



# Alberta Whitebark and Limber Pine Recovery Planning

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Whitebark Pine Science and Management Workshop  
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# Outline

## Background

- Provincial status

## Recovery planning

- Process
- Objectives, strategies, action plan
- Information gaps and research needs, current work
- Policy



# Provincial endangered status

- Whitebark pine (*Pinus albicaulis*) and limber pine (*Pinus flexilis*) are designated as *Endangered* under Alberta's *Wildlife Act*
  - Listed on September 9, 2009
- Based on “an ongoing and projected decline across the species’ provincial range, caused by the introduced WPBR and MPB”
- *Endangered* designation means... “a species facing imminent extirpation or extinction”
- Recovery plan to be prepared within 12 months of the species listing

# Provincial endangered status

- No stand-alone SAR legislation
- Wildlife Act is not rigorous
  - Only endangered animals protected
    - Vertebrates that are not human or fish
  - No automatic provision to protect critical habitat

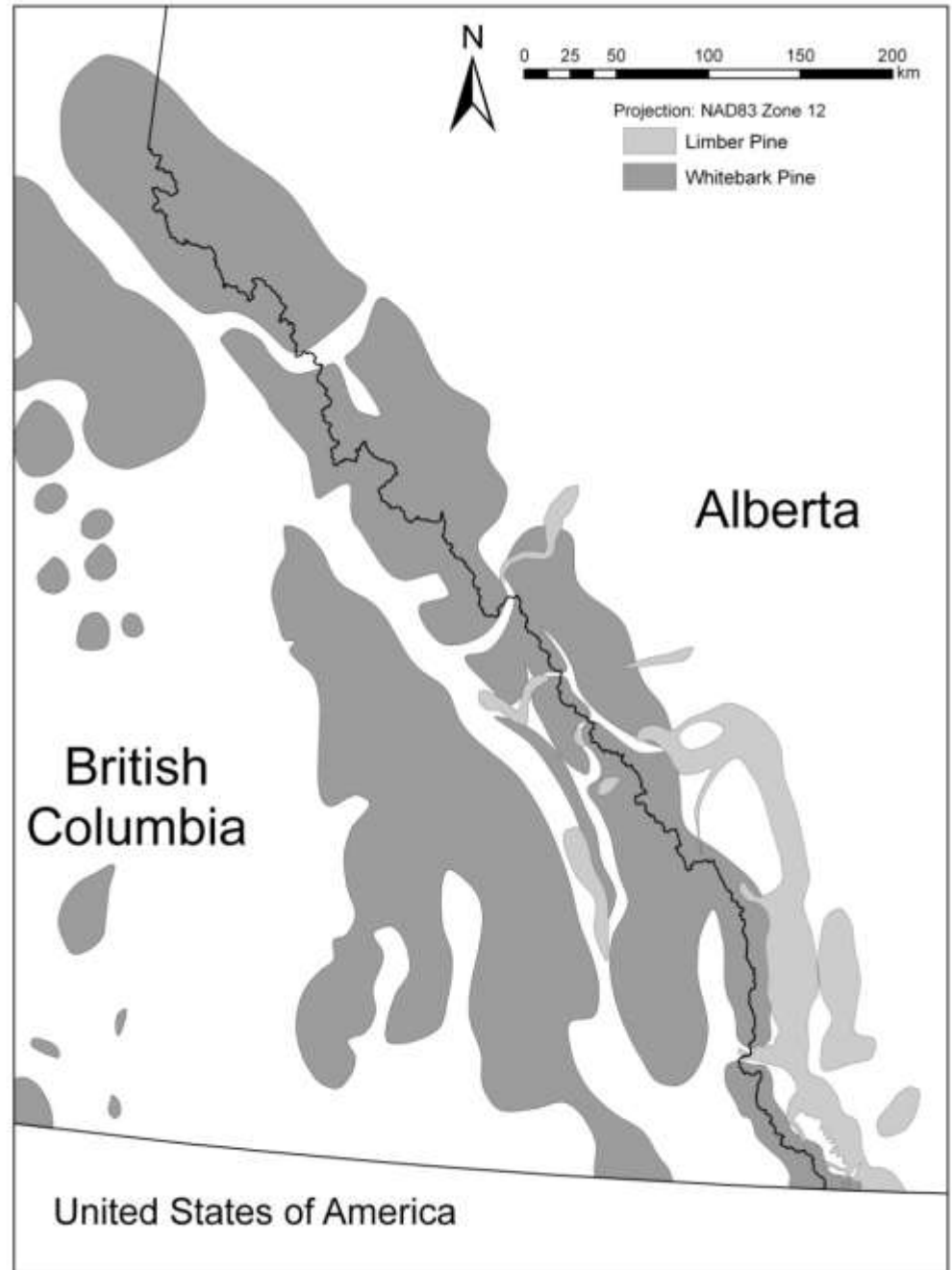


# Alberta distribution

General separation of range  
(with some overlap)

Whitebark—higher elevations

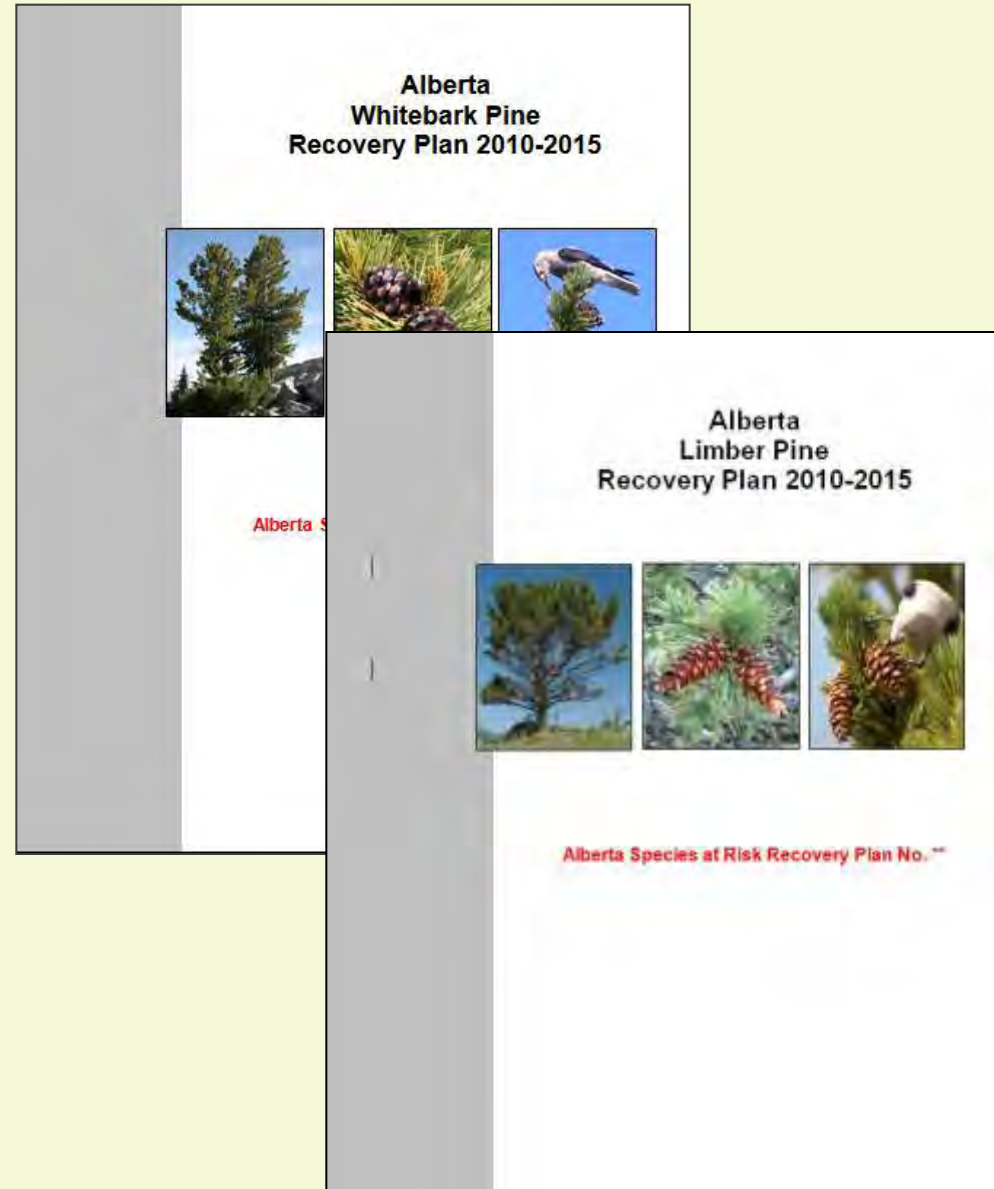
Limber—lower elevations



# Recovery planning process

## Recovery plans

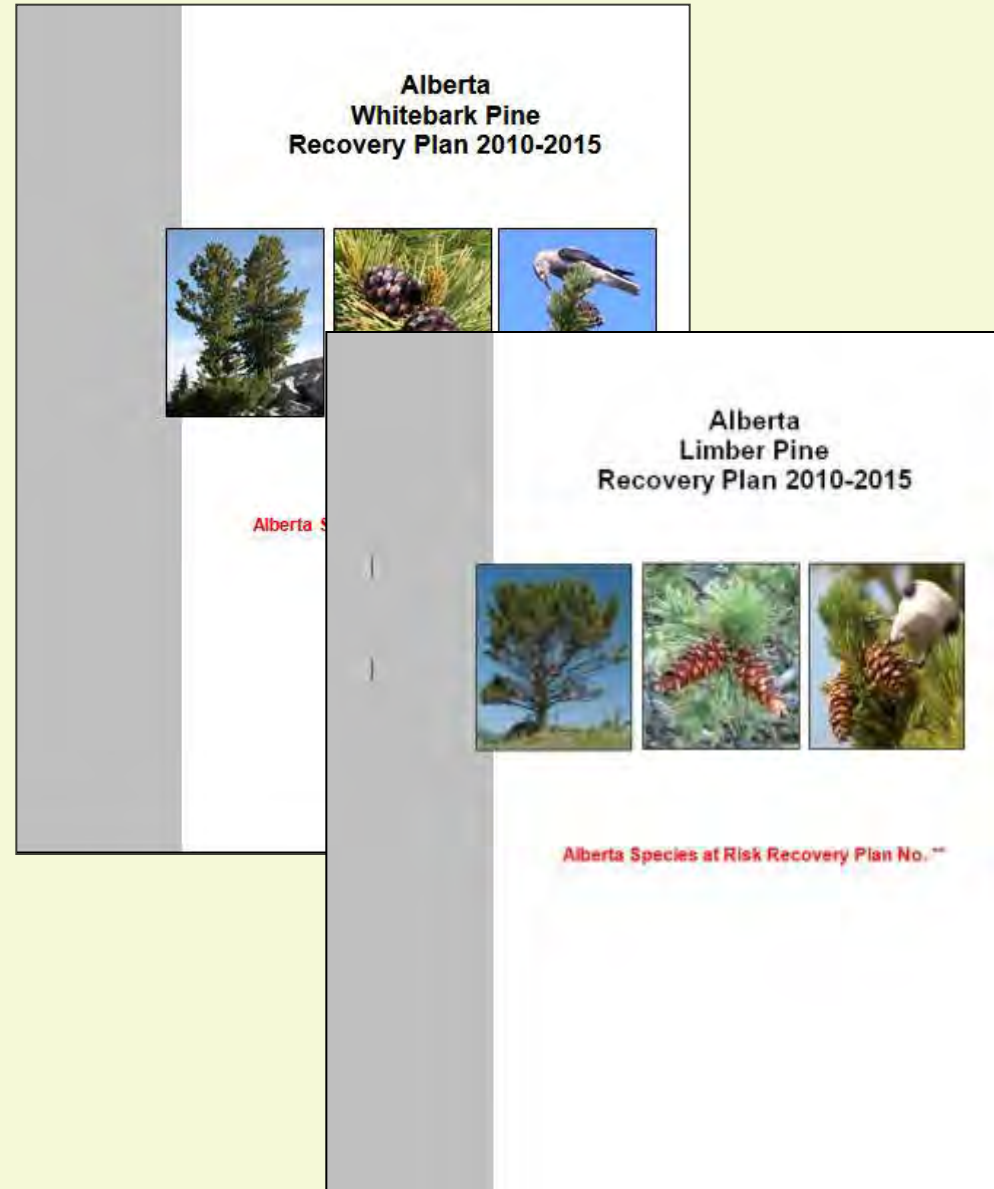
- One team, two plans
- Fosters team approach to conservation (i.e. inter-jurisdictional)
- Builds on recovery work being done prior to initiation of process



# Recovery planning process

## Recovery plans

- Serves as advice to the minister
- Provide clear direction for recovery
- Not legal document
- Plans nearing completion...



# Recovery goal:

To ensure self-sustaining populations.....remain on the Alberta landscape and that the species persists in sufficient numbers to continue functioning in it's ecological role.

## Five core objectives for both species:

1. Reduce direct mortality
  - High-value stands and trees?
2. Develop and introduce rust-resistant strains
3. Conserve genetic diversity
4. Manage habitat and natural regeneration
5. Improve knowledge of potential climate change effects



# Strategies for recovery

## **Four core strategies for both species:**

1. Population monitoring (inventory and assessment)
2. Protection of stands and individual trees (high value)
3. Conserve genetic resources; screen, propagate, and deploy
4. Habitat and natural regeneration management

Five other “supporting” strategies



# Action plan

Many actions needed to achieve recovery

For both species:

- Strategies outline actions:
  - Approximately 75 actions for whitebark pine
  - Slightly less for limber pine



# Information gaps and research needs

## Many gaps and needs!

- Alberta populations at northeastern edge of both species' range
  - Does the existing literature always apply up here?

## High priority examples:

- Distribution; community types; define high-value
- Identify, test and propagate genetically resistant stock
- WPBR: health assessments; non-lethal effects
- Characterize regeneration sites
- Current and future habitat

# Examples of research

- Carmen Wong (UBC)
  - Stand dynamics in whitebark pine in Willmore
- Evan Esch (UA)
  - Phenology of mountain pine beetle in whitebark and lodgepole
- Vern Peters (King's University College)
  - Seed predation and regeneration (whitebark and limber)
- Adam McLane/Andrew Befus (UC)
  - Predictive modeling of distribution of whitebark and limber
- Tracy McKay and Karen Graham (FRI)
  - Grizzly bear utilization of whitebark
- Joyce Gould/Ellen Macdonald (AB Parks/UA) - in-house
  - Identification of whitebark regeneration sites

# Alberta Tree Improvement and Seed Center

Leonard Barnhardt, Manager (leonard.barnhardt@gov.ab.ca)

## Seeds:

- Whitebark: 38.57 kg
- Limber: 135.9 kg
- Germination issues, more so for whitebark,
  - Premature collection at higher elevations?
  - Pollination/fertilization problem?



# Alberta Tree Improvement and Seed Center

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Both whitebark and limber pine:

- Pilot stock types for clone banking; outplanting is successful
- Grafting project meeting with success and next step is to outplant

First *in situ* reserve for limber pine established, looking for candidates for both species

First shipment of limber pine restoration stock going to Waterton as part of joint agreement

# Policy

Incorporation of protection of whitebark and limber pine into provincial policy and guidelines

Operating ground rules

Land-Use Framework

Enhanced Approval Process

**Ultimately, what does policy absolutely need to protect? What is high-value?**



# Soooo.....

Whitebark pine in the “working forest” is

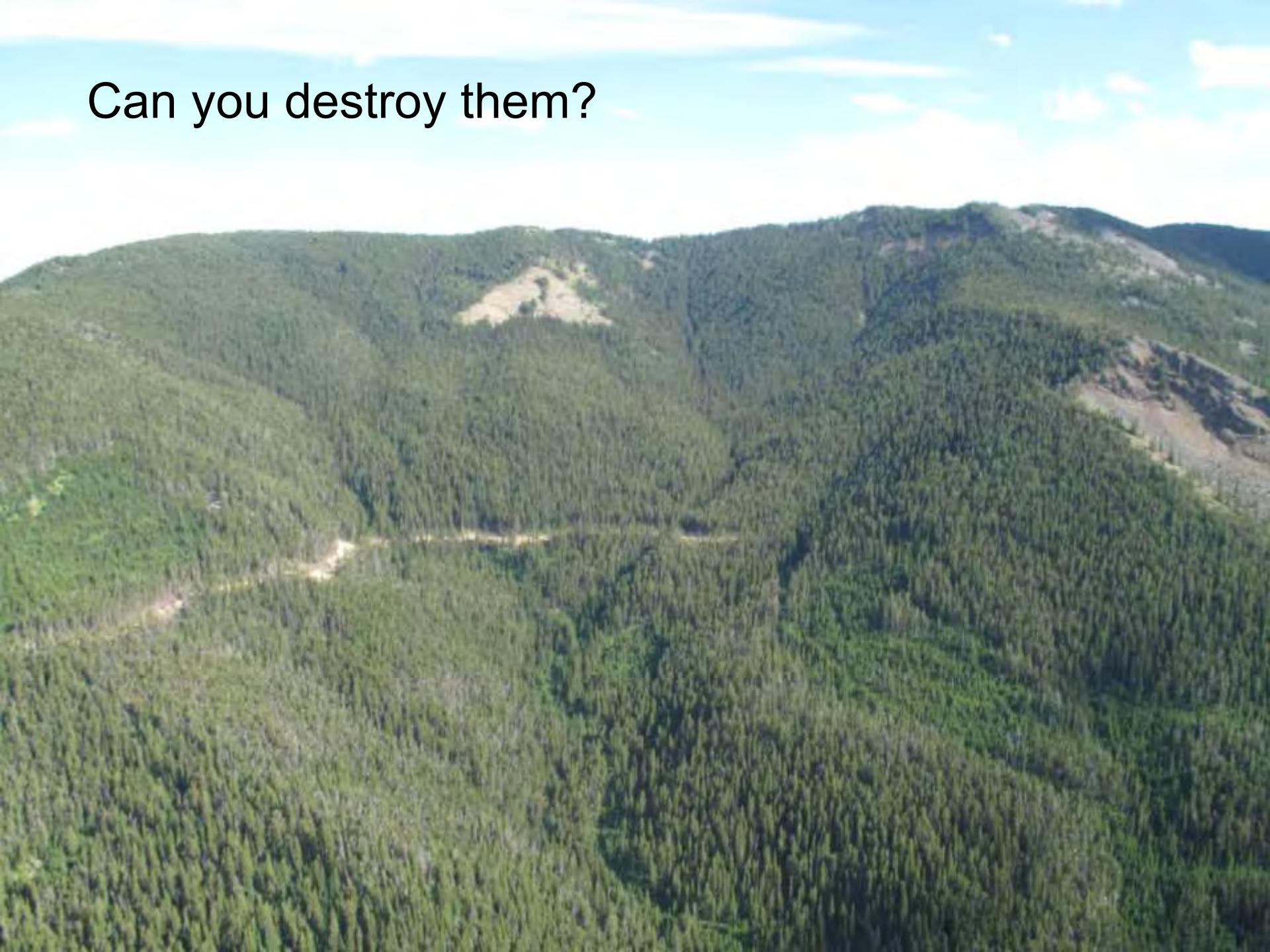
- relatively abundant and widespread
- mostly diseased and high mortality rate

Habitat overlaps with industrial activity

However, it is a provincially and federally listed species



Can you destroy them?



Which trees and stands are considered high-value and can not be destroyed?



Thank you Cyndi!





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**Brad Jones, Forestry Division, Alberta Environment and Sustainable Resource Development (co-chair)**  
**Leonard Barnhardt, Forestry Division, Alberta Environment and Sustainable Resource Development**  
**Dr. Joyce Gould, Parks Division, Alberta Tourism, Parks and Recreation**  
**Dr. David Langor, Canadian Forest Service, Natural Resources Canada**  
**Cyndi Smith, Waterton Lakes National Park, Parks Canada**  
**Kelly Ostermann, Alberta Native Plant Council**  
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**[www.srd.alberta.ca/FishWildlife/SpeciesAtRisk](http://www.srd.alberta.ca/FishWildlife/SpeciesAtRisk)**  
**[www.whitebarkfound.org](http://www.whitebarkfound.org)**