Prescribed Fire in the Diverse Habitats of the Uplands

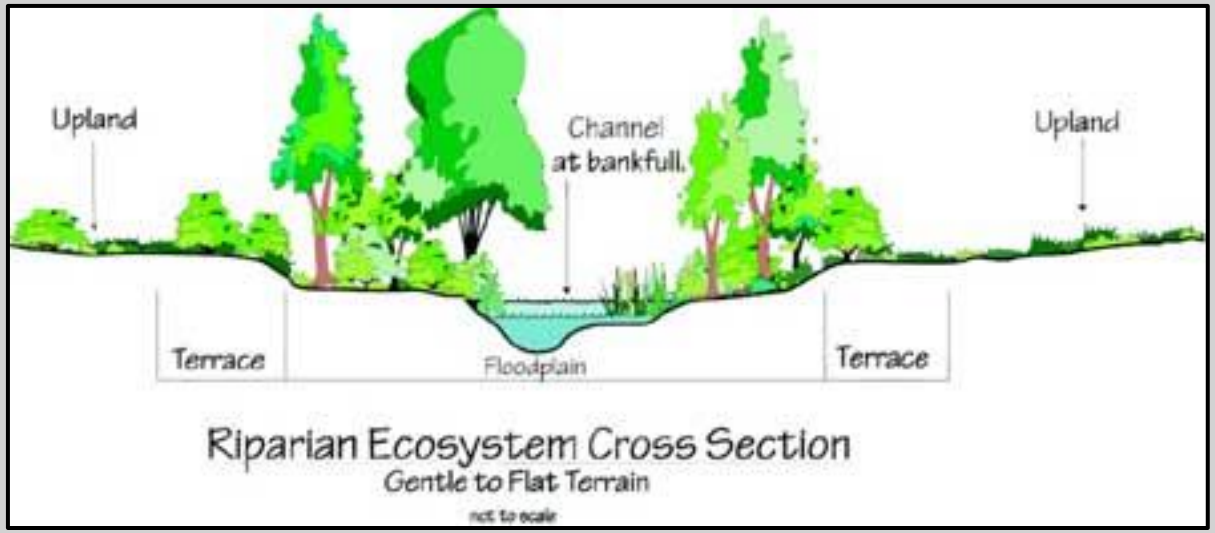
Taylor Daily

Prescribed Fire vs.
Controlled Burn vs. Wildfire

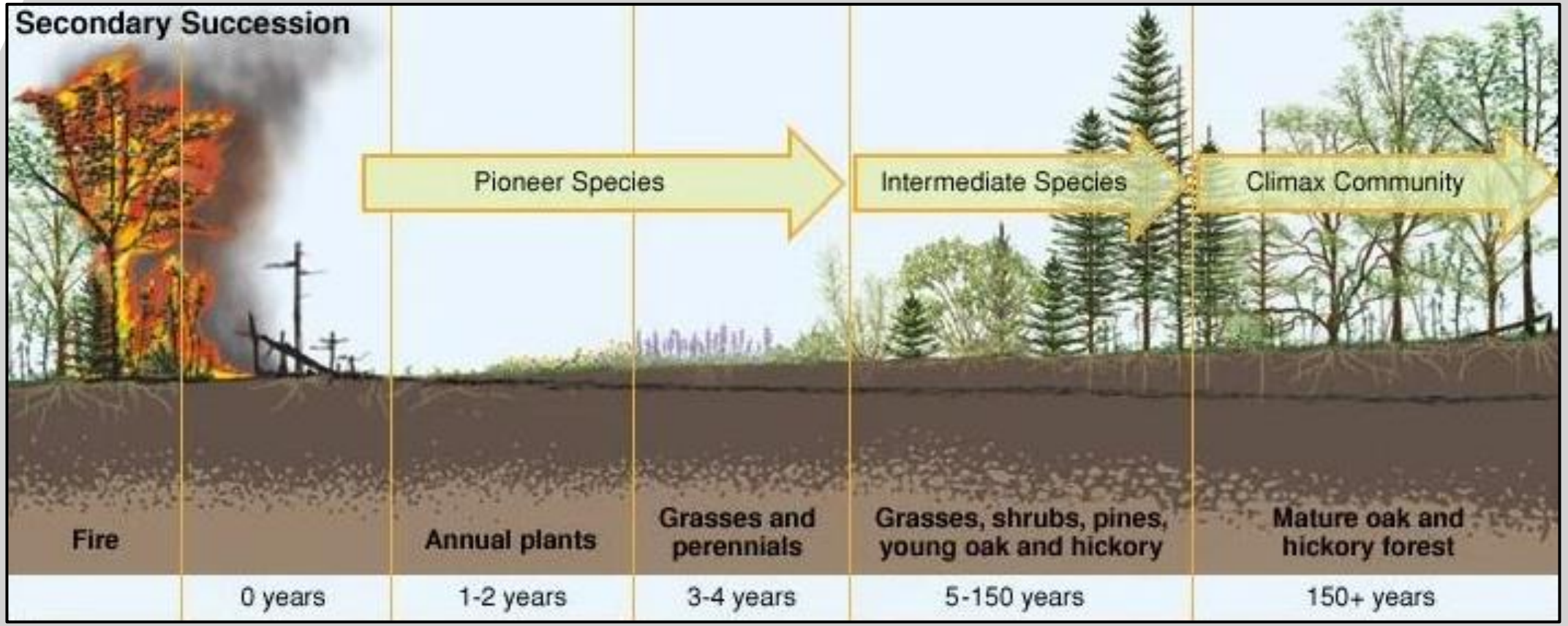
- Prescribed fire is intentionally lit under a particular prescription with defined objectives in mind to best accomplish management goals
- Controlled burn is done in a setting (typically small) that is fully contained and under ‘control’. Burning a trash barrel or a brush pile should be a “controlled burn”.
- Wildfire, by definition, is out of control and generally burns with higher intensity than a prescribed fire

Uplands

- “Ground elevated above the lowlands along rivers or between hills”
- Various habitat types
- Early succession to late succession



Successional Stages



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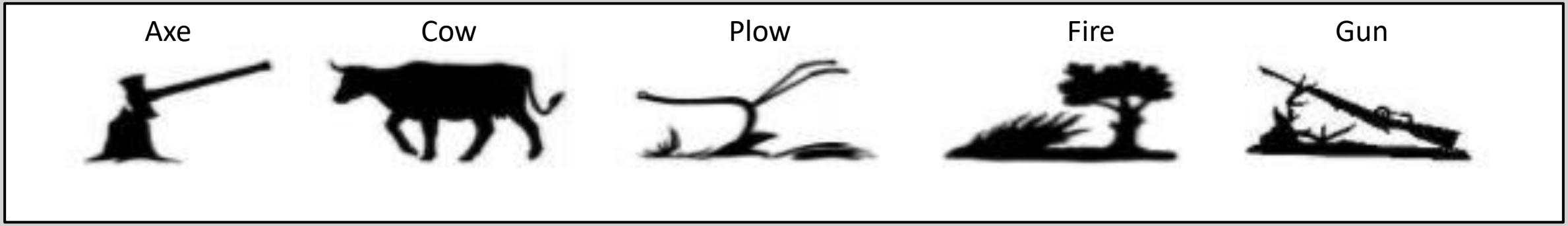
5 Tools for Habitat Management

- These tools can be used to create disturbance on the landscape
- Each tool has its purpose and can work in cohesion with others
- Fire is an important tool, but NOT a silver bullet



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The Lack of Fire

- Unfortunately, fire is a tool/process that is lacking in much of our current landscape
- How do we know what the historical fire regime was?
  - Tree ring data
  - Historical accounts (i.e., early explorers)
- Fire suppression started in the early 1900s
  - Smokey the Bear was highly effective in making fire seem detrimental

Fire Frequency

- Fire is a natural process that has evolved WITH our landscape for centuries
- 2-8 year fire interval for central Texas

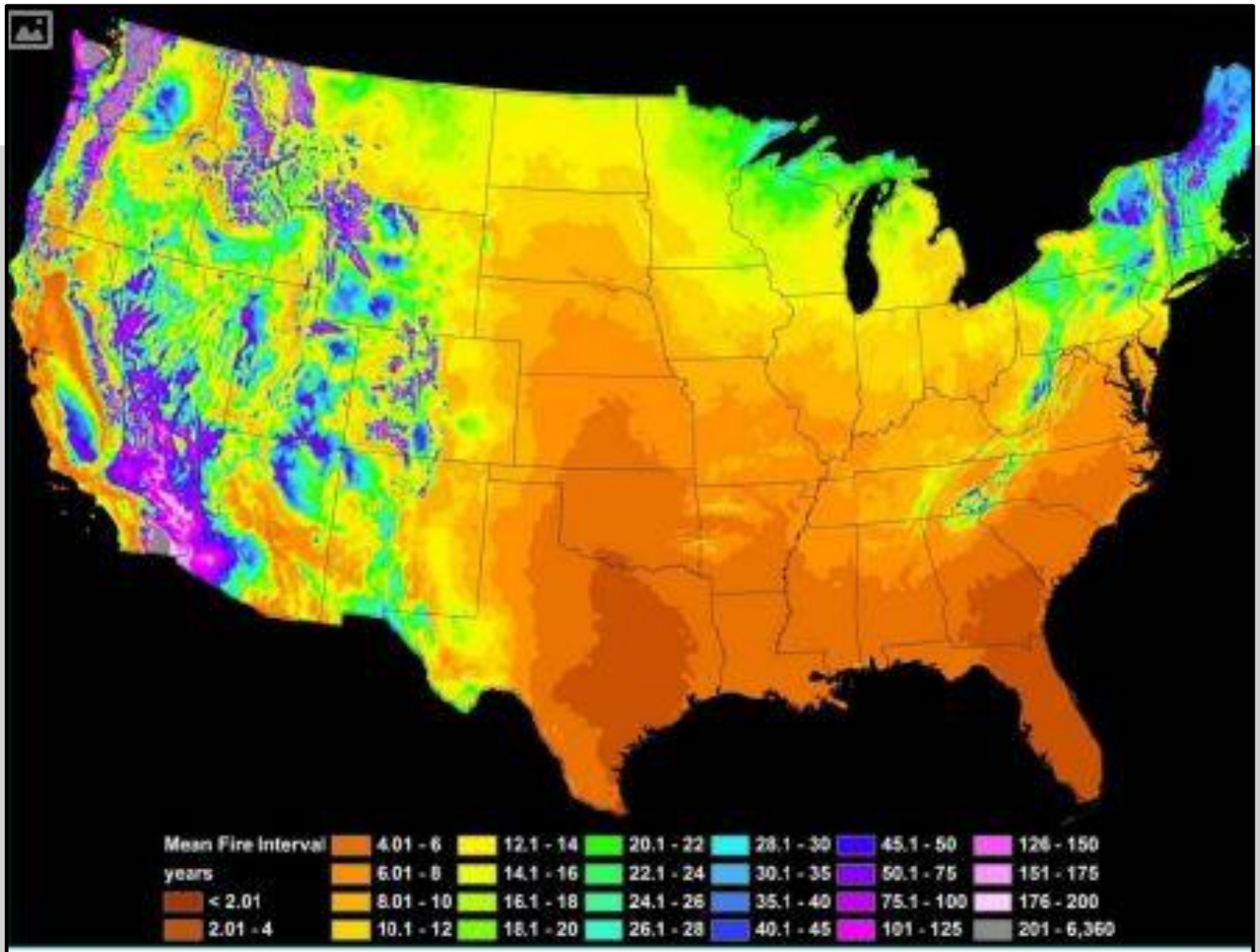

Figure 1. Historic (1650–1850) mean fire return interval estimates for fire in all or part of an average 1.2 km² area. *Graphic courtesy Guyet et al., 2012)*

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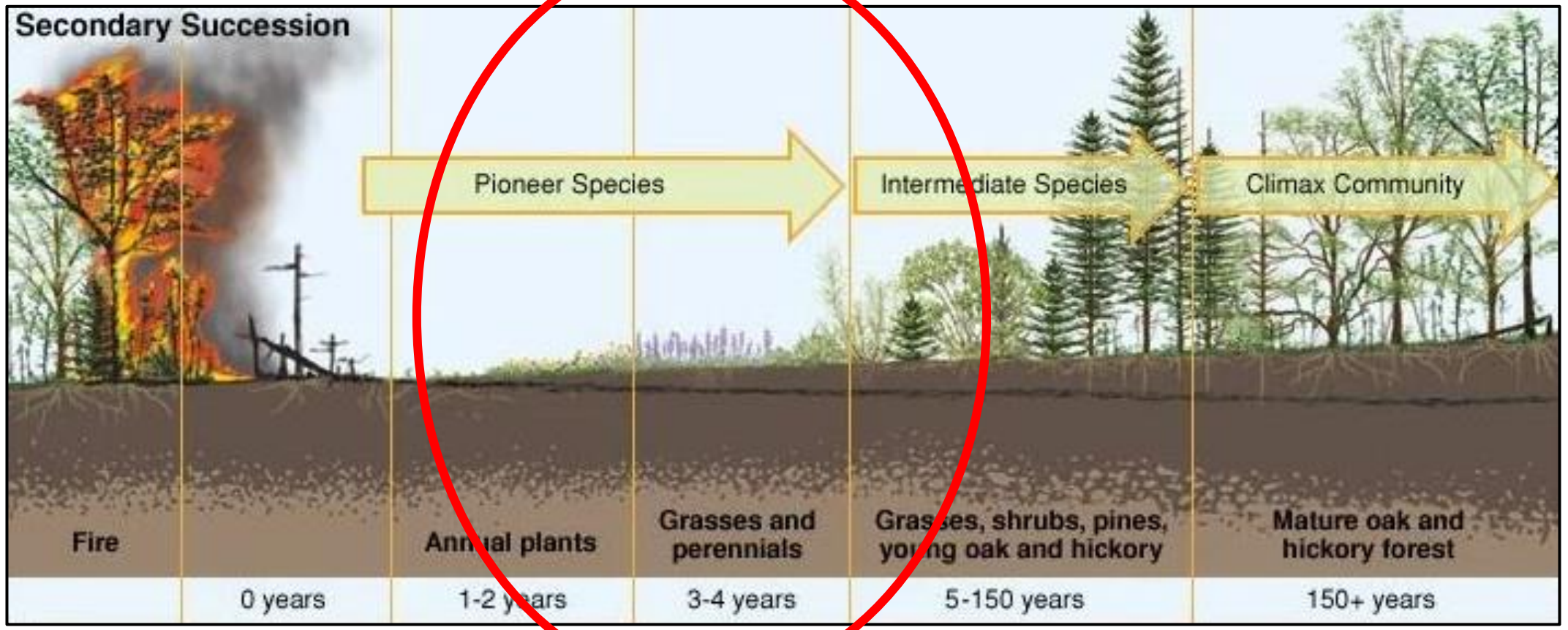
Plant Community Shift



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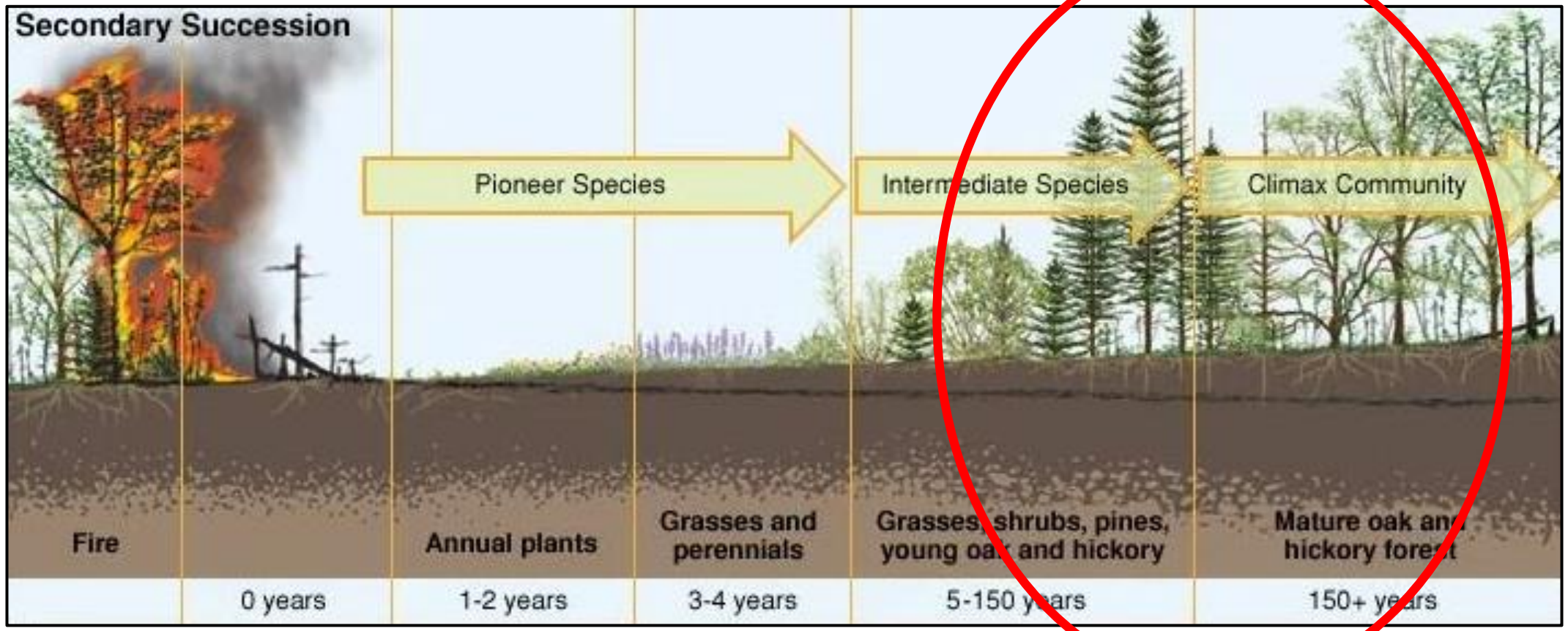

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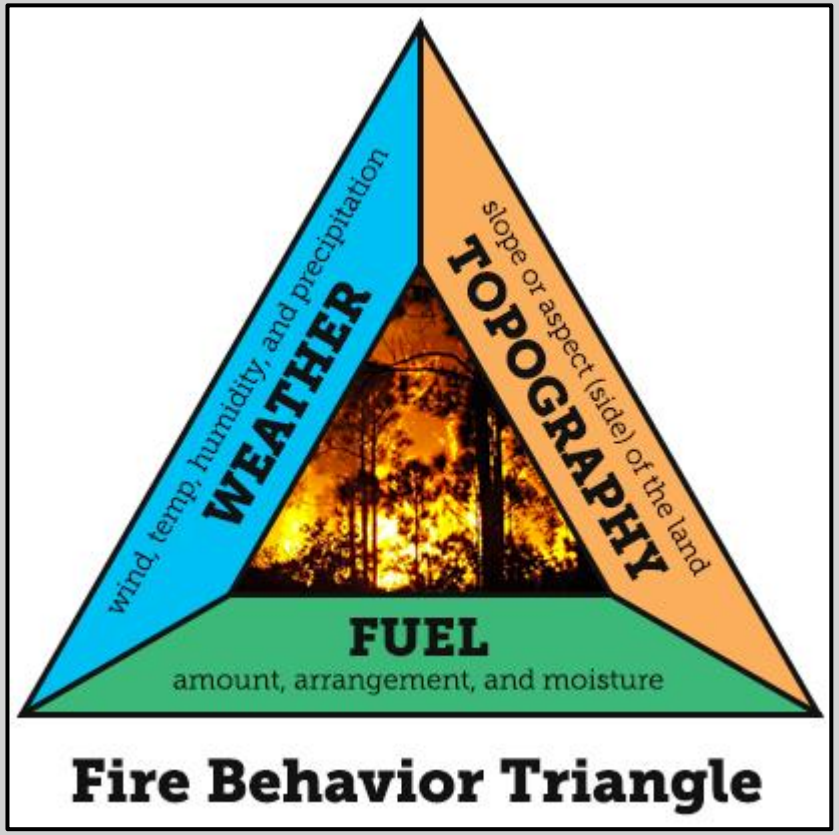
Fire Behavior

- Fire typically burns in a “patchy” manner
- The more intense, the less “patchy”
- Flat topography with continuous fuels are more likely to have greater burn coverage
- Wind and humidity greatly effect behavior
- Prescribed fire is an excellent way to prevent/reduce wildfires



Fire Behavior Triangle

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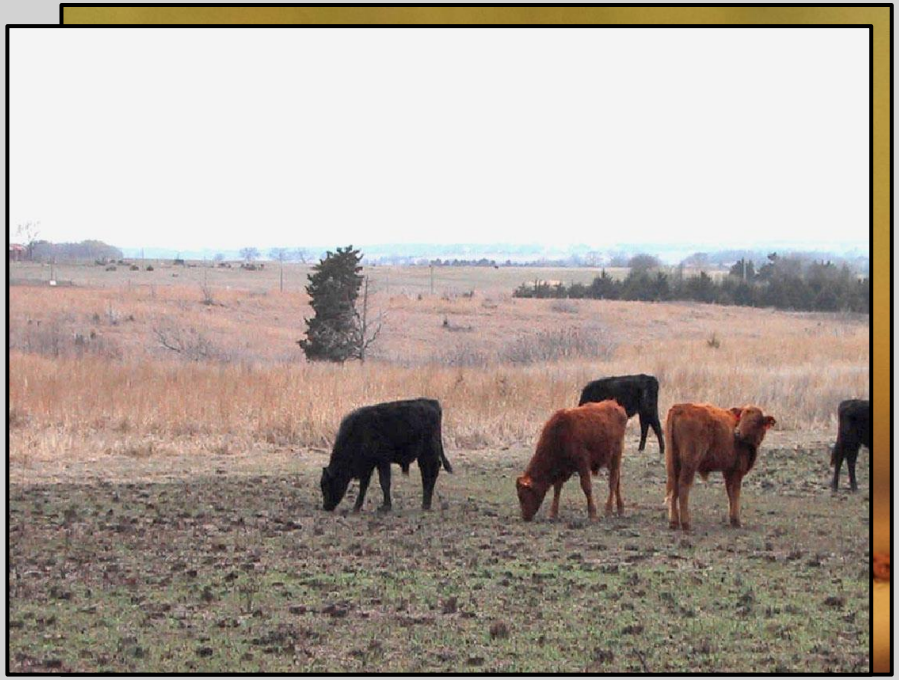
Prescribed Fire and Management

- Timing and intensity of burn influences vegetation response
  - Late winter/early spring burns tend to promote warm season vegetation
  - Hot summer burns tend to have greatest impact on woody species ‘control’
  - Late summer/fall burns tend to promote cool season vegetation
- Patch-Burn-Grazing
- Parasite and Disease ‘control’



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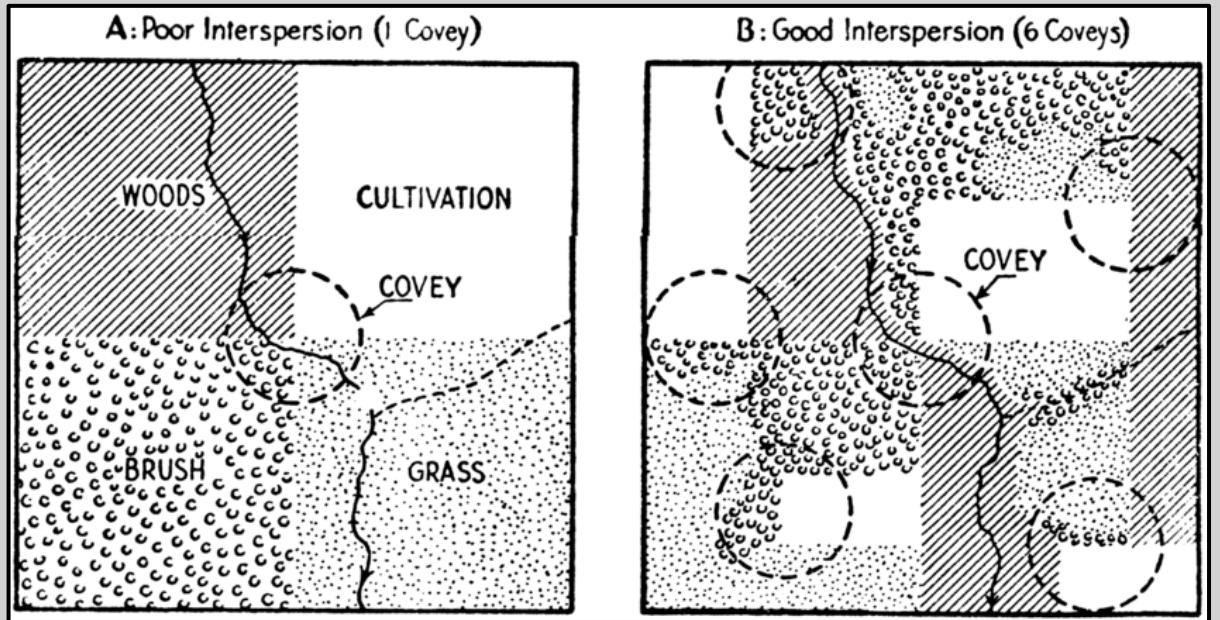
Interspersion & Diversification

- Quail primarily utilize the early successional stages
  - Can utilize habitat within the later stages, but they need to be interspersed among the earlier stages
- Disturbance causes succession to restart



Why Prescribed Fire?

- Brush management
  - Cheapest way to treat large acreage
- Grazing
  - Improves forage quality and quantity
- Diversity
  - Increases plant diversity by restarting succession
- Structure
  - Renews “old” rank grasses
- Wildfire reduction
  - Reduces wildfire fuel load
- Wildlife management

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Conclusion

- Fire is a natural process that evolved with our landscape, and it cannot be substituted
- Prescribed fire produces early successional habitats
  - These habitats are highly beneficial for livestock AND wildlife
- **THE MORE OFTEN YOU BURN, THE EASIER IT IS TO SAFELY AND SUCCESSFULLY BURN!!**

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