3) Maps of fuel types and recommended areas for fuel treatments,
4) A review of emergency and interface wildfire response and recovery capacity, and
5) Options and strategies to reduce wildfire risk in seven FireSmart disciplines: education, legislation and planning, development considerations, interagency cooperation, cross-training, emergency planning, and vegetation management.

CWRPs are funded in BC by the Union of BC Municipalities (UBCM) under the Community Resiliency Investment (CRI) FireSmart Community Funding and Supports Program. Per funding requirements, this CWRP is completed according to the newest 2023 CWRP template.

1.3 PLAN DEVELOPMENT SUMMARY

Although the entire municipality is considered the 'Area of Interest' (AOI), the planning for this CWRP was based on the wildland-urban interface (WUI) of Central Saanich. The WUI is generally understood as the zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels.[4] For the purpose of this CWRP, the WUI represents a one-kilometer buffer around areas with a certain density of structures (≥ 6 structures/km^2) within the AOI. Map 1 in Section 3.1Area of Interest and Wildland Urban Interface illustrates the AOI and WUI area.

The CWRP process consists of five general phases:

- Consultation with the Community FireSmart Resiliency Committee (CFRC) and project stakeholders;
- Review of relevant plans and legislation regarding emergency response and wildfire (Section 2);
- Community description and identification of values at risk (Section 3);
- Assessment of the local wildfire risk (Section 4), and;
- Analysis and action plan for each of the seven FireSmart disciplines (Section 5).

[4] FireSmart Canada. 'What is the wildland urban interface?' https://www.firesmartcanada.ca/what-is-firesmart/understanding-firesmart/what-is-the-wui/

SECTION 2 RELATIONSHIP TO OTHER PLANS AND LEGISLATION

Wildfire resiliency is influenced by all aspects of community planning, from land use decisions to utilities servicing, development policies, parks and trails planning, bylaw enforcement, and more. As a result, there are many plans that relate to a CWRP. The intent of this section is to review all relevant local and higher-level plans and legislation to identify any linkages and content that is relevant to community wildfire planning for Central Saanich.

2.1 LOCAL AUTHORITY EMERGENCY PLAN

Emergency preparedness and response is guided by higher level emergency management legislation. In November 2023, the provincial *Emergency Program Act* was repealed by the *Emergency and Disaster Management Act.* Like the Emergency Program Act, the Emergency and Disaster Management Act describes the various roles and administrative duties of the province and local governments with regards to emergency, the implementation of higher-level emergency plans, the processes of declaring a state of emergency, and the coordination of post-disaster relief programs and assistance. The updated legislation also addresses global pandemics, security threats, and climate change, and shifts the focus from primarily emergency response to the four phases of emergency management: mitigation, preparation, response, and recovery.[5]

Central Saanich operates a local emergency program as a division of the Central Saanich Fire Department. The Central Saanich Emergency Management Division is responsible for emergency planning, mitigation, response, and recovery, including evacuation planning and Emergency Operations Centre (EOC) activation and operation for events including fires, floods, earthquakes, tsunamis, and extreme weather.[6] The Division also provides emergency preparedness resources and workshops for residents, businesses and organizations. The District's EOC is the main Fire Hall at 1512 Keating Cross Road.

Additional emergency services are provided regionally or sub-regionally. The Saanich Peninsula Alert System (SPAS) and the Peninsula Emergency Measures Organization (PEMO) are two joint initiatives supported by North Saanich, Sidney, and Central Saanich. SPAS provides real time public safety alerts to residents and visitors who have registered, whereas the PEMO maintains a base of qualified volunteers to provide emergency support services during disasters. Other services provided by PEMO include search and rescue, emergency communications, and neighborhood emergency preparedness programs.

The CRD also administers the Regional Emergency Management Partnership (REMP) on behalf of its member municipalities and electoral areas. The REMP is a partnership between the CRD and the Province of BC to enhance regional emergency planning within the Capital region, through coordination with all stakeholders and levels of government. Specifically, the REMP provides project management for multi-agency emergency planning initiatives, facilitates communication between emergency management

[5] https://www2.gov.bc.ca/gov/content/safety/emergency-management/emergency-management/legislation-and-regulations/modernizing-epa
[6] https://www.centralsaanich.ca/programs-services/emergency-preparedness

organizations, and provides emergency preparedness resources, including the comprehensive 'Prepare Yourself' webpage.[7]

Figure 1. The four pillars of emergency management.[8]

2.2 LINKAGES TO OTHER CWRPS/CWRPS

There has been good engagement in community wildfire planning by communities in proximity to the District of Central Saanich. Central Saanich is one of thirteen municipalities in the Capital Regional District, most of which have a CWPP or CWRP. The Town of Sidney is currently working towards developing their first CWRP.

Table 2. Local Community Wildfire Plans

Community	Wildfire Plan	Relevance to this CWRP/Partnership
District of North Saanich	*2021 CWRP*	- Mutual aid agreement with Central Saanich - FireSmart Coordinator is on the CRD FireSmart Committee - Provides support for PEMO
District of Saanich	*2021 CWRP*	- Mutual aid agreement with Central Saanich
Capital Regional District	*2023 CWRPs*	- Juan de Fuca Electoral Area (Willis Point) shares a border with Central Saanich (SW), across the Tod Inlet; within 100 m of Buchart Gardens across (within wildfire spotting distance) - Willis Point Volunteer Fire Department (VFD) services this area; joint response with other FDs and BCWS to Durrance Lake wildfire in 2019 - Shared overlap with Gowlland Tod Provincial Park and proximity to Saanich - CRD FireSmart Committee

[7] https://www.crd.bc.ca/prepare-yourself
[8] https://www2.gov.bc.ca/gov/content/safety/emergency-management/emergency-management/emergency-activation

SȾÁUTW̱ (Tsawout) First Nation and W̱JOŁEŁP (Tsartlip) First Nation are two of Central Saanich's most important partners when it comes to wildfire risk reduction and community resiliency. Both First Nations have communities on Indian Reserve (IR) land within Central Saanich's municipal boundary. Central Saanich provides fire protection and other municipal services to both First Nations through service agreements (currently under review).

Wildfire risk is recognized by both Nations but no separate community wildfire plans have been developed. Opportunities for collaboration between Central Saanich, SȾÁUTW̱ (Tsawout) First Nation, and W̱JOŁEŁP (Tsartlip) First Nation are discussed in Section 5.4.

2019 CWPP

In 2019, B.A. Blackwell & Associates completed a Community Wildfire Protection Plan for the District of Central Saanich. 36 recommendations were made relating to:

- Plans and policies
- Critical infrastructure
- Vegetation management
- Public awareness
- Emergency response
- Joint initiatives
- Structure protection
- Emergency response
- Fire department training
- Structure protection

Some of the observations and recommendations made in the 2019 plan remain relevant, and these are discussed in Section 5. Recommendations that were not fulfilled were reviewed, and some were adapted into recommendations made throughout this plan. However, since 2019 when the last report was written, new understandings of FireSmart principles have emerged, funding structures have changed, and new standards for CWRP writing and reporting have also been developed. As a result, some recommendations that were not fulfilled since 2019 are no longer relevant for consideration. The focus of *this* plan is on actions that are implementable by the District of Central Saanich within a 5-year timeframe. However, recommendations on the following topics remain relevant and have been revisited in this plan:

- Implement a Wildfire Hazard DPA and ensure that tree protection policies do not unduly restrict FireSmart vegetation management on private property;
- Expand FireSmart programming, including FireSmart assessments and the Neighborhood Recognition Program;
- Remove barriers for residents to dispose of wood waste from FireSmart vegetation management, and;
- Continued collaboration with local and regional partners.

2.3 LOCAL PLANS AND BYLAWS

Official Community Plan

An Official Community Plan (OCP) is an expression of the objectives and policies of the local government and provides Central Saanich with a long-range framework to guide, monitor, and evaluate future land use and development. Table 3 below summarizes the objectives and policies within Central Saanich's OCP, which was updated in 2023.[9] Generally, OCPs are reviewed every 5 to 10 years, although amendments can be sooner if needed. Increased recognition of wildfire hazard in the current OCP, especially in the forested areas of the municipality, reflects Central Saanich's progress along the FireSmart Roadmap towards 'Integration' of FireSmart concepts into municipal plans and policies.

Table 3. Summary of District of Central Saanich Official Community Plan (Bylaw 2100 – 2023) objectives and policies related to community wildfire resiliency planning.

OCP Section	Policy Description & *Relationship to CWRP*
3.2 – Land Use Designation	- This section outlines the purpose associated with each Principal Land Use: Residential, Commercial, Industrial, Institutional, Agricultural, and *Rural* - Rural is further separated into Rural Forest, Rural Agriculture, and Rural Shoreline - *Areas designated as Rural Forest are in the WUI.* Low density residential use is supported (single-detached, secondary suites, accessory cottage and carriage houses) - Housing type and density in the WUI influences both the likelihood and consequence of wildfire to the community; areas designated as 'Rural Forest' are priority neighbourhoods in this CWRP ***Takeaway:*** *the 2023 OCP update furthers the awareness of wildfire risk to Central Saanich by subdividing the 'Rural' land use designation into Forest/Agriculture/ Shoreline, and explicitly relating 'Rural Forest' to the WUI. The WUI was not a term mentioned in the 2008 OCP.*
4.3 – Rural Lands Implementation; Policy #9a – Rural Forest	This section recognizes that Rural Forest may be at higher risk to impacts from wildfire Policy to consider distributing informational material and addressing fire prevention in applicable bylaws Policy to protect trees and preserving the natural environment through conservation covenants or other legal means. Policy to discourage subdivision of rural lands. ***Takeaway:*** *the recognition of wildfire risk in Central Saanich's OCP is a positive 'Integration' step along the FireSmart Roadmap, and represents progress made since 2019.*
4.4 – Economic Development; Climate Action Policies #33 – 36	Details measures businesses should make to mitigate climate change impacts and increase resiliency Highlights the importance of adaption efforts, such as landscaping choices and risk assessments, in reducing the impacts of climate change.

[9] Official Community Plan. District of Central Saanich Bylaw #2100, 2023.

OCP Section	Policy Description & *Relationship to CWRP*
4.5 – Parks and Open Space	- This section includes policies that encourage design and management strategies to: minimize impacts on trees and active ecosystems; promote biodiversity and habitat quality; manage for invasive species; and select climate-adaptive species. - Policy to consider future maintenance costs when planning for park upgrading or acquisition. ***Takeaway:*** *when parkland is acquired, a) consider a mechanism to require the developer (if dedicated parkland) to mitigate hazardous conditions prior to dedication and b) maintenance costs should consider FireSmart clean up*
4.6 – Environment	Policies to protect and enhance natural features and biodiversity in collaboration with W̱SÁNEĆ Nations and other local partners - Through the Tree Management Bylaw, continue to protect and enhance the urban tree canopy and prioritize the retention of existing healthy trees - Undertake a Tree Canopy Study to establish a baseline of the distribution and extent of tree canopy coverage and overall forest health. - Protect air quality by regulating open burning ***Takeaway:*** *environmental protection policies can sometimes limit FireSmart vegetation management, but no specific conflicts were noted. The Tree Management Bylaw does not unduly restrict fuel management (see* Table 4*).*
4.7 – Climate Action	- This section discusses the importance of recognizing risks and vulnerabilities relating to climate change and outlines policies to mitigate these impacts. Policy #18 recommends updating the current Community Wildfire Protection Plan (CWPP) and adopting FireSmart principles and practices into guidelines and regulations to improve protection of forested areas balanced with fire prevention measures, particularly in the WUI. ***Takeaway***: *the recognition of wildfire risk in Central Saanich's OCP is a positive 'Integration' step along the FireSmart Roadmap, and represents progress made since 2019.*
4.11 – Institutions and Community Services; Policy #15, 16, 18, 20, 21	These polices focus on emergency preparedness, addressing the importance of effective notification and communication systems; promoting FireSmart principles; enhance fire flow infrastructure; and developing and communicating an inter-agency community evacuation plan. Additional implementation policies include: ➢ Develop a Fire Protection Master Plan to guide the provision of fire and rescue service to the District ➢ Develop a Community Risk Reduction Plan to reduce risk of property damage or human health in forested areas, including consideration of a Wildfire Development Permit Area ***Takeaway***: *these policies are positive 'Integration' steps along the FireSmart Roadmap, and represents progress made since 2019. This CWRP can be considered a Community Risk Reduction Plan.*
Schedule D- Development Permit Areas and Guidelines	- An Environmentally Sensitive Ecosystems DPA has been established in some 'Rural Forest' areas; vegetation removal requires a permit, with the exception of municipal or authorized works, gardening and yard maintenance activities (including tree pruning) - No *Fire Hazard Development Permit Area* has been established at this time.

OCP Section	Policy Description & *Relationship to CWRP*
	***Takeaway**: the name of the DPA differs between Schedule D and Schedule I (map). Regardless, the Environmental DPA doesn't appear to unduly restrict fuel management activities on private property. Central Saanich should consider a Wildfire Hazard DPA to regulate development in the WUI.*

Local Bylaws

Table 4 below lists Central Saanich's municipal bylaws and their relation to the CWRP, and identifies any gaps relating to wildfire management and emergency planning. Several relevant bylaws have been updated since the 2019 CWPP. The new *Erosion District and Tree Cutting Bylaw No. 2012, 2019*, and *Tree Management Bylaw No 2065, 2021* do not reflect CWPP recommendations made to update bylaws (specifically the Tree Management Bylaw) to allow for cutting of trees if required to reduce wildfire hazard within the wildland urban interface. Comments are included in Table 4, and recommendations relating to legislation, planning and development are addressed in Section 5.2 and Section 5.3.

Table 4. Summary of local bylaws related to emergency planning and wildfire risk reduction

Bylaw	Policy Description & *Relationship to CWRP*
2058 (2020) Open Burning Regulation Bylaw	- Regulates open burning. Permits are required for yard waste and agricultural fires; not required for campfires/recreational fires. The Fire Chief may impose a ban on any opening burning, and enter onto premises to enforce conditions of this bylaw for any open fire. Conditions for burning are outlined, including acceptable materials; distances from structures, standing timber, or brush; fire size; and timing. Exemptions for fires authorized by the Fire Chief to reduce fuel build-up or decrease Fire Danger. ***Takeaway:** The updated bylaw removes the permit requirement for campfires. Although conditions for safe burning are outlined, this may increase the possibility of human-caused ignitions in the AOI. Not unduly restrictive to open burning for fuel management.*
2065 (2021) Tree Management Bylaw	- Regulates the removal or damage of 'permit trees' (any >30 cm dbh; any within the Environmentally Sensitive DPA; any within the Erosion Permit District; or any of the following 'protected trees': o Protected trees are [most] trees >60 cm diameter at breast height and any *Quercus garryana* (Garry oak), *Arbutus menziesii* (arbutus), *Cornus nuttallii* (Pacific dogwood), *Taxus brevifolia* (Pacific yew), *Pinus contorta* (shore pine), or *Populus tremuloides* (trembling aspen) >50 cm tall; any nesting tree; and other specially designated trees. ***Takeaway**: Outside of the Environmentally Sensitive DPA and Erosion Permit District, this bylaw doesn't unnecessarily restrict fuel management activities, which targets trees <30 cm dbh. Protected tree species are relatively uncommon. Exemptions are made for hazard tree removal, Crown land, District land, and right-of-ways. Permit not required for pruning if branches <10 cm diameter, or trees planted as hedges.* *On private land within the Environmentally Sensitive DPA, Riparian Areas DPA, or Erosion Permit District (which overlaps the Rural Forest / WUI), <u>all</u> tree removal requires a tree permit under this bylaw. <u>This restricts FireSmart vegetation management.</u>*

Bylaw	Policy Description & *Relationship to CWRP*
804 (1985) Parks Management and Control	This bylaw governs conduct in parks and open spaces. Vegetation and soil may not be damaged or modified in any way. *Permits are required for any fires.*
2012 (2019) Erosion Control and Tree Cutting	Erosion permit districts are specified where erosion, flooding, or landslide risk occurs. Overlaps with Rural Forest area designated in the OCP. Cutting any tree (no matter the size) in these districts requires a permit. Exception for hazardous trees or land under the Agricultural Land Commission Act. ***Takeaway**: No exemptions for District works or for fuel management activities. Overlap with the Rural Forest / WUI. Any fuel management work on private, Crown, or District land in the Erosion District requires a permit if tree cutting is involved. <u>This restricts FireSmart vegetation management.</u>*
1504 (2004) Development Application Procedures Bylaw	*No mention of fire safety / risk assessments*
1845 (2014) Unsightly Premises and Noxious Weeds	The bylaw states that the owner or occupier of a property must not allow dilapidation to occur on structures or allow any accumulation of discarded material or garbage of any kind. This extends to untended *grass or ground cover (over 30 cm in height*) and noxious weeds and is relevant for both aesthetic and *safety purposes.*
2072 (Amended to 2024) Land Use Bylaw	Regulates land use within Central Saanich, including zoning, subdivision, signage, and services provided. Commercial, Industrial, Institutional, and Residential Zoning Categories require *fire hydrants*. Agricultural and Estate Residential (Rural) do not.
1470 (2003) Building Bylaw	Regulates construction with the District. *Fire suppression drawings* prepared by a registered professional may be required by a building official along with a building permit application

Other Local Plans

Table 5 contains other local plans and policies which are directly relevant to the CWRP.

Table 5. Summary of other local plans and polices which are directly relevant to the CWRP

Section	Policy Description & *Relationship to CWRP*
2024-2027 Central Saanich Strategic Plan	Brief document that outlines priorities and goals for the municipality. One of the six priorities is "Champion Climate Adaptation, Mitigation, and Preparedness". *Two of the associated goals align with FireSmart:* 1) Ensure a resilient community that is supported and prepared for extreme events through public education, planning and response. 2) Improve natural asset and ecosystem management through the principles of preservation and *restoration.*
Capital Regional District Regional Trails Management Plan, 2016	This plan is intended to guide development and management decisions for regional trails in the CRD. One overall goal is increased connectivity of regional trails. The Lochside Regional Trail intersects Central Saanich.

Section	Policy Description & *Relationship to CWRP*
Capital Regional District Regional Parks and Trails Strategic Plan (2022-2032)	This plan lays out the principles for management, describes the current state of parks, and names the key Parks priorities and initiatives for the Capital Regional District (CRD). The CRD manages the 52-hectare Island View Beach Regional Park within the District of Central Saanich; it is classified as a Conservation Area. The purpose of Conservation Areas is to "protect species or ecological communities at risk and to offer visitor opportunities that are primarily focused on interpretation of natural and cultural features." The Lochside Regional Trail also intersects Central Saanich. Management of parks and natural areas, including relevant areas managed by the CRD, is further discussed in Section 5.7 of this document.
Capital Regional District Regional Growth Strategy (2018)	This plan establishes a vision and supporting objectives for future community development within the Capital Regional District. It defines the Regional Growth Management Planning Area, which encompasses the District of Central Saanich. The Urban Containment Boundary specified in Central Saanich's OCP is consistent with this strategy. Development outside the Urban Containment Policy Area boundary is to be kept to 5% or less of the regional total. Development in Central Saanich is discussed further in Section 3.2.
Capital Regional District Regional Water Supply Master Plan (2022)	This plan analyzes future water demand, existing water supply, water quality and treatment systems, treated water balancing storage, and water transmission systems. Central Saanich is part of the Sananich Peninsula Water System. *Water infrastructure as a value at risk is discussed further in Section 3.3.3. Water supply for fire suppression purposes is discussed further in Section 5.5.*

2.4 HIGHER LEVEL PLANS AND LEGISLATION

Table 6 below lists higher-level plans and legislation relevant to wildfire planning and risk mitigation within Central Saanich. Land and resource use plans help guide where and how activities like resource extraction and infrastructure development occurs on the landscape, which affects both wildfire threat and consequence. Fuel management prescriptions and burn plans must also address these plans as they relate to on-the-ground restrictions and policies for forest modification. These plans also provide some direction on where and how to conduct fuel management, prescribed burning and fire suppression.

Table 6. Higher level plans and relevant legislation

Plan/Legislation	Description and Relationship to CWRP
BC Provincial Open Burning Smoke Control Regulation (2019)	The Open Burning Smoke Control Regulation governs open burning for land clearing, forestry operations and silviculture, wildlife habitat enhancement, and community wildfire risk reduction. • *Central Saanich is located in a High Smoke Sensitivity Zone – resulting in the strictest rules and regulations for open burning.* • *OBSCR includes provisions for eased setbacks and requirements for open burning that is strictly related to an approved plan for community wildfire risk reduction (Division 2), or when utilizing an air-curtain incinerator (Division 5)* • *All open burning within Central Saanich's must comply with OBSCR as well as the Open Burning Bylaw*
Vancouver Island Land Use Plan (2000)	The Vancouver Island Land Use Plan is the higher-level planning document for all of Vancouver Island. The plan provides strategic direction for the following categories: 1) Protected Areas Network; 2) Forest Land Base; 3) Regional Biodiversity Direction; 4) Food Production Activities; 5) Settlement Lands; 6) Energy and Mining Opportunities; 7) Integrated Coastal Management; and 8) Community Stability. The plan also identifies Land Use Zones, which are used to delineate areas which require specific management. Central Saanich overlaps with two non-legal Resource Management Zones – 'Settlement Areas', which correspond to areas where established communities and urban development has occurred, and 'Agricultural Areas'. No Old Growth Management Areas, (legal or non-legal), established under the Vancouver Island Land Use Plan or otherwise overlap Central Saanich. • *Legal or non-legal planning objectives create considerations for forest fuel management treatments. However, no such relevant objectives overlap Central Saanich*

SECTION 3 COMMUNITY DESCRIPTION

This section defines the planning area and provides general demographic information about Central Saanich, plus additional context regarding the surrounding area. An understanding of population trends, land use patterns, and values at risk can help best direct FireSmart outreach and risk mitigation activities.

3.1 AREA OF INTEREST AND WILDLAND URBAN INTERFACE

The Wildland-Urban Interface (WUI) is defined by FireSmart Canada as the zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels. For the purpose of the FireSmart Community Funding and Supports program, the 'eligible WUI' is considered only as the area 1 km from a structure density class greater than 6 per km^2. BC Wildfire Service generates WUI Risk Class maps and associated spatial data to assist with initiatives related to wildfire risk reduction, including the FCFS program.[10] More details on BC's risk assessment framework and the Provincial Strategic Threat Analysis (PSTA) are provided in Section 4.3.

[10] Wildland Urban Interface Risk Class Maps - Province of British Columbia (gov.bc.ca)

Because the entirety of Central Saanich is in a high structure density class, the eligible WUI covers the whole municipality (4187 ha). First Nation reserve lands belonging to SȾÁUTW̱ (Tsawout) and W̱JOŁEŁP (Tsartlip) First Nations are outside the scope of this plan, but are immediately adjacent to or embedded within the municipality. The First Nation reserves act as separate governments; thus, Central Saanich does not have automatic authority. Through service agreements (expired but being renegotiated), services related to fire response can be in place.

Map 1 shows the Area of Interest [AOI] (municipal boundary), eligible WUI, and land ownership types within the District of Central Saanich. A breakdown of land area by ownership type[11] is listed in

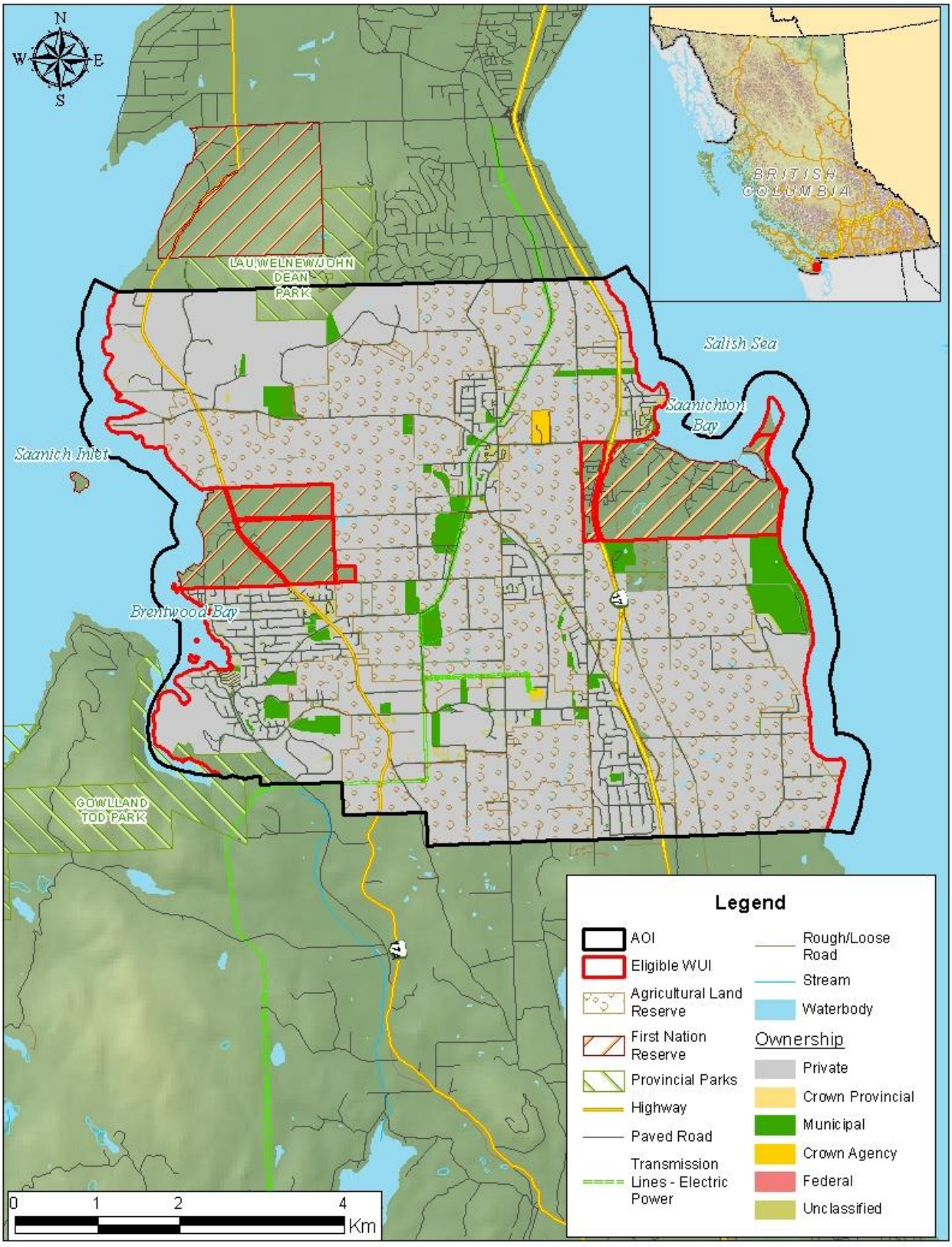
Table 7. More than three quarters of the AOI is classified as privately owned (83%); ~11% is Crown land, mostly Provincial Park. Regional District parks are classified as municipal ownership (~5%).

The land base of Central Saanich can be classified into three main types of areas: town centers, agricultural, and forested. The Brentwood Bay and Saanichton town centers, the Keating business district, and dense residential areas fall within Central Saanich's 'Urban Containment Boundary', which comprises approximately 20% of the District.[12] The remaining land area is split between the Agricultural Land Reserve and other sparsely populated areas zoned for agriculture (~60%) and forested areas (~20%), which includes both rural residential and park land.

Table 7. Land Ownership within the District of Central Saanich wildland-urban interface

Land Ownership	Area (Ha)	Percent of EWUI (%)
Crown Agency	13	0%
Crown Provincial	461	11%
Federal	0	0%
Municipal	193	5%
Private	3472	83%
Unclassified	48	1%

[11] Parcel Map BC https://ltsa.ca/products-services/parcelmap-bc/about-parcelmap-bc/
[12] Official Community Plan. District of Central Saanich Bylaw #2100, 2023.



Map 1: District of Central Saanich CWRP Area of Interest and Eligible WUI.

3.2 COMMUNITY INFORMATION

The District of Central Saanich is situated in the middle of the Saanich peninsula, between the District of North Saanich and the District of Saanich. The municipality extends south from the forested summit of Mt. Newton to the head of Tod Inlet, south of Brentwood Bay. Central Saanich is located on the traditional territory of the W̱SÁNEĆ (Saanich) First Nations, including the SȾÁUTW̱ (Tsawout) and W̱JOŁEŁP (Tsartlip) Nations. As discussed above, Central Saanich can be loosely divided into town centre, agricultural, and forested areas. Figure 2 depicts the neighbourhoods in Central Saanich.

Growth in Central Saanich is steady at ~1% annually. Development is constrained to the Urban Containment Boundary, in accordance with both the OCP and the CRD Regional Growth Strategy (see Table 5 in Section 2.3). The population of ~17,000 is highly concentrated into the town centers (Brentwood Bay and Saanichton) as well as Keating/Tanner Ridge just south of Saanichton. Table 8 below lists some of the District's key socio-economic statistics, which are discussed in detail in Appendix B of the OCP.

With regards to community wildfire resiliency, and compared to the CRD as a whole, it is important to note that Central Saanich is composed of relatively higher income, family households that own their home.[12] This demographic may be particularly receptive to implementing FireSmart activities on their property, as cost and ownership can both be barriers that prevent residents from altering their home. However, the proportion of renter households (20%) is growing slightly, while home ownership is on a downward trend. And overall, the housing stock in Central Saanich still has a significant proportion of multi-level and strata-type buildings, which present challenges for residential FireSmart. However, this type of housing is all located within the Urban Containment Boundary, furthest from the forested interface.

Table 8. District of Central Saanich socio-economic statistics.[13]

Metric	Value
Total Population	19,951[14]
Population percentage change between 2016 - 2021	3.4%
Population density (people/km^2)	422
Average Age (years)	46.7
Average household size	2.4
Employment Rate (2016)	63.8%
Median total income of household (2020)	$103,000
Housing Units (number of private dwellings)	7,621
Private dwellings occupied by usual residents	93%
Proportion of owner-occupied households[12]	80%
Single-detached housing units (proportion of housing stock)	54%

[13] Unless otherwise specified, all data from Statistics Canada, 2021 Census of Population.
[14] Total population includes 766 W̱JOŁEŁP (Tsartlip) First Nation Reserve residents and 1800 SȾÁUTW̱ (Tsawout) First Nation Reserve residents

Metric	Value
Semi-detached housing units (including row house)	14%
Apartment (including in duplex)	32%
Moveable dwelling	<1%

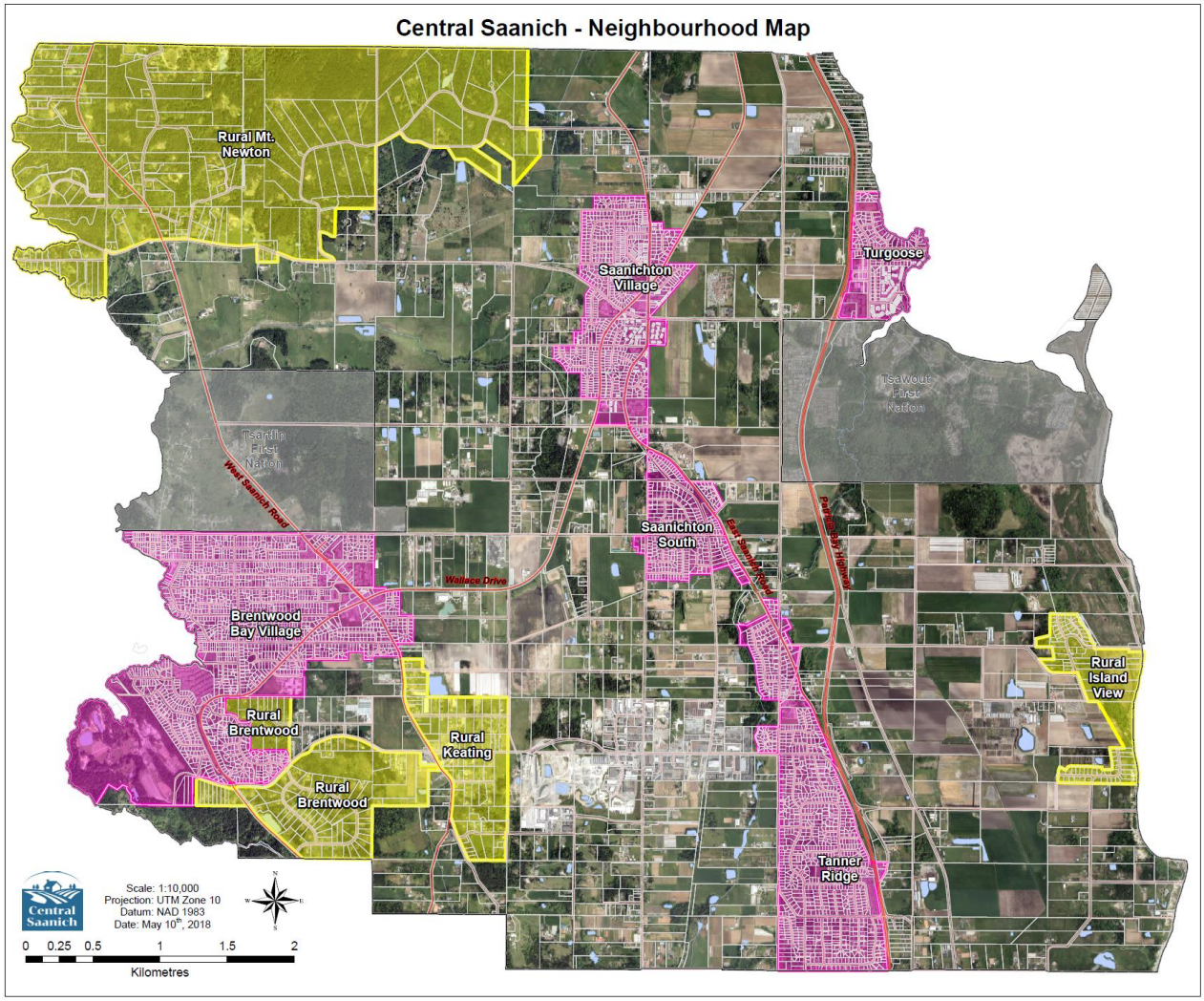


Figure 2. District of Central Saanich Neighbourhood Map (provided by Central Saanich)

With regards to priority areas for FireSmart, Mount Newton and Rural Brentwood are the two Central Saanich neighbourhoods that are located in the forest interface. Both areas are flanked by large, forested Provincial Parks which extend in to the District – ŁÁU,WELNEW/John Dean to the north of Mount Newton, and Gowlland Tod to the south and west of Rural Brentwood. Homes are widely spaced and intermixed into continuous forested areas. Additionally, there are many smaller municipal parks, trails, and green spaces located throughout the municipality. Protection of and access to the natural environment is important to residents, and one of Central Saanich's planning objectives is to continue to expand the existing Parks and Trails system. To that effect, during the development of this CWRP, a semi-forested

parcel west of Butterfield Gardens municipal park was acquired by the District and assessed as part of this plan. Island View Beach Regional Park, managed by the CRD, is also located within the District.

Key services provided by the municipality include fire protection, emergency management, police, building and development permits, and bylaw enforcement. The Saanich Peninsula Hospital is also located in the District. Local water distribution (off of a CRD water main) and wastewater collection and treatment are provided by the municipality. Further information on the CRD Water System and Saanich Peninsula Water System is found in Section 3.3.3. The CRD also operates a blue box recycling program within the District of Central Saanich, but compost, yard waste, and garbage have to be managed privately by residents.[15]

West Saanich Road (Highway 17A) and Patricia Bay Highway (Highway 17) run north to south through the municipality. Other main cross roads, from north to south, include Mt. Newton Cross Road, Stellys Cross Road, and Keating Cross Road.

3.2.1 FIRST RESPONDERS

As mentioned above, firefighting services in the District are provided by the Central Saanich Fire Department (CSRD). There are two fire halls, one located in Saanichton along with the Central Saanich Police and municipal hall, and one located to the south on Keating Cross Road. Table 9 below details the capacity and wildland equipment available to the CSFD.

CSFD is a composite department, with ten full-time and 40 paid-on-call members. As a composite department, two of CSFD's challenges are retention and response to daytime callouts (as paid-on-call members have other jobs). The CSFD is fully equipped to respond to wildland fires and currently working on outfitting a structural protection unit (SPU) trailer that includes sprinklers for deployment on an interface fire.

Table 9. Central Saanich Fire Department capacity, training, and equipment

Service Area	Fire Department	Personnel	Wildland Training	FireSmart Training	Wildland Equipment
Central Saanich	Central Saanich	- 8 FT firefighters - 40 POC firefighters - 1 FT Emergency Program - 1 FT FireSmart - 1 PT administrative	- S-100 (all members) - SPP-WFF1, SPP-115 (some members)	- 2 WMS - 8 LFR	- Portable pumps (1 large, 3 small) - Forestry hose - 4 porta tanks w/ jet siphons - Nomex/PPE - SPU trailer (in progress)

Central Saanich is located in the BC Wildfire Service (BCWS) Coastal Fire Centre - South Island Fire Zone. The closest base in in Cobble Hill, south of Duncan. BCWS will provide assistance to any wildfires within

[15] https://www.centralsaanich.ca/programs-services/recycling-compost-garbage

the District of Saanich upon request. BCWS will respond to any wildfires within Central Saanich that exceed the response capacity of the fire department.

3.3 VALUES AT RISK

Values at risk are the human or natural resources that could be negatively impacted by a wildfire. This section outlines community assets, critical infrastructure and resource values in the District of Central Saanich. displayed in Table 10.

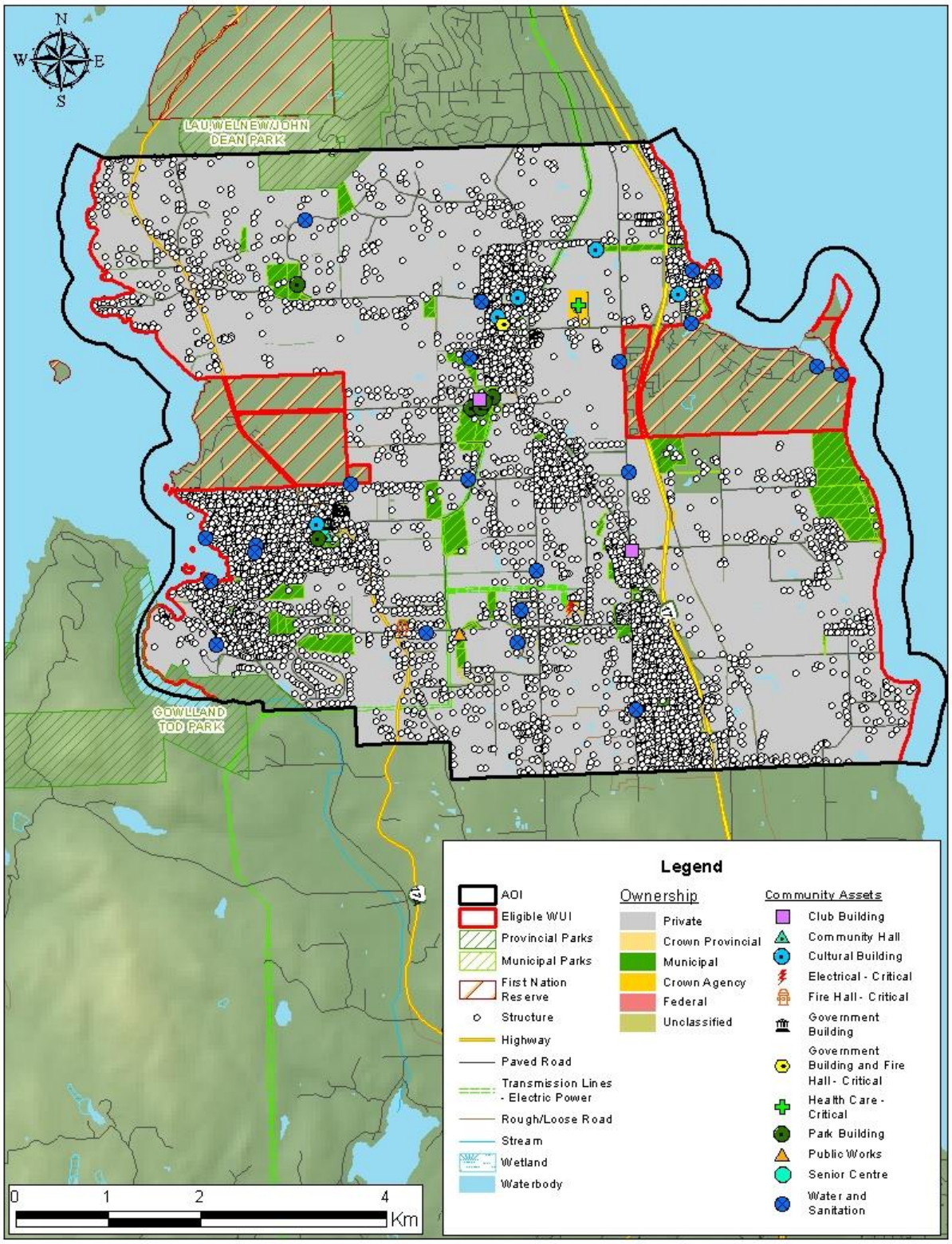
3.3.1 CRITICAL INFRASTRUCTURE

Protection of critical infrastructure and other values at risk during a wildfire event is an important consideration for emergency response effectiveness, ensuring that coordinated evacuation can occur if necessary and that essential services can be maintained or restored quickly in an emergency. Emergency Management BC defines critical infrastructure as assets that are essential for the functioning of government and society. Table 10 and Map 2 provide an inventory of critical infrastructure and community assets in the District of Central Saanich. Other values at risk (environmental) are displayed on Map 3. Civic structures such as schools and community halls, communication towers, and facilities for emergency services are primarily located in the developed areas of the community core, not at the interface. However, lift stations, reservoirs and other water distribution infrastructure are located at the perimeters of currently developed areas. These structures are all administered by the CRD as part of their regional water distribution service network.

Table 10. Inventory of critical infrastructure and community assets within the District of Central Saanich

Name	Type	Jurisdiction	Location
Critical Infrastructure			
Radar Dome	Communications	Federal - Coast Guard	End of Dean Park Road
CSRD - Station #1	Fire Hall	Municipal	Keating
Municipal Hall/Police/Fire	Government Building and Fire Hall	Municipal	Saanichton
Saanich Peninsula Hospital	Health Care	Other – Island Health	Saanichton
Sewer Pump Station (7)	Water and Sewer	Municipal	Turgoose
Sewer Pump Station (3)	Water and Sewer	Municipal	Saanichton
Sewer Pump Station (1)	Water and Sewer	Municipal	Tanner Ridge
Sewer Pump Station (9)	Water and Sewer	Municipal	Brentwood Bay
Sewer Pump Station (3)	Water and Sewer	Municipal	Keating
Substation	Electrical	Other – BC Hydro	Keating
Community Assets			
Brentwood Community Hall	Community Hall	Municipal	Brentwood Bay
Boys and Girls Club	Club Building	Municipal	Brentwood Bay
Butterfield Park - Caretaker	Park Building	Municipal	Mt. Newton
Centennial Park - Alexander Field D#6	Park Building	Municipal	Saanichton
Centennial Park – Caretaker Residence (VACANT)	Park Building	Municipal	Saanichton
Centennial Park - Fieldhouse	Park Building	Municipal	Saanichton

Name	Type	Jurisdiction	Location
Centennial Park - D#5 Concession	Park Building	Municipal	Saanichton
Central Saanich Seniors Centre	Senior Centre	Municipal	Brentwood Bay
CS Lawn Bowls Club	Club Building	Municipal	Saanichton
CS Lions Hall	Club Building	Municipal	Tanner Ridge
CSVFD Museum	Cultural Building	Municipal	Saanichton
Cultural Center	Cultural Building	Municipal	Brentwood Bay
Heritage Acres	Cultural Building	Municipal	Turgoose
Municipal Yard	Public Works	Municipal	Keating
Newman Farm	Cultural Building	Municipal	Turgoose
Rom Knott Park - Concession	Park Building	Municipal	Brentwood Bay
Saanich Pioneers Museum	Cultural Building	Municipal	Saanichton
West Saanich School	Government Building	Municipal	Brentwood Bay



Map 2: Community assets and critical infrastructure within the District of Central Saanich.

3.3.2 ELECTRICAL POWER

Wildfires have the potential to impact electrical service by causing disruption in network distribution through direct or indirect processes. For example, heat from flames or fallen trees associated with a fire event may cause power outages. It is important to note that even distant wildfires can result in electrical system disruption, and communities should be prepared for this possibility. For nearly a week in September 2022, the town of Jasper, AB, was running entirely off of a temporary generator system due to wildfire-damaged transmission lines kilometers north of town. It took ATCO, the power authority in the region, approximately 10 days to fully restore power to the town.

BC Hydro provides electrical service in Central Saanich through a network of transmission and distribution lines. Transmission lines enter the municipality near Gowlland Tod Provincial Park, south of Brentwood Bay, passing through a substation on Keating Cross Road and heading north along Wallace Drive to North Saanich. Secondary power distribution is provided by overhead distribution lines and some underground subdivision servicing. Distribution and transmission infrastructure can be vulnerable to wildfire, especially in the interface, as intense heat from burning vegetation can damage lines, and wooden poles are susceptible to damage from fire.

BC Hydro manages vegetation around facilities and rights of way for transmission lines and distribution lines according to integrated vegetation management plans which are renewed and updated periodically.[16,17] BC Hydro operates various risk management programs for their infrastructure, with an overall emergency management program based on best practices, including the requirements of the Provincial Emergency Program Act.

Secondary power sources are also important to reduce critical infrastructure vulnerability in the event of an emergency which cuts power for extended periods of time. The District has installed back-up diesel generators at the municipal hall, police station, both Fire Halls, and all pump stations. Vulnerabilities for secondary power sources which should also be considered include mechanical failure, insufficient power supply (should a wide-scale outage occur), and fuel shortage in the event of long outages.

3.3.3 WATER AND SEWAGE

The functionality of critical water and sewage infrastructure can be impacted by an interface wildfire event as a result of emergency power cuts or physical damage. Infrastructure may be located in forested or interface areas which increase its vulnerability.

Central Saanich's local water distribution system (water main connections) is incorporated into the CRD's sub-regional Saanich Peninsula Water System, one of several systems in the regional Greater Victoria Water Supply System. Regional watersheds, dams, reservoirs, treatment and transmission systems are all

[16] BC Hydro. (2021). Integrated Vegetation Management Plan For Control of Vegetation at BC Hydro Facilities. https://www.bchydro.com/content/dam/BCHydro/customer-portal/documents/corporate/safety/facilities-pmp-final-confirmed-sept-16-posted.pdf

[17] BC Hydro. (2021). Integrated Vegetation Management Plan For BC Hydro Transmission and Distribution Power Line Corridors. https://www.bchydro.com/content/dam/BCHydro/customer-portal/documents/corporate/safety/powerline-ivmp-2022-2027-confirmed-nov.2-2022.pdf

operated by the CRD. Sooke Lake Reservoir, located north of Sooke on the opposite side of the Saanich Inlet, is the primary source for all CRD water service areas. Drinking water is treated at a facility in Goldstream and then distributed to communities throughout the Saanich Peninsula via water mains and a series of smaller 'balancing' supply reservoirs. Water enters Central Saanich from the McTavish and Bear Hill Reservoirs, located in North Saanich and Saanich respectively. Some residents are on private ground water wells.

The CRD water supply infrastructure program is guided by the comprehensive Regional Water Supply Master Plan, which was updated and renewed in 2022. The plan reviewed the current water supply infrastructure program and proposed infrastructure to improve water supply and transmission and add redundancy to critical components to address hazards and risks.[18] Three additional studies were conducted concurrently, including a supply system risk and resiliency investigation, seismic assessments, and a feasibility study for a secondary intake transmission and treatment option. One rationale for planning a secondary intake is to increase the resiliency of the system in the event the watershed is impacted by wildfire.

According to the Regional Water Supply Master Plan, the CRD has a number of strategies to mitigate the risk of and potential impacts to drinking water quality in the event of a catastrophic wildfire in proximity to the Sooke reservoir. The CRD has a tightly controlled watershed access system involving security gates, fencing, video surveillance, and watershed patrols. The CRD also employs their own wildfire detection system and wildfire suppression crews, with an additional response agreement with BCWS. In the event of a wildfire, possible response actions include deployment of a silt curtain and issuance of boil water advisories to deal with an increase in turbidity. Additionally, the CRD undertakes forest health monitoring and fuel management in key areas.

While Central Saanich is located in a climate historically characterized by warm, dry summers and while climate change projections anticipate summer dry spells to lengthen in the coming decades[19], the studies completed for the Water Master Plan found that demand is well managed and the Sooke watershed is expected to produce adequate, high-quality supply into the 2040s for residents, and possibly into the 2060s if lower water demand rates can be achieved. The Water Master Plan found that the CRD currently has a successful water demand management program, with some of the lowest rates of per capita demand in BC for major metropolitan areas.

In addition to drinking water, the CRD water system provides source water for fire suppression. Fire hydrants are provided by Central Saanich. CSFD also uses hydrants located on W̱JOŁEŁP (Tsartlip) and SȾÁUTW̱ (Tsawout) First Nation IR land. Coverage within the Urban Containment Boundary is excellent and nearly all properties are within 500 m of a hydrant. The exception is Rural Mount Newton; the nearest hydrants are located on Mt. Newton Cross Road, with one hydrant on Thompson Place ~500 m north of

[18] Capital Regional District. (2022). *Regional water supply master plan.* https://getinvolved.crd.bc.ca/2022-regional-water-supply-master-plan

[19] Capital Regional District. (2017). *Climate projections for the Capital Region*. https://www.crd.bc.ca/docs/default-source/climate-action-pdf/reports/2017-07-17_climateprojectionsforthecapitalregion_final.pdf?sfvrsn=bb9f39ca_12

Butterfield Park. Homes on West Saanich Road and Alec Road north of Mt. Newton Cross Road are up to 2000 m from the nearest hydrant. However, Central Saanich Fire Department has achieved Superior Tanker Shuttle Service (STSS) accreditation, which shows a demonstrated ability to the standards of the Fire Underwriters' Survey of maintaining firefighting water flows to protect properties that lack hydrants. STSS allows residents that are within 5 km of a suitable water supply point and within 10 km driving distance of a fire hall to qualify for associated reductions in home insurance.

Natural water sources for fire suppression are currently being inventoried and mapped by the CSFD.

Last but not least, wastewater collection and treatment services are also provided at the regional level. Several pump stations and a system of mains located in Central Saanich carry sewage to a treatment plant in North Saanich.[20]

3.3.4 HAZARDOUS VALUES

Hazardous values are defined as values that pose a safety hazard to emergency responders. Protecting hazardous values from fires can limit the extent of interface fire disasters. Anywhere combustible materials, explosive chemicals, gas, or oil is stored can be considered a hazardous value. Most farms and industrial sites can be considered as hazardous values, and were not specifically mapped for this plan.

Fortis BC operates underground pipelines that traverse the extent of the municipality to transmit and distribute natural gas. The transmission pipeline travels north-south through the municipality roughly paralleling Central Saanich Road. In the event of a wildfire, FortisBC will work with local and provincial emergency responders and employ their own emergency response protocols, including shutting down compressor stations, if required.[21]

3.3.5 CULTURAL AND HERITAGE VALUES

Cultural and heritage values have the potential to be impacted by wildfire through physical damage or alteration. Wildfire suppression techniques as well as vegetation management activities have the potential to disturb unidentified archaeological sites.

Central Saanich overlaps W̱SÁNEĆ traditional territory, and there is potential for archaeological sites to be found within municipal boundaries. Known archaeological sites are recorded by the Archaeology Branch and protected under the Heritage Conservation Act, which applies on both public and private lands. In their OCP, Central Saanich has committed to collaborating with W̱SÁNEĆ Nations to protect cultural heritage, including identifying and mapping the locations of culturally significant sites, ensuring development and municipal projects follow Archaeological Branch protocols, and supporting the development of a Saanich Peninsula Heritage Strategy that includes indigenous knowledge.[22]

[20] https://www.crd.bc.ca/service/stormwater-wastewater-septic/wastewater-treatment

[21] FortisBC. *Wildfires and evacuations.* Retrieved from: https://www.fortisbc.com/safety-outages/preparing-for-emergencies/wildfires-and-evacuations

[22] Official Community Plan. District of Central Saanich Bylaw #2100, 2023.

Central Saanich also manages several heritage sites, including Newman Farm, West Saanich School, Butterfield Park, and Mt. Newton Cross Road Heritage Walk.[23]Additionally, the privately-operated Buchart Gardens in Brentwood Bay is designated as a National Historic Site of Canada, and is one of the most popular tourist destinations in the area.

Central Saanich should continue to consult with W̱SÁNEĆ First Nations well before development and implementation of any proposed fuel prescriptions in the area to allow for meaningful review and input. Archeological or cultural resource assessments may be required to ensure that known or unknown cultural resources are not inadvertently damaged or destroyed, and that First Nations strategies for land management in their traditional territory are complied with. Central Saanich's Heritage Inventory, as well as a Saanich Peninsula Heritage Strategy, if developed, should also be referenced.

3.3.6 ENVIRONMENTAL VALUES

Central Saanich is a place of incredible ecological richness, with natural environments ranging from marine shoreline to wetlands, streams, rocky bluffs, and forests. Environmental values including provincial, regional, and municipal parks, sensitive ecosystems, critical wildlife habitat, and species and ecosystems at risk may be impacted by wildfire events or vegetation management activities.

The BC Conservation Data Centre inventories species and ecosystems that occur in BC, assesses conservation status ranks for species and ecosystems, and assigns some a red- or blue-list designation according to their risk of extinction. Occurrences of red- or blue-listed vascular and non-vascular plants, vertebrate and invertebrate animals, and an ecological community overlap the municipality. These are listed in Table 27 (Appendix E: Species at Risk) and shown on Map 3. Critical habitat is the habitat needed for the survival or recovery of a threatened or endangered species listed on Schedule 1 of the federal Species at Risk Act, and it is formally identified in the final recovery strategy that is made for every endangered species. Critical habitat for Edward's Beach Moth, Western Painted Turtle, and the Phantom orchid overlap the municipality.

Site level operational plans must identify and mitigate potential impacts to ecosystems or species at risk and critical habitat for federally listed species at risk, and may require rationales or mitigation measures for harvesting in some areas.

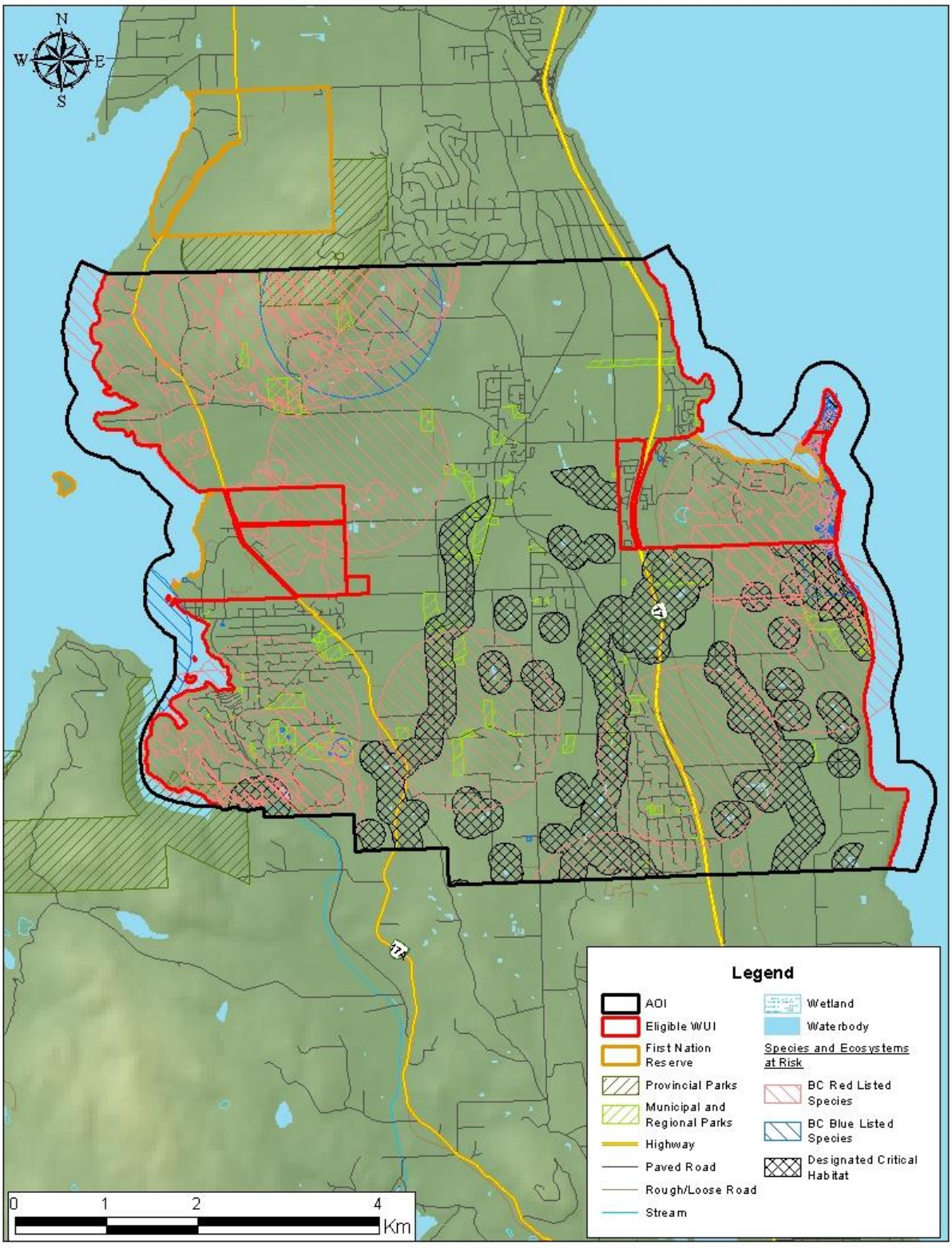
The East Island Terrestrial Ecosystem Mapping project identified sensitive ecosystems throughout the Gulf Islands and south and east Vancouver Island, with the study area overlapping Central Saanich.[24] Ecosystem types that overlap the municipality are marine areas along the eastern shoreline and Tod Inlet, freshwater streams, and ŁÁU,WELN̲EW̲/John Dean Provincial Park.

[23] https://www.centralsaanich.ca/our-community/history-heritage-sites/heritage-sites
[24] Canadian Wildlife Service, BC Ministry of Environment. Sensitive ecosystem inventory

Water quality is another environmental value that may be impacted by wildfire events. Although the CRD's drinking water supply areas are distant from Central Saanich's WUI, the possible implications of wildfire within local watersheds are still relevant to identify for the purposes of this CWRP. Examples include:

- Ignitions that begin in the WUI can become fires that spread to forests within local stream watersheds, contributing to a loss of forest cover;
- Reduced forest cover in the watershed influences many inter-connected ecosystem processes, with effects including increased sediment loading, altered peak runoff rates, and timing of flows;[25]
- Changes to water quality, quantity, and timing of flow as a result of wildfire events can impact other environmental values in and around the community.

[25] Jordan, P. (2015). *Post-wildfire debris flows in southern British Columbia, Canada*. International Journal of Wildland Fire 25(3)322-336.



Map 3. Environmental values at risk within the District of Central Saanich wildland-urban interface.

3.3.7 OTHER RESOURCE VALUES

No commercial logging and little resource extraction takes place in Central Saanich, with the exception of a gravel pit in the Keating area. Agriculture has historically been and continues to be the primary resource-based industry in Central Saanich.[22]

Recreation and tourism are other important values in Central Saanich. Buchart Gardens is one of the most well-known tourist destinations on the Saanich Peninsula. Notable hiking trails include those located in Gowlland Tod Provincial Park, ŁÁU,WELNEW/John Dean Provincial Park, Oak Haven Park, and Mt. Newton (Brown's Wood Trail and Mt. Newton Trail).

SECTION 4 WILDFIRE RISK ASSESSMENT

This section summarizes the factors that contribute to local wildfire risk in the District of Central Saanich's wildland urban interface. Section 4.1 discusses the local wildfire environment: topography, fuel, and weather, and includes climate change projections for the area. Section 4.2 discusses wildfire history in the area. Section 4.3, Section 4.4, and Section 4.5 discuss local wildfire risk. The local wildfire risk assessment completed as part of this CWRP provides a decision support tool to determine the most effective wildfire risk reduction actions and opportunities to increase community resilience. This risk assessment complements the broader scale Hazard, Risk and Vulnerability Assessment which was completed by the Central Saanich Emergency Program in 2007 and is scheduled for an update in 2024.

The relationship between wildfire risk and wildfire threat can be summarized as follows:

Wildfire Risk = Consequence × Probability

Where:

Wildfire risk is the potential losses incurred to human life, property, and critical infrastructure within a community in the event of a wildfire.

Consequences are the repercussions associated with fire occurrence in an area (higher consequences are associated with densely populated areas, areas of high biodiversity, etc.).

Probability is the likelihood of fire occurring in an area and that area's ability to ignite, spread, and consume organic material in the forest – its *wildfire threat*. Wildfire threat is driven by three major components of the wildfire environment:

1) Topography – Slope and terrain features can influence rate of spread; aspect can affect pre-heating and fuel dryness
2) Fuel – Loading, size and shape, vertical and horizontal arrangement, type, and dryness
3) Weather – Temperature, relative humidity, wind speed and direction, precipitation

These components are generally referred to as the 'fire behaviour triangle' (Figure 3); the ways in which they individually influence the wildfire environment of the AOI will be detailed below.

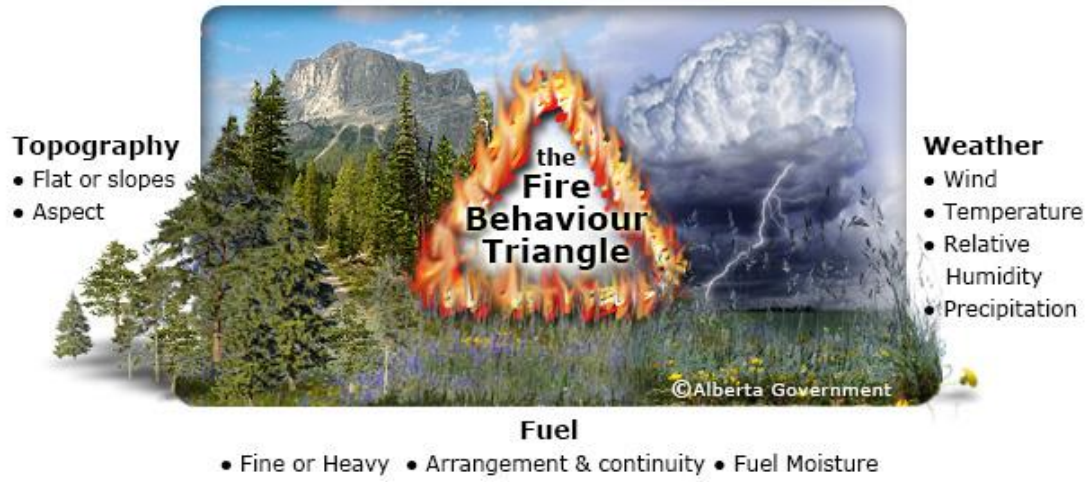


Figure 3: Graphic display of the fire behaviour triangle, and a subset of characteristics within each component.[26]

4.1 LOCAL WILDFIRE ENVIRONMENT

The ecological context of wildfire and the role of fire in the local ecosystem under both current and historical conditions is an important basis for understanding the current and future wildfire threat to a community.

4.1.1 TOPOGRAPHY

Slope steepness affects the trajectory and rate of spread of a fire, while slope position affects the fire's ability to gain momentum uphill. Other topographical factors that influence fire behavior include aspect, elevation, and the configuration of features on the landscape that can restrict (i.e., water bodies, slope breaks) or drive (i.e. narrow draws, uniform slopes) the movement of a wildfire. South and southwest-facing slopes are typically the most concerning for heating and solar radiation. Topography also impacts the other aspects of the fire environment. Aspect and slope influences vegetation type and continuity, which is discussed in Section 4.1.2. Also, slope length and form influences both regional and diurnal wind patterns (e.g. anabatic and katabatic slope winds).

Topography does not strongly influence the wildfire environment of Central Saanich. Most of the municipality is located on generally flat and rolling terrain as a mix of urban/suburban development, hobby farms, and industrial agriculture. In general, the discontinuity of forest fuel is a more important factor in the limited wildfire risk than the flatness of the terrain. However, the area with the highest fuel hazard coincides with two topographic risk factors – slope and aspect. Mt. Newton (with ŁÁU,WELṈEW̱/John Dean Provincial Park) is the only continuous forested area in the municipality and also has somewhat steep, south-facing slopes, reaching a high point of 300 m.

[26] Province of Alberta.

Map 4 and Table 11 show the distribution of slope classes in Central Saanich, with corresponding fire behavior implications. Very little of the WUI is on steep slopes (>30%). 93% of the WUI is situated on flat to gently sloping valley bottom, and would experience very little slope-associated flame and fuel interaction. In these areas, fuel type, fuel continuity, and wind would be the most important factors contributing to fire behaviour.

Table 11. Slope Percentage and Fire Behavior Implications.

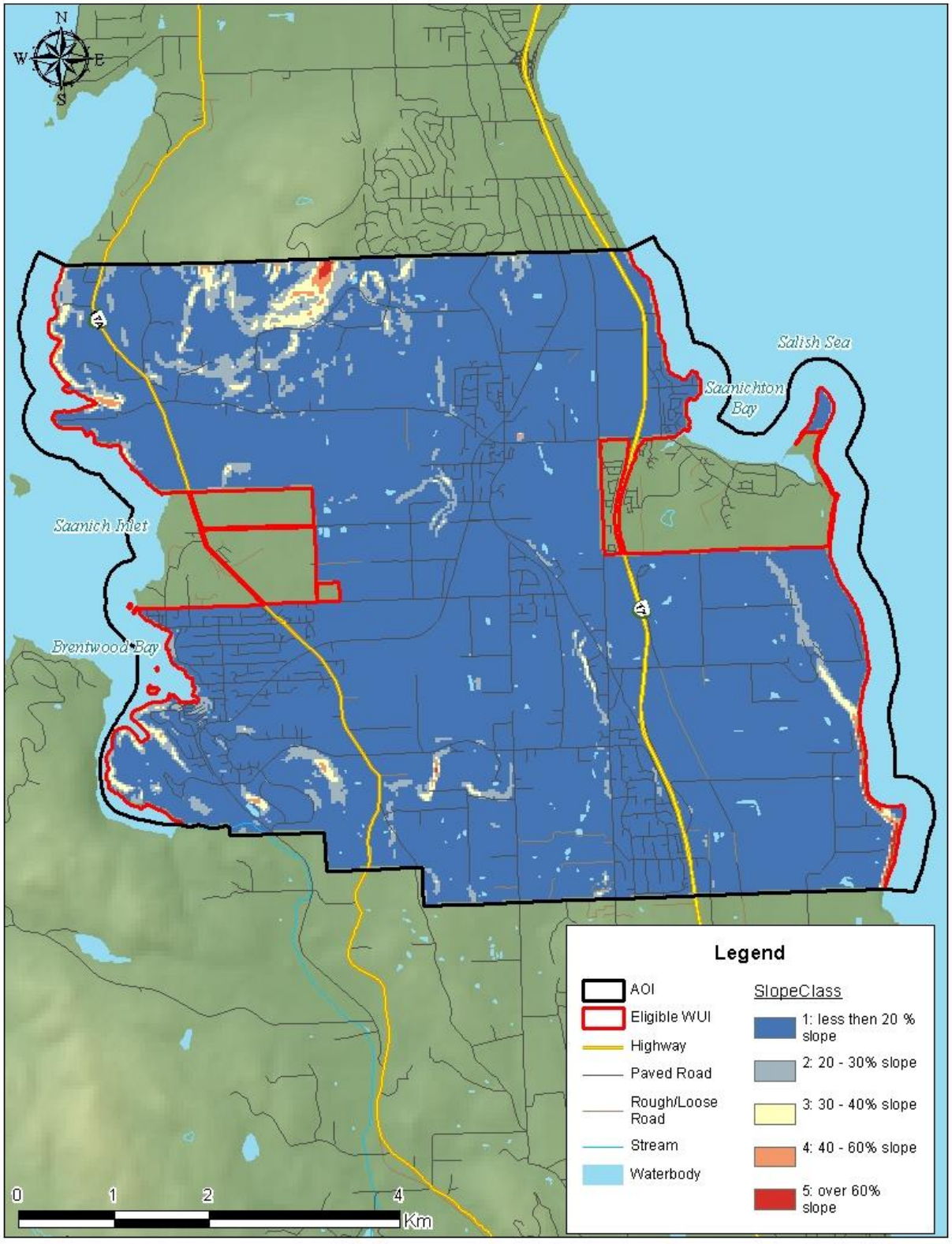
Slope	Percent of Eligible WUI	Fire Behaviour Implications
<20%	92.7	Very little flame and fuel interaction caused by slope, normal rate of spread.
21-30%	5.4	Flame tilt begins to preheat fuel, increase rate of spread.
31-45%	1.4	Flame tilt preheats fuel and begins to bathe flames into fuel, high rate of spread.
46-60%	0.3	Flame tilt preheats fuel and bathes flames into fuel, very high rate of spread.
>60%	0.1	Flame tilt preheats fuel and bathes flames into fuel well upslope, extreme rate of spread.

There is a minor risk of spotting from rolling, forested slopes southwest of the municipality. Willis Point, which includes part of Gowlland Tod Provincal Park, is located just across Tod Inlet from Central Saanich, less than 1 km from Brentwood Bay. Mount Work Regional Park is located several kilometers southwest of Central Saanich and is the high point in the region, at ~400 m.

Table 12 shows the fire behavior implications of slope position of a value. Values located mid-slope or on the upper third of a slope are threatened by faster rates of fire spread due to the pre-heating of fuels and longer flame lengths. Central Saanich has no identified critical infrastructure located at a vulnerable slope position. However, there are communication towers located at the top of Mt. Newton just outside of the municipal boundary. Additionally, there are homes located on the lower slopes of Mt. Newton – these could experience increased fire behaviour implications from a fire below them, moving uphill.

Table 12. Slope Position of Value and Fire Behaviour Implications.

Slope Position of Value	Fire Behaviour Implications
Bottom of Slope/ Valley Bottom	Impacted by normal rates of spread.
Mid Slope - Bench	Impacted by increase rates of spread. Position on a bench may reduce the preheating near the value. (Value is offset from the slope).
Mid Slope – Continuous	Impacted by fast rates of spread. No break in terrain features affected by preheating and flames bathing into the fuel ahead of the fire.
Upper 1/3 of slope	Impacted by extreme rates of spread. At risk to large continuous fire run, preheating and flames bathing into the fuel.



Map 4. Distribution of slope classes in the Central Saanich WUI.

4.1.2 FUEL

A primary factor in a community's wildfire threat is its proximity to the forest, which is the 'fuel' in a wildfire scenario. The closer values-at-risk are to the forest, the greater the probability of impact from a forest fire, either due to direct flame contact or ember spotting.

Natural areas, parks, and green spaces in the WUI are characterized by different types of vegetation, with some general patterns qualitatively assessed during fieldwork. All natural riparian areas (e.g., stream areas of Centennial Park; behind the homes along Cooperidge Drive), are primarily comprised of mature, multi-layered, and multi-species mixed conifer and deciduous forests (always conifer-leading), with large open canopy gaps and well-developed herb and shrub layers. On mesic and drier sites, which make up the majority of the forested land within the municipality (e.g., Gore Nature Park, Centennial Park, or the south-facing slopes in ŁÁU,WELṈEW̱/John Dean Provincial Park), forests are dominated by mature, widely spaced Douglas-fir, western red cedar, and grand fir trees with often high crown base heights and an understory herb and shrub layer dominated by salal. However, some of these sites are dominated by or include a higher percentage of western red cedar - these have a higher wildfire risk as the cedar's low-hanging branches act as vertical and horizontal conduits for fire movement. Extreme dry sites (often rocky, thin soils at ridge and knoll tops; exhibited within those same drier sites mentioned, as well as Oak Haven Park) include open Garry oak and arbutus tree patches with a grass and herb-dominated understorey.

Overall, forest fuel continuity on the landscape is largely discontinuous as it is often disrupted by features that create natural fuel breaks, including playing fields, dense development, and agriculture. However, the CSFD indicated that fallow farmland with long grass into the summer can pose a fire risk. The exception to fuel discontinuity would be in the northwestern area of the municipality, where there are many large, forested lots that abut ŁÁU,WELṈEW̱/John Dean Provincial Park on a south-facing slope. Here, forest fuels can be considered continuous through both private and public land.

The most hazardous forest stands and wildfire fuels identified in-situ and through spatial analysis on municipal and crown provincial land are generally located in small, conifer-dominated municipal parks (e.g., Oak Haven Park and Haldon Park) and the south-facing conifer-dominated slopes of ŁÁU,WELṈEW̱/John Dean Provincial Park. Additionally, some trailside areas in parks had accumulations of fine and moderate-sized woody debris from the clearing of fallen branches from them, and road right-of-ways that were treed (whether from public land or private land with trees/forests at the road edge) often had "edge effect" characteristics of branches lower on boles of trees and more understorey conifer growth.

Commonly observed vegetative hazards on private property include:

- Lots with forested edges that had increased understorey conifer growth from "edge effect".
- Large lots dominated by conifer forests with no observed FireSmart vegetation management (i.e., pruning, spacing) implemented.
- Cedar hedging as property/visual barriers - in older subdivisions and homes, some of these hedges were close to 10m in height.
- Conifer shrubs (cedar, yew, and juniper) against or immediately adjacent to homes.

The Canadian Forest Fire Behaviour Prediction (FBP) System outlines sixteen fuel types based on characteristic fire behaviour under defined conditions.[27] BC Wildfire Service maintains a provincial fuel type layer that was confirmed and updated for this CWRP. This system has been successfully used within BC, with continual improvement and refinement, for 20 years.[28]

Table 13 lists the percentage of area by fuel type in the WUI. In Central Saanich, fuel type and continuity are driven mainly by development patterns. A large portion of the interface encompasses mature stands of second growth forests that were mostly assigned a fuel type of C-5. Any denser stands were assigned a fuel type of C-3. Forest stands with a mix of coniferous and deciduous tree species were assigned a fuel type of M-1/2. Irrigated fields (e.g. playing fields) were typed as non-fuel, whereas edges of roadways, non-irrigated fields, and anywhere where long grass could grow and cure were classified as O-1a/b.

Finally, a significant proportion of area within Central Saanich is privately owned, including large, forested rural residential parcels on Mt. Newton. Assessing the fuel type of these and other private land holdings is outside the scope of this plan. Assessing risk on private property near homes is within the scope of FireSmart Home Ignition Zone Assessments, which can be completed by Local FireSmart Representatives (see Section 5.1).

Figure 4. Left - O-1a/b fuel type (Turgoose). Right – Low hazard C-5 fuel type (ŁÁU,WELN̲EW̲/John Dean Provincial Park).

[27]Forestry Canada Fire Danger Group. 1992. Development and Structure of the Canadian Forest Fire Behavior Prediction System: Information Report ST-X-3.
[28] Perrakis, D, G. Eade and D. Hicks. 2018. Canadian Forest Service Pacific Forestry Centre. British Columbia Wildfire Fuel Typing and Fuel Type Layer Description

Table 13. Fuel types in the Wildland Urban Interface (Public Land Only)

Fuel Type	Area (Ha)	Percentage of Public Land
C-3	3	< 1%
C-5	143	22%
C-7	13	2%
D-1/2	47	7%
M-1/2	39	6%
O-1a/b	53	8%
Non-fuel	364	55%
Water	2	< 1%
Private	*3523*	*n/a*

4.1.3 WEATHER

The Saanich Peninsula has one of the mildest climates in BC, with warm, dry summers and mild, rainy winters. In the summer, hot air flows in easily from the south; in the winter, Pacific storms with heavy precipitation and occasional snow can arrive from the north or south.[29] The climate is conducive to periods of high fire danger during the summer.

Weather data for Central Saanich was summarized from the Saltspring 2 BCWS weather station. At 18 m elevation, it is representative of the weather in most of the Saanich Peninsula. There are five additional weather stations located in the Sooke watershed across the Saanich inlet. These weather stations were not used are they are located at higher elevations (up to 500 m), and ISI roses are not available.

The Canadian Forestry Service developed the Canadian Forest Fire Danger Rating System (CFFDRS) to assess fire danger and potential fire behaviour. Fire Danger Classes provide a relative index of the ease of ignition and the difficulty of suppression. 'High fire danger' includes Danger Class ratings of 4 (High) and 5 (Extreme). Danger Class days were summarized to provide an indication of the fire weather in the Central Saanich WUI. Since fire danger varies from year to year, historical weather data can provide information on the number and distribution of days when the WUI is typically subject to high fire danger conditions, which supports an assessment of overall wildfire risk.

Figure 5 below displays the average frequency of danger class days between the months of April and October, as recorded at the Saltspring Island 2 BCWS weather station. High and extreme fire danger class days extend into October, which is unusual for much of BC, but is indicative of the warm and dry climate of southeastern Vancouver Island. The monthly distribution of fire danger weather matches historical wildfire patterns on southern Vancouver Island; as discussed in Section 4.2.2, August, September and

[29] An Introduction to the Ecoregions of British Columbia

October are peak fire months. However, the occurrence of high fire danger days in May and June indicates the occurrence of fire weather.

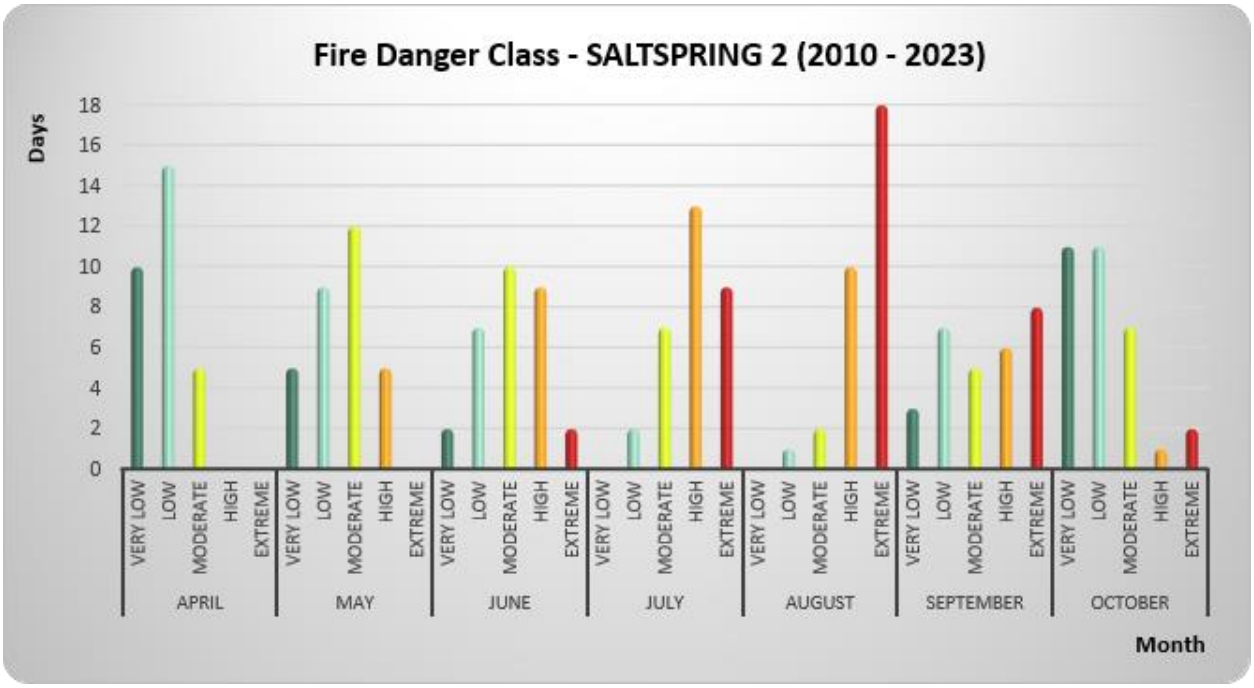


Figure 5. Average number of danger class days recorded by month at Saltspring 2 BCWS weather station.

Hourly wind speed and direction is also recorded at BCWS weather stations. Data is publicly available in the form of Initial Spread Index (ISI) roses.[30] The Initial Spread Index (ISI) is a numeric rating of the expected rate of fire spread that combines the effects of wind speed and fine fuel moisture (controlled by temperature and relative humidity). ISI roses are often used to help plan the location of fuel treatments on the landscape to protect values at risk based on the predominant wind direction and frequency of higher ISI values. Wildfire that occurs upwind of a value poses a more significant threat to that value than one which occurs downwind.

Average ISI values for Salt Spring 2 weather station are shown below in Figure 6 and Figure 7. The length of each the segment indicates the proportion of days where winds occur from that cardinal direction; the color indicates ISI value. Teal and green bands representing higher ISI values (i.e. >5) indicate moderate to strong winds and/or low humidity, so are expected to peak in the summertime. Unsurprisingly, the monthly data shows that July and August are peak months for conditions conducive to rapid fire spread, with high ISI values occurring more frequently than any other month.

[30] https://www2.gov.bc.ca/gov/content/safety/wildfire-status/prevention/vegetation-and-fuel-management/fire-fuel-management/fuel-management

During the fire season, the dominant recorded wind direction at this station is from southeast and easterly directions. Historical data from the Victoria Airport weather station (used in the 2019 CWPP, but no longer available), which is located on the Saanich Peninsula in Sidney, shows prevailing winds from the west, southeast, and east, consistent with those recorded at the Salt Spring 2 station.

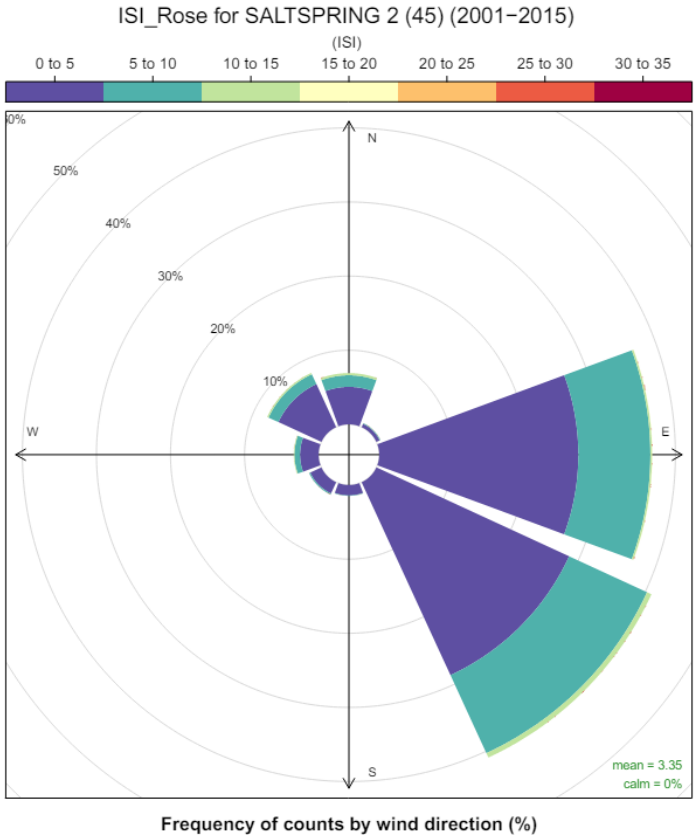


Figure 6. Average daily wind speed and direction during the fire season (April – October) for Salt Spring 2 weather station

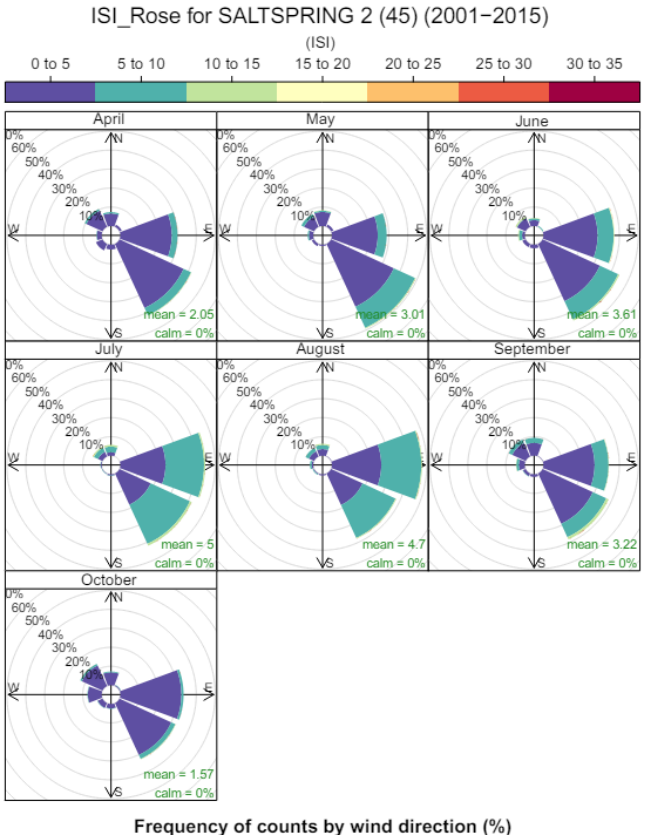


Figure 7: Average monthly wind speed and direction during the fire season (April – October) for Salt Spring 2 weather station

Climate Change

Climate change is a serious and complex aspect to consider in wildfire management planning. Numerous studies outline the nature of climate change impacts on wildland fire across Canada, and globally.[31] Although there are uncertainties regarding the extent of these impacts on wildfire, the frequency, intensity, severity, duration, and timing of wildfire and other natural disturbances is expected to be altered significantly with the changing climate.[32] Despite the uncertainties, trends within the data are visible.

Climate scientists expect that the warming global climate will trend towards wildfires that are increasingly larger, more intense, and more difficult to control; it is likely that these fires will be more threatening throughout the wildland-urban interface due to increased potential fire behaviour, fire season length, and fire severity. Researchers studying the relationship between climate change and potential impacts of wildfires to Canadian forests have found that:

[31] Flannigan, M.D et al. 2009. *Implications of changing climate for global wildland fire.* International Journal of Wildland Fire 18, 483-507.

[32] Dale, V., L. Joyce. S. McNulty, R. Neilson, M. Ayres, M. Flannigan, P. Hanson, L. Irland, A. Lugo. C. Peterson, D. Simberloff, F. Swanson, B. Stocks, B. Wotton. 2001. *Climate Change and Forest Disturbances*. BioScience 2001 51 (9), 723-734.

- Fuel moisture is sensitive to temperature change, and projected spring precipitation increases will be insufficient to counteract the impacts of the projected summer precipitation decreases and increases in temperature. Results conclude that future conditions will include drier fuels and a higher frequency of extreme fire weather days.[33]
- The future daily fire severity rating (a seasonally cumulative value) is expected to have higher peak levels, and head fire intensity is expected to increase significantly in western Canada. The length of fire seasons is expected to increase, and the increase will be most pronounced in the northern hemisphere. Fire season severity seems to be sensitive to increasing global temperatures; larger and more intense fires are expected, and fire management will become more challenging.[34,35]

The Central Saanich Climate Leadership Plan[36] and Climate Projections for the Capital Region[37] have reported on the current and anticipated impacts of climate change locally, including a potential increase in wildfire activity and vulnerability of forests due to drought. Overall, precipitation is projected to increase slightly, but with altered seasonality – more frequent extreme rainfall events will occur in the fall, and summers will be hotter and drier, with more extreme heat events and the extension of the dry season into September. As stated in their OCP, Central Saanich strives to improve climate resiliency through proactive stormwater management, adaptation considerations in development and planning, community wildfire planning, and implementation of the Climate Leadership Plan, which states goals for greenhouse gas emission reductions and renewable energy use.

Projected climate change impacts are also expected to increase the vulnerabilities of trees and forests. Observable declines in western red cedar have been observed across the Lower Mainland in recent years due to drought; flooding of lowland areas can also lead to unusually high water tables which can stress or kill trees and make them more susceptible to windthrow events. Regional climate change extension notes[38] suggest that although many tree species in the Coast region appear physiologically resilient to the impacts of climate change, western red cedar and arbutus may decline on southeast Vancouver Island due to water stress. Widespread tree mortality increases potential wildfire risk, and forest health is one aspect considered in a CWRP. Most forests that were assessed were dominated by Coastal Douglas-fir, which is fairly drought resistant. However, insect and disease outbreaks can occur in any forest. Adaptation recommendations include planting climatically suited species and genetic stock, increasing

[33] Flannigan, M.D., B.M. Wotton, G.A. Marshall, W.J. deGroot, J. Johnston, N. Jurko, A.S. Cantin. 2016. *Fuel moisture sensitivity to temperature and precipitation: climate change implications*. Climatic Change (2016) 134: 59-71. Retrieved from: https://link.springer.com/content/pdf/10.1007%2Fs10584-015-1521-0.pdf.
[34] Flannigan, M.D., A.S. Cantin, W.J. de Groot, M. Wotton, A. Newbery, L.M. Gowman. 2013. *Global wildland fire season severity in the 21st century*. Forest Ecology and Management (2013) 294: 54 - 61.
[35] Jandt, R. 2013. *Alaska Fire Science Consortium Research Brief.* 2013-3.
[36] Pinna Sustainability Inc. 2018 (Updated 2020). Central Saanich Climate Leadership Plan. Report for the District of Central Saanich.
[37] Pinna Sustainability Inc. Update 2017. Climate Projections for the Capital Region. Report for the Capital Regional District.
[38] MFLNRO. Adapting natural resource management to climate change in the West and South Coast regions: considerations for practitioners and government staff.

species diversity on a stand and landscape scale, monitoring and controlling insect popuations (i.e. sanitation harvest), and increasing overall forest resiliency to fire through fuel breaks and prescribed fire.

4.2 WILDFIRE HISTORY

4.2.1 NATURAL DISTURBANCE REGIME

The wildland-urban interface of Central Saanich can be classified into 'natural disturbance types' (NDTs) according to biogeoclimatic zone (BEC) and the size and frequency of natural disturbances that historically occur within the area.[39] BEC zones are further classified into 'subzones' based on climatic factors (moisture and temperature) and numerical 'variants' based on subtle geographic differences within a subzone. Central Saanich is classified as the CDFmm, or moist maritime Coastal Douglas-fir (Table 14).

The CDFmm is characterized as 'Natural Disturbance Type 2': ecosystems where stand-replacing disturbances occurred infrequently. Occurrences of fire every 250-450 years are likely for this Natural Disturbance Type according to the Biodiversity Guidebook and analyses in similarly 'dry' (relative to other wet coastal forest) ecosystems.[40] Fire regimes in these drier ecosystems were likely mixed severity – a combination of low-, moderate-, and high-severity fires. Low severity fires may kill many small saplings, but only a few large trees; moderate severity fires can cause patchy mortality, while high-severity fires can cause mortality for many large trees.[40] As a result, forests may historically have been characterized by a combination of even-aged and uneven-aged stands. Overall, wildfire has historically been recorded as an infrequent, but not rare or undocumented, disturbance in this landscape.

Table 14. Biogeoclimatic Zones and Natural Disturbance Types in the Central Saanich Wildland Urban Interface

Biogeoclimatic Zone	Natural Disturbance Type	Area (ha)	Percent of Eligible WUI (%)
CDFmm: Coastal Douglas-fir, Moist Maritime	NDT2	4187	100%

The Natural Disturbance Type classification is useful for describing the historical disturbance pattern typical for an area; however, fire history is complex and highly variable across space and time for many ecosystems.[41]

4.2.2 HISTORIC WILDFIRE OCCURENCES

There is very little wildfire history in Central Saanich. On southeast Vancouver Island in general, wildfires occur infrequently and large fires are rare. Historical fire ignition and perimeter data for the area are depicted in Map 5 and Map 6 using publicly available data from BC Wildfire Service.[42] Fire ignition data is available from 1951-2020 and fire perimeter data is available from 1919-2020. Although these datasets

[39] BC Biodiversity Guidebook. 1990.
[40] Droner, B. and Wong, C. (2003). Prepared for the Coast Information Team, Natural Disturbance Dynamics in Coastal British Columbia. https://www.for.gov.bc.ca/tasb/slrp/citbc/b-NatDist-DornerWong-May03.pdf
[41] Hall, E. (2010). *Maintaining Fire in British Columbia's Ecosystems: An Ecological Perspective.* Report submitted to the Wildfire Management Branch, Ministry of Forests and Range.
[42] https://catalogue.data.gov.bc.ca/dataset/bc-wildfire-fire-perimeters-historical and https://catalogue.data.gov.bc.ca/dataset/bc-wildfire-fire-incident-locations-historical

are useful for analyzing spatial patterns of ignitions in and around Central Saanich, the major limitation of ignition point data is that BCWS-tracked incidents are inclusive of smoke chases and nuisance fires, but exclusive of any wildfires that structural fire departments alone responded to.

Based on BCWS's historical wildfire dataset, wildfires were common on southeast Vancouver Island in the early to mid-1900s, peaking around 1935, with a steep decline post 1950. These fires were likely related to land clearing and were almost all human caused; in the entire dataset examined of 330 historical fires, only 8 were lightning caused. Since 2000, there have been a handful of small fires in the region. The closest fire to Central Saanich occurred in 2016 across the Saanich Inlet. The 2.7 ha fire was human-caused and burned small areas on both sides of the Trans-Canada Highway. There are 14 recorded historical fire ignitions within Central Saanich, all person-caused; all recorded incidents since 2000 were nuisance fires that BCWS was called to.

Notable fires on southern Vancouver Island include the 2018 person-caused Nanaimo Lakes wildfire, which burned over 180 ha just east of the Nanaimo River in August 2018. The fire, which spread northwest from its ignition point, burned through a BC Hydro transmission line right of way and resulted in the evacuation of dozens of properties. It is likely that recent harvesting played a role in fire spread, as portions of the area were logged in 2016. BCWS has commented that slash, as well as standing grass, are the most volatile fuel types encountered on southern Vancouver Island.[43] Two other recent fires, both person-caused, illustrate this point: in 2015, an 18-hectare grass fire on private agriculture land just east of the Nanaimo Airport, and in 2021, the 60-hectare Mount Hayes fire west of Ladysmith. This fire spread upslope and southwest from its ignition point, through a recently harvested cutblock on private land (Figure 9).

Most fires on Vancouver Island burn in late summer and fall (July – October); there are few spring fires recorded. October 2022 was exceptionally hot and dry, and resulted in multiple person-caused fires burning in and around Vancouver, with three fires on southern Vancouver Island alone. One small fire (0.8 ha) started on private land near Millstream, on the Saanich Peninsula (Figure 8).

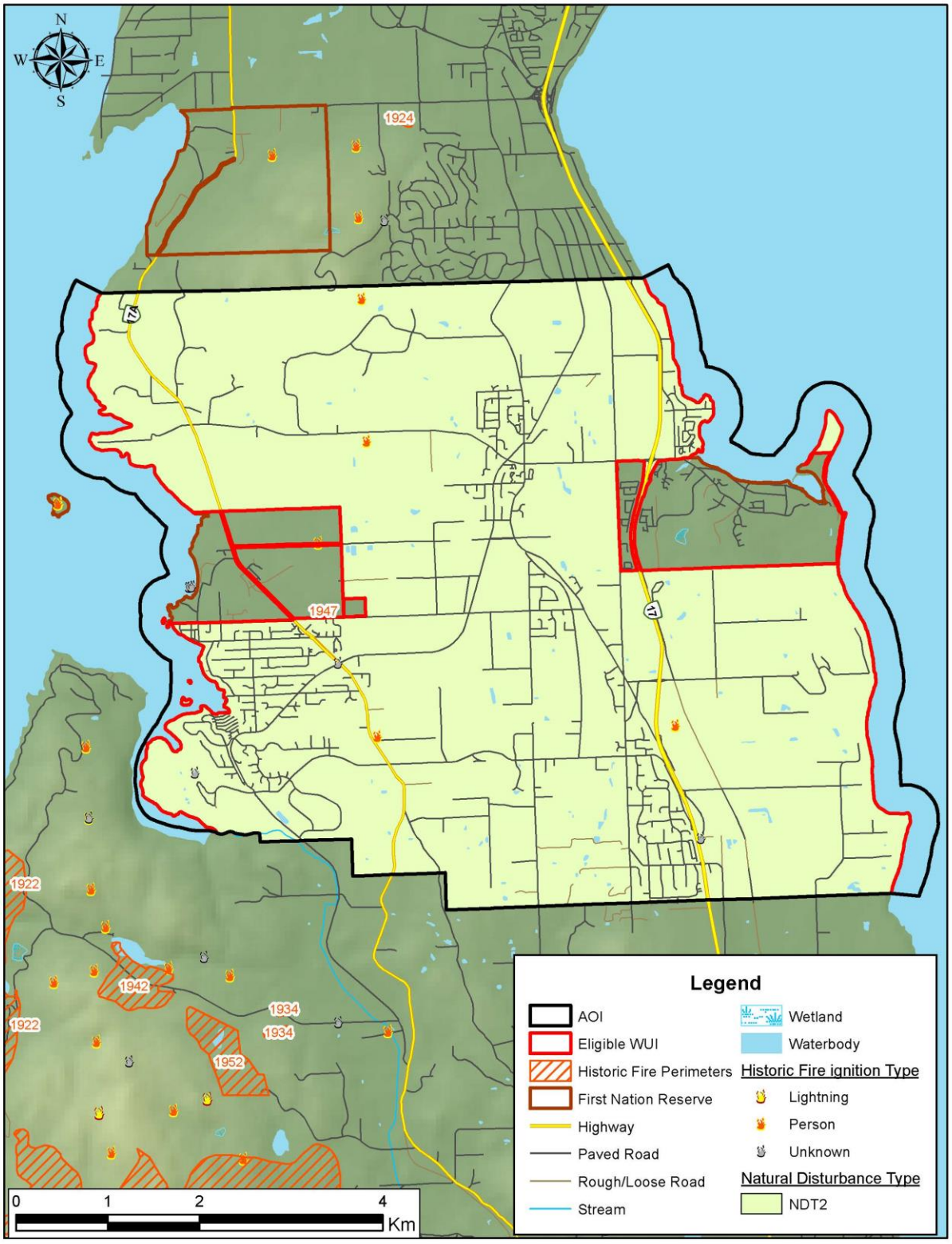
[43] Personal communication, BCWS, 2019.

Figure 8. The 2022 Finlayson Arm fire.[44]

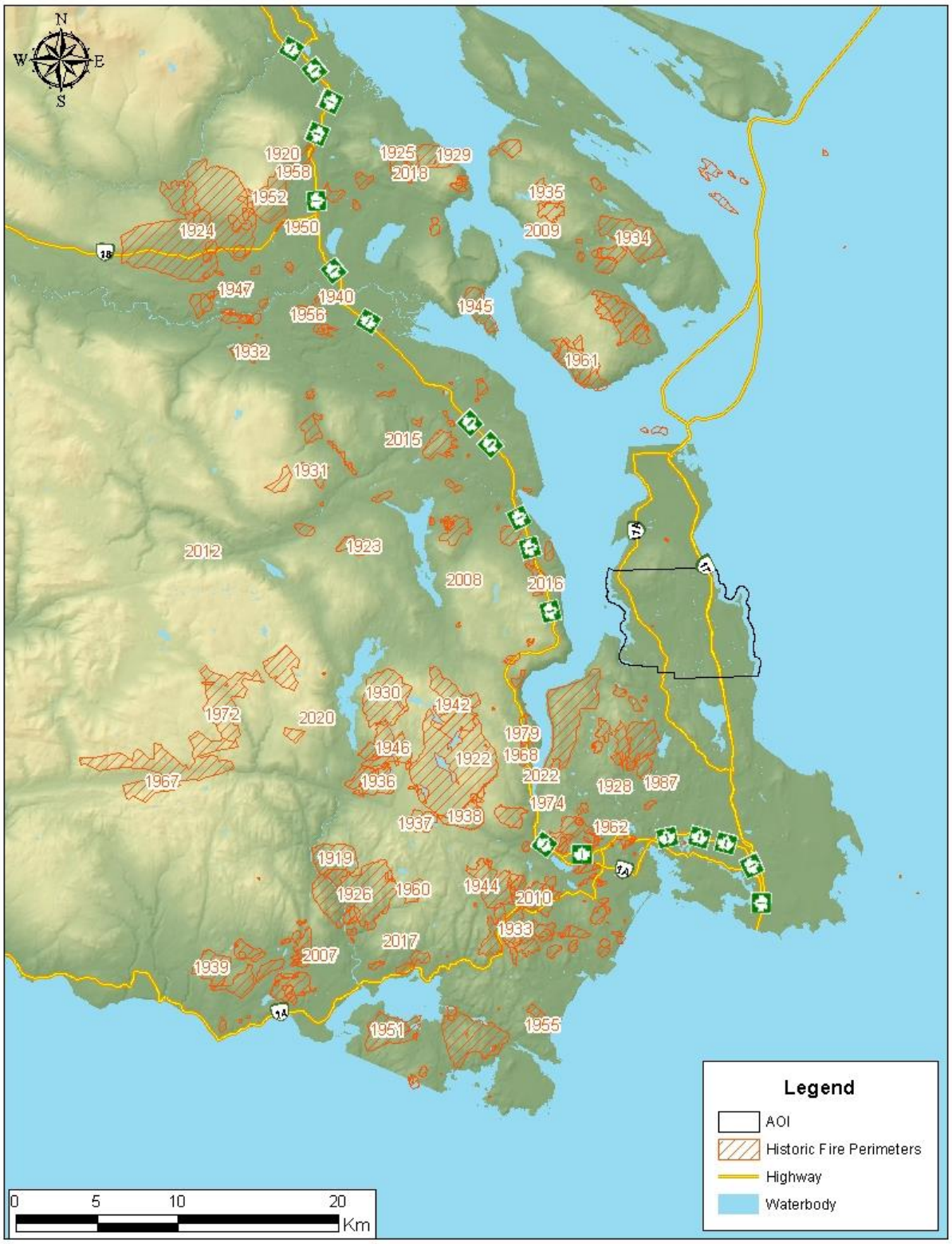
Figure 9. The 2021 Mount Hayes fire.[45]

[44] CTV News photo. Accessed at https://vancouverisland.ctvnews.ca/helicopters-boats-and-ground-crews-battling-out-of-control-wildfire-near-victoria-1.6095503

[45] BC Wildfire Service photo/Twitter. Accessed at https://www.timescolonist.com/local-news/parts-of-ladysmith-wildfire-contained-as-more-crews-equipment-deployed-4691534



Map 5. Natural disturbance regime and historical fire ignitions and occurrences within and adjacent to the WUI.



Map 6: Historic fire occurrences on southern Vancouver Island.

4.2.3 WILDFIRE RESPONSE

As detailed in Section 3.2.1, wildfire response in Central Saanich is primarily the responsibility of the Central Saanich Fire Department (CSFD), with assistance provided by BCWS if needed. The CSFD noted that although large fires are rare on Vancouver Island, when they do start, they can grow rapidly due to many decades of forest floor buildup. These types of smoldering ground fires can be particularly difficult to extinguish and can generate unpleasant smoke impacts to nearby communities.

The CSFD indicated that wildland fires (including nuisance fires, abandoned campfires, and beach fires) make up ~20% of their fire call volume. Island View Beach is a common response area for nuisance fires; small fires have also occurred in mulch beds beside roads, but have been quickly extinguished.

4.3 RISK FRAMEWORK AND RISK CLASS MAPS

Differing risk levels require tailored risk management to minimize negative impacts from wildfires to communities and high value critical infrastructure. The intent is to enable cost effective wildfire risk reduction strategies that will mitigate wildfire threat to communities and values at risk, at local and provincial scales. Through the identification of risk level, priorities for mitigation and opportunities for increasing community resiliency are both enhanced.[46]

Provincial Strategic Threat Analysis

The Provincial Strategic Threat Analysis (PSTA) is a series of publicly-available spatial layers that are designed to consistently assess and map different aspects of wildfire threat and risk around the province.[47] The PSTA is a starting place from which more detailed local threat assessments can be performed (Section 4.4), and to support the development of FireSmart funding applications under the UBCM FCFS program.

The PSTA also forms the basis for the identification of the wildland urban interface (WUI) in BC. Structure densities are used to define areas of human development. A 2 km buffer is applied on these areas to represent a reasonable maximum distance that embers can travel from a wildfire to ignite a structure. This represents the historic approach to defining the WUI for BC. Central Saanich's WUI comprises the entire municipal boundary due to high structure densities throughout, and adjacent to, the municipality. Although this represents the historic approach to defining the WUI in BC, this process doesn't account for non-structural values that may be considered values at risk for a community, highlighting the importance of local community wildfire planning.

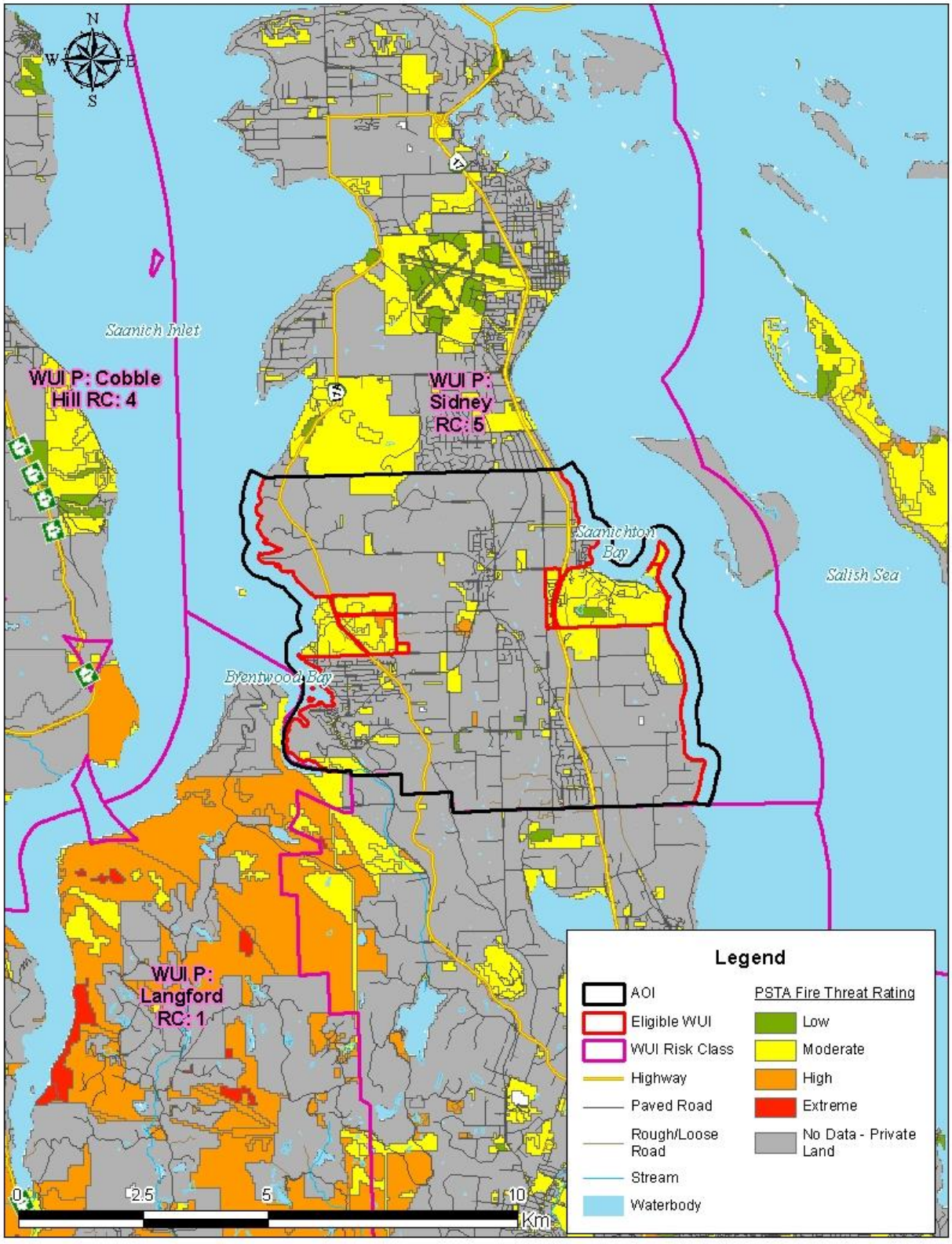
Once the WUI is defined, it is combined with the PSTA Fire Threat Rating to delineate discrete 'WUI Risk Class' polygons throughout BC. The PSTA Fire Threat rating integrates coarse-scale, provincially determined wildfire threat components such as fire likelihood (historical fire occurrence), potential

[46] Community Resiliency Investment. (2023). *FireSmart Community Funding and Supports Supplemental Instruction Guide.* Retrieved from: https://www.ubcm.ca/funding-programs/local-government-program-services/community-resiliency-investment/firesmart-0

[47] https://www2.gov.bc.ca/gov/content/safety/wildfire-status/prevention/fire-fuel-management/psta

severity (weather conditions and fuel type), and wildfire propagation potential (spotting). Notably, this threat analysis does not extend onto private land.

There are five risk class ratings provided in the resulting provincial WUI Risk Class Map, with 1 being the highest relative risk across the province and 5 being the lowest. The PSTA Fire Threat Rating and WUI Risk Class Rating of Central Saanich is shown in Map 7 below.



Map 7. Central Saanich PSTA Fire Threat Rating and WUI Risk Class Rating

4.4 LOCAL WILDFIRE RISK ASSESSMENT

There are two main components of this local risk assessment: the *wildfire behaviour threat class* (fuels, weather, and topography sub-components) and the *WUI risk class* (structural sub-component). The local wildfire threat assessment process includes several key steps as outlined in Appendix D: Local Wildfire Risk Assessment Process and summarized as follows:

- *Fuel type attribute assessment* – ground truthing/verification and updating as required to develop a local fuel type map (Section 4.1.2)
- *Consideration of the proximity of fuel to the community* – recognizing that fuel closest to the community usually represents the highest hazard
- *Analysis of predominant summer fire spread patterns* – using wind speed and wind direction during the peak burning period using ISI Rose(s) from BCWS weather station(s). Wind speed, wind direction, and fine fuel moisture condition influence wildfire trajectory and rate of spread.
- *Consideration of topography in relation to values* (Section 4.1.1) – slope percentage and slope position of the value are considered, where slope percentage influences the fire's trajectory and rate of spread and slope position relates to the ability of a fire to gain momentum uphill.
- *Stratification of the WUI* – according to relative wildfire threat based on the above considerations, other local factors, and field assessment of priority wildfire risk areas.

Wildfire Threat Assessment (WTA) plots were completed over a number of field days in March 2024 in conjunction with verification of fuel types. WTA plots were completed in the interface (i.e., abrupt change from forest to residential development) and intermix (i.e., where forest and structures are intermingled) areas of the WUI to support development of priority treatment areas. A total of 14 WTA plots were completed and nearly 100 other field points (e.g., qualitative notes, fuel type verification, and/or photograph documentation) were made across the WUI.

It is important to note that the Local Wildfire Threat Assessment analyses do not apply to areas outside of the Eligible WUI (displayed in Map 1). As well, the threat assessment quantifies threat as it relates to forest fuels, and does not include the ignition potential of residential landscaping, structures or other infrastructure. Structure fires and structure-to-structure spread in a wildfire scenario are largely attributable to hazardous conditions in the Home Ignition Zone of a structure (i.e., the area within 30 meters of the principal building and/or its attachments). However, the analyses do provide relevant information regarding wildfire threat that should be considered for FireSmart and emergency management planning and preparedness.

Wildfire Threat Class Analysis

Classes of the wildfire threat class analysis are as follows:

- Very Low: Waterbodies with no forest or grassland fuels, posing no wildfire threat;
- Low: Developed and undeveloped land that will not support significant wildfire spread;
- Moderate: Developed and undeveloped land that will support surface fires that may or may not be threatening to homes and structures (depending upon their level of FireSmart);

- High: Landscapes or stands that are continuous forested fuels that will support candling, intermittent crown fires, or continuous crown fires. These landscapes are often steeper slopes, rough or broken terrain and/or south or west aspects.
- Extreme: Continuous forested land that will support intermittent or continuous crown fires.

The results of the wildfire threat class analysis are shown on Map 8 and in Table 15 below. The local threat analysis shows that <1% of the assessable public land (excluding water) in the WUI is classified as extreme fire behavior threat. This is located solely in Haldon Park, which has an attributed C-3 (higher risk) fuel type on a steep south-facing slope. No areas were classified as having a high wildfire threat. 29% is classified as moderate threat – these areas are typically conifer-dominated forests on a mix of subdued slopes. 71% is classified as low threat – these areas are typically managed parks (grass fields) and deciduous dominated forest areas.

One proposed fuel treatment area (see Section 5.7; "HALD-1") encompasses the three-hectare extreme wildfire threat class polygon in Haldon Park. Another fuel treatment area ("OAK-1A/1B") is located in a moderate wildfire threat class polygon. It was proposed due to its site-level characteristics, interface adjacency to homes, and opportunity for public demonstration of FireSmart vegetation management practices. Overall, due to the prevalence of private land, increasing wildfire resilience would be more efficiently achieved through residential-scale FireSmart treatment around structures and critical infrastructure.

Table 15: Fire threat summary for the WUI

Wildfire Threat			
Threat Class	**Hectares**	**Percentage (%) of WUI**	**% of Assessable Public Land (excluding water)**
Extreme	3	<1%	<1%
High	0	0%	0%
Moderate	191	5%	29%
Low	472	11%	71%
Very Low/No Threat (Water)	2	<1%	-
No Data (Private Land)	*3519*	84%	-

WUI Risk Analysis

In this analysis, WUI Risk is quantified when the Wildfire Threat (the above) is assessed as high or extreme, causing potential of unacceptable wildfire risk when near communities and developments. WUI Risk Classes are described below:

- **Low**: The high or extreme threat is sufficiently distant from developments, having no direct impact of the community and is located over 2 km from structures;
- **Moderate**: The high or extreme threat is sufficiently distant from developments, having no direct impact of the community and is located 500m to 2 km distance from structures;

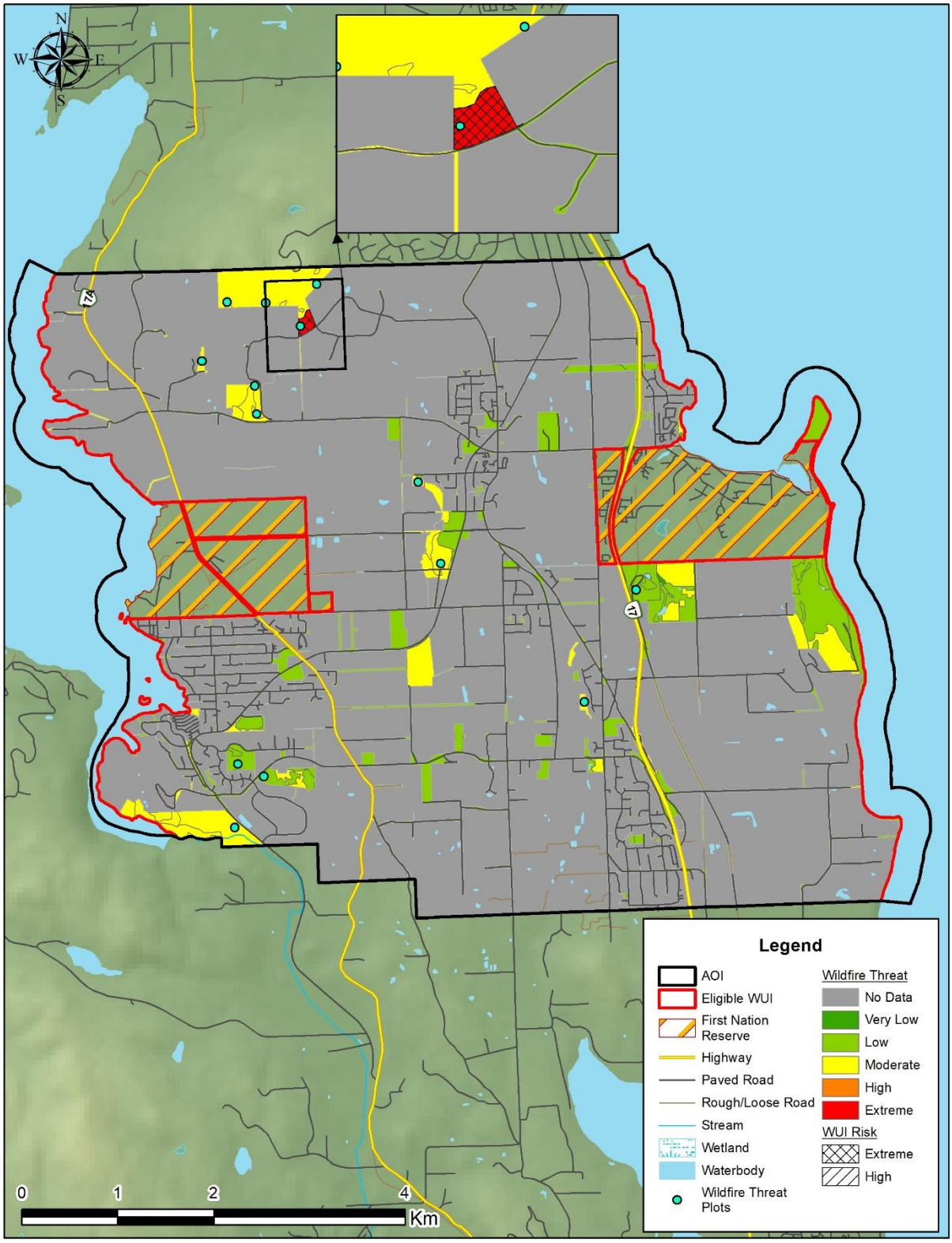
- **High**: The high or extreme threat has potential to directly impact a community or development and is located 200m to 500m from structures; and
- **Extreme**: The high or extreme threat has potential to directly impact a community or development and is located within 200m from structures.

Table 16 below (and also displayed on Map 8) summarizes the WUI Risk Classes within Central Saanich. Because there were no high wildfire threat polygons determined, and only one 3-hectare extreme wildfire threat polygon determined, which is directly interface to structures, only that 3-hectare extreme wildfire threat polygon is classified as also having extreme WUI Risk.

Importantly, these analyses exclude private land, which is a significant limitation. These numbers should not be used to rationalize a lack of WUI risk in the AOI.

Table 16: WUI threat class ratings

WUI Risk			
Threat Class	**Hectares**	**% of Entire WUI**	**% of Assessable Public Land**
Extreme	3	<1%	<1%
High	0	0%	0%
N/A (Moderate, Low, Very Low Fire Behavior)	665	16%	100%
No Data (Private Land)	*3519*	84%	-



Map 8. Central Saanich Local Fire Threat and WUI Risk Rating

4.5 HAZARD, RISK, AND VULNERABILITY ASSESSMENT

As part of their emergency management program, local authorities have a mandate to evaluate relative risk. A Hazard, Risk and Vulnerability Analysis (HRVA) is a tool that local governments can use to fulfill that requirement. Emergency Management BC supports this by providing an online HRVA tool and associated documents. The purpose of a HRVA is to help a community make risk-based choices to address vulnerabilities, mitigate hazards, and prepare for response and recovery from hazard events. The HRVA process assesses sources of potential harm, their likelihood of occurring, the severity of their possible impacts, and who or what is particularly exposed or vulnerable to these impacts.[48]

An update to Central Saanich's HRVA is planned for 2024 alongside a broader emergency plan update. The HRVA update should look to the most recently completed CWRP for wildfire threat and risk. Central Saanich's current HRVA, which was completed in 2007, recognizes wildland fire as a moderate hazard for the community. Identified at-risk areas included Butchart Gardens and the SȾÁUTW̱ (Tsawout) community.[49]

SECTION 5 FIRESMART DISCIPLINES

FireSmart is the nationally accepted set of principles, practices, and programs for reducing losses from wildfire.[50] FireSmart concepts, including recommended FireSmart guidelines,[51] have been formally adopted by almost all Canadian provinces and territories, including British Columbia in 2000. FireSmart has become the de facto Canadian standard. FireSmart is founded in standards published by the National Fire Protection Association.

FireSmart includes seven disciplines, which provide a sound framework for reducing wildfire risk to communities:

- Education
- Legislation and Planning
- Development Considerations
- Interagency Cooperation
- Cross-Training
- Emergency Planning
- Vegetation Management

[48]Government of BC. HRVA Example Report. https://www2.gov.bc.ca/assets/gov/public-safety-and-emergency-services/emergency-preparedness-response-recovery/local-government/hrva/hrva_forms-step_8-anytown_bc-sample_hrva_report.pdf

[49] Smart Risk Control Inc. 2007. Community Risk Assessment: Hazards, Vulnerabilities and Risks in District of Central Saanich. Report for the District of Central Saanich.

[50] FireSmart is the registered trademark held by the Partners in Protection Association.

[51] FireSmart guidelines first published in the 1999 manual "*FireSmart: Protecting Your Community from Wildfire*", with a second edition published in 2003. The most recent "*FireSmart Begins at Home Manual*" is available at https://firesmartcanada.ca/resources/. The "*British Columbia FireSmart Begins at Home Manual"* provides detailed guidance and is available at BC FireSmart: https://www2.gov.bc.ca/gov/content/safety/wildfire-status/prevention/firesmart

The following parts of this section provide information on each FireSmart discipline. FireSmart activities that Central Saanich has already implemented are discussed, as well as any relevant gaps and potential to expand and strengthen this programming. A compilation of recommended action items by FireSmart discipline, Central Saanich's "FireSmart Action Plan", is detailed in the Executive Summary. The FireSmart Roadmap concept, with recommended next steps, is detailed and discussed in Section 6. Most actions are fundable through the CRI FireSmart Community Funding and Supports program. Each recommendation includes a rationale, lead agency, timeline, and estimated resources to complete.

The overarching goal of FireSmart is to encourage communities and citizens to adopt practices to mitigate the negative impacts of wildfire to assets on public and private property. While responsibility for effectively mitigating hazards must be shared between many entities including residents, industry, businesses, and governments,[52] the ultimate root of the WUI problem is the vulnerability of structures and homes to ignition during wildfire events, in particular vulnerability to embers. Firebrands can be transported long distances ahead of the wildfire, across fire guards and fuel breaks, and accumulate in densities that can exceed 600 embers per square meter. Combustible materials found on the exterior of and surrounding homes (the FireSmart Home Ignition Zone) combine to provide fire pathways allowing spot surface fires ignited by embers to spread and carry flames or smoldering fire into contact with structures. As a result, risk mitigation actions on private properties are emphasized.

Community Overview

During CWRP development, FireSmart vulnerability and resilience factors for homes and neighbourhoods within Central Saanich were noted. These observations are qualitative notes on FireSmart structural characteristics and natural as well as landscaped vegetation in neighborhoods in the wildland-urban interface.

With regards to priority areas for FireSmart, Mount Newton and Rural Brentwood are the two Central Saanich neighbourhoods that are located in the forest interface. Both areas are flanked by large, forested Provincial Parks which extend in to the District – ŁÁU,WELṈEW̱/John Dean to the north of Mount Newton, and Gowlland Tod to the south and west of Rural Brentwood. Homes are widely spaced and intermixed into continuous forested areas. However, older subdivisions within all of the other neighborhoods have a number of identified FireSmart hazards (vegetation and building materials) that contribute to a higher risk of structure-to-structure fire ignition. Additionally, agriculture practices in fire season can increase or decrease fire behavior and risk to adjacent properties and structures. Education of these associated risks (e.g., leaving vegetative waste in fields that can transfer fire through them) and how they can be mitigated, as well as farm and ranch wildfire preparedness and planning, should also be prioritized.

[52] https://www.firesmartcanada.ca

Table 17: FireSmart vulnerability and resilience factors within Central Saanich

Neighbourhood	Vulnerabilities	Resilience Factors
Rural Mt. Newton	○ Forest intermix; contiguous with forested land in ŁÁU,WELN̓EW̓/John Dean Provincial Park and on Pauquachin First Nation IR ○ Large, forested properties, long driveways ○ Alec Road long, single access ○ Few fire hydrants (up to 2000 m away) ○ Fire Department concern	○ Fuels are moderate hazard; some mixedwood (deciduous component); mature conifers. ○ Thompson Place loop road ○ Most values are at lower slope positions
Turgoose	○ Some residual mature conifer trees near the shore	○ Mostly developed, low fuel areas ○ Good access/egress onto Hwy from Lochside Drive
Rural Island View	○ Pockets of forest fuels surround homes on Island View Drive; connection to more contiguous fuels on SȾÁUTW̓ (Tsawout) First Nation IR ○ Single access/egress	○ Lower hazard fuel types surround neighborhood (farms, beaches) ○ Total number of homes is small (<50)
Rural Brentwood	○ Forest intermix, contiguous with Wills Point and Gowlland Tod Provincial Park ○ Buchard Garden is intermixed, with high summer visitor numbers and single access, and is a *Fire Department concern*	○ Forest fuels are lower hazard; mature conifer with high crown base heights, some deciduous stands ○ Loop roads ○ Forested areas are mostly public park
Brentwood Bay Village	○ Prevalent conifer landscaping (mature residual trees) south of Sluggett Road	○ High density developed area; not in the interface
Rural Keating	○ Pockets of forest fuels	○ Mostly low hazard fuel types (deciduous, non-fuel, irrigated) ○ Fire Hall on Keating Road
Saanichton Village	○ Adjacent to moderate hazard forest fuel in Centennial Park	○ High density developed area; not in the interface ○ Fire Hall on Mt. Newton Cross Road

Neighbourhood	Vulnerabilities	Resilience Factors
		○ Centennial Park is well maintained; some low hazard riparian areas
Saanichton South	○ Prevalent conifer landscaping (mature residual trees) north of Stellys Cross Road ○ Heritage Acres, east of Hwy, has some FireSmart concerns; recommend conifer vegetation and surface fuel clean up around old heritage buildings.	○ Loop roads, no access/egress concerns ○ Neighbourhood surrounded by lower hazard fuels (non-fuel residential, agricultural)
Tanner Ridge	○ Copper Ridge Drive backs onto low-moderate hazard mixed wood riparian area ○ Rudolf Road scattered overstorey conifers ○ Forested Bear Hill Regional Park (Saanich) within 500 m	○ High density developed area; not contiguous with forested areas ○ Multiple access/egress routes to Hwy

Figure 10. Left – example of 'pockets' forest fuels proximal to rural homes (Lamond Road northwest of Rural Island View). Right – conifer hedges are not FireSmart (Brentwood Bay).

Figure 11. Left - FireSmart vegetation management required (White Road in South Saanichton). Right – New FireSmart construction (Saanichton)

5.1 EDUCATION

Description

Public education and outreach play a critical role in helping a community prepare for and prevent a wildfire. Participating in wildfire risk reduction and resiliency activities also promotes a sense of empowerment and shared responsibility. A successful public education campaign that builds awareness and understanding among residents and visitors can support the implementation of projects related to other FireSmart disciplines. FireSmart education activities constitute the 'engagement' phase of the FireSmart Roadmap and are the foundation for progress towards resiliency.

Analysis

FireSmart education and public outreach initiatives in Central Saanich are managed by the Fire Department through the FireSmart Coordinator. The full-time FireSmart Coordinator staff position was created in 2022, and along with Fire Department members who are trained as Wildfire Mitigation Specialists (2 members; required to deliver the Home Partner Program) and Local FireSmart Representatives (8 members), this position greatly increases the capacity of Central Saanich to deliver FireSmart programming to the public. Initiatives include:

- Awareness signage for posting on residents' mailboxes
- Awareness and event signage for Fire Danger Rating signs at both fire halls; municipal parks staff also post signs at park entrances during the fire season
- Distribution of educational materials at public events (e.g. May 2024 Emergency Preparedness Expo), community meetings, door-knocking campaigns
- Social media updates with FireSmart info and fire danger ratings (Facebook and Instagram)
- FireSmart-specific webpage on the District's website
- Community presentations and workshops at the Fire Halls, more planned for the summer months at garden centers and Farmers' Markets

- Free Home Partners Program Assessments – online sign-up
- Facilitation of the FireSmart Canada Neighborhood Recognition Program (FSNRP) – Port Royale in Brentwood Bay is in-progress

The main challenge for Central Saanich's public education initiatives is uptake and attendance – FireSmart home assessments have been slow to gain popularity. The Fire Department has noted that there is a range of receptiveness among residents, with some believing that a fire will never happen in the area. Recent high profile wildfire seasons such as 2023, which included the fire near Cathedral Grove that resulted in severe impacts to Highway 4, have started to turn the tide towards broader acceptance of wildfire risk within Central Saanich residents.

Action Planning

It is recommended that Central Saanich continue to evolve their FireSmart program – maintaining resource allocation to education initiatives, while testing and adjusting them based on uptake to build community engagement over time. Sharing information through known community leaders and established organizations, such as stratas, may be the most efficient way to target at-risk areas and grow the FSNRP. Adding a FireSmart dimension to initiatives already popular with community members, such as a community barbecue, Earth Day litter clean up, or invasive plant management is another suggested option for enhancing FireSmart public education in Central Saanich. These types of community events can count towards the annual FireSmart event that is a requirement of the FSNRP.

A summary of recommendations related to FireSmart education is detailed in Table 1 in the Executive Summary.

5.2 LEGISLATION AND PLANNING

Description

Local plans and bylaws relevant to wildfire risk and emergency planning were reviewed during the CWRP development process, with key points summarized in Section 2.3. Reviewing bylaws through a wildfire lens to assess where they inadvertently promote conditions that may contribute to fire spread (*i.e.,* restrictions on vegetation management), and determining where bylaws can be updated or strengthened to reduce wildfire risk to development can help accomplish the goal of a more wildfire resilient community.

Analysis

While Central Saanich's existing planning and bylaw framework is up to date, several opportunities to strengthen it were identified through this review process and through feedback from the CFRC. The Official Community Plan was updated in 2023 and recognizes wildfire risk to rural forested areas in the community, which represents progress made since 2019 and a positive 'integration' step on the FireSmart Roadmap. The only comment relating to policies in the OCP is that Central Saanich consider proactive vegetation management of parkland through a) mechanism to require developers (if dedicating parkland to the municipality through the subdivision process) to mitigate any hazardous conditions prior to dedication (this provision can also be written into the subdivision requirements section of a Wildfire Hazard DPA; discussed in Section 5.3); and, b) to include any extra maintenance costs associated with removal of excess surface fuel from hazard tree removal or trail clearing into park operating budgets.

The main planning concern is with regards to the undue restriction of vegetation management activities through the Tree Management Bylaw and the Erosion Control and Tree Cutting Bylaw. Under the Tree Management Bylaw, trees of any size or species in designated Erosion Permit Areas or in any 'Environmentally Sensitive Areas' (Environmental DPA or Riparian DPA) are considered protected and require a permit for removal. As there is almost complete overlap with the forested interface of Central Saanich (Mt. Newton and Rural Brentwood) and the Erosion Permit Area, as well as partial overlap with the Environmental DPA, requiring a permit for tree removal may restrict FireSmart landscaping vegetation management on private land where the removal of suppressed understory conifers is often desired. However, surface fuel clean-up and pruning are still allowed, as is removal of any tree planted as a hedge. Under the Tree Management bylaw, there are exemptions for sanctioned tree cutting operations on District land. However, the Erosion Control bylaw applies equally to District land and District activities.

Planning staff indicated that there have been a number of instances where owners of forested properties have applied for tree removal permits for the purpose of wildfire risk reduction. The process for permitted tree removal involves a free arborist property assessment and a $75 application fee, should removal be recommended. Permits are not required for the removal of dead trees. It should also be noted that the conditions of permits may not allow for satisfactory risk reduction on a property. There is a general concern from some District staff that the removal of all small trees in these areas will negatively impact forest succession over time.

Action Planning

It is recommended that the next revision of these bylaws consider including an exemption for District-approved fuel management activities on both private and District land. Consider allowing trees below a certain diameter to be removed without a permit, and/or restrict removal of these smaller-sized trees without a permit to within the 30 m 'Home Ignition Zone'. The most effective path forwards may be to implement a Wildfire Hazard DPA that overrides certain aspects of these tree protection bylaws (DPA application can be determined on a hierarchical level). Careful consideration must be made to balance all land-based objectives. It is not uncommon for municipalities to have environmental DPA guidelines that conflict with FireSmart principles. These conflicts should be resolved during DPA development.

Another note is that the Open Burning Bylaw has been relaxed since the 2019 CWPP to remove the permit requirements for campfires/recreational fires (<0.5 m dimensions). The Fire Department should keep track of the possible impact on campfire-specific wildfire or nuisance fire call-outs. The Open Burning Bylaw empowers fire department personnel to enforce conditions of the bylaw. Domestic yard waste fires and agricultural purpose fires require a permit under the bylaw, and are restricted to the period between October 15th – May 15th.

Another regulatory tool that can influence the rate at which FireSmart principles are adopted, and which Central Saanich could consider implementing, is a landscaping bylaw. Several jurisdictions, including the District of Squamish and the City of Nelson, have implemented Wildfire Landscaping Bylaws to prohibit the planting of new flammable conifer shrubs next to residences. Even without much enforcement, such a bylaw can a) educate the public on FireSmart best practices; b) set the tone for FireSmart recognition at the local government scale; and, c) be implemented for public infrastructure. Field work noted the prevalence of conifer hedges and shrubs. Ornamental cedar and juniper are both extremely flammable, and water demanding. The FireSmart BC Landscaping Guide provides excellent information for homeowners who are looking to make more conscious landscaping decisions to increase resiliency.[53]

A summary of recommendations related to FireSmart legislation and planning is detailed in in Table 1 in the Executive Summary.

5.3 DEVELOPMENT CONSIDERATIONS

Description

Introduced in Section 5.2, there are important structure and neighbourhood design features that can be regulated through land use planning and the development processes to mitigate the risk of impacts to a community by wildfire. In this context, development refers to any aspect of the built environment, including structures (homes, businesses, accessory structures), attachments to structures (fences, decks), critical facilities (hospitals, schools), and critical infrastructure (roads, bridges). Related considerations include:

[53] British Columbia FireSmart. FireSmart BC Landscaping Guide. https://firesmartbc.ca/wp-content/uploads/2021/04/FireSmartBC_LandscapingGuide_Web_v2.pdf

- Location of development in relation to high hazard forested vegetation, steep slopes, and other geographical features that contribute to extreme fire behavior (See Section 4.1.1 and 4.1.2)
- Vehicle access and egress;
- Availability and adequacy of water supply for firefighting;
- Type of construction materials on structures and attachments;
- Lot size and structure density;
- Design guidelines and architectural standards;
- Addressing and street signage; and,
- Landscaping, screening, and buffering.

A key policy tool that can be used to regulate development and facilitate the adoption of FireSmart best practices is through Development Permit Areas. These are geographic areas, defined in the Official Community Plan, where special conditions must be met, or construction or building design practices must be adhered to, to obtain a development permit. Pursuant to Section 5 of the 2015 BC Building Act, municipalities may not establish technical regulations related to buildings in their Building Bylaw. As a result, Development Permit Areas are commonly used to enact FireSmart requirements for new buildings (and specific renovations of existing buildings) and subdivision development.

Analysis and Action Planning

It is recommended that Central Saanich implement a Wildfire Hazard DPA and associated guidelines for rural forest interface areas (i.e. Mt. Newton and Rural Brentwood. These areas have rural zoning, so regulating subdivision design is not much of a factor; however, home renovation and construction will continue to occur on both developed and undeveloped lots in the area. A Wildfire Hazard DPA will help guide the construction of individual properties to minimize wildfire hazards and contribute to the fire safety of the neighbourhood and community. The following aspects should be considered in the creation of the Wildfire Development Permit Area:

- Establish DPA objectives, to give direction and measurable targets to this policy. Examples of DPA policy objectives could include: minimizing risk to property and people from wildfires, minimizing risk to forested areas surrounding the municipality, and conserving the visual and ecological assets of the forests surrounding communities, etc.
- Where possible, it is recommended to mandate FireSmart construction materials within the established wildfire hazard development permit area. This might include mandating the use of fire-resistant roofing and siding.
- Where possible, it is recommended to mandate the inclusion of a 1.5-meter non-combustible zone, and FireSmart landscaping on the property.
- Engage the development community and the public in the DPA development process to educate, inform, and allow for input (e.g. through workshops, informational sessions, or open houses).

A Wildfire Development Permit Area can incorporate as many or as few FireSmart construction and landscaping principles to achieve the level of risk reduction acceptable by the community and the

municipality. However, three key principles have been proven to provide the greatest risk reduction and should be seriously considered:[54]

- Installing fire-resistant roofing *with closed soffits and eaves*.
- Installing fire-resistant structure siding.
- Creating a 1.5-metre non-combustible zone surrounding the structure.

Providing more detailed specifications for a Wildfire DPA is beyond the scope of this plan. However, developing a Wildfire DPA policy is fundable through the CRI FireSmart Community Funding and Support Program. [55] An important next step to take to initiate a Wildfire DPA process is creating a working group of municipal staff from appropriate departments (e.g., Planning, Fire Department), to collaborate on acceptable policy language and structure (which can be aided by hiring qualified consultants).

Additionally, the construction of critical infrastructure should also be considered through a wildfire lens. An inventory of critical infrastructure was listed previously in Section 3.3.1. Some critical infrastructure has been assessed for wildfire risk by the District's FireSmart coordinator – assessments should continue on a priority basis.

A summary of recommendations that Central Saanich can implement to embed FireSmart practices and considerations into development are detailed in Table 1 in the Executive Summary.

5.4 INTERAGENCY COOPERATION

Description

The goal of interagency cooperation is to approach community wildfire resiliency planning from a landscape-level, multi-agency perspective. Coordination and cooperation are required to develop an effective CWRP and be prepared in the event of a wildfire. When planning occurs only within single agencies or departments, the potential for efforts to be duplicated increases. Inter-agency cooperation increases the ability of local governments to plan for and respond to emergencies effectively. For a municipality like Central Saanich, which is adjacent to forest land managed by other jurisdictions, and with critical infrastructure servicing the municipality located outside its boundaries, this is particularly important. Working together with adjacent jurisdictions can help increase awareness of different agencies' priorities and concerns.

Analysis and Action Planning

A Community FireSmart and Resiliency Committee (CFRC) is recommended as part of the CWRP development process.[56] A CFRC reflects the key planners and responders most involved in local FireSmart, wildfire resiliency planning, wildfire and emergency response, and land management specific to the WUI. Committees such as this foster collaborative problem solving and planning, and delineate required roles

[54] As noted in FireSmart BC's recently published "An examination of the Lytton, BC wildland-urban fire destruction" document and additionally detailed and discussed in the National Research Council's "National Guide for Wildland-Urban Interface Fires".
[55] 2024 CRI FireSmart Community Funding & Supports Program
[56] Starting in 2024, UBCM funding for the FireSmart Community Funding & Supports program will be contingent on having an active CFRC.

and actions during times of emergency response. Table 18 shows the participants in the existing Capital Regional District CFRC, in which Central Saanich participates. The CRD CFRC meets every three months, taking a break in the summer, and includes a guest speaker at each meeting. During this CWRP development process, a CFRC more internal to the District was formed, consisting of municipal staff and local stakeholders.

Table 18: Capital Regional District Community FireSmart Resiliency Committee (CFRC)

Agency	Title
Capital Regional District	FireSmart Coordinator
Metchosin	FireSmart Coordinator
Langford	FireSmart Coordinator
View Royal	FireSmart Coordinator
North Saanich	No FS Coordinator, uses a prevention officer
Sidney	FireSmart Coordinator
Central Saanich	FireSmart Coordinator
Sooke	FireSmart Coordinator

The District of Central Saanich has taken steps to cooperate and plan collaboratively with adjacent jurisdictions and land management agencies. There are mutual aid agreements in place between the Central Saanich Fire Department (CSFD) and fire departments in North Saanich, Sidney, Saanich, and the Victoria Airport Authority. Joint response to call outs at high-risk facilities is a common occurrence (~50 times per year). CSFD aims to train with their mutual aid partners at least once a year, and also collaborates for community events like parades and fundraisers. Regular communication with BC Parks is also recommended.

There is currently a good working relationship with BCWS, although BCWS is infrequently involved with interface fires on the Peninsula. In 2023, CSFD deployed resources (engine deployment and tactical tender ops) to interface fires in the Kamloops, Southwest, Prince George, and Northwest Fire Centers. BCWS has also participated in community events, such as the inaugural Emergency Preparedness Expo that was held in Central Saanich in May 2024. This event also involved all Saanich Peninsula fire departments (Central Saanich, North Saanich, Sidney, Saanich, and the Victoria Airport Authority) and the Peninsula Emergency Measures Organization (PEMO).[57]

There are also local opportunities to strengthen interagency cooperation for purposes including community wildfire resiliency with SȾÁUTW̱ (Tsawout) and W̱JOŁEŁP (Tsartlip) First Nations, both of which have reserve parcels with communities within the District's municipal boundary. UBCM has approved Central Saanich to provide its FireSmart program and associated activities to the reserve communities. This opens a number of strategic funding and program opportunities with the broader goal of supporting each Nation's own FireSmart grant applications and programs. The need (and benefits) of cooperative

[57] https://www.centralsaanich.ca/our-community/news/central-saanich-host-regional-emergency-expo-may-5-public

FireSmart programming and wildfire risk reduction will only increase as current and future additions to reserve processes (with purchased land, adjacent to the reserve but not yet in the reserve) are underway.

Through the development of this plan, preliminary conversations were held and information shared, and continuing to build these relationships is of key importance to the District. Continued collaboration will increase the likelihood that opportunities for joint initiatives are identified. It is recommended that moving forwards, the following important risk reduction and planning topics are regularly broached between Central Saanich and SȾÁUTW̱ (Tsawout) and W̱JOŁEŁP (Tsartlip) First Nations:

- Memorandums Of Understanding or Letter of Understanding for engagement and areas of shared interest/a path on where and how they can work together, versus specifically working together only on fire services.
- Continued fire services agreements.
- UBCM CRI FireSmart Community Funding & Supports funding application(s), as well as other grants, as applicable;
- Updates on the Central Saanich Fire Department and FireSmart Program;
- Implementation of any CWRP recommendations;
- Progress of other emergency management planning.
- Discussion of ongoing projects, priorities, and concerns.

Additional recommendations and action items that Central Saanich can implement to increase interagency cooperation are listed in Table 1 in the Executive Summary.

5.5 CROSS-TRAINING AND FIRE DEPARTMENT RESOURCES

Description

All staff and agency partners who are expected to participate in the development and implementation of this plan, or participate in wildfire response and recovery, should be appropriately trained.

Analysis and Action Planning

Central Saanich Fire Department's (CSFD) current schedule of training includes both standard and specialized wildfire training for members. Minium wildfire training standards for members is S-100, with some members trained in WSPP-WFF1 (Wildland Firefighter – Level 1) and WSPP-115 (Wildland Structure Protection Program). CSFD's training program as it stands is considered robust, and the focus should be on continuing to provide opportunities for members to take outside courses. As the CSFD continues to outfit a structural protection unit trailer, they should consider training more members in WSPP-115, which covers sprinkler application and other structural protection techniques using FireSmart principles and is a prerequisite for structural firefighters to be deployed to wildfires on Structure Protection Crews.[58] At a minimum, internal training on Central Saanich's SPU should be provided to all members.

[58] https://www2.gov.bc.ca/gov/content/safety/wildfire-status/about-bcws/employment-and-contracts/bc-wildfire-structure-protection-program/structure-protection-program-training

In addition to fire department members, grant funding for training opportunities is available for other emergency management staff. Training programs include, but are not limited to: Introduction to Emergency Management in Canada (basic concepts and structure of emergency management); and ICS-100 (introduction to an effective system for incident command, control, and coordination of response at an emergency site – available online). Assessing the skills and training of municipal staff who may be involved in the Emergency Operations Centre, and providing training courses as required, is recommended.

In 2023, CSFD deployed firefighters and resources to six separate interface fire events across BC. These deployments served as valuable cross-training opportunities for the department. Cross-training between BCWS and structural fire crews is important as crews are likely to work together and use each other's equipment in the event of an interface wildfire. Multi-jurisdictional emergency planning exercises are also valuable to schedule with mutual aid partners and other emergency responders (e.g., PEMO, REMP), for similar reasons. The objectives for these exercises overlap with objectives for Interagency Cooperation (Section 5.4), which includes strengthening relationships and sharing information between agencies.

CSFD staff and equipment is summarized in Section 3.2.1 – First Responders. Equipment deficiencies were not reported as a concern. Water availability for suppression purposes where required within the municipality is considered adequate, although the CSFD indicated that broader hydrant coverage (i.e. Rural Mt. Newton) would enable higher flow rates in those areas. However, CSFD has attained Superior Tanker Shuttle Service (SSTS) accreditation, which is a recognized equivalency to hydrant protection, and allows residents that are within 5 km of a suitable water supply point and within 10 km driving distance of a fire hall to qualify for associated reductions in home insurance. To be accredited, fire departments must commit to maintaining a high standard of organization, and practice delivering the service regularly.[59] The fire department must be able to show through testing and documentation that it can continuously provide water supplies in excess of the minimum required for hydranted municipal-type water supplies. As such, CSFD is well equipped to respond to structural and small interface fires within its response area.

Recommendations related to cross-training and fire department resources are listed in Table 1 in the Executive Summary.

5.6 EMERGENCY PLANNING

Description

Local government wildfire preparedness and resource availability are critical components of efficient wildfire prevention and planning. When several wildfire emergencies are taking place throughout the province, BCWS resource availability may become scarce. Deployment of provincial resources occurs based on the Provincial Coordination Plan for Wildland-Urban Interface Fires.[60] Therefore, local

[59] https://fireunderwriters.ca/grading/superior-tanker-shuttle-service.html

[60] Provincial Coordination Plan for Wildland Urban Interface Fires. 2016. Retrieved from: https://www2.gov.bc.ca/assets/gov/public-safety-and-emergency-services/emergency-preparedness-response-recovery/provincial-emergency-planning/bc-provincial-coord-plan-for-wuifire_revised_july_2016.pdf

government wildfire preparedness and resource availability are critical components of community wildfire resilience – individuals and agencies need to be ready to act. Plans, mutual aid agreements, resources, training, and emergency communications systems make for effective wildfire response.

Pre-incident plans are one component of emergency planning. A pre-incident plan is a compilation of essential fire management information needed to save valuable time during fire suppression operations. It might take the form of a brief document, or a map, or both, and include access/egress information. The purpose of these plans is to share key information about the community with other agencies who otherwise would not have access to this local context. This could include the following topics (grouped by the related Incident Command System categories):

- **Command:** Authority, constraints, structural protection needs, management constraints.
- **Operations:** Helicopter base locations, flight routes, restrictions, and water intakes, fire control line locations and natural barriers, crew/personnel safety zones and staging locations, fuel caches.
- **Logistics:** Base camp locations, roads and trails, utility and communications critical infrastructure.
- **Planning:** Maps (neighbourhoods, vegetation and fuel, fuel treatment areas, hazards, critical infrastructure, archaeology and environmentally sensitive areas, water sources, access/egress.

Currently, communities who are working towards completing a Structural Protection Unit under the CRI FCFS program must request a Structure Protection Community Assessment from the BCWS Structure Protection Coordination Office.[61] A Structure Protection Community Assessment is a type of pre-incident plan. Central Saanich has applied for a SPU trailer; a review of what equipment is still needed should be done and requirements applied for in upcoming grant applications.

Analysis and Action Planning

Central Saanich manages its own emergency management program. The District's emergency plan and associated evacuation plan, which includes all stakeholders, is scheduled for an update in 2024, along with the HRVA. Central Saanich staff undertake EOC training annually, and participate in various workshops and tabletop exercises jointly with the Town of Sidney and the District of North Saanich. One such exercise involved a wildfire simulation near Mt. Newton. The District's EOC has not been activated for a wildfire event, nor have any community evacuations been necessary for other emergencies. The EOC was activated for a washout on the Malahat in 2021 which caused very long line ups of people waiting to board the Brentwood Bay ferry. This illustrates the potential emergency response complications that road closures combined with high numbers of summer visitors could cause.

The CFRC noted that most addressing is visible throughout the District, and there has been strong uptake in a District program to sell and install reflective signs for $65. However, there are some challenges with emergency access and egress in Central Saanich. Gates, although passable by emergency response personnel, are present on Seabrook Road, Willow Way, and Island View Beach (CRD Regional Park).

[61] https://www.ubcm.ca/cri/firesmart-community-funding-supports

Additionally, some rural areas have long driveways, narrow streets, and limited or no turn-around areas. Alec Road is a particular concern and has been the subject of a Fire Department wildfire simulation event. Buchart Gardens is also an evacuation concern due to its interface location and high numbers of summer visitors. Given the overlap of areas with higher wildfire risk and access/egress complications, the CSFD should consider the possibility of working with stakeholders to develop and test evacuation/emergency plans for Rural Mt. Newton and Buchart Gardens.

Wildfire Preparedness Condition Level

Central Saanich, in conjunction with the CFRC and local government partners, could also consider developing local daily action guidelines based on expected fire weather conditions (determined by fire danger class for that day – discussed previously in Section 4.1.3; see Coastal Fire Centre Danger Class rating webpage[62]). Table 19 below is an example of local daily action guidelines based on expected wildfire conditions.

Table 19. Example of a Wildfire Preparedness Condition Guide[63]

Prep-Con LEVEL	ACTION GUIDELINES
I LOW	• *All Community staff on normal shifts.* • *Staff will update fire danger signs.*
II MODERATE	• *All Community staff on normal shifts*
III HIGH	• *All Community staff on normal shifts.* • *Daily detection patrols by staff.* • *Regional fire situation evaluated.* • *Daily fire behavior advisory issued.* • *Wildland fire-trained Community staff and EOC staff notified of Prep- Con level.* • *Establish weekly communications with local wildland fire agency contacts* • *Hourly rain profile for all weather stations after lightning storms.* • *Designated Community staff update fire danger signs.*
IV EXTREME	• *Rain profile (see III).* • *Daily detection patrols by Staff.* • *Daily fire behavior advisory issued.* • *Regional fire situation evaluated.* • *EOC staff considered for stand-by.* • *Wildfire Incident Command Team members considered for stand-by/extended shifts.* • *Designated Community staff: water tender and heavy machinery operators, arborists may be considered for stand-by/extended shifts.* • *Consider initiating Natural Area closures to align with regional situation.*

[62] https://wfapps.nrs.gov.bc.ca/pub/wfwx-danger-summary-war/dangerSummary?fireCentre=Coastal%20Fire%20Centre
[63] 2023 CWRP Template

Prep-Con LEVEL	ACTION GUIDELINES
	• *Provide regular updates to media Services members/Community staff on fire situation.* • *Update public website as new information changes.*
V FIRE(S) **ONGOING**	• *All conditions apply as for Level IV (regardless of actual fire danger rating).* • *Provide regular updates to media/structural fire departments/municipal park staff on fire situation.* • *Mobilize EOC support if evacuation is possible, or fire event requires additional support.* • *Mobilize Wildfire Incident Command Team under the direction of the Fire Chief.* • *Implement Evacuation Alerts and Orders based on fire behavior prediction and under the direction of the Fire Chief.*

Recovery Planning

Recovery plans are a critical part of emergency planning. Central Saanich's emergency plan addresses emergency response as well as recovery. In the event of an emergency, Central Saanich will work with the Peninsula Emergency Measures Organization (PEMO) to provide Emergency Social Services to affected residents.

Recommendations and action items related to emergency management planning are detailed in Table 1 in the Executive Summary.

5.7 VEGETATION AND FUELS MANAGEMENT

Description

As discussed in Section 4.1, fuel is the only aspect of the fire behavior triangle that can be modified to reduce wildfire threat. Vegetation management reduces potential wildfire intensity and ember exposure to people, infrastructure, structures, and other values through manipulation of both the natural and cultivated vegetation within or adjacent to structures and the community. A well-planned vegetation management strategy can greatly increase fire suppression effectiveness and reduce damage to property and to values.

Vegetation management can largely be accomplished through two different activities: residential FireSmart landscaping, or fuel management treatments.

FireSmart Landscaping

Residential FireSmart landscaping refers to the removal, reduction, or conversion of flammable plants to create more fire-resistant areas in the FireSmart Immediate, Intermediate, and Extended Zones (Figure 12).

Figure 12. FireSmart Home Ignition Zone

Analysis and Action Planning

When it comes to supporting residential FireSmart, the District is focused primarily on community engagement through offering Home Partners Program assessments, distributing educational material, and promoting FireSmart at community events. It is recommended that next steps involve removing barriers for residents who wish to remove forest fuel on their property. This plan identified several ways that vegetation management activities could be supported by Central Saanich:

- Offer opportunities for residents to dispose of yard waste for reduced or no fees: e.g., offer a spring or fall chipper program, or disposal bin.
- Promote and facilitate a neighbourhood FireSmart BBQ/clean-up day; this event can count towards FireSmart Canada Neighbourhood Recognition.
- Offer a FireSmart rebate program. The current program's rebate allows for rebates of 50% of applicable work completed, up to $5,000.00 returned.

Fuel Treatments

Fuel management treatments change the structure and/or reduce the quantity of forest and grassland fuels in an area. This reduces the rate of spread and head fire intensity of fires and enhances the likelihood of successful fire suppression. Fuel management treatments may be linear fuel breaks or polygon treatments for discrete areas, typically outside of the Home Ignition Zone. The intent of establishing fuel treatments is to modify fire behaviour, and they should be designed to keep surface fires on the ground to avoid them from becoming more dangerous crown fires.

An additional important objective of fuel treatments is to increase the feasibility, safety, and efficacy of suppression activities. Fuel treatments can be "anchor points," or strategic locations where fire control

line construction can start or finish.[64] Decreasing the rate of spread and head fire intensity means that ground crews are more likely to be able to access the area and successfully implement fire control tactics with the use of hand tools, water delivery systems, and/or heavy equipment. In contrast, where hazardous forest fuels promote more intense fire behaviour, fire control options become more limited, and ground crew access may not be possible, or is staged further away. The application of appropriate suppression tactics in a timely manner with sufficient resources is essential for fuel treatments to be effective. To increase the efficacy of fuel treatments, FireSmart standards should be applied to structures and their associated vegetation and other fuels to reduce the risk of structures igniting. Fuel treatment units require periodic maintenance to retain their effectiveness.

Analysis and Action Planning

Fuel management treatment projects have not yet been undertaken in the municipality. However, BC Parks has implemented a fuel treatment in ŁÁU,WELṈEW̱/John Dean Provincial Park, immediately north of Central Saanich, which lowers the wildfire risk to the municipality and provides anchor points for wildfire suppression efforts that affect Central Saanich's wildfire risk profile.

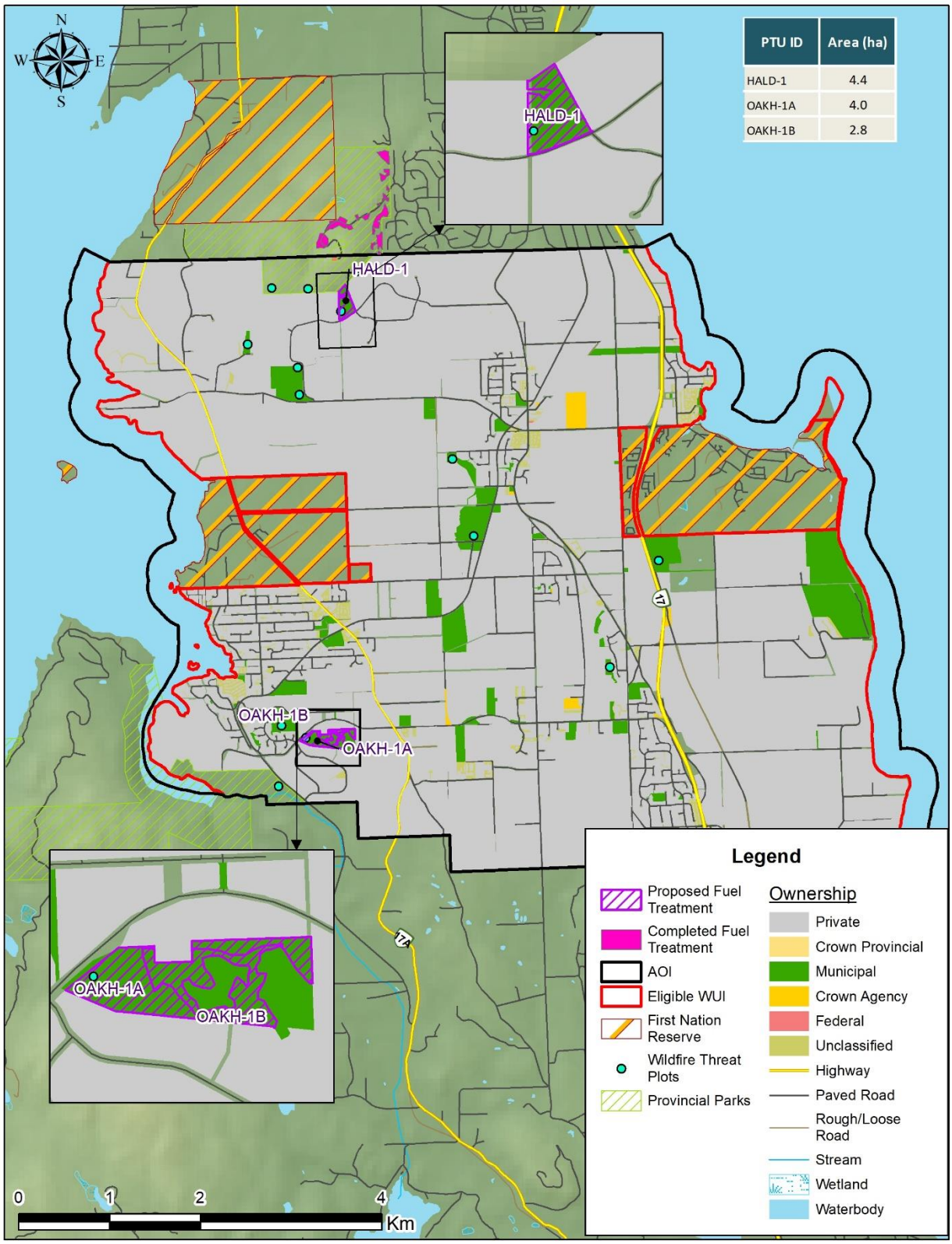
Several proposed treatment units are identified below in Table 20 and on Map 9. They are all polygon treatment units in areas of identified site-level wildfire risk – both from a wildfire environment standpoint (topography and fuel), but also due to their adjacency to interface/intermixed homes. They all have public walking/hiking trails through them. This lends them to also being FireSmart vegetation management demonstration projects, highlighting vegetation risk mitigation work (i.e., pruning, understory conifer removal, surface fuel clean-up) that homeowners can implement on their own properties.

Recommendations and action items related to vegetation and fuels management are detailed in Table 1 in the Executive Summary.

[64] BC Wildfire Service. 2020. 2020 Fuel Management Prescription Guidance. https://www2.gov.bc.ca/assets/gov/public-safety-and-emergency-services/wildfire-status/prevention/fire-fuel-management/fuels-management/2020_fuel_management_prescription_guidance_final.pdf

Table 20. Proposed Fuel Treatment Units in the Central Saanich WUI

PTU Name	Priority	Total Area (ha)	Wildfire Behaviour Threat				Overlapping Values / Constraints	Treatment Rationale
			Extreme	High	Mod	Low		
HALD-1	High	4.4	3.0	0.0	1.4	0.0	District of Saanich municipal park land. Area cut out of the treatment is a Garry oak dominated dry site, which is environmentally significant and protected. Access management required along public trail. Private property adjacent. Slopes average 30-40%. Overlaps with multiple ecological and vascular plant red and blue listed species and ecosystems at risk.	South facing lower slope. Young mature western red cedar leading stand with a moderately-dense understorey of regenerating western red cedar (C-5/C-3 mixed fuel type stand). Some mature cedars have branches close to or at the forest floor. Thus, there is a high level of horizontal and vertical fuel continuity. Moderate to high fine woody debris fuel loading. Hiking trail along west edge provides access, and also a fire ignition source from the public. Directly adjacent to intermixed homes. Installing interpretive signs afterwards describing the FireSmart vegetation management work completed, along with before and after pictures, is recommended. Treatment recommended: candidate for demonstration project. Danger tree removal, thin from below understorey conifers, prune remaining conifers, surface fuel reduction. *WTA HALD-1 site-level score: High*
OAKH-1A	Moderate	4.0	0.0	0.0	0.0	4.0	District of Saanich municipal park land. Area cut out of the treatment is a Garry oak dominated dry site, which is environmentally significant and protected. Access management required along public trails and resident driveways. Private property adjacent. Overlaps with multiple ecological, vascular plant, and invertebrate animal red and blue listed species and ecosystems at risk.	OAKH-1A and 1B should be considered for joint prescription and treatment. They are separated due to differing assessed fuel types (OAKH-1A = C-5; OAKH-1B = M-1/2). Conifer dominated park area with public walking trails throughout. Directly adjacent to intermixed homes. Western red cedar limbs to forest floor. Scattered dead understorey western red cedar. Surface fuel loading is low to moderate. Invasives present should be targeted for removal (English holly and English ivy). Installing interpretive signs afterwards describing the FireSmart vegetation management work completed, along with before and after pictures, is recommended. Treatment recommended: candidate for demonstration project. Danger tree removal, thin from below understorey conifers, prune remaining conifers, surface fuel reduction. *WTA HALD-1 site-level score: Moderate*
OAKH-1B	Moderate	2.8	0.0	0.0	2.8	0.0		



Map 9. Proposed Fuel Treatments Units for Central Saanich

SECTION 6 FIRESMART ROADMAP AND CWRP ACTION PLAN

6.1 FIRESMART ROADMAP

The FireSmart Roadmap (see Appendix F: FireSmart Roadmap) is a concept that visually demonstrates how no two communities will follow the same path towards increased community wildfire resiliency, but that actions progress along four sequential phases. Some activities, including education, may appear in multiple phases but should reflect progression in terms of the community's understanding and adoption of FireSmart principles.[65]

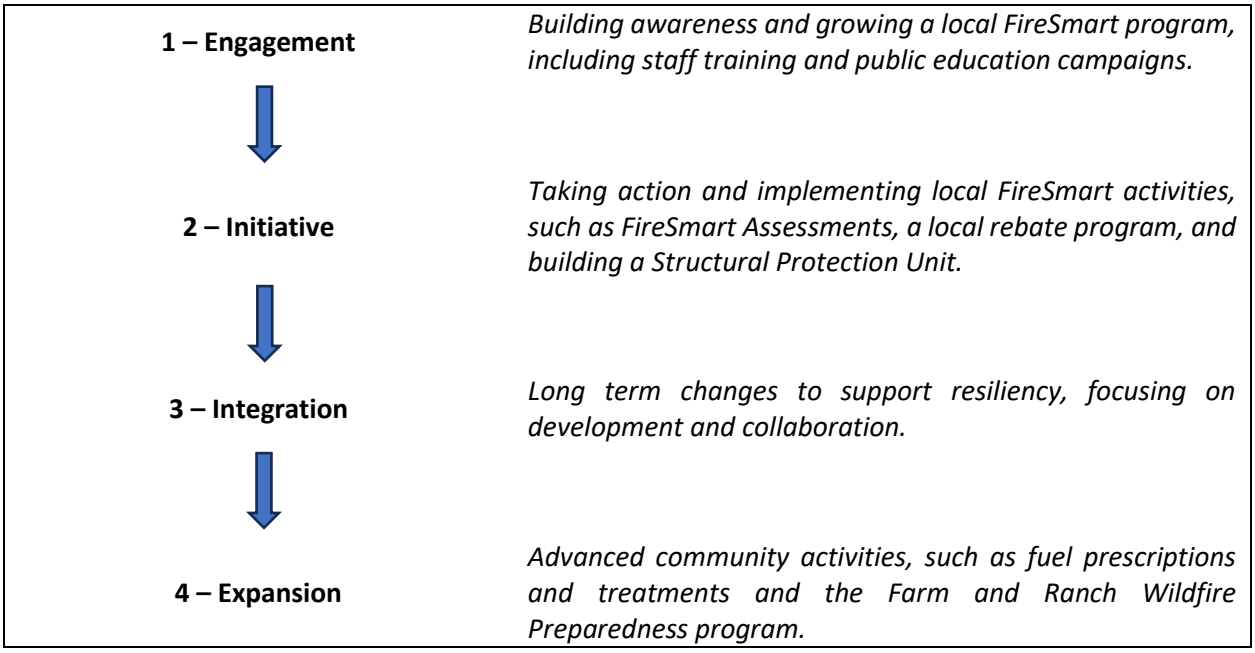


Figure 13. Graphic representation of the FireSmart Roadmap concept.

Prior to the first phase, FireSmart BC recommends that three foundational elements are in place:

- A FireSmart Coordinator
- A Community Wildfire Resiliency Plan
- A Community FireSmart Resiliency Committee

Central Saanich has all three elements in place, and is progressing through the engagement, initiative, and integration phases of the Roadmap. As a large municipality that actively regulates development, Central Saanich has already engaged in the Integration phase despite having a relatively new FireSmart program.

[65] Community Resiliency Investment. (2023). *FireSmart Community Funding and Supports Supplemental Instruction Guide.* Retrieved from: https://www.ubcm.ca/funding-programs/local-government-program-services/community-resiliency-investment/firesmart-0

Examples of activities completed and ongoing under each phase, with comments and suggested next steps (included in the CWRP Action Plan) include:

Table 21. Summary of Central Saanich's progress along the FireSmart Roadmap

FireSmart Roadmap Stage	Current Status	Community Response	Recommended Next Steps
1 – Engagement	Fire Department personal have been trained as Wildfire Mitigation Specialists (2) and Local FireSmart Representatives (8); Central Saanich FireSmart is actively delivering FireSmart education programming through print resources and in-person events.	Mixed response but generally residents are on board.	Continue efforts and focus on intermix neighborhoods, leveraging existing community groups if possible.
2 – Initiative	One FireSmart Canada Recognition Program neighbourhood in progress; free Home Partners Program assessments offered.	Uptake is slow.	Removal of barriers for FireSmart landscaping – examples include: a chipper or bin program, or clean-up day.
3 – Integration	New Official Community Plan includes recognition of wildfire risk.	n/a	Consider a Wildfire Hazard DPA and the review of possible barriers to vegetation management on private land. Move FireSmart further into the community through the FireSmart BC Plant Program and Library program.
4 – Expansion	FireSmart Coordinator trained to deliver Farm and Ranch Wildfire Preparedness workshop.	n/a	Host Farm and Ranch Wildfire Preparedness workshops. Obtain funding to prescribe and treat recommended fuel treatment areas in municipal parks

Table 1 in the Executive Summary details the Action Plan for Central Saanich. Each Action Item is a prioritized recommendation supported with a rationale, suggested lead agency, expected timeframe, resources required (funding, staff capacity), and metric for success. The corresponding Roadmap phase is also noted.

6.2 TRACKING, REPORTING, AND UPDATES

Appendix G: 2019 CWPP Recommendations summarizes recommendations from Central Saanich's last community wildfire plan, and the current status. This review was used to inform the 2024 Action Plan.

As Central Saanich works towards implementation of this plan, consider scheduling an annual review of progress made towards each action item/recommendation. Tracking and reporting will create accountability and also help with future funding applications. Consider reporting accomplishments and successes of the FireSmart program (for example, number of members trained, number of assessments completed) in a brief annual report that can be shared with the public, and serve to further Firesmart engagement.

Central Saanich should prepare for a five-year comprehensive review/update of the entire plan. A current CWRP (typically 5 years or less) is presently a requirement of the FCFS program. The update should review the entire plan and consider how risk has changed based on any recent wildfires, vegetation management works completed, significant changes to the built environment due to growth and development, economic changes, or other factors that would influence the overall success of the plan. This would also include a detailed analysis of all completed fuel management treatments within the planning area with an updated status and/or a maintenance plan.

Central Saanich has been provided with this 2024 CWRP Action Plan as an Excel spreadsheet. This will allow for easy updating and tracking, with new columns and rows added as necessary. This spreadsheet can form the basis for the next CWRP update and assist Central Saanich in reporting on progress to elected officials and the public, as well as for grant applications.

APPENDICES

APPENDIX A: HOME IGNITION ZONE

Home and Critical Infrastructure Ignition Zones

Multiple studies have shown that the principal factors that contribute to structure loss by wildfire are the structure's characteristics and immediate surroundings. The area that determines the ignition potential of a structure is referred to (for residences) as the Home Ignition Zone or (for critical infrastructure) the Critical Infrastructure Ignition Zone.[66,67] Both the Home Ignition Zone and Critical Infrastructure Ignition Zone include the structure itself and four concentric, progressively wider zones out to 30 m from the structure (Figure 14 below). More details on can be found in the FireSmart Manual.[68]

Figure 14: FireSmart Home Ignition Zone (HIZ)

During extreme wildfire events, most home destruction results from low-intensity surface fires, usually ignited by embers. Embers can be transported long distances ahead of the wildfire, across fire guards and fuel breaks, and accumulate within the Home Ignition Zone or Critical Infrastructure Ignition Zone in densities that can exceed 600 embers per square meter. Combustible materials found within the Home Ignition Zones or Critical Infrastructure Ignition Zones to create fire 'pathways', allowing surface fires ignited by embers to spread and carry flames into contact with structures.

[66] Reinhardt, E., R. Keane, D. Calkin, J. Cohen. (2008). *Objectives and considerations for wildland fuel treatment in forested ecosystems of the interior western United States*. Forest Ecology and Management 256:1997 - 2006.
[67] Cohen, J. *Preventing Disaster Home Ignitability in the Wildland-urban Interface*. Journal of Forestry. p 15 - 21.
[68] https://firesmartcanada.ca/ and https://www2.gov.bc.ca/gov/content/safety/wildfire-status/prevention/firesmart

Because ignitability of the Home Ignition Zone or Critical Infrastructure Ignition Zone is the main factor driving structure loss, the intensity and rate of spread of wildfires beyond the community does not always correspond to a high potential of loss or damage. For example, FireSmart homes with low ignitability may survive high-intensity fires, whereas highly ignitable homes may be destroyed during lower intensity surface fire events.[67] Extreme wildfire conditions do not necessarily result in WUI fire disasters.[69] It is for this reason that the key to reducing WUI fire structure loss is to reduce structure ignitability. Mitigation responsibility must be centered on structure owners. Risk communication, education on the range of available activities, and prioritization of activities should help homeowners to feel empowered to complete simple risk reduction activities on their property.

Community Zone

The Community Zone encompasses all non-Provincial Crown public land within the municipal boundary, that is beyond 30 metres from private structures.[70] Vegetation management planning and implementation on most Community Zone lands should be directed through a formal fuel management prescription developed by a forest professional with wildfire vegetation management within their scope of practice[70]. Depending on the results of FireSmart Structure Ignition Zone assessments on individual structures, vegetation management may be required beyond 30 metres and up to 100 metres (FireSmart Priority Zone 3) on larger private parcels. Municipal parks, trails, and outdoor event spaces are all part of the Community Zone. Often Community Zone lands see high use by the public, which increases accidental ignition potential and risk to properties surrounding them.

Landscape Zone

The Landscape Zone encompasses provincial Crown lands that are located outside the municipal boundary. Vegetation (fuel) management planning and implementation is primarily the responsibility of the provincial government, working collaboratively to align landscape objectives with the CWRP objectives.[70] Vegetation management planning and implementation in the Landscape Zone and on all forested provincial Crown lands must be directed through a formal fuel management prescription developed by a forest professional with wildfire vegetation management within their scope of practice.[70]

Fire hazard in the WUI is partly dictated by the proximity of fuel to developed areas. Fuels closest to the community pose a higher hazard, compared to fuels that are further from values at risk. It is recommended that fuels closest to structures or developed areas are prioritized for treatment first, in order to reduce the risk closest to the community. Continuity of fuel treatment is an important consideration, which can be ensured by reducing fuels from the edge of the community outward. Table 22 describes the classes associated with proximity of fuels to the interface.

[69] Calkin, D., J. Cohen, M. Finney, M. Thompson. 2014. *How risk management can prevent future wildfire disasters in the wildland-urban interface*. Proc Natl Acad Sci U.S.A. Jan 14; 111(2): 746-751. Accessed online 1 June, 2016 at http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3896199/.

[70] Community Resiliency Investment. (2023). *FireSmart Community Funding and Supports Supplemental Instruction Guide.* Retrieved from: https://www.ubcm.ca/funding-programs/local-government-program-services/community-resiliency-investment/firesmart-0

Table 22. Proximity to the interface

Proximity to the Interface	Descriptor*	Explanation
WUI 100 *Home Ignition Zone, Critical Infrastructure Ignition Zone, and Community Zones*	(0-100 m)	This Zone is always located adjacent to the value at risk. Treatment would modify the wildfire behaviour near or adjacent to the value. Treatment effectiveness would be increased when the value is FireSmart.
WUI 500 *Community and Landscape Zones*	(100-500m)	Treatment would affect wildfire behaviour approaching a value, as well as the wildfire's ability to impact the value with short- to medium- range spotting; should also provide suppression opportunities near a value.
WUI 1000 *Landscape Zone*	(500-1000 m)	Treatment would be effective in limiting long – range spotting but short- range spotting may fall short of the value and cause a new ignition that could affect a value.
Landscape Zone	>1000 m	This should form part of a landscape assessment and is generally not part of the zoning process. Treatment is relatively ineffective for threat mitigation to a value, unless used to form a part of a larger fuel break / treatment.

**Distances are based on spotting distances of high and moderate fuel type spotting potential and threshold to break crown fire potential (100m). These distances can be varied with appropriate rationale, to address areas with low or extreme fuel hazards.*

APPENDIX B: WTA PLOTS AND PHOTOS

Table 23 displays a summary of all Wildfire Threat Assessment (WTA) plots completed during CWRP field work. The original threat plot forms and photos are attached as a separate PDF package. The following ratings are applied to applicable point ranges: Low (0-48); Moderate (49 – 66); High (67 – 80); Extreme (>80).

Table 23. Central Saanich WTA Plot Summary

WTA Plot ID	Geographic Location	Wildfire Behaviour Threat Class
BECC-1	South of Cultra Avenue.	Low (37)
BUTT-1	Butterfield Park (south), in the rural Mt. Newton area.	Moderate (43)
BUTT-2	Butterfield Park, in the rural Mt. Newton area.	Moderate (47)
BUTT-3	Butterfield Park – newly acquired parcel	Moderate (42)
CENT-1	Centennial Park.	Low (39)
COOP-1	West of Copperfield Drive and east of Victoria Therapeutic Riding Association.	Moderate (46)
GORE-1	Gore Nature Park in rural Brentwood Bay.	Low (41)
GOWL-1	Gowlland Tod Provincial Park east side.	Moderate (45)
HALD-1	Haldon Park within the HALD-1 proposed treatment unit.	High (67)
HERI-1	Heritage Acres Park Forest, east of Patricia Bay Highway.	Moderate (48)
JD-1	ŁÁU,WELNEW/John Dean Provincial Park, northeast area of the wild land urban interface.	Moderate (45)
JD-2	ŁÁU,WELNEW/John Dean Provincial Park (center of wild land urban interface).	Low (39)
JD-3	ŁÁU,WELNEW/John Dean Provincial Park (northwest wild land urban interface).	Moderate (43)
OAKH-1	Oak Haven Park, within the OAKH-1A/B proposed treatment unit.	Moderate (45)
WOOD-1	Municipal forest land, north of Rae Leigh Place, and east of Woodwyn Terrace.	Moderate (50)

APPENDIX C: MAPS

Provided separately as PDF package.

APPENDIX D: LOCAL WILDFIRE RISK ASSESSMENT PROCESS

The Wildfire Threat Assessment results that are described in Section 4.4 were obtained through a process consisting of the following steps:

1. Updating fuel typing through in-situ verification (field work) and orthophotography.
2. Updating structural data using in-situ verification, spatial data, and orthophotography.
3. In-situ observations of wildland fuels and completion of Wildfire Threat Assessment worksheets.

4. Wildfire threat spatial analysis to produce mapping and statistics described in Section 4.3, using updated fuel typing, updated structural data, and Wildfire Threat Assessment worksheet results.

This appendix provides methodological information for each of the above steps to produce the Wildfire Threat Assessment, as follows:

- Further details on fuel typing update methodology are provided in Appendix D-1: Fuel Typing Methodology and Limitations
- Wildfire Risk Assessment plot worksheets are provided in Appendix B.
- Wildfire threat spatial analysis methodology to produce results reported in Section 4.4 is detailed in the following sections:
  - Appendix D-2: Wildfire Fire Threat Spatial Analysis Methodology, and
  - Appendix D-3: WUI Risk Spatial Analysis Methodology.

APPENDIX D-1: FUEL TYPING METHODOLOGY AND LIMITATIONS

The Canadian Forest Fire Behaviour Prediction (FBP) System outlines five major fuel groups and sixteen fuel types based on characteristic fire behaviour under defined conditions.[71] Fuel typing is recognized as a blend of art and science. Although a subjective process, the most appropriate fuel type was assigned based on research, experience, and practical knowledge; this system has been used within BC, with continual improvement and refinement, for 20 years.[72]

There are significant limitations with the fuel typing system which should be recognized:

1. The fuel typing system is designed to describe fuels which sometimes do not occur within the area of interest
2. Fuel types cannot fully, and accurately capture the natural variability within a polygon
3. The data used to create initial fuel types, also has limitations.[72]

Given these limitations, the following should be considered when using fuel type maps and information, to plan community wildfire resiliency projects:

- Fuel typing further from the developed areas of the study generally has a lower confidence.
- Fuel typing should be used as a starting point for more detailed assessments and as an indicator of overall wildfire risk, not as an operational, or site-level, assessment.
- Forested ecosystems are dynamic and change over time: fuels accumulate, stands fill in with regeneration, and forest health outbreaks occur.
- Regular monitoring of fuel types and wildfire risk assessment should occur every 5-10 years to determine the need for updated assessments.

[71] Forestry Canada Fire Danger Group. (1992). *Development and Structure of the Canadian Forest Fire Behavior Prediction System: Information Report ST-X-3.*
[72] Perrakis, D.B., Eade G., and Hicks, D. (2018). Natural Resources Canada. Canadian Forest Service. *British Columbia Wildfire Fuel Typing and Fuel Type Layer Description* 2018 Version.

Fuel types found within the WUI were listed and discussed in in Section 4.1.2.

APPENDIX D-2: WILDFIRE FIRE THREAT SPATIAL ANALYSIS METHODOLOGY

Source Data

As part of the CWRP process, spatial data submissions are required to meet the defined standards in the Program and Application Guide. Proponents completing a CWRP can obtain open-source BC Wildfire datasets, including Provincial Strategic Threat Analysis (PSTA) datasets from the British Columbia Data Catalogue. Wildfire spatial datasets obtained through the BC Open Data Catalogue used in the development of the CWRP include, but are not limited to:

- PSTA Spotting Impact
- PSTA Fire Density
- PSTA Fire Threat Rating
- PSTA Lighting Fire Density
- PSTA Human Fire Density
- Head Fire Intensity
- WUI Human Interface Buffer (2Km buffer from structure point data)
- Wildland Urban Interface Risk Class
- Current Fire Polygons
- Current Fire Locations
- Historical Fire Perimeters
- Historical Fire Incident Locations
- Historical Fire Burn Severity
- Fuel Type

As part of the program, proponents completing a CWRP are provided with a supplementary Structure point dataset from BC Wildfire Service.

The provided PSTA data does not transfer directly into the geodatabase for submission, and several PSTA feature classes require extensive updating or correction. In addition, the Fire Threat determined in the PSTA is fundamentally different than the localized Fire Threat feature class that is included in the Local Fire Risk map required for project submission. The Fire Threat in the PSTA is based on provincial scale inputs - fire density, spotting impact; and head fire intensity; while the spatial submission Fire Threat is based on the components of the Wildland Urban Interface Threat Assessment Worksheet.

Spatial Analysis

Not all attributes on the WUI Threat Assessment form can be determined using a GIS analysis on a landscape/polygon level. To emulate as closely as possible the threat categorization that would be determined using the Threat Assessment form, the variables in Table 24 were used as the basis for building the analytical model. The features chosen are those that are spatially explicit, available from existing and reliable spatial data or field data, and able to be confidently extrapolated to large polygons.

Table 24. Description of variables used in spatial analysis for WUI wildfire risk assessment

WUI Threat Sheet Attribute	Used in Analysis?	Comment
Fuel Subcomponent		
Duff depth and Moisture Regime	No	Many of these attributes assumed by using 'fuel type' as a component of the Fire Threat analysis. Most of these components are not easily extrapolated to a landscape or polygon scale, or the data available to estimate over large areas (VRI) is unreliable.
Surface Fuel continuity	No	
Vegetation Fuel Composition	No	
Fine Woody Debris Continuity	No	
	No	
Live and Dead Coniferous Crown Closure	No	
Live and Dead Conifer Crown Base height	No	
Live and Dead suppressed and Understory Conifers	No	
Forest health	No	
Continuous forest/slash cover within 2 km	No	
Weather Subcomponent		
BEC zone	Yes	Although included, these are broad classifications, meaning most polygons in the Study Area will have the same value
Historical weather fire occurrence	Yes	
Topography Subcomponent		
Aspect	Yes	
Slope	Yes	Elevation model was used to determine slope.
Terrain	No	
Landscape/ topographic limitations to wildfire spread	No	
Structural Subcomponent		
Position of structure/ community on slope	No	Too difficult to quantify – this is a relative value.
Type of development	No	Too difficult to analyze spatially.
Position of assessment area relative to values	Yes	Only distance to structures is used in this analysis, being above, below or sidehill too difficult to analyze spatially.

The other components are developed using spatial data (BEC zone, fire history zone) or spatial analysis (aspect, slope). A scoring system was developed to categorize resultant polygons as having relatively low, moderate, high or extreme Fire Threat, or Low, Moderate, High or Extreme wildfire threat class. Table 25 below summarizes the components and scores to determine the Fire Threat.

Table 25. Fire Threat Class scoring components

Attribute	Indicator	Score
Fuel Type	C-1	35
	C-2	
	C-3	
	C-4	
	M-3/4,>50% dead fir	

Attribute	Indicator	Score
	C-6	25
	M-1/2, >75% conifer	20
	C-7	
	M-3/4, <50% dead fir	
	M-1/2, 50-75% conifer	15
	M-1/2, 25-50% conifer	10
	C-5	
	O-1a/b	
	S-1	
	S-2	
	S-3	
	M-1/2, <25% conifer	5
	D-1/2	0
	W	0
	N	0
Weather - BEC Zone	AT, irrigated	1
	CWH, CDF, MH	3
	ICH, SBS, ESSF	7
	IDF, MS, SBPS, CWHsds1 & ds2, BWBS, SWB	10
	PP, BG	15
Historical Fire Occurrence Zone	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7	1
	G3, G8, R3, R4, V6, G1, G9, V8	5
	G7, C5, G4, C4, V1, C1, N6	8
	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2	10
	N7, K4	15
Slope	<16	1
	16-29 (max N slopes)	5
	30-44	10
	45-54	12
	>55	15
Aspect (>15% slope)	North	0
	East	5
	<16% slope, all aspect	10
	West	12
	South	15

Limitations

There are obvious limitations in this method, most notably that not all components of the threat assessment worksheet are scalable to a GIS model, generalizing the Fire Behaviour Threat score. The Wildfire Threat Score is greatly simplified, as determining the position of structures on a slope, the type

of development and the relative position are difficult in an automated GIS process. Structures are considered, but there is no consideration for structure type (also not included on threat assessment worksheet). This method uses the best available information to produce accurate and useable threat assessment across the study area in a format which is required by the UBCM CRI program.

APPENDIX D-3: WUI RISK SPATIAL ANALYSIS METHODOLOGY

To determine the WUI Risk score, only the distance to structures is used. Buffer distance classes are determined (<200m, 200m-500m and >500m) but only for polygons that had a 'high' or 'extreme' Fire Threat score from the previous, assessment. To determine WUI Risk, polygons within 200 m of structures are rated as 'extreme', within 500 m are rated as 'high', and within 2 km are 'moderate'. Distances over that are rated 'low.' WUI Risk Classes and associated assumed scores are summerized below in Table 26.

Table 26. WUI Risk Classes and their associated summed scores

WUI Risk Class	Score
Very Low	0
Low	0-35
Moderate	35-55
High[73]	55-65
Extreme	>65

APPENDIX E: SPECIES AT RISK

Table 27. Publicly available occurrences of red and blue-listed species recorded in the WUI.

English Name	Scientific Name	Category	BC List	Habitat Type
Abies grandis / Berberis nervosa	Grand Fir / Dull Oregon-grape	Ecological Community	Red	
Abies grandis / Berberis nervosa	Grand Fir / Dull Oregon-grape	Ecological Community	Red	TERRESTRIAL; FOREST NEEDLELEAF
Abies grandis / Tiarella trifoliata	Grand Fir / Three-leaved Foamflower	Ecological Community	Red	TERRESTRIAL; FOREST NEEDLELEAF
Abronia latifolia	Yellow Sand-verbena	Vascular Plant	Blue	TERRESTRIAL: Sand/Dune; MARINE: Beach
Allium amplectens	Slimleaf Onion	Vascular Plant	Blue	TERRESTRIAL: Rock Outcrop
Allium amplectens	Slimleaf Onion	Vascular Plant	Blue	TERRESTRIAL: Woodland Broadleaf
Alnus rubra / Carex obnupta [Populus trichocarpa]	Red Alder / Slough Sedge [Black Cottonwood]	Ecological Community	Red	

[73] WUI risk is only assessed for polygons with wildfire threat ratings of high or extreme.

English Name	Scientific Name	Category	BC List	Habitat Type
Alnus rubra / Lysichiton americanus	Red Alder / Skunk Cabbage	Ecological Community	Red	TERRESTRIAL; FOREST MIXED
Anarta edwardsii	Edwards' Beach Moth	Invertebrate Animal	Red	TERRESTRIAL; MARINE: Beach
Ardea herodias fannini	Great Blue Heron, Fannini Subspecies	Vertebrate Animal	Blue	TERRESTRIAL: Forest Broadleaf
Bombus occidentalis	Western Bumble Bee	Invertebrate Animal	Blue	TERRESTRIAL: Suburban/Orchard, Forest Needleleaf, Savannah
Calystegia soldanella	Beach Bindweed	Vascular Plant	Blue	MARINE: Beach
Camissonia contorta	Contorted-pod Evening-primrose	Vascular Plant	Red	TERRESTRIAL: Grassland/Herbaceous, Sand/Dune
Carex macrocephala Herbaceous Vegetation	Large-headed Sedge Herbaceous Vegetation	Ecological Community	Red	
Cephalanthera austiniae	Phantom Orchid	Vascular Plant	Red	TERRESTRIAL: Forest Mixed
Coenonympha tullia insulana	Common Ringlet, Insulana Subspecies	Invertebrate Animal	Red	TERRESTRIAL: Cropland/Hedgerow, Old Field, Suburban/Orchard
Coenonympha tullia insulana	Common Ringlet, Insulana Subspecies	Invertebrate Animal	Red	TERRESTRIAL: Grassland/Herbaceous
Copablepharon fuscum	Sand-verbena Moth	Invertebrate Animal	Red	TERRESTIAL: Sand/Dune; MARINE: Beach
Erynnis propertius	Propertius Duskywing	Invertebrate Animal	Red	TERRESTRIAL; WOODLAND MIXED; SHRUBLAND
Erynnis propertius	Propertius Duskywing	Invertebrate Animal	Red	TERRESTRIAL; WOODLAND NEEDLELEAF
Glehnia littoralis ssp. leiocarpa	American Glehnia	Vascular Plant	Blue	MARINE: Beach
Gnaphosa snohomish	Georgia Basin Bog Spider	Invertebrate Animal	Red	PALUSTRINE: Herbaceous Wetland, Shrub Wetland
Hesperia colorado oregonia	Western Branded Skipper, oregonia subspecies	Invertebrate Animal	Red	TERRESTRIAL: Sand/Dune
Lathyrus littoralis	Silky Beach Pea	Vascular Plant	Red	TERRESTRIAL: Sand/Dune; MARINE: Beach
Leptogium polycarpum	Peacock vinyl	Fungus	Yellow	TERRESTRIAL: Forest Needleleaf, Woodland Broadleaf, Rock Outcrop
Lomatium dissectum	Fern-leaved Desert-parsley	Vascular Plant	Red	TERRESTRIAL: Woodland Broadleaf, Forest Mixed
Omus audouini	Audouin's Night-stalking Tiger Beetle	Invertebrate Animal	Red	
Polygonum paronychia	Black Knotweed	Vascular Plant	Blue	MARINE: Beach

English Name	Scientific Name	Category	BC List	Habitat Type
Polygonum paronychia - Abronia latifolia	Black Knotweed - Yellow Sand-verbena	Ecological Community	Red	
Populus tremuloides / Malus fusca / Carex obnupta	Trembling Aspen / Pacific Crab Apple / Slough Sedge	Ecological Community	Red	
Pseudotsuga menziesii - Arbutus menziesii	Douglas-fir - Arbutus	Ecological Community	Red	TERRESTRIAL; FOREST MIXED
Pseudotsuga menziesii / Berberis nervosa	Douglas-fir / Dull Oregon-grape	Ecological Community	Red	
Pseudotsuga menziesii / Melica subulata	Douglas-fir / Alaska Oniongrass	Ecological Community	Red	TERRESTRIAL; FOREST MIXED
Quercus garryana / Bromus carinatus	Garry oak / California brome	Ecological Community	Red	TERRESTRIAL; FOREST BROADLEAF
Quercus garryana / Holodiscus discolor	Garry Oak / Oceanspray	Ecological Community	Red	TERRESTRIAL; FOREST BROADLEAF
Sericocarpus rigidus	White-top Aster	Vascular Plant	Blue	TERRESTRIAL: Woodland Broadleaf
Thuja plicata / Achlys triphylla	Western Redcedar / Vanilla-leaf	Ecological Community	Red	TERRESTRIAL; FOREST MIXED
Thuja plicata / Oemleria cerasiformis	Western Redcedar / Indian-plum	Ecological Community	Red	TERRESTRIAL; FOREST MIXED
Triteleia howellii	Howell's Triteleia	Vascular Plant	Red	TERRESTRIAL: Grassland/Herbaceous, Woodland Broadleaf
Triteleia howellii	Howell's Triteleia	Vascular Plant	Red	TERRESTRIAL: Woodland Broadleaf
Woodwardia fimbriata	Giant Chain Fern	Vascular Plant	Blue	TERRESTRIAL: Forest Needleleaf

APPENDIX F: FIRESMART ROADMAP

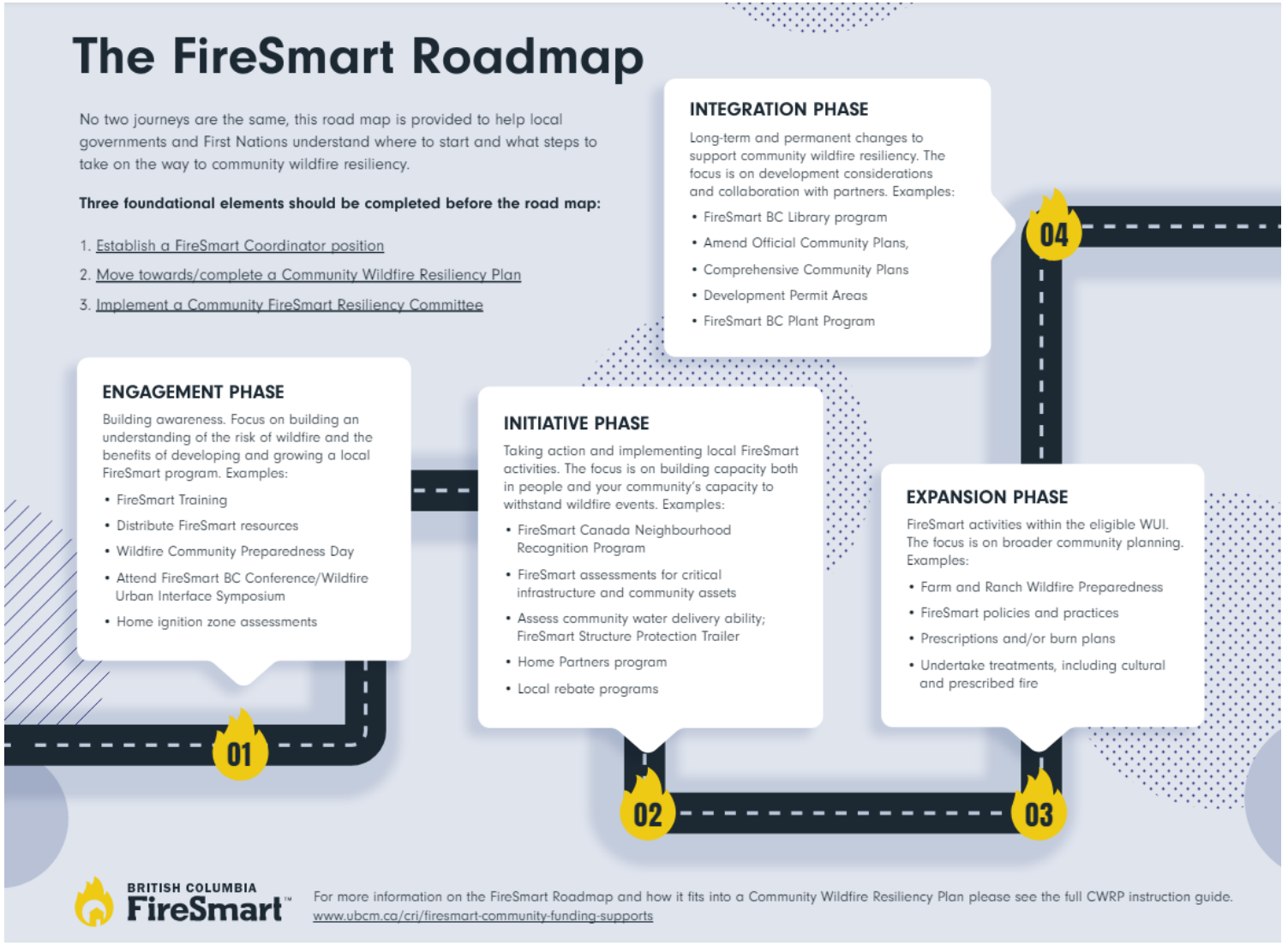


Figure 15. The 'FireSmart Roadmap' is a new focus of community wildfire planning in BC.

APPENDIX G: 2019 CWPP RECOMMENDATIONS

Table 28. Recommendations from the 2019 CWPP and current status. Red indicates recommendations that are priorities for 2024; yellow indicates progress made; green indicates completed; grey is no longer applicable.

Item	Priority	Recommendation / Next Steps	2024 comments
1	Moderate	Revise Bylaw No. 1595, 2002 to include language which allows the issuance of a permit for cutting of trees if it is required to reduce wildfire hazard within the wildland urban interface, as determined by a qualified professional (QP). This bylaw should also be reviewed to ensure that it does not limit the ability of homeowners to address wildfire hazards associated with trees on private property immediately adjacent to homes.	Bylaw updated but recommendation is not addressed
2	High	Review Bylaw No. 1845, 2014 and include wording that specifically prohibits the accumulation of combustible materials on the property (including on and under exterior projections, such as decks and patios, near the home, and in gutters and roofs). The revised bylaw should provide the District the authority to require removal/clean-up of combustible materials or to complete removal and recoup costs from the owner.	Not addressed and not re-recommended. Open burning bylaw is enforceable by fire personnel on District land. **Combustible accumulation on private land in Central Saanich not noted as a Fire Department concern** – more so forest fuels and fallow farm fields.
3	Moderate	Work with the Building Department (i.e., building inspectors) to ensure house numbering is posted prior to occupancy of new development and to provide instructions on how and where best to affix numbering to facilitate emergency response and evacuation efforts. Consider encouraging home owner participation via a DCS-wide engagement campaign and providing incentives such as the opportunity to acquire/purchase discounted address signs.	Fire Department reports that addressing is visible throughout the District. There is a popular sign program - $65 and the Fire Department will install a reflective sign. Now expanded to SȾÁUTW̱ (Tsawout) and W̱JOŁEŁP (Tsartlip) communities as well through Indigenous Engagement grant.
4	High	Work with the DCS Parks Department and the Capital Regional District (CRD) to incorporate wildfire risk considerations (i.e., placement, type, width, and objective of trails) during municipal and regional park acquisition and future updates to the Regional Trails Management Plan. Consideration should also be given to trail building and maintenance as these activities can either increase wildfire risk (through fuels accumulations and unsafe work practices) or decrease wildfire risk (though proper placement, clean-up of combustible fuels trailside and work practices which adhere to Wildfire Act and Regulations).	Central Saanich Parks and Trails Plan is under development, to be completed by Dec 2024. Parks section of the new OCP includes policy to plan for maintenance costs. FireSmart vegetation management not explicitly mentioned, although this should be a consideration especially for new dedicated parkland.

Item	Priority	Recommendation / Next Steps	2024 comments
5	High	The use of fire-resistant construction materials, building design and landscaping should be considered for all critical infrastructure (CI) when completing upgrades or establishing new infrastructure. Additionally, vegetation setbacks around critical infrastructure should be compliant with FireSmart guidelines. Secondary power sources are important to reduce critical infrastructure vulnerability in the event of an emergency which cuts power for days, or even weeks.	Some CI assessments have been completed. Informally, much CI was compliant with FireSmart guidelines. Relevant CI has back up power sources.
6	Moderate	Complete formal FireSmart assessments (by a Qualified Professional) for CI such as the fire halls, emergency operations centres, water infrastructure, and others as identified in this CWPP (Table 3) and by the DCS.	As above.
7	High	Proceed with detailed assessment, prescription development and treatment of hazardous fuel units and FireSmart fuel treatment demonstration treatment areas identified and prioritized in this CWPP.	2019 units not prescribed or implemented. Two areas recommended for 2024 based on priority.
8	Moderate	As treatments are implemented, treatment monitoring should be completed by a qualified professional to schedule next set of maintenance activities (5 – 10 years out). This can be completed as part of a CWPP update or as a stand-alone exercise.	A mandatory component of the next CWRP
9	Moderate	Review the Official Community Plan (OCP); consider including wildfire as a natural hazard development permit area (DPA). A recommended development permit area for the DCS would include all areas that are located within 200 m of moderate or high wildfire behaviour threat class areas. This is a suggested distance which should be validated and defined through a more comprehensive GIS analysis of hazardous fuels and their proximity to the interface. Review similar wildfire hazard DPAs established in other jurisdictions and use as models for various aspects of the DP process.	OCP updated April 2023 - heavy emphasis on climate change adaptation, recognition of wildfire risk, and need to adopt FireSmart and consider a wildfire DPA Currently no wildfire DPA.
10	Moderate	Ensure that wildfire hazard development permit applications are provided to the fire department for opportunity for input prior to approval. As more development permit applications are received, the importance of communication and integration between the fire department and the Planning and Building Services Department will increase.	Currently no wildfire DPA
11	High	Develop a landscaping guide which lists flammable non-compliant vegetation and landscaping materials, non-flammable drought and pest resistant alternatives, and tips on landscape design to reduce maintenance, watering requirements, avoid wildlife attractants, and reduce wildfire hazard. Consider including the landscaping guide as a development permit requirement within	FireSmart Landscaping Guide is available on municipal website.

Item	Priority	Recommendation / Next Steps	2024 comments
		the applicable area, as well as making it publicly available for residents and homeowners outside of the DPA (can be provided at issue of building permit and made available at the Municipal Office or other strategic locations).	
12	High	Develop and implement a community chipper program with the help of neighbourhood representatives. As a demonstration, this program can begin twice per year in two separate neighbourhoods.	Not in place.
13	Moderate	The DCS should consider training additional local fire services staff members as Local FireSmart Representatives to assist the various neighbourhoods within the DCS in complying with FireSmart principles at the neighbourhood and individual home-level.	The Fire Department has two certified WMS and 8 LFRs
14	High	The DCS should apply for funding from the UBCM CRI Program to develop a local FireSmart rebate program. This will allow homeowners to access partial rebates for FireSmart activities on their properties, if rated as moderate or high risk in a FireSmart home and property assessment. The rebate program must adhere to the goals of FireSmart, as outlined in Section 5.2.1.	Not in place
15	High	This report and associated maps should be made publicly available through webpage, social media, and public FireSmart meetings.	CWPP is available in website resource library
16	Moderate	Complete or schedule periodic updates of the CWPP to gauge progress and update the threat assessment (hazard mapping) for changes in fuels, forest health, land planning, stand structure or changes to infrastructure in the interface. The frequency of updates is highly dependent upon major changes which would impact the DCS's wildfire threat assessment or the rate at which wildfire risk reduction efforts are implemented. An evaluation of major changes (including funding program changes that may lead to new opportunities) and the potential need for a CWPP update should be initiated every 5 - 7 years.	In progress
17	Low	Develop a social media strategy and ensure that its full power is leveraged to communicate fire bans, high or extreme Fire Danger days, wildfire prevention initiatives and programs, easily implementable FireSmart activities, updates on current fires and associated air quality, road closures, and other real-time information in an accurate and timely manner.	In place through FireSmart Coordinator

Item	Priority	Recommendation / Next Steps	2024 comments
18	Moderate	Promote FireSmart approaches for wildfire risk reduction to DCS residents through Town Hall meetings, workshops, FireSmart 101 course and/or presentations. Aim to conduct the engagement/promotion campaign prior and during the fire season. Consider supplying FireSmart materials to homeowners in the interface during these engagement campaigns.	In place through FireSmart Coordinator
19	Moderate	Promote improved planning and preparedness of agriculture producers in the DCS and encourage FireSmart practices on private farm land through distribution or sharing of wildfire action planning resources prepared specifically for the agriculture sector by the BC Agriculture & Food Climate Action Initiative (i.e., on DCS website, mailouts). Resources include a Wildfire Preparedness and Mitigation Plan - Guide and Workbook.	FireSmart Coordinator is trained to deliver this programming.
20	Low	Work towards FireSmart community recognition, at the neighbourhood level and facilitate uptake into the FireSmart Canada Community Recognition Program (FSCCRP). This will help reduce fire risk and aid in further funding applications.	In progress – Port Royale in Brentwood.
21	Moderate	Facilitate the FSCCRP uptake within the DCS and enhance its applications by including the following: 1) inviting BCWS crews to participate in and support the annual FireSmart events set up by participating neighbourhoods. 2) Encourage individual homeowner participants to complete the self-administered FireSmart home assessment tool. 3) Include within the FireSmart Canada Community Assessment Report the standard recommendation that participating neighbourhoods hold a home hazard assessment workshop as one of their FireSmart events.	The program has changed since 2019, however, **promoting community clean-ups with BCWS is still recommended**.
22	Low	Promote the use of the FireSmart Home Partners Program offered by the Partners in Protection Association, which facilitates voluntary FireSmart assessments on private property. Use the opportunity to educate the home or business owner about the hazards which exist on their property and provide easy improvements to reduce their risk.	In place through Fire Department and FireSmart Coordinator
23	Low	Encourage schools to adopt and deploy existing school education programs (e.g. FireSmart BC Education Package) to engage youth in wildfire management and risk reduction. There is emergency preparedness curriculum available provincially, which includes preparedness for a variety of natural hazards, including wildfire (Master of Disaster). Other options/value-added activities include consulting with Association of BC Forest Professionals (ABCFP) and British Columbia Wildfire Service (BCWS) (South Island Fire Zone), as well as local	Not in place

Item	Priority	Recommendation / Next Steps	2024 comments
		fire department and FireSmart representatives to facilitate and recruit volunteer teachers and experts to help with curriculum development to be delivered in elementary and/or secondary schools (field trips, guest speakers, etc.).	
24	High	Engage the CRD to build upon the framework and expand the scope of the FireSmart Committee to assist in the coordination of wildfire risk reduction efforts at the regional and municipal level. The Regional FireSmart Committee should include all key stakeholders (Municipalities, Capital Regional District, First Nations, BC Parks, BCWS, agricultural groups/representatives, and neighborhood associations). The objective of the Regional FireSmart Committee would be to identify wildfire related issues in the region and to develop collaborative solutions to minimize wildfire risks. The following subject areas are recommended for the group to explore: 1) Public education and awareness needs; 2) Multi-disciplinary, multi-jurisdictional fuel treatment projects/hazard abatement projects; 3) Development of a funding strategy; and 4) Reduction of human-caused fires, fire prevention and right of way management.	In place
25	Moderate	Promote and provide information to private landowners related to residential sprinklers as a FireSmart prevention measure.	Not re-recommending due to **possible disincentive to comply with FireSmart**
26	Moderate	Work with industrial operators such as BC Hydro to ensure that high risk activities, such as grubbing/brushing and right-of-way mowing work do not occur during high fire danger times to reduce chance of ignitions as per the *Wildfire Act*.	No concerns identified
27	Moderate	Work with industrial operators such as BC Hydro to ensure that right-of-ways do not contain fine fuel accumulations (easily cured) or high conifer regeneration prior to and during the fire season and are maintained in a low hazard state (to serve as fuel breaks).	No concerns identified
28	High	All new development should have a water system which meets or exceeds minimum standards of NFPA 1142, Standard on Water Supplies for Suburban and Rural Fire Fighting. CSFD should review the water supply to ensure it provides sufficient placement, flow, and reliability for suppression needs and that secondary power is available in the event of power outages.	Addressed. CFRC has Superior Tanker Shuttle Service accreditation
29	Moderate	Consider completing a fire flow/water vulnerability assessment to identify where upgrades to systems, flows, hydrant number or location, and water storage, or secondary power is required. Prioritize and rank projects and complete or require upgrades as resources allow.	CRD 2022 Regional Water Supply Master Plan identifies no concerns with water supply. Fire Department expressed preference for full hydrant coverage, but are STSS accredited.

Item	Priority	Recommendation / Next Steps	2024 comments
30	High	Complete and participate in regular testing of, and updates to, the evacuation plan.	Emergency plan update scheduled for 2024. Evacuation concerns for Alec Road tested in 2023 wildfire exercise (CSFD).
31	Moderate	Include a qualified professional with experience in operational wildland/interface fire suppression in the planning and strategic siting of future trails and parks.	Not re-recommended due to other constraints on park siting
32	Moderate	CSFD should work with BCWS to initiate and/or maintain an annual structural and interface training program. As part of the training, it is recommended to conduct annual reviews to ensure PPE and wildland equipment resources are complete, in working order, and the crews are well-versed in their set-up and use. It is recommended the CSFD engage in yearly practical wildland fire training with BCWS that covers at a minimum: pump, hose, hydrant, air tanker awareness, and employment of SPUs. Interface training should include completion of a joint wildfire simulation exercise and safety training specific to wildland fire and risks inherent with natural areas. It is recognized that BCWS crew resources are limited and their availability and is highly dependent upon the current fire season and other BCWS priorities.	BCWS is part of equipment review through SPU trailer outfitting. Fire Department has conducted wildfire exercises (Alec Road example).
33	Moderate	CSFD should engage in regular communication with the BCWS South Island Fire Zone/Cobble Hill Fire Base to foster a strong relationship and identify potential cooperative wildfire risk reduction opportunities.	Deployments and collaboration at community events.
34	High	Ensure that CSFD maintains the capability to effectively suppress wildland fires, through wildfire-specific training sessions. Maintain a high level of member education and training specific to interface and wildland fires by including S-100 and S-185 (combined) or SPP-WFF1, at a minimum. Consider expanding the training program to maintain a high level of member education and training specific to interface and wildland fires. SPP-115 provides training to structural firefighters on the use of wildfire pumps and hose (and fire service hose and hydrants) in the application of structural protection units (SPUs).The CSFD should continue the practice of staying up to date on wildfire training opportunities, and to train members in this capacity, as training resources allow.	Fire Department has wildfire-specific training. Recommend that SPU training occurs annually.
35	Low	Work with local distributors and homeowners within the District to improve education of homeowners and remove some barriers to FireSmart action. For additional detail see Section 6.2.	Potential to involve garden centers – FireSmart Plant Tagging program. Plant tagging program is active at two local garden centres.

Item	Priority	Recommendation / Next Steps	2024 comments
36	High	Develop programs which serve to remove barriers to action for homeowners by providing methods for them to cheaply and easily dispose of wood waste removed from their property. Programs may include scheduled community chipping opportunities, or yard waste dumpsters available by month in neighbourhoods. Programs should be available during times of greatest resident activity (likely spring and fall).	No District initiatives in place