

# Forest Health in Boundary County

## Kootenai Valley Resource Initiative Meeting

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208-666-8668



# Some Issues of Note From 2023 Aerial Survey



Mountain pine beetle



Subalpine fir issues



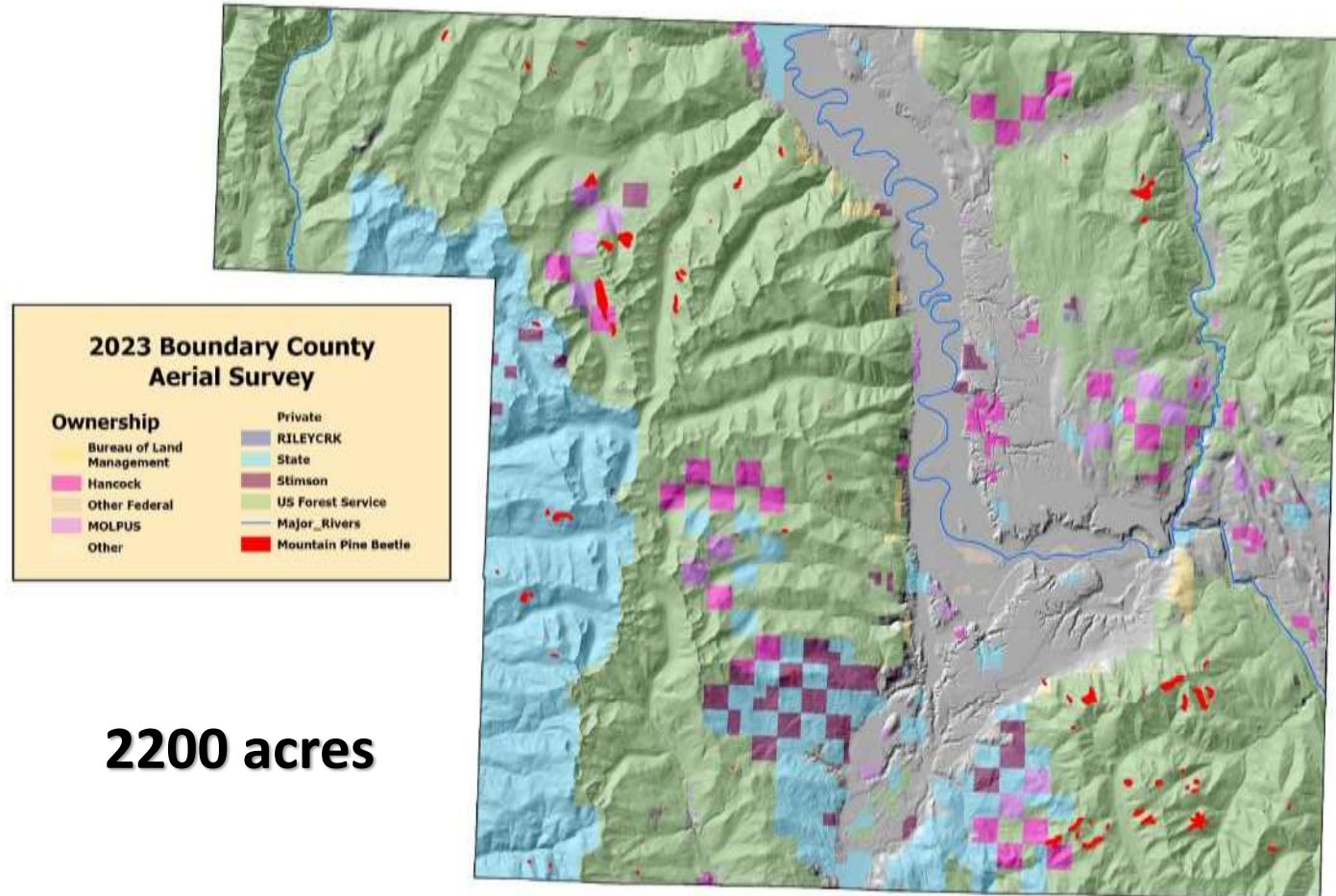
Spruce budworm



Larch needle cast

# 2023 Boundary County Aerial Detection Survey

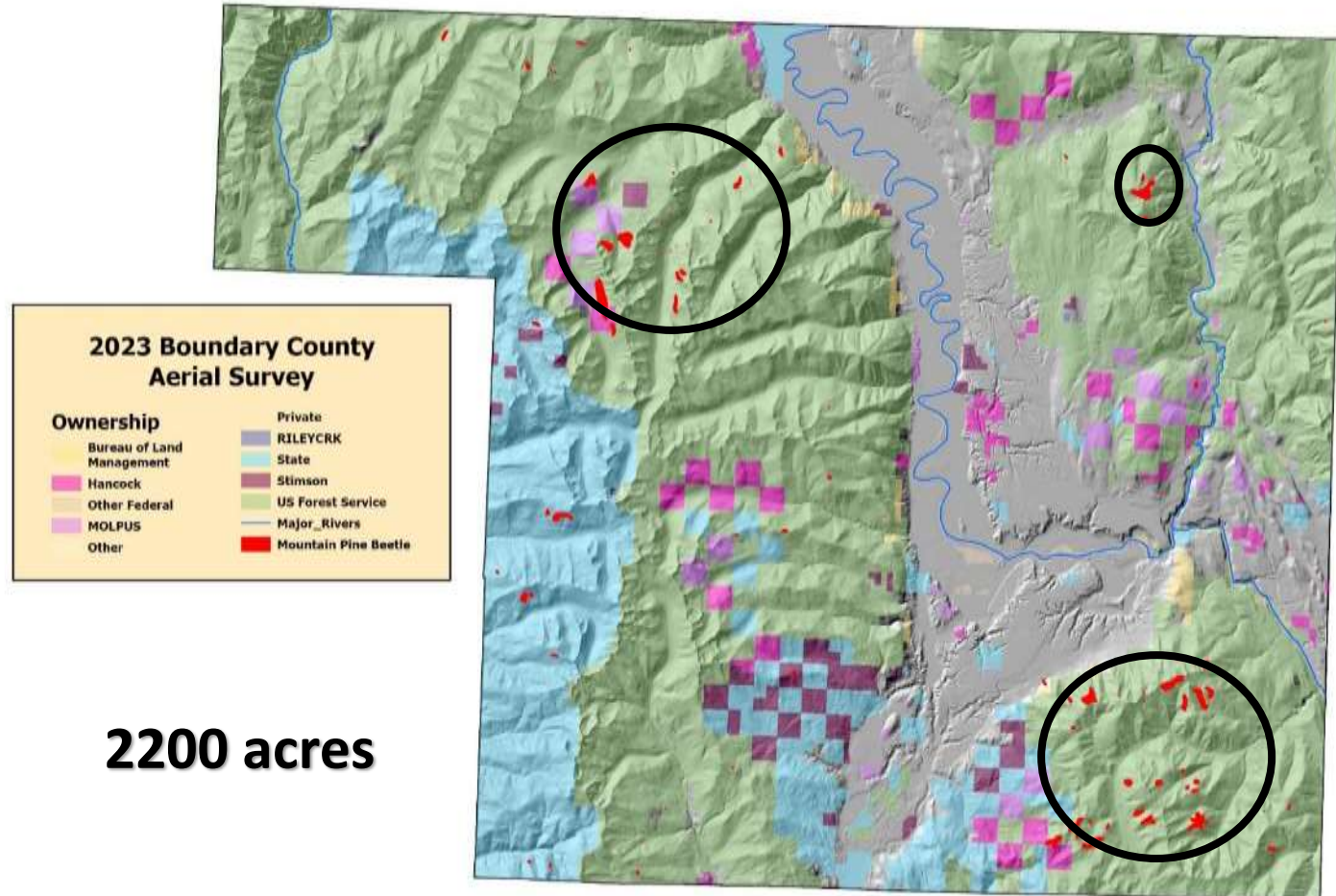
## Mountain Pine Beetle



**2200 acres**

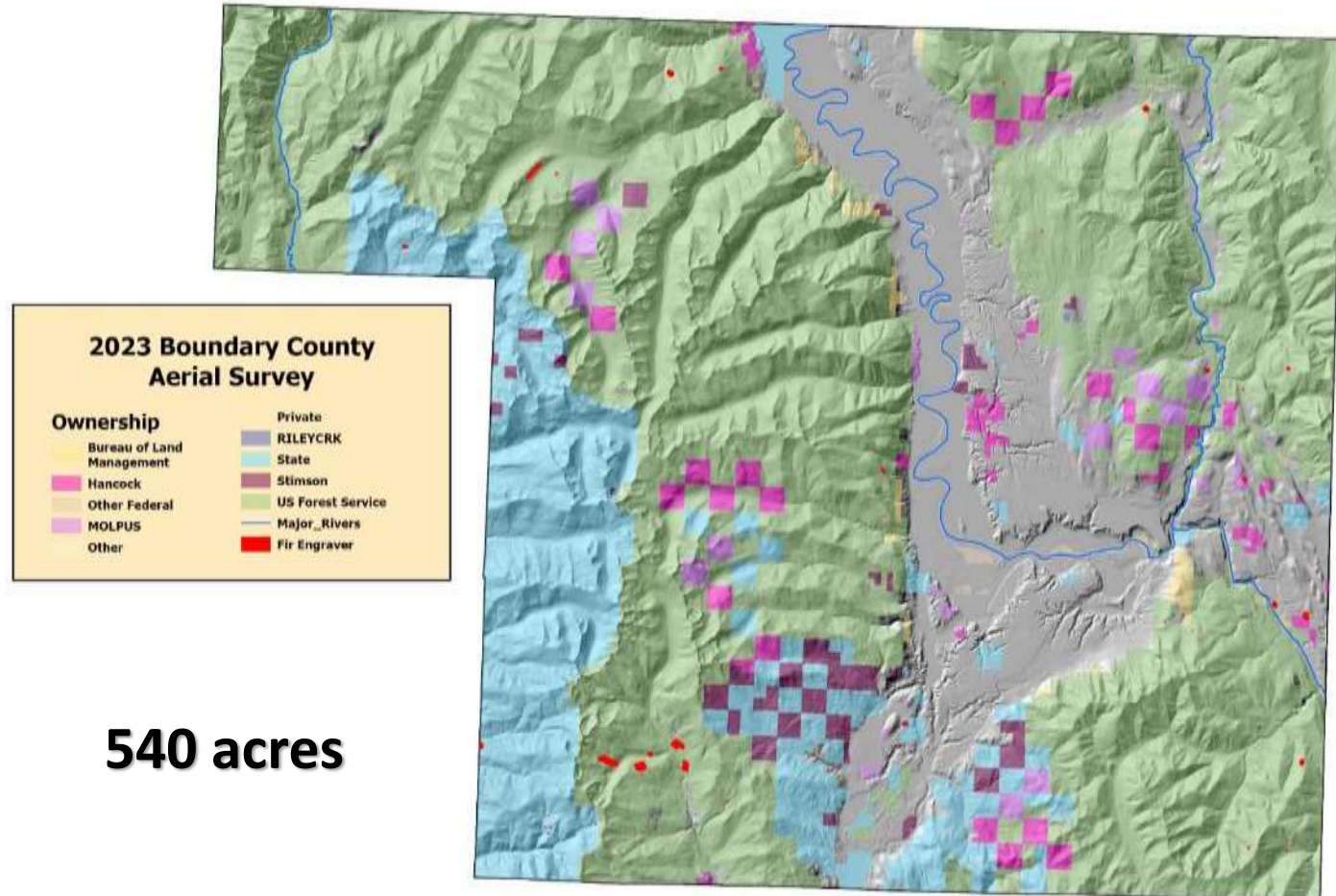
# 2023 Boundary County Aerial Detection Survey

## Mountain Pine Beetle



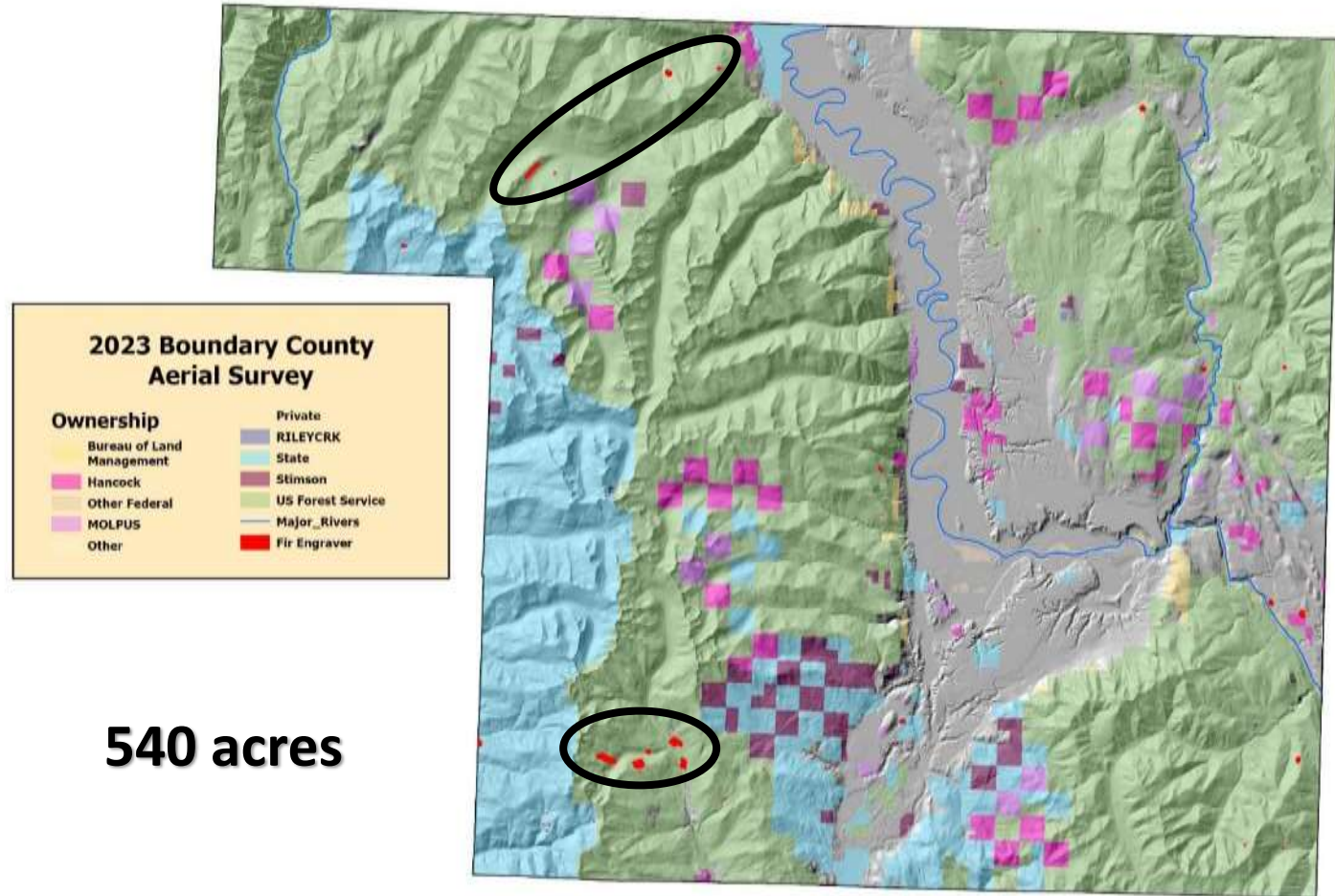
# 2023 Boundary County Aerial Detection Survey

## Fir Engraver



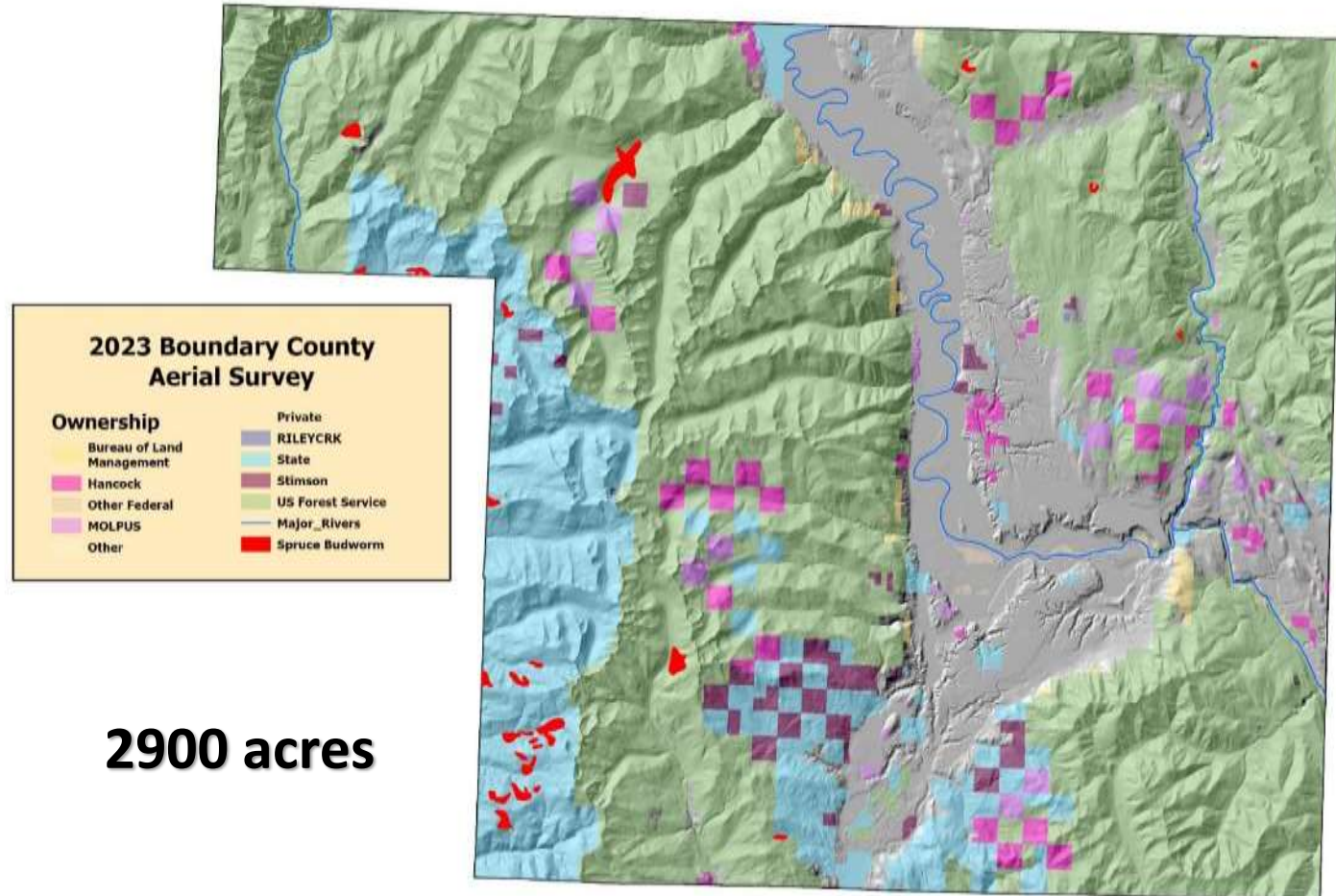
# 2023 Boundary County Aerial Detection Survey

## Fir Engraver



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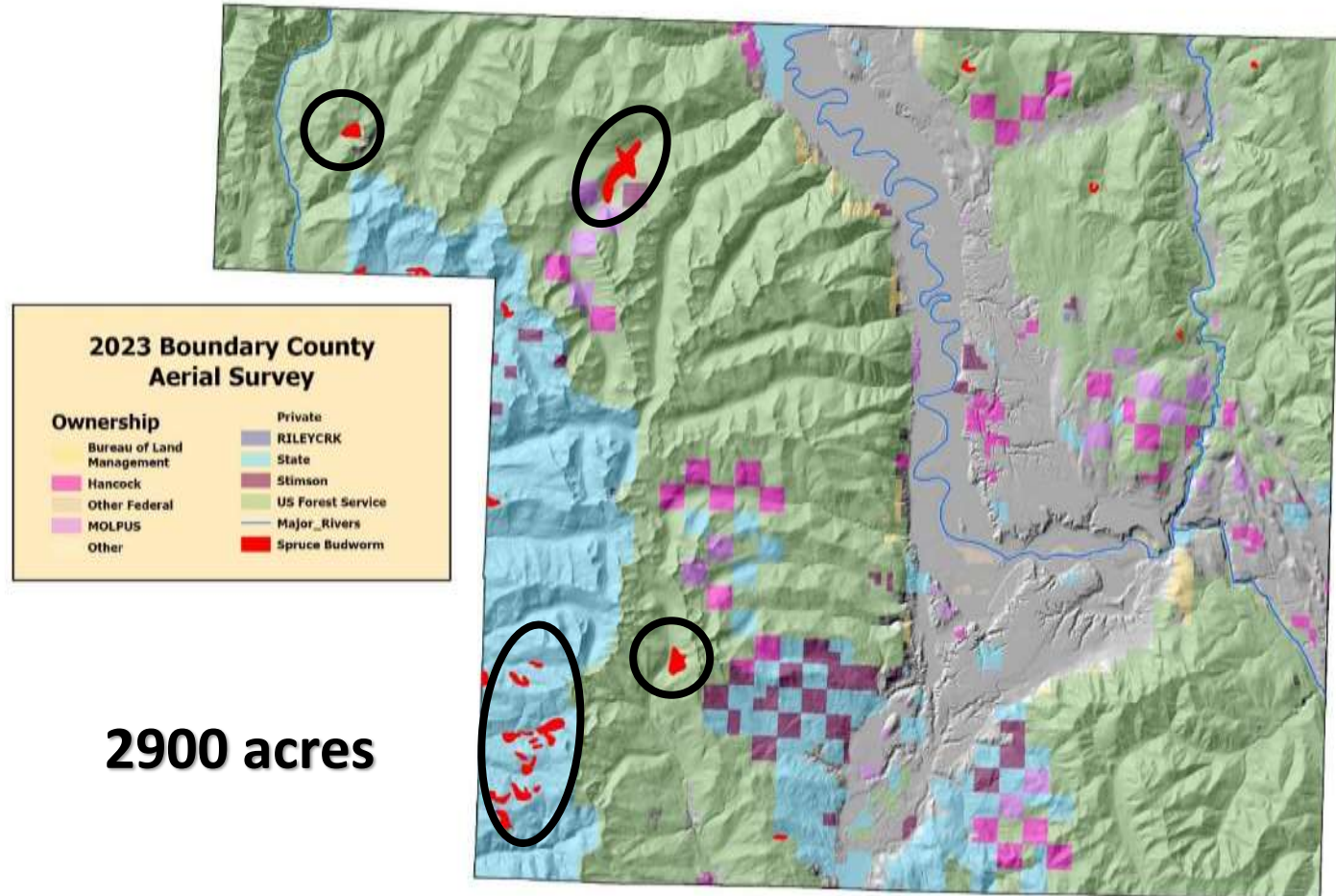
## Western Spruce Budworm



**2900 acres**

# 2023 Boundary County Aerial Detection Survey

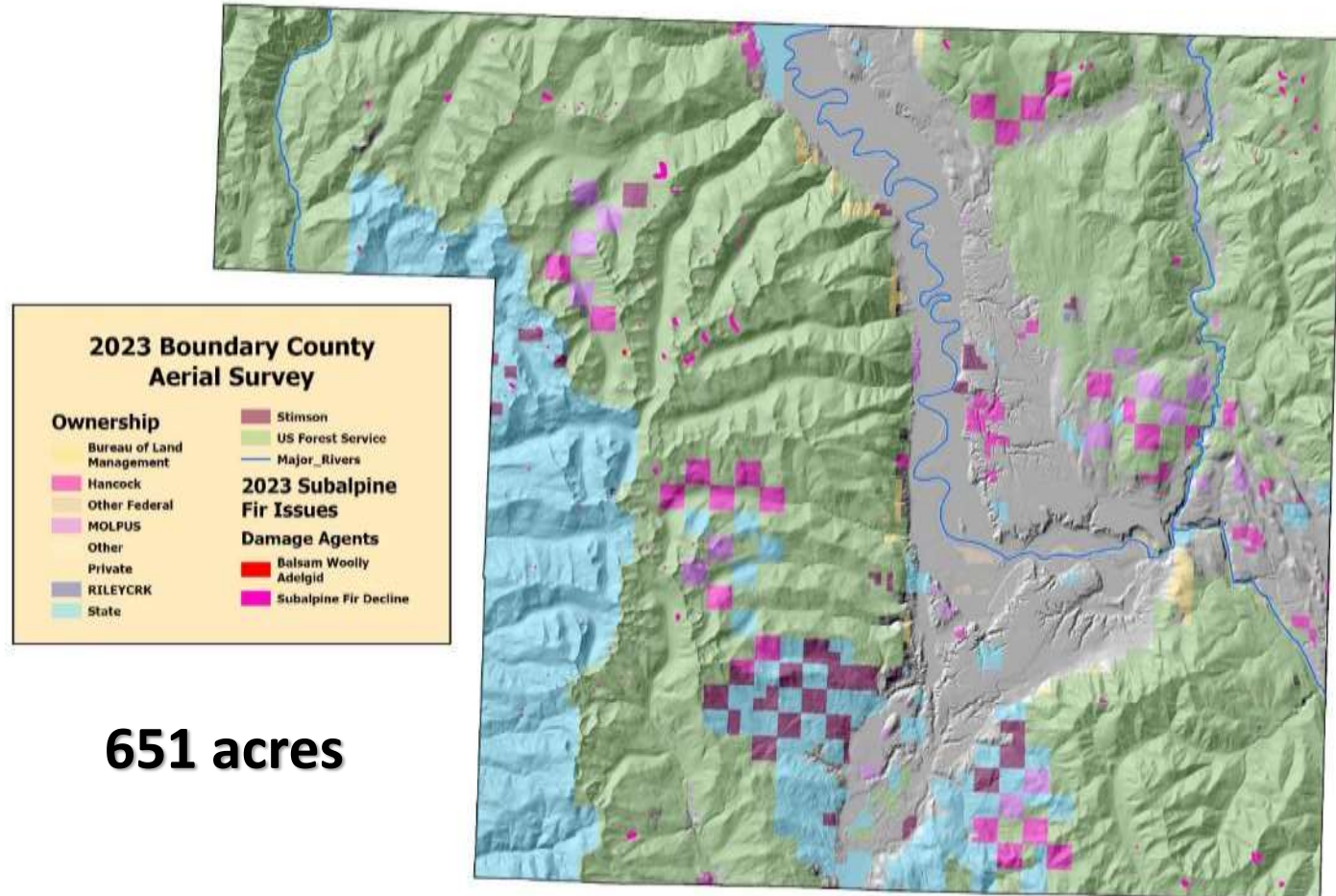
## Western Spruce Budworm





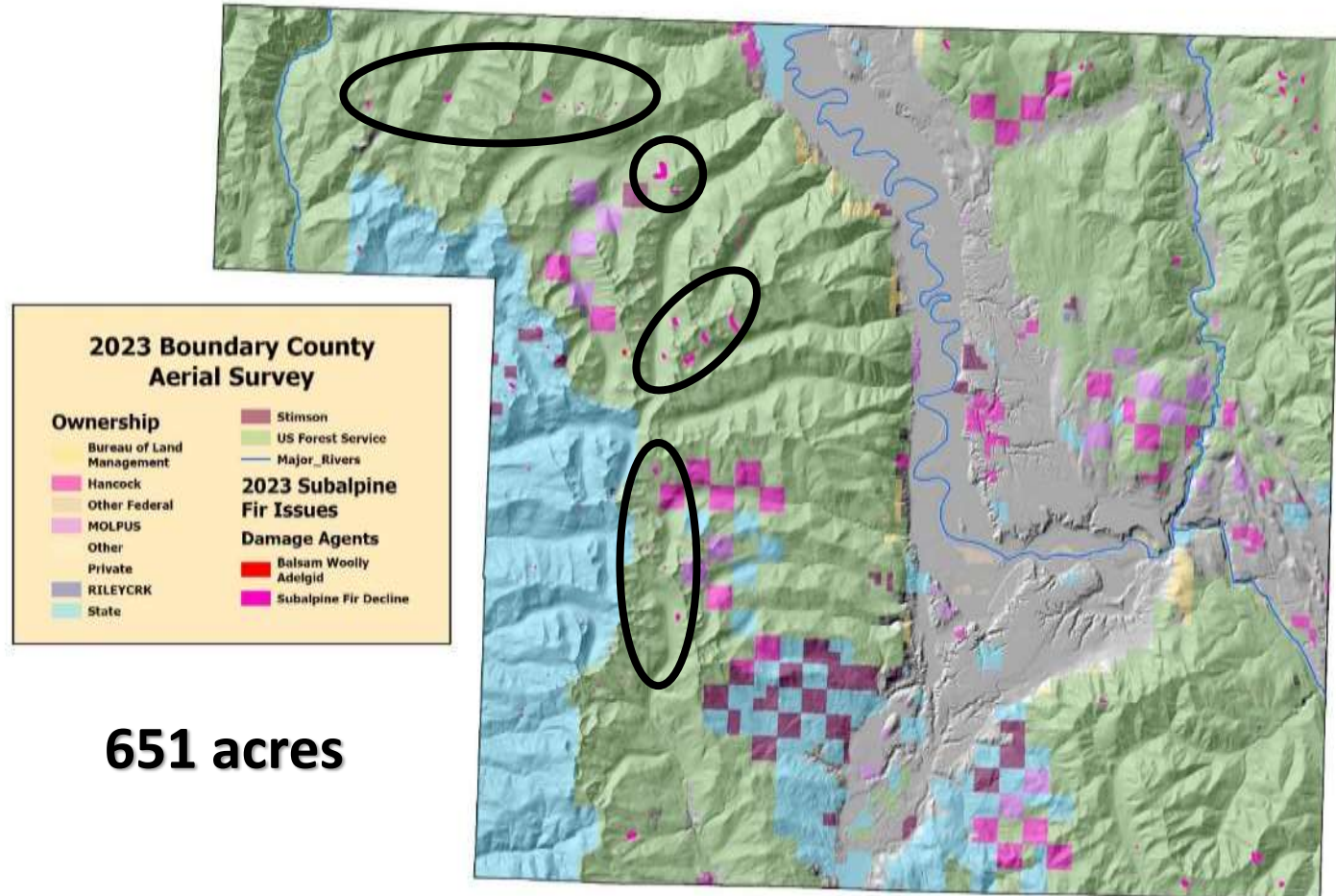
# 2023 Boundary County Aerial Detection Survey

## Subalpine Fir Issues



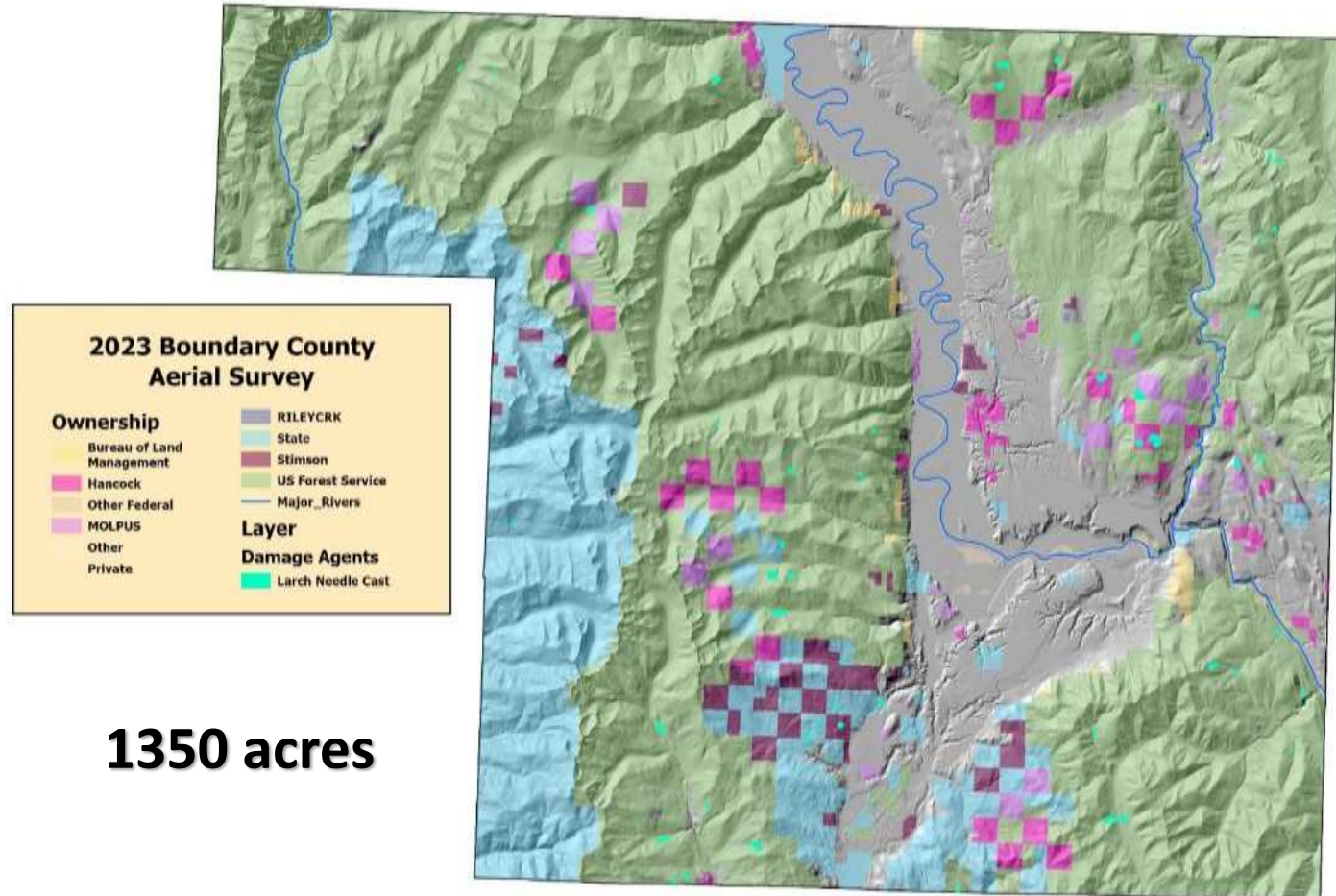
# 2023 Boundary County Aerial Detection Survey

## Subalpine Fir Issues



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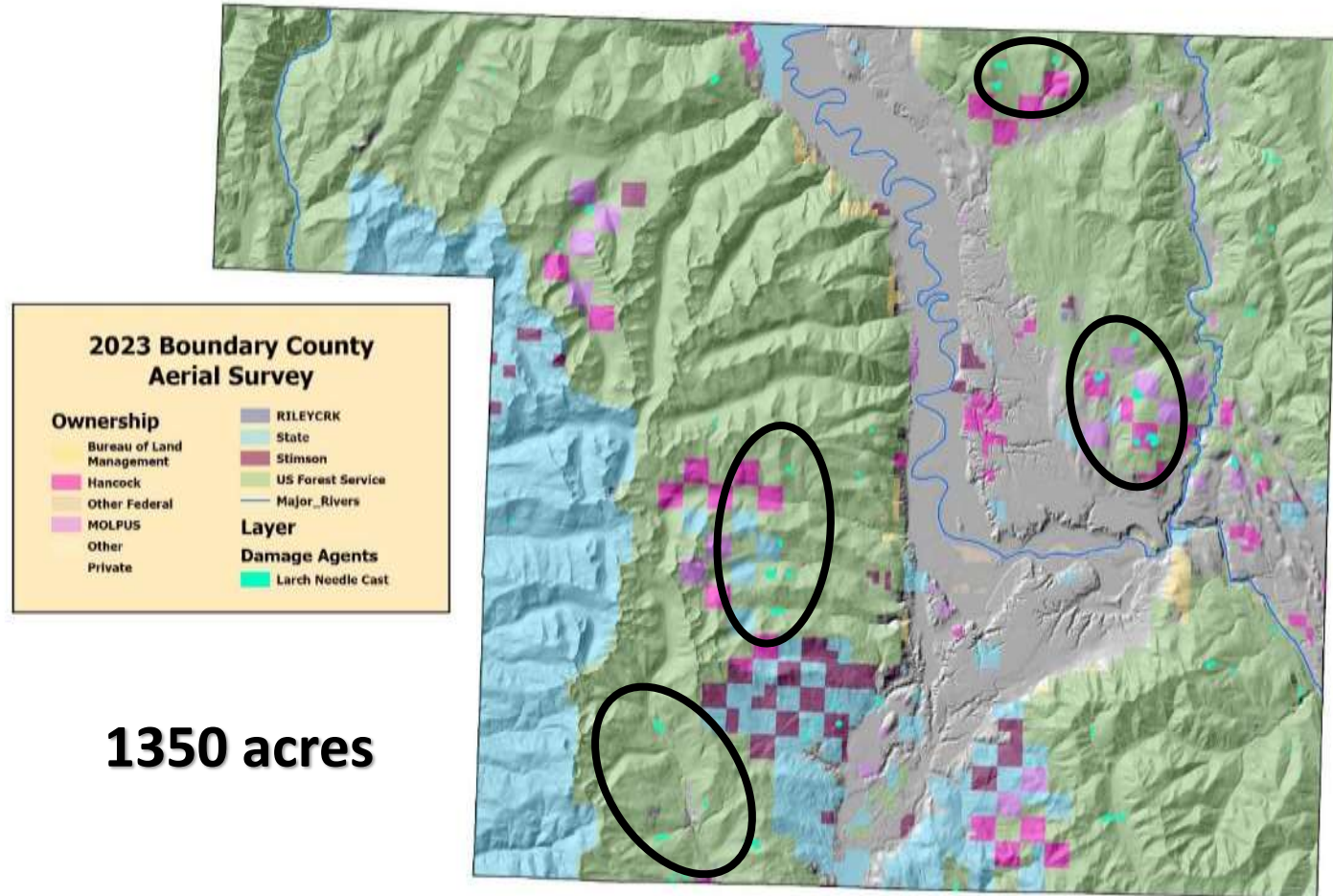
## Larch Needle Cast



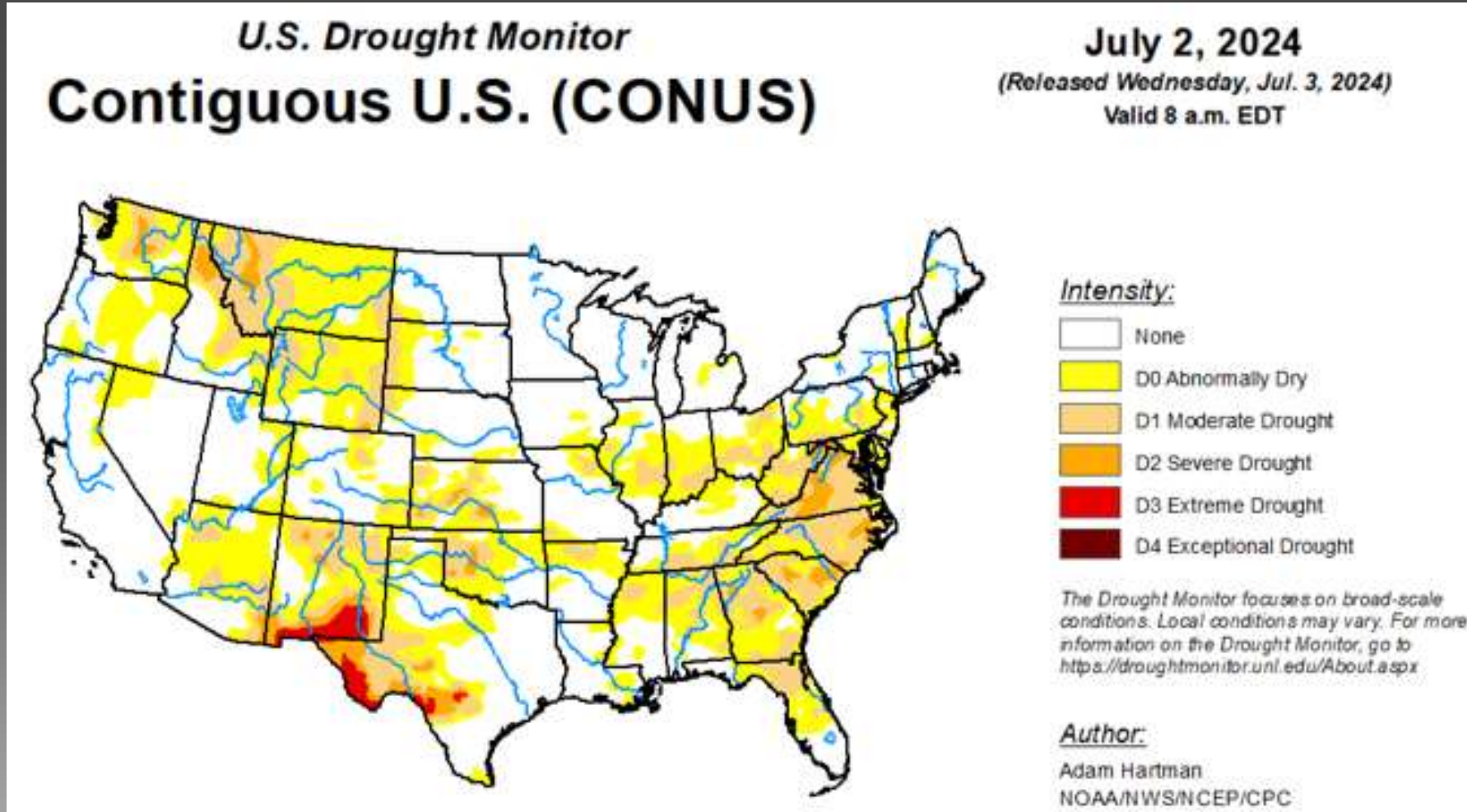
**1350 acres**

# 2023 Boundary County Aerial Detection Survey

## Larch Needle Cast



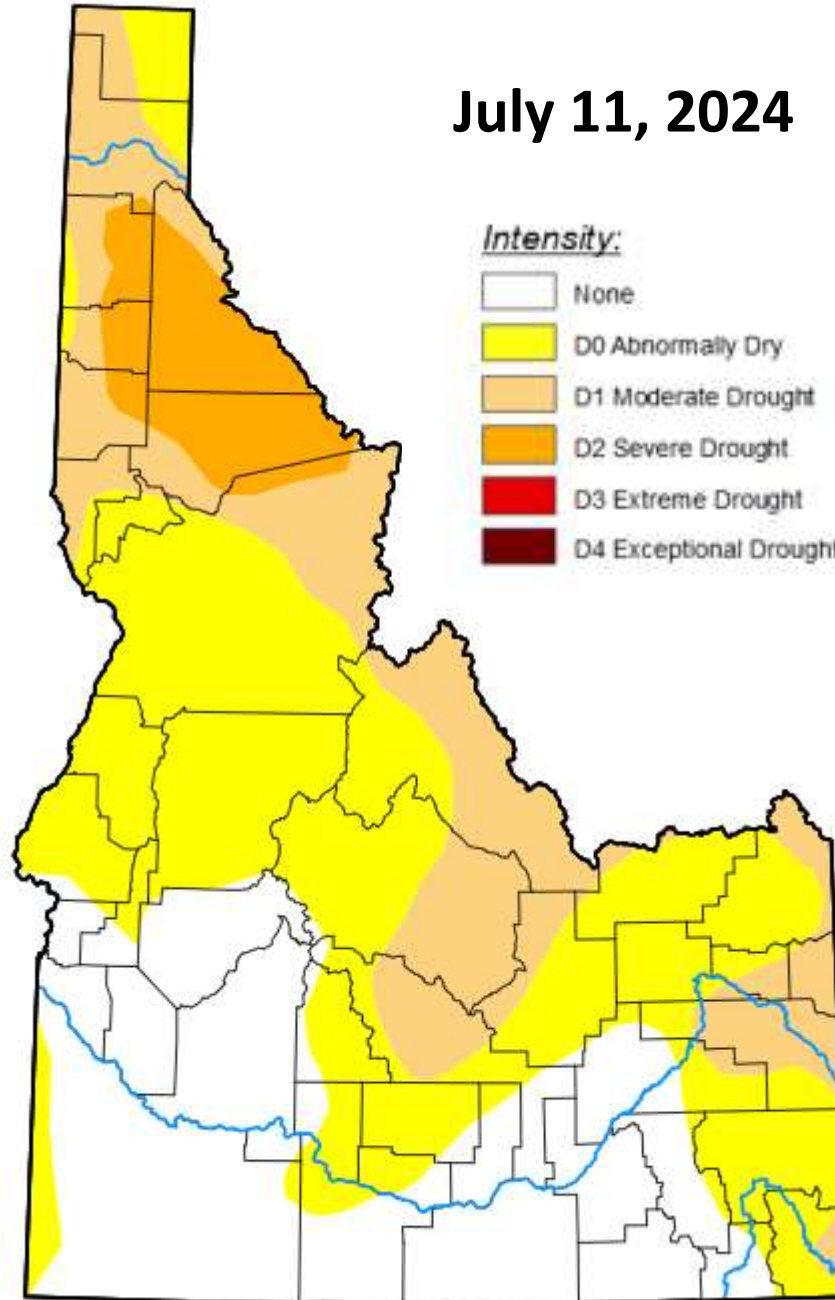
# Drought Has Been in the News



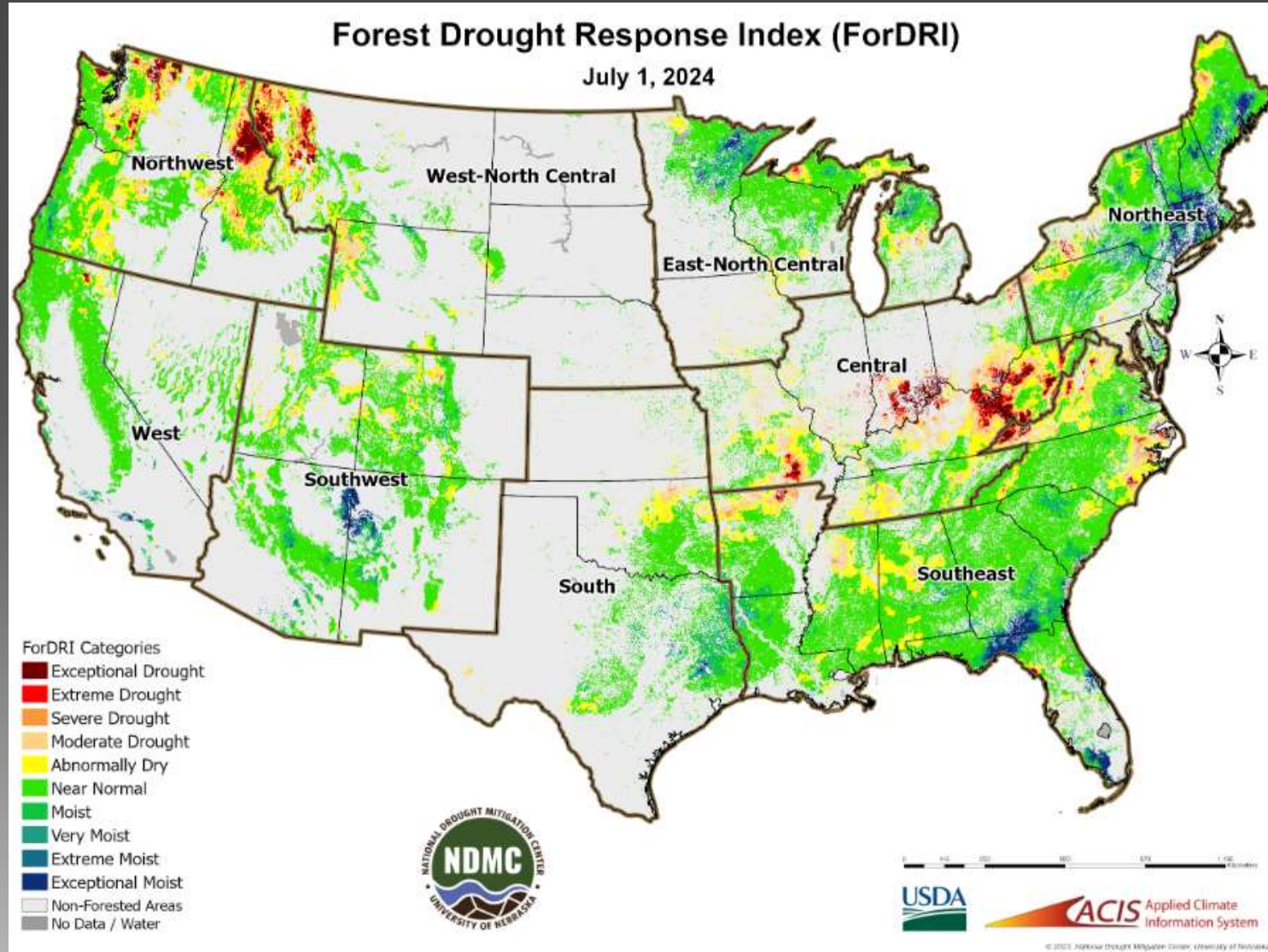
July 11, 2024

Intensity:

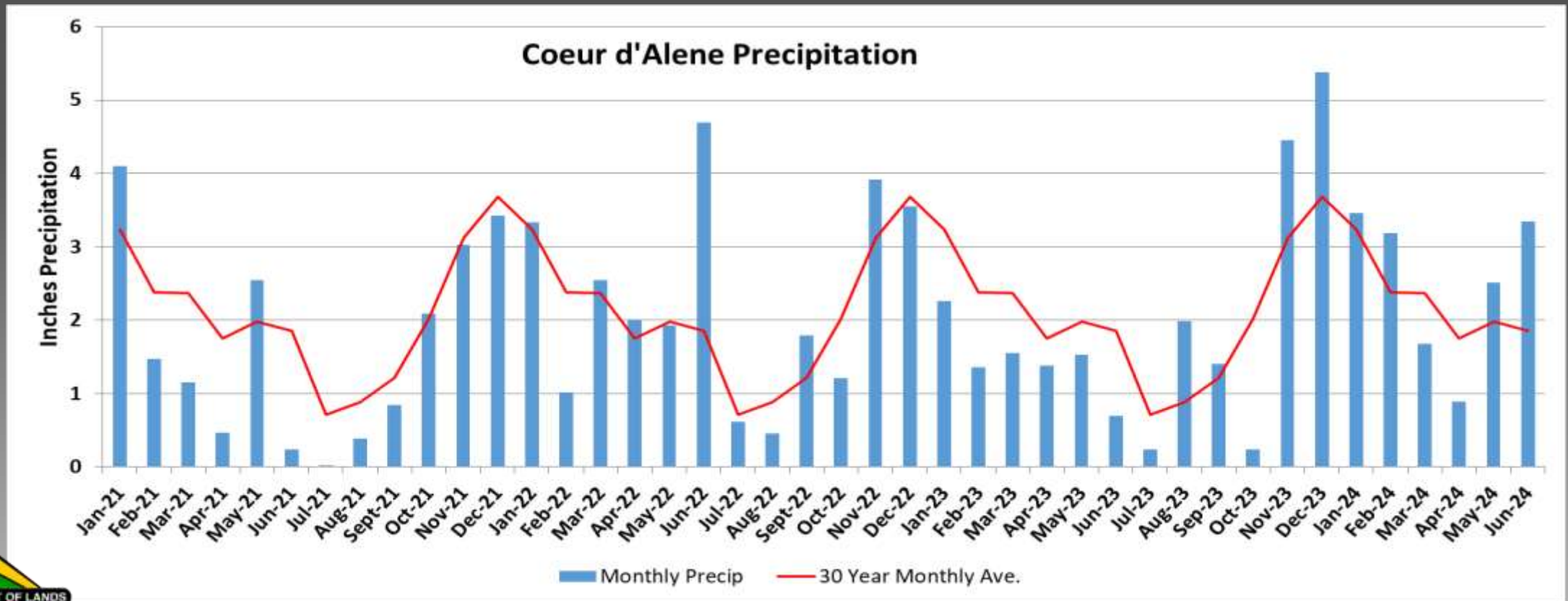
-  None
-  D0 Abnormally Dry
-  D1 Moderate Drought
-  D2 Severe Drought
-  D3 Extreme Drought
-  D4 Exceptional Drought



# Forest Drought Response Index



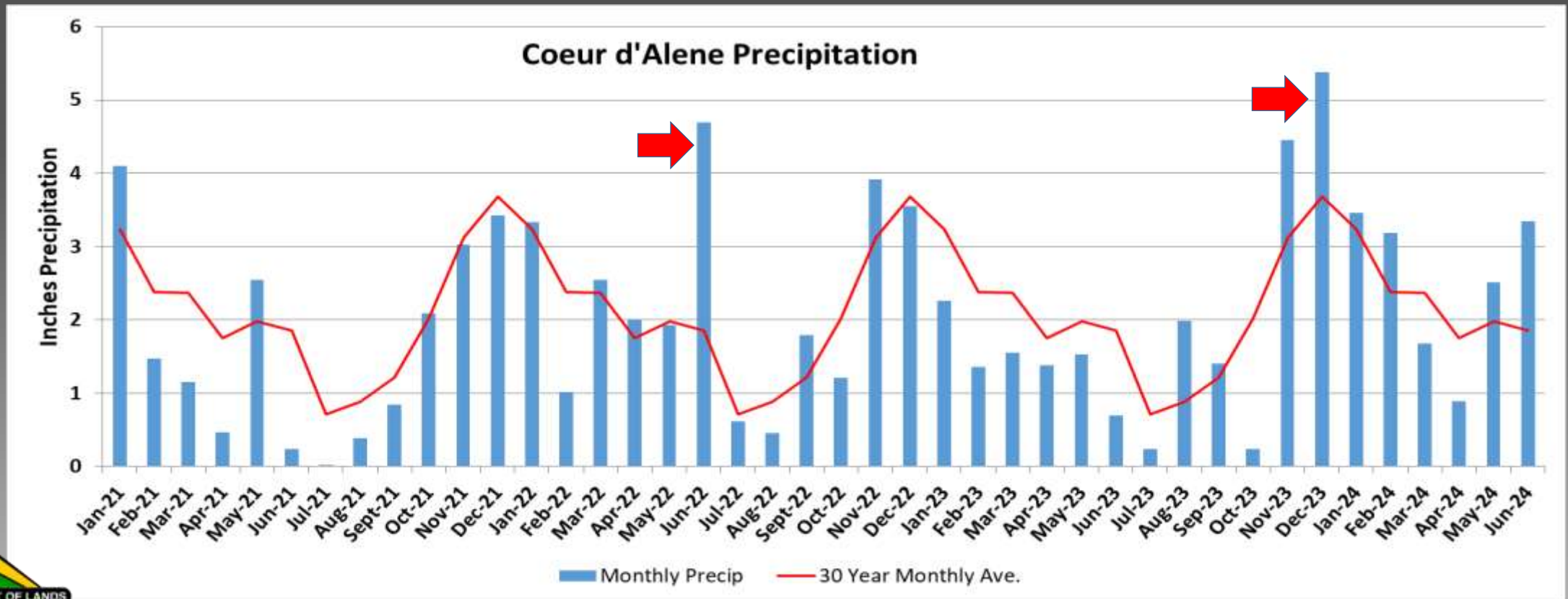
# CDA Precipitation the Last Few Years





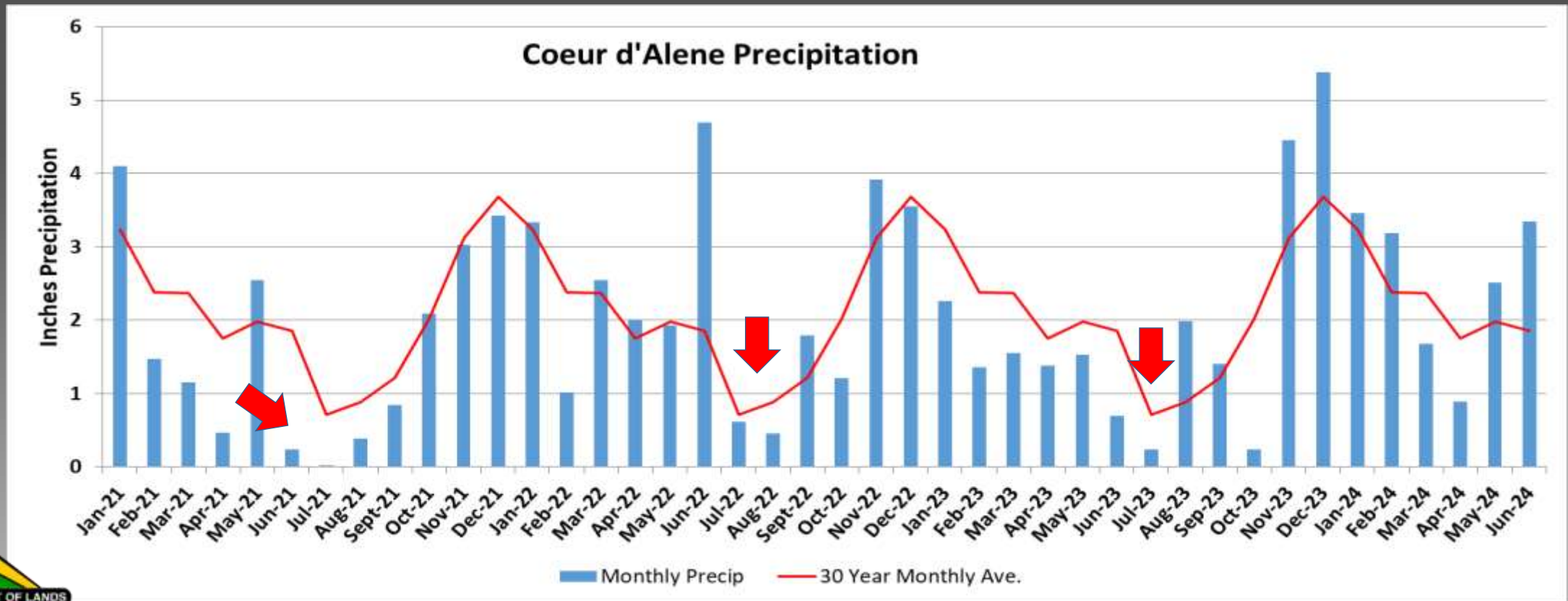
# CDA Precipitation the Last Few Years

Months like these throw off the yearly average



# CDA Precipitation the Last Few Years

Summer drought is common in the Inland Northwest



- **Bark Beetles and wood borers LOVE dry weather**



Western larch attacked by wood borers, Farragut SP 5/23

Ips at Kootenai County Transfer Station, 10/2021



# What Are Bark Beetles?

- Small insects that live under the bark of trees
  - Spend almost entire life beneath the bark



Mountain pine beetle



Western pine beetle



Douglas-fir beetle

# What Are Bark Beetles?

- Larvae feed on inner bark, usually killing tree



Douglas-fir beetle

# What Are Bark Beetles?

- Many species, some are important killers of **HEALTHY** trees during outbreaks



Pine engraver & western pine beetle



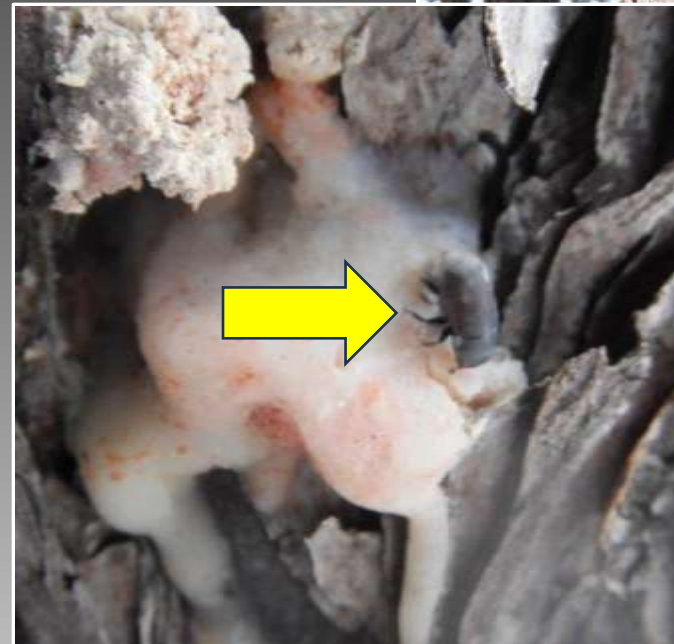
Western pine beetle



Douglas-fir beetle

# What Are Bark Beetles?

- Drought makes their job easier
  - Bark beetles need to overcome tree's defenses (water to make pitch)



# What Do Bark Beetles Prefer?

**Dense stands have less water to go around**





# Bark Beetles Don't Prefer Thinned Stands

More resources to go around in thinned stands



# Think of it This Way...



Thinned Stand



Dense Stand

# Thin, Rocky Soils Can Also Create Problems



Lake CDA in June 2016

# What Are Wood Borers?

- Larger insects that feed under the bark and/or in the wood of trees



Metallic Wood Borer



Flatheaded Fir Borer

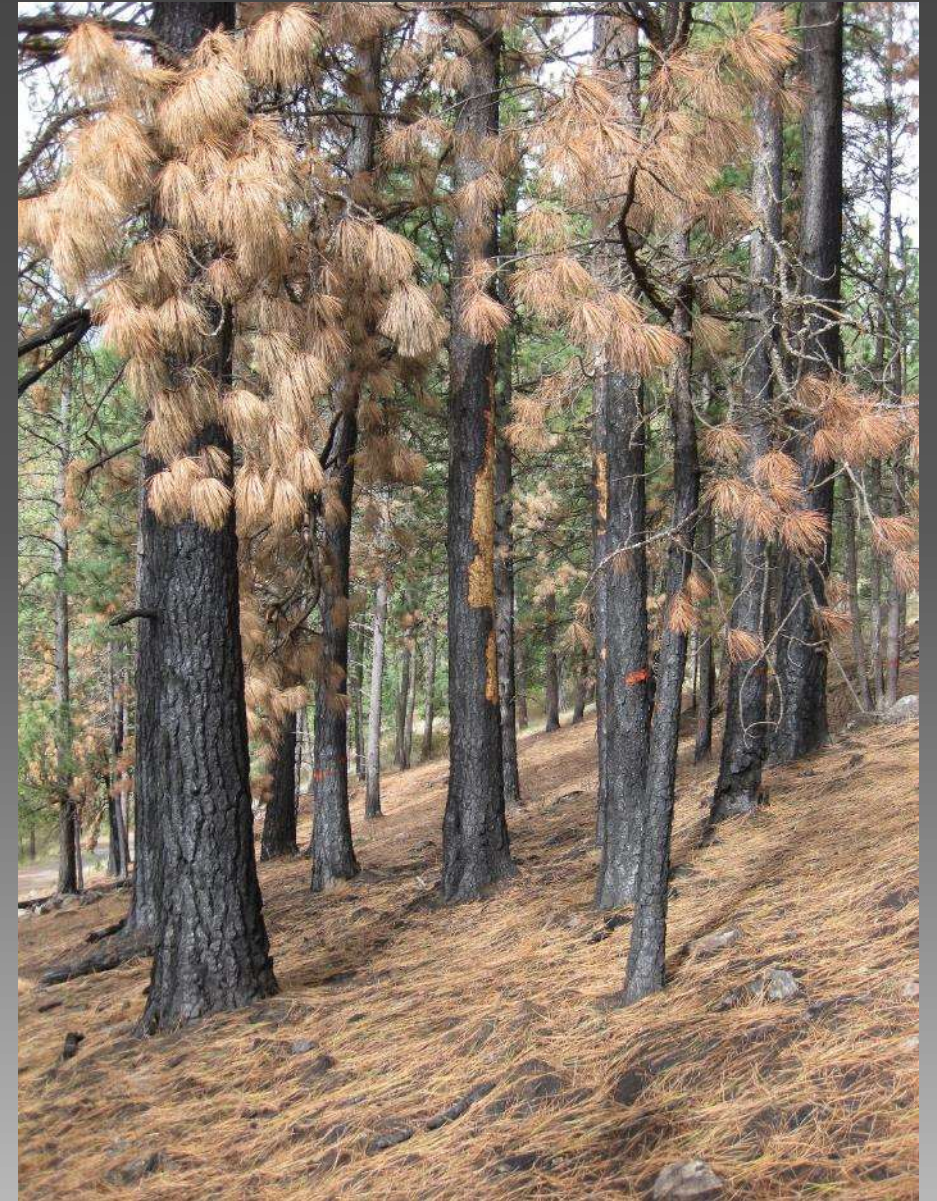


Pine Sawyer



# What Are Wood Borers?

- They usually attack weakened or dead trees
  - After fire



# What Are Wood Borers?

- They usually attack weakened or dead trees
  - After bark beetles



# What Are Wood Borers?

- They usually attack weakened or dead trees
  - After drought



# In Recent Years We've Been Seeing Borers Kill Apparently Healthy Trees



January 2019



March 2023



# Mostly Affecting Western Larch and Douglas-fir



**Western larch**



**Western larch**



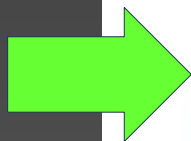
**Douglas-fir**



# Woodpecker Damage with Green Needles



# Is This New a Phenomenon?



March 2004

5.2

Forest Health Protection and State Forestry Organizations



By Ken Gibson

<https://usfs-public.app.box.com/s/rsd8gfwh7j4lcxwfnx68zy013tjhylj6/file/1276046675502>

*Melanophila drummondi* (Kirby)  
Family Buprestidae

Found extensively  
throughout the western  
United States and Canada.

#### Hosts:

- Douglas-fir
- True firs
- Spruce
- Western hemlock
- Western larch

#### Topics

<u>Damage</u>	1
<u>Life History</u>	1
<u>Management</u>	2
<u>Identification</u>	2
<u>Other Reading</u>	2

## Damage

The flatheaded fir borer usually attacks trees in poor vigor resulting from mechanical injury, mistletoe infection, fire damage, or drought stress. They are also readily attracted to recently felled trees.

However, they also attack

and kill apparently healthy trees, especially on dry sites or during unusually droughty conditions.

Most economic damage occurs when it kills apparently healthy Douglas-fir and western larch, which often occurs during extremely dry conditions.

# Is This New a Phenomenon?

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# The Best Way to Manage Forest Insects is with Silviculture

- **Grow the right tree for any given site**
  - **Pines on drier sites**
    - **South or west facing slopes**
    - **Thin or rocky soils**



# The Best Way to Manage Forest Insects is with Silviculture

- **Grow the right tree for any given site**
  - **Western larch and western white pine on moister sites**



# The Best Way to Manage Forest Insects is with Silviculture

- **Grow the right tree for any given site**
  - **Grand fir is not suitable for dry sites**





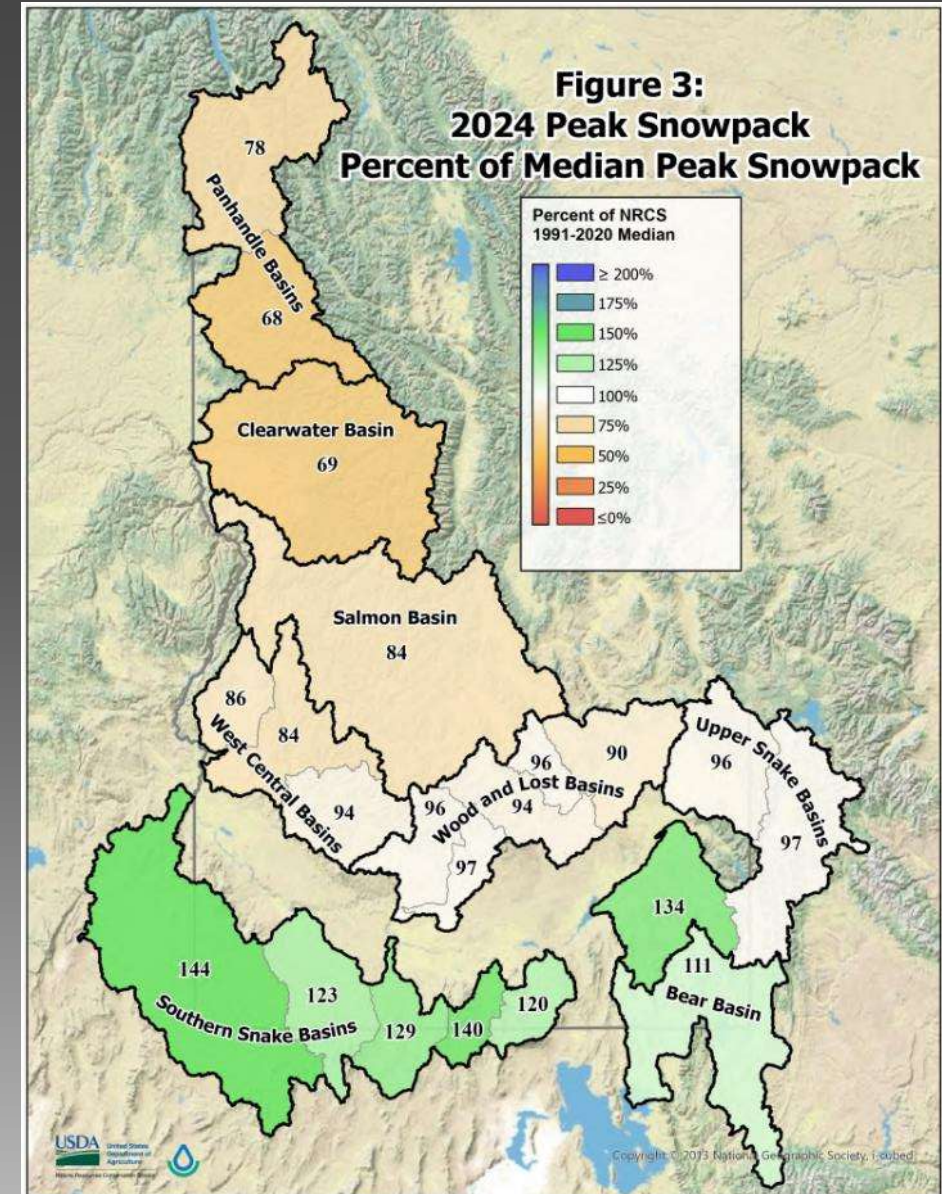
# The Best Way to Manage Forest Insects is with Silviculture

- **Thin stands to maximize tree vigor and minimize bark beetle & borer issues**



# Climate Change and Forest Health

- Temps in Idaho have increased  $\sim 2^{\circ}\text{F}$  since 1895
- Winter precipitation increasing (more as rain)
- Summer precipitation is decreasing
- Diminished snowpack



# Projected Climate Change Emphasizes Importance of Good Silviculture

Boundary County Property - May 2008



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Boundary County Property - May 2008

