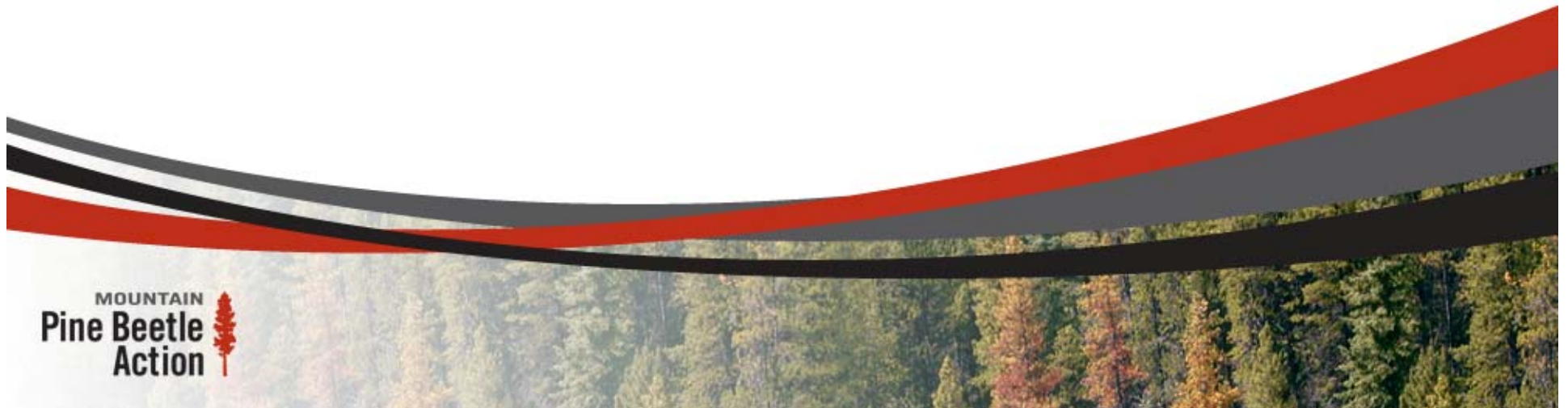
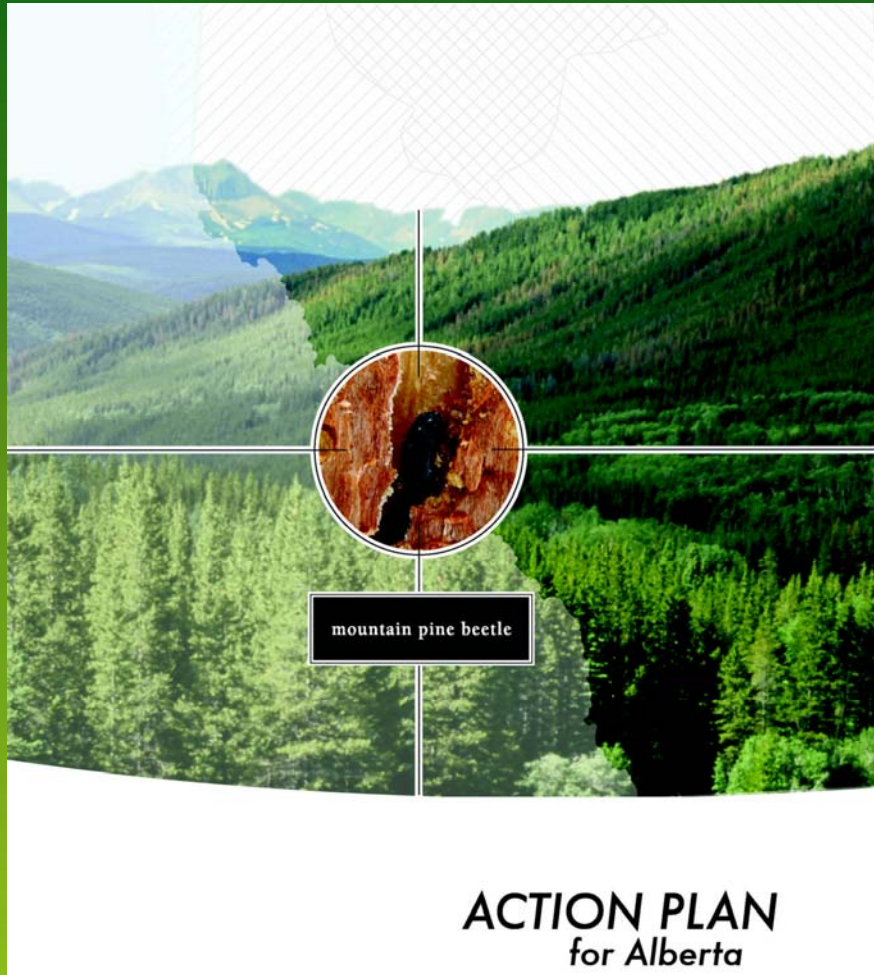


# Mountain Pine Beetle Operations in Alberta



# Mountain Pine Beetle Management Objectives for Alberta



## Prime Objectives

1. Prevent the spread north and south along the eastern slopes of Alberta, and
2. Prevent the spread eastward into the boreal forest of lodgepole-jack pine hybrid and jack pine forests.

# MPB Perspective in Alberta

This is only the second major MPB outbreak on record in AB

Rather limited distribution of MPB in northern Alberta

No huge areas with MPB-caused tree kill in Alberta

Until now relatively low beetle pressure in Alberta

Alberta has limited capacity to control MPB

# MPB Status in Alberta

Beetle populations in northwest Alberta are not expanding at the same rate as the populations in central BC.

Beetle populations in Southern Alberta are expanding at a higher rate than in northwest Alberta.

Southern Alberta likely will experience significant tree mortality over the next several years.

Northwest Alberta may experience some tree mortality, however because of the climate and distribution on pine, the impacts may not be as dramatic as southern Alberta.

# Mountain Pine Beetle Management Strategy

## I. Beetle Strategy

Effectively detect, accurately survey and aggressively control infested trees.

Protocol to monitor MPB at low population levels

### Control Tactics

- a. Level 1 = Single Tree Treatment
- b. Level 2 = Harvest/ Burn at Stand Level



# Mountain Pine Beetle Management Strategy

## a. II. Healthy Pine Strategy

Pre-emptively reduce the number of highly susceptible stands to 25% of currently predicted level, in 20 years.

### Tactics

- Prescribed Burns
- Harvest

#### Use of prescribed burn

- effectiveness
- Impact of partially burned trees
- timing of burn
- smoke as a MPB deterrent

Revise stand susceptibility ratings in relation to MPB population levels and climate models



# Mountain Pine Beetle Management Strategy

## III. Salvage Strategy

Recover as much fibre as possible if outbreak is beyond control

- a. Modified ground rules
- b. Consider other forest values

- Wildlife habitat projections (caribou, grizzly bear)
- Impact of MPB on hydrology
- MPB biology/impact on whitebark pine & limber pine

## Salvage

- Where to salvage
- Where to protect understorey



# Mountain Pine Beetle Related Forest Management Strategies

- Post-MPB Stand Development
- Regeneration Strategies

Develop DSS to integrate quantitative projections of stand level development

## Regeneration

- where is intervention needed
- where is natural seeding sufficient





# The Alberta Beetle Operations

May - Overwintering survival and population forecast surveys

Model to predict MPB development stage and flight period at a given time/location

June - Long range dispersal tracking

- Limited log hauling
- All infested trees and debris must be treated

Tracking long-range MPB trajectories

Mid- August - Overview and heli-GPS aerial surveys (G:R ratio)

# The Alberta Beetle Operations

September - Risk assessments of all beetle locations

October to January – Training, ground surveys, begin control operations

February to June – Control of infested trees (level 1 and level 2)

June – Containment baiting with pheromones

Year round – Risk reduction by lowering pine content

## Pheromones

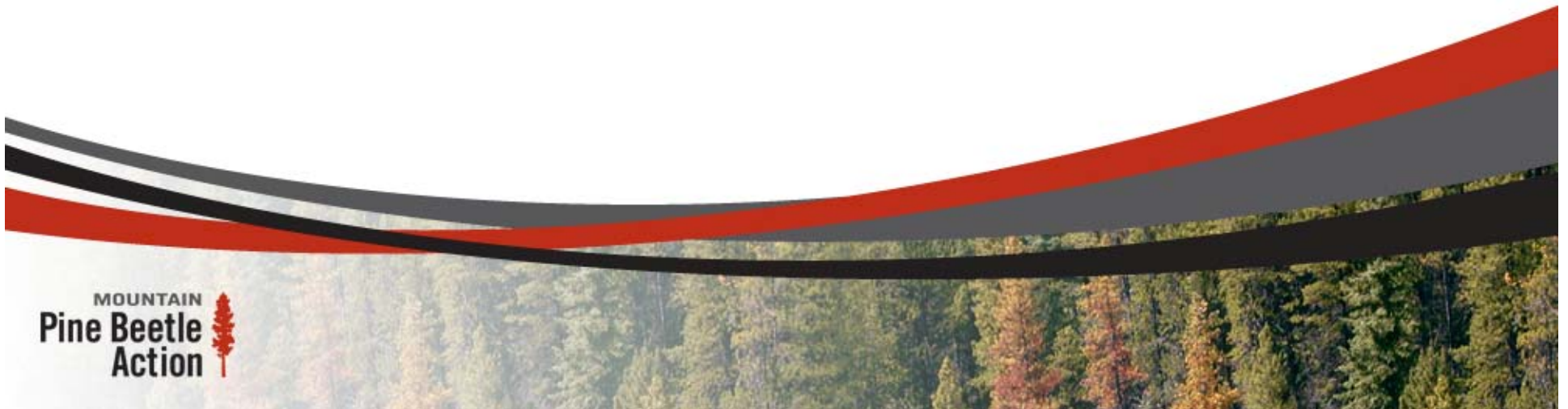
- Potential for mass trapping of MPB
- Use of anti-aggregation pheromones

# The Alberta Beetle Operations

Year round

– Risk reduction by lowering pine content

Beetle-proofing through habitat manipulation

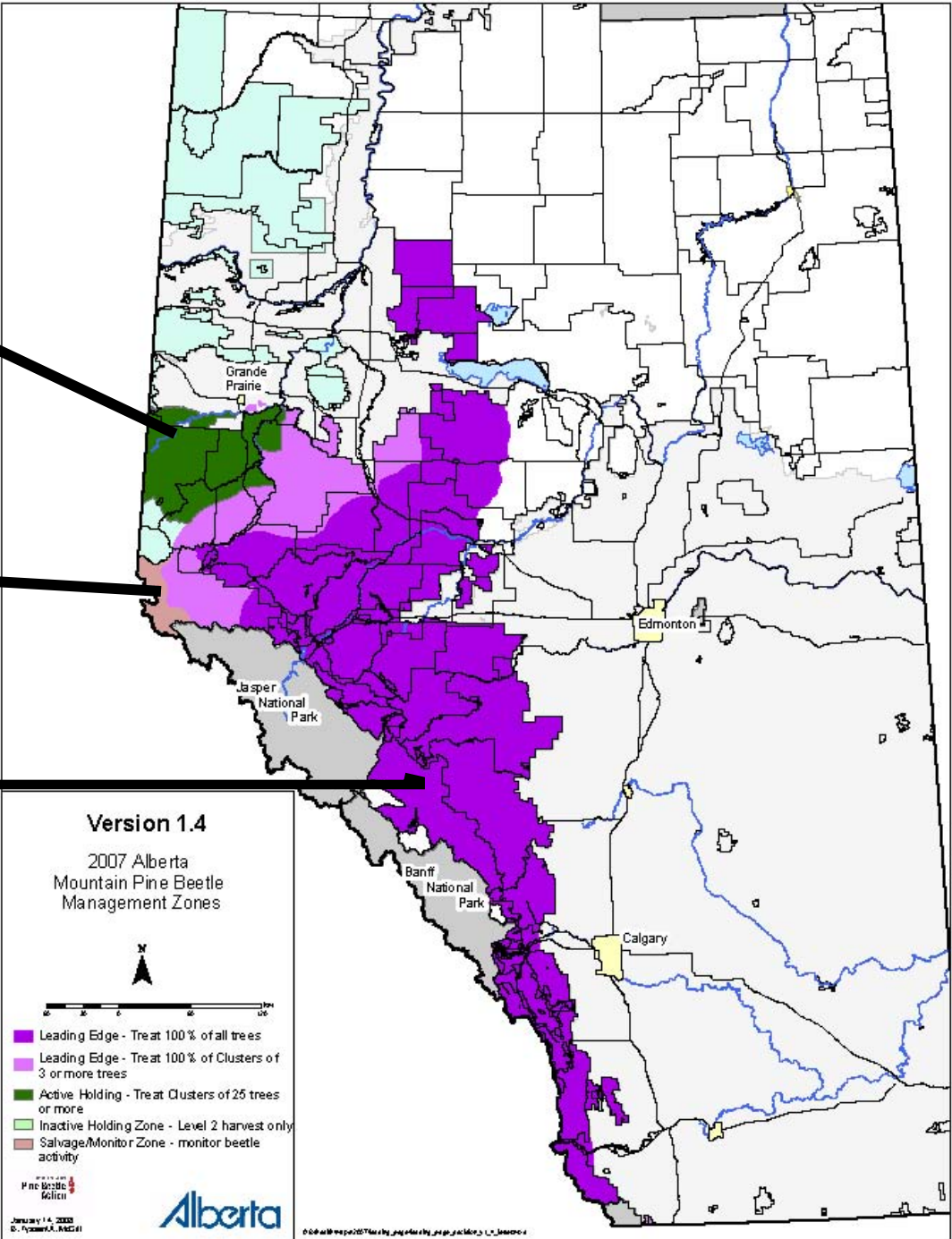


# Our Management Zones

**Holding Zone:**  
Level 2 and Level 1  
treatment where needed

**Salvage Zone:**  
Beyond control; Salvage  
harvest to recover losses

**Leading Edge Zone:**  
Find and control all trees



# Goal for Industry

- Reduce the number of highly susceptible stands by 75% over 20 years
- Determine impact to:
  - Timber supply
  - Watersheds
  - Species of concern
    - Caribou, grizzly bear



MOUNTAIN  
Pine Beetle  
Action

A close-up photograph of a tree trunk showing several mountain pine beetles. The wood is heavily infested with numerous small, circular holes. Two larger, dark, oval-shaped beetles are visible in the center of the frame, one slightly above the other. The wood has a reddish-brown hue and a rough, textured surface.

# Thank You

<http://www.srd.gov.ab.ca/forests/health/pestalerts/mountainpinebeetles.aspx>