



# Little Belts Landscape Assessment

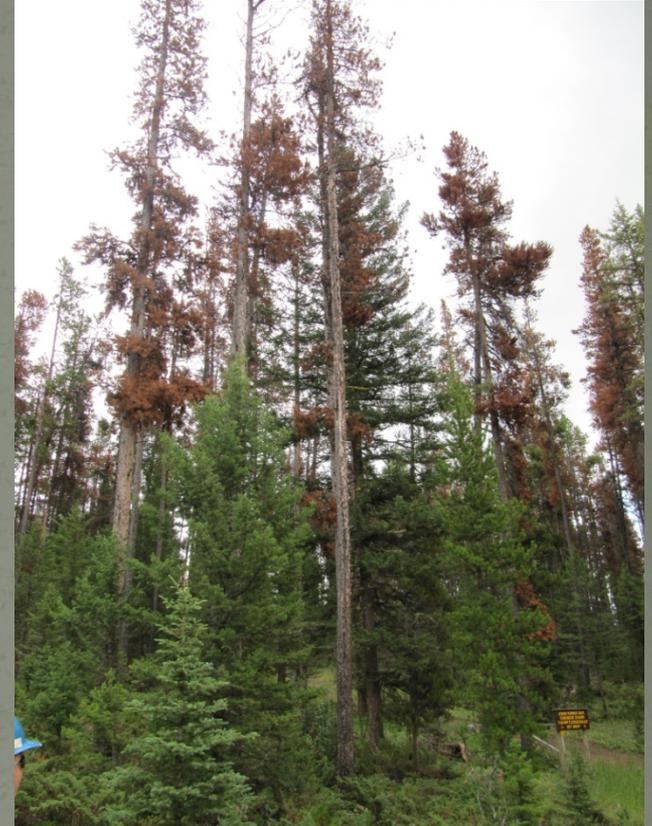
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Current Vegetation Condition and Wildfire Risk

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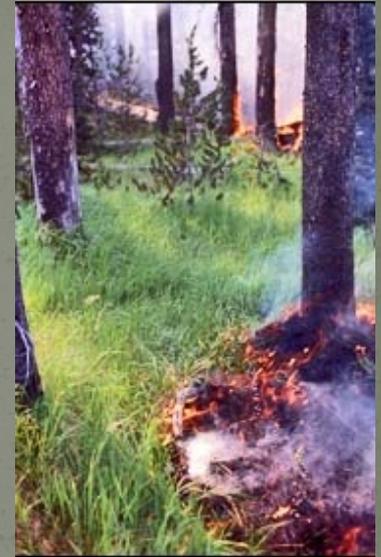
# Vegetation Condition: *Objectives*

- Understand the historical disturbance regimes of the Little Belt Mountains,
- how these regimes interacted with vegetation,
- to what degree vegetation condition may have changed



# Disturbance Regimes

- A disturbance regime refers to the typical frequency, severity, and extent of the disturbance.
- Wildfire and insect disturbances are no strangers to the Little Belts.
- “No large area of the reserve has remained untouched by fire during the last one hundred and fifty years.” – Leiberg 1904



# Why historical disturbance regimes?

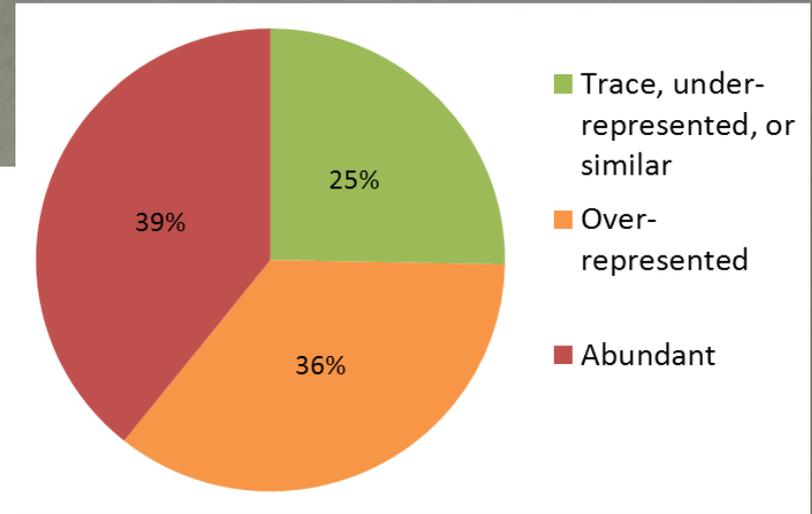
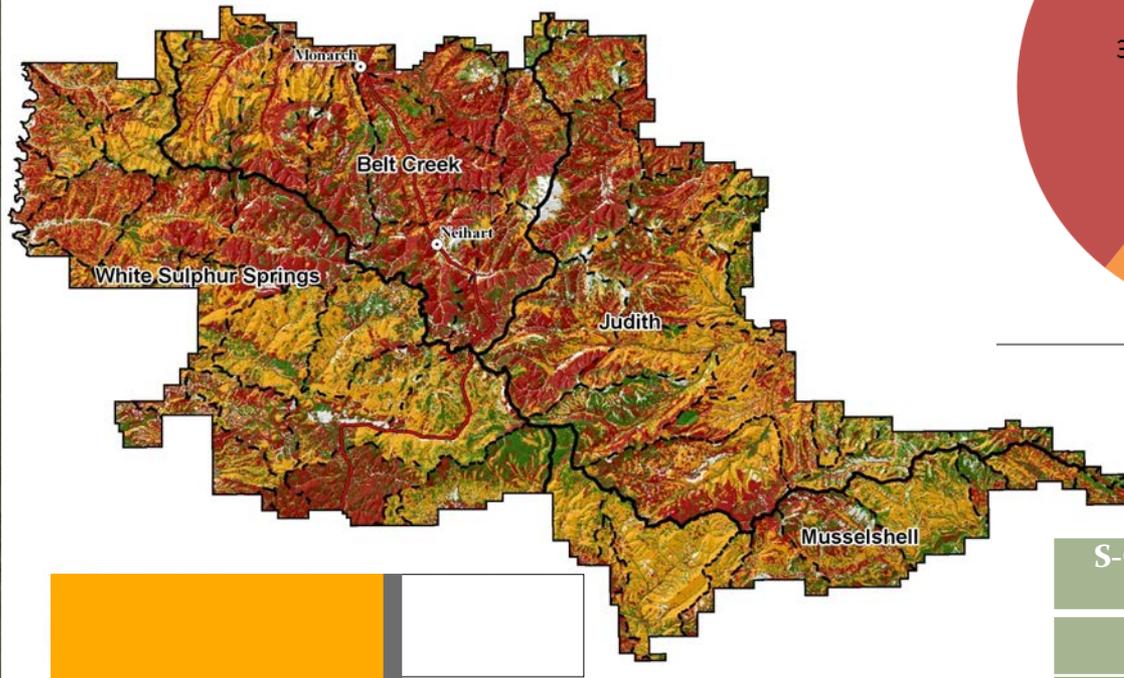
- Represent the conditions under which the vegetation, wildlife, fisheries, and soils of the Little Belts have evolved.
- These conditions are the most likely to remain resilient to future stressors.
- Provide vegetation diversity important to wildlife habitat and clean water.
- Provide a reference, or benchmark, of conditions that are resilient to natural disturbances and provide direction for future management.



# Historical vs. Current Vegetation Condition: *Measuring “out-of-whack”*

Lodgepole pine/spruce-fir Forests					
S-Class	Age/Structure	Species Composition	Reference %	Current %	Relative Amount
A	Early development, all structures	Grasses, forbs, low shrubs and lodgepole pine seedlings/saplings.	15%	12%	Similar
B	Mid-development, all structures	Lodgepole pine dominates upper canopy, subalpine fir present in middle canopy.	35%	5%	Trace
C	Late development, closed structure	Lodgepole pine dominates upper canopy, subalpine fir present in mid-upper canopy.	20%	64%	Abundant
D	Late development, closed structure	Mature subalpine fir and Engelmann spruce dominate upper canopy.	30%	15%	Under-represented

# Vegetation Condition: *Management opportunity*



S-Class Relative Amount	Suggested Management
Trace	Maintain/Protect/Recruit
Under-represented	Maintain/Protect/Recruit
Similar	Maintain/Protect
Over-represented	Reduce
Abundant	Reduce

# Beetle Hazard

- The species and age composition of the Little Belts is very similar to that of the Helena NF.
- Although the Lewis and Clark hasn't seen the same level of mortality as the Helena, current stand conditions remain very susceptible to a large-scale outbreak.

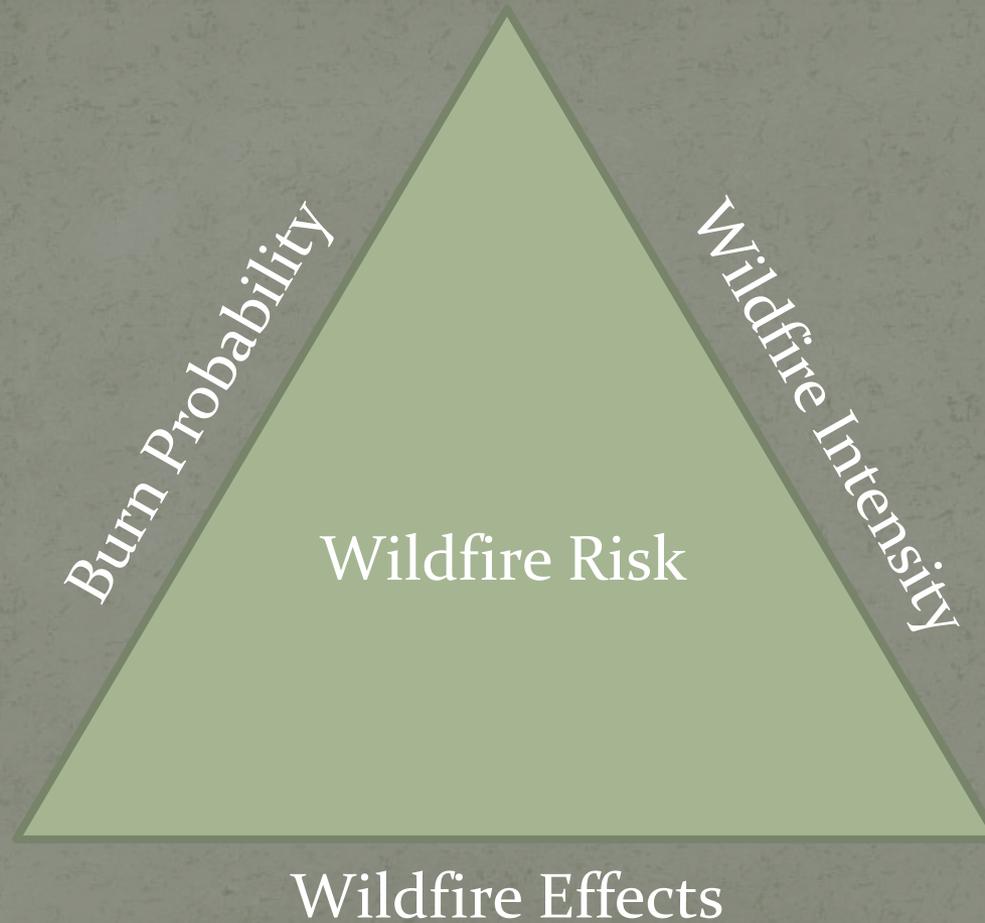


# Wildfire Risk: *Objectives*

- Determine which resources and assets are most vulnerable to loss from wildfire
- Determine where vulnerable resources and assets are located



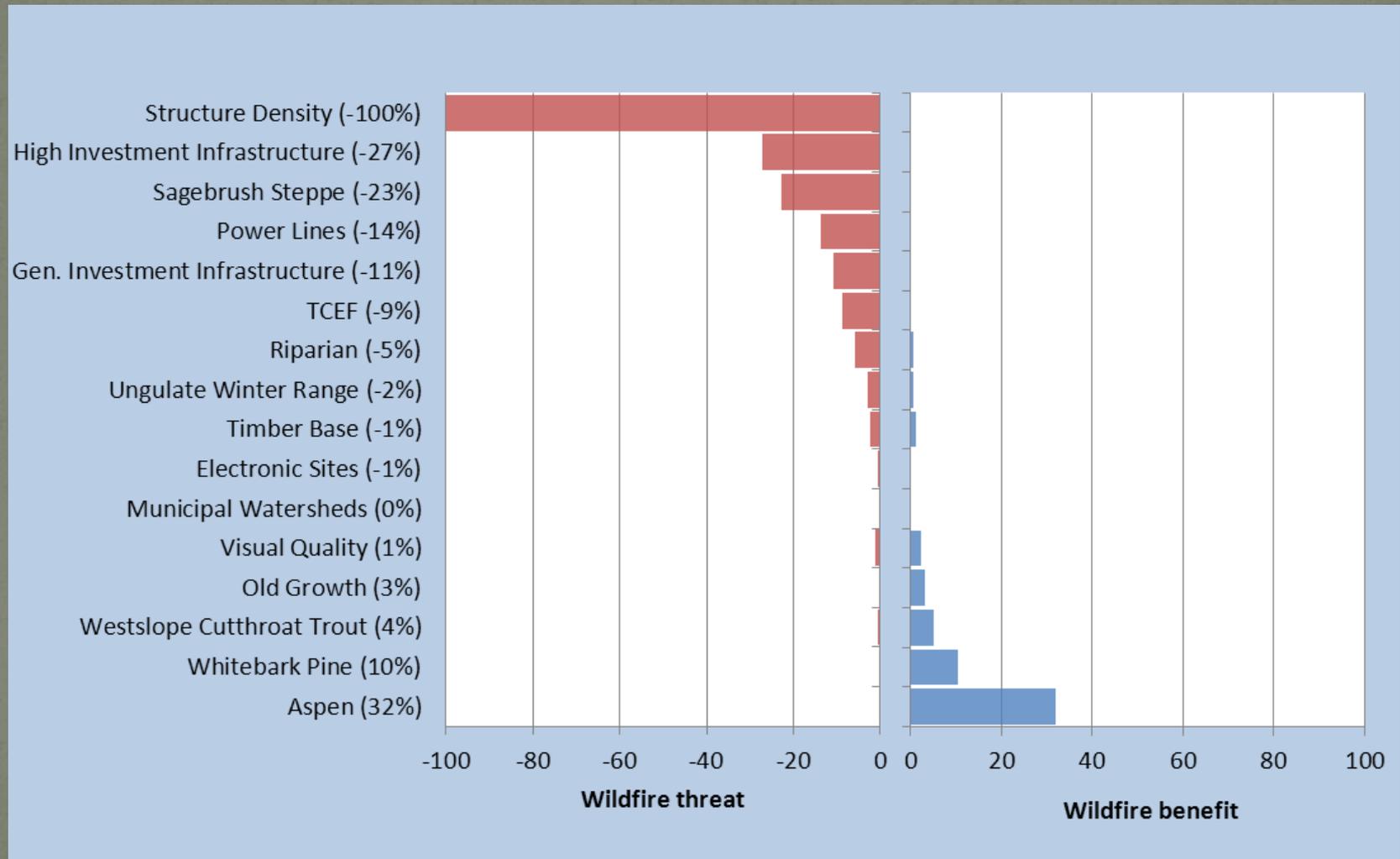
# Factors of Wildfire Risk



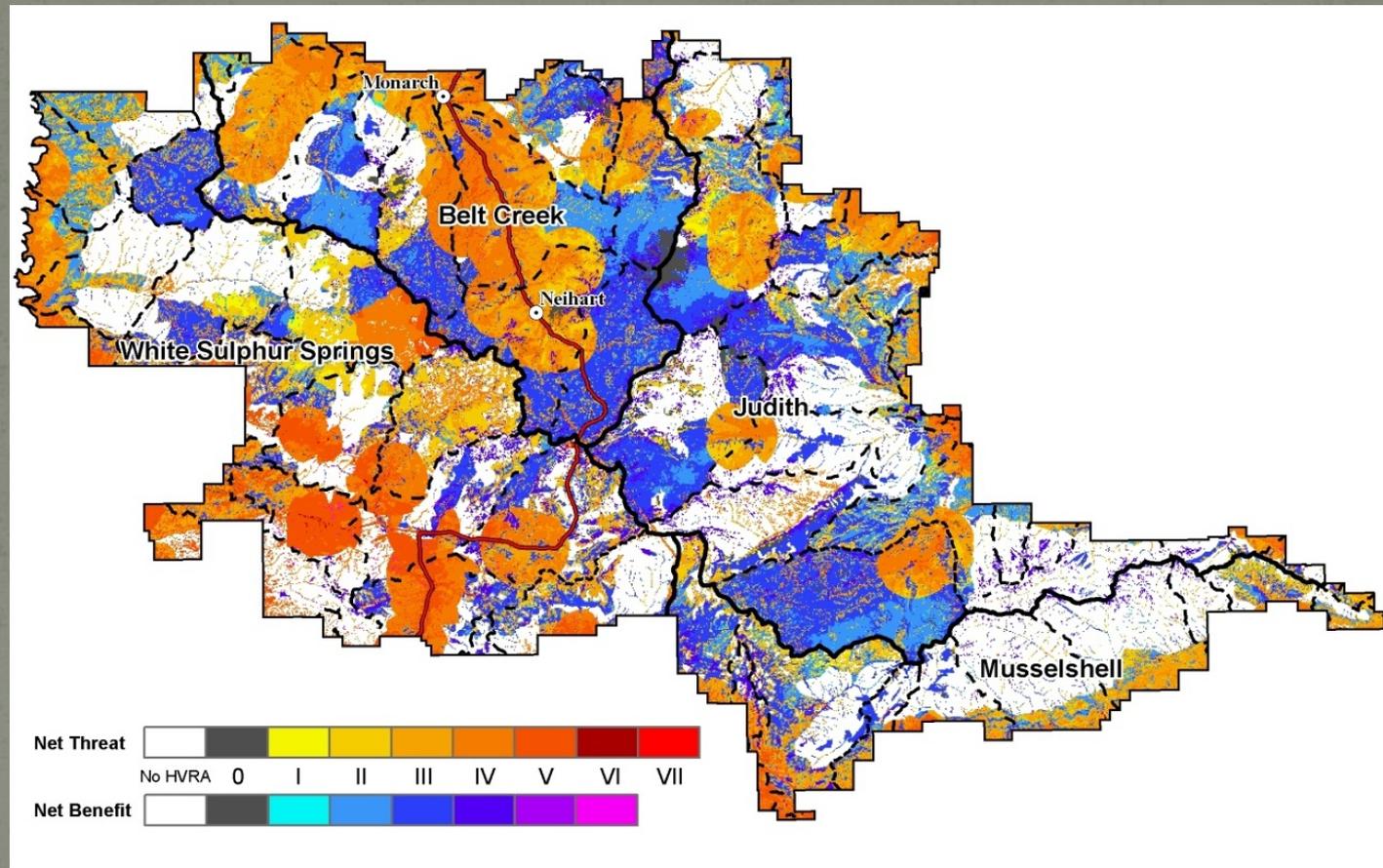
# Highly Valued Resources and Assets (HVRAs)

Highly Valued Resource or Asset (HVRA)	Sub-HVRA
Wildland-Urban Interface	Structure density
Infrastructure	General investment
	High investment
	Power lines
	Electronic sites
Critical Wildlife Habitat	Aspen
	Old growth
	Riparian
	Sagebrush steppe
	Ungulate winter range
	Whitebark pine
Green Trees	Tenderfoot Creek Experimental Forest
	Timber base
	Visual quality
High value watersheds	Isolated westslope cutthroat trout streams
	Municipal watersheds

# Wildfire Risk: *Analysis Results*



# Wildfire Risk: *Analysis Results*



# The Big Picture

- Vegetation has departed from its historical composition and structure and become more uniform across the landscape.
- This uniformity has led to a loss in vegetation diversity important to other resources such as wildlife, and increased opportunity for large-scale wildfires and insect outbreaks.
- Resources and assets most at risk to loss or damage from wildfire are concentrated in specific areas of the landscape.
- A wide range of management opportunities exist for restoring vegetation condition and reducing wildfire threat to HVRAs.