

A landscape photograph showing a forest with a mix of evergreen and deciduous trees. The deciduous trees in the foreground and middle ground have turned yellow and orange, indicating autumn. The evergreen trees are dark green. The sky is filled with heavy, grey clouds, with a small patch of blue visible near the top left. The overall scene is a natural, outdoor setting.

DESIRED CONDITIONS DIALOGUE

Dry Mixed Conifer Workshop

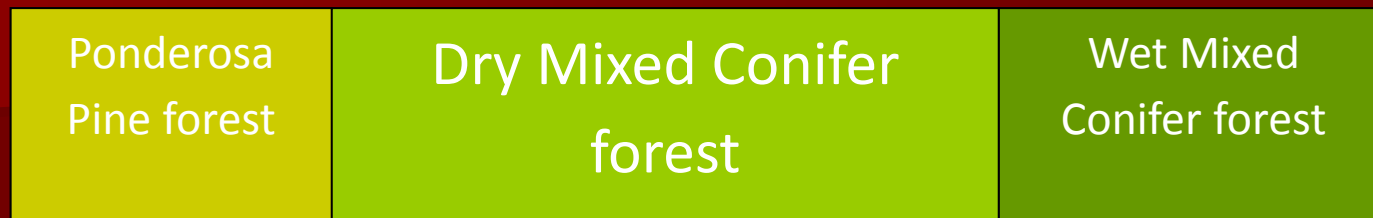
October 2012

Apache-Sitgreaves NFs

OBJECTIVES

- Describe dry mixed conifer forests (classification)
- Begin a dialogue on desired forest conditions to develop a common understanding and a framework for shared learning
- Describe desired conditions for dry mixed conifer forests
- Describe links between desired conditions and ecological restoration
- Discuss use of desired conditions as a target and measure of success

Montane Forest Characteristics



Open forest,
Trees aggregated in
small groups, or random

Closed forest,
Trees aggregated in large
patches



Warmer/Drier

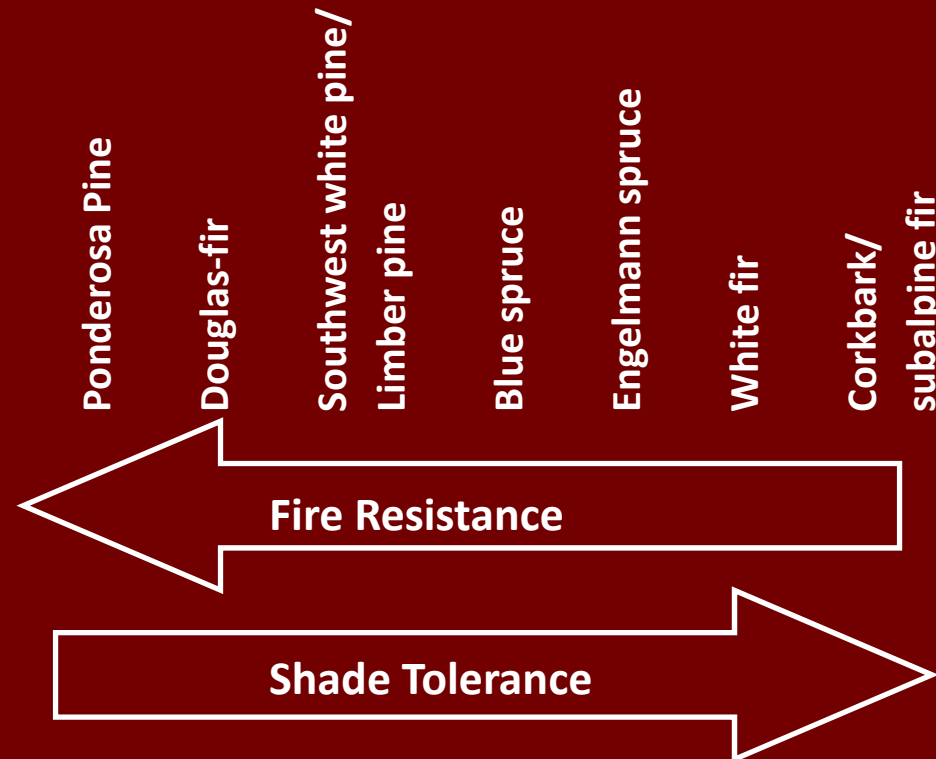
Cooler/Wetter

Biophysical Site
Conditions

Mixed Conifer Forest Classification

Forest Type (sub-type)	<u>Fire Regime</u>		Fire Type	Forest Structure	Seral Species	Climax Species
	Fire Frequency	Fire Severity				
Dry mixed-conifer (warmer/drier)	<u>Regime I (common)</u> 0-35 years Low		Surface	Uneven-aged, grouped, open	Dominant: ponderosa pine Subdominant: aspen and/or oak (in sub-stand scale patches)	Shade-intolerant species under fire disclimax historic conditions. Dominant: ponderosa pine Subdominant: Douglas-fir and Southwestern white pine or limber pine
	<u>Regime III (rare)</u> 35-100+ years Mixed		Mixed	Uneven-aged, patched, open		
Wet mixed-conifer (cooler/wetter)	<u>Regime III (common)</u> 35-100+ years Mixed		Mixed	Uneven-aged, patched, closed	Dominant (depending on habitat type): aspen or Douglas-fir	Shade tolerant species. Dominant (depending on habitat type): white fir and/or blue spruce
	<u>Regime IV (rare)</u> 35-100+ years High		Stand-replacing	Even-aged, closed		

Relative shade and fire tolerance of common conifer tree species in mixed conifer and spruce-fir forests



Development of R3 Desired Conditions

- History of development
 - DC developed for Forest Plan Revision
 - Iterative and adaptive process
- DCs guide project level development
- Based on best available science for forest ecology, wildlife ecology, natural range of variability, etc.

Desired Conditions: key elements

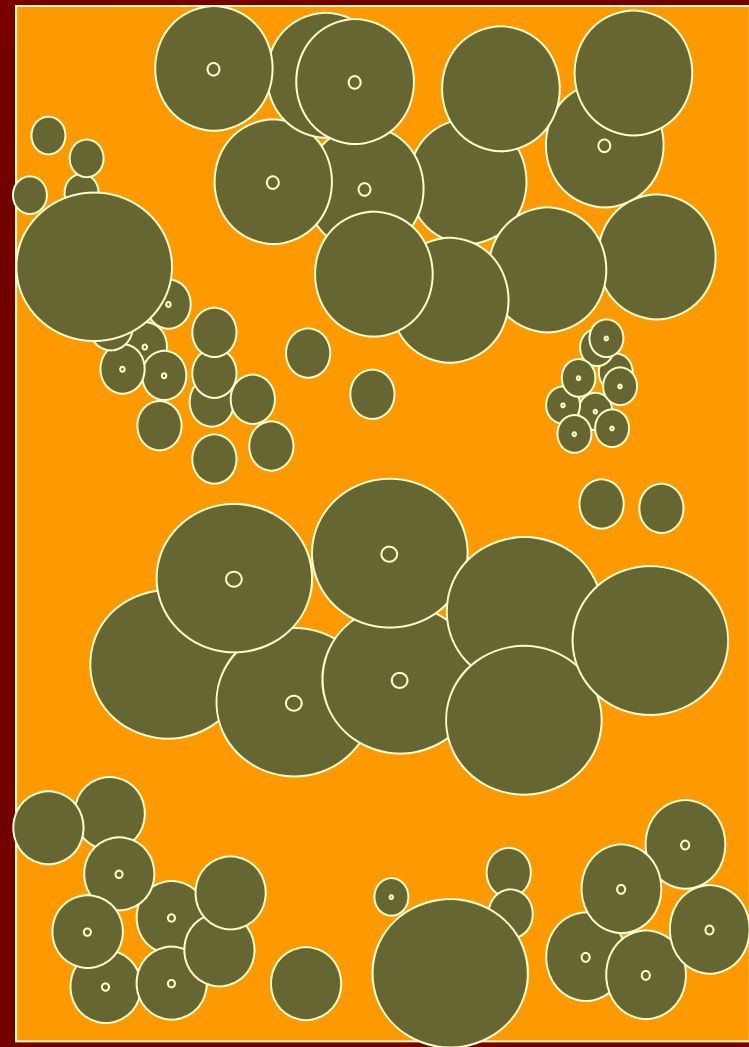
- Tree species and age composition
 - Sustaining a balance of tree ages
- Spatial characteristics of forests
 - Tree groups: size, density, arrangement
 - Interspaces: composition, size, arrangement
- Processes and Functions
 - Biological diversity, foodwebs, hydrologic processes, nutrient recycling, etc.
 - Disturbances (fire, insects, disease, windthrow) at natural frequencies and levels

Desired Forest Conditions

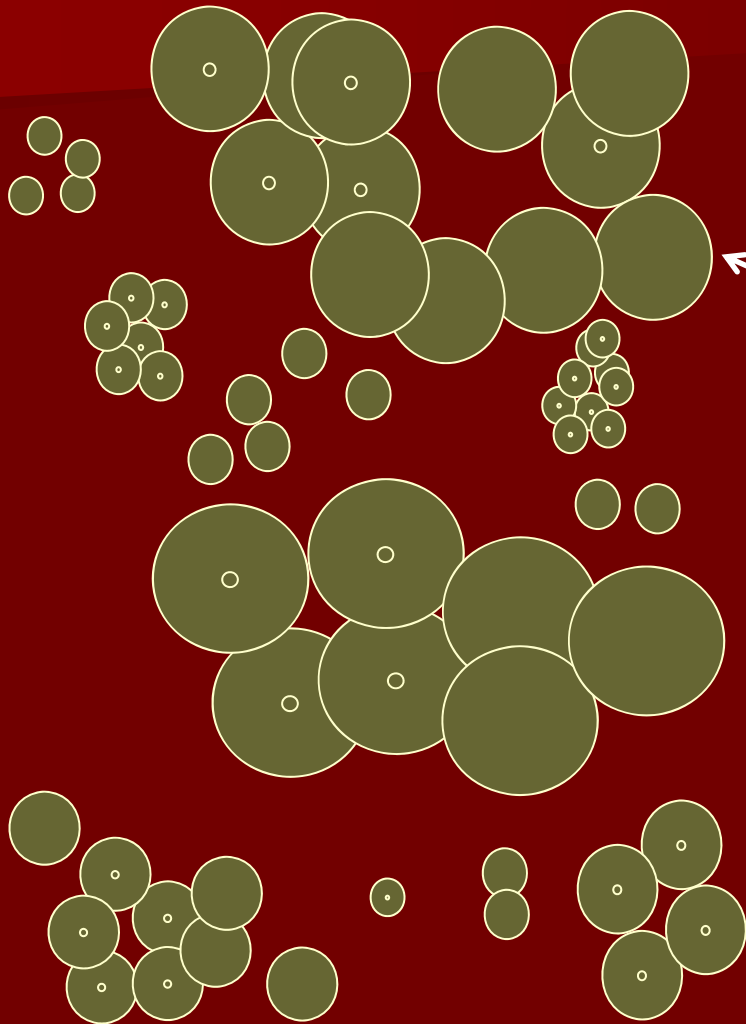


Spatial and Age Characteristics

- Trees grouped with interlocking crowns
- Interspaces between tree groups
- All age classes and as much old forest as is ecologically sustainable
- High interspersion of age classes



Tree group size and variability



Group size ranges from a few trees to 1+ acre in size. Highly variable based on site conditions.

Openness and Variability



North-facing
slope example:

About 30-40% of
area is grass/ forb/
shrub interspace

About 60-70% of
area is under mid-
old tree cover

Area
under tree
cover

Grass/forb/shrub
interspace

Openness and Variability

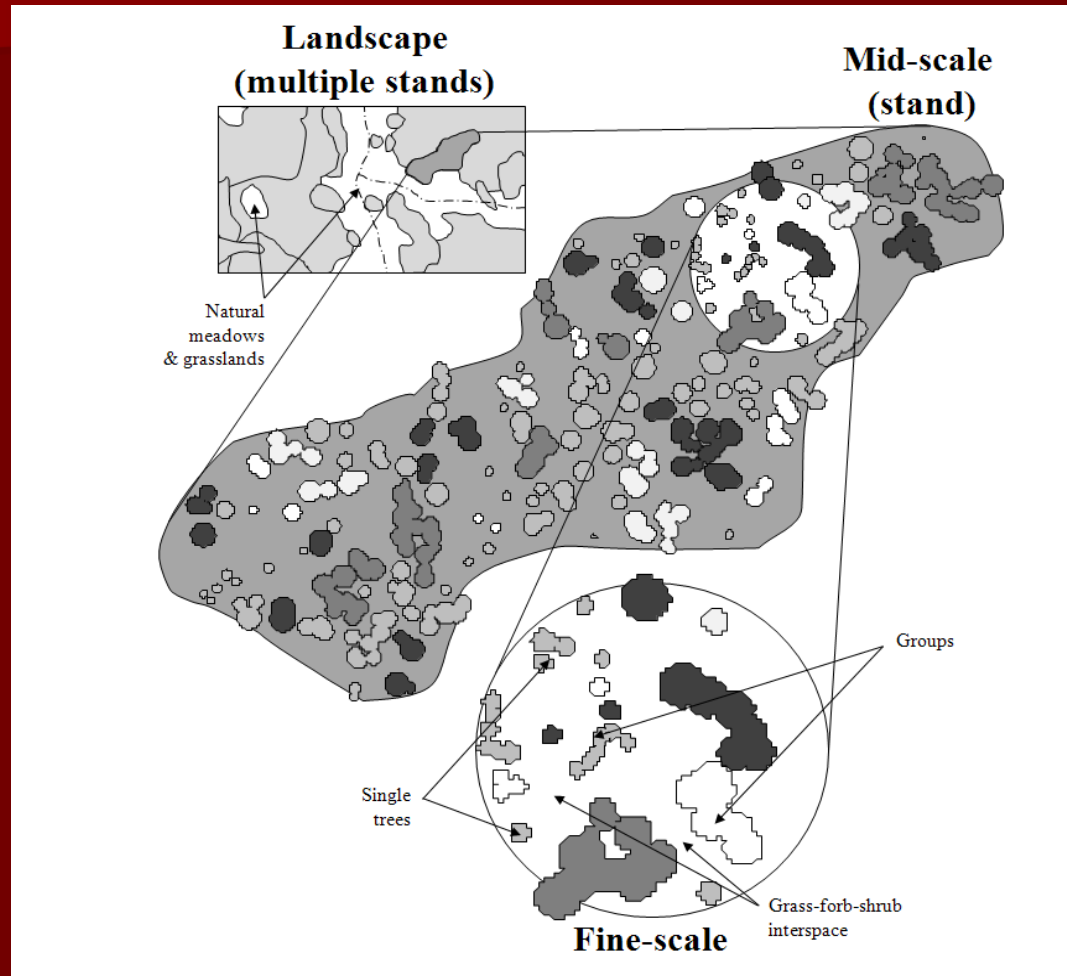


South-facing
slope
example:

About 40-60% of
area is grass/ forb/
shrub interspace

About 40-60% of
area is under mid-
old tree cover

Conceptualized forest reference condition at three spatial scales



Spatial and Age Characteristics

Conceptual uneven-aged mosaic



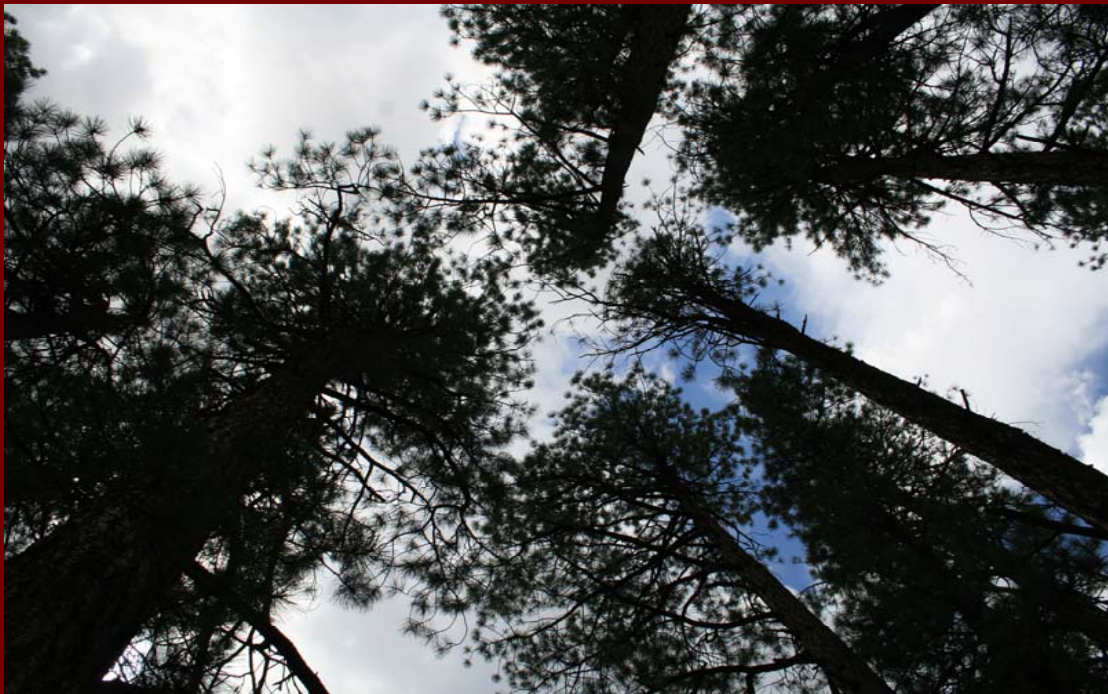
0 — 100 — 200 — 300
Scale - feet





Spatial Characteristics

Trees grouped with
interlocking crowns



Spatial Characteristics

Interspaces between tree groups



Tree Age

All age classes and
as much old forest as is
ecologically sustainable



Age and Function

Large tree components

- Big trees
- Snags
- Logs
- Woody debris



Composition and Function

Grass/forb/shrub
interspaces

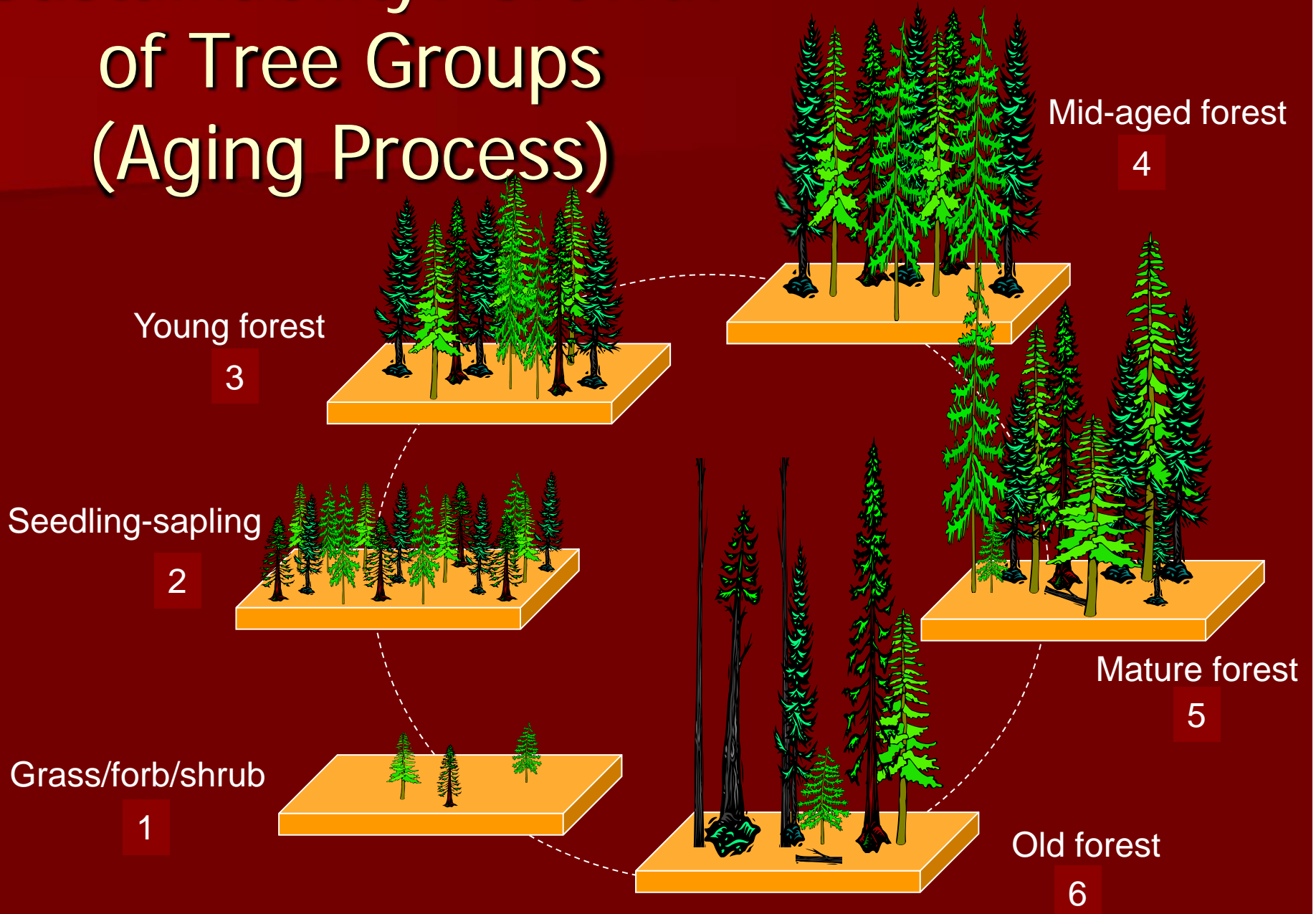


Processes

- Frequent surface fire
 - 5 to 10 yrs ponderosa pine
 - 7 to 35 yrs dry MC



Sustainability: Growth of Tree Groups (Aging Process)



Concepts

- Desired Conditions are a work in progress
 - Will be adapted to new science/information
- Desired Condition characteristics are presented in **ranges**, not single targets, to account for variability across most of a landscape. For dry MC:
 - Percent of openness, generally 30-60%
 - Typically 40 to 125 sq ft/BA per acre
 - Generally 8 to 16 tons woody debris per acre
- Desired Condition at three scales
 - Landscape
 - Mid scale
 - Fine scale

Links between desired conditions and ecological restoration

- The Desired Conditions fall within natural historic conditions
- Natural conditions are a good example of functioning, sustainable, and resilient ecosystems
- Attaining the Desired Conditions will achieve restoration objectives

Challenges

- Desired Conditions may not be attainable in a single treatment
- Operational feasibility (funding, workforce, industry capacity, etc.) may constrain our ability to achieve desired conditions everywhere
- Necessitates prioritizing landscapes and strategies for achieving desired conditions
- Maintenance of desired conditions

Outcomes of Desired Conditions

- Reduced severity of fire effects
- Reduced fire hazards and increased flexibility for managing fires
- Increased resilience to climate variability and change, insects, disease



Outcomes (cont)

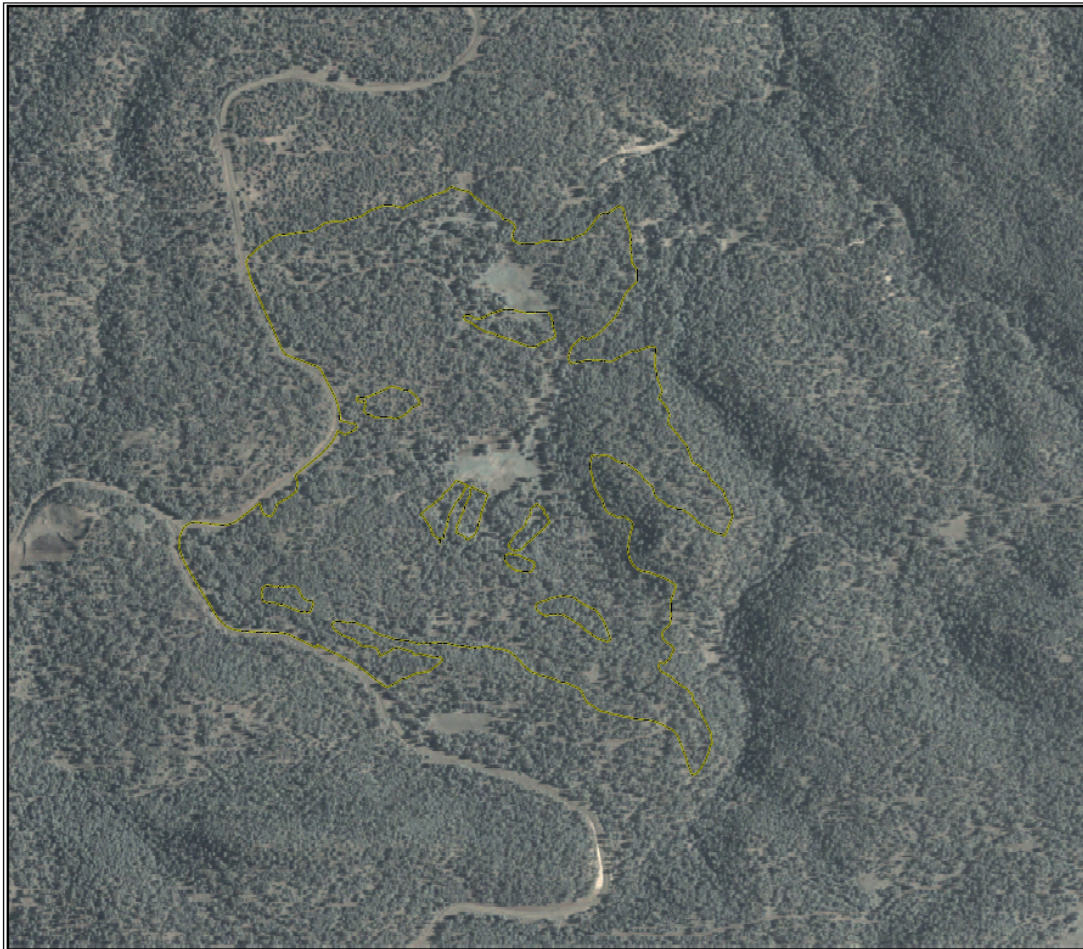
- Sustainable old growth condition
- Restored hydrologic function
- Sustainable wood supply
- Improved forage production
- Enhanced visual quality
- Improved plant and animal habitat, biodiversity, foodwebs

Desired conditions and resiliency



**Pre-fire treatment (Fort Apache I.R.)
(one week after Rodeo-Chediski Wildfire)**

Eagar South PFA Pre Treatment



APACHE SITGREAVES NATIONAL FOREST
SPRINGVILLE RANGER DISTRICT
EAGER SOUTH UNIT 1

PRE TREATMENT IMAGE SUMMER 2007
NORTHERN GOSSAWK POST FLEDGLING AREA (PFA)



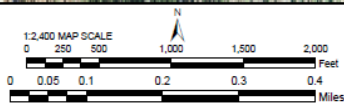
MAP CREATED BY THE U.S. DEPARTMENT OF AGRICULTURE
U.S. FOREST SERVICE, SOUTHWESTERN REGIONAL OFFICE

Eagar South PFA Post Treatment



APACHE SITGREAVES NATIONAL FOREST
SPRINGVILLE RANGER DISTRICT
EAGER SOUTH UNIT 1

POST TREATMENT IMAGE EARLY FALL 2008
NORTHERN GOSHAWK POST FLEDGLING AREA (PFA)



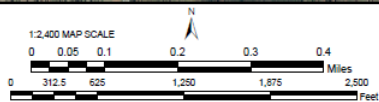
MAP CREATED BY THE DEPARTMENT
OF AGRICULTURE, FOREST SERVICE

Eagar South Post Wallow



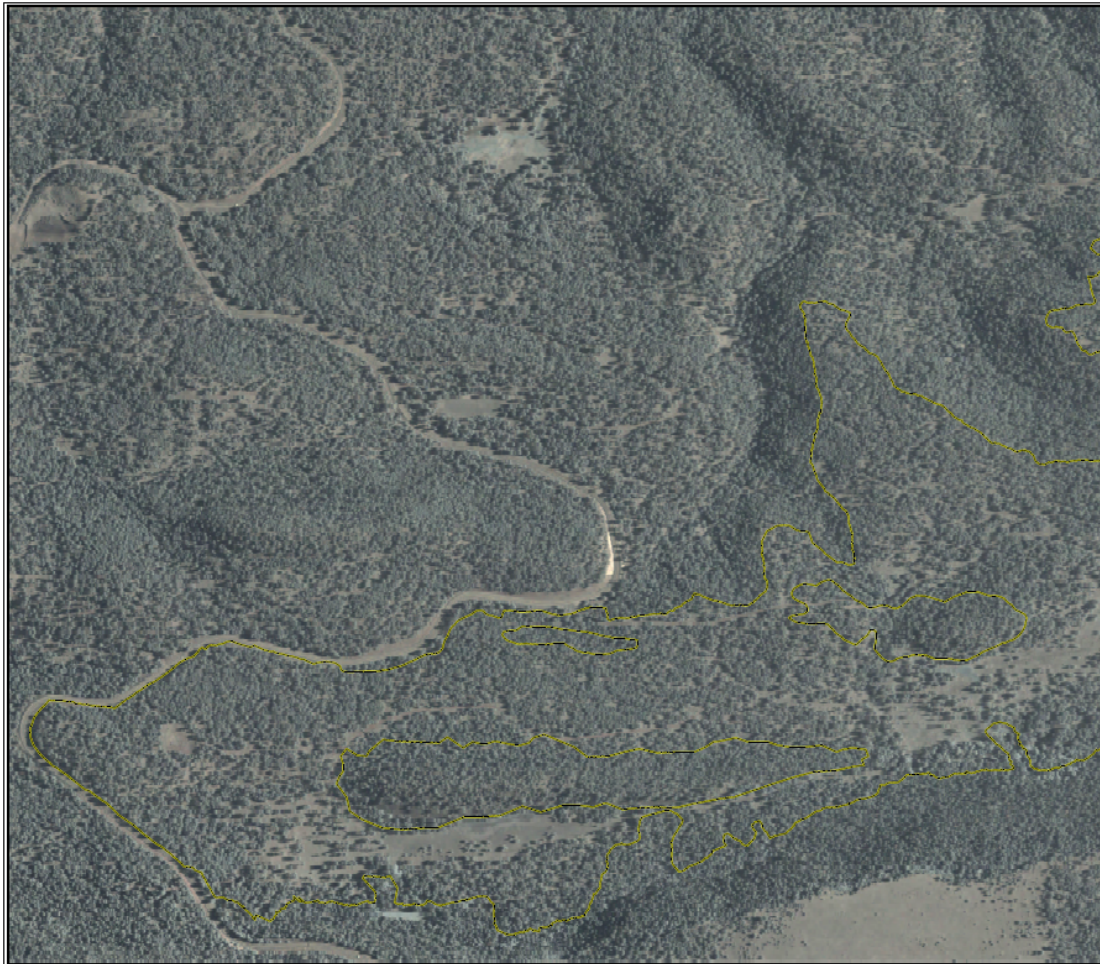
APACHE SITGREAVES NATIONAL FOREST
SPRINGVILLE RANGER DISTRICT
EAGER SOUTH UNIT 1

POST WALLOW FIRE IMAGE LATE SUMMER 2011
NORTHERN GOSHAWK POST FLEDGLING AREA (FFA)

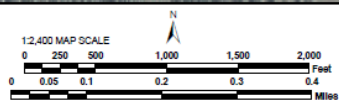


MAP PROVIDED BY THE US FOREST SERVICE
THE WILDEST THINGS ARE FOUND BETWEEN NATIONAL FORESTS

ERI Pre Treatment



APACHE SITGREAVES NATIONAL FOREST
SPRINGVILLE RANGER DISTRICT
EAGER SOUTH UNIT 4
PRE TREATMENT IMAGE SUMMER 2007
ERI TREATMENT RESIDUAL TREES
BASED ON HISTORIC EVIDENCE

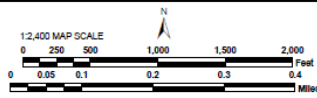


MAP CREATED BY THE US DEPARTMENT OF AGRICULTURE FOREST SERVICE REGIONAL OFFICE

ERI Post Treatment



APACHE SITGREAVES NATIONAL FOREST
SPRINGVILLE RANGER DISTRICT
EAGER SOUTH UNIT 4
POST TREATMENT IMAGE EARLY FALL 2008
ERI TREATMENT RESIDUAL TREES
BASED ON HISTORIC EVIDENCE

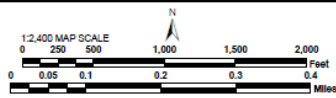


MAP CREATED BY THE U.S. DEPARTMENT OF AGRICULTURE
U.S. FOREST SERVICE & SOOTHWESTERN REGIONAL OFFICE

ERI Post Wallow



APACHE SITGREAVES NATIONAL FOREST
SPRINGVILLE RANGER DISTRICT
EAGER SOUTH UNIT 4
POST WALLOW FIRE IMAGE LATE SUMMER 2011
ERI TREATMENT RESIDUAL TREES
BASED ON 'HISTORIC EVIDENCE'

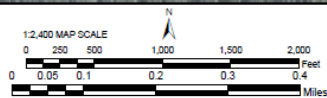


Unit 5 Goshawk Foraging – Pre-Treat



APACHE SITGREAVES NATIONAL FOREST
SPRINGVILLE RANGER DISTRICT
EAGER SOUTH UNIT 5

PRE-TREATMENT IMAGE SUMMER 2007
NORTHERN GOSHAWK FORAGING AREA



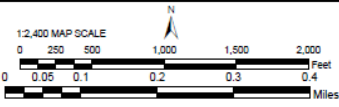
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Unit 5 Goshawk Post-Treat



APACHE SITGREAVES NATIONAL FOREST
SPRINGVILLE RANGER DISTRICT
EAGER SOUTH UNIT 5

POST TREATMENT IMAGE EARLY FALL 2008
NORTHERN GOSHAWK FORAGING AREA



MAP CREATED BY THE BLM DEPARTMENT
514 WEST PARKER AVENUE, DENVER, COLORADO

Unit 5 Goshawk Post-Wallow

