

A forest worker in a tan shirt, brown pants, and a white hard hat is using a chainsaw to cut through a fallen log in a forest. The forest is dense with green trees and undergrowth. The text is overlaid on the image.

Best Management Practices: Wildfire Management 5NP in Crown of the Continent

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CCE High-Five Working Group – Subcommittees

- Loss Mitigation
- Inventory and Monitoring
- Restoration Strategy and Action Plan
- Protected Area Restoration Strategy
- **Fire Management**
- Communications Strategy



CCE High-Five Fire Management Working Group

Name	Affiliation
Michael Allbritton	BLM
Margriet Berkhout	Alberta Agriculture and Forestry
Jed Cochrane	Parks Canada
Richard Connell	USFS
Ryan Good	Alberta WFSS
Dave Hanna	The Nature Conservancy
Peter Holmes	BC Ministry of Forests, Lands and Natural Resource Operations
Scott Jevons	Alberta Parks
Bob Keane	Rocky Mountain Research Station (Chair)
Adrian Leslie	Nature Conservancy of Canada
Scott Murphy	Waterton Lakes National Park
Michael Murray	BC Ministry of Forests, Lands and Natural Resource Operations
Ken Schmid	BLM
Brenda Shepherd	Jasper National Park
Dave Soleim	Glacier National Park
Ron Swaney	Confederated Salish and Kootenai Tribes
Jean Walters	Forest Protection Officer
Brenda Wilmore	US Forest Service Region 1
Mike Black	BC Ministry of Forests
Manny Mendoza	Flathead NF



Fire Management Subcommittee Progress

Develop recommendations to guide pro-active wildfire management in whitebark and limber pine forests.

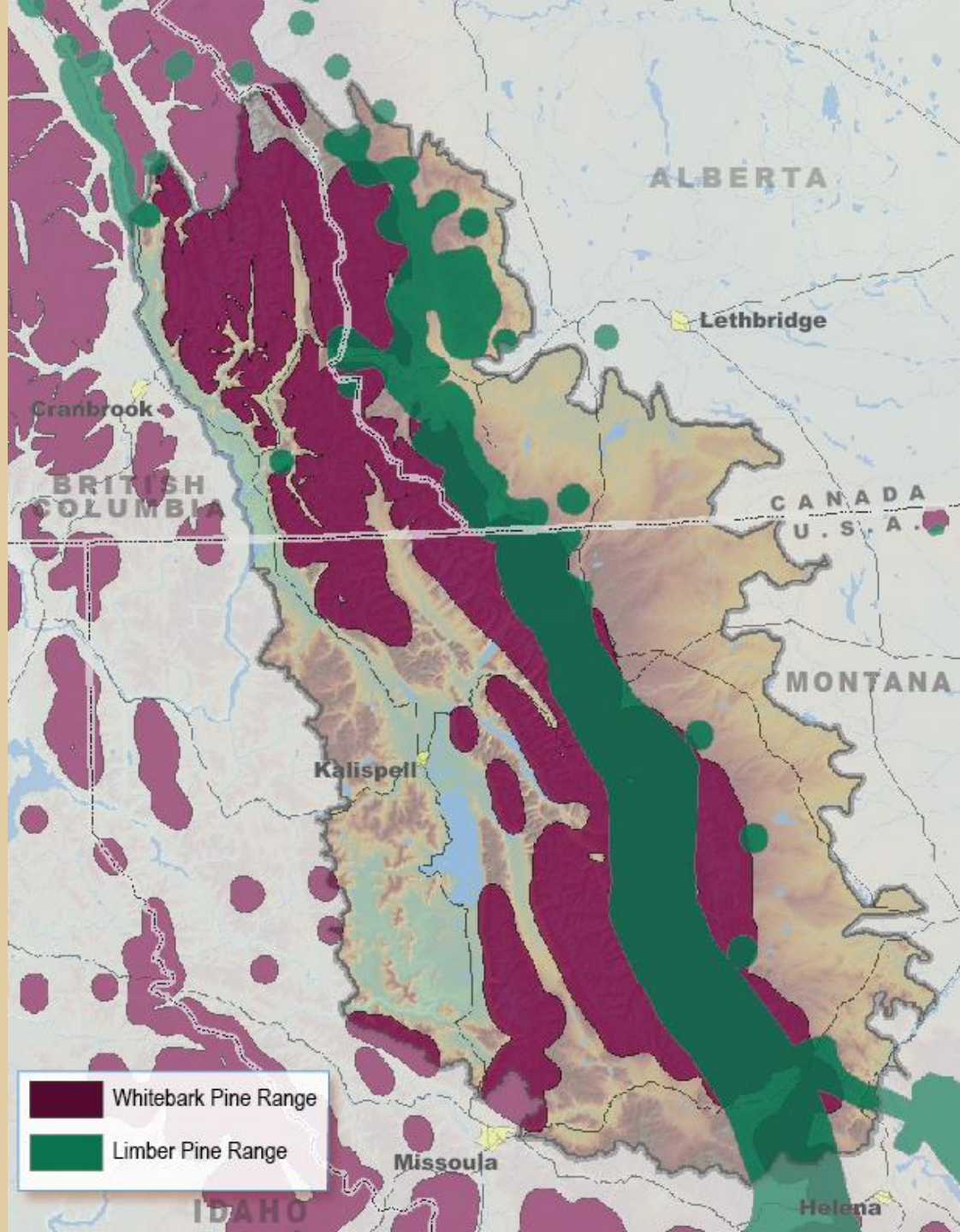
PROGRESS UPDATE: In June 2017, finalized peer reviewed document “*Guidelines and Best Practices for Managing Fire in Whitebark Pine Stands in the Crown of the Continent,*” a fire management strategy for facilitating the restoration of whitebark pine on subalpine landscapes of the CCE.



Topic of today's presentation

CROWN OF THE CONTINENT

- Whitebark Pine:
 - 29,824 km²
 - 41% of CCE
- Limber Pine
 - 15,017 km²
 - 20% of CCE



Map courtesy of Shannon Blackadder, CMP, with WBEF data

Crown of the Continent

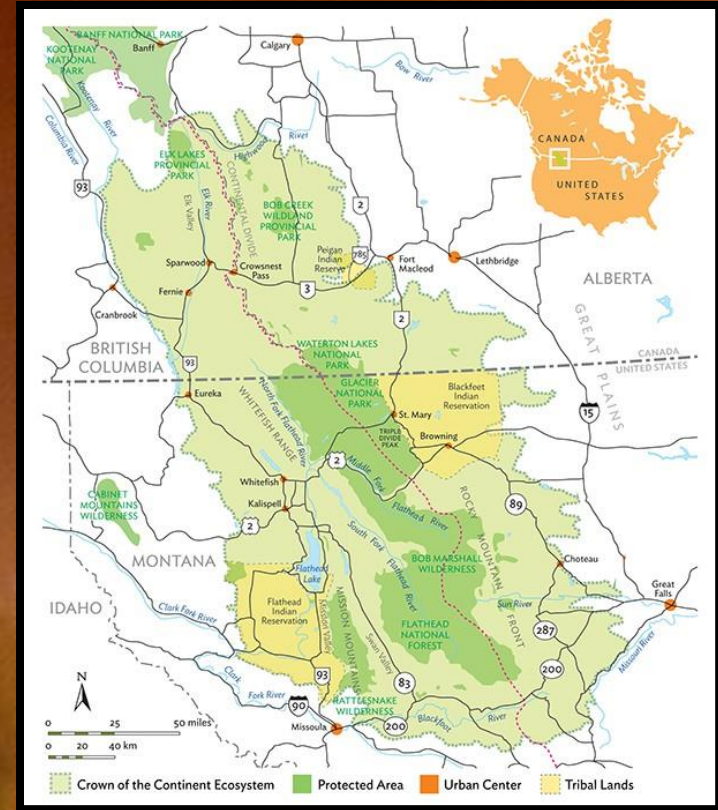
Wildfire Management

Recognize that wildfire:

- Will burn more area than most other management actions can treat
- Can be used as a defacto treatment
- Impacts can be modified by pro-active treatments

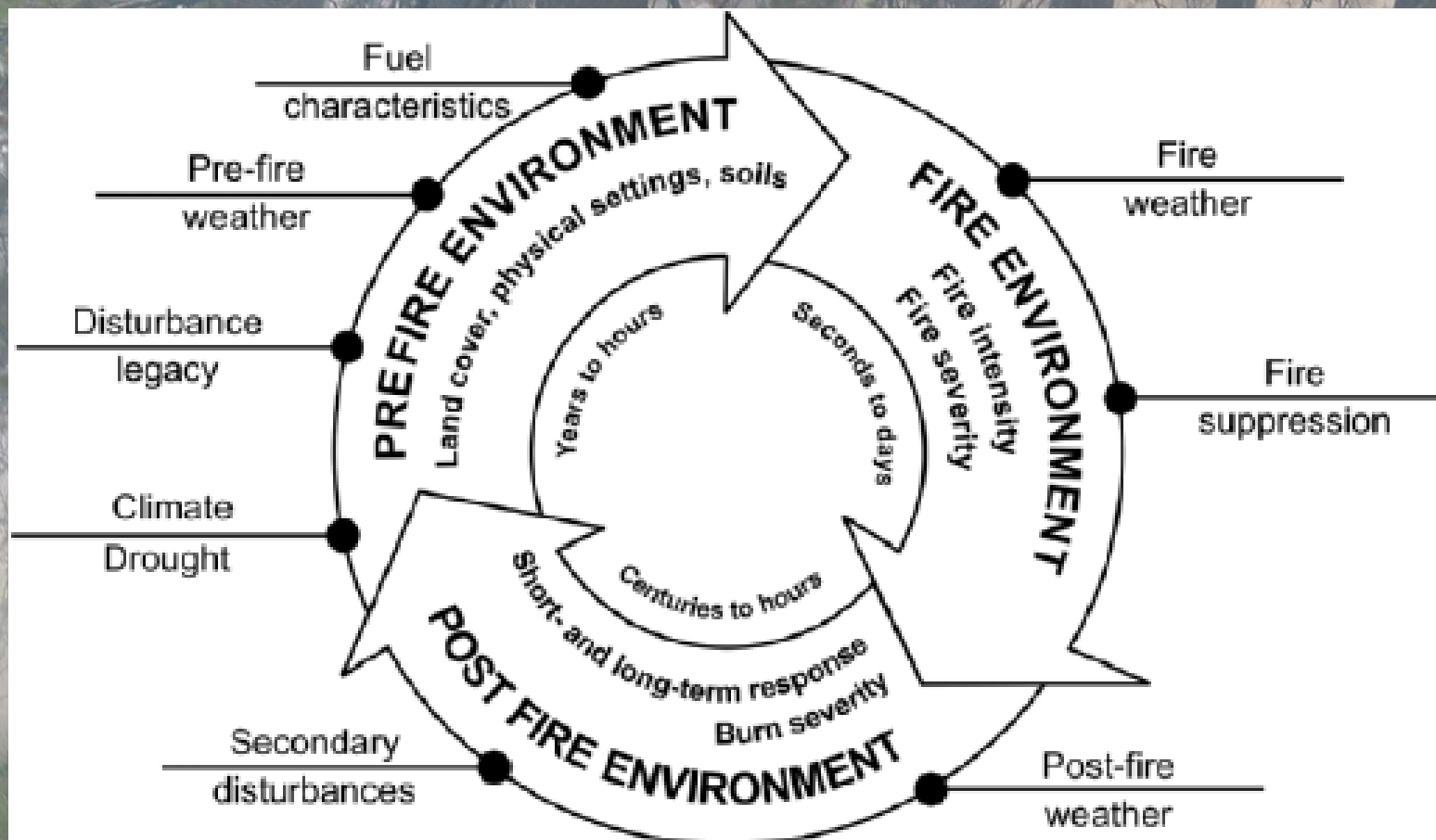


Wildfire management is probably one of the most effective tools for restoration treatments



Therefore it is important that wildfire is managed in such a way to maximize restoration potential

Wildland Fire research, management and planning take place on a fire continuum



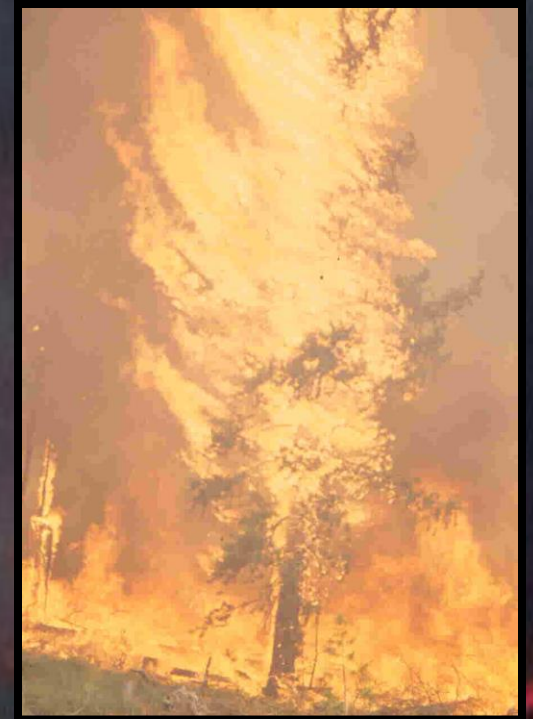
We used this continuum to structure our best management practices report

Best Management Practices

Wildfire Management

Recognized three phases of a wildfire:

- Before the wildfire
- During the wildfire
- After the wildfire



Wildfire Management

BMPs for activities before the wildfire:

- Fuel Treatment – tree and stand
- Prescribed fire to emulate native fire regimes
- Silvicultural treatments to remove fuels



Wildfire Management

BMPs for activities during the wildfire :

- *Wildland fire use*
- Partial suppression
- Full suppression
- Retardant drop
- Fuel treatments



Wildfire Management

BMPs for activities after the wildfire:

- Planting
- Monitoring



BMP-**Wildfire Management**

Stratified by Site and Community Type:

BURNED- Recently burned or treated stands in whitebark pine habitat

EARLY- Early seral (seedling, sapling) stands dominated by whitebark pine seral site type

MID- Mid-seral (pole, mature) stands dominated by whitebark pine in seral site type

LATE- Late seral stands dominated by the competitors of whitebark pine on lands that could support whitebark pine in seral site type and there are still living whitebark pine in stand.

FIR- Any early or mid-seral stand that is dominated by the competitors of whitebark pine

MORT- High whitebark pine mortality (>70%) stands **and** evidence of rust-resistant, cone-producing whitebark pine trees

TREAT- previously treated stands or landscapes that have received a fuel treatment or restoration action

Climax ALL- Any stand on whitebark pine climax sites of any seral stage

BMP-Wildfire Management

Heart of the BMP - This Table:

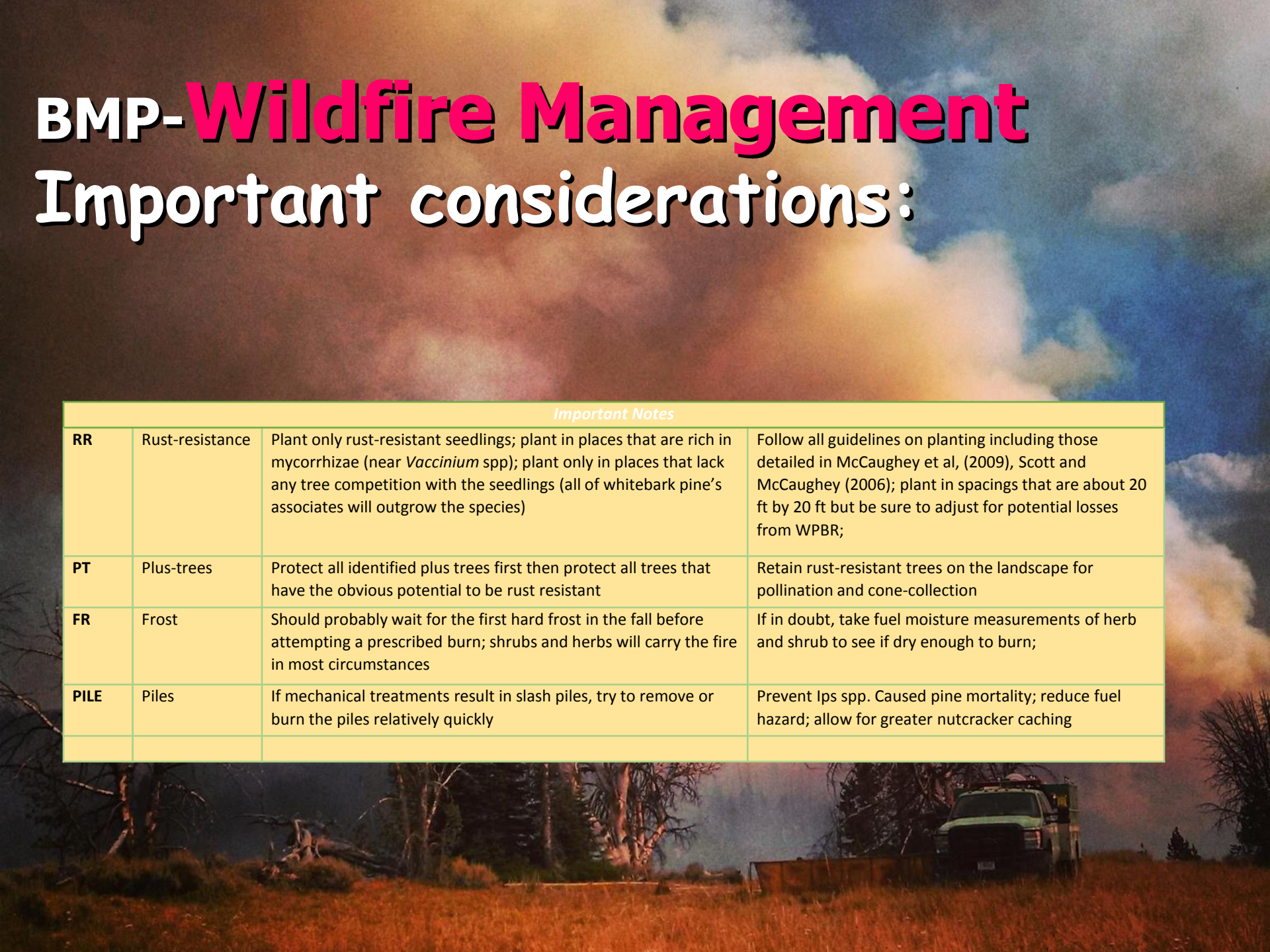
Site type	Landscape or Stand condition	Best fire management practices	Possible prescribed burning actions before fire	Possible companion mechanical restoration actions before fire	Possible restoration actions after wildfire or treatment	Other Concerns (Notes)
SERAL	BURNED	PS, WFU	None	None	PLANT, MON	RR,PT
	EARLY	PS, WFU	None	SFT, DAY	PLANT, MON	RR,PT
	MID	PS, WFU	PFLI	THIN, FA	PLANT, MON	FR,RR,PT,PILE
	LATE	WFU	PFMI, PFLI, PFHI	THIN, FA, SEL, NO	PLANT, MON	FR,RR, PT,PILE
	FIR	WFU	PFHI, PFMI	NO, SEL	PLANT, MON	FR,RR, PT,PILE
	MORT	PS, FS, WFU	PFLI, PFMI	SEL, NO, THIN, SFT, DAY, FA	PLANT, MON	FR,RR, PT,PILE
	TREAT	FS, WFU	None	None	MON	
CLIMAX	ALL	PS, WFU	None	SFT, DAY	PLANT, MON	RR, PT

BMP-**Wildfire Management**

Important considerations:

Important Notes

RR	Rust-resistance	Plant only rust-resistant seedlings; plant in places that are rich in mycorrhizae (near <i>Vaccinium</i> spp); plant only in places that lack any tree competition with the seedlings (all of whitebark pine's associates will outgrow the species)	Follow all guidelines on planting including those detailed in McCaughey et al, (2009), Scott and McCaughey (2006); plant in spacings that are about 20 ft by 20 ft but be sure to adjust for potential losses from WPBR;
PT	Plus-trees	Protect all identified plus trees first then protect all trees that have the obvious potential to be rust resistant	Retain rust-resistant trees on the landscape for pollination and cone-collection
FR	Frost	Should probably wait for the first hard frost in the fall before attempting a prescribed burn; shrubs and herbs will carry the fire in most circumstances	If in doubt, take fuel moisture measurements of herb and shrub to see if dry enough to burn;
PILE	Piles	If mechanical treatments result in slash piles, try to remove or burn the piles relatively quickly	Prevent <i>Ips</i> spp. Caused pine mortality; reduce fuel hazard; allow for greater nutcracker caching



Wildfire Management BMPs

What it does not contain:

- **Specific prescriptions**
- **Treatment designs**
- **Locations of treatments**

This is dictated by local conditions

This guide is meant to choose from a broad suite of possible actions

Wildfire Management BMPs

Currently on the web site:

<http://crownmanagers.org/products/>

