



# SBEADMR FY22 Forest Disease Report

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State, Private, and Tribal Forestry





# Current Forest Disease Conditions

- Aerial detection survey mainly monitor insect damage
  - Diseases reported include aspen discoloration, needle casts, and root diseases (in some regions)
- Most diseases are persistent
- Increased spring/summer moisture has enhanced disease prevalence
  - High snowpack in 2022/23 will likely have similar trends
- Moisture has not reduced overall mortality...yet!

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# Common tree diseases and damages in SW Colorado

- Wind Throw
- Root Diseases
- Needle Casts
- Aspen Decline





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# Silver Jack Reservoir Windthrow



- Erratic spring/summer winds have resulted in widespread windthrow
- In 300+ aspen failed at Silver Jack campground and adjacent areas
- Evaluations found extensive root disease and stem decay
- Sanitation occurred in FY22 with more thinning proposed in FY23

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# Common tree diseases and damages in SW Colorado

- Wind Throw
- **Root Diseases**
- Needle Casts
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# Root diseases



- “Diseases of the site”
- Persistent in Colorado forests
  - Armillaria root disease
  - Heterobasidion root disease
  - Tomentosus root disease
  - Ganoderma root rot
- Management is difficult
  - Generally not necessary in forest setting





# Common tree diseases and damages in SW Colorado

- Wind Throw
- Root Diseases
- **Needle Casts**
- Aspen Decline







# Needle Casts



- No acres were recorded via ADS in 2022
  - Although increased moisture enhanced needle casts in areas with known infections
- Marshall Pass – *Lophodermella* needle cast of lodgepole pine
- Symptoms include browning (cast) in previous years needles with newly emerging needles green

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# Common tree diseases and damages in SW Colorado

- Wind Throw
- Root Diseases
- Windthrow
- **Aspen Decline**







# Aspen Decline



- Concentrated patches of dieback and mortality
- First noticed in 2004
- 359,000 acres affected in 2007
- ADS identified in 2022
  - 29,460 acres of defoliation
  - 370 acres of discoloration
- Causal agents:
  - **Predisposing:** Low elevation, S-SW aspects, over mature
  - **Inciting:** Warm, dry conditions
  - **Contributing:** Cytospora, poplar borer, bronze poplar borer, aspen bark beetles

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# 202X SAD Remeasurements



- Mortality increased 13.5% on “healthy” plots
- Healthy trees decreased by 26%
- Declining trees increased by 4%
- Recently dead increased by 10%
- Regeneration is relatively dense (~11,500 stems per acre)
- High prevalence in secondary agents
  - Aspen bark beetles
  - Cytospora canker
  - Wood borers





# Summary

- Windthrow enhanced awareness of root diseases
- Moisture increased fruiting bodies and occurrence of forest diseases
- Sudden aspen decline resulted in reduction of healthy overstory with high abundance of regeneration







Bark Beetle Update for the  
GMUG National Forest  
SBEADMR Annual Meeting  
2023

- Amy Lockner, Forest Entomologist
- Forest Health Protection

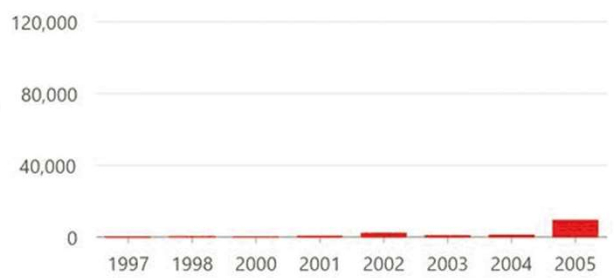


# GMUG bark beetles of interest

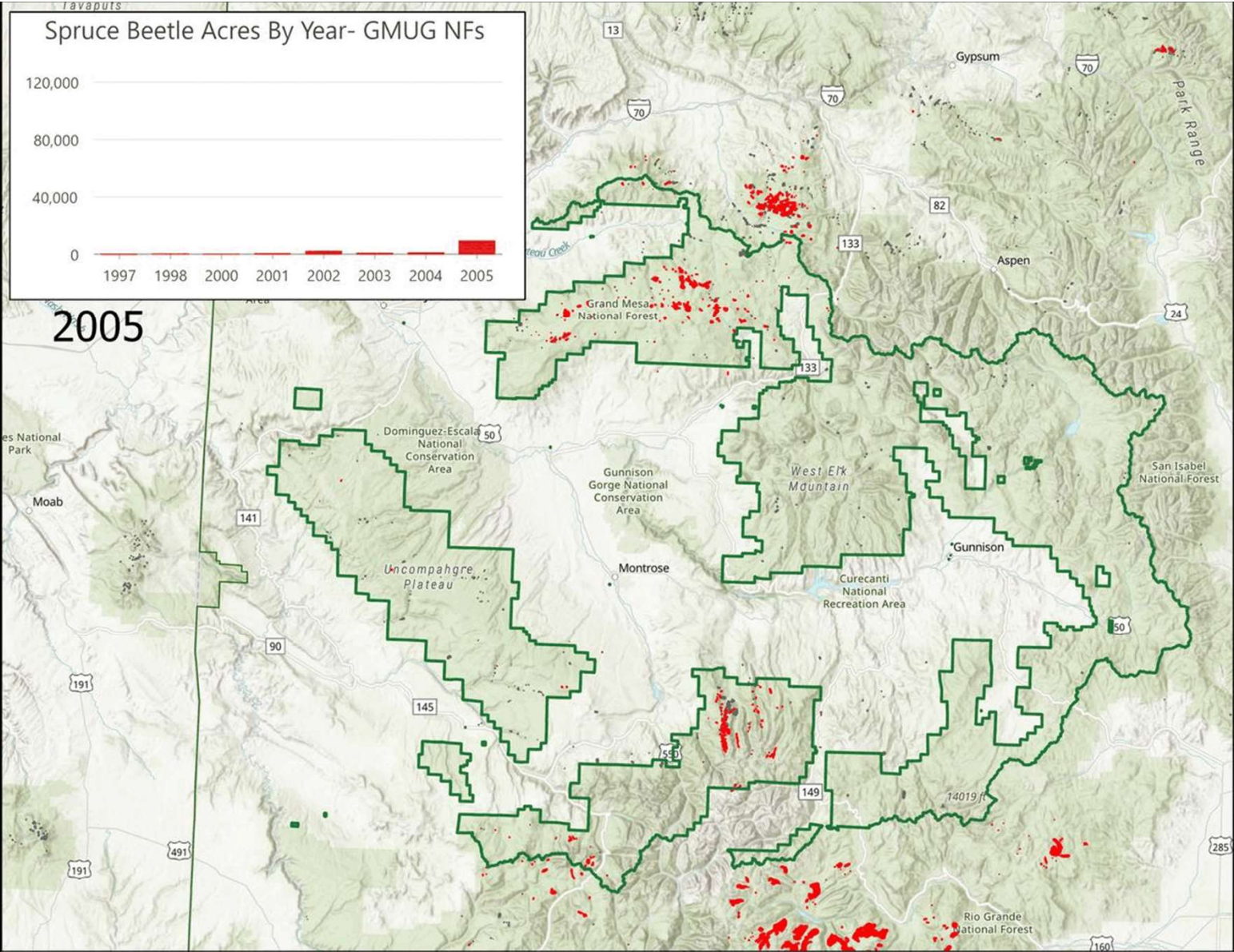
- **Spruce beetle (7,400 acres new)**
- **Mountain pine beetle (1,000 acres new)**
- **Douglas-fir beetle (1,100 acres new)**
- **Western balsam bark beetle (3,600 acres new)**
- **Bark beetle complex in ponderosa pine (3 species working together)**
- **Fir engraver**



### Spruce Beetle Acres By Year- GMUG NFs

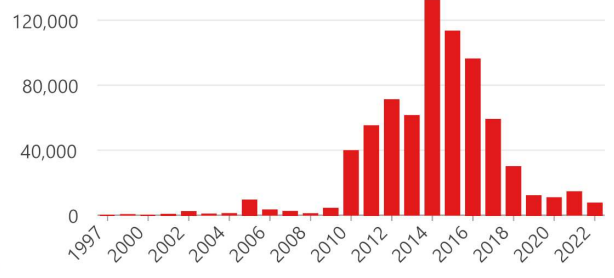


2005

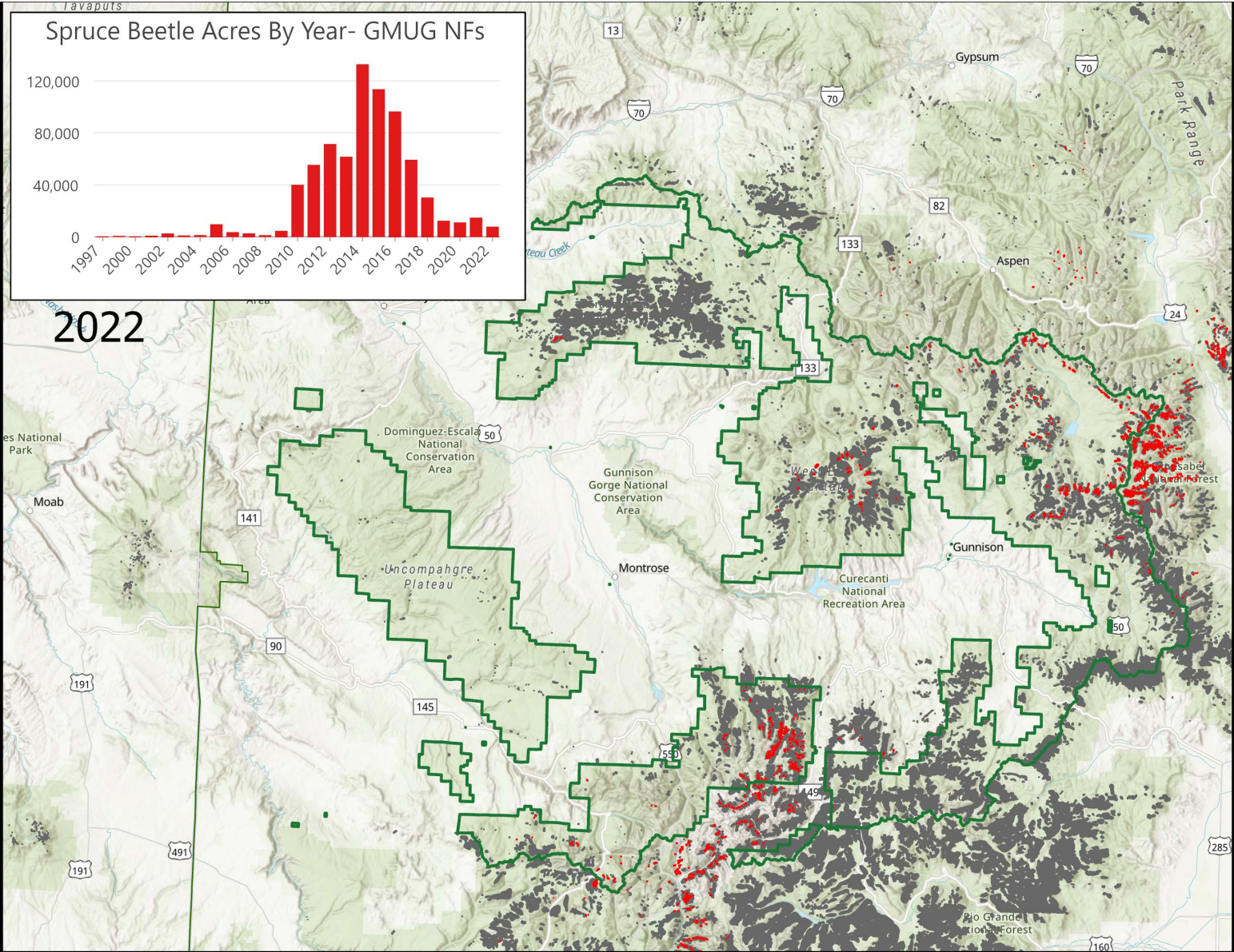




Spruce Beetle Acres By Year- GMUG NFs

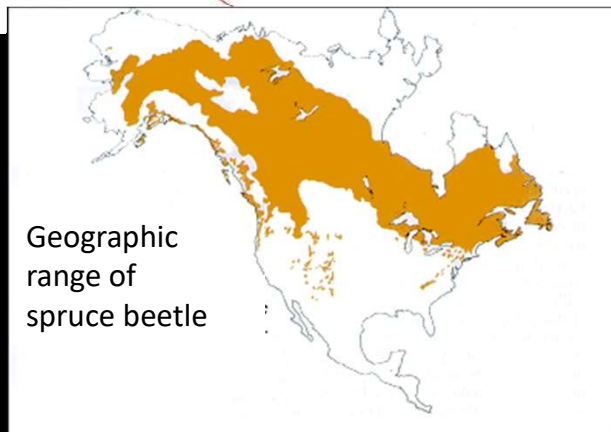
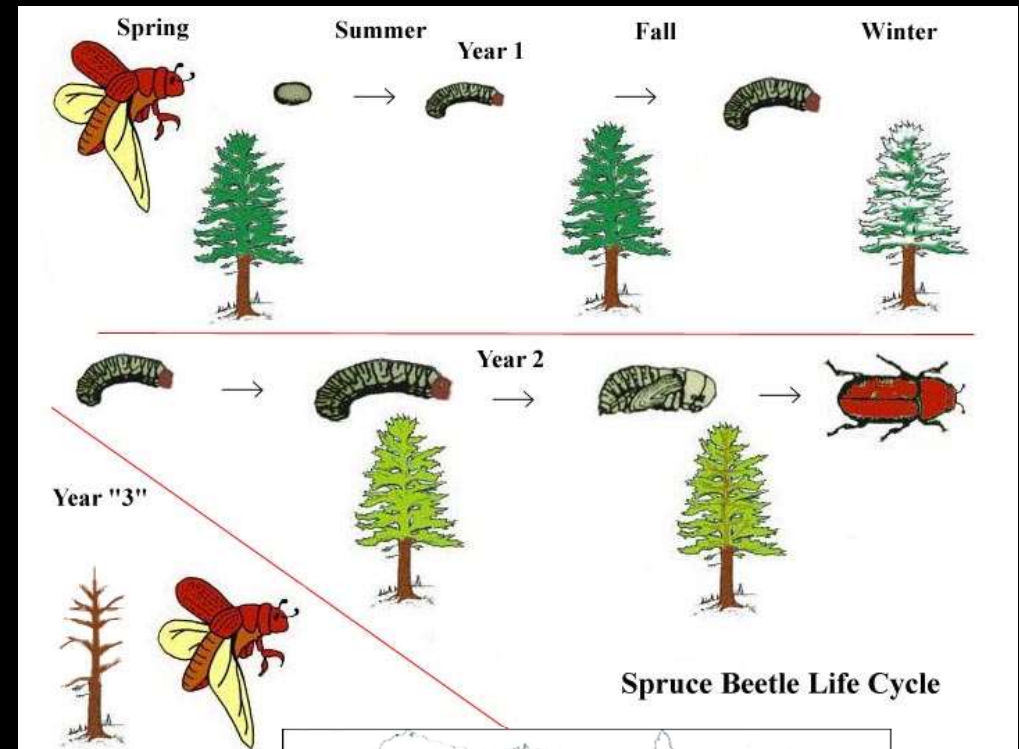


2022



# Spruce Beetle

- Host: Engelmann spruce and blue spruce
- Mature, >16 in DBH
  - Outbreak, down to 4 in DBH
- Two-year life-cycle in Colorado
- Avalanches/windthrow create problems
- Remove downed trees when possible

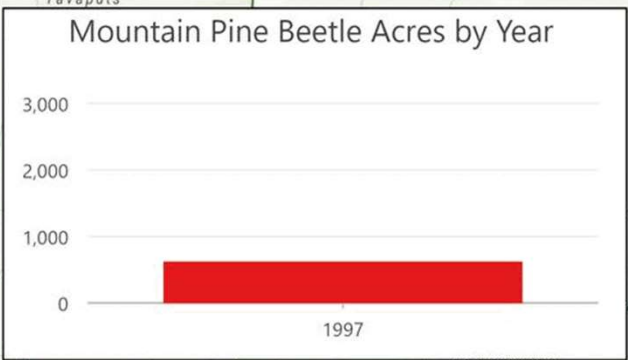




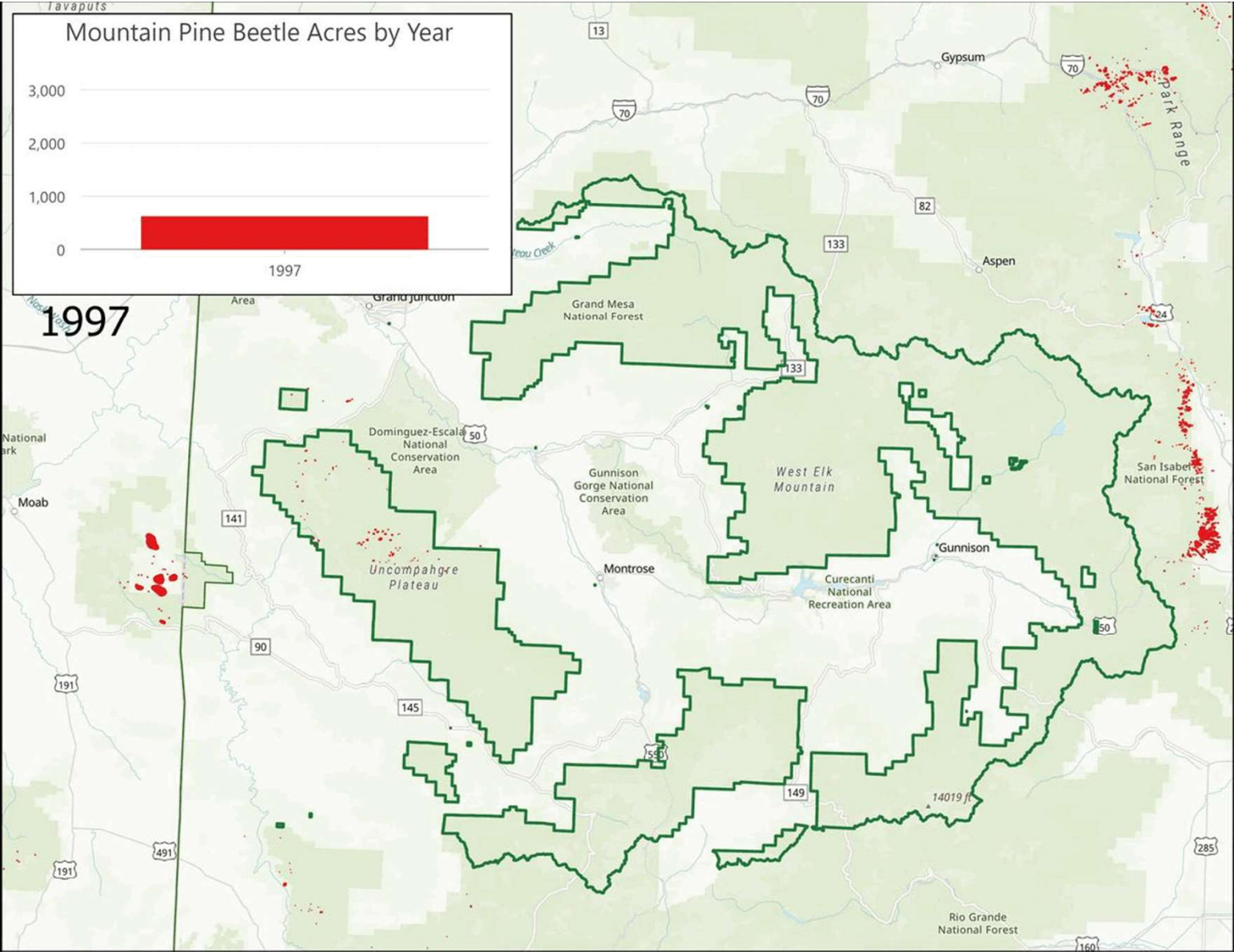
# Signs of Spruce Beetle Activity



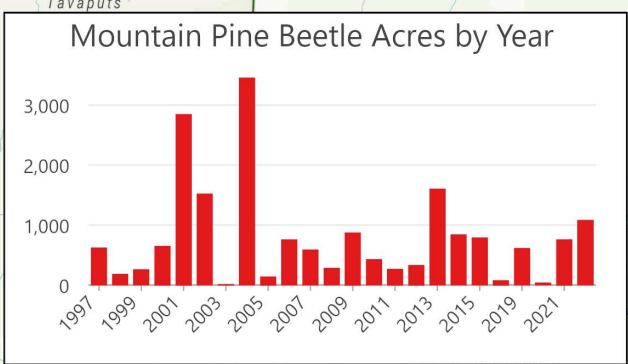




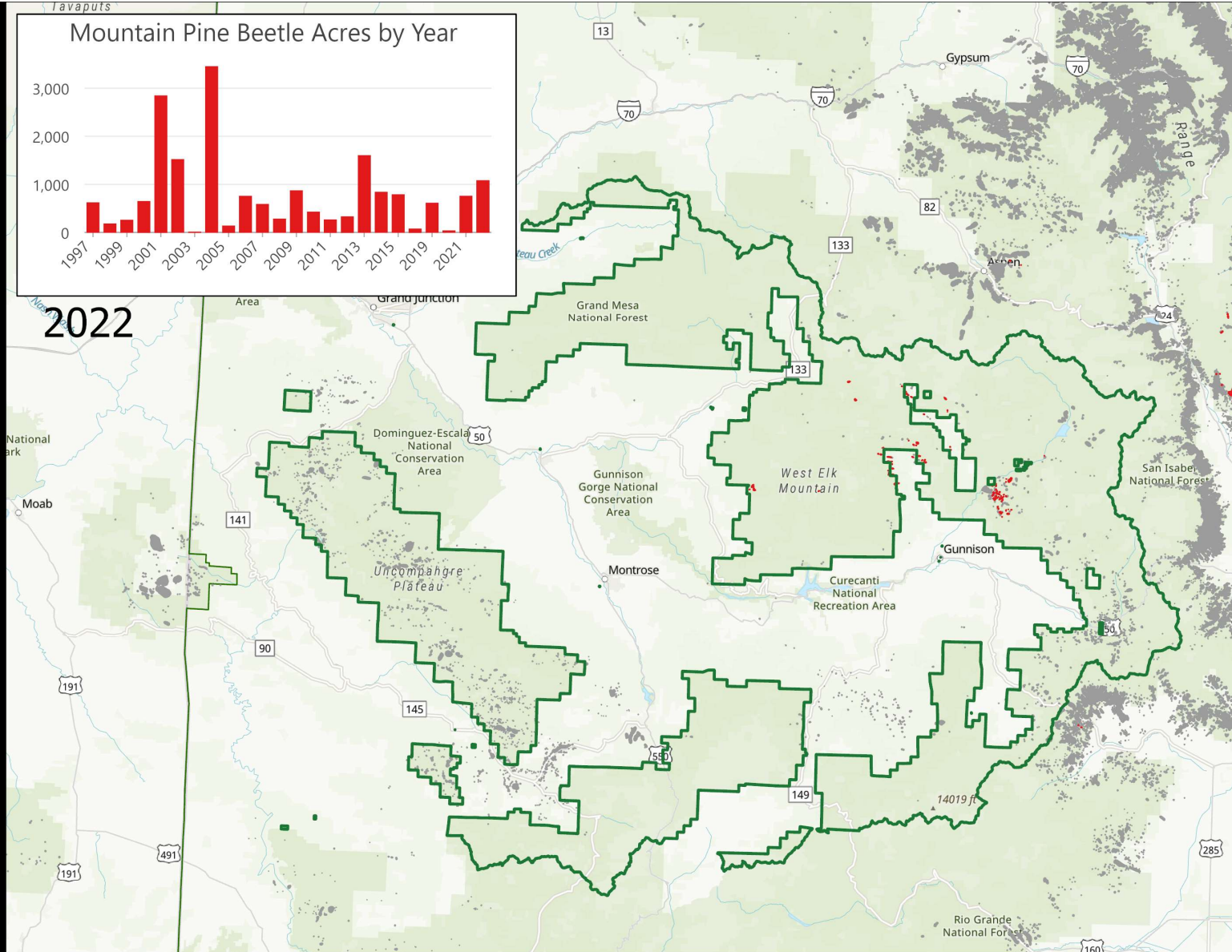
1997







2022





# Mountain Pine Beetle

- Hosts: Lodgepole, ponderosa, whitebark, limber, and bristlecone pine
- Dense, mature, even-aged pine
- Large diameter is preferred, >8 DBH
- 1 year life cycle
- Current outbreak near Gunnison in lodgepole
  - Quick action/sanitation
- <1,000 acres





# Signs of Mountain Pine Beetle



**Pitch tubes**



**Long galleries**



**adults, pupae, and larvae**





# Questions?

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**Forest Service**  
**Rocky Mountain Region**  
**Forest Health Protection**  
**Gunnison Service Center**

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**Caring for the land and serving people**

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