



Waskesiu Lake - Wildfire Risk Reduction Plan

Prince Albert National Park
Northern Prairies Field Unit



2023 to 2026



Approval

The following Wildfire Risk Reduction Plan for Northern Prairies Field Unit has been prepared by Glenn Rupert, Fire Management Officer

Reviewed by:

Glenn Rupert, National Fire Management Officer

2024-11-20

Date

Recommended by Responsible Managers:

Clifford, Sherri

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Sherri Clifford, Resource Conservation Manager

Date

Scott Nesbitt, A/Townsite Manager

2024-12-09

Approved by Accountable Manager:

Jennifer Duquette, Field Unit Superintendent

Dec. 10 / 24

Date



Abstract

This Wildfire Risk Reduction Plan describes the risk reduction objectives and implementation details of the project from 2023/24 to the end of 2025/26. It includes the location, extent and timing of specific activities, resource requirements, employee and visitor safety concerns and mitigations, a communication plan, and financial requirements. It provides a **'Substantive Estimate'** of cost for delivery of the project. It is the formal means of requesting and approving the transfer of funds from the National Fire Management Division to Field Units.

Prince Albert National Park (PANP) is in the boreal forest where the threat of wildfire presents a risk to several identified areas and critical infrastructure. To help mitigate that risk, PANP uses wildfire risk reduction (WRR) projects as a pre-suppression tool for added protection of significant values within and adjacent to the national park. WRR or a fuel management prescription is the process of modifying forest stand structure and reducing fuel loads to allow for a more effective wildfire suppression opportunity. This WRR plan provides operational guidance for the implementation and maintenance of WRR projects around the townsite of Waskesiu Lake, SK. A major component of the project is how to maintain and improve the protection of the community from wildfire. PANP has implemented multiple WRR projects around infrastructure in the park, and is currently continuing the focus on the Waskesiu Lake townsite and long-term maintenance of existing fuel breaks. This plan will identify the areas of concern and forest fuel management mitigations for these areas.

Project Location and Description

Prince Albert National Park (PANP) has a Vegetation Management Strategy for the townsite of Waskesiu. A major component of the strategy is improving and maintaining the level of protection for the community from wildfire. The multi-year plan for wildfire risk reduction (WRR) projects was drafted following a risk assessment report that was done by Stew Walkinshaw (Montane Forest Management LTD.) for the Waskesiu townsite during the 2018 Rabbit Creek Fire. Several recommendations were made to reduce risk to the community from wildfire, and further work is required to meet those recommendations. This includes modifying small areas of high softwood stem densities and mature spruce canopy within the town to meet and maintain a minimum FireSmart priority zone 2 standard. WRR work in Prince Albert National Park is primarily done during the fall and winter months (September 15-March 31) to adhere to the Migratory Birds Convention Act, minimize impacts to forest soils, and reduce impacts to visitor experience.

From Mid-September to December, crews focus primarily on the long-term maintenance of areas previously harvested to reduce the stem density of coniferous regeneration. To maintain the Waskesiu Community fuel break, a minimum of 15 to 20 ha per year must be thinned. December to the end of March provides the best opportunity to access new areas for the removal of heavy course woody debris (CWD) and larger diameter trees. From 2018 to 2023, much of the WRR project had focused on reducing fuel loading on the Waskesiu Golf Course lease. Members of the community and lease holders within the park, including the Waskesiu Golf Course management had been consulted and supported the work. Communication between the Waskesiu Golf Course and PANP is ongoing to ensure that common objectives are met, and the fuel break areas will be maintained. Although the highest priority areas on



the golf course have been completed, there are still areas on the golf course that required some WRR work in the coming years.

Over the next few years, the focus of the WRR project will switch back to prioritizing areas within the community of Waskesiu Lake. Several green spaces managed by Parks Canada within the town need to be thinned so that they do not act as 'spark catches' which could promote fire growth within the community during a wildfire incident.

Future work plans include (Figure 1, Figure 2):

- 2023/24 – Fuel reduction work on periphery areas of the golf course around the beaver ponds. North of Lily Street, Green spaces at the end of the 'Bird Streets';
- 2024/25 - Townsite green spaces (Areas C and D, Figure 1)
- 2025/26 – Beaver Glen Campground

Other WRR considerations:

- Timing to be determined:
 - periphery areas of the golf course along Highway 263
 - fuel reduction around the Waskesiu Water Tower
- Infrastructure at Kapasiwin Bungalows (Area A, Figure 1) and the Waskesiu Marina is relatively FireSmart due to the nature of the sites. A sprinkler plan will be developed for the sites and the need for additional WRR work will be monitored. (Plan for Kapasiwin was completed in 2024)
- Area 'B' (Figure 1) has reduced priority following the 2023 windstorm which significantly increased the amount of course woody debris buildup in the Beaver Glen Campground.

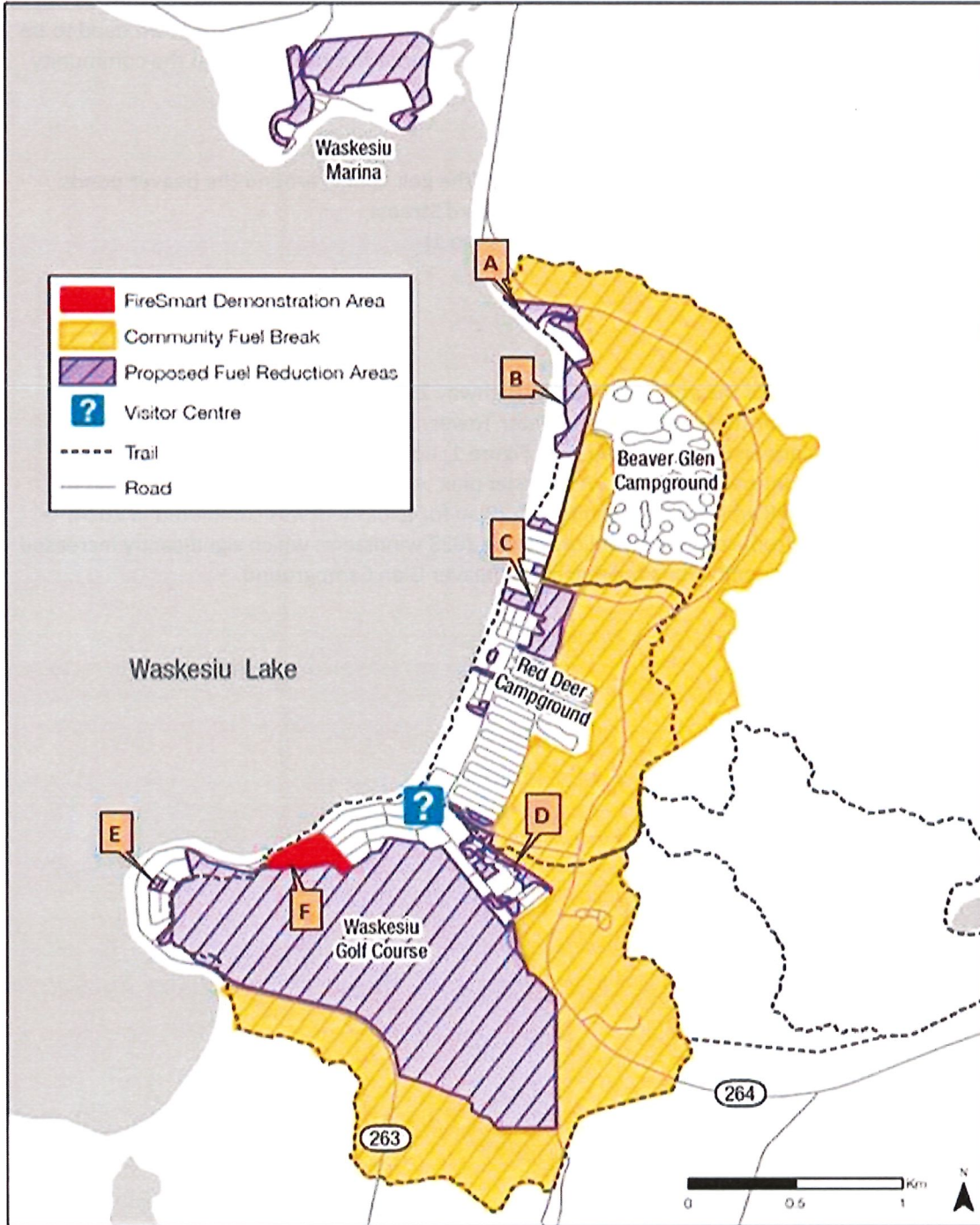


Figure 1 Problem areas identified in 2018



Prince Albert National Park | Wildfire Risk Reduction



Figure 2 Wildfire Risk Reduction project areas.



Related Authorities & Planning Documents

- Canada National Parks Act
- Parks Canada Guiding Principles and Operational Policies (1994)
- Parks Canada Wildland Fire Management Directive
- Prince Albert National Park Wildland Fire Management Plan
- Prince Albert National Park Wildfire Risk Reduction Strategy (DRAFT, to be updated for signature in 2023)
- Waskesiu Community Fuel Break Prescribed Fire Plan
- Fire Management Operations BMP, 2017

Project Objectives / Methodology

Goal:

The goal of WRR work in Prince Albert National Park is to implement FireSmart treatment of treed areas within the community of Waskesiu Lake as per recommendations to reduce the intensity and spotting potential of an approaching wildfire.

Objectives:

- Maintain WRR treated areas by removing regeneration of conifer species using brushing techniques, deadfall removal, and removal of trees as required to maintain desired crown spacing. A minimum of 15ha of the Waskesiu CFB will be maintained annually to ensure that the long-term forest composition does not exceed 25% coniferous component.
- To brush, clear and thin spruce stands in unmaintained green space areas of the Waskesiu Lake townsite to a minimum of FireSmart priority zone 2 standards (C, D and E on map). A minimum of 5 to 6m crown spacing will be achieved in treated areas.
- Rehabilitation; reseeded of burn pile areas and exposed soil and promoting regeneration of deciduous trees (primarily Trembling aspen) in previously FireSmart treated areas.
- To continue work with the Waskesiu Golf Course on the FireSmart initiatives on their lease area to achieve a FireSmart priority zone 3 standards.
- Reduce fuel loads in Beaver Glen Campground by removing CWD from blow-down areas.

WRR Maintenance, September to December

Each year as the regular fire season winds down into fall, PANP Fire Management staff begin WRR work. From Mid-September into December the work focuses on maintenance of areas where previous work was completed. Maintenance consists of thinning and pruning of coniferous regeneration and reducing CWD accumulation as required. Managing the regeneration at a small size class significantly reduces the future maintenance requirements of those areas. Small trees can be cut with brush saws and often left on the ground to naturally decompose or are piled and burned in thicker areas. Maintenance work in the fall of 2023 has largely focused on coniferous regeneration in areas cleared or maintained since 2018.



Areas on (Figure 2) indicated as 'maintained', have been maintained by crews since 2018. Between 10 to 20 ha/year of the remaining unmaintained fuel break needs to be done to remove regeneration that has grown since 2003. Once maintained, those areas will be reassessed every 3 to 5 years to determine if brushing is required to reduce long-term labour requirements.

Strategies:

- Remove regeneration <1.5m in height by cutting below the basal branches to prevent regrowth.
- Spread debris to avoid impacts to other vegetation.
- Remove mature trees where growth infringes into the required 5m to 6m spacing.
- Remove branches from large deadfall to ensure the trunk of the tree is on the ground to promote rot, spread branches over area.
- Pile and burn CWD where it creates potential 'jackpot' risk (Burning will occur after sustained snow, prior to March)
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Areas of the CFB not maintained since 2018:

These areas (Highlighted in white in figure 2) had the majority of the coniferous component removed during the initial implementation of the CFB but have mostly not been maintained since 2003. Since 2003 coniferous regeneration has grown to a 5m to 6m height with crown spacing much less than 5m in many areas.

Strategies:

- Fall coniferous trees as required using brush saws and chainsaws to achieve 10m crown spacing (allows for trees to grow),
- Brush small regeneration,
- Pile and burn CWD where it creates potential 'jackpot' risk (Burning will occur after sustained snow, prior to March).
-

WRR Expansion Areas (2023/24 to 2024/25)

To achieve the objectives of this plan (pink areas on Figure 2), PANP staff will continue working in areas in Waskesiu Lake where no FireSmart work has previously been done in 2023 to 2026. Within those areas staff will remove deadfall, thin conifer species within the stand, and prune trees up to a height of 2 m where required. The objective in these areas is to achieve a 5m to 6m crown spacing between the coniferous canopy which is often dominated by mature White spruce. Selective harvesting of conifer species typically targets trees in larger size classes.

It is favourable to leave smaller diameter trees as they are more resistant to wind events in the newly thinned stands. This also reduces the overall number of stems cut and gives the smaller trees an opportunity to continue to grow. Cutting of deciduous species is avoided except where it is required due to safety reasons. Since 2018 this project has integrated the use of heavy equipment which includes a tracked loader with grapple and a tractor equipped with a skidder winch. The equipment has become integral both for the safety of the crew as well as efficiency of the project.



When merchantable grade logs are harvested from this project, opportunities will be sought to make the wood available to local Indigenous communities to support community led economic development or cultural heritage projects.

Strategy:

- Fall coniferous trees as required using brush saws and chainsaws to achieve 5 to 10m crown spacing (allows for trees to grow),
- Brush small regeneration,
- Prune trees up 2m where required,
- Where possible, trees should be left staggered to maintain visual barriers for residences.
- Pile and burn CWD where it creates potential 'jackpot' risk (Burning will occur after sustained snow, prior to March).
- Material from residential areas will be trailered to a predetermined/ previously disturbed area outside of the community where it will be piled and burned.

Beaver Glen Cleanup (2025/26)

On July 1, 2023, a wind event brought several trees down in and around the community of Waskesiu Lake. This included the Beaver Glen and Red Deer campsites. Following the storm over 1000 additional trees in Beaver Glen were assessed as 'dangerous' and felled. Local resources were not able to remove all of the trees from treed areas around campsites so several areas of high CWD volumes remain. The areas of the highest loading of surface fuels are shown in Figure 3. The campgrounds were not previously identified as a WRR priority since a project in 2015 significantly reduced the fuel loading. A clean-up of the campground in 2025/26 will focus on surface fuel reduction. PANP is currently assessing strategies for further fuel reduction and harvesting in campgrounds which may coincide with or enhance any WRR that is done.

Strategies:

- Remove course woody debris from the campground using trailers to transport it to a pre-determined previously disturbed site for disposal.
- CWD will be cut by chainsaw crews and picked up manually or using a tracked loader equipped with a grapple.
- Removal of CWD will be done in the winter when the ground is frozen.
- Prioritized areas where CWD buildup is the greatest risk in the event of a wildfire.



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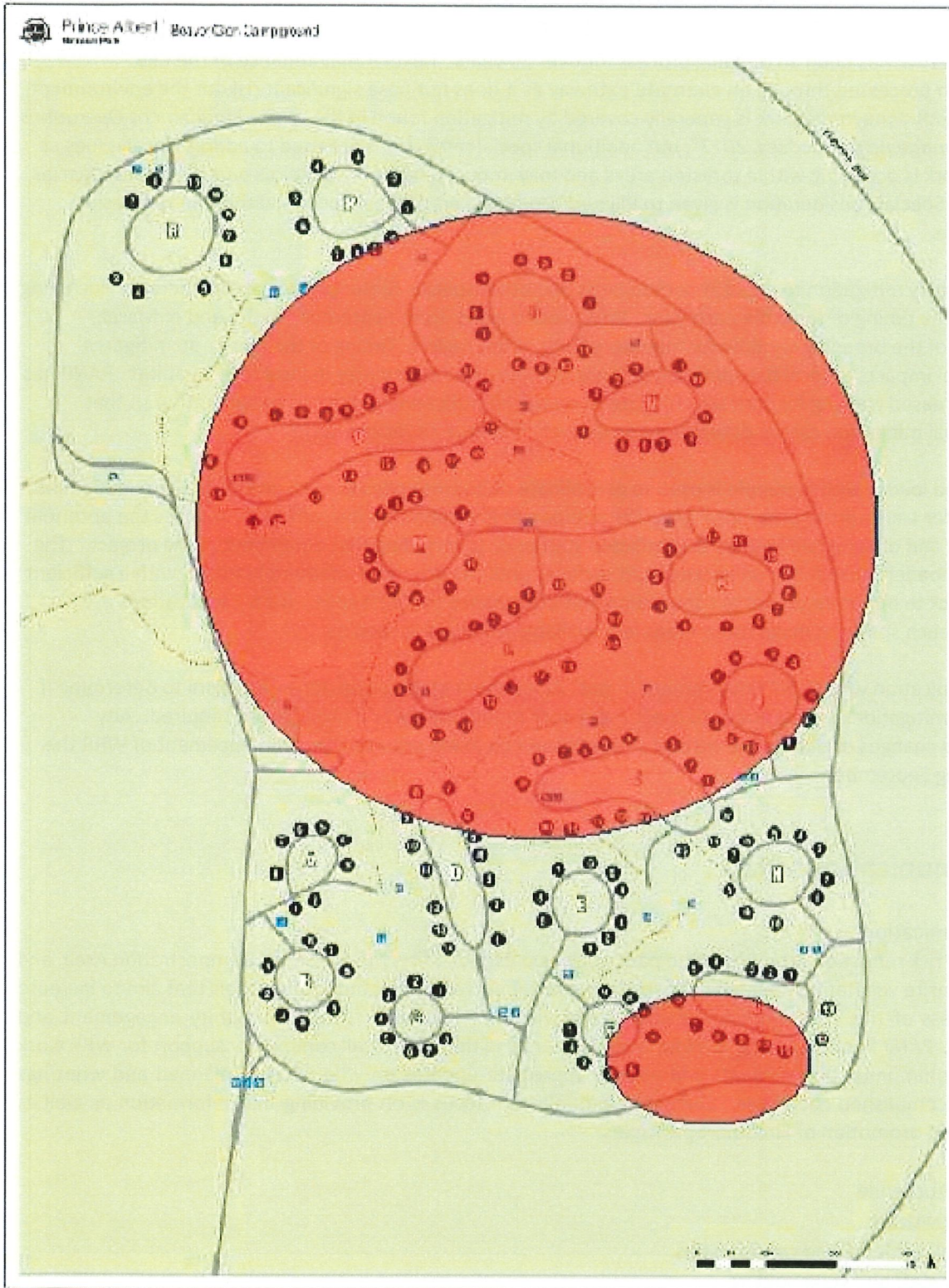


Figure 3 Beaver Glen areas of concern due to fuel loading.



Impact Assessment Status and Summary

WRR in PANP has been an ongoing process for over 20 years. Regular maintenance of the CFB has been processed through an alternate pathway as it does not pose significant risk for the environment. Other WRR done in the park is generally covered by mitigation found in the *"Fire Management Operations Best Management Practices, 2017"*, but additional special mitigations are used to address local issues as WRR work is occurring within forested areas and may impact habitat of songbirds and other local Species at Risk. Special consideration is given to Piliated Woodpeckers and bat species within the Waskegiu Townsite.

The primary mitigation to avoid impact to birds and other species requiring special consideration including bats, is the timing of the work each year. WRR work is done from September to the end of March, outside of the breeding window for migratory birds in the region. Timing of the work also mitigates potential impacts to local bat species which are not known to overwinter in local forest habitat. PANP has also increased training for staff which focusses on the identification of habitat consideration so that additional mitigation can be determined proactively if unique situations occur.

A tracked loader with a grapple is used to consolidate debris into piles to burn on site or to be loaded into trailers for transport to other locations. The equipment is essential as it significantly reduces the potential for back and other strain injuries that inflicted staff prior to including that equipment in the project. The tracked loader is used only on packed road surfaces until the ground is adequately frozen with a sufficient snowpack to minimize potential compaction and disturbance to forest soils. Burn pile locations are seeded each spring to make those areas less available for invasive species.

Communication with PANP Environment Impact Assessment staff will be done each April to determine if current mitigations are sufficient to meet regulatory requirements or if changes are required. Any required changes or updates to current strategies will be made prior to the commencement of WRR the following September.

Communications Plan

Communication

Wildfire risk reduction activities in the park, such as prescribed fire, the FireSmart Demonstration Area, and the townsite vegetation management strategy, are supported by communication tools that aim to increase awareness of the WRR work for residents and visitors. The tools foster community engagement and support. PANP has been doing WRR for over 20 years and there is overall community support for WRR work in the community, but residents and visitors appreciate updates on what work is planned and what has been accomplished each year. Current communication focus is on providing that information as well as continued promotion of FireSmart principles.

Target Audience

- Park visitors.
- Local residents and communities.
- Park staff and stakeholders.



Key Messages

- Highlight the importance of wildfire prevention.
- Emphasize the collective responsibility in protecting the park and the community of Waskesiu Lake while managing wildfire on the landscape.
- Educate on FireSmart measures and guidelines.
- Showcase the positive impact of the risk reduction project.

Communications Outlets

- Online (https://parks.canada.ca/pn-np/sk/princealbert/nature/feux-fire/feux-fire_6)
- PANP Website: Website updated with relevant maps annually. Links to WRR videos and FireSmart Canada are provided on the website.
- Social Media: Promotion of the Annual Christmas Tree Harvest to help maintain the fuel break.

Traditional Media

- Currently primarily included in messaging promoting the annual Christmas Tree Harvest which includes talk about WRR in the messaging.
- Press releases for local newspaper.
- Radio announcements and interviews.

Community Engagement

- Annual presentations to the Waskesiu Community Council and stakeholder groups.
- Participation in local festivals and events such as the Waskesiu Childrens Festival, and Lakeside Music Festival (dependant on availability of resources to staff a tent promoting FireSmart)
- Staff are made available to do FireSmart assessments of local cabins and residences upon request.
- The Annual Christmas Tree Harvest for visitors to come and assist with fuel break maintenance by harvesting a Christmas Tree.

Educational Material

- Brochure, poster and signage in strategic locations within the Park.
- Educational videos focussed on WRR are found on the PANP website.
- The annual mailout to lease holders includes messaging regarding WRR and Firesmart.

Monitoring and Evaluation

PANP receives very little public feedback regarding the ongoing WRR work within the community as most of the work is done outside of the peak visitor season. Questions about WRR primarily come from Park Staff or are presented to the park from the Waskesiu Community Council. Current levels of communications seem to be meeting the needs of the project. Over the next few years, WRR work will be done more closely to cabins which may require additional one-on-one targeted communications with cabin owners. Monitoring of online and visitor feedback will gauge the need for additional communication tools. Regular maintenance of WRR areas in and around Waskesiu Lake are important as it promotes the work as a normal part of Parks Canada operations.



Project Timing

Phase/Activity	Start Date (Month-Year)	End Date (Month-Year)
CFB/WRR Maintenance	September (Annually)	December (Annually)
2023/24 WRR harvesting (Danger Tree/CWD Clearing, thinning)	January 2024	March 31, 2024
2024/25 (Pink Areas) (Danger Tree/CWD Clearing, thinning)	December 2024	March 31, 2025
2025/26 Beaver Glenn Campground CWD clean-up	December 2025	March 31, 2026

NOTE: Dates will vary year to year depending on crew availability, snow amounts, and ground frost conditions.

Resource Requirements

Staffing

By looking at the productivity of the WRR project over the past few years it is possible to estimate future WRR Resource Needs. The most significant resource need is personnel. To achieve the required annual goal for CFB maintenance from 2023 to 2026/27, a minimum of six to eight chainsaw certified crew and one operator are required. The project sees significant reductions in productivity if fewer than four people are on site on a given day. Six to eight people provides enough personnel to maintain productivity while being able to provide staff opportunity to use leave.

A higher number of staff have been used over the past few years due to the complexity and size of the new WRR areas. Moving forward the WRR crew will be working in smaller more technical areas so fewer people will be required. Operator requirements will also be reduced. Staffing for this project will primarily be done through extensions for existing fire crew members, hiring through a Type II program focused on providing opportunity to Indigenous youth, and extensions to qualified Asset Management staff.

One equipment operator is required for the tracked loader and the Park's tractor which is equipped with a 3-point-hitch skidder winch for extracting logs. The operator will be a shared resource with Asset Management to assist with snow removal and other priority heavy equipment requirements during the winter months.

Equipment

In 2018 PANP integrated heavy equipment into the WRR project to improve efficiency and mitigate the risk of injury to staff from repeatedly handling heavy frozen logs. The primary equipment used includes a tracked loader (skid steer) and grapple, and the tractor equipped with a 3-point-hitch skidder winch. This equipment has proven immensely valuable to the project, but has costs associated with it. Maintenance of the heavy equipment has cost between \$5,000 and \$10,000 annually due to regular wear and tear, purchase of accessories to ensure the equipment is suited to work in the forest, and unforeseen damage to equipment. A portion of the G&S funds for this project is also kept aside to facilitate the rental of a



tracked loader should the Park's loader become unserviceable. Rental Costs can be estimated at between \$4,500 to \$5,000 per month.

Budget

The largest expenditures for PANP's WRR project are wages and heavy equipment expenses. The G&S requested will be applied to both maintenance and expansion stages of the project each year. The below costing has been determined using the following justification.

A-Base Funds

- Project G&S to purchase and maintain equipment.
 - Chainsaw training for non-fire management staff
 - PPE
 - Chainsaws, parts, lubricants
 - Heavy Equipment, parts, maintenance, contingency rental expenses
 -
- Project S&W
 - One GL-MDO-07 extension from September to March 31
 - Shared resource between the WRR project and Asset Management equipment operator requirements including snow removal.

B-Base Funds

- S&W, calculated based on estimated costs of extensions for 6 staff members from the end of their regular season to March 31 each year.



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Fiscal Year [2023-24]					
	Expenditure	Field Unit Contribution		NFMD Contribution	
		G&S \$	S&W \$	G&S \$	S&W \$
	Extension Wages (6 Crew; 1 operator)		\$27,000		\$150,000
	Heavy Equipment Operating costs	\$15,000			
	PPE/Parts/Training/ Misc.	\$15,000			
	Total	\$30,000	\$27,000	\$0	\$150,000
Fiscal Year [2024-25]					
	Expenditure	Field Unit Contribution		NFMD Contribution	
		G&S \$	S&W \$	G&S \$	S&W \$
	Extension Wages (6 Crew; 1 operator)		\$33,500		\$165,000
	Heavy Equipment Operating costs	\$15,000			
	PPE/Parts/Other	\$15,500			
	Total	\$30,500	\$33,500	\$0	\$165,000
Fiscal Year [2025-26]					
	Expenditure	Field Unit Contribution		NFMD Contribution	
		G&S \$	S&W \$	G&S \$	S&W \$
	Extension Wages (6 Crew; 1 operator)		\$35,000		\$170,000
	Heavy Equipment Operating costs	\$17,500			
	PPE/Parts/Other	\$16,000			
	Total	\$33,500	\$35,000	\$0	\$170,000
Project Totals [2023-2026]					
		Field Unit Contribution		NFMD Contribution	
		G&S \$	S&W \$	G&S \$	S&W \$
		\$94,000	\$95,500	\$0	\$485,000