EMERGENCY SOLUTIONS INTERNATIONAL

Community Wildfire Resiliency Plan

Rural Community of Hanwell

Submitted to: Terri L. Parker, CAO/Treasurer, Hanwell
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CWRP Acronyms

Acronym	Full Name / Phrase
AAR	After Action Report
ANB	Ambulance New Brunswick
AOI	Area(s) of Interest
BEC	Bio-geoclimatic Ecosystem Classification
CFFBPS	Canadian Forest Fire Behaviour Prediction System
CFFDRS	Canadian Forest Fire Danger Rating System
CFRC	Community FireSmart Resiliency Committee
CFS	Community Funding and Support
CI	Critical Infrastructure
CIFFC	Canadian Interagency Forest Fire Centre
CLWRR	Crown Land Wildfire Risk Reduction
CRA	Community Risk Assessment
CRI	Community Resiliency Investment
CRR	Community Risk Reduction
CSA	Canadian Standards Association
CWRP	Community Wildfire Resiliency Plan
DNR	Department of Natural Resources
DP	Development Permit
DPA	Development Permit Area
DTI-RADCOM	Department of Transportation & Infrastructure – Radio Communications Branch
EMP	Emergency Management Plan
EOC	Emergency Operations Center
ESF	Emergency Support Function
ESI	Emergency Solutions International
FBP	Fire Behaviour Prediction System
FCI	Forest Carbon Initiative
FMP	Forest Management Plan
FMS-NB	FireSmart New Brunswick
FSCCRP	FireSmart Canada Community Recognition Program
FSR	Forest Service Road
FWI	Fire Weather Index
Geo NB	New Brunswick Geospatial Data Portal
GIS	Geographical Information System
GNB	Government of New Brunswick
H-EOC	Hanwell Emergency Operations Centre

Acronym	Full Name / Phrase
HIZ	Home Ignition Zone
HRC	Rural Community of Hanwell
HVRA	Hazard, Risk, and Vulnerability Analysis
HVRA	High, Value Resources and Assets
ISI	Initial Spread Index
ICP	Incident Command Post
ICS	Incident Command System (Canada)
ISC	Indigenous Services Canada
KPI	Key Performance Indicators
LIDAR	Light Detection and Ranging
LFR	Local FireSmart Representative
LRMP	Land and Resource Management Plan
NBC	National Building Code
NBEMO	New Brunswick Emergency Measures Organization
NB Power	New Brunswick Power Corporation
NFC	National Fire Code
NFPA	National Fire Protection Association
PEOC	Provincial Emergency Operations Centre
PSAP	Public Safety Answering Point
PSC	Public Safety Canada
PSOE	Provincial State of Emergency
PSTA	Provincial Strategic Threat Analysis
RCMP	Royal Canadian Mounted Police
SIZ	Structure Ignition Zone
TFL	Timber or Forest Licence
UC	Unified Command
UKHFD	Upper Kingsclear Hanwell Fire Department
VRI	Vegetation Resource Inventory (Geo NB / DNR)
WUI	Wildland Urban Interface
Z-1600	Canadian Standards Association – Emergency and Continuity Management Standard

Executive Summary

The Community Wildfire Resiliency Plan (CWRP) is a strategic framework designed to help communities prepare for and respond to wildfires, administered by the Department of Natural Resources, Energy and Development (DNR) Government of New Brunswick, and FireSmartNB. The process encompasses several progressive steps and this "resiliency plan" is in essence a current state risk assessment which creates a foundation for programmatic development to lower community risk. The area of interest for this document is the wildland urban interface (WUI) at the perimeter and within the Rural Community of Hanwell. Based upon quantitative assessments at the macro and micro levels this CWRP identifies the wildfire risks and potential consequences of a wildfire to the community, as well as recommending mitigation strategies connected through a FireSmart Resiliency Roadmap.

Report recommendations (summarized below) are based upon:

- a review of best practices from other jurisdictions
- gaps identified through community engagement
- the community wildfire behavioural risk analysis
- prevention strategies for human-caused wildfire ignition
- integration of FireSmartNB program quantitative assessment and educational principles
- the Government of New Brunswick DNR CWRP process

Many of the recommendations provided in this report reference FireSmart Canada. This national program is dedicated to helping Canadians enhance their neighbourhoods' resilience to wildfires and reduce their adverse impacts. Through the multi-phase framework of the FireSmart "roadmap" which includes activities and practices, they are recommended for all wards within the Community of Hanwell. As a companion to this report there has been an on-line resiliency portal created for community leaders and citizens to engage with the strategic outcomes of the project and mapping illustrating community risk layers. The "Hanwell Community Resiliency Portal" may be accessed through the following link: Hanwell Community Resiliency Portal

Fuel management treatments (surface and ladder fuel removal) are recommended for high-risk areas within the Community of Hanwell. Along with fuel management, community awareness and education will play a critical role in reducing the wildfire risk. Community awareness focuses on FireSmart principles, understanding fire use restrictions, emergency preparedness, and regularly sharing fire safety related information with the community. Emergency evacuation planning is also identified as priority for each of the wards identified in the report. Further, the report will outline forward looking recommendations linked to by-laws, zoning, planning and development as well as building construction.

Initial response to wildfires is achieved by the UKHFD which is based out of three (3) strategically located stations:

- Station 1: 22 Mazerolle Settlement Road, Mazerolle Settlement,
- Station 2: 2076 Route 640, Hanwell, and
- Station 3: 3730, Route 102, Island View

The UKHFD is a member of the Capital District Firefighters Association. This association includes (23) member fire departments in the Fredericton area. There is a mutual aid agreement between all these fire departments. The UKHFD also has a mutual aid agreement with the Fredericton Fire Department. The UKHFD covers: Upper Kingsclear, Lower Kingsclear, Hanwell, Smithfield, Lake George, New Market, Kings Clear First Nation and mutual aid with Harvey, Dumfries, New Maryland, Keswick Ridge, Oromocto and Fredericton.

They provide Fire Suppression, Fire Prevention/Education and Rescue Services. On Crown lands, through mutual aid and unified command, the Department of Natural Resources manages wildfire response.

The UKHFD is the primary responder for the south end (Yoho Lake area) of the municipality. Although the Scout facility adjacent to Yoho Lake is in UKHFD territory it is likely that Harvey Fire Department would arrive first if they are available and dispatched at the same time. Where Hanwell does not have a "Burning By-Law" in place all residents are to follow provincial guidelines. The Province of New Brunswick through the Office of the Fire Marshal provides support to the community in relation to fire code inspections, investigations and response to hazardous materials incidents. As part of the process followed by ESI the Fire Marshal was consulted in relation to a particular target hazard.

It is clear that the Hanwell community faces a high risk of considerable loss across the community due to the level of fuel and anticipated fire behaviour in all of the six wards. Given the level of risk there is a reasonable probability that the community would have to be partially or fully evacuated when faced with fast moving wildfire threatening its perimeter. The UKHFD which protects the community has a tremendous reputation but could be overwhelmed by demand should there be a fast-moving fire threatening the community. The fact that within this growing community there is no ward serviced by a hydrant-based water supply, places the fire service in a challenging position. The UKHFD, supported by their mutual aid partners from four surrounding communities, are responsible to defend this very large community with not only risk at the perimeter, but high-risk properties identified through a quantitative risk assessment conducted on 18 critical infrastructure and target hazards.

Eighteen Target Hazards and Critical Infrastructure (CI) were analyzed through "boots on the ground" inspections. A quantitative "FireSmart Critical Infrastructure Assessment" (see appendix 2) was completed on each of the properties. The properties studied provide a view into the risk to the community from the loss of key assets in the community, risk to residents and in the case of the special care/senior facilities studied provide an illustrative sample of the level of risk that is represented at many other civic addresses. This quantitative "micro" or civic address approach provides a lens into the widespread complexity faced by the fire services to defend the community should there be an approaching wildfire incident dropping fire brands into the properties in Hanwell. Three senior/special care homes for example scored beyond "High Risk" in the quantitative assessments completed, defending or evacuating these three properties could in essence occupy most of the fire service's resources. This complexity coupled with the lack of hydrants and limited access/egress identified in Maps 11-17, puts Hanwell at risk for major loss. This report recommends as an example, immediate mitigative steps for these target hazards prior to the next fire season, much like a Fire Inspector would recommend interior National Fire Code (NFC) requirements within the interior of an occupancy of assembly.

Although there is tremendous support to the Hanwell fire service through mutual aid agreements and DNR, as seen in the 2025 fire season and the 2024 fire season in N.S., local resources can become easily overwhelmed. There is a moderate probability that mutual aid partners could already be engaged in their own communities, given the fire load density in surrounding communities and Kingsclear First Nation which is within the community of Hanwell. With no water supply/pressurized hydrants for the 250+ km^2 area of the community, the fire service would be challenged logistically having to successfully manage complex tanker shuttle operations in multiple locations. Beyond having to protect the five wards which have high levels of fuel inventory, the fire service would have to protect the commercial district/industrial park primarily in ward four. In this area, the economic engine of the community inclusive of a petroleum distribution facility and hotel would have to be protected by the fire service utilizing a tanker shuttle operation. This report will recommend enhancements to the community's water supply and firefighting equipment.

Recommendations from the Community Wildfire Resiliency Plan for the Rural Community of Hanwell are below. The recommendations should be further prioritized by leaders depending on local strengths, opportunities, and the availability of human, financial, and physical resources. At a minimum, the risk assessment/plan should be revisited every five years to assess the progress and relevance of previous recommendations and for the continual improvement of wildfire protection planning as more information becomes available.

SUMMARY OF CWRP RECOMMENDATIONS

The following is a summary of the recommendations flowing from the CWRP risk assessment process. These recommendations are supported by the research and are linked to reference Canadian best practices cited throughout this document. It is recognized that these recommendations are substantive, challenging, and long term in nature. These recommendations are presented as a suite of options for the Hanwell community and ultimately citizens, to decide how to balance the risk in the community with other priorities and availability of resources.

FireSmart Road-Map: CWRP Action Plan

1) It is recommended that the community of Hanwell adopt a customized "FireSmart Roadmap", the foundation of which is outlined in this document, and implement strategies to reduce both the risk and the impact of wildfire.

Three primary areas of wildfire-risk mitigation are emphasized in this plan:

- **FireSmart Practices** – Applying FireSmart building, landscaping, and community-planning principles to minimize structure ignition and reduce fire spread into developed areas.
- **Communication and Education** – Increasing public awareness of wildfire risk, promoting FireSmart participation, and encouraging safe behaviours to reduce human-caused fire starts.
- **Fuel Management** – Reducing the potential intensity and rate of spread of wildfire through vegetation management, thinning, or fuel-break creation in and around the community.

FireSmart Coordinator

2) It is recommended that Hanwell designate a FireSmart Coordinator position to lead and liaison with government representing the community and providing direction and leadership for designing and implementing the recommendations within the CWRP and management of the FireSmart roadmap.

FireSmart Resiliency Committee

3) It is recommended that the community of Hanwell identify key stakeholders and parties of interest to form a FireSmart Resiliency Committee

a. Chaired by the FireSmart coordinator, it is recommended that in-person meetings and teleconferences for committee members would be scheduled to move action items through implementation and ensure priorities are being met, on a quarterly basis at a minimum. The committee would monitor and decide upon the content of messaging and efforts to educate the public.

Community Education & Engagement Action Plan

4) After completion and the approved V1.2 report is accepted, it is recommended that content where appropriate be made available and community feedback is solicited through the website, a proposed on-

line FireSmart Resiliency Portal and Hanwell social media. Business owners and critical infrastructure/target hazard owner operators would be targeted as key stakeholders.

5) Organize an annual Community Fire Safety or Community Wildfire Preparedness Day.
   a. In higher risk neighbourhoods have the FireSmart coordinator designate a street or neighbourhood leader to organize the FireSmart clean-up.

6) Develop a checklist for property owners of fire suppression equipment and emergency supplies to keep readily available during fire season. Items should include smoke alarms, fire extinguishers, hand tools, personal protective equipment, communications devices, and a first aid kit.

7) It is recommended that Hanwell leaders continue to encourage residents/landowners to sign up to the emergency notification service Voyent Alert, which sends out text messages to cellular subscribers and voice calls to landlines

8) It is recommended that events be held to engage private landowners in the FireSmart program and planning to help reduce the likelihood of disaster in the event of a wildland fire.

9) Through public education and enforcement, if necessary ensure all property owners display civic addresses to the provincial standard

10) Encourage property owners to purchase sprinkler kits and water supply systems for sprinkler kits to deploy on their homes/critical structures. Educate property owners on the potential to reduce insurance premiums should they implement FireSmart recommendations or undertake mitigative strategies such as installing sprinklers.

11) It is anticipated that should the Rural Community of Hanwell proceed with the FireSmart Program that there will be a significant number of requests from the public for assistance with the safe disposal of trees and brush. Based on this contingency, explore options (including the 2nd Phase of GNB/NRCan funding) to establish a program which would an educational campaign and enable residents to safely dispose of any trees and brush removed from their property. The program will need to be affordable, easily accessible, with the benefits well promoted to encourage residents to take part.

Policy and Legislation – Development Action Plan

12) The Rural Community of Hanwell should enact an open burning by-law to regulate the timing of and size of fires, required availability of suppression materials and materials permitted to be burned.

13) Further, it is recommended that there is a refinement of wildfire risk management elements within all by-laws, building construction practices and the land planning/approval process. It is recommended the current by-laws, land use, building construction, and zoning policies, as they relate to preventing fire and ensuring future community development supports FireSmart principles, be reviewed and refined.

   a. It is recommended as well that any new home construction in this area and other dense high-risk areas follow the FireSmart criteria for buffering and building materials.
   b. It is recommended that through by-laws, community engagement and inspections, Hanwell encourage fire resistant landscaping materials to residents and to design public spaces with fire resistant landscaping materials where possible referring to FireSmart Canada's yard and landscaping guidelines.

c. Within the planning, zoning and development process, eliminate or manage future ingress/egress to streets and construct to National Building Code Standards e.g., fire apparatus standards.
d. Encourage developers and builders to involve fire service and regional/municipal planners early in the planning process to ensure alignment to FireSmart Guidelines.

Develop a Hanwell specific wildfire safety and preparedness Information pamphlet for distribution to residents within the fire protective services area, available I hard copy and online. Information should include best practices for open burning, where/how to access fire weather information, open fire/campfire bans, relevant By-laws, and legal information. Provide residents with information on alternatives to burning yard waste. Link this information on the website and FireSmart Resiliency portal.

14) Inspection of residential properties throughout the community to the FireSmart standard is recommended. For property owned/operated by Hanwell develop a strategy focused upon lowering fire load and lowering risk scores on Hanwell owned properties.

Interagency Cooperation and Cross Training

The CWRP roadmap and action plan recommends that there be follow-up to offer the individual organizations to work together and develop strong interagency and interdepartmental working relationships well ahead of an emergency response.

15) Ensure mutual aid or service agreements/emergency support functions are in place and reviewed annually.

16) The Rural Community of Hanwell should arrange an annual meeting/exercise, prior to fire season, to include identified stakeholders, mutual aid partners, and local fire department representatives to review the incident command structure and emergency support services in the event of a WUI fire.

17) Where possible community responders should train and certify with assisting agency members through the provincially adopted, incident command system (ICS) program up to ICS 400/402, as well as Emergency Operations Centre Management

Emergency Management/Business Continuity and Recovery Planning

18) It is recommended that the existing community emergency plan be reviewed and refined in the context of the strategic outcomes of the CWRP risk assessment and process. Enhancements to the current procedures for evacuation and the protection/signage of evacuation routes would be re-visited. Beyond the plan itself, a review should be conducted of the current mutual aid agreements, resource inventories, training, and emergency notification systems. The plan would be aligned with all complimentary documents identified in this document (Section 2.5) and validated through an exercise regimen back to CSA Z-1600 *Emergency and continuity management program (R:2022)*.

19) Ensure that there is a process in place to evacuate citizens safely and effectively should the community be affected by a major WUI fire.

20) It is recommended that emergency preparedness and evacuation plans specific to each of the wards be developed, accounting for local and regional access challenges. The Yoho Lake area should be prioritized prior to the 2026 fire season. Plans would be integrated with the overall Hanwell Community Emergency Measures Plan (routes identified in the EMP), as well as any adjoining community's emergency plans.

21) To improve emergency evacuation communication to the community, continue to encourage residents/landowners to sign up to the Voyent Alert emergency notification service.

22) It is recommended that under the leadership of the fire chief and position responsible for emergency management, as part of a wider fire service review and strategy, create a five-year revolving schedule for training, joint operational exercises involving all appropriate wildfire program and response personnel.

23) Collaborate with Scouts Canada, the community of Kingsclear First Nation/Wolastoqey Tribal Council and the NB ATV Federation to ensure the interdependent forest fire risk created by these Hanwell community stakeholders is mitigated and the potential communication and emergency measures planning/validation is managed.

24) Ensure that New Brunswick Trunked Mobile Radio (NBTMR) trunked mobile radios are operational in all areas of the community and if necessary, work with cell companies to boost service in Yoho Lake and other vulnerable areas.

Vegetation Management

25) It is recommended that the fuel hazard within the high-risk areas identified within 500 metres of structures (WUI500) be addressed through engaging a qualified forest professional in creating site level prescriptions. The firm would supervise/coordinate operational implementation of treatments for each recommended treatment area.

- **a.** Hire a student(s) to clean yards for the vulnerable population.

26) It is recommended that Hanwell leaders, the fire chief and FireSmart coordinator work with NB Power to mitigate risks along NB Power rights-of-way. Communicate the importance of fuel hazard abatement along powerline corridors when brush, cleaning fallen trees, or other vegetation management work occurs. The NB Power transmission corridors and rights of ways adjacent to properties should all receive treatment and clearing to ensure that the power poles are protected. More importantly, from the perspective of the community of Hanwell this is an ideal opportunity to partner with NB Power to utilize this land for fire breaks, access and anchors for ground based tactical fire suppression.

27) Develop annual action plans for regular maintenance of the evacuation routes and access to target hazards including brushing, dangerous trees, and surface fuel management. Ensure plans are in place for timely removal of storm damaged trees and debris prior to each fire season.

Wildfire Response and Resources

28) Conduct a full community risk assessment based upon the criteria within NFPA 1300 (*Standard on Community Risk Assessment and Community Risk Reduction Plan Development)* and conduct a fire service review to determine if the current fire suppression capability is commensurate with risk.

29) As part of a larger fire service review and plan: set a strategy for water supply which is based upon community risk and development planning and ensure community risk aligns with response capability. A strategy for water supply and fire station location based upon the risk assessment would be prioritized elements of the review. For areas within the community of Hanwell, assess the feasibility and potential locations for dry hydrant installation, and/or other water storage options for firefighting during drought conditions. Assess, add, maintain existing, and/or upgrade water storage reservoirs ensuring that they are located in areas that would assist the fire service strategically. Routine maintenance checks should be performed to ensure reliable water supply for fire suppression.

30) Ensure effectiveness of the existing 3 community dry hydrants and add a minimum of 3 more in strategic locations. Assess the feasibility and potential locations for dry hydrant installation, and/or other water storage options for firefighting during drought conditions.

31) Explore the feasibility of constructing a water tower in the area of the Industrial Park.

32) Explore a relationship with the water trucking firm currently supplying New Maryland to be formalized into a supply agreement should the community be threatened. This "Emergency Support Function" (ESF) would be codified in the Community Emergency Plan.

33) Add a second "Mini-Pumper" with 4x4 capability, minimum 1050 GPM pump, and 5" appliances to the fire service fleet. Consider the addition of a foam tank capable of delivering Class A (environmentally suitable) foam for quick knock down.

34) Based upon the GNB model of Structural Protection Units, create a cache, perhaps housed in an intermodal container, of wildfire equipment for use by the fire service and exterior residential sprinklers that could be distributed to homes in vulnerable areas should a wildfire be threatening the community.

35) Work with the Upper Kingsclear Hanwell Fire Department to procure a mini pumper truck. Construction of a storage area to house the truck should also be planned for during the acquisition.

It is recognized that the recommendations charted in this report are significant in quantity and at times complexity or cost. It must be stressed that past leaders from the community of Hanwell and the former regionalized communities have successfully managed risk and set a strong foundation for these identified next steps. These recommendations are in no way an indication of past oversight. Hanwell may in fact be the first community in New Brunswick to receive this new approach of conducting Community Wildfire Resiliency Risk Assessment/Plan. It is recognized that across New Brunswick, communities like Hanwell will be receiving similar reports about this new paradigm of recognized wildfire risk, largely exacerbated by climate change. Past community leaders are to be commended on their commitment and the foundation that is in place in Hanwell to use this risk assessment as a tool to recognize the emerging threat and as was the case previously design mitigative strategies. Current community leaders are to be commended for their proactivity as early adopters to embark upon this approach to risk management and consideration of the mitigative strategies needed to protect their citizens and local economy.

Section 1—Introduction

Wildfire is an integral part of New Brunswick's forested ecosystems and natural landscapes, including areas where residents live, work, and recreate. As population growth, expanding rural development, and the impacts of climate change continue to influence land use, many communities in New Brunswick are situated within areas of elevated wildfire risk.

The Community Wildfire Resiliency Plan (CWRP) process supports communities in assessing wildfire exposure, enhancing public safety, and reducing potential damage to homes, infrastructure, and natural resources. Through collaboration with the Department of Natural Resources (DNR) and FireSmart New Brunswick, this risk assessment/plan outlines local strategies to build resilience and mitigate wildfire impacts across the wildland–urban interface. The CWRP is designed to assess current state risk and set a framework for FireSmart disciplines: education, vegetation management, legislation/planning, development considerations, interagency cooperation, training and emergency planning.

The Rural Community of Hanwell CWRP is organized into the following sections:

- SECTION 1: Introduction —introduces the purpose of a CWRP and the CWRP planning process.
- SECTION 2: Local Area Description — defines the Area of Interest (AOI) for the CWRP; provides a description of the community (as well as surrounding communities) within the AOI; summarizes current community engagement and identifies links to other plans or resources that provide valuable information to reduce the threat of wildfires.
- SECTION 3: Critical Infrastructure, Target Hazards, and Values at Risk — introduces the extent to which wildfire has the potential to impact values within the Hanwell community.
- SECTION 4: Wildfire Threat and Risk - describes the process that was undertaken to identify and summarize the fuel hazard and other factors that contribute to the wildfire threat around and within Hanwell.
- SECTION 5: Risk Management and Mitigation Factors - outlines the strategies the Rural Community of Hanwell can put into practice to reduce the risk and the impact of wildfire in four subsections.
    - 5.1 Fuel Management - identifies and prioritizes fuel management treatments.
    - 5.2 FireSmart Planning & Activities - summarizes the current level of FireSmart implementation and identifies priority areas for future FireSmart activities.
    - 5.3 Community Communication and Education - describes the key steps required to build engagement and support within the community for the CWRP. This includes education and outreach and local community prevention programs.
    - 5.4 Other Prevention Measures - identifies local actions and strategies that reduce the threat of wildfires.
- SECTION 6: Wildfire Response Resources - provides a high-level overview of the resources that are available to local governments in the case of wildfire.
- SECTION 7: Conclusion and Next Steps

1.1 PURPOSE

The purpose of this CWRP is to identify the wildfire risks within and surrounding the areas of interest (AOI), to describe the potential consequences if a wildfire were to impact the community; and to examine possible ways to reduce wildfire risk. This CWRP provides an updated assessment of the wildfire risk to the area. The goal is to define the threat to human life, property, and critical infrastructure from wildfires within the AOI, identify measures necessary to mitigate those threats, and outline an action plan to implement those measures.

The CWRP is intended to provide the community with a framework to inform people about the implementation of specific actions that will result in:

- reduced likelihood of wildfire entering the community
- reduced impacts and losses to property and critical infrastructure and
- reduced negative economic and social impacts on the community.

1.2 CWRP PLANNING PROCESS

The Community Wildfire Resiliency Program (CWRP) is a provincial initiative administered by the Department of Natural Resources (DNR) in partnership with FireSmart New Brunswick and supported by Natural Resources Canada. Through Natural Resources Canada "The Canadian Forest Service" (CFS) provides wildland fire intelligence and predictive services, conducts internationally respected research, and leads national strategic programs and initiatives like the CWRP that directly lowers risk and standardizes wildland fire management in Canada. Natural Resources Canada enables partners like GNB DNR and ESI to understand and mitigate risks from wildland fires, and to better prepare locally for and respond to wildland fires. The CWRP program provides funding and technical guidance to help communities across the province assess wildfire risk, plan mitigation activities, and strengthen overall community preparedness.

Since the launch of FireSmart NB's CWRP initiative, numerous municipalities and First Nations have undertaken wildfire resiliency planning with support from DNR and its partners. Funding is made available to local governments and Indigenous communities to offset the costs of developing Community Wildfire Resiliency Plans, implementing FireSmart mitigation treatments, and advancing community education.

The Rural Community of Hanwell received CWRP funding to prepare a Community Wildfire Resiliency Plan in collaboration with DNR, FireSmart NB, and local stakeholders, including the UKHFD, regional emergency management officials and considering the presence of Kingsclear First Nation which is within the boundaries (but not in project scope). The project has been coordinated by Emergency Solutions International (ESI) on behalf of the Community, in partnership with KBM Geomatics for Geographical Information System and wildfire behavioural analysis.

The CWRP planning process consisted of the following phases:

- **Background Research** – Review of community characteristics, demographics, economic context, land use, emergency management framework, critical infrastructure, target hazards, fire history, climate, environmental and cultural values, and applicable provincial legislation.
- **Consultation** – Engagement with municipal leaders, the fire service, Office of the Fire Marshal, First Nations, and the New Brunswick Emergency Measures Organization (NBEMO) to identify values at risk, existing response capacity, and current wildfire awareness and mitigation initiatives. For the Hanwell project a key stakeholder was the Fire Service; Fire Chief Murray Crouse was interviewed midway through the project once the ESI team had conducted their "boots on the ground" assessment. This interview was

a key component to link the risk assessment to the current community response capability and an understanding of the capabilities and interoperability through mutual aid with assisting agencies.

- **GIS Analysis & Wildfire Behavioural Analysis –** Review of DNR wildfire risk data, and Provincial Strategic Threat Analysis (PSTA) information, using GeoNB datasets, vegetation inventories, and recent aerial imagery to refine fuel typing and threat classifications where necessary. Understanding how the community's physical environment, development pattern, and surrounding forest conditions contribute to wildfire hazard and risk, is essential for effective mitigation and preparedness. To support this understanding, DNR's Wildfire Management Branch provides access to Provincial Strategic Threat Analysis (PSTA) datasets and wildfire behaviour modeling outputs. Additional data sources include GeoNB, DNR forest inventory records, and local field observations gathered during the study.
- **Field Work** – Validate identified critical infrastructure, target hazards, confirm fuel types, and identify community-specific values at risk through site assessments and interviews.
- **Draft Plan and Mapping Development** – Develop risk maps, identify mitigation measures, create on-line portal, and prepare recommendations for implementation.
- **Plan Review** – Conduct professional and stakeholder review, incorporating feedback from the project sponsor municipal leaders, fire chief in preparation for a presentation to Hanwell Council.
- **Community Engagement and Education** – Present findings to the community through the on-line portal, encourage FireSmart participation, and integrate feedback into the next iterations of the planning process.

Section 2—Local Area and Community Description

2.1 CWRP Area of Interest (AOI)

The Rural Community of Hanwell is part of the New Brunswick Regional Service Commission 11 (RSC 11) and is known as Entity 62. The Regional Service Commissions (RSCs) in New Brunswick are designed to enhance regional cooperation and improve service delivery across the province.

Hanwell is a vibrant and growing rural community located in York County, New Brunswick. Nestled just southwest of Fredericton along Route 640, Hanwell offers a unique blend of natural beauty, community spirit, and modern amenities.

Extending westward, along NB Route 102, from the Fredericton City limits to Longs Creek, and southwest, along NB Route 640, to Yoho Lake, the Rural Community of Hanwell is one of New Brunswick's fastest growing municipalities. The Rural Community of Hanwell is accessed from the Trans-Canada Highway (Route 2) at exits 271 and 281.

Hanwell covers approximately 250 square kilometres, located directly southwest of the City of Fredericton. The boundary extends along the Saint John River from Fredericton to Longs Creek. The boundary then generally extends south around the Yoho Lake area and then in a northeast direction back to the city of Fredericton boundary. The community is land bordered by the municipalities of Harvey, Sunbury-York South, New Maryland and Fredericton. The portion of the southern boundary is bordered by the Capital Regional Rural District. Hanwell includes areas commonly referred to as North Hanwell, Central Hanwell, Island View, Upper Kingsclear,

Mazerolle Settlement and Yoho. The Bilijk (Kingsclear) First Nation, is situated within the boundaries of Hanwell but is a distinct and self-governing community. This Plan does not apply to the Bilijk land base; however, fire services are provided by the UKHFD. (Hanwell Emergency Measures Plan – Amended January 17, 2024)

Hanwell was first incorporated as a Rural Community on May 23, 2014, under Regulation 2014-30 of the New Brunswick Municipalities Act. Part of the Kingsclear Local Service District was annexed to it on January 1, 2023, as a result of the province's municipal reform initiative. Presently, Hanwell has a population of approximately 7,000. Even with the ever-growing presence of businesses and industry, the Council of Hanwell strives to maintain a rural feel, and a family friendly atmosphere in the community, while providing a high level of services to all residents. The community's motto, vision, mission and core values statements listed below are of significant consideration as it relates to many of the mitigative strategies contained in this report. It is clear that there will be challenges faced by leaders and community members to strike a balance in lowering risk and maintaining the values which the community members hold dear.

Motto - "Inspired by Nature" is the community motto

Vision - "A vibrant rural community providing a voice for residents and businesses by listening, asking questions, being aware of needs, and responding with best practices."

Mission - "Local people, making local decisions, on local issues."

Core Values

- Rural Community Perspective
- Active, Healthy Living
- Responsible Growth
- Environmental Responsibility
- Fiscal Responsibility
- Family Friendliness
- Transparent Decision Making

"In November 2021, the Provincial Government issued the White Paper for a Local Governance Reform (LGR), and, as a result, a portion of the Local Service District of Kingsclear, including Island View, joined the Rural Community of Hanwell. (Rural Community of Hanwell Five Year Strategic Plan 2025-2029)

Residents of the Rural Community of Hanwell enjoy a comfortable, affordable lifestyle in a clean, friendly environment close to nature. The municipality offers ample land for residential, commercial, and industrial development, as well as existing opportunities for trade-based businesses. Many homes in the area are situated on large lots surrounded by forests and nature, giving residents plenty of space and privacy." (Rural Community of Hanwell Five-Year Strategic Plan 2025-2029)

Police protection is provided through the RCMP, under the agreement between the Federal Government and the provincial Department of Public Safety. Policing services for Hanwell are primarily the responsibility of District 2, in Oromocto and J Division in Fredericton. District 2 covers an area approximately the size of PEI, and includes Gagetown, Minto, Stanley, Keswick, McAdam, etc. which would be challenging in a fire season with multiple areas involved in wildfires. (www.hanwell.nb.ca)

Overview of Regional Service Commissions

The RSCs were established on January 1, 2013, to foster collaboration among communities in New Brunswick. There are currently 12 Regional Service Commissions across the province, each serving specific regions. The primary goal of the RSCs is to help local governments respond more effectively to residents needs and to promote regional cooperation in areas such as planning, solid waste management, and community development.

Ward Boundaries

There are six (6) wards within Hanwell. The boundaries are defined by major roads, subdivisions, and natural features. Please refer

- **Ward 1:** Refer to boundary map page 40
- **Ward 2:** Refer to boundary map page 41
- **Ward 3**: Refer to boundary map page 42
- **Ward 4:** Refer to boundary map page 43
- **Ward 5:** Refer to boundary map page 44
- **Ward 6**: Refer to boundary map page 45

Neighbouring Towns and Communities

- Fredericton (northeast)
- New Maryland (east)
- Kingsclear (west)
- Upper Kingsclear, Island View, French Village, Mazerolle Settlement (annexed in 2023). [en.wikipedia.org], [mynewbrunswick.ca]

It must be considered that in the fullness of time when there is a FireSmart program up and running that the FireSmart coordinator will liaise with these communities and their Community Wildfire Resiliency Committees regarding a 1km buffer area that falls around the perimeter of Hanwell.

Bodies of Water

- **Yoho Lake:** A scenic lake with lakefront homes and a Scouts Canada lodge
- **Jardines Pond** (dry hydrant)
- **Nearby Water Systems:** Part of the Saint John River watershed, which supports diverse aquatic life and recreational fishing opportunities. [www2.gnb.ca]
- **Tower Lake** at the back of Alphonso Drive toward Industrial Park.

Landscape and Wildlife

- **Landscape:** Predominantly forested rural terrain with mixed hardwood and softwood forests, wetlands, and rolling hills
- **Wildlife:** White-tailed deer, moose, black bear, foxes, and abundant bird species. Aquatic habitats support trout, bass, and perch [hanwell.nb.ca], [www2.gnb.ca]
- **Nature Parks:**
  - **Hanwell Nature Park:** 243-acre park with trails, lush greenery, and wildlife viewing opportunities [mypacer.com]
  - **Hanwell Recreation Park:** Features accessible trails and playgrounds. [tourismnewbrunswick.ca]
  - **David Bell Memorial Park:** includes baseball field, walking trails, playground, basketball/pickleball courts.

Recreational Opportunities

- **Outdoor Activities:** Hiking, biking, birdwatching, camping (e.g., Woolastook Park nearby), and winter activities like snowshoeing. Yoho Lake is an ecologically unique freshwater lake. The Yoho Lake community is serviced by a series of private dead-end roads. Yoho Scout Reserve located on Yoho Lake consists of 700 acres of forested land with extensive nature trails.
- **Fishing:** Yoho Lake and the Saint John River system offer species such as smallmouth bass, brook trout, and perch. Anglers also target striped bass and musky in nearby waters [fishangler.com], [tourismnewbrunswick.ca]
- **Golf & Entertainment:** Kingswood Park, a major golf and entertainment complex, is located in Hanwell [en.wikipedia.org]

Population and Density

- **Population (2021):** 4,743 (pre-annexation)
- **Post-2023 Annexation:** Estimated population is now approximately **7,000**, but official revised census figures are pending. [hanwell.nb.ca]
- **Density:** ~28 people per km^2

2.2 COMMUNITY DETAIL

History

The community was named by Thomas Baillie, a British officer born in Hanwell, West London. In 1825, Baillie brought Irish immigrants to settle in the area. Hanwell began as a farming community and evolved over time, with significant residential development in the 1970s. [mynewbrunswick.ca]

Geography & Communities

Neighbourhoods within the north and central part of Hanwell include:

- Birchwood Estates
- Brookdale Subdivision
- Brookdale Gardens
- Deerwood Acres
- Starlite Village
- Somerset Park
- Greer Subdivision
- Cobblestone Estates
- Eaglewood
- Eagle Ridge

Towards the south, Yoho Lake has homes on the lakefront and a Scouts Canada Lodge. Towards Island View and Upper Kingsclear, neighbourhoods include:

- Island View
- Butternut Shores
- Eagle's Ledge
- Oswald Gray
- Valleyview Estates
- Driftwood Subdivision

- Kelly Creek
- Ludford Subdivision
- Mountainview Heights
- Murphy Subdivision

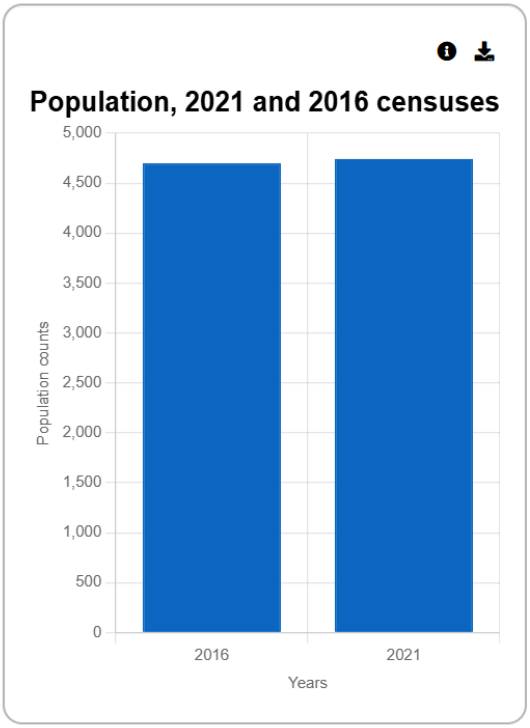
Services

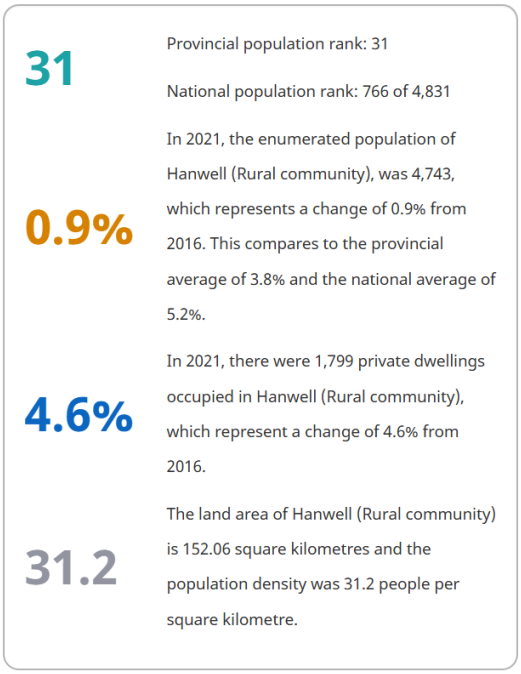
Residents benefit from:

- Fire and police protection
- Garbage and recycling services
- Council meetings and community alerts via Voyent Alert mass notification service. [hanwell.nb.ca]

Demographics

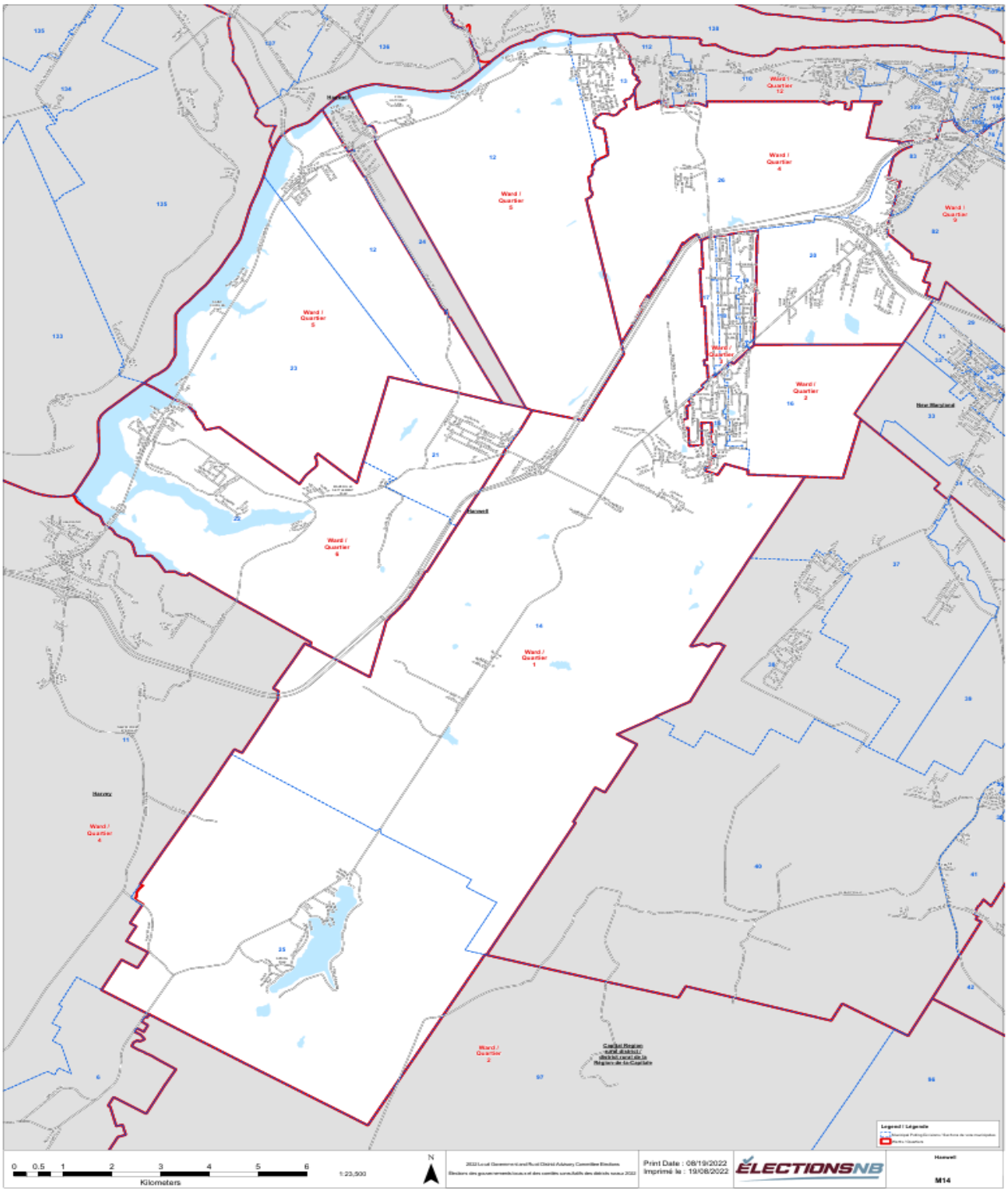
According to the 2021 Census of Population conducted by Statistics Canada, Hanwell had a population of 4,743, living in 1,799 of its 1,887 total private dwellings. This represented a slight increase of 0.9% from its 2016 population of 4,700. With a land area of 152.06 km2 (58.71 sq mi), Hanwell had a population density of 31.2/km2 (80.8/sq mi) in 2021.



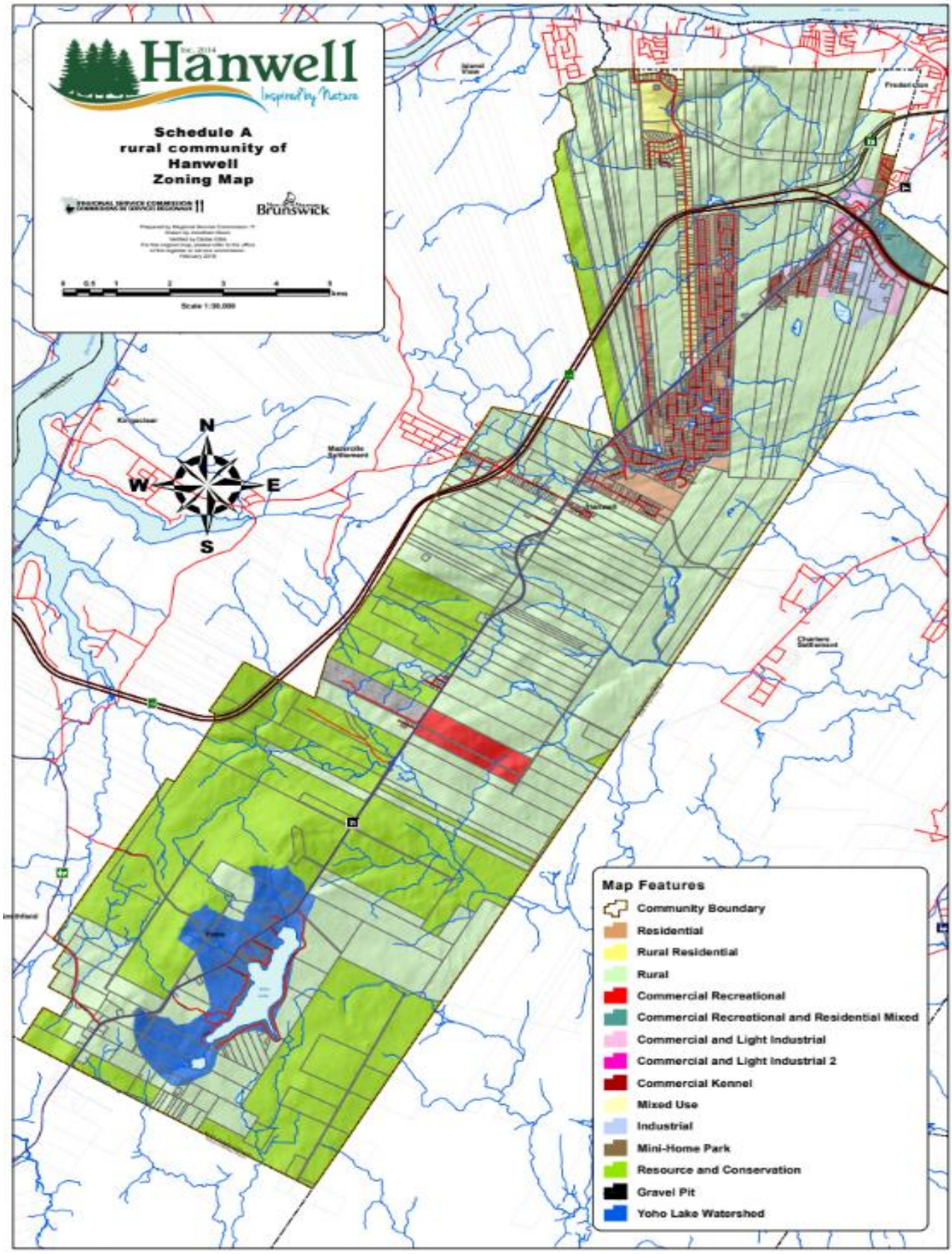


Encompassing over 250 square kms, the Hanwell Community is broken up into 6 wards (see Map 1 below). These divisions provide an opportunity to break up the management of the evacuation/shelter in place, planning effort, the FireSmart roadmap and the specificity needed in the community emergency plan.

Map 1. Rural Community of Hanwell Ward Boundaries



Map 2. Rural Community of Hanwell Zoning Map



The current zoning model and processes to ensure compliance through the land planning process, (see Map 2 above), provides an opportunity for the community to use this foundation and layer the current state of wildfire risk mapping and look for opportunities to manage private and public lands with a view to lowering risk. The FireSmart Roadmap will recommend that Hanwell examine by-laws and the land planning/zoning that exists to refine where necessary to lower community wildfire risk.

2.3 Past Wildfires, Evacuations & Images

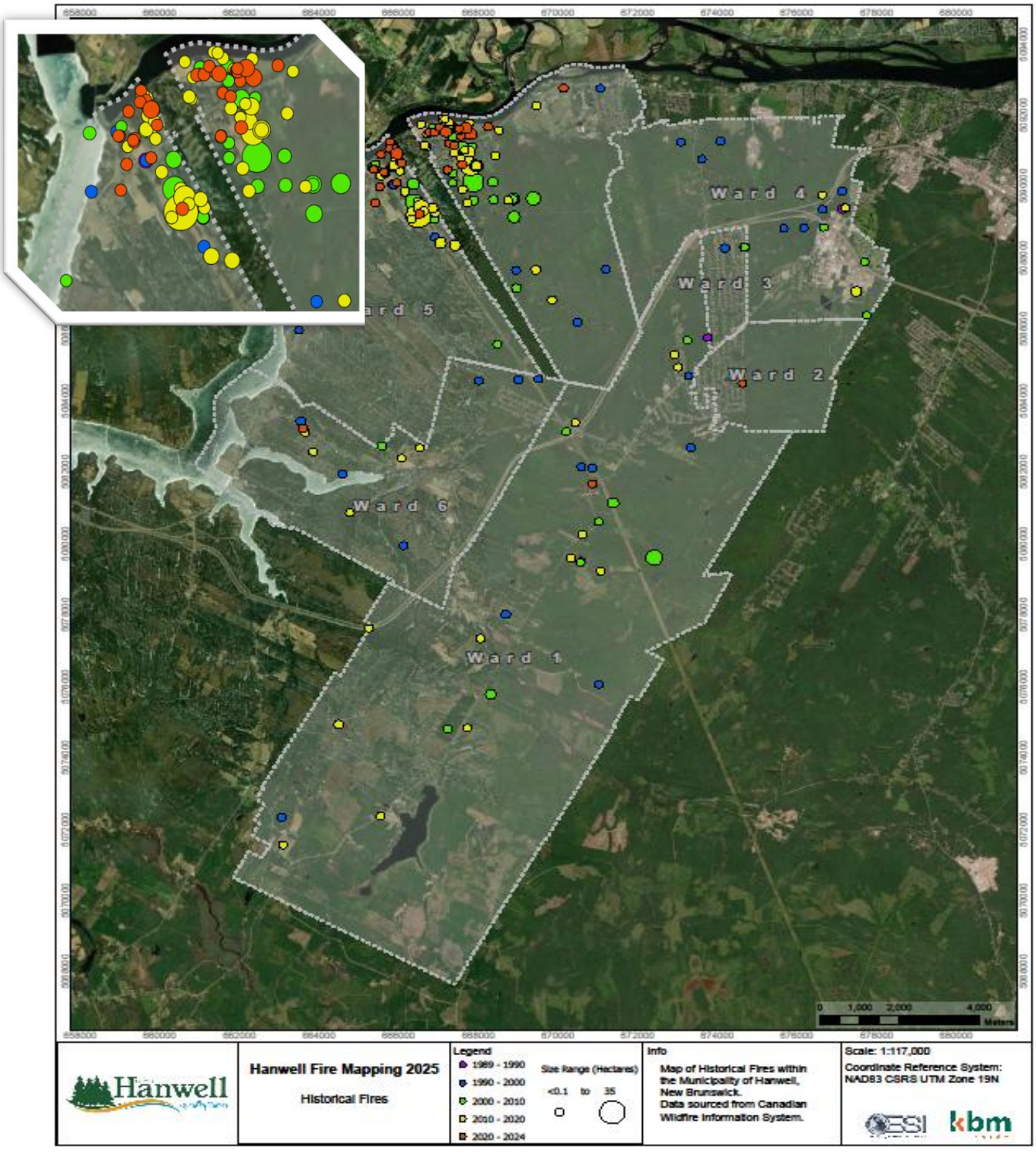
No significant wildfire incidents/disasters or mandatory evacuations have been recorded in Hanwell's history (including after its incorporation in 2014 and annexation in 2023). Most fire-related notices have been preventive measures rather than emergency evacuations. [mynewbrunswick.ca], [en.wikipedia.org]

Table 1. Summary of past wildfires, notices and advisories

Date	Comment
June 2023	▪ Province-wide No Burn Advisory implemented due to high fire hazard. Hanwell promoted FireSmart guidelines and introduced Voyent Alert! for emergency notifications. [hanwell.nb.ca]
Summer 2024	▪ Multiple fire ban notices issued during dry conditions. Hanwell advised residents to monitor NB Forest Fire Watch and avoid backyard burning, fireworks, and open flames. [hanwell.nb.ca]
August 2025	▪ Wildfire Information Update (Aug 29): Hanwell warned residents about high fire hazard and shared evacuation preparedness tips. Entire province under a No Burn Advisory; backyard fires, fireworks, and debris burning was prohibited. [hanwell.nb.ca],
Late August 2025	▪ Safety & Prevention Notice: Emphasized risks from unattended barbecues, cigarettes and fire pits during extreme hazard period. [hanwell.nb.ca]
September 2025	▪ Forest Fire Watch – Category 1 (RED**):** Absolutely **no burning** allowed in Hanwell and across NB. [hanwell.nb.ca]
October 2025	▪ Fire hazard reduced; restrictions eased from Red (No Burn) to Green (Burn Allowed) as conditions improved. [hanwell.nb.ca]
November 2025	▪ Provincial Fire Ban: All Hanwell trails closed due to ongoing ban; residents urged to check NB Fire Watch daily. [hanwell.nb.ca]
December 2025	▪ Wildfire Update: Hanwell continued sharing NB government wildfire updates and encouraged Voyent Alert registration for emergency notifications. [hanwell.nb.ca]

Map 3. Rural Community of Hanwell – Historical Fires1989 -2024

This map shows historic fire points in the Hanwell area from 1989-2024. The fires range in size from <0.1ha to 35ha. Data for this map was sourced from the Canadian Wildfire Information System. The risk assessment process had ESI personnel on every road and every corner of the community. It is clear from the boots on the ground assessment that the UKHFD has done a tremendous job with the resources it has, to protect the community and to have stopped these fires in their areas of origin.



2.4 CURRENT COMMUNITY ENGAGEMENT

Following the regionalization of the community into Hanwell community leaders have embarked upon the process of assessing risk, aligning one consolidated emergency plan and lining up resources with risk. Engagement of the public through regular council meetings, community consultations public meetings, online updates and opportunities for written and verbal input. Residents have also been asked to participate in surveys. The CWRP process has involved community leaders, the Fire Service and ultimately Council. As it relates to this process community leaders have worked with ESI in the identification of the critical infrastructure, target hazards and values at risk.

As a companion to this report there has been an on-line resiliency portal created for community leaders and citizens to engage with the strategic outcomes of the project and mapping illustrating community risk layers. The Hanwell Community Wildfire Resiliency portal can be accessed through the following link:
Hanwell Community Wildfire Resiliency Portal

2.5 LINKAGES TO OTHER ORGANIZATION'S PLANS & POLICIES

The FireSmart planning "roadmap" (defined below) will recommend that there is a refinement of risk management within by-laws, building construction practices and the land planning/approval process. This report recognizes that as these refinements are being considered that the linkages to other planning or policy documents be considered. Further, achieving a "moderate" or "low" score on a residential or critical infrastructure quantitative risk assessment involves construction practices that would be supported through the planning approval process. Inspection of residential properties throughout the community is also recommended. The CWRP also discusses the relevance of objectives, strategies and polices that will influence the development of the FireSmart Roadmap.

- New Brunswick Emergency Measures Act
- Forest Fires Act
- GNB Emergency Preparedness Guide
- GNB "Fire Watch"
- CSA Z-1600: (R2022) *Canadian Standard for Emergency Management and Business Continuity*
- NFPA 1300 *Standard on Community Risk Assessment and Community Risk Reduction Plan*
- Hanwell Emergency Measures Plan (amended January 17, 2024)
- Affiliated surrounding community CWRPs
- NBEMO *Provincial Risk Assessment and Provincial Emergency Measures Plan*
- GNB Office of the Fire Marshal Structural Protection Unit Plan
- DNR Wildfire response plans and policies
- RCMP evacuation policies
- Kingsclear First Nation Incident Management Plan
- Kingsclear First Nation FireSmart Risk Assessment 2025
- Wolastoqey Tribal Council Emergency Management Program Document 2025
- Wolastoqey Tribal Council CSA Z-1600 Report Card 2025

Table 2. Federal, Provincial, and local responsibilities and relevance.

Organization / Partner	Primary Responsibilities	Relevance to CWRP
Department of Natural Resources and Energy Development (DNR)	▪ Lead provincial agency for wildfire prevention, detection, and suppression. ▪ Administers the *Forest Fires Act* and associated regulations. ▪ Provides technical support, funding, and GIS data for community wildfire planning. ▪ Coordinates Provincial Strategic Threat Analysis (PSTA) and wildfire weather data.	DNR is the principal partner for CWRP development and implementation. Provides wildfire risk data, operational guidance, and approval for fuel-management prescriptions.
DNR – Wildfire Management Branch	▪ Oversees operational wildfire response, air and ground suppression, and risk-assessment services. ▪ Maintains provincial Fire Danger Rating System and fire-weather monitoring network. ▪ Supports local training and mutual-aid readiness.	Technical lead for wildfire operations; ensures alignment between CWRP recommendations and provincial wildfire-response capabilities.
FireSmart New Brunswick (FireSmart NB)	▪ Delivers the national FireSmart Canada program at the provincial level. ▪ Provides tools and outreach for homeowners, communities, and FireSmart Champions. ▪ Promotes public education, risk reduction, and neighbourhood engagement.	FireSmart NB is the public-facing component of wildfire resiliency; key partner for education, outreach, and implementing community-scale recommendations.
New Brunswick Emergency Measures Organization (NBEMO)	▪ Coordinates emergency-management planning and disaster response under the *Emergency Measures Act*. ▪ Supports municipalities with EM planning, training, and public alerts. ▪ Oversees declarations of States of Emergency (SOE) and States of Local Emergency (SOLE).	NBEMO ensures wildfire preparedness, evacuation planning, and recovery coordination are embedded within broader emergency-management structures.
Municipal Governments	▪ Develop and maintain local Emergency Management Plans (EMPs). ▪ Enforce municipal burning by-laws and land-use regulations. ▪ Coordinate with DNR for fire-ban enforcement and local incident response. ▪ Support FireSmart community programming.	Municipalities implement CWRP recommendations through policy, land-use planning, and public education; maintain readiness for evacuation and resource coordination.
Local Fire Departments	▪ Provide initial wildfire suppression in the wildland–urban interface (WUI). ▪ Support public education and FireSmart events. - Coordinate with DNR wildfire crews during multi-agency incidents.	First response and local suppression capability; frontline implementers of training and hazard mitigation actions.
Structural Protection Units (Wildfire Response)	▪ Provincially led through the NB Office of the Fire Marshal, comprised of trained volunteer participating fire services. Deployed provincially falling under the Command of DNR	Augments the local response in advance of wildfires threatening the community. Staffed and equipped by the OFM through the NR Canada national funding stream.

Organization / Partner	Primary Responsibilities	Relevance to CWRP
Wolastoqey Nation (Woodstock, St. Mary's, Bilijk, Oromocto, Madawaska) and Kingsclear First Nation.	▪ Exercise jurisdiction over reserve lands and community emergency planning. - Collaborate with DNR and NBEMO for wildfire preparedness and resource sharing. ▪ Integrate traditional ecological knowledge (TEK) in planning.	Key regional partners in wildfire resiliency planning and knowledge integration; their lands and values are considered in risk and mitigation mapping.
Natural Resources Canada (NRCan) / Canadian Wildland Fire Information System (CWFIS)	▪ Provide national fire-danger and weather data. Conduct wildfire research and modeling. ▪ Support interprovincial coordination and knowledge sharing.	Secondary data and research source for CWRPs, particularly for long-term fire-climate trend analysis. Support to the CWRP and Structural Protection Units. Strategic national standardization.
Community Members & Property Owners	▪ Implement FireSmart principles on private properties. ▪ Participate in community engagement sessions and FireSmart neighbourhood programs. ▪ Maintain defensible space and emergency preparedness.	Core participants in local risk reduction; FireSmart adoption directly influences wildfire resilience outcomes.

Section 3 - Critical Infrastructure, Target Hazards and Values at Risk

Although the scope of this CWRP is generally focused upon risk at a broad organizational level, the team at ESI strongly believes that to adequately assess risk in the community and then compare response capability, there must be a "boots-on-the ground" granular look at key facilities. The loss of critical infrastructure can affect a community's ability to develop resiliency and the capability of protecting critical infrastructure is a Key Performance Indicator (KPI) of a well-planned and serviced organization. ESI has utilized the FireSmart criteria for Critical Infrastructure to quantitatively rate eighteen (18) facilities within the community to give leaders and citizens detailed insight into the extent of the work to be done to lower risk in the community at a foundational level. Again, to manage expectations this group of 18 facilities is a statistical sample that is representative of what the ESI team has seen throughout the 250+ square kms area.

The intent of this section is to clearly identify and understand where not only critical infrastructure, target hazards and values at risk are located but to understand quantitatively as a statistical sample the vulnerabilities the community faces once wildfire is threatening or moving through the community. Also, based upon the findings we are able to discuss the prioritization of determining the mitigation activities more holistically and ultimately the FireSmart planning roadmap. As part of the recommendations there will be an emphasis on carry on this granular level quantitative risk-assessment, two areas for example for priorities beyond the identified high-risk areas are the DNR Tree Nursery and Woolastook Campground.

Definitions

Critical Infrastructure: "Publicly and provincially owned critical infrastructure (CI) are assets owned by the Provincial government, local government, public institution (such as health authority or school district), First Nation or Treaty First Nation that are essential to the health, safety, security or economic wellbeing of the community and the effective functioning of government, or assets identified in a Local Authority Emergency Plan Hazard, Risk & Vulnerability and Critical Infrastructure assessment." ((BC FireSmart Community Wildfire Resiliency Plan Instruction Guide 2024).

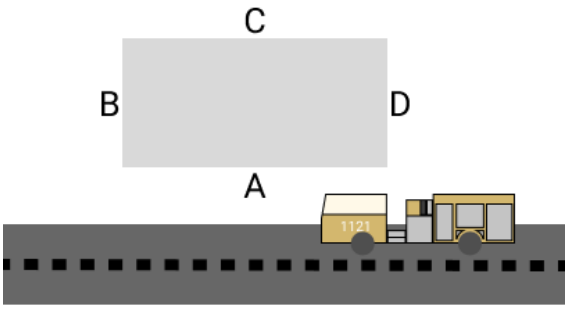
The authors of this report recognize that protection of CI is a predictor of the community's resilience following a wildfire that affects the community. As a nation Canada has shown wide flexibility around a community-based definition of critical infrastructure; this flexibility reflects a desire to have the community itself delineate the relativity of what is critical to its citizens. This relativity aligns with the FireSmart philosophy of "Values at Risk."

Values at risk (VAR) are the human or natural resources that may be impacted by wildfire. This includes human life, property, critical infrastructure, high environmental and cultural values, and resource values. (BC FireSmart Community Wildfire Resiliency Plan Instruction Guide 2024)

The National Fire Protection Association (NFPA) supports target hazard identification through Community Risk Assessment (CRA) and Community Risk Reduction (CRR) planning, primarily outlined in the standard NFPA 1300 (*Standard on Community Risk Assessment and Community Risk Reduction Plan Development*). This approach moves beyond traditional fire hazards to include an all-hazards perspective in community planning.

The following is a list of prioritized structures identified as being "Critical Infrastructure, Target Hazards or Values at Risk" within the community of Hanwell. Each of these structures have been assessed and scored as per the FireSmart criteria (see appendix 2). Individual reports for each facility/structure can be provided upon request by owner/operators. It must be noted that the FireSmart critical infrastructure was utilized for all the properties; arguably some could have been assessed utilizing the "residential" assessment form. Ultimately the outcome of the process is to illustrate the significantly high scores which would have unquestionably been similar using either process.

Building Side Labelling: Alpha, Bravo, Charlie, Delta– these terms are used to designate the sides of a structure. Generally speaking, the "alpha" side is the front of the structure, the "bravo" side is the left side of the structure, "charlie" is the back of the structure, and "delta" is the right side of the structure.



FireSmart Critical Infrastructure Risk Assessment Scoring (See Appendix 2 for the assessment criteria)

Table 3 – Rural Community of Hanwell - Identified Critical Infrastructure Assessed

Low 0 - 21	Moderate 21-29	Extreme 30↑

Ward	Critical Infrastructure/Target Hazard	Score
1	Bell Aliant Bldg., 2247 Hanwell Rd, Hanwell	156
1	Municipal Office, 5 Nature Park Dr, Hanwell	42
1	Hanwell Park Academy, 2331, Rte. 640, Hanwell	116
1	Yoho Scout Reserve, 3566 Rte. 640, Yoho Lake, 'NB	268
1	Hanwell Special Care Home, 2423, Rte. 640, Hanwell	270
3	Hanwell Fire Station 2, 2076 Rte. 640, Hanwell	36
3	Scholten's Hanwell - Shell, 2049 Rte. 640, Hanwell	96
4	Southampton House, 31 Michael Ave, Hanwell	215
4	Sky Designs Fireworks, 1769, Rte. 640, Hanwell	217
4	Taylor Petroleum/Timothy Fuels, 6 Timothy Ave N, Hanwell	70
4	Crossroads Irving, Burger King, 1735 Rte. 64, Hanwell	15
4	Kingswood Entertainment Ctr, 1700 Kingswood Way, Hanwell	90
4	Radisson Kingswood, 41 Kingswood Way, Hanwell	25
4	Dance Connection, 1769 Rte. 640 Hanwell	217
5	Mountain Side Lodge, 50 Friesen Dr, Island View	49
5	Eden Manor, 35 Springwater Ct, Island View	230
5	UKFD Station 3, 3730 Route 102, Island View	167
6	UKFD Station 1, 22 Mazerolle Rd, Upper Kingsclear	197

3.1 Critical Infrastructure & Target Hazards Assessed

Bell Aliant Communication Building
2247 Hanwell Rd, Hanwell

The Bell Aliant Building at 2247 Hanwell Road is undoubtedly critical to the community and its loss due to fire could mean the loss of critical communication in a WUI fire incident.

Hanwell Place (Municipal Office/Community Centre
5 Nature Park Drive, Hanwell, NB

The Hanwell Place Community Centre/ Municipal Office is a beautiful well-constructed (FireSmart) building with moderate exposure to mixed forest and combustible ground cover.

The goal for this area is to thin out vegetation and prune to reduce the amount of fuel and intensity of any fire that reaches this area. Preservation of this facility is critical given it is utilized as a Reception Centre and Emergency Operations Centre (EOC).

The Rural Community of Hanwell has a K-8 school (**Hanwell Park Academy**, located at 2331 State Highway 640, Hanwell NB E3E 2B5 is part of the Anglophone West School District. They have a student population of 550 and a staff of about 65 teachers, EAS, Custodians and Admin Assistants.

The Hanwell Park Academy is a beautiful new and well built (FireSmart) occupancy. The scoring reflects the proximity to a continuous mixed forest in Zone 2 and 3 with abundant ground covering/combustibles in Zone 2.

YOHO Scout Reserve, 3566 Rte. 640, Yoho Lake, NB

The Riverton Area YOHO Scout Reserve is high-risk occupancy due to use for sleepovers. There is one dry-hydrant located at the Scouts lodge. Communication (cell) service is very poor or non-existent in this area. This facility is surrounded by forested areas. The foundation does not have 15 cm clearance at all points and has foam insulation exposed.

Hanwell Special Care Home

2434 Rte. 640, Hanwell

This occupancy was identified by the Hanwell Team as Critical Infrastructure based upon its vulnerable population (like the other senior and special care homes studied).

With a very high or (extreme) score there are significant areas of concern based upon the FireSmart assessment. Among some are a significant number of shrubs and combustibles around this building and its outbuildings.

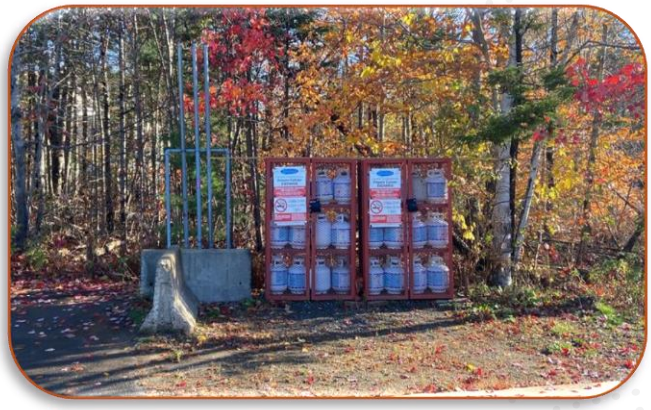
Upper Kingsclear Hanwell Fire Department – Station 2

2076 Rte. 640, Hanwell, NB

This beautiful new Fire Station is constructed in a FireSmart manner and has some exposure to forested areas and should be buffered.

Scholten's Hanwell-Shell
2049 Rte. 640, Hanwell

Generally, a safe structure with some areas of concern with regard to combustibles in the rear of the facility.



Southampton House
31 Michael Avenue, Hanwell

Southampton House is a community residence for individuals who have survived Traumatic Brain Injuries (TBA) and currently has six beds. This occupancy was identified by the Hanwell Team as Critical Infrastructure based upon its vulnerable population (like the other senior and special care homes studied.)

There are significant shrubs and combustibles around this building and its outbuildings.

Sky Designs Fireworks & Dance Connection

1769 Rte. 640, Hanwell

Sky Designs Fireworks and the Dance Connection are co-located at this address. Immediate interface with combustibles on Delta or right-hand side.

Taylor Petroleum

6 Timothy Avenue North, Hanwell

Critical Infrastructure located within an Industrial Park. Safely operated but has some combustible exposures.

Also made recommendation to Manager that they should display civic address and join Hanwell notification system (Voyent) app.

The stand of mixed forest approximately 30 m from the fuel storage area is the main concern in this assessment.

Crossroads Irving/ Burger King/Cannabis NB
1735 Rte. 640, Hanwell

Modern well-constructed (FireSmart) well maintained facility

Kingswood Entertainment Centre
1700 Kingswood Way, Hanwell

A solid structure constructed to the FireSmart requirements.

The issue creating a high score is the high level of landscaping and combustibles in zones 1 and 2.

Radisson Kingswood Hotel
41 Kingswood Way, Hanwell

This is a new pre-commissioned but near completion hotel which is constructed to the FireSmart standard.

Civic address is not displayed and hydrants yet however the management has worked with the Fire Service and installed a water tank in the rear of the facility which would assist with operations here and the surrounding area. The Fire Service would need to set up continuous water supply into fire department connections.

Mountain Side Lodge

50 Friesen Drive, Island View

Generally, a well built and maintained property with a few areas on concern.

Eden Manor

35 Springwater Court, Island View

This property has several concerns including a long narrow, combustible rich driveway as its only mean of ingress/egress.

Upper Kingsclear Fire Department – Station 3

3730 Rte. 102, Island View

This Fire Station is constructed in a FireSmart manner and has some exposure to forested areas and should be buffered.

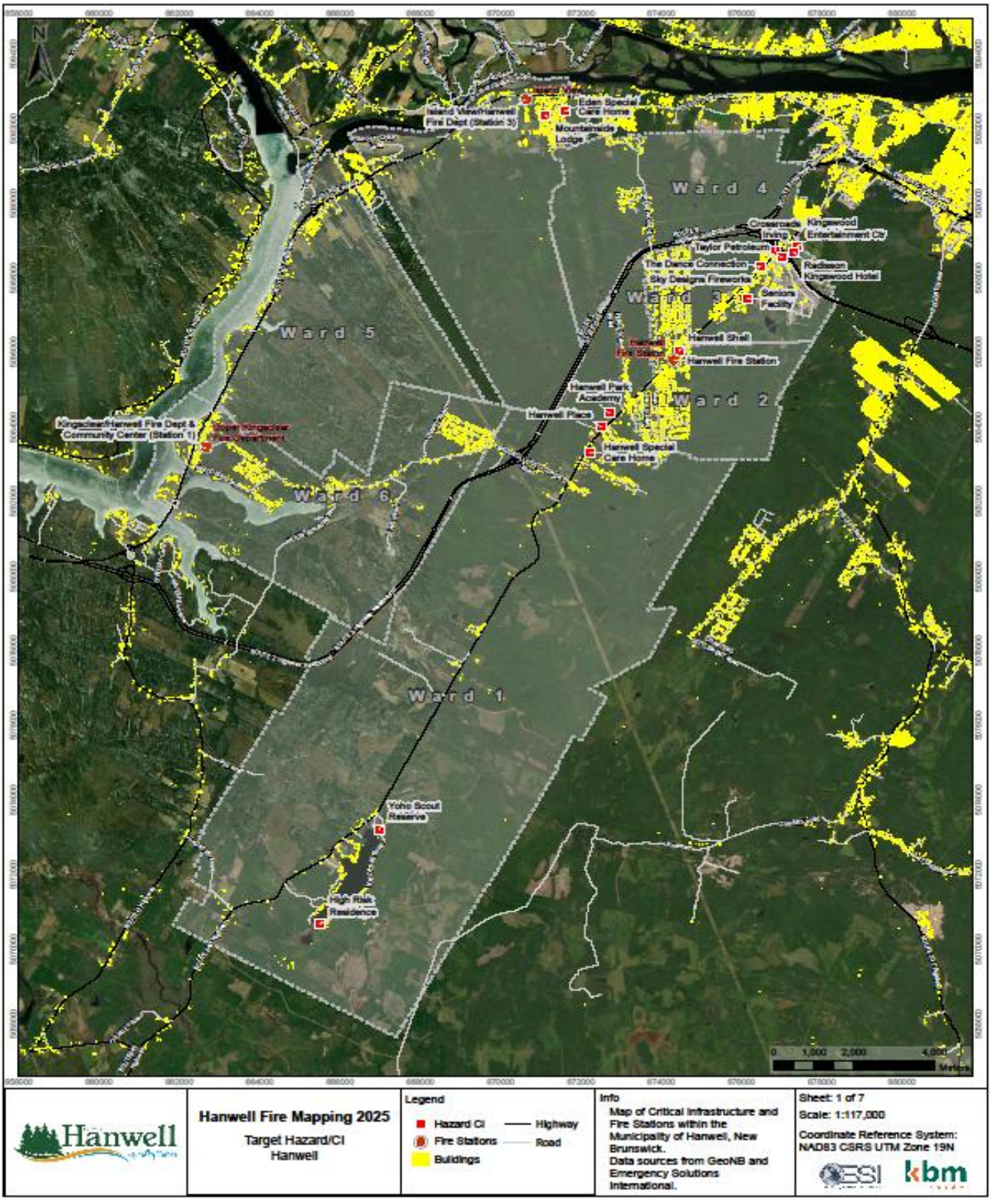
Upper Kingsclear Hanwell Fire Department Station - Upper Kingsclear Station 1

22 Mazerolle Settlement Rd, Upper Kingsclear

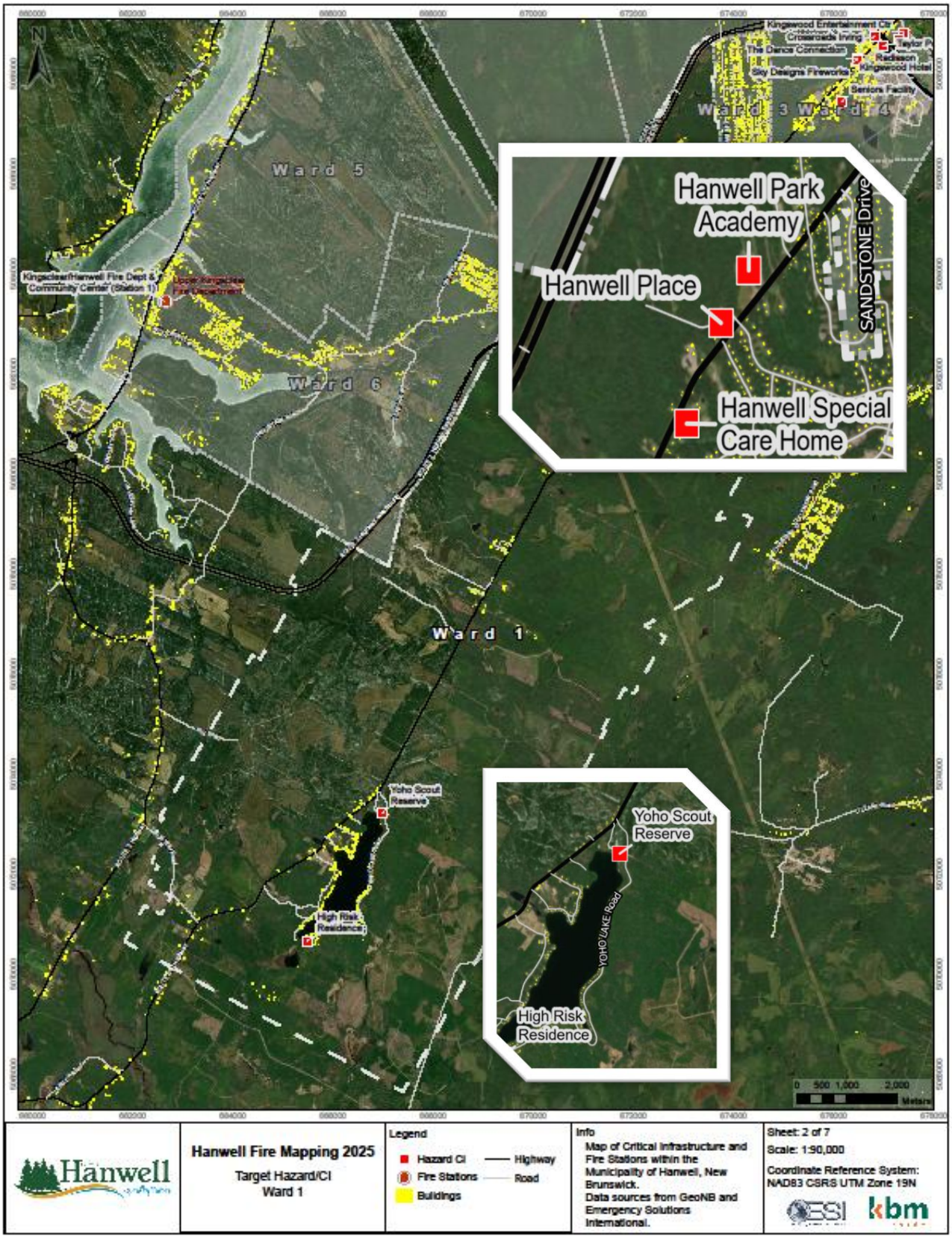
This Fire Station is constructed in a FireSmart manner and has some exposure to forested areas and should be buffered.

Map 4. Critical Infrastructure, Target Hazards and Values at Risk: Rural Community of Hanwell

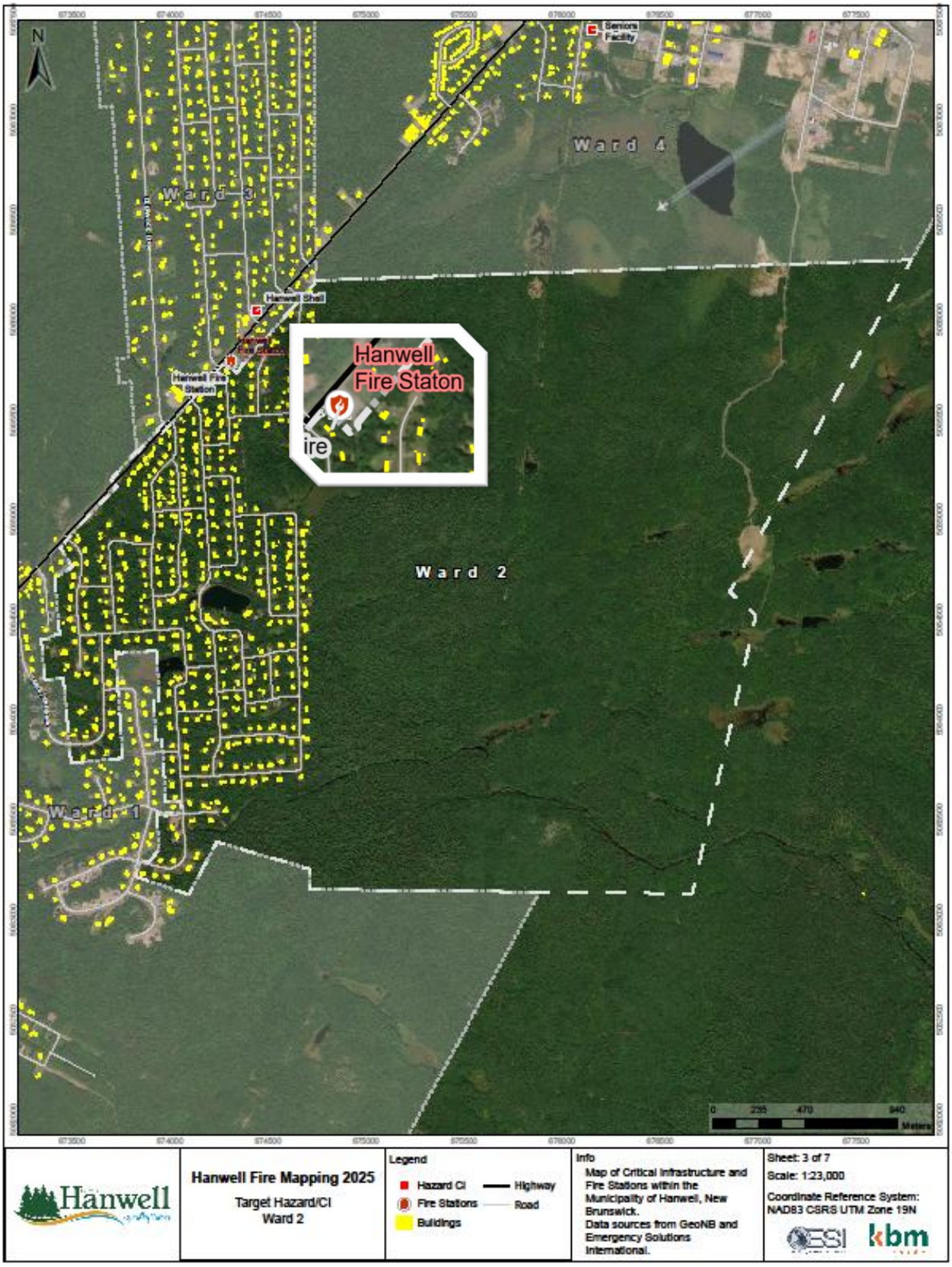
This map shows Critical Infrastructure, target hazards points and fire stations within the Hanwell area. Maps 5-10 provide a closer view for each ward. Clearer views and the ability to zoom may be accomplished through the On-line Resiliency Portal. Data for this map was sourced from GeoNB and Emergency Solutions International.



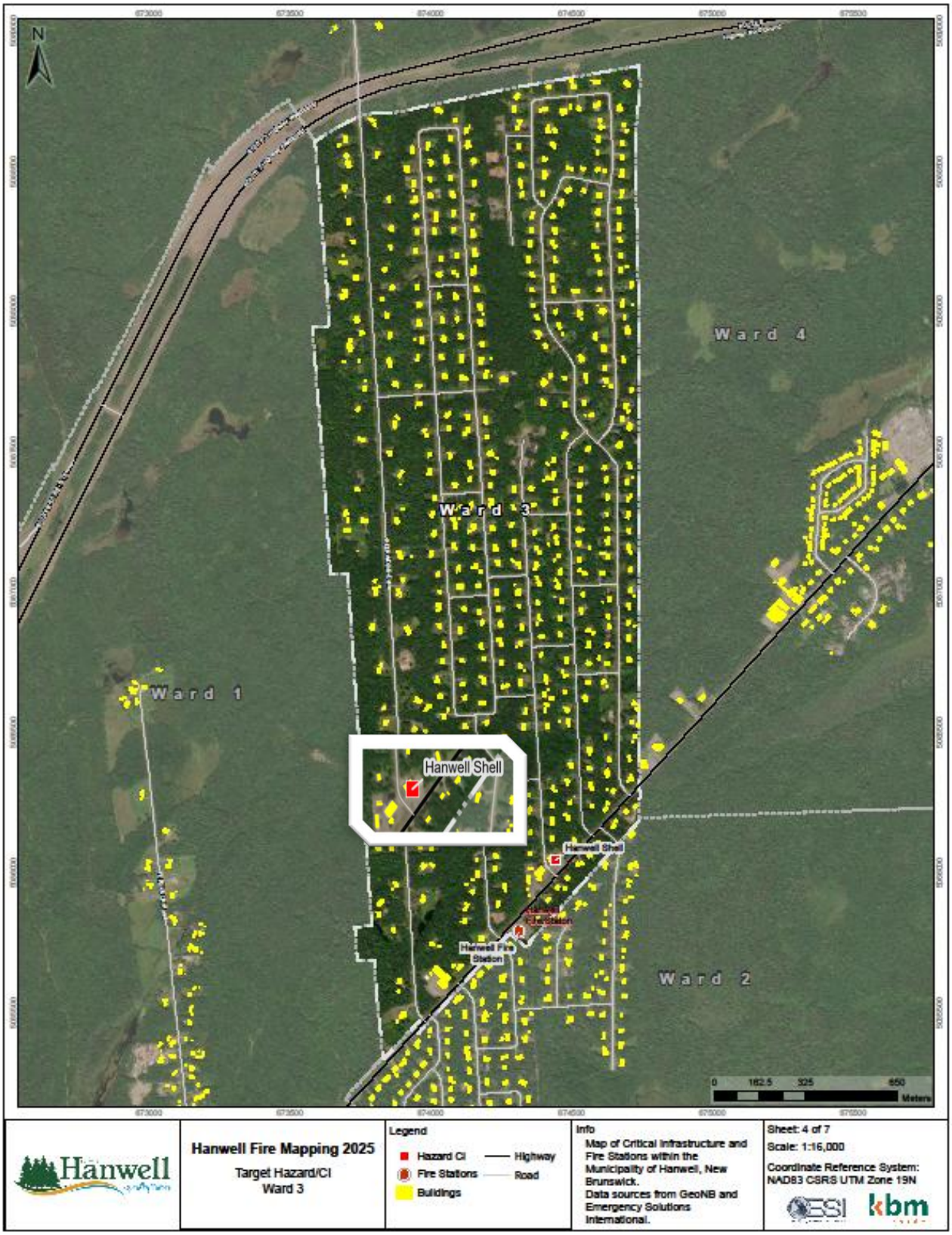
Map 5. Target Hazard CI – Rural Community of Hanwell Ward 1



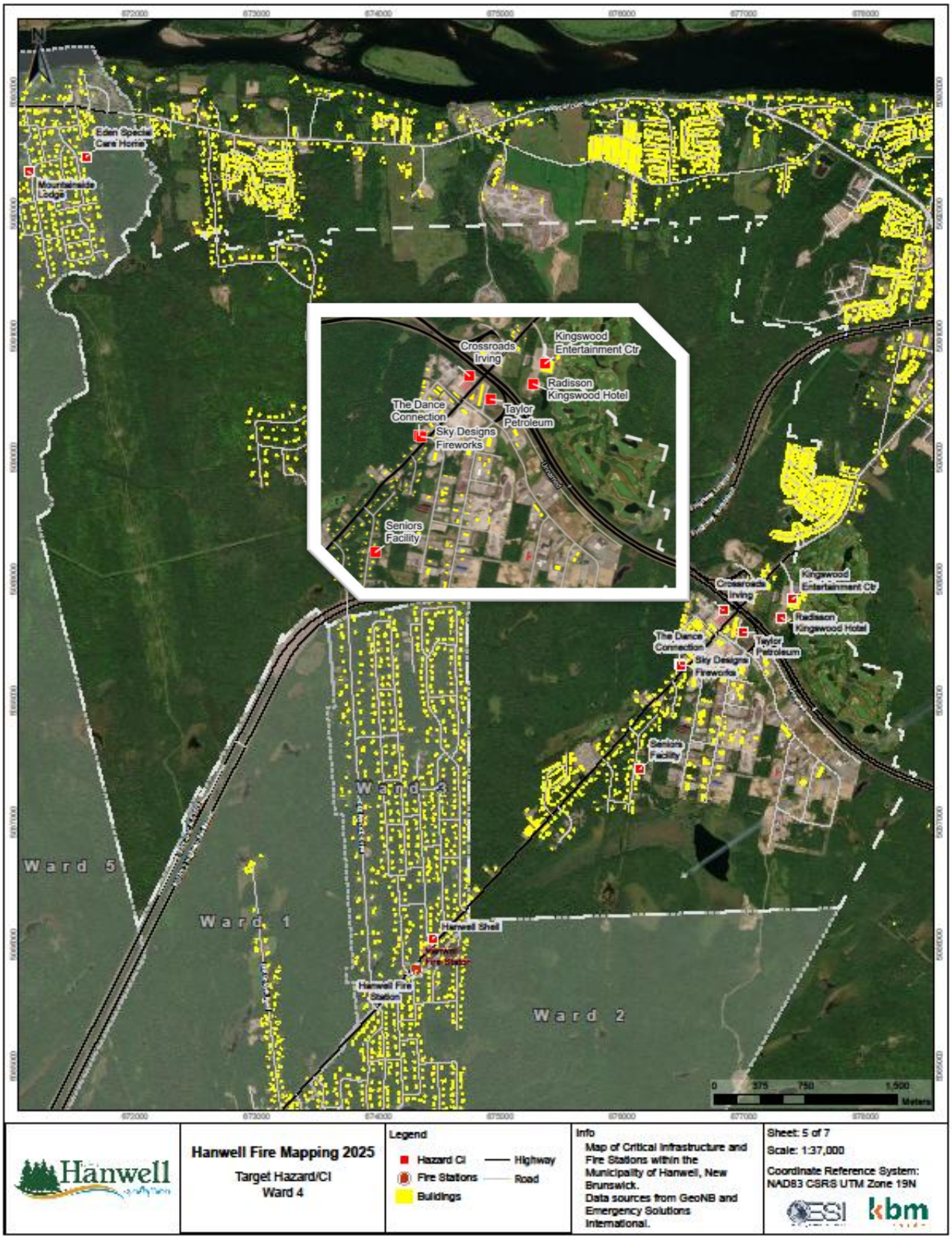
Map 6. Target Hazard CI – Rural Community of Hanwell Ward 2



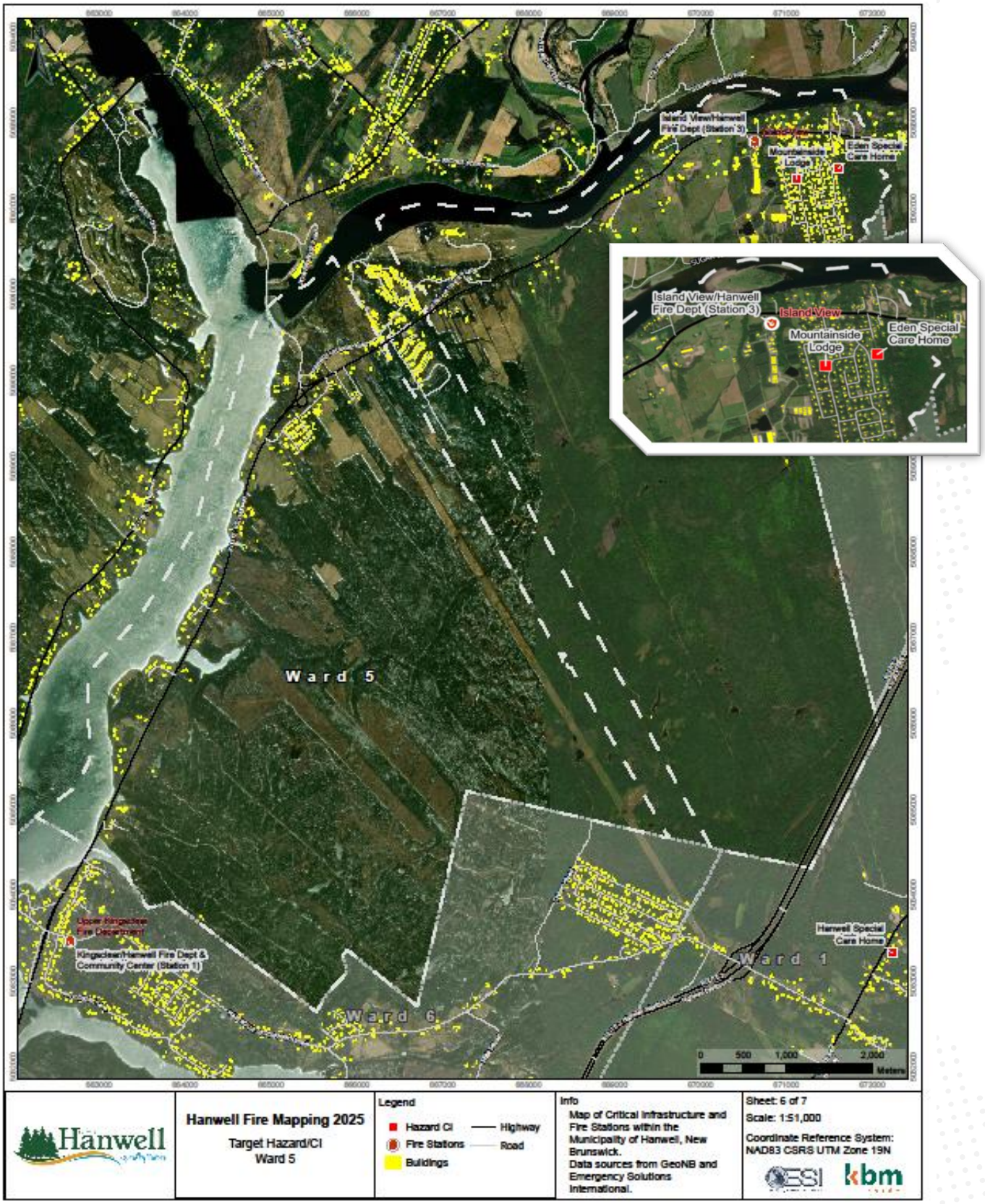
Map 7. Target Hazard CI – Rural Community of Hanwell Ward 3



Map 8. Target Hazard CI – Rural Community of Hanwell Ward 4



Map 9. Target Hazard CI – Rural Community of Hanwell Ward 5



Map 10. Target Hazard CI – Rural Community of Hanwell Ward 6

3.2 Electrical Transmission and Distribution

Electrical power for the Rural Community of Hanwell is provided by NB Power. NB Power is responsible for all infrastructure such as power lines, poles and substations. Within the community these power poles are for the most part constructed of treated wood; this construction increases scoring on each property studied by six points. It is recommended that Hanwell leaders, the fire chief and the FireSmart coordinator work with NB Power to mitigate risks along rights-of-way. Communicate the importance of fuel hazard abatement along powerline corridors when brush, cleaning fallen trees, or other vegetation management work occurs. The NB Power transmission corridors and right of ways adjacent to properties should all receive treatment and clearing to ensure that the power poles are protected. More importantly from the perspective of the community of Hanwell, this is an ideal opportunity to partner with NB Power to utilize this land for fire breaks, access and anchors for ground based tactical fire suppression.

3.3 Human Life & Safety

In the event of wildfire approaching a community, the priority is human life and safety, including the evacuation, (in community/partial or full evacuation) of at-risk areas. Wildfire can move quickly and unpredictably. It takes time for people to evacuate an area, and safe egress can be blocked by the fire itself or by vehicle congestion or accidents. At some points in the community there are areas which have limited access or egress. For the fire service and bus companies during evacuation there are dead-end streets beyond 110 metres which do not have NBC compliant turnarounds. Evacuation would be the responsibility of the RCMP/ Justice and Public Safety in unified command with the fire service. Policing Services are currently offered by the RCMP, and the roads are currently owned by DTI, and hence the community is restricted to what it can implement on the road network.

There is **no official published count for structures by ward within the Rural Community of Hanwell**, but the estimated numbers based on available data are as follows:

Known Data

- Total dwellings in Rural Community of Hanwell (2021 Census): 1,800 occupied private dwellings (with 1,715 owner-occupied and 85 rented) [www12-2021statcan.gc.ca]
- Population: 4,743 residents in 2021 [gnb.ca]
- Ward count: 6 wards (including annexed areas as of 2023) [site1.outreachserver.ca]

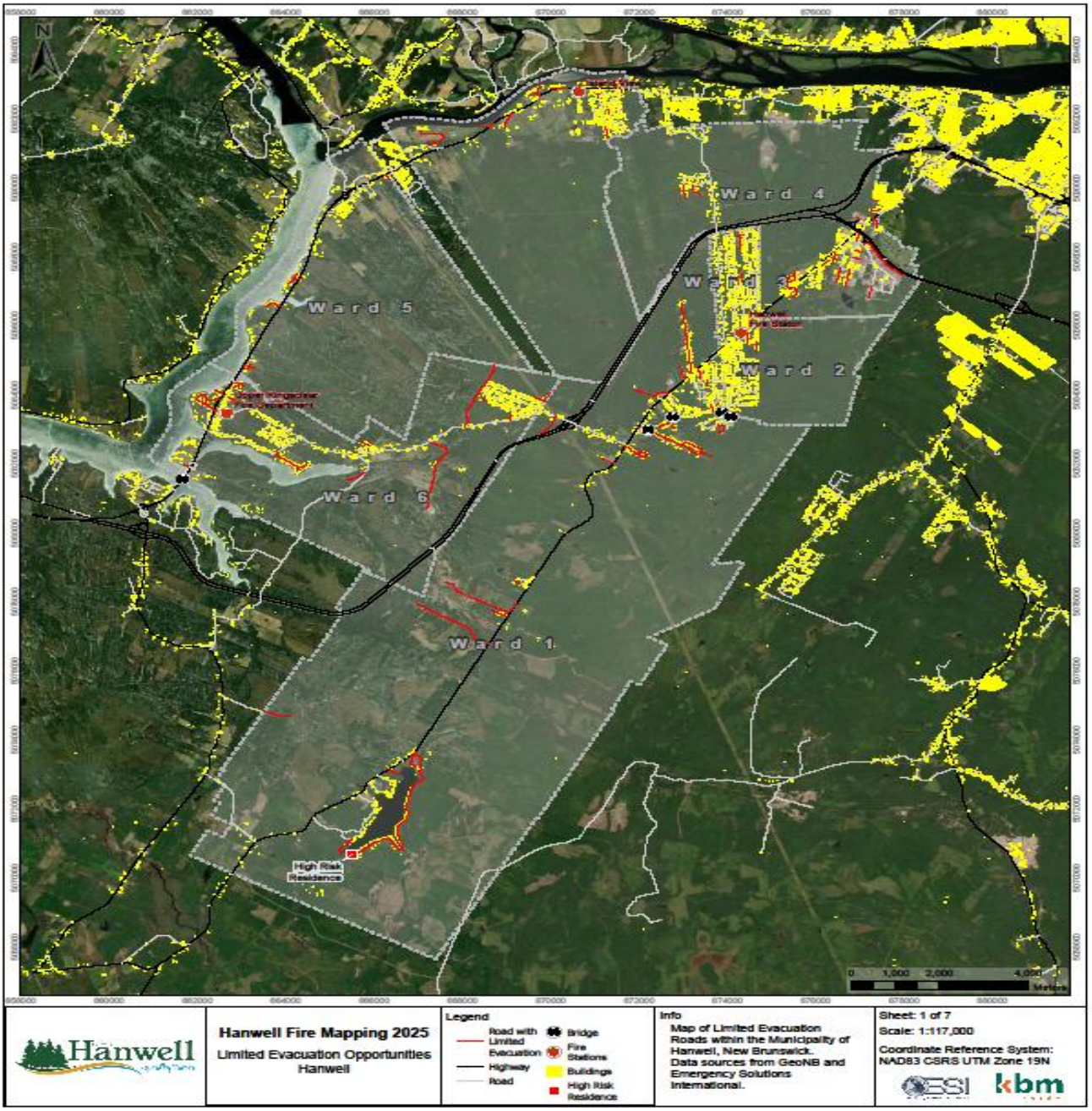
Table 4. Summary of estimated number of structures found within each Ward

AOI	Estimated No. of Structures	Estimated Population
Hanwell – Ward 1	360	950 people →**41.7/km^2**
Hanwell – Ward 2	360	950 people → **41.7/km^2**
Hanwell – Ward 3	360	710 people → **31.1/km^2**
Hanwell – Ward 4	270	570 people → **18.8/km^2**
Hanwell – Ward 5	270	570 people → **18.8/km^2**
Hanwell – Ward 6	270	520 people → **22.8/km^2**

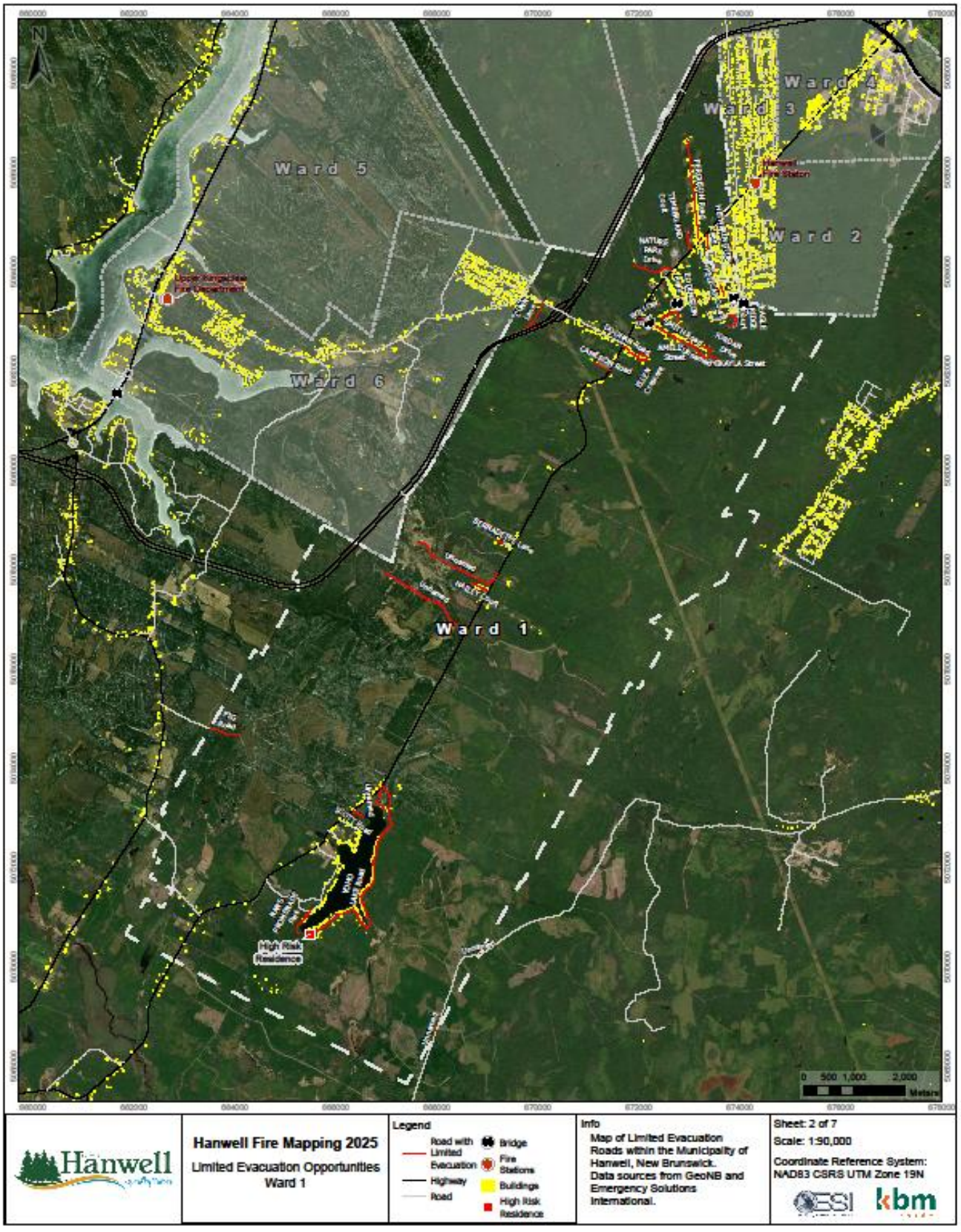
Yoho lake is an area of particular concern for the community. At the far south end of the geography this beautiful rural area would have the longest response time for the fire service and may in fact receive crews from Harvey under mutual aid should they be available. There is very low cell coverage, no hydrants, a set of very long dead-end roads private and residential structures which most would be rated at the “Extreme” level of FireSmart assessment. A detailed plan for this area as an appendix to the community’s existing emergency plan is recommended. It is recommended as well that any new home construction in this area and other dense high-risk areas follow the FireSmart criteria for buffering and building materials.

Map 11. Evacuation: Limited Ingress and Egress routes – Rural Community of Hanwell

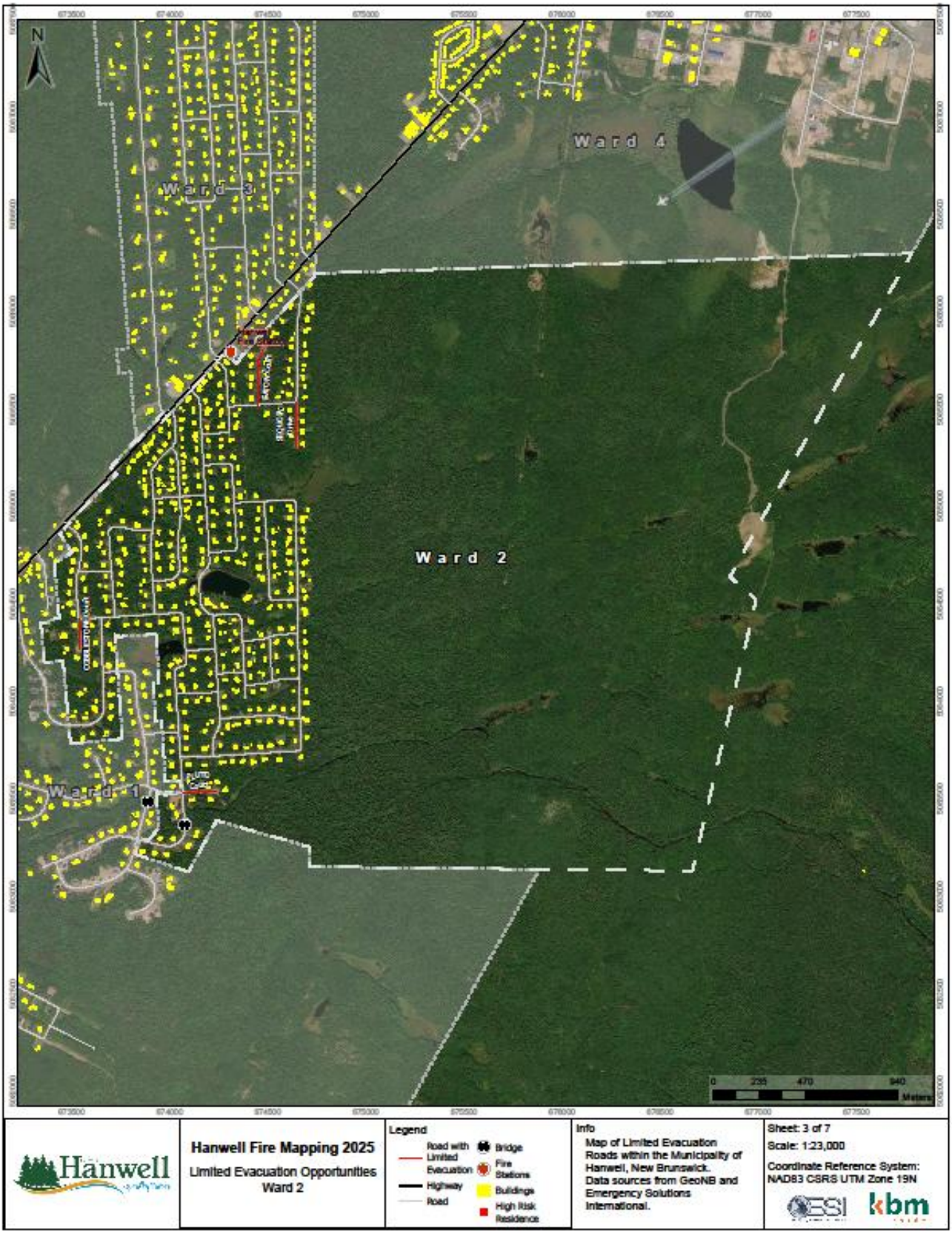
The Maps 11-17 show limited evacuation roads, bridges, and the associated fire stations within the Hanwell area. Limited evacuation roads are classified as dead-end roads greater than 110 metre in distance. Data for this map was sourced from GeoNB and Emergency Solutions International. As it relates to public safety the UKHFD prioritizes communication with the residents who face limited options for Fire Department ingress and public egress. In the future the FireSmart Roadmap in conjunction with the National Building Code will recommend that all roadways over 110 metres at minimum have a Fire Department Turnaround, are constructed in a manner that ensures supporting all fire apparatus and have an adequate centreline radius for the operation of Hanwell's Aerial device (Ladder Truck) and where possible connected providing two means of egress. In the future planning and development activates would reflect the necessity to eliminate this type of risk.



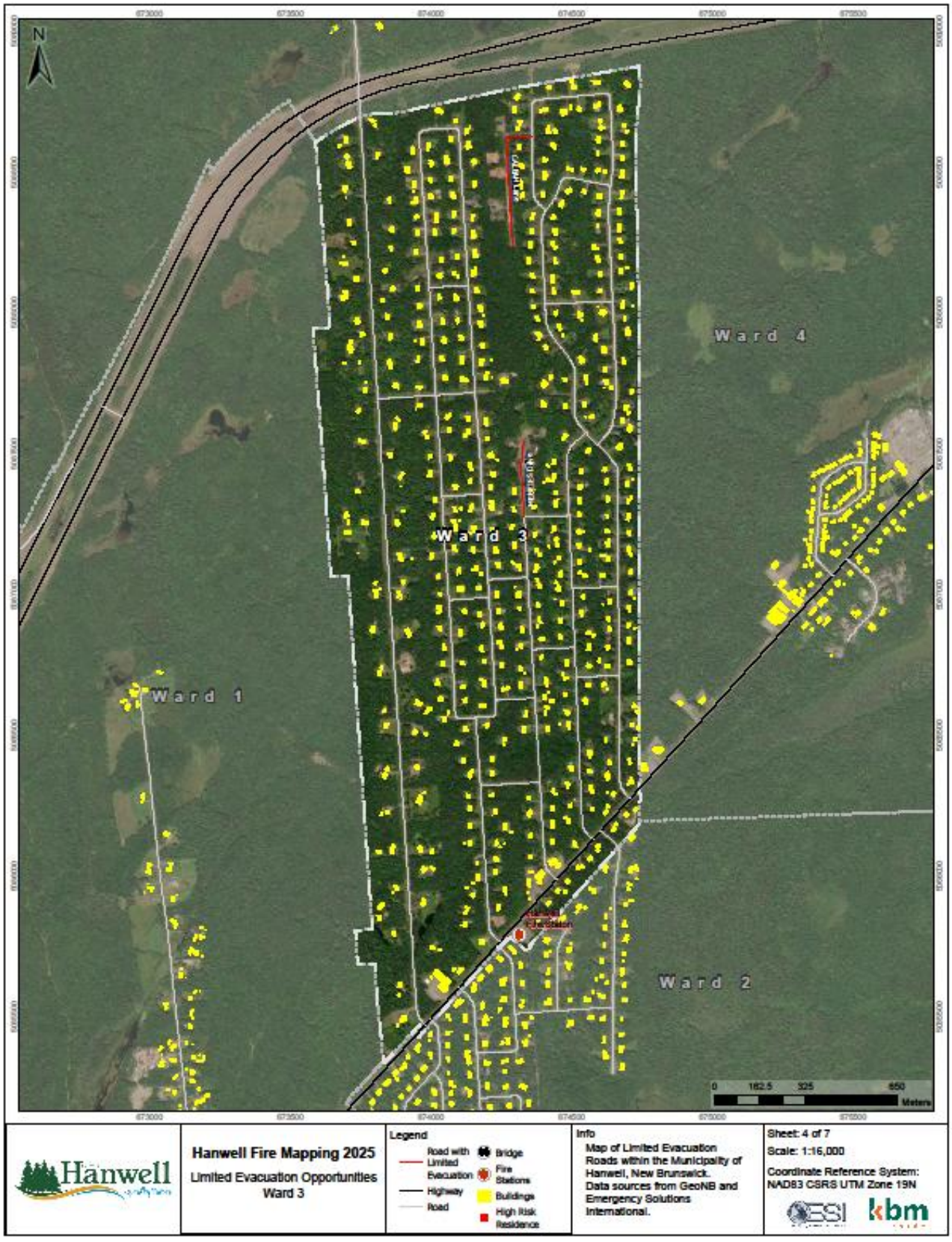
Map 12. Evacuation: Limited Ingress and Egress routes – Rural Community of Hanwell Ward 1



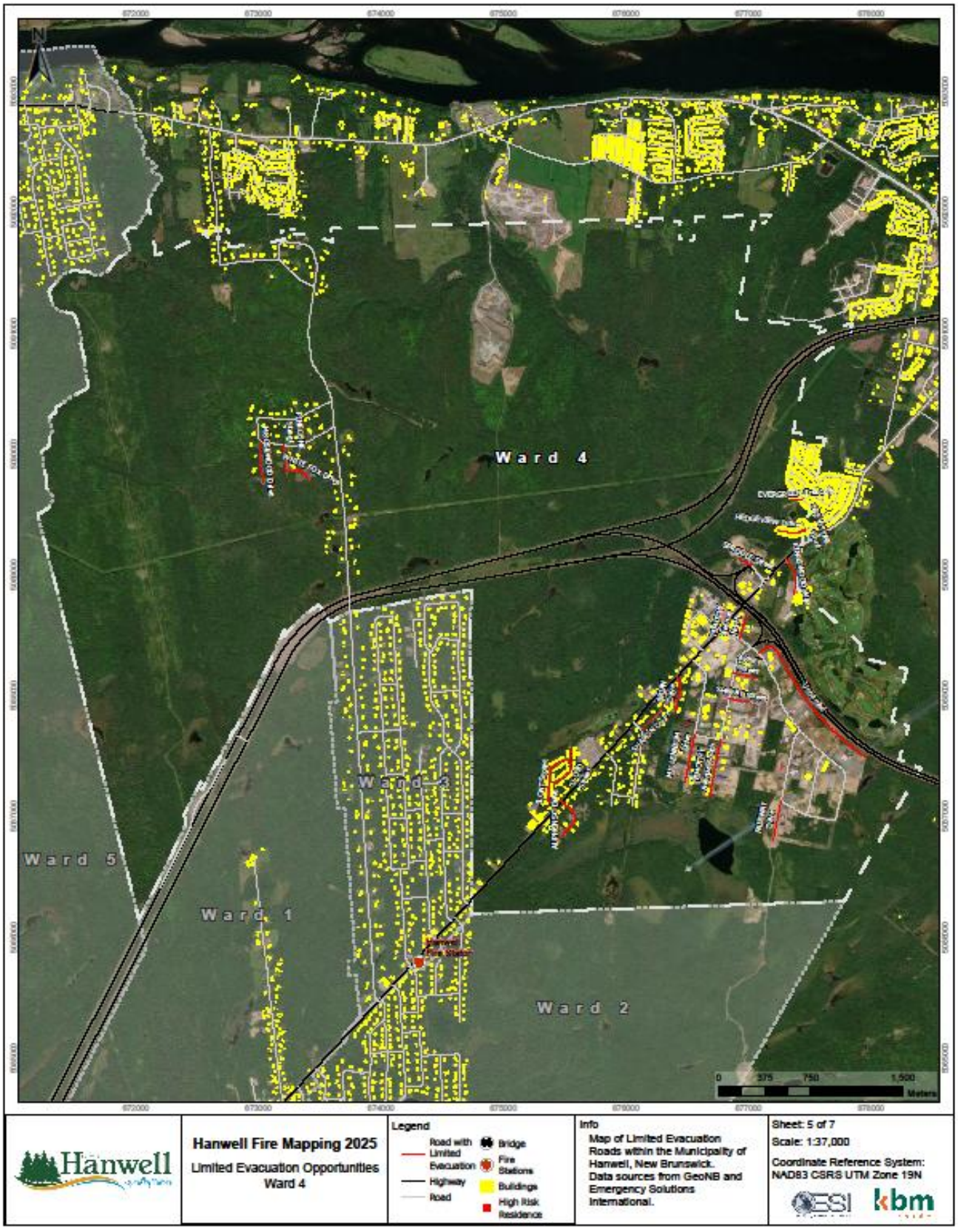
Map 13. Evacuation: Limited Ingress and Egress routes – Rural Community of Hanwell Ward 2



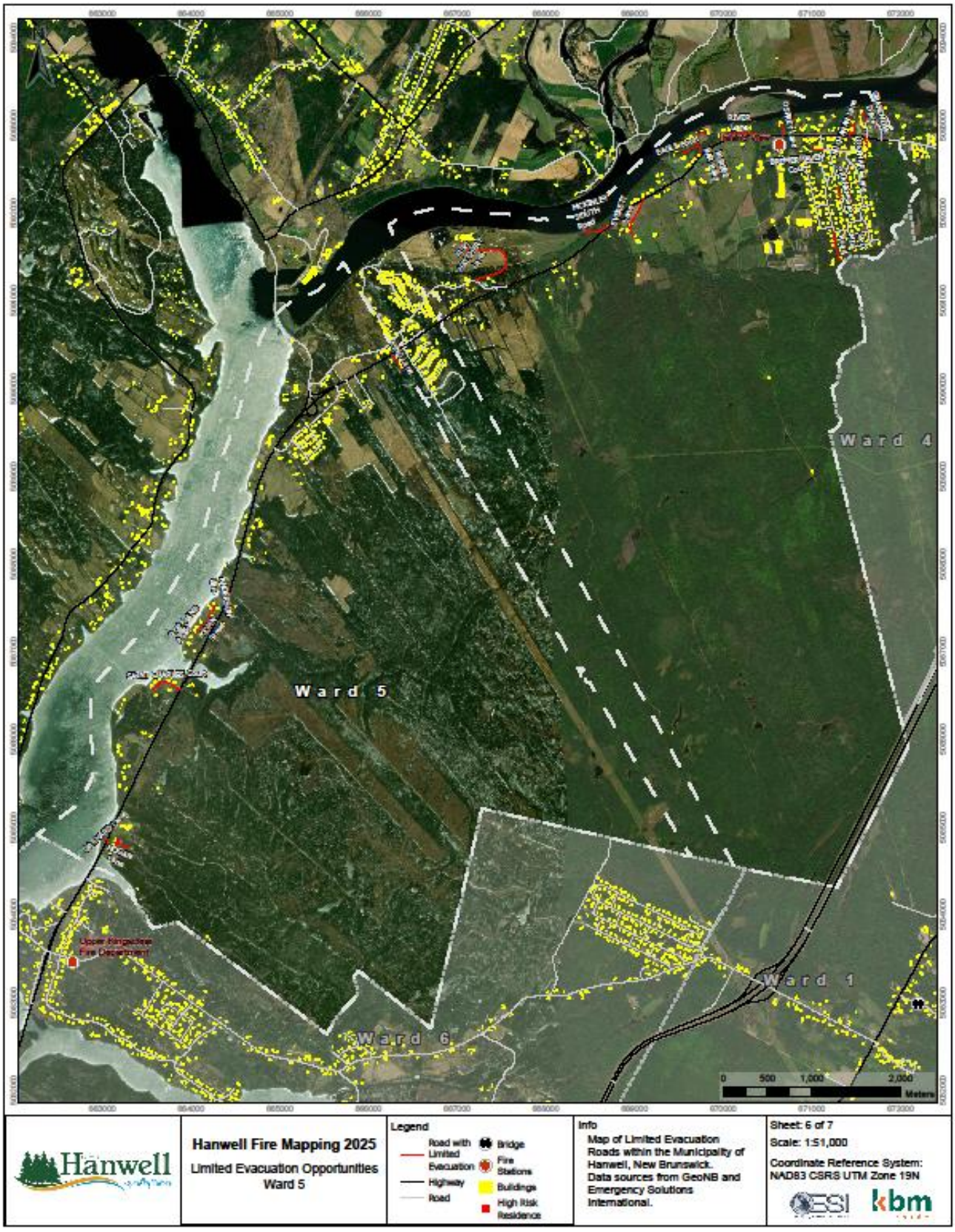
Map 14. Evacuation: Limited Ingress and Egress routes – Rural Community of Hanwell Ward 3



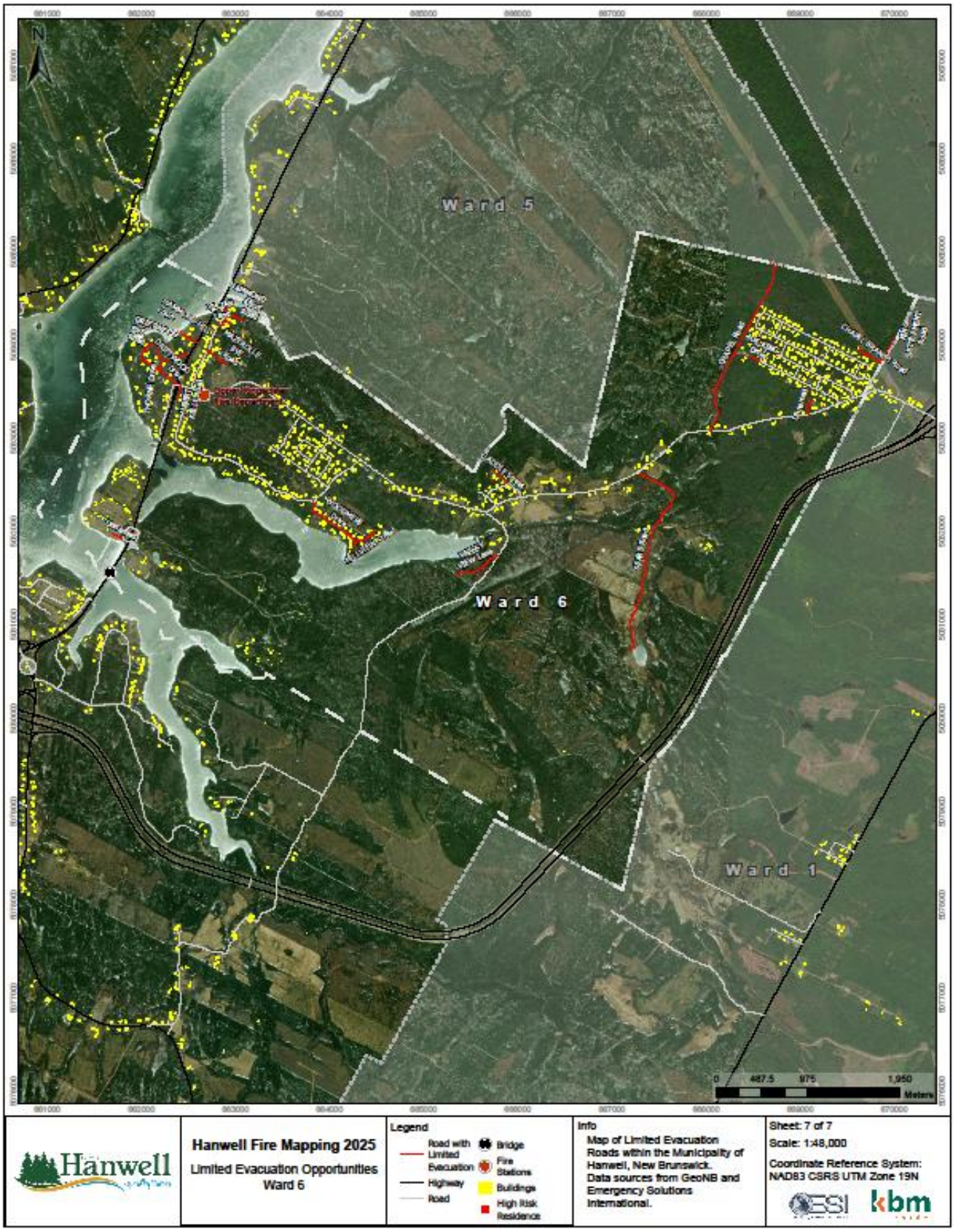
Map 15. Evacuation: Limited Ingress and Egress routes – Rural Community of Hanwell Ward 4



Map 16. Evacuation: Limited Ingress and Egress routes – Rural Community of Hanwell Ward 5



Map 17. Evacuation: Limited Ingress and Egress routes – Rural Community of Hanwell Ward 6



3.4 Environmental & Cultural "Values"

The intent of this sub-section is to clearly identify and understand where high risk environmental and culturally valued sites are located within the AOI in order to effectively consider strategies to protect areas that are not usually reflected in traditional emergency planning activities. After the prioritized protection of human life and critical infrastructure these "values" at risk once protected or considered within the overall program, will ensure that during a wildfire incident that they are not forgotten about during tactical incident action planning.

3.4.1 Drinking Water Supply Area & Community Watersheds

It is recognized that Hanwell is primarily a community which utilizes property-based wells for potable water. For future development consideration "Any areas of the community which depend upon surface water from a specific watershed should be aware that wildfire has the potential to cause significant damage to soil, high rates of sedimentation and/or landslides that can degrade water quality for many years. In worst case scenarios the water supply may have to be abandoned, or new water treatment infrastructure may need to be built." (BC FireSmart CWRP 2024)

3.4.2 Culturally Significant Valued Spaces

Green spaces, parks, gardens cemeteries, naturalized spaces, trails, linear parks are areas that can be preserved and managed to reflect FireSmart principles. A separate process not within the scope of this document would look at these culturally significant spaces and assess using the "FireSmart Culturally Significant Sites & Green Spaces Assessment" process.

Landscape and Wildlife

- Landscape: Predominantly forested rural terrain with mixed hardwood and softwood forests, wetlands, and rolling hills.
- Wildlife: White-tailed deer, moose, black bear, foxes, and abundant bird species. Aquatic habitats support trout, bass, and perch. [hanwell.nb.ca], [www2.gnb.ca]
- Nature Parks:
  - Hanwell Nature Park: 243-acre park with trails, lush greenery, and wildlife viewing opportunities. [mypacer.com]
  - Hanwell Recreation Park: Features accessible trails and playgrounds. [tourismnewbrunswick.ca]

Recreational Opportunities

- Outdoor Activities: Hiking, biking, birdwatching, camping (e.g., Woolastook Park nearby), and winter activities like snowshoeing.
- Fishing: The Saint John River system offer species such as smallmouth bass, brook trout, and perch. Anglers also target striped bass and musky in nearby waters. [fishangler.com], [tourismnewbrunswick.ca]
- Golf & Entertainment: Kingswood Park, a major golf and entertainment complex, is located in Hanwell. [en.wikipedia.org]

Section 4—Wildfire Threat & Risk

The intent of this section is to summarize the factors that help determine the wildfire risk around the community. These factors include natural fire regime and ecology, and local wildfire risk analysis.

A risk-based framework consists of the consideration of the likelihood of unwanted wildfire incidents and the consequences to the Hanwell community including public safety, the economy, high "value" resources and assets as the measure of risk, as follows:

- Likelihood is the probability of the unwanted wildfire event occurring.
- Consequence is the amount of damage occurring as a result.
- Risk is measured as the product of likelihood and consequence, but multiple inputs are also required to effectively quantify risk, including severity, value type, and vulnerability.

4.1 Fire Regime, Watersheds & Climate Change (Fire Weather)

The intent of this sub-section is to provide the ecological context of wildfire for the community and to describe the role of fire (frequency and intensity) in the local ecosystem under historical conditions, and the potential implications of future conditions, caused by the interruption of the natural fire cycle and/or climate change.

Natural Disturbance Regime

A natural disturbance is generally a discrete event that can alter an ecosystem. Natural disturbance events have a Historical Range of Variability (HRV) and establish spatial patterns of ecosystem processes across a geographic area or landscape. Typical natural disturbance events that impact New Brunswick's forests' include forest fire, heavy wind and spruce budworm. Pre-industrial historical records of New Brunswick forests' suggest fire return intervals of 200-600 years[1]. Anthropogenic climate change, and land/resource development impact natural fire regimes and will have broad effects social-ecological systems[2]. Long term community management plans need to consider these cyclical events in order to create a healthy and robust community for years to come.

Regional Weather Stations

The nearest weather station to the Rural Community of Hanwell is the Fredericton International Airport

[1] Anthony R. Taylor, David A. MacLean, Peter D. Neily, Bruce Stewart, Eugene Quigley, Sean P. Basquill, Celia K. Boone, Derek Gilby, and Mark Pulsifer. 2020. A review of natural disturbances to inform implementation of ecological forestry in Nova Scotia, Canada. *Environmental Reviews*. **28**(4): 387-414. https://doi.org/10.1139/er-2020-0015

[2] Turner, 2010 M.G. Turner Disturbance and landscape dynamics in a changing world. Ecology, 91 (2010), pp. 2833-2849

Forest Health Issues

In New Brunswick, there are several insects and pests that impact forests at the landscape level. Spruce budworm is the most significant defoliator in New Brunswick historically with outbreaks reoccurring approximately at 30-40-year intervals[3]. The most recent spruce budworm outbreak is currently in progress in Quebec and is under close watch in New Brunswick. Aerial spraying and careful selection of tree species planted for commercial use can help mitigate overall impacts and insect population growth.

Other pests and insects that impact forest health have either been imported or migrated to New Brunswick within the last 100-years, including: Dutch elm disease, butternut canker, white pine blister rust, beech bark disease and emerald ash borer. While insects and pest do play a role in forest renewal via culling weak tress and recycling nutrients; severe outbreaks can weaken growth, reduce biodiversity, degrade soil health, and disrupt nutrient cycling. Dead and dry trees from severe pest outbreaks increases forest fuel load, in turn increasing the risk and intensity of fire activity.

Human Development & Natural Events

As humans continue to develop the natural landscape it is important to be aware of the changing fire hazards throughout the development process. Large equipment and tools can cause sparks and ignite previously low-risk materials. It is important to always work in accordance with the posted fire hazard levels and apply operational fire mitigation practices when necessary.

Impact Of Fire on Watersheds

The immediate effect of fire in a watershed is an increase of particulate matter in the surface water, often leading to trace element concentrations above the drinking water guidelines and requiring extra treatment at the water treatment plants[4].

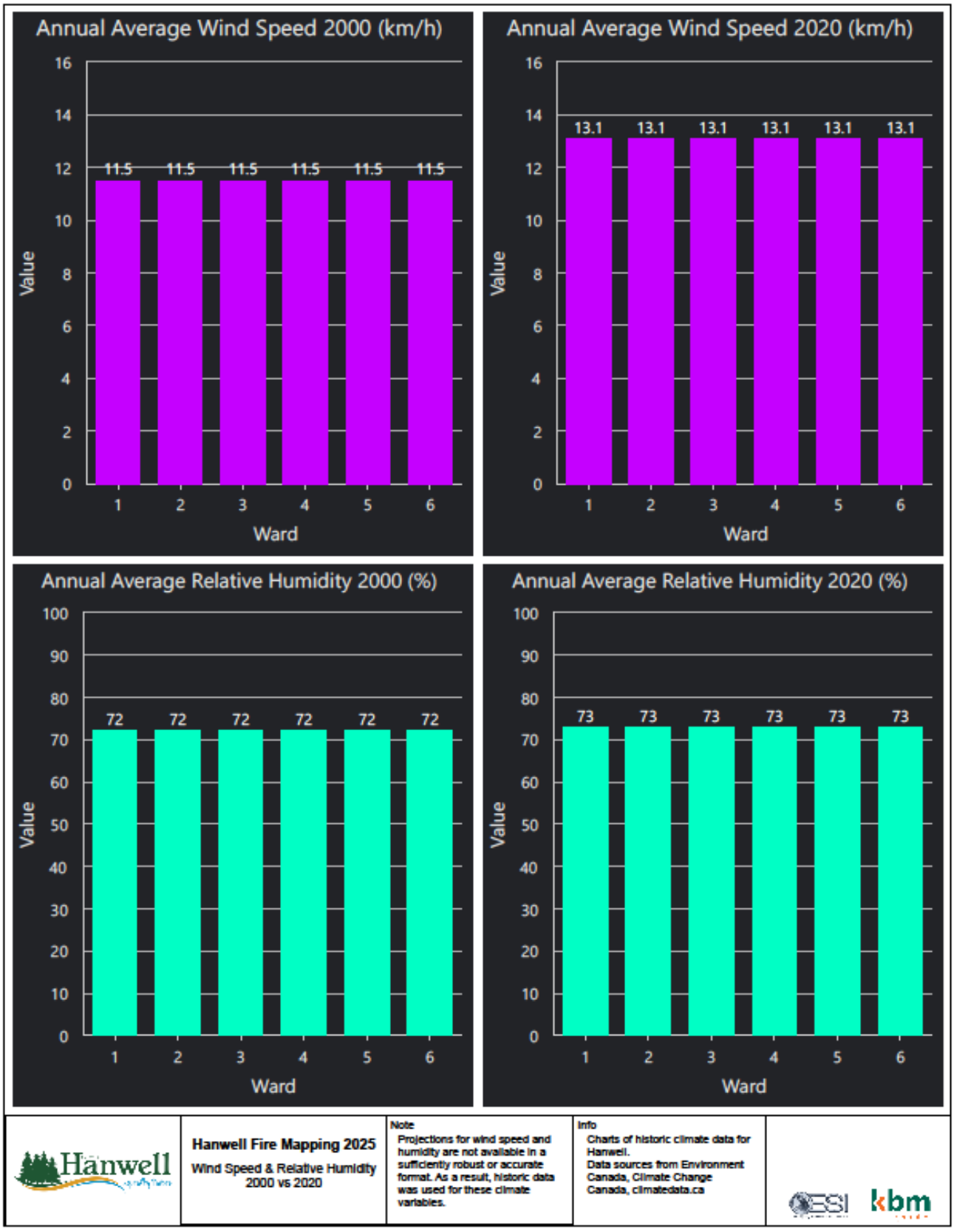
The long-term impacts of fires are similar to that of forestry and agriculture, which are highly regulated to maintain environmental integrity. The reduction or removal of vegetation in a given area increases erosion, decreases water residence time (makes the area drier) and decreases overall water cleanliness[5]. For this reason, traditional forestry practices require revegetation of cutblocks on a defined timeline and institute a minimum riparian strip width that must be maintained along waterways and wet areas.

[3] Cédric Albert, Anthony R. Taylor, Travis Logan, Loïc D'Orangeville. The Acadian Forest of New Brunswick in the 21st century: what shifting heat and water balance imply for future stand dynamics and management, Environmental Reviews. Volume 31, Issue 4, 2023, Pages 690-707.

[4] Hugh G. Smith, Gary J. Sheridan, Patrick N.J. Lane, Petter Nyman, Shane Haydon, Wildfire effects on water quality in forest catchments: A review with implications for water supply, Journal of Hydrology, Volume 396, Issues 1–2, 2011, Pages 170-192, ISSN 0022-1694, https://doi.org/10.1016/j.jhydrol.2010.10.043.

[5] Václav Nedbal, Tereza Bernasová, Martina Kobesová, Blanka Tesařová, Aleš Vácha, Jakub Brom, Impact of landscape management and vegetation on water and nutrient runoff from small catchments for over 20 years, Journal of Environmental Management, Volume 373, 2025, 123748, ISSN 0301-4797, https://doi.org/10.1016/j.jenvman.2024.123748.

Figure 1. Wind Speed & Relative Humidity 2000 vs 2020



4.2 Climate Change & Wildfire Risk in New Brunswick

Climate change is actively influencing New Brunswick's forest ecosystems, weather patterns, soils, and hydrology — particularly within the Acadian Forest Region that characterizes much of the Hanwell area. Over the past century, New Brunswick has experienced an average annual temperature increase of approximately 1.5 °C (1900–2020), with the most rapid warming observed since the 1990s.

Projected climate trends for the province indicate that warmer temperatures, more variable precipitation, and increased drought potential will continue to shape wildfire behaviour. Longer frost-free seasons and more frequent extreme-heat days are expected, alongside a higher frequency of intense rainfall events during spring and fall. [2]. As noted in the Figure above it is clear that wind driven drying of high-risk areas and fires have increased over the last 20 years and it is common consensus amongst scientists that this trend will continue.

For the Hanwell region, climate models show that by the 2050s:

- Average annual temperatures may rise by 2.0 – 3.0 °C.
- Summer precipitation is projected to decrease by 10–15 %, increasing drought stress.
- Winter and spring precipitation are projected to rise, mainly as rainfall rather than snow.
- The number of frost-free days will continue to increase, extending the growing and fire seasons and,
- High and extreme fire-danger days are projected to become more frequent due to warmer, drier summer conditions. [3]

Reduced snowpack and earlier spring melts will likely affect watershed hydrology and soil-moisture retention, leading to drier surface fuels and greater wildfire potential later in the summer months. Combined with shifting forest composition (declines in moisture-dependent species such as balsam fir and increases in drought-tolerant species such as red maple and pine), these changes are expected to alter long-term wildfire risk profiles across the province.

The scale and scope of climate-change impacts are dynamic and evolving. For New Brunswick, the implications include longer dry seasons, heightened fuel volatility, and more frequent days classified as "high" or "extreme" fire danger within DNR's Fire Danger Rating System. Climate change contributes directly to the potential for more severe wildfire seasons in the Hanwell region and other forested communities throughout the province.

Figure 2. Climate Mapping - Temperature & Precipitation 2020 vs 2080

These charts compare historic climate data to projected climate data for the Hanwell area. Wind speed and relative humidity are not as accurately projected as other climate variables, so historic data was compared for these two variables. Data for this map was sourced from Environment Canada, Climate Change Canada, and climatedata.ca

4.3 Provincial Strategy - Threat Analysis

While New Brunswick does not currently publish a wildfire-threat modelling product explicitly labelled as a 'Provincial Strategic Threat Analysis', communities rely on DNR wildfire risk-data layers, the current Community Wildfire Risk Assessments and the FireSmart NB program tools, and the provincial Fire Watch/Fire Dashboard system for wildfire threat and behaviour information. These data sources will serve the community in conjunction with Provincial Authorities as a means to following up with mitigative strategies inclusive of those identified in this report.

4.4 Local Wildfire Threat Assessment

Forest fire fuel categories are derived from forest inventory attributes collected in 2014 made available by the New Brunswick Department of Natural Resources and Energy Development. The forest layer is updated annually by the Renewable Resource Inventory section of the Forest Planning and Stewardship Branch using a combination of digital aerial photography and the canopy height model derived from LiDAR. The fire risk categories are generated using the Ontario Ministry of Natural Resources and Forestry's Industrial Operations Protocol. This methodology uses forest inventory attributes to assign one of four fuel group keys to each stand: Open, Harvested, Conifer and Mixedwood. Each fuel group key has a unique decision key, a binary decision tree that assigns a final forest fire fuel category to the stand. The map provided dissolves forest stands with equal fuel groups to display the final representation of the fuel group layer.

The Hazard level categories range as an index from 1 – 5 or Very Low to Very High. Examples of each of these categories include:

- **Very Low** – Deciduous species and live-grass dominated stands
- **Low** – Deciduous dominated Mixedwoods (< 35% conifer), spruce-lichen woodlands, mature red and white pine, conifer on peat/organic soils
- **Moderate** – Mixedwood (>35% - 64% conifer), mature jack pine and self thinned and pruned spruce
- **High** – Mature upland boreal spruce without conifer understory, conifer plantations and Mixedwood stands with > 64% conifer
- **Very High** - Mature upland boreal spruce with conifer understory, natural immature conifer stands, Mixedwood stands with balsam fir, cured grass and slash dominated sites

Some decision key checks (such as cured grass percentage, slash piles present etc.) require attributes that may be seasonal or change based on operations performed on site, and so generalizations and estimations were required to complete the assessment of the fuel groups. Only areas which forest inventory stands were provided can be assessed for forest fuel categories.

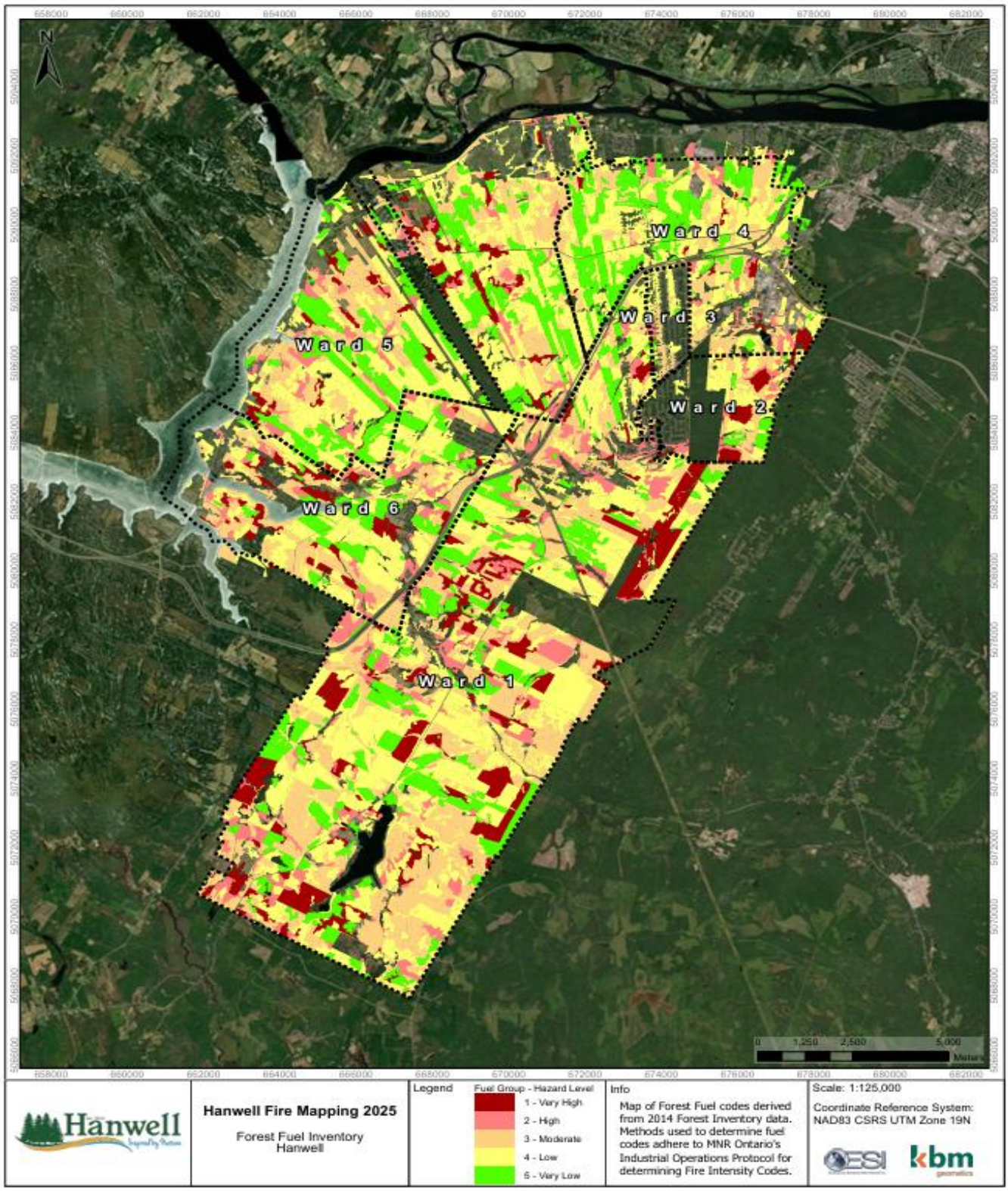
4.4.1 Local Wildfire Threat Classification

Table 5. Forest Fuel Ranking – Rural Community of Hanwell

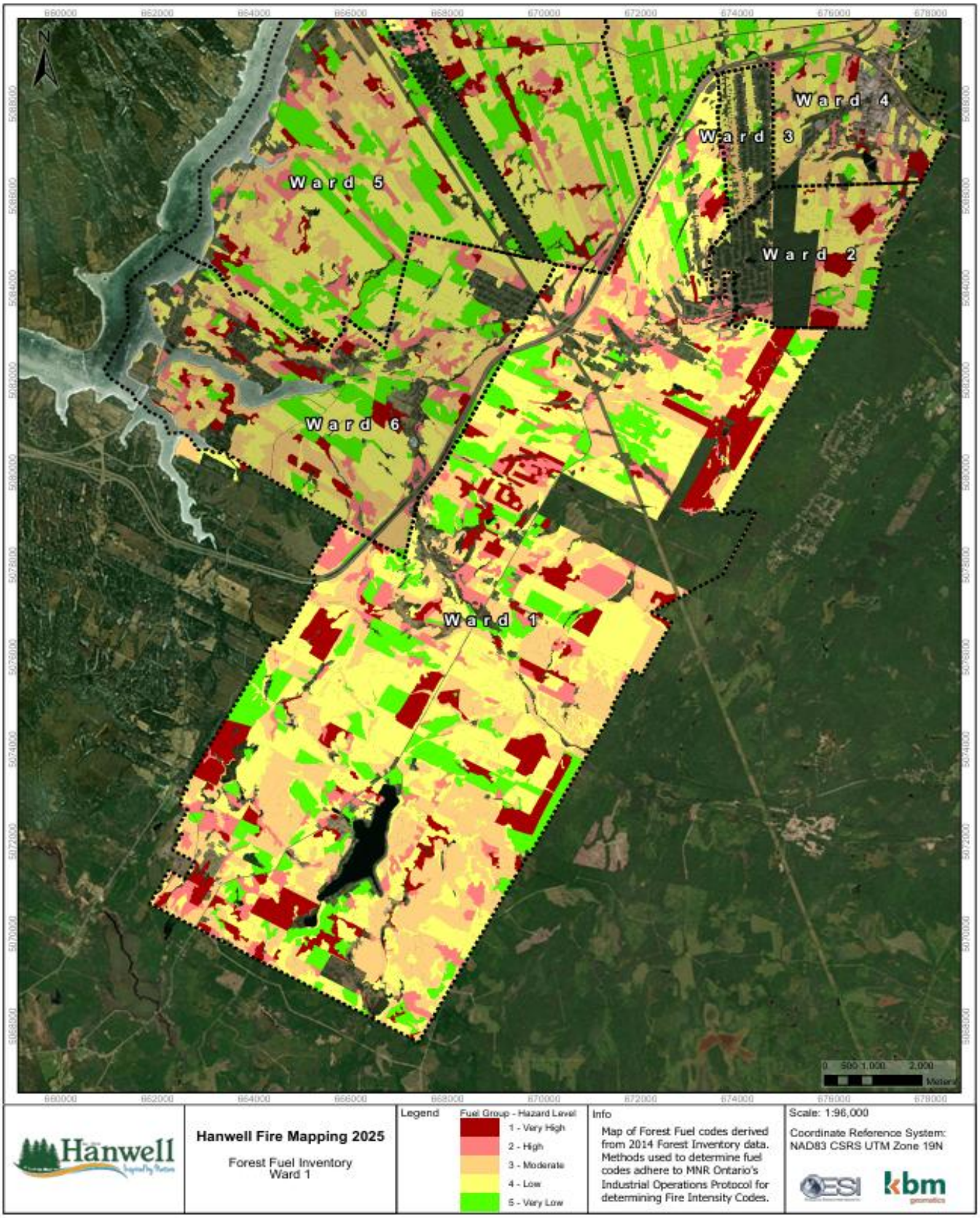
Ward	Wildfire Threat Class	Area (SQ KM)	%AOI			
1	Very Low	11.9345	12.87%		Ward 1 Total Area	92.7021
1	Low	32.2984	34.84%			92.7021
1	Moderate	27.7446	29.93%			92.7021
1	High	9.1141	9.83%			92.7021
1	Very High	11.6106	12.52%			92.7021
2	Very Low	0.3923	7.61%		Ward 2 Total Area	5.1537
2	Low	1.8862	36.60%			5.1537
2	Moderate	1.3825	26.83%			5.1537
2	High	0.6912	13.41%			5.1537
2	Very High	0.8014	15.55%			5.1537
3	Very Low	0.0564	4.72%		Ward 3 Total Area	1.1956
3	Low	0.6544	54.74%			1.1956
3	Moderate	0.4031	33.72%			1.1956
3	High	0.0687	5.75%			1.1956
3	Very High	0.0129	1.08%			1.1956
4	Very Low	5.5183	24.96%		Ward 4 Total Area	22.1124
4	Low	9.4492	42.73%			22.1124
4	Moderate	5.6475	25.54%			22.1124
4	High	0.9135	4.13%			22.1124
4	Very High	0.5840	2.64%			22.1124
5	Very Low	10.0152	22.05%		Ward 5 Total Area	45.4131
5	Low	18.2161	40.11%			45.4131
5	Moderate	10.5311	23.19%			45.4131
5	High	3.5112	7.73%			45.4131
5	Very High	3.1395	6.91%			45.4131
6	Very Low	3.1589	14.36%		Ward 6 Total Area	21.9913
6	Low	8.7229	39.67%			21.9913
6	Moderate	5.8608	26.65%			21.9913
6	High	2.3832	10.84%			21.9913
6	Very High	1.8655	8.48%			21.9913

Map 18. Rural Community of Hanwell – Forest Fuel Inventory

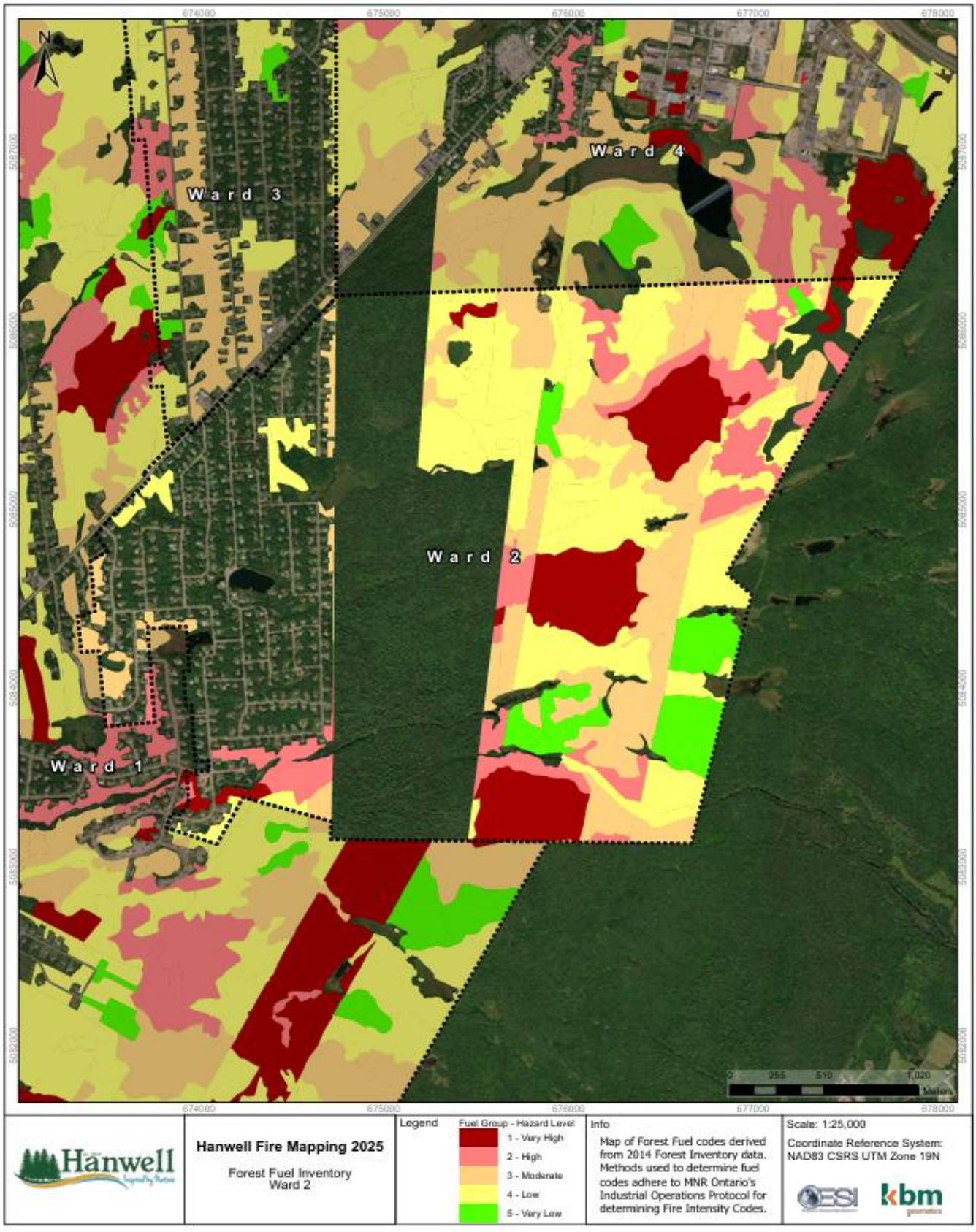
This next series of maps (18 - 24) show the fire hazard levels within the Hanwell area. Fuel groups were derived from forest inventory data and classified from very low to very high risk. Data for this map was sourced from NB Dept of Natural Resources.



Map 19. Rural Community of Hanwell – Forest Fuel Inventory Ward 1



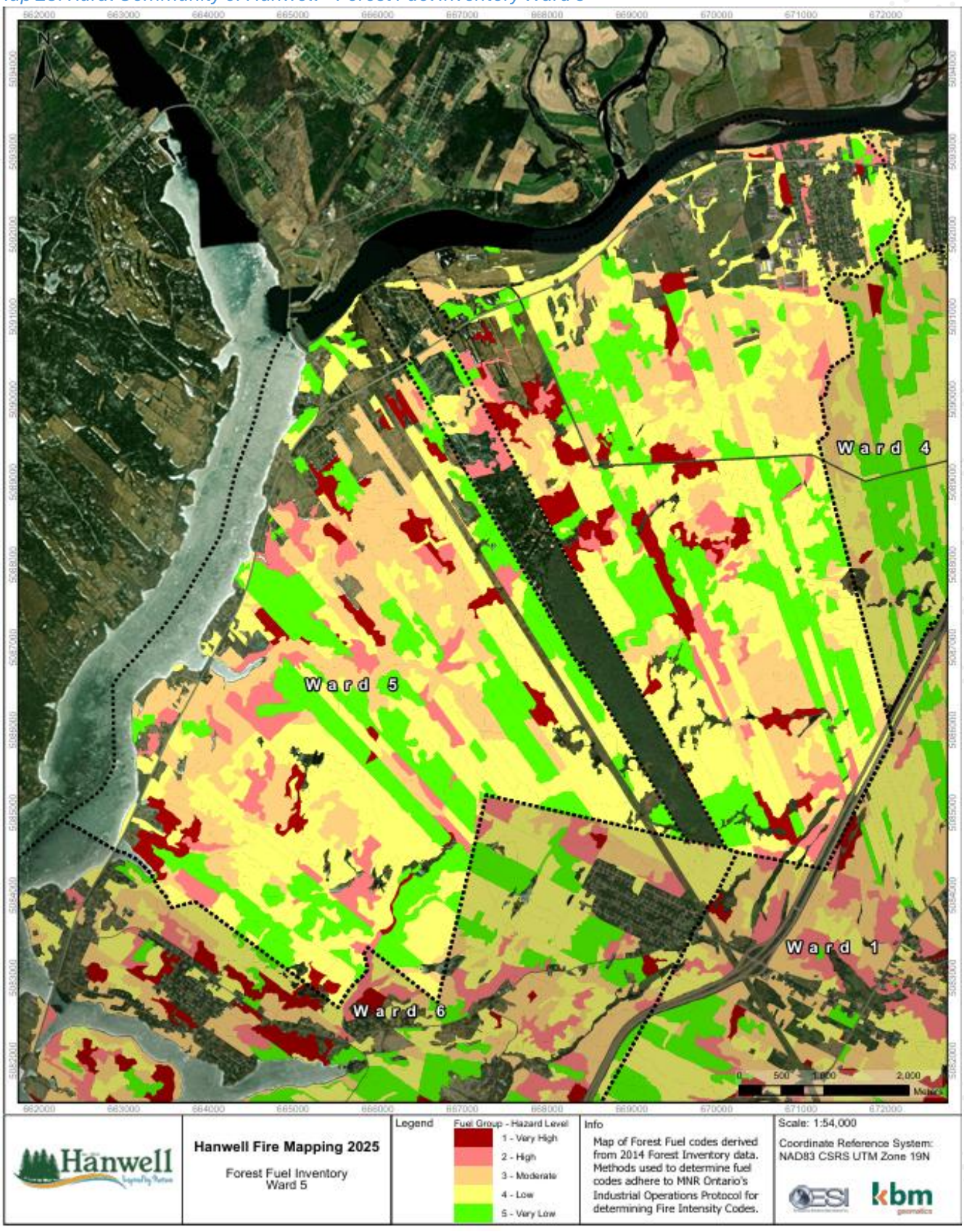
Map 20. Rural Community of Hanwell – Forest Fuel Inventory Ward 2



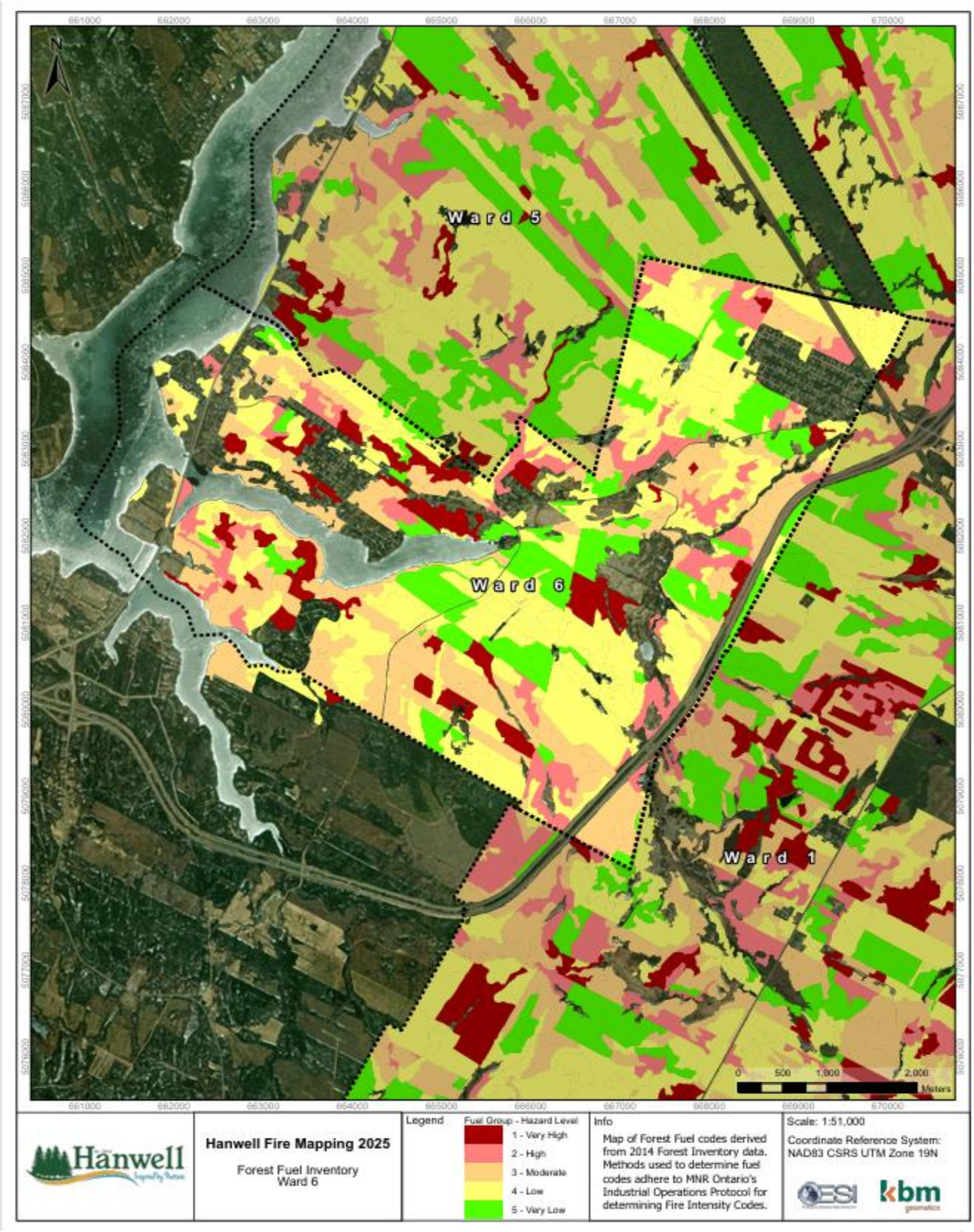
Map 21. Rural Community of Hanwell – Forest Fuel Inventory Ward 3

Map 22. Rural Community of Hanwell – Forest Fuel Inventory Ward 4

Map 23. Rural Community of Hanwell – Forest Fuel Inventory Ward 5



Map 24. Rural Community of Hanwell – Forest Fuel Inventory Ward 6



Section 5 – FireSmart Roadmap and CWRP Action Plan

5.1 The FireSmart Roadmap and CWRP Action Plan

The intent of this section is to set a "FireSmart Roadmap" outlining strategies that the Hanwell community can consider for implementation to reduce both the risk and the impact of wildfire.

Risk-mitigation priorities vary between communities depending on local fuel types, forest ecology, terrain, land ownership, available resources, and public awareness. Factors such as community capacity, regional coordination, and acceptance of FireSmart practices also influence implementation success.

Mitigating wildfire risk is a proactive approach to reducing potential losses and social, economic, and environmental impacts from wildfires. Effective mitigation requires coordinated action among all land managers and partners — including the Department of Natural Resources (DNR), FireSmart New Brunswick, municipal governments, First Nations, and private landowners.

Understanding the full range of wildfire risks affecting a community is essential when developing local actions to reduce hazard exposure and enhance preparedness. Collaboration between municipalities, First Nations, and DNR ensures that mitigation measures align with provincial wildfire-management priorities and community emergency-planning frameworks.

Three primary areas of wildfire-risk mitigation are emphasized in this plan:

- **FireSmart Practices** – Applying FireSmart building, landscaping, and community-planning principles to minimize structure ignition and reduce fire spread into developed areas.
- **Communication and Education** – Increasing public awareness of wildfire risk, promoting FireSmart participation, and encouraging safe behaviour to reduce human-caused fire starts.
- **Fuel Management** – Reducing the potential intensity and rate of spread of wildfire through vegetation management, thinning, or fuel-break creation in and around the community.

5.2 FireSmart Practices and Program

The FireSmart process for Hanwell is not prescriptive and there is autonomy as it relates to timings and the approach that fits the community. The FireSmart Program recommends a gradual approach with the following 4 phases:

1. **Engagement**-Develop awareness and build understanding of the level of risk identified by the CWRP as well as the benefits of developing and growing the Program.
2. **Initiative-** Take action and implement Hanwell driven FireSmart activities. Building capacity both in people and the community's resiliency
3. **Expansio**n- Expand FireSmart activities and broader community planning
4. **Integration**- Integrate long-term and permanent changes to support community wildfire resiliency, development considerations and collaboration with assisting and cooperating agencies and stakeholders.

Phase 1: Engagement Year 1 2026-2027

5.3 FIRESMART COORDINATOR

It is recommended that Hanwell designate a Fire Smart coordinator position within the community who would be the project lead and liaise with government representing the community and providing direction and leadership for designing and implementing the above recommendations within the CWRP. For the FireSmart coordinator position to be effective they need to provided equal portions of authority and responsibility, as well as having a clear reporting relationship within the community organizational structure. Initiated in year one the FireSmart coordinator would be in place throughout the four phases mentioned above. Duties within the role would include:

- Form/define the Hanwell Community FireSmart Resiliency Committee
- Project management
- Liaison with Kingsclear First Nation and surrounding communities
- Meeting facilitation
- Community outreach
- Local wildfire threat assessments
- Vegetation management
- FireSmart home and CI ignition zone assessments
- Advocating for integration of wildfire risk reduction into land use planning strategies, by-laws, and development permits
- Managing the "Seven FireSmart Disciplines" (see Section 5.9)
- Maintaining the Community Wildfire Resiliency Plan
    - As part of the accountability process of the FireSmart Program the Coordinator would manage and connect to the criteria identified within Canada's standard for Emergency Management and Business Continuity CSA Z-1600. It must be considered that in the fullness of time when there is a FireSmart Program up and running that the FireSmart Coordinator will liaise with the surrounding communities (Fredericton (northeast), New, Maryland (east), Kingsclear (west) Upper Kingsclear, Island View, French Village and Mazerolle Settlement) and their Community Wildfire Resiliency Committees regarding a 1 km buffer area that falls around the perimeter of Hanwell.
- The FireSmart Coordinator would organize and lead the "Hanwell Community FireSmart Resiliency Committee".
- Manage/Update the Hanwell Community FireSmart Resiliency Portal

5.4 HANWELL COMMUNITY FIRESMART RESILIENCY COMMITTEE

It is recommended that the community of Hanwell as part of the FireSmart Program identify key stakeholders and parties of interest to form a FireSmart Resiliency Committee (CFRC) including members beyond the current community emergency planning network. Neighbourhood associations, Kingsclear First Nation, Wolastoqey Tribal Council, businesses, volunteer organizations, educators, critical infrastructure owner operators, woodlot owners, Office of the Fire Marshal, GNB FireSmart Coordinator etc. would all be considered for membership within the Hanwell Resiliency Committee. This Committee would liaise and coordinate effort with similar committees from neighbouring regions and municipalities: Fredericton (northeast), New, Maryland (east), Kingsclear (west) Upper Kingsclear, Island View, French Village and Mazerolle Settlement. The Community FireSmart Resiliency Committee would be formed in phase one and remain in place throughout the four phases.

Phase II: Initiative and expansions years 2 – 3 (2027-2028)

5.5 LEGISLATION AND DEVELOPMENT ACTION PLAN

By-law and development policy refinement can be an effective tool for reducing wildfire risk on locally owned or administered lands within the administrative boundaries of Hanwell. It is recommended that a review of the current by-laws, land use, building construction and zoning policies as they relate to preventing fire and ensuring future community development supports FireSmart principles be reviewed and refined; emergency response and evacuation could go a long way to mitigating risk gradually in the community. Community leaders are encouraged to identify gaps/opportunities in by-laws and policy as it relates to wildfire risk. For examples of by-laws/policies adopted by other communities please see appendix 3.

Development considerations refer to any aspect of the built environment, including structures (homes, businesses, accessory structures), attachments to structures (fences, decks), critical facilities (hospitals, schools) critical infrastructure (roads, bridges), green spaces (parks, trails, cemeteries) and culturally significant sites. A number of factors can influence the susceptibility of development, effectiveness of response and level of public safety during a wildfire, including:

- Location of development, hazardous or vulnerable land uses in relation to high threat forested vegetation, steep slopes and other geographical features that contribute to extreme fire behaviour:
- Access and circulation patterns
- Lack of water supply
- Type of construction materials
- Lot size and structure density
- Design guidelines and architectural standards
- Street signage
- Landscaping, screening, and buffering
- Temporary land uses that determine the type of use and quantity of people

Many of these factors can be planned for and regulated through the community land use planning and development process. It is recommended that staff review the community development plans, processes, and policies to identify how wildfire risk is currently addressed. Swift changes to these documents and processes can ensure that the risk in the community does not increase based on development while other areas of the action plan are implemented. It is key that the Hanwell Emergency Plan is considered and supported by by-laws, land use, and development activities.

Reducing the ignition risk within the FireSmart structural ignition zone but making owners aware of preferred FireSmart building materials. Connect properly owners to FireSmart guidelines for selecting building materials and incorporating FireSmart principles into construction and location. The FireSmart Home Development Guide is a key resource. In the absence of Rural Community of Hanwell building by-Law, the community should recommend best practices for building to minimize WUI risk. It is recommended that through by-laws, community engagement and inspections Hanwell encourage fire resistant landscaping materials to residents and to design public spaces with fire resistant landscaping materials where possible referring to FireSmart Canada's yard and landscaping guidelines.

As it relates to the burning of yard waste and open burning, it is recommended that beyond a by-law Hanwell provide residents with information on alternatives to burning yard waste. Link this information on the Hanwell website. Alternatives to burning may include yard waste disposal centres (composting, or xeriscaping).

5.6 Other Prevention Measures

The efforts of Hanwell to prevent human caused fires have been fairly successful thus far with public alerts and burning bans as noted in Table 1 above. Human-caused ignitions remain the leading source of wildfire starts in New Brunswick, and they are entirely preventable. Fires in the province are most often caused by activities such as debris burning, campfires, cigarette disposal, industrial operations, fireworks, or vehicle exhaust on dry vegetation.

Historical wildfire data from the Department of Natural Resources (DNR) indicate that the majority of wildfires in the province are human-caused, rather than lightning-caused. Reducing the frequency of these preventable ignitions is therefore a key objective of this Community Wildfire Resiliency Plan.

Wildfire prevention efforts can be strengthened through education, communication, and consistent enforcement of policy and regulation. Preventive measures may include:

- Implementation of clear burn-permit and open-fire restrictions under the Forest Fires Act.
- Public information campaigns in partnership with FireSmart New Brunswick and NBEMO.
- Industrial activity guidelines and seasonal work restrictions during high fire danger periods.
- Community signage showing DNR's daily Fire Danger Rating within fire-protection zones; and
- Collaboration between municipalities, DNR, and local fire departments to ensure timely communication of fire bans, burning conditions, and response readiness.

By focusing on education, compliance, and proactive outreach, communities can significantly reduce human-caused ignitions and strengthen overall wildfire resilience throughout New Brunswick. It is recommended that a consolidated offering of the resources be made available online through the Resiliency Portal and where other Rural Community of Hanwell building code/bylaw information is located. Initiatives actioned in year 2 and 3 would be codified in community by-laws, planning and development policies and community mission, vision and value statements. These adopted actions would be integrated permanently by year four and endure beyond the five years charted for the overall FireSmart program creation through integration.

Phases 1-4 and beyond: Ongoing priority areas for continuity for the community

5.7 Interagency Cooperation

It takes a collaborative effort of multiple assisting and cooperating agencies (identified in the emergency plan) and stakeholders working together to achieve a wildfire resilient community including staff, the mutual aid fire departments, Provincially Coordinated Structural Protection Units (SPUs), provincial departments, First Nations/Tribal Councils, property owner/operators and adjacent communities. The CWRP Roadmap and Action Plan recommends that there be follow-up to offer the individual organizations to work together and develop strong interagency and interdepartmental working relationships well ahead of an emergency response. The goal is to broaden from department, organization, and agency silos and a single jurisdiction-based approach to a risk driven, multi-agency and scalable approach. This increases the ability of individual organizations to plan effectively and ultimately work efficiently together in an emergency response. (BC CWRP Guidebook 2024) The UKHFD is a good example of actioning this model currently as it relates to their regional mutual aid arrangements for structure fire and technical rescue scenarios.

5.8 Cross Training

Wildfires are challenging multi-disciplinary responses that cause many different Assisting and Cooperating Agencies to work together. Cross training fire fighters, public works staff, utility workers, administration staff, planning and logistics staff. It is important that all facets of the operational response are reflected in the Hanwell Emergency Measures Plan and that these responders have the opportunity to practice together through validation exercises. Further, leaders will drive the annual cyclical regimen back to CSA Z-1600 of plan refinement, training, exercise and validation or evaluation. As part of the preparatory and planning process it is important that staff including land use planners, building inspectors, landscape professionals are exposed to the responders and FireSmart process so they may implement it through their own lens. It is recommended that Hanwell review its current level of cross-training. Below are areas of cross training (where appropriate, based upon position) that would be provided should the Action Plan be accepted:

- Wildfire Risk Reduction Basics Course
- Local FireSmart Representative
- FireSmart 101
- Home Partners Program Wildfire Mitigation Specialist
- Fire Life & Safety Educator
- ICS I-100 (Introduction to effective system for command, control, and coordination of response at an emergency site)
- SPP-WFF1 Wildland Firefighter Level 1 (includes S-100, S-185, ICS-100)
- S-100 Basic fire suppression and safety

It is recommended that under the leadership of the fire chief and position responsible for Emergency Management, as part of a wider fire service review and strategy create five-year revolving schedule for training, joint operational exercises involving all appropriate wildfire program and response personnel.

5.9 Emergency, Business Continuity and Recovery Planning

It is recommended that the existing community Emergency Measures Plan be reviewed and refined in the context of the strategic outcomes of the CWRP risk assessment and process. Enhancements to the current procedures for evacuation and the protection/signage of evacuation routes would be re-visited. Beyond the plan itself, a review should be conducted of the current mutual aid agreements, resource inventories, training, and emergency notification systems. The plan would be aligned with all complimentary documents identified in this document (Section 2.5) and validated through an exercise regimen back to CSA Z-1600. The complexity and duration of wildfire incidents can be incredibly challenging for communities like Hanwell. Given the challenges faced by the Province of New Brunswick during the 2025 fire season it is probable as well that many of the mutual aid partners including DNR could in fact be stretched to the limits fighting fires locally, throughout the province and in support of other provinces. Emergency response planning across the province and Canada needs to be hardened to reflect the new realities associated with climate change where there are simultaneous Type 1 incidents in our area. Beyond the wildfire incident itself the Emergency Measures Plan and validation process needs to include a number of different incidents which can cascade from the original wildfire including:

- Wildland fire suppression involving multiple resources
- Structural fire response
- Public, vulnerable population and livestock evacuation
- Public health
- Search and rescue

- Complex traffic control
- Law enforcement
- Medical emergencies
- Utility emergencies
- Hazardous materials
- Emergency support services
- Structure and infrastructure damage assessments
- Post fire recovery

5.10 Community Education & Communication Action Plan

The intent of this section is to summarize the recommended level of FireSmart activity within the Hanwell Area of Interest (AOI), identify actions that are underway or completed, and outline opportunities for future FireSmart implementation and recognition.

"FireSmart is a proactive planning framework that helps communities located within or near forested areas — known as the wildland–urban interface (WUI) — reduce the risk of wildfire damage and loss. The program supports communities, property owners, and local governments in adopting practices that lessen the likelihood of structure ignition and improve emergency preparedness."

Figure 3 – Seven disciplines of FireSmart

The seven disciplines of FireSmart, as promoted by FireSmart Canada and implemented through FireSmart New Brunswick, are: (See Figure 3)

The FireSmart Canada "Begins at Home" Guide and FireSmart New Brunswick Homeowner Resources provide detailed, practical steps that residents can take to protect their homes and properties — such as managing vegetation, choosing fire-resistant building materials, and maintaining defensible space. (See appendix 5 – FireSmart Begins at Home – Understanding Fire Behaviour)

At present, the Hanwell community has not yet received FireSmart Community Recognition under the national FireSmart Canada Recognition Program; however, several are at various stages of readiness and engagement through local DNR and FireSmart NB initiatives.

Wildland–urban interface (WUI) fires are complex events that involve both forest fuels and built environments. Wildfire can spread *toward* the community from surrounding forests, and structural fires can also spread *outward* from developed areas into forested lands. Given the dispersed nature of many New Brunswick communities — and in some cases, limited access or local fire-protection capacity — it is critical to plan for both directions of wildfire spread.

During a WUI event, DNR wildfire-suppression resources will focus on the protection of life and priority infrastructure; therefore, property owners and local authorities play a crucial role in breaking the wildfire disaster sequence through FireSmart planning and fuel-reduction activities.

Following recent wildfire events in New Brunswick - including the 2023–2025 seasons that saw significant wildfires in the province's north and southeast - wildfire risk has become an increasing focus of public awareness. The challenge moving forward is to maintain that awareness and commitment to action outside of active fire seasons.

Education plays a critical role in shaping public understanding of wildfire risk in wildland–urban interface (WUI) areas and in clarifying what residents, businesses, and governments can do to reduce exposure. Misunderstanding or complacency can lead to unrealistic assumptions about fire hazard, individual responsibility, and available suppression capacity. This discipline supports the successful implementation of many other FireSmart disciplines by building awareness and understanding. Specific outreach activities can be leveraged to engage the public in understanding their role to actively participate in wildfire risk reduction throughout the community. The FireSmart Coordinator would with the committee determine the prioritized stakeholders targeted for educational initiatives including elected officials, business owners, industry professionals, provincial government representatives, land managers, adjacent community representatives, CI owner operators, tourism operators etc.

Communication is equally important before, during, and after a wildfire incident. Advance education and engagement ensure that residents understand their roles. Interagency cooperation during an incident is best prepared for through the relationship building process supported by FireSmart community preparation and joint planning. Beyond the community of Hanwell and its fire service the Department of Natural Resources (DNR), and the New Brunswick Emergency Measures Organization (NBEMO) play key roles as "Assisting Agencies". "Continual engagement between the Rural Community of Hanwell, DNR, NBEMO, and other stakeholders over the five-year lifespan of this CWRP is required to sustain momentum and in addressing the recommendations. (Strathcona Regional District Electoral Area A 2020 Community Wildfire Protection Plan)

As it relates to the public: Moving from planning to successful implementation of wildfire-risk-reduction activities requires that community members are informed about the reasons, benefits, and expected outcomes of each project. Regular communication with First Nations partners, residents, industrial stakeholders, and provincial agencies supports the collaborative nature of the Community Wildfire Resiliency Plan (CWRP).

The CWRP will be made accessible to the community in the following ways:

- Engagement through the existing website, a new dedicated FireSmart Resiliency Portal and social media releases
- Conducting a survey
- School education campaign
- Community events such as workshops, public meetings and a "Wildfire Community Preparedness Day"
- Engaging neighbourhoods within the community through the "FireSmart Canada Neighbourhood Recognition Program"
- Offering a half-day in-person FireSmart Education training or encouraging residents to complete the virtual FireSmart 101
- Integration of FireSmart NB messaging into all seasonal fire-safety communications.
- Coordination between NBEMO and municipal emergency staff to standardize wildfire alerts and evacuation-notification templates.
- ICS I-402 (ICS for Executives) provided to staff, mayor and councillors
- ICS I-100-I-400 for community responders (as appropriate), assisting and cooperating agencies identified in the Community Emergency Measures Plan
- Annual FireSmart awareness events to reinforce preparedness at the neighbourhood level.

Ongoing engagement between the municipality, DNR, NBEMO, and other stakeholders over the five-year lifespan of this CWRP will be essential to maintain momentum and ensure progress on recommendations.

Community Engagement

Online Portal

Communication to and engagement of the Hanwell public is key. The use of the community website or a dedicated on-line portal to inform the public about the Community FireSmart Resiliency Committee Key Performance Indicators (KPIs) will be key. This portal would provide information about draft reviews, upcoming meetings, accept public questions and comments and share updates inclusive of data driven risk mapping updates. The FireSmart Coordinator would be charged with the responsibility of ensuring that the portal was updated, advertised and effective. Existing community social media would be utilized to promote the portal, support public education and guide the public to meetings and educational initiatives. Where possible media releases would be coordinated with the releases from the local fire service and GNB. The Hanwell "Community Wildfire Resiliency Portal" may be accessed at: Hanwell Community Wildfire Resiliency Portal

Committee Meetings

It is recommended that the committee meet on a quarterly basis through either in-person meetings or video/teleconferences to move action items through implementation and ensure priorities are being met. The committee would monitor and decide the content of messaging and efforts to educate the public. It is recommended that Hanwell leaders continue to encourage residents/landowners to sign up to the Rural Community of Hanwell Emergency Notification service Voyent Alert, which sends out text messages to cellular subscribers and voice calls to landlines

Community Events

Public workshops or open houses to inform about the progress about the implementation of the FireSmart program would be held. It is recommended that events be held to engage private landowners in the FireSmart program and planning to help reduce the likelihood of disaster in the event of a WUI fire. It is also recommended that the community leaders/ FireSmart Coordinator organize an annual "Community Fire Safety or Community Wildfire Preparedness Day." Activities may involve inspecting fire extinguishers and smoke alarms, clearing Priority 1 zones (up to 10 metres) around key infrastructure, giving FireSmart talks, and hosting fire department demonstrations. Ultimately, the community can work toward being a Provincially and Nationally certified and recognized FireSmart Community. Finally, it is recommended that through the medium of the community events that residents be educated about a checklist for property owners of fire suppression equipment and emergency supplies to keep readily available during fire season. Items should include smoke alarms, fire extinguishers, hand tools, personal protective equipment, communications devices, and a first aid kit. In higher risk neighbourhoods have the FireSmart coordinator designate a street or neighbourhood leader to organize the FireSmart clean-up.

Table 6. Summary of the known resources and funding supports for recommended activities.

Community Resources	
Resource	**Types of Projects**
Municipal Fiscal Framework – e.g. Fiscal Capacity Fund & Regional Services Support Fund in NB	An $18 million fund to help regional service commissions implement regional strategies. It can supplement up to 50% of eligible initiatives' funding.
NB Grant Programs for Non-profits (via Regional Development Corporation & provincial departments	
NB's Community Wildfire Resiliency Plan (CWRP) program	Partnership between the Province of New Brunswick led by DNR and Natural Resources Canada. It is believed there will be ongoing funding for mitigation and educational/community engagement projects
GNB National Disaster Mitigation Program (NDMP)	NDMP is primarily designed to "address rising flood risks and costs, while building the foundation for future informed mitigation investments". NDMP is aimed at supporting projects that "build a body of knowledge of flood risks in Canada", namely risk assessments and flood mapping. The program has two objectives. ▪ focusing investments on significant, recurring flood risk and costs; and ▪ advancing work to facilitate private residential insurance for overland flooding
GNB Disaster Financial Assistance program	Helps New Brunswick residents, small businesses, and non-profit organizations recover from natural disasters by covering sudden, unexpected, and uninsurable losses.
Community Development Fund (via NB Regional Development Corporation)	The Community Development Fund recognizes the important contribution communities make to New Brunswick's economy and quality of life. The Community Development Fund aims to help foster vibrant communities by providing assistance to: • Community capital projects. • National Cultural or sporting events. • Projects assisting in the establishment and development of facilities relating to tourism and recreation; and • Municipal projects that are regionally focused.
Infrastructure/funding streams that can support "resilience" or "emergency management" work (e.g., federal infrastructure funds through PSC, ISC, and GNB	Community and social projects: The government offers grants for projects that improve community accessibility, support crime prevention initiatives, or fund training programs.

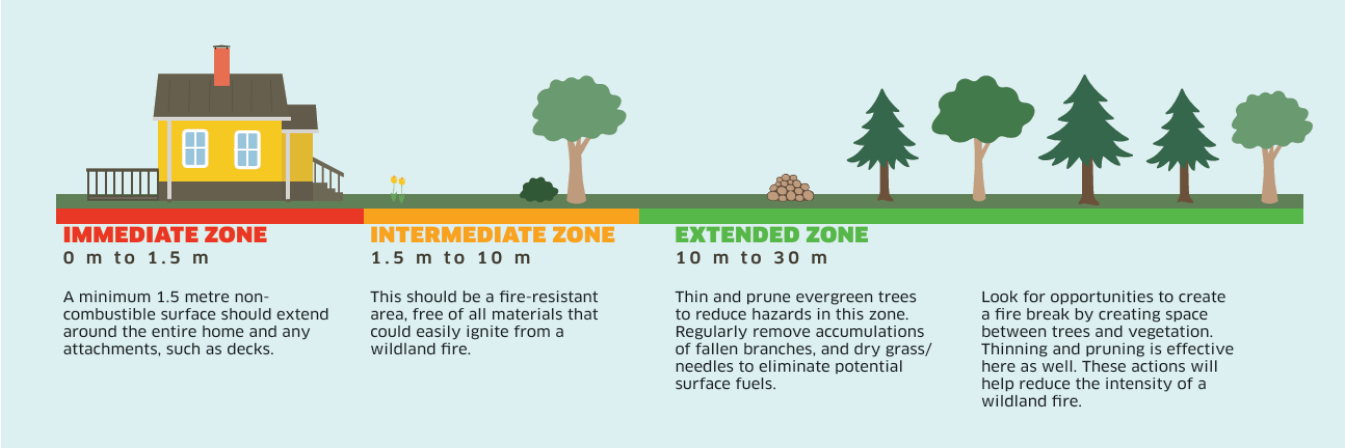
5.11 VEGETATION AND FUELS MANAGEMENT

The general goal of vegetation management is to reduce the potential wildfire intensity and ember exposure to people, infrastructure, structures, and other "values" through manipulation of both the natural and cultivated vegetation that is within or adjacent to Hanwell. A well-planned vegetation management strategy that is coordinated with development, planning, legislation, and emergency response wildfire risk reduction objectives can greatly increase public safety and fire suppression effectiveness and reduce damage and losses to structures and infrastructure. Vegetation management can be accomplished through two different activities: residential scale FireSmart landscaping and fuel management treatments. The activities are broken down to zones: home ignition, community, and landscape zones (See Section 9.7 of BC FireSmart CWRP Guide).

From the risk mapping provided staff would prioritize areas of fuel treatment to lower risk. Fuel treatment "units" or FPUs would be identified to modify and slow fire behaviour and create options for fire suppression. Key principles to be considered in the development of fuel treatment units include:

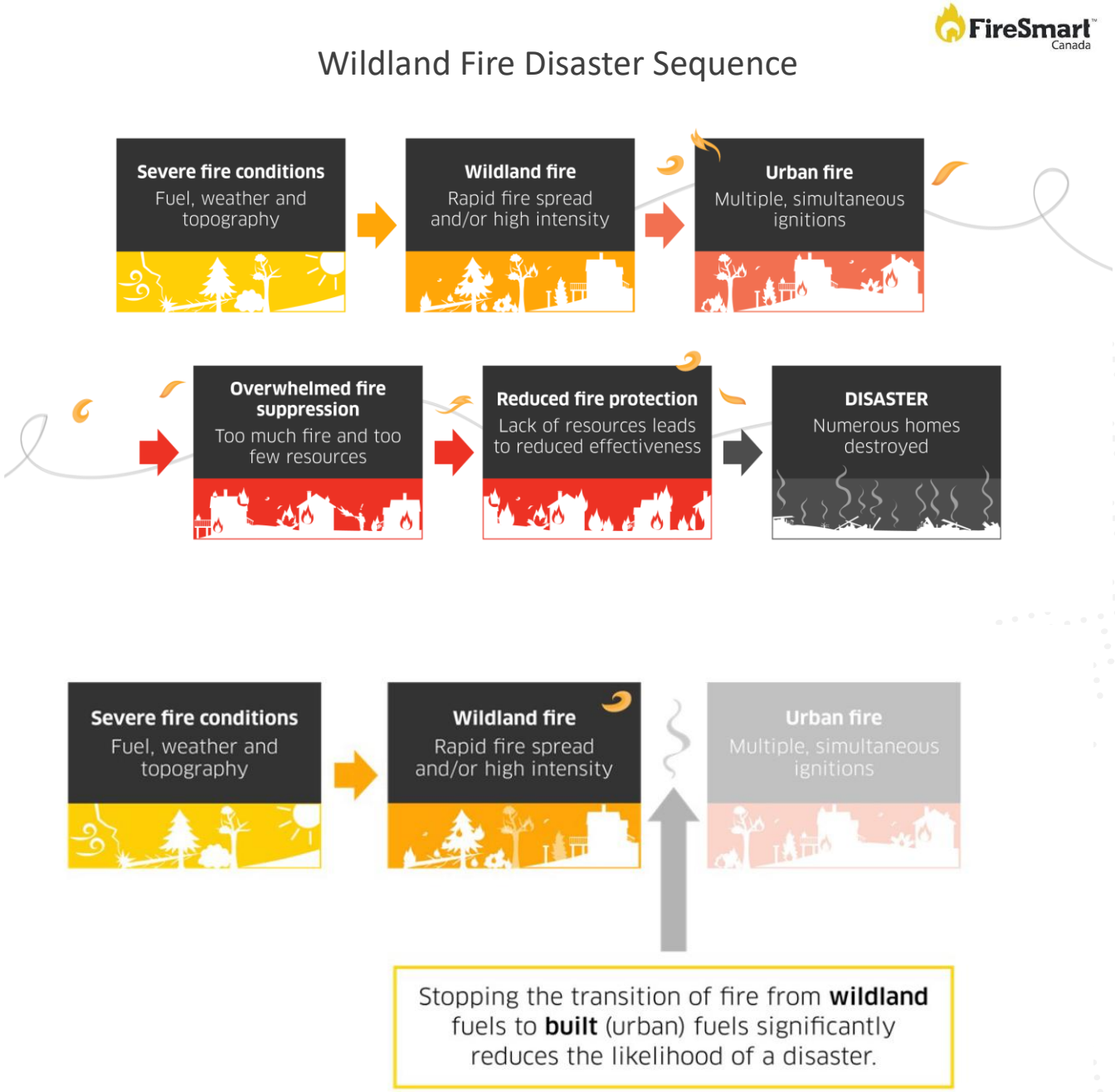
- Continuity
- Relatively linear
- Anchored to non-fuel areas
- Accessible
- Defensible

Figure 4. FireSmart Vegetation Management



5.11.1 Fuel Treatment Areas

Figure 5. Wildland Urban Interface disaster sequence and where residents and landowners can break the sequence.



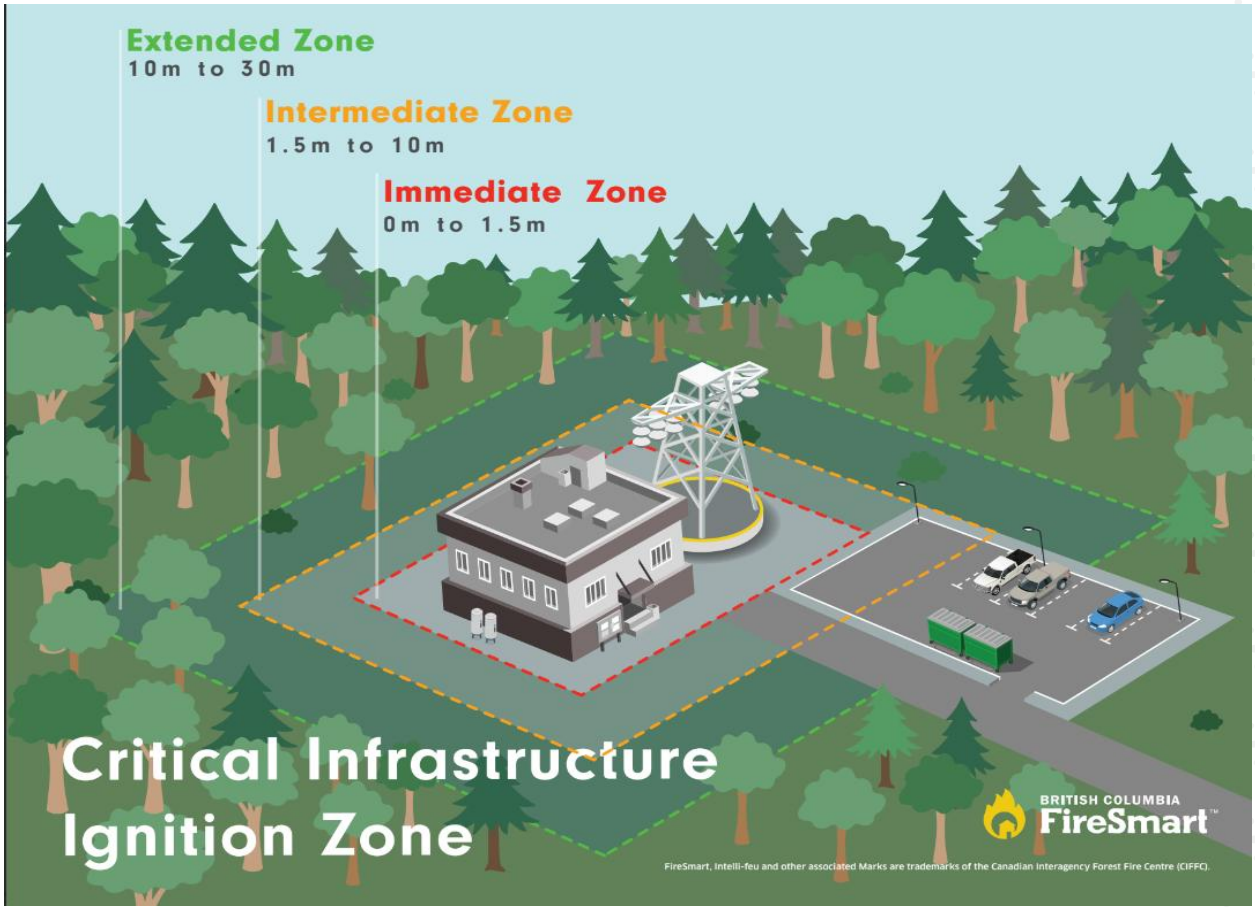
Should these treatments be done correctly, they will result in changing the fire behaviour from a “crown fire” (the most difficult to defend) to a surface fire during most of the fire weather conditions for the Hanwell area.

Proposed treatments should be sufficient in size, strategically located with boundaries that can be effectively utilized for wildfire response. Boundaries should be consistent with logical burn unit planning principles including using topographical breaks and man-made features (roads, hydro transmission lines), natural features (wetlands, ponds, lakes, and non-fuel areas). In Hanwell, the two top priority levels noted in red would for instance receive objective statements like: “Conduct fuel treatments to create residual stands characteristics that do not support active crown fires.” Similar treatments would be set to objectives for the four surrounding communities and Kingsclear First Nation within the Hanwell community.

It is recommended that residents be encouraged to utilize fire resistant landscaping materials to residents and to design public spaces with fire resistant landscaping materials where possible. Refer to FireSmart Canada’s yard and landscaping guidelines.

To maintain and upgrade the condition of the main access and emergency evacuation routes it is recommended that annual action plans for regular maintenance of the main access roads/evacuation routes include brushing, and dangerous tree and surface fuel management. Ensure plans are in place for timely removal of storm damaged trees and debris prior to each fire season be implemented.

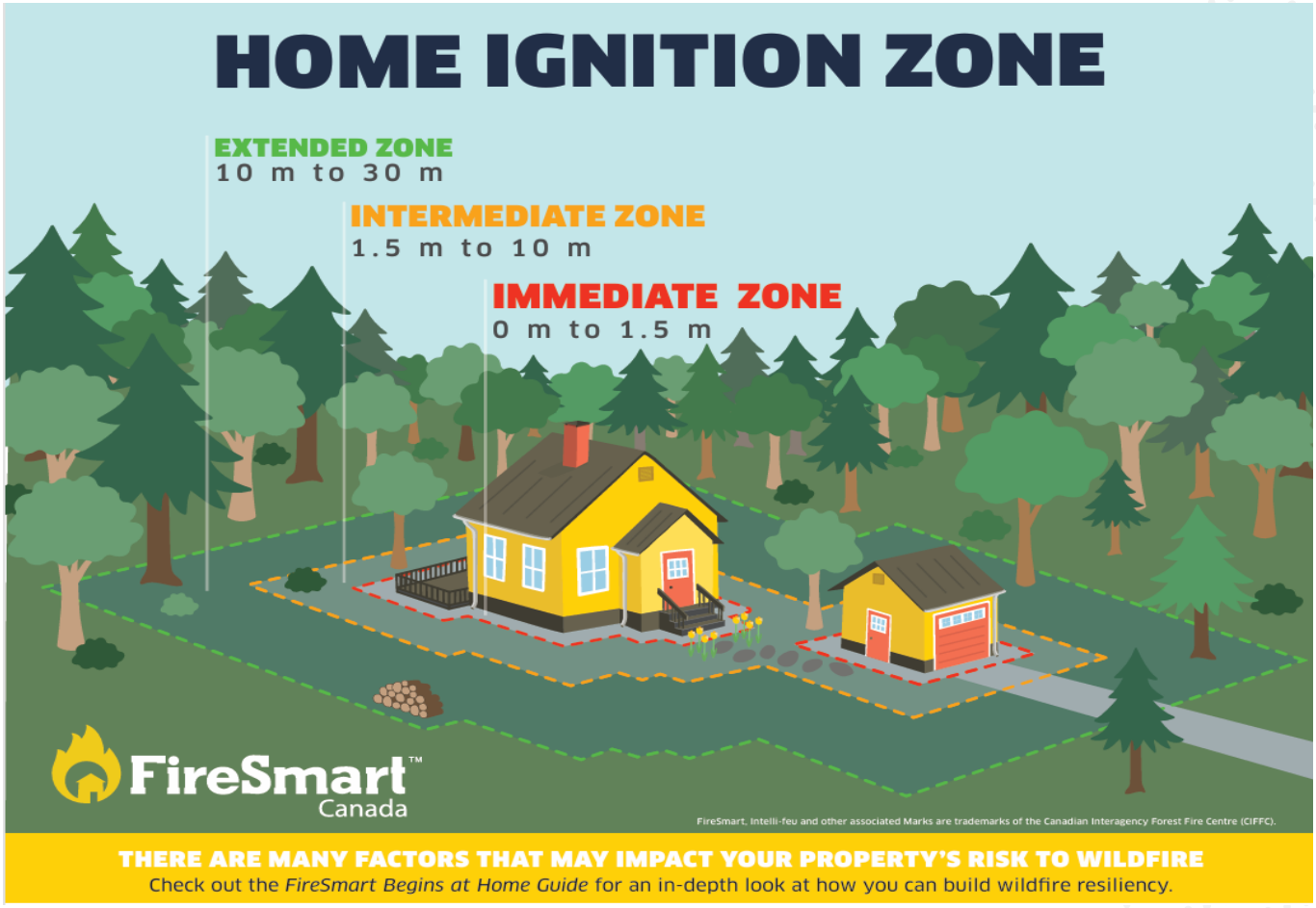
Figure 6. FireSmart Critical Infrastructure Ignition Zone



Wildfires have the potential to impact communities in several ways. Structure losses and evacuations are the main impacts of wildfire, and both can cause significant emotional, financial, and physical stress. Structure and home losses due to wildfire are a result of fire ignitions caused by radiant heat, convective flames, and wind driven embers. Embers (small flaming or glowing particles) are associated with more than 50% home losses from wildfires. Embers can be carried up to 2 kilometres under specific fire weather conditions. 85-90% of homes without combustible roofs and with 10 metres of clearance from combustible materials will likely survive a major wildfire.

Adopting FireSmart principles and engaging in FireSmart practices is the best way private landowners can take responsibility and action on reducing the WUI fire hazard and risk of loss to their homes and communities. The conditions of the Structure (Home) Ignition Zone (SIZ) are a main determinant of whether a home/structure will be lost due to a WUI fire (Figure 6). Simple actions to modify the SIZ can make a significant difference. Figure 7 shows the priority areas for vegetation management within the SIZ.

Figure 7. Home Ignition Zones



Section 6 - Wildfire Response Resources

The intent of this section is to provide an overview of the resources available to local governments and First Nations in the event of a wildfire. Wildland–urban interface (WUI) fires are complex incidents that often involve both forest and structural components, requiring coordination between municipal fire departments, provincial agencies, and regional emergency partners.

When multiple wildfires are active across the province, resource demands may exceed local or regional capacity. In such cases, resource deployment and prioritization are managed by the Department of Natural Resources (DNR) through its Wildfire Management Branch, in coordination with the New Brunswick Emergency Measures Organization (NBEMO).

These agencies follow the principles of the Provincial All-Hazards Emergency Management System, which outlines interagency collaboration, mutual-aid support, and escalation procedures for events that exceed municipal capability.

During wildfire emergencies, DNR coordinates air and ground suppression resources, including fire crews, heavy equipment, and aerial assets. Municipal fire departments typically assume command within developed areas (structures and town limits), while DNR leads suppression on forested and crown lands. The Incident Command System (ICS) is used provincially to ensure integrated communication and response among all participating agencies. Municipal and Provincial resources are augmented by other teams under DNR Command like the Structural Protection Units formed from the eight regional districts and the Wabanaki Fire Crew formed from the Wolastoqey and Mawiw Tribal Councils.

The Hanwell Emergency Operations Centre H-EOC would be activated to support a Type 3 to Type 1 wildland fire incident and where appropriate would be linked up to the Provincial Emergency Operations Centre (PEOC). Communication from the Hanwell Fire Chief would flow vertically to the H-EOC and there would be a Liaison Officer linking the H-EOC to the PEOC. On the ground the Fire Chief would be in Unified Command UC at the Incident Command Post (ICP) with DNR, RCMP, AMB etc.

6.1 Upper Kingsclear Hanwell Fire Service and Mutual Aid Firefighting Capability

The Hanwell Fire Service in its current form existed before the regionalization of the communities. Under the leadership of Fire Chief Murray Crouse, the department has a tremendous reputation throughout the Regional Capital District and the province of New Brunswick.

Operating out of three stations, the department is staffed with approximately 45 dedicated fire fighters who volunteer their time and expertise. Response time for the majority of the geography (containing properties with possible high economic loss is very quick at 5-10 minutes. On initial calls for service the department provided 12-20 members quickly at least 90% of the time which is a tremendous response for a volunteer service. Dispatch is provided through the Fredericton Public Safety Answering Point (PSAP), and the Department utilizes “Fire Queue” and “Who’s Responding” as Apps to ensure personnel attend incidents quickly and are situationally aware while responding. For mass notification the Voyent Apps is utilized.

Travel distances to the more rural components of the community toward Harvey obviously are much more substantive. Again, as it relates to community risk the three fire stations are fairly well located. The Department has very good overall response capability for Type V, Type IV and Type III incidents but is challenged should there be a Type II or Type I (high complexity/long duration) wildfire incident threatening Hanwell. Generally, it would be the duration of the incident which would gradually wear the Fire Service down. Further, the lack of a water supply is a major impediment that challenges the Fire Service as it relates to protecting Hanwell from wildfire and it would, other than the City of Fredericton, also be a challenge for the other 3 areas which surround Hanwell. Kingsclear First Nation which is encircled by Hanwell, is serviced by the UKHFD. Kingsclear First Nation is a resource to Hanwell to fill water tankers and a water shuttle operation as unlike Hanwell, Kingsclear has a pressured system and 35 hydrants.

As it relates to wildfire response mutual aid between the fire departments within the Regional Capital District, DNR and the RCMP are critical. The UKHFD has fostered these relationships over the years and regularly calls upon other assisting agencies for support when needed. The value of these trusted relationships cannot be understated. Chief Crouse's decades of experience with the Department of Natural Resources positions Hanwell positively in both expertise and influence through network connections.

Equipment throughout the Capital District mutual aid system organizations has been standardized and the district members are participants in the wildland fire training, Incident Command System (ICS) training and the Structural Protection Unit (SPU) program led by the GNB Office of the Fire Marshal. Strategic and tactical level communication is in place for the assisting agencies who would fight wildfires within and around Hanwell. All departments, the RCMP, Justice and Public Safety agencies, DNR and EMS are all on the GNB led Trunked Mobile Radio capability which enables strategic ICS based "Mutual Aid Talk Groups" to be formed through the PMCC Provincial Mobile Communications Centre. There are a number of areas in the community which have low to no cell coverage which is a challenge particularly in the Yoho Lake area. Should there be a need during a large, long duration incident, DTI RADCOM is also a resource as an assisting agency to join unified command and set up Starlink systems and boost the access to the TMR system. As it relates to the high-risk area of Yoho Lake/Scout Camp the community of Harvey Fire Service would be a key mutual aid partner along with the RCMP and Justice & Public Safety (JPS) for assistance with door-to-door notification (based upon the low level of cell coverage) and evacuation.

6.1.1 Water Availability for Wildfire Suppression

The UKHFD is supported with two (2) 1000-gallon water tankers and one mini-pumper which frees the tankers up to support the communities' other engines and ladder`

The lack of water mains, hydrants and the current dry hydrant system is not commensurate with the risk in the community in the context of supporting suppressing ground-based wildfires and the wildland urban interface exposure to moderate, high, and extreme levels of fuels throughout the wards. Further, at the civic address level there are a significant number of private dwellings with large lots which would score high or extreme on the residential FireSmart quantitative rating system which allows us to predict that should there be a wind-driven wildfire as far away as 2 kilometres outside the Hanwell boundaries there would likely be wildfires and structural fires starting in multiple locations within the community.

With the objective of improving the availably of water within the community for fire suppression the following recommendations are provided:

- As part of a larger fire service review/ master planning process: set a strategy for water supply which is based upon community risk and development planning.
- Ensure effectiveness of the existing three community dry hydrants and add a minimum of three more in strategic locations. Assess the feasibility and potential locations for dry hydrant installation, and/or other water storage options for firefighting during drought conditions.
- Explore the feasibility of constructing a water tower in the area of the Industrial Park
- Explore a relationship with the water trucking firm currently supplying New Maryland to be formalized into a supply agreement should the community be threatened. This "Emergency Support Function" (ESF) would be codified in the Community Emergency Plan.
- Add a second "mini-pumper" with 4x4 capability, minimum 1050 GPM pump, and 5" appliances to the fire service fleet. Consider the addition of a foam tank capable of delivering Class A (environmentally suitable) foam for quick knock down.
- Based upon the GNB model of structural protection units creating a cache, perhaps housed in an intermodal container of wildfire equipment for use by the fire service and exterior residential sprinklers that could be distributed to homes in vulnerable areas should a wildfire be threatening the community.

Section 7 – Summary

The newly regionalized community of Hanwell faces a number of challenges as leaders set goals and respond to the needs of citizens and business. Based upon the findings of the community's first risk assessment it is clear that a long-term strategy as it relates to wildfire risk should be a priority.

Whether it is the micro/civic address level risk covered in the critical infrastructure and "target hazard" section of the report, or the macro/mapping data set illustrations, Hanwell faces exposure to widespread fire load density. The forest cover combined with the changes to New Brunswick's fire weather in the form of hotter, dryer spring and summers requires that action needs to be taken. Hanwell is a beautiful community which has enjoyed large well treed residential lots interspersed amongst spacious woodlots and natural surroundings. The relationship with nature and the forests are literally charted within the community's Motto and Value Statements. The community's motto, vision, mission, and core value statements are of significant consideration as it relates to many of the mitigative strategies contained in this report. There will be challenges faced by leaders and community members to strike a balance in lowering risk and maintaining the values which the community members hold dear. It is recognized by the authors of this report, as New Brunswickers from similar communities,

that the lowering of risk presented by the cumulative wildland fuel load by private property owners will have to be a gradual educational and programmatic based process, to create cultural change. It is also recognized from the study that the surrounding communities also bring risk to the doorstep of Hanwell and the effort to manage risk should not be solely on the shoulders of the Hanwell community.

As it relates to overall community risk; lining up fire-fighting capability against the assessed wildland interface fire risk is tremendously important. Although Hanwell is a growing community there currently are not any Wards which are serviced by pressurized hydrants. As we look at the critical infrastructure, primarily focused in two of the wards and target hazards like seniors/special care homes that are scattered: the lack of hydrants becomes a concern. There is a well-respected fire service, working from three reasonably well-placed stations; these firefighters are burdened with the risks presented by the emerging wildfire threat. Beyond the local fire service there is a well-tested mutual aid system where fire services work together with DNR crews and support each other when one is overwhelmed. This said as we look at the wide spread wildland urban interface in the areas that expand beyond and surround the community of Hanwell, it is clear that should we as New Brunswickers face a year like 2025 that was exceptionally dry and unlike 2025 experience wide spread simultaneous demand for local fire services and DNR forest fire fighters, there is a high likelihood that the overall NB fire-fighting capability could easily become exhausted. This could leave Hanwell largely on its own protecting the community. Given the 250+km^2, number of fire fighters and lack of hydrant-based water system, this scenario would be incredibly challenging.

The Community of Hanwell is to be commended as one of the first New Brunswick communities to embark upon and to complete the DNR/Natural Resources Canada Community Wildfire Risk Assessment/Planning processes. There have certainly been a significant number of challenges which have been brought to light based upon this process. This said there has always been a strong culture of leadership and resilience within the now regionalized communities that make up Hanwell and it is anticipated that the challenges uncovered will be dealt with. The risk assessment, accompanying recommendations and "FireSmart Planning Roadmap" contained in this report, create a foundation to be utilized in partnership with the Province of New Brunswick, property owners and stakeholders to develop a long term mitigation strategy encompassing education, management of fuel on public lands, regular risk assessment/emergency planning and refinement of fire-fighting capabilities at a level of prioritization commensurate with the identified risk.

Date Adopted By Council: Apr 15 | 26

Mayor Signature: _____

Clerk Signature: _____

APPENDICES

Appendix 1 – Glossary of Terms

Term	Definition
Cutblocks	Specific defined area of forestland authorized for timber harvesting.
Density Class	Refers to the classification of tree density within a forest stand which is crucial for managing forest health and productivity.
Fire Regime	Fire Regime describes the pattern (type, frequency, intensity, size, seasonality, severity, cause of ignition) of wildland fire in a particular area or ecosystem over time. It is influenced by fuel, climate and weather, ignition source, topography, land use, and fire suppression activities. (Natural Resources Canada).
Fuel (vegetation)	Description of dominant tree species, bio geoclimatic zone descriptions, life form description (grassland, shrubland, conifer forest), forest health impacts or concerns and unique vegetation features, such as the presence of old growth management areas.
Head Fire Intensity (HFI)	The predicted intensity, or energy output, of the fire at the front or head of the fire. (Natural Resources Canada)
Incident Complexity Levels (5-1)	**Type 5:** Smallest, fewest resources, low risk, often handled in a few hours. **Type 4:** Command staff and tactical resources within one operational period. **Type 3:** Extends into multiple operational periods; requires Type 3 Incident Management Team (IMT). **Type 2:** Regional/national resources; significant, complex, multiple operational periods. **Type 1:** Highest complexity, national resources, longest duration, highest risk.
Intensity	In the context of risk, a measure of the magnitude of a fire, such as head fire intensity, smoke density, or rate of spread. A contextual term dependent upon the values being impacted.
Spotting Impact	The phenomenon where sparks or embers from a fire are carried by the wind or convection column an ignite other fuels, leading to additional fires beyond the immediate area of the main fire. (Natural Resources Canada)
Topography	Slope, terrain, elevation range, valley orientation, aspect, and any significant features, such as locally significant water bodies or glaciers.
Values at Risk (VAR)	Values at risk (VAR) are the human or natural resources that may be impacted by wildfire. This includes human life, property, critical infrastructure, high environmental, and resource values.
Weather	Annual precipitation, annual temperatures, common weather events, local wind patterns, and any unique weather characteristics.
Wildfire Risk	• Likelihood of a fire occurring. • Associated fire behaviour. • Impacts of the fire (consequence).
Wildfire Threat	The ability of a wildfire to ignite, spread, and consume organic material (trees, shrubs, and other organic materials) in the forest. The major components used to define wildfire threat are fuel, weather, and topography,
Wildland Urban Interface	The wildland urban interface is typically described as the area where human development meets or intermingles with the natural environment.
Xeriscaping	A water-efficient landscaping method that uses planning, soil improvement, mulch, efficient irrigation, and drought-tolerant plants

Appendix 2 – FireSmart Critical Infrastructure Assessment Form

FIRESMART® CRITICAL INFRASTRUCTURE ASSESSMENT

BRITISH COLUMBIA FireSmart

Facility Name		Date	
Operator		Email	
Geographic Location		Lat/Long	
Assessor		Email	
Photos? (Y/N)		Photo #'s:	
Comments:			

A. CRITICAL BUILDING				SCORE
1	What type of roofing material and construction does the building have?	Class A UL/ASTM fire rated roof covering (e.g. Metal, rated hot lay, clay tile or asphalt shingles)	0	
		Unrated roof covering (including wood shakes and wood shingle roofs)	30	
2	Does the roof covering have any gaps or openings, exposing combustible building components, or enclosed spaces where embers could accumulate, lodge or penetrate?	No gaps, openings that expose combustible building components or enclosed spaces where embers could accumulate, lodge or penetrate	0	
		Gaps, openings that expose combustible building components or enclosed spaces where embers could accumulate, lodge or penetrate	30	
3	Are the gutters combustible or non- combustible?	Non- combustible gutters, and no exposed combustible fascia/roof covering above gutters (metal or aluminum) or no gutters	0	
		Combustible (plastic, vinyl, wood) and/or exposed combustible fascia/roof covering above gutter	6 6	
4	How clean is the roof and gutters?	No needles, leaves or other combustible material	0	
		Needles, leaves or other combustible material present	10	
5	Are eaves closed and are eaves/roofs free of any gaps, holes, or areas where embers could accumulate, lodge or penetrate? Are all vents and openings protected?	Closed or no eaves/no gaps or holes/no unprotected areas to attic /interior of building, vents with 3 mm (1/8") non-combustible screening, operational louvres and flaps/ASTM ember resistant rated vents.	0	
		Open eaves/roof gaps or unprotected openings to attic/interior of building, vents not 3 mm (1/8") non-combustible screened or ember resistant rated; louvres/ flaps not operational with accumulated combustible debris	30	

FireSmart® Canada FireSmart® and the FireSmart logo are registered trademarks of Partners in Protection Association

6	Are all HVAC/active ventilation systems capable of being shut down?	HVAC/active ventilation system with 24 hr onsite operator, or remote shut-down capability	0	
		HVAC with no caretaker or remote shut-down capability/cannot shut-down	30	
7	What type of exterior siding does the building have?	Ignition resistant (cement fibre board, log) or non-combustible (stucco, metals, concrete, brick/stone)	0	
		Combustible siding or non-ignition resistant siding (vinyl, wood, acrylic stucco); treatment to Non-combustible Zone and Priority Zone 1	6	
		Combustible siding or non-ignition resistant siding (vinyl, wood, acrylic stucco); no treatment to Non-combustible Zone and Priority Zone 1	30	
8	Is exterior siding free of gaps, holes, or other areas where embers could accumulate, lodge, or penetrate?	No gaps or cracks, missing siding or holes	0	
		Gaps, cracks or holes	10	
9	Are walls protected with a minimum 15 centimetres (6 inches) of non-combustible ground- to-siding clearance?	No less than 15 centimetre non-combustible vertical ground-to-siding surface	0	
		Less than 15 centimetres non-combustible vertical ground-to-siding surface	30	
10	How fire resistant are the windows or doors (including large doors/garage doors)?	Tempered glass in all doors and windows and treated Non-combustible Zone and Priority Zone 1; no gaps in ANY doors OR no windows	0	
		Multi pane glass small/medium and treated Non-combustible Zone and Priority Zone 1; no gaps in ANY doors	1	
		Multi pane glass large and treated Non-combustible Zone and Priority Zone 1; no gaps in ANY doors	2	
		Single pane glass- small/medium and treated Non-combustible Zone, Priority Zone 1 and Priority Zone 2; no gaps in ANY doors	4	
		Single panel glass large and treated Non-combustible Zone, Priority Zone 1 and Priority Zone 2	6	
		Tempered glass in all doors and windows and no treatment to Non-combustible Zone; combustible doors; no gaps in ANY doors	20	
		Multi pane glass – any size and no treatment to Non-combustible Zone and/or Priority Zone 1 OR Single pane glass – any size and no treatment to Non-combustible Zone and/or Priority Zone 1 and/or Priority Zone 2; gaps in ANY door	30	

11	Is the underside of the balcony, deck, porch, other building extensions or open foundation completely sheathed- in or open and free of combustible materials?	N/A, sheathed in with fire resistant/non-combustible materials, or non-combustible siding, no gaps or cracks, OR open heavy timber, non-combustible or fire-rated construction OR AND non-combustible surface and no combustible debris under deck/extension AND treated Non-combustible Zone, Priority Zone 1 and Priority Zone 2 and slope set-back (if applicable)	0	
		Not sheathed in with fire resistant/non-combustible material or siding, and/or unprotected gaps or cracks present, and/or non-fire-rated construction with combustible surface and/or combustible debris under deck; OR any extension construction of any combustible material and no treatment no treatment to Non-combustible Zone and/or Priority Zone 1 and/or Priority Zone 2.	30	
12	Is the building set back from the edge of a slope?	Building is located on flat ground that extends to the full distance of Priority Zone 2	0	
		Building is located on the bottom; AND treated Non-combustible Zone, Priority Zone 1, Priority Zone 2	3	
		Building is located on the mid to upper portion or crest of a hill and set back AND treated Non-combustible Zone, Priority Zone 1, Priority Zone 2 and Priority Zone 3	10	
		Building is located on the mid to upper portion or crest of a hill with no set back	30	
CRITICAL BUILDING SCORE				
		LOW < 21		
		MODERATE 21-29		
		HIGH >30		

B. CRITICAL STRUCTURES - Utility Poles, Communications Towers, Bridges, Pipeline Valve Stations				SCORE
1	Valve station/substation/ Propane Tanks	N/A or a non-combustible surface is continuous under all combustible infrastructure	0	
		There is combustible surface under ANY combustible infrastructure	30	
2	Utility line poles or critical component (weather stations, antennae masts, cellular towers) support structure/mast construction material?	N/A or Poles/ support structures are constructed of non-combustible material (metal or concrete)	0	
		Poles/ support structures are constructed of wood	6	
3	Utility line poles or critical component (weather stations, antennae masts, cellular towers) support structure condition?	N/A, Non-combustible or combustible poles or support structures are free of petroleum/ accelerant-based coatings, cracks and gaps where embers may accumulate, lodge or penetrate and non-combustible surface is continuous under all combustible infrastructure	0	
		Combustible poles or support structures have cracks and gaps where embers may accumulate, lodge or penetrate AND/OR there is combustible surface under ANY combustible infrastructure	30	
4	Critical component susceptibility to radiant heat	N/A or Critical components are not constructed of materials that are susceptible to damage from significant radiant or convective heat fluxes OR Critical components are constructed of materials that are susceptible to damage from significant radiant or convective heat fluxes and Non-combustible Zone and/or Priority Zone 1 and/or Priority Zone 2 are treated.	0	
		Critical components are constructed of materials that are susceptible to damage from significant radiant or convective heat fluxes and no treatment to Non-combustible Zone and/ or Priority Zone 1 and/or Priority Zone 2.	30	

5	Critical components susceptibility to embers - free of any gaps, holes, or areas where embers could accumulate, lodge, or penetrate?	N/A or Critical components are not constructed of materials that are susceptible to damage from embers or OR Critical components are constructed of materials that are susceptible to damage from embers but are free any gaps, holes or areas where embers could accumulate, lodge, or penetrate.	0	
		Critical components are constructed of materials that are susceptible to damage from embers and have gaps, or areas where embers could accumulate, lodge or penetrate and damage components	30	
6	Bridge construction material	N/A or Structure is constructed of non-combustible material (metal or concrete)	0	
		Structure is constructed of heavy timber wood or logs and Non-combustible Zone and/or Priority Zone 1 are treated	6	
		Structure is constructed of wood or logs and no treatment of Non-Combustible Zone and/or Priority Zone 1	30	
7	Bridge condition	N/A or Combustible structure is free of cracks and gaps where embers may lodge	0	
		Combustible structure has cracks and gaps where embers may lodge	30	
CRITICAL STRUCTURE SCORE				
		LOW < 21		
		MODERATE 21-29		
		HIGH >30		

C. NON-COMBUSTIBLE ZONE (0-1.5 METRES)				SCORE
1	1.5 metres from furthest extent of building or critical structure (includes overhangs, extensions and decks)	Non-combustible surface, no combustible debris, materials, fences or plants present	0	
		Combustible surface, combustible debris, fences or plants present	30	
NON-COMBUSTIBLE ZONE SCORE				
		LOW < 21		
		MODERATE 21-29		
		HIGH >30		

D. ZONE 1 (1.5-10 METRES OR 5-30 FEET)				SCORE
1	Where are flammable substances, or other combustible materials stored? (Vehicles, flammable liquids/ gases construction materials, debris etc.)	N/A or More than 10 metres from the structure, or in an approved and ember resistant storage container	0	
		Less than 10 metres from the structure and not in an approved and ember resistant storage	30	
2	Where are the unmitigated non-critical outbuildings located? (buildings that are not-mitigated to the same standards as the primary building or critical structure)	N/A or More than 15 metres (50 feet) from primary structure	0	
		Less than 15 metres from primary structure	30	
3	What type of forest grows within 10 metres of the building, outbuilding or critical structures?	No trees or Healthy deciduous (i.e. poplar, aspen, birch)	0	
		Mixedwood (both conifer and deciduous)	30	
		Conifer (i.e. spruce, pine, fir, cedar)	30	
4	What kind of surface vegetation and combustible materials are within 10 metres of the building, outbuildings or critical structures?	No vegetation; Well maintained lawn (15 centimetres; 6 inches or shorter); low flammability; low growing discontinuous plants with treated Non-combustible Zone (0-1.5 metres)	0	
		Unmaintained grass (greater than 15 centimetres in length); flammable plants; continuous plants or tall growing plants; untreated Non-combustible Zone	30	
		Twigs, branches, logs and accumulations of tree needles or leaves and other combustible materials	30	
ZONE 1 SCORE				
		LOW < 21		
		MODERATE 21-29		
		HIGH >30		

E. ZONE 2 (10- 30 METRES OR 30-100 FEET)				SCORE
1	What type of forest grows within 10-30 metres of the building, outbuilding or critical structures?	No trees or Healthy deciduous (i.e. poplar, aspen, birch)	0	
		Mixedwood (both conifer and deciduous)	10	
		Conifer (i.e. spruce, pine, fir, cedar)		
		Separated	10	
		Continuous	30	
2	What kind of surface vegetation and combustible materials are within 10-30 metres of the building, outbuildings or critical structures?	None within 10 - 30 metres)	0	
		Scattered within 10 - 30 metres	5	
		Unmaintained grass (greater than 15 cm)	5	
		Abundant within 10 - 30 metres	10	
3	Are there low tree branches within 2 metres of the ground?	None within 10 – 30 metres	0	
		Present within 10 – 30 metres	10	
ZONE 2 SCORE				
		LOW < 21		
		MODERATE 21-29		
		HIGH >30		

CRITICAL INFRASTRUCTURE HAZARD SCORE	SCORE
Building	
Critical Structures	
Non-Combustible Zone	
Zone 1	
Zone 2	
TOTAL	

LOW <21	MODERATE 21-29	HIGH > 30

The goal is to drop the hazard rating as low as possible by changing each factor to a condition that results in a low score.

Appendix 3 – Examples of By-Laws/Policies Relating to Wildfire Risk

- City of Saint John – "A By-law respecting Outdoor Fires within the City of Saint John". By-Law Number LG-23 – Modified March 13, 2025 By-Law respecting Outdoor Fires within the City of Saint John 2025-02-10

- Grand Bay – Westfield – "Information on Open Air Burning" By-law PS-002. Burning Information - Grand Bay-Westfield

- FireSmart Residential Development Guide Best Practices for Planning, Design, and Construction FireSmart Residential Development Guide

- NRC - National guide for wildland-urban-interface fires: guidance on hazard and exposure assessment, property protection, community resilience and emergency planning to minimize the impact of wildland-urban interface fires contains a chapter on "Community Planning and Resources". Section 4.2 Planning the Wildland-Urban Interface addresses: 4.2.2 Land Use and Development as well as 4.2.3 Access and Egress Routes. National guide for wildland-urban-interface fires: guidance on hazard and exposure assessment, property protection, community resilience and emergency planning to minimize the impact of wildland-urban interface fires

- 2024.10.02_FSBC_Wildfire_DPA_Guidance.pdf Wildfire Development Permit Areas - Wildfire DPAs establish development guidelines for areas susceptible to wildfires or their impacts. These guidelines generally cover components such as subdivision layouts, fire resistant building materials, and landscaping and vegetation guidelines. By establishing a WDPA in an Official Community Plan (OCP) and integrating the guidelines into the OCP or zoning bylaw, local authorities aim to enhance wildfire resilience in their communities. Found in Division 7 of the Local Government Act S. 488 (1) (b) and specifically in s. 491 (2) Local Government Act

  Choosing what to include in your Wildfire DPA will depend on unique community considerations such as geography, wildfire risk classification, alignment with other guiding documents (OCP's, Hazard, Risk, and Vulnerability Analysis, Community Wildfire Resiliency Plans, etc.), political and social appetite/acceptance, as well as current and planned infrastructure. The list below can be used as a selection of criteria that may be an appropriate fit for your community. The list is based on the FireSmart - Home Ignition Zone mitigation strategies which are research-based strategies, proven to reduce wildfire threat to homes, neighbourhoods and communities.

Appendix 4 – References

Rural Community of Hanwell Five-Year Strategic Plan 2025-2029 (October 11, 2024)

Hanwell Emergency Measures Plan – Amended January 17, 2024

National guide for wildland-urban-interface fires: guidance on hazard and exposure assessment, property protection, community resilience and emergency planning to minimize the impact of wildland-urban interface fires

Firesmart Canada | Firesmart Canada

Environment and Climate Change Canada (2023), *Canadian Climate Normals & Trends*;

NB Climate Change Secretariat (2021), *New Brunswick's Climate Change Action Plan – Progress Report*;

Atlantic Climate Adaptation Solutions Association (ACASA) (2020), *Regional Climate Projections for Atlantic Canada*.

Strathcona Regional District, Electoral Area A – 2020 Community Wildfire Protection Plan (June 26, 2020)

British Columbia FireSmart, Community Wildfire Resiliency Plan Instruction Guide 2024 (Updated June 2024)

Government of New Brunswick Community Wildfire Resiliency Program – Pre-Approved Contractor Information (Department of Natural Resources (DNR)

Appendix 5 – FireSmart Begins at Home – Understanding Fire Behaviour

How Wildland Fires Spread

Embers & Sparks

Embers and sparks can blow up to two kilometres ahead of a wildland fire. They can ignite materials on or near your home causing severe damage.

71%

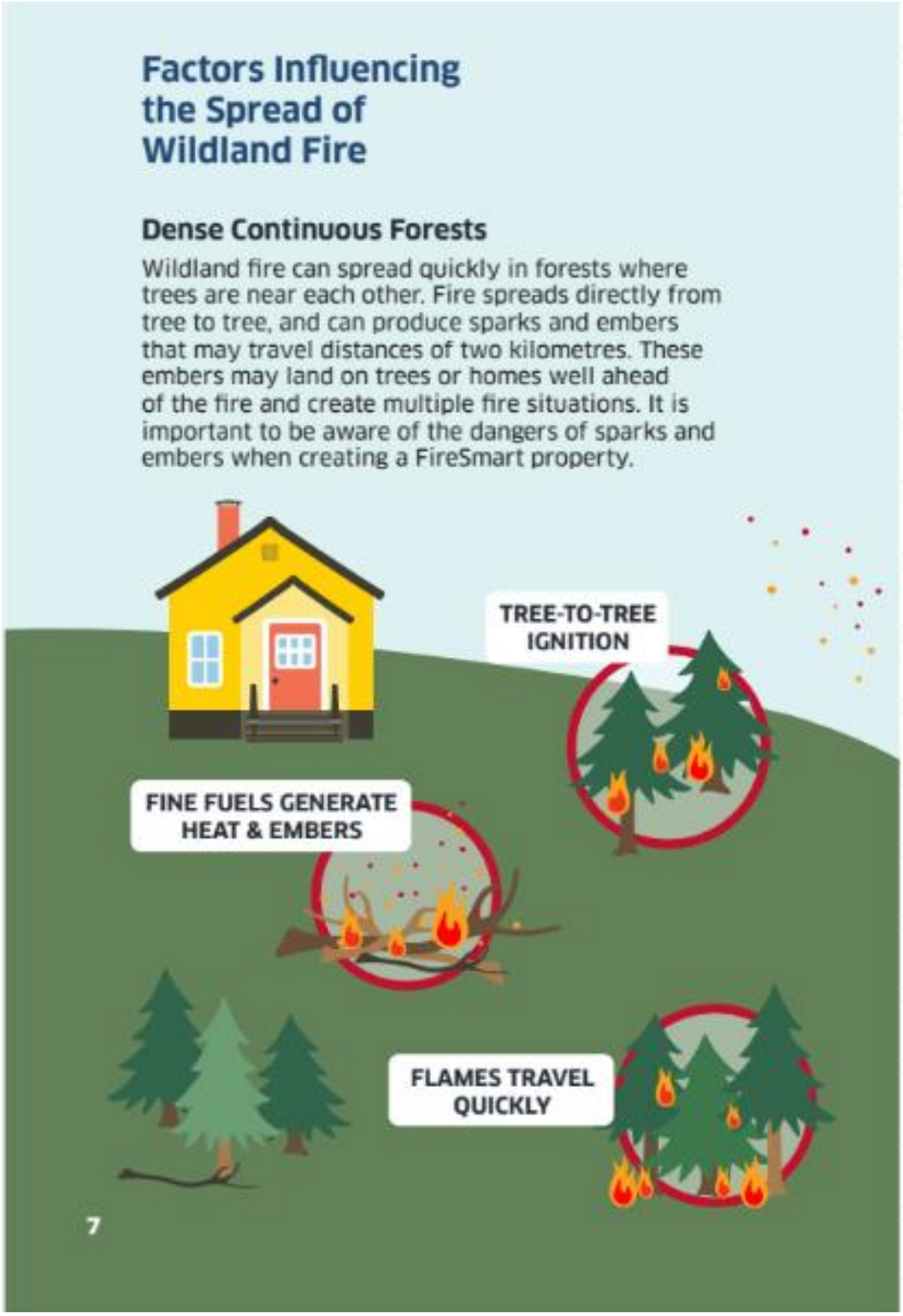
Extreme Heat

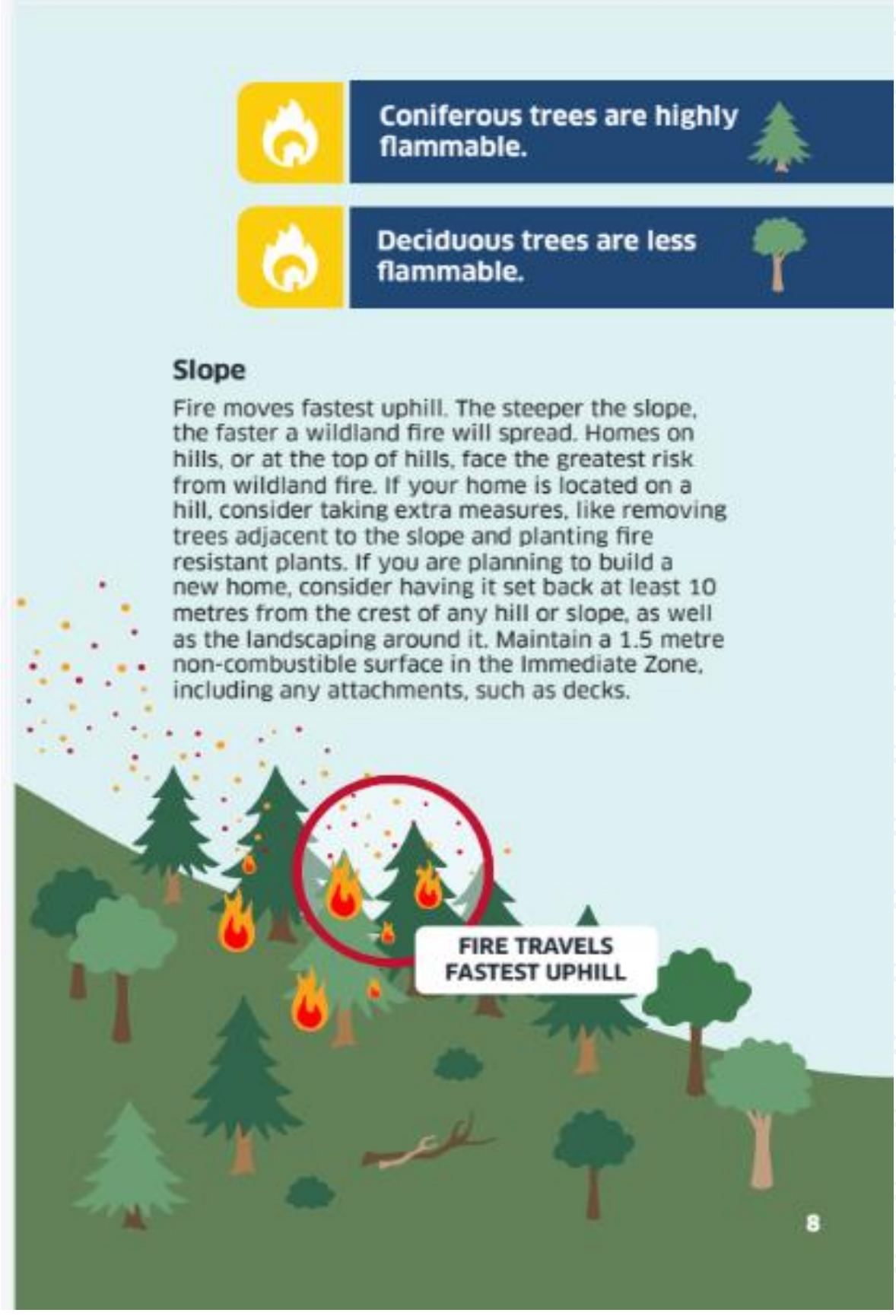
Radiant heat from a wildland fire can melt vinyl siding, ignite your home, and even break windows. Extreme heat can come from flames within 30 metres of your home.

Direct Flame

As wildland fires spread toward homes, they ignite other flammable objects in their path. To stop wildland fire from directly affecting your home, create breaks in this path, especially close to your home.

6





Appendix 6 – ESI Team

Mark Gillan, BBA, CFO, MIFireE
Canadian Security Clearance: Level III Top Secret

Mark leads the ESI team in conducting risk assessments, training, program, and plan review, exercise scenario development, exercise facilitation, and evaluation as well as compiling final After Action Review documentation and recommendations. Under Mark's leadership, there have been seven (7) Federal research and development projects conceived and executed by the ESI team. Service has been provided for various critical infrastructures, such as Port Saint John, Point Lepreau Generating Station, Saint John Liquefied Natural Gas, Saint John Energy, as well as corporations like Atlantic Potash, Conuma Resources, Parkland Refining, BHP, Coop Refinery Complex, and the Mosaic Company.

Mark has led teams of ESI personnel to assist corporations like Atlantic Lottery Corporation, Northwest Territories Power Corporation, and 2 First Nation Tribal Councils representing 12 communities. Mark has conducted over 200 corporate program validation exercises in Canada, the United States, the Caribbean, and India. As lead evaluator, Mark has authored reports on behalf of clients for the Canadian Nuclear Safety Commission and Transport Canada. In 2014, Mark wrote the International Hazardous Materials Operations Plan under the International Emergency Management Assistance Compact (IEMAC) on behalf of Defense Research and Development Canada (DRDC) and International Emergency Management Group (IEMG) members. In 2021 Mark led the Canadian study on behalf of DRDC of "Evidence-Based Examination & Analysis of Incident Command Structures in Operations Centres".

Prior to founding Emergency Solutions International, Mark served the City of Saint John Fire Department as an active firefighter and Hazardous Materials/CBRN-E technician. Mark finished his 27-year career with the Fire Service in the position of Fire Chief/E.M.O. Director with 8 Years in the position of Deputy Chief. During his tenure in the Fire Service, Mark worked for over 8 years on the Rescue Squad. The focus of this team at fires was the search and rescue of trapped civilians. He was accommodated 5 times for civilian rescues.

As a Hazardous Materials Technician, he was chosen as one of the first firefighters in Canada to attend the country's counter-terrorism program and led the Provincial CBRN-E Team. As Divisional Chief in charge of Training, Mark was instrumental in designing and implementing the Saint John Fire Department's "Save Our Own" program and Incident Command System. Mark has served as Incident Commander, at a number of serious Industrial and municipal incidents. From September 13-16, 2001, Mark assisted at Ground Zero in New York City.

In relation to our nation's preparedness following 9-1-1: Mark has completed advanced training at C.F.B. Suffield Alta. and has served through the Centre for Security Science as a "Senior Special Advisor" in the area of Chemical, Biological, Radiological, Nuclear, Explosive response and Capability-Based planning. In this role Mark has led Consolidated Risk Assessments at the Provincial and Regional levels.

Mark obtained his Bachelor of Business degree from the University of New Brunswick and has completed the Dalhousie University, Certificate in Incident Command, the Canadian Association of Fire Chief's "Chief Fire Officer" designation (CFO), and the British: Institute of Fire Engineer's "Member's Level" designation (MIFireE) award. Mark has completed tactical programs at Texas A&M University, has studied Incident Command at the U.S. National Fire Academy in Emmitsburg MD, and also completed the "Leadership in Crisis" program at Harvard University.

Victoria Leitner

Victoria has over 12 years of experience in consulting, corporate strategy, business development and product marketing. As the Chief of Staff at ESI, she advises the executive team, ensuring operational excellence and is pivotal in driving strategic initiatives across the business.

Victoria joined ESI after 5 years with Mariner Partners as Director of Solutions & Sales Enablement, where she was responsible to build Mariner's portfolio of solutions for complex business issues while strategically positioning Mariner in the market. Victoria led teams focused on solution design, sales enablement, proposal management, and product marketing.

Victoria also held key roles in management consulting with both Deloitte and internally at Opportunities NB, working across financial services, economic development, and government, working with executive teams in the areas of corporate strategy, business transformation, and project management. Victoria led corporate strategy in the public sector, for New Brunswick's crown corporation responsible for economic development, OpportunitiesNB. Prior to this, Victoria was a management consultant at Deloitte in both Toronto and Sydney, Australia, focusing primarily on large scale business transformation engagements for industry leading financial services institutions.

Victoria brings a unique global perspective to her work, clients and community having lived and worked in major cities across Canada and in Israel, Jordan, and Australia before moving back to Atlantic Canada in 2018. Prior to her career in consulting, Victoria worked in the public sector, both within Canada and abroad. She worked internationally serving the Government of Canada at the Canadian Embassy in Amman, Jordan, and for the Security Directorate, as part of Public Safety for Government of New Brunswick.

Having studied at both Harvard and McGill universities, Victoria holds a B.A. International Relations. She also maintains several certifications; she is certified in Product Marketing Management (PMM) from the Product Marketing Alliance, is a PROSCI certified Change Practitioner, has completed LMI Canada Executive Leadership Development, and has completed Incident Command Systems (ICS) levels I-100, I-200, and I-300. Victoria is also passionate about making an impact in business; local to Fredericton, New Brunswick, Victoria has also served as Board Director, on the Fredericton Chamber of Commerce Board of Directors (2021-2023).

Mariann Patstone, BBA
Canadian Security Clearance: Level II Secret

Mariann brings over 30 years' experience across business operations, project management, and large-scale IT/business transformations. In her role as Chief Operating Officer (COO) for ESI, Mariann is responsible for the core business operations including Finance, HR, Marketing, PMO, IT and Administration. Mariann has extensive operational experience and often lends her expertise to special projects.

Prior to joining Emergency Solutions International, Mariann owned/operated an independent business for ten (10) years and spent 12 years as a project manager for a large North American oil refining company. In her role as project manager, Mariann was responsible for ensuring the timely delivery of business process improvements, development of human resource practices and the implementation of IT and telecommunications solutions for multimillion-dollar projects.

Bev Wilkins
Administrative Officer

Bev joined the ESI Team in August of 2024 and brings many years of administrative experience to the Team from a variety of roles.

Prior to joining ESI, Bev had retired from Loch Lomond Villa, Inc., a large long-term care organization in Saint John where she held a variety of Management and Human Resources roles during her 21-year tenure.

She has many years of experience in office management, administrative support, organizational operations, special events co-ordination/fundraising and human resources coordination. Bev holds certificates from the University of New Brunswick (Fredericton) in Management Development and Human Resource Management.

In her role at ESI, Bev provides administrative support to the entire ESI Team and has begun assisting the instructors of the "Preparing for Workplace Violence" training. For 8.5 years Bev was a volunteer Auxiliary Police Constable with the Saint John Police, retiring in 2025. During her years with the SJPF, she received training in areas such as CPTED (Crime Prevention Through Environmental Design), Crisis Intervention and De-Escalation Strategies. She has completed her ICS I-402 certification as well as the Level 1 – FireSmart Ambassador Training.

Appendix 7 — Hanwell CWRP Recommendations Summary

The below table is a summary of the CWRP recommendations for the Rural Community of Hanwell, as per the guidelines outlined by FireSmart New Brunswick, and Government of New Brunswick Department of Natural Resources (DNR) for the Community Wildfire Resiliency Program. This has been adapted from the recommendations outlined in the *Executive Summary: Summary of Recommendations* section at the beginning of this document.

Rural Community of Hanwell - CWRP Recommendations Summary						
No.	**Priority**	**Objective**	**Recommendation**	**Next Steps**	**Responsibility**	**Rationale**
1	High	Establish wildfire risk reduction framework	It is recommended that the community of Hanwell adopt a customized FireSmart Roadmap and implement strategies to reduce both the risk and the impact of wildfire, emphasizing FireSmart practices, communication and education, and fuel management.	Formally adopt the FireSmart Roadmap and integrate actions across departments.	Council / CAO	Provides a comprehensive and coordinated approach to wildfire risk mitigation.
2	High	Provide leadership and coordination	It is recommended that Hanwell designate a FireSmart Coordinator position to lead and liaise with government, providing direction and leadership for designing and implementing the CWRP recommendations and managing the FireSmart Roadmap.	Define role, appoint coordinator, establish reporting structure.	Council	Centralized leadership improves accountability and implementation efficiency.
3	High	Enable stakeholder collaboration	It is recommended that the community of Hanwell identify key stakeholders to form a FireSmart Resiliency Committee, chaired by the FireSmart Coordinator, meeting at least quarterly to advance action items and oversee public education messaging.	Identify stakeholders; schedule regular meetings.	FireSmart Coordinator	Ensures cross-sector coordination and sustained momentum.

No.	Priority	Objective	Recommendation	Next Steps	Responsibility	Rationale
4	Medium	Increase public engagement	After completion and acceptance of the approved V1.2 report, it is recommended that content be made available and community feedback solicited through the website, FireSmart Resiliency Portal, and social media, targeting business owners and critical infrastructure operators.	Publish materials and open feedback channels.	FireSmart Coordinator / Communications	Encourages transparency and community participation.
5	Medium	Promote wildfire preparedness	It is recommended that Hanwell organize an annual Community Fire Safety or Community Wildfire Preparedness Day.	Plan and deliver annual event with partners.	FireSmart Committee / Fire Dept.	Builds awareness and preparedness through direct engagement.
6	Medium	Improve household readiness	It is recommended that a checklist be developed for property owners outlining fire suppression equipment and emergency supplies to keep readily available during fire season.	Draft and distribute checklist.	FireSmart Coordinator	Supports resident self-preparedness during wildfire events.
7	High	Strengthen emergency notification	It is recommended that Hanwell leaders continue to encourage residents and landowners to sign up for the Voyent Alert emergency notification service.	Ongoing promotion through outreach and events.	Council / Fire Dept.	Ensures timely dissemination of emergency information.
8	Medium	Reduce risk on private lands	It is recommended that events be held to engage private landowners in the FireSmart program and planning to reduce disaster likelihood during wildland fire.	Organize workshops and engagement sessions.	FireSmart Committee	Private land mitigation directly affects community-wide risk.
9	Medium	Improve emergency response efficiency	Through public education and enforcement, if necessary, ensure all property owners display civic addresses to provincial standards.	Educate residents; enforce where required.	By-law Enforcement	Improves emergency service response times.
10	Medium	Protect structures	Encourage property owners to purchase sprinkler kits and water supply systems and educate them on potential insurance premium reductions through FireSmart implementation.	Provide education and vendor information.	FireSmart Coordinator	Reduces structure loss and encourages mitigation investment.

No.	Priority	Objective	Recommendation	Next Steps	Responsibility	Rationale
11	Medium	Reduce fuel accumulation	Establish a program to enable residents to safely dispose of trees and brush removed from their property that is affordable, accessible, and well promoted.	Design and launch disposal program.	Council	Removes hazardous fuels from residential areas.
12	High	Reduce ignition risk	The Rural Community of Hanwell should enact an open burning by-law regulating timing, size of fires, suppression materials required and permitted materials.	Draft, consult, and adopt by-law.	Council	Reduces human-caused wildfire ignitions.
13	High	Embed FireSmart in development	It is recommended that wildfire risk management elements within by-laws, building construction practices, and land planning/approval processes be reviewed and refined to support FireSmart principles, including FireSmart building materials, landscaping, access standards, and early fire service involvement.	Conduct comprehensive policy and by-law review.	Planning / Council	Ensures long-term wildfire resilience through regulation.
14	Medium	Improve resident awareness	Develop a Hanwell-specific wildfire safety and preparedness information pamphlet for distribution in hard copy and online, including open burning practices, fire weather, bans, by-laws, and alternatives to burning yard waste.	Draft, print, and publish pamphlet.	FireSmart Coordinator	Provides consistent and accessible wildfire safety information.
15	Medium	Reduce structural vulnerability	Inspection of residential properties to the FireSmart standard is recommended, and for Hanwell-owned properties a strategy should be developed to lower fire load and risk scores.	Train inspectors; prioritize inspections.	FireSmart Coordinator / Fire Dept.	Identifies and mitigates structural wildfire risks.
16	High	Ensure interagency readiness	Ensure mutual aid or service agreements and emergency support functions are in place and reviewed annually.	Review and update agreements annually.	Emergency Management	Confirms capacity for coordinated response.

No.	Priority	Objective	Recommendation	Next Steps	Responsibility	Rationale
17	High	Improve operational coordination	The Rural Community of Hanwell should arrange an annual pre-fire-season meeting or exercise with stakeholders, mutual aid partners, and fire departments to review incident command and emergency support services.	Plan and conduct annual exercise.	Fire Chief / EMO	Validates preparedness and command structures.
18	Medium	Enhance responder capability	Where possible, community responders should train and certify with assisting agencies through the provincially adopted Incident Command System (ICS) up to ICS 400/402 and EOC Management.	Enroll responders in training programs.	Fire Chief	Improves multi-agency wildfire response effectiveness.
19	High	Strengthen emergency planning	It is recommended that the Community Emergency Plan be reviewed and refined in the context of the CWRP, including evacuation, route protection, mutual aid, resource inventories, training, and notification systems, aligned with CSA Z-1600.	Conduct plan review and validation exercises.	Emergency Management	Aligns emergency planning with wildfire risk.
20	High	Ensure safe evacuations	Ensure a process is in place to evacuate citizens safely and effectively during a major WUI fire.	Define triggers, routes, and responsibilities.	Emergency Management	Protects life safety during wildfire events.
21	High	Address local access constraints	Develop ward-specific emergency preparedness and evacuation plans, prioritizing the Yoho Lake area prior to the 2026 fire season and integrating with regional plans.	Develop and integrate ward plans.	Emergency Management	Accounts for unique geographic risks.
22	High	Improve evacuation communicatio n	Continue encouraging residents and landowners to sign up for Voyent Alert to improve evacuation communication.	Ongoing outreach.	Council / Fire Dept.	Ensures rapid emergency messaging.
23	Medium	Maintain responder readiness	Under fire chief leadership, create a five-year revolving schedule for training and joint operational exercises involving wildfire response personnel.	Develop and approve training schedule.	Fire Chief	Sustains operational competence.

No.	Priority	Objective	Recommendation	Next Steps	Responsibility	Rationale
24	Medium	Manage shared forest risks	Collaborate with Scouts Canada, Kingsclear First Nation/Wolastoqey Tribal Council, and the NB ATV Federation to mitigate interdependent forest fire risks and coordinate emergency measures.	Establish partnerships and protocols.	FireSmart Coordinator	Addresses cross-jurisdictional wildfire risks.
25	High	Ensure reliable communications	Ensure New Brunswick Trunked Mobile Radio coverage is operational throughout the community and work with cell providers to boost service in Yoho Lake and other vulnerable areas if required.	Conduct coverage assessment; coordinate upgrades.	EMO	Critical for responder and public safety communications.
26	High	Reduce hazardous fuels	Address fuel hazards within high-risk WUI500 areas by engaging a qualified forest professional to develop site-level prescriptions and oversee treatment implementation.	Procure professional services; implement treatments.	FireSmart Coordinator	Reduces fire intensity near structures.
27	High	Reduce powerline-related risk	Work with NB Power to mitigate wildfire risk along rights-of-way and utilize transmission corridors for fuel treatment, fire breaks, access, and suppression anchors.	Coordinate vegetation management plans.	FireSmart Coordinator / Fire Chief	Addresses ignition risk and improves suppression access.
28	High	Maintain evacuation access	Develop annual action plans for maintenance of evacuation routes and access to target hazards, including brushing, dangerous tree removal, and storm debris clearance.	Schedule annual maintenance.	Council	Keeps evacuation and response routes functional.
29	High	Align response with risk	Conduct a full community risk assessment in accordance with NFPA 1300 and complete a fire service review to ensure suppression capability matches community risk.	Retain consultant; complete assessment.	Council / Fire Dept.	Ensures resources align with risk profile.
30	High	Improve water supply resilience	As part of a fire service review, develop a water supply strategy aligned with community risk, including dry hydrants, storage reservoirs, and maintenance programs.	Complete water supply assessment.	Fire Service / Engineering	Water availability is essential for wildfire suppression.

No.	Priority	Objective	Recommendation	Next Steps	Responsibility	Rationale
31	High	Expand dry hydrant network	Ensure effectiveness of the existing three dry hydrants and add a minimum of three additional dry hydrants in strategic locations.	Identify locations; install hydrants.	Fire Service	Improves firefighting capability during drought.
32	Medium	Support industrial fire protection	Explore the feasibility of constructing a water tower in the Industrial Park.	Conduct feasibility study.	Council / Water Utilities	Enhances water supply for growth and emergencies.
33	Medium	Secure emergency water supply	Explore formalizing a relationship with a water trucking firm as an Emergency Support Function within the Community Emergency Plan.	Negotiate and codify agreement.	EMO	Provides contingency water supply.
34	Medium	Improve wildfire response fleet	Add a second mini pumper with 4x4 capability, minimum 1050 GPM pump, 5” appliances, and consider a Class A foam tank.	Procure vehicle and equipment.	Fire Service	Enhances access and suppression capability.
35	Medium	Protect vulnerable structures	Create a cache of wildfire equipment and exterior residential sprinklers for deployment during threatening wildfire events.	Procure equipment; establish storage.	Fire Service	Enables rapid structure protection.
36	Medium	Expand fire service assets	Work with the Upper Kingsclear Hanwell Fire Department to procure a mini-pumper truck and plan construction of a storage area for the vehicle.	Secure funding; plan construction.	Council / Fire Service	Ensures asset protection and readiness.