

Habitat and Human Disturbance



**Oregon Department
of Fish and Wildlife**



Habitat



“The resources and conditions present in an area to produce occupancy, which may include survival and reproduction by a given organism”.

- **Krausman and Morrison 2016**



Ungulate Habitat



- **Food, minerals, and water**
- **Thermal cover**
- **Security**
- **Summer range**
- **Winter range**
- **Migration routes**



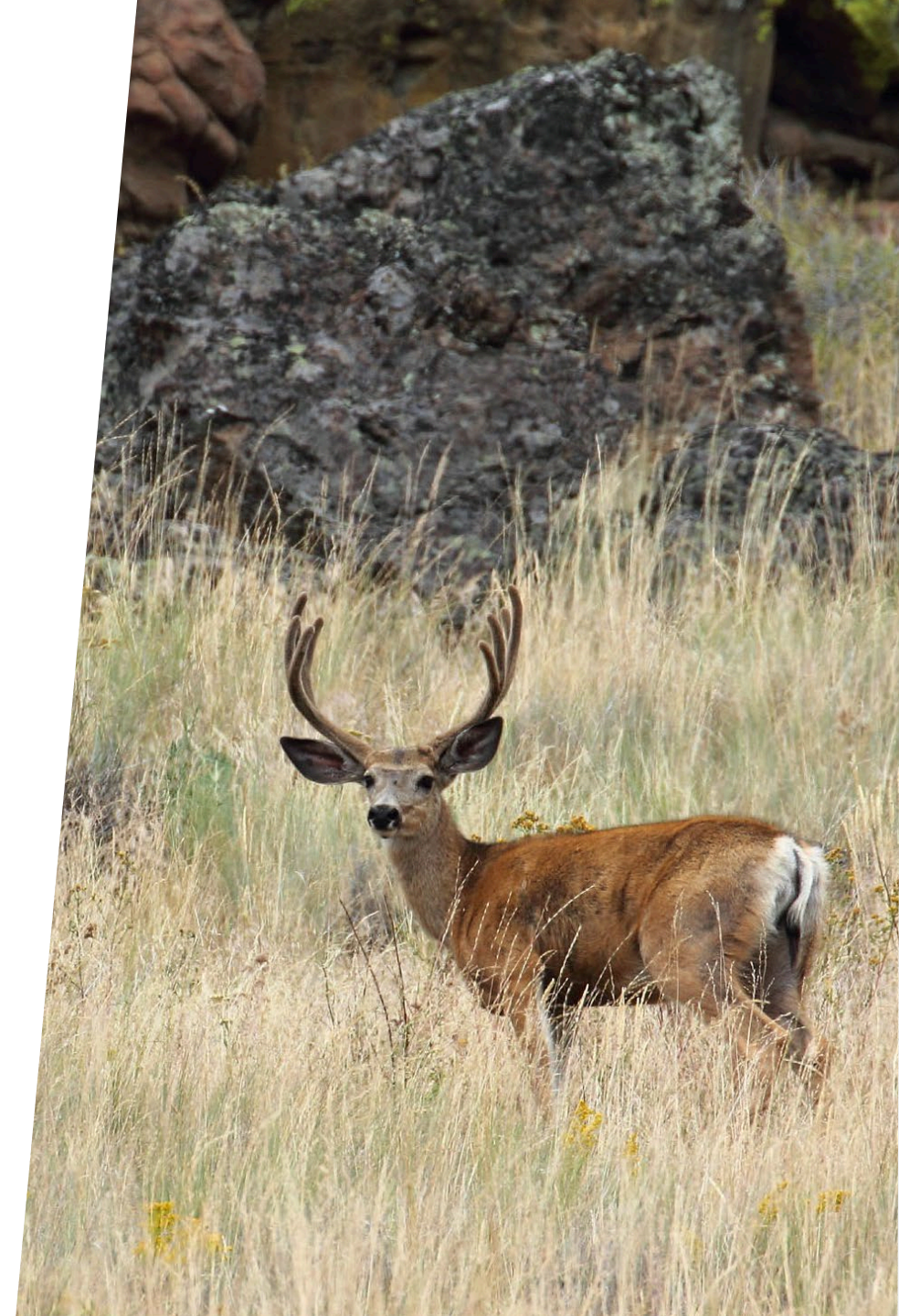
Nutritional Carrying Capacity



Resources are limited

- 1) Vitamins and minerals
- 2) Forage biomass
- 3) Digestible energy
- 4) Protein

Determine population size

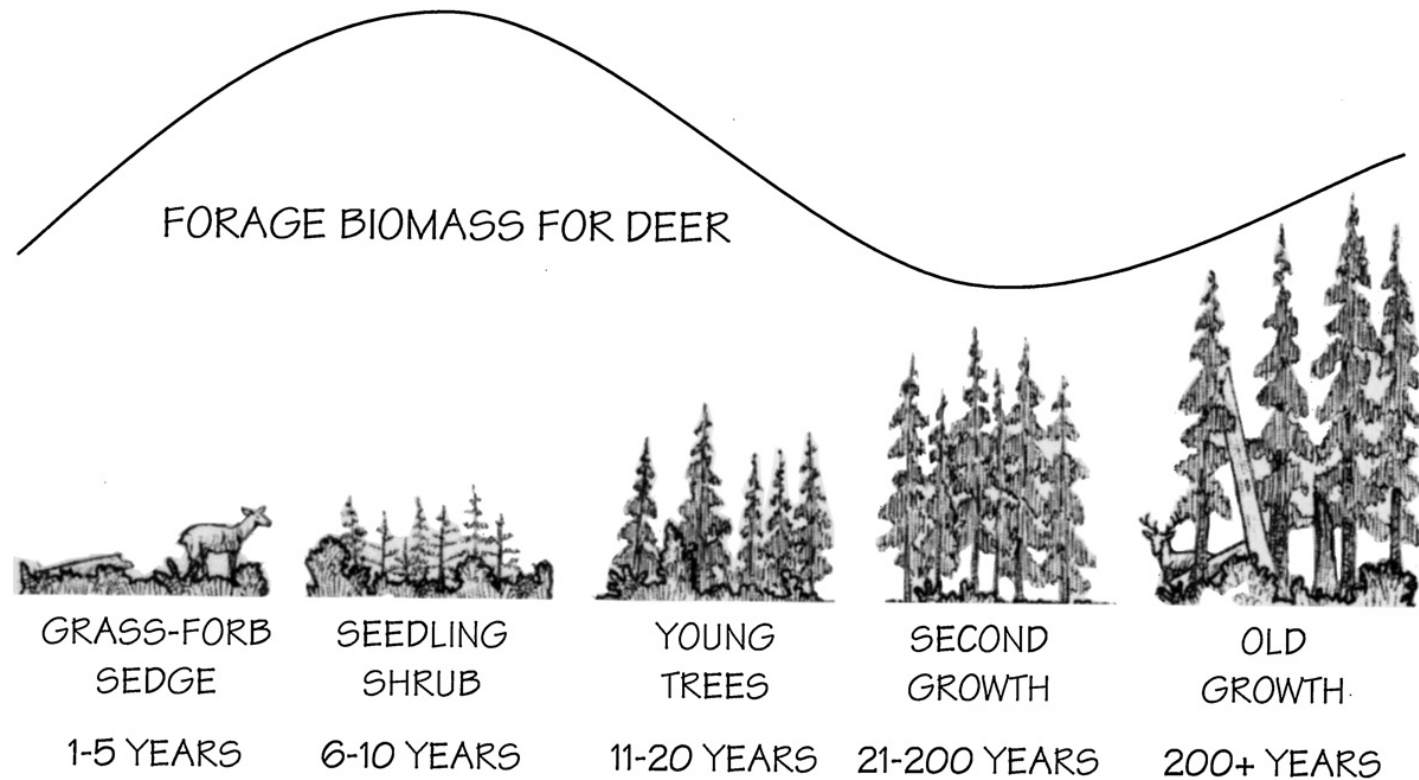


Nutritional Carrying Capacity

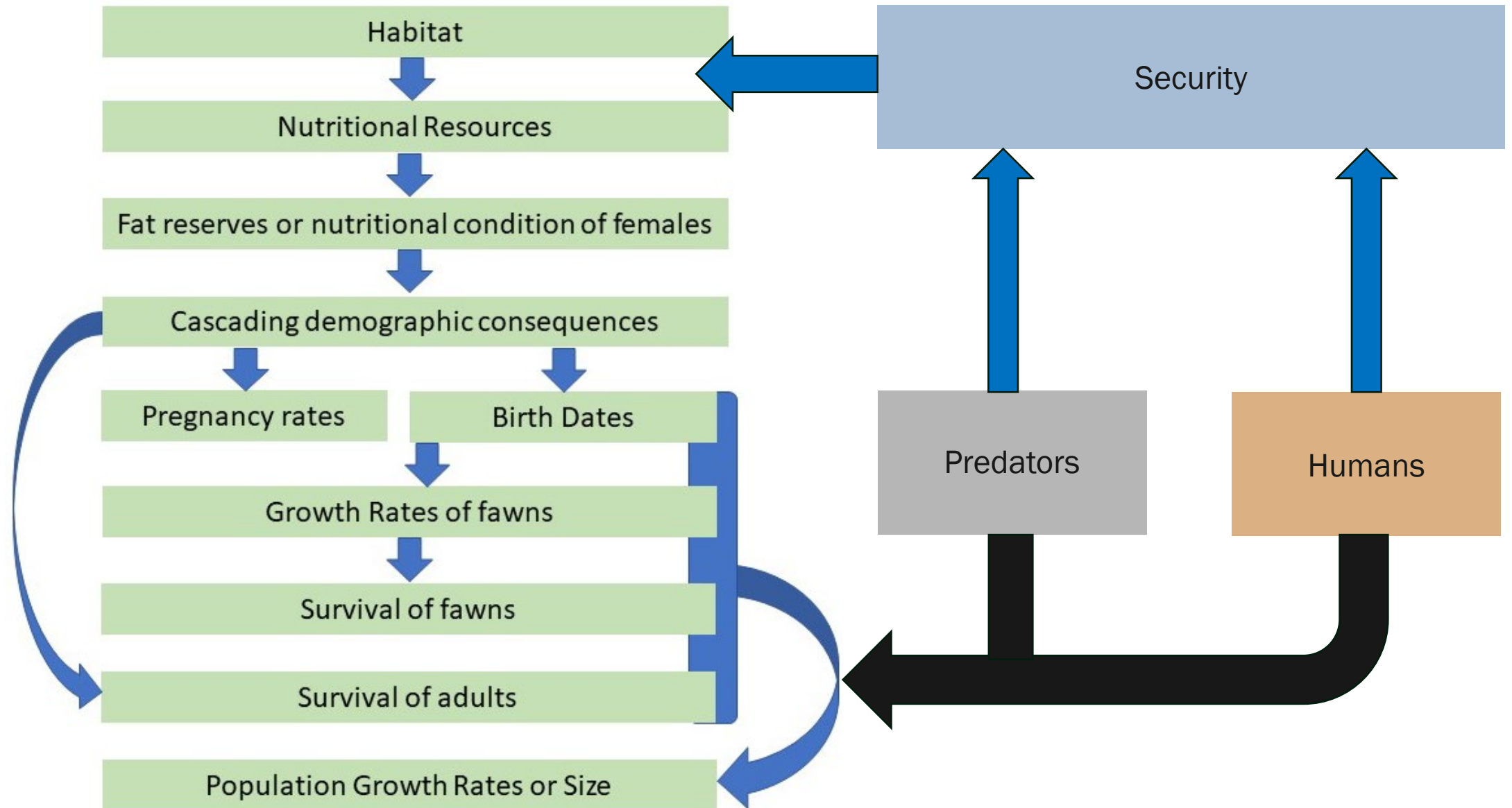


Dynamic

- 1) Weather and climate
- 2) Forest management
- 3) Wildfire
- 4) Invasive species
- 5) Competition



Habitat is the Foundation for Wildlife Populations





Security



Human Disturbance



Physiological responses

- Increased stress

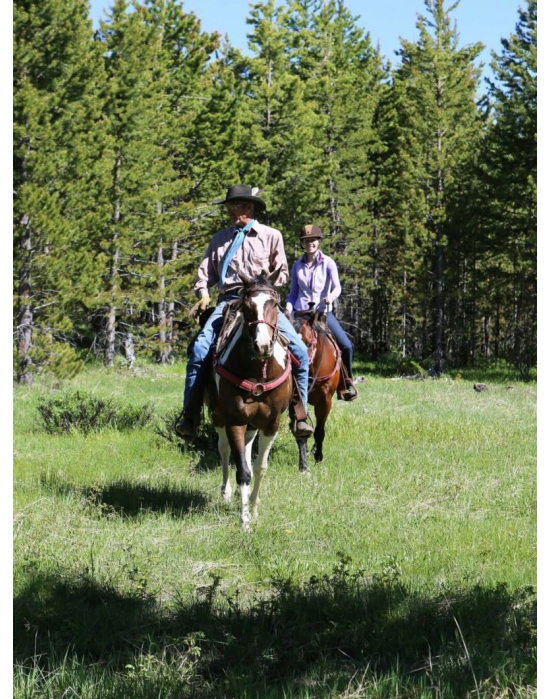
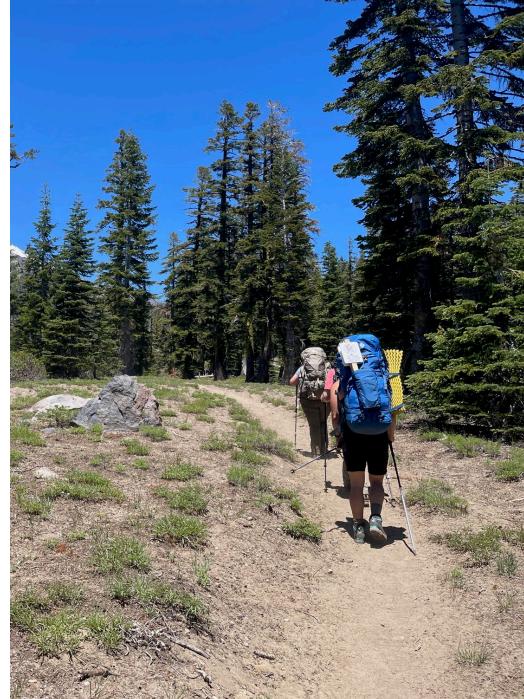


Behavioral responses

- Increased vigilance
- Reduced feeding
- Increased movement
- Changes in habitat use



Outdoor Recreation



Greatest

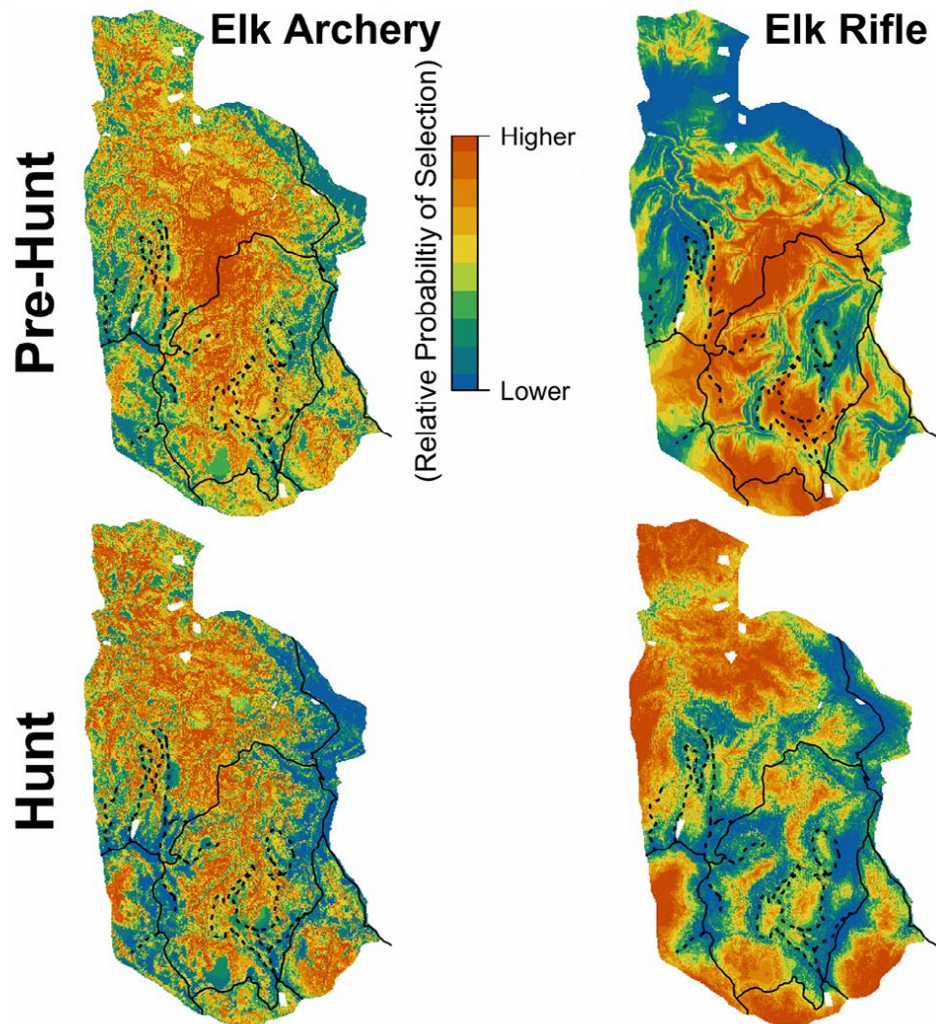


Lowest

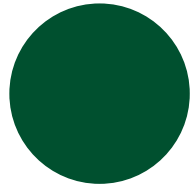
Elk Response

Hunting

(A) Diurnal



Motorized Routes



Consistent avoidance by ungulates

- Roads open to public use

Increased avoidance of roads with

- Higher traffic rates
- Increased density
- Daylight hours

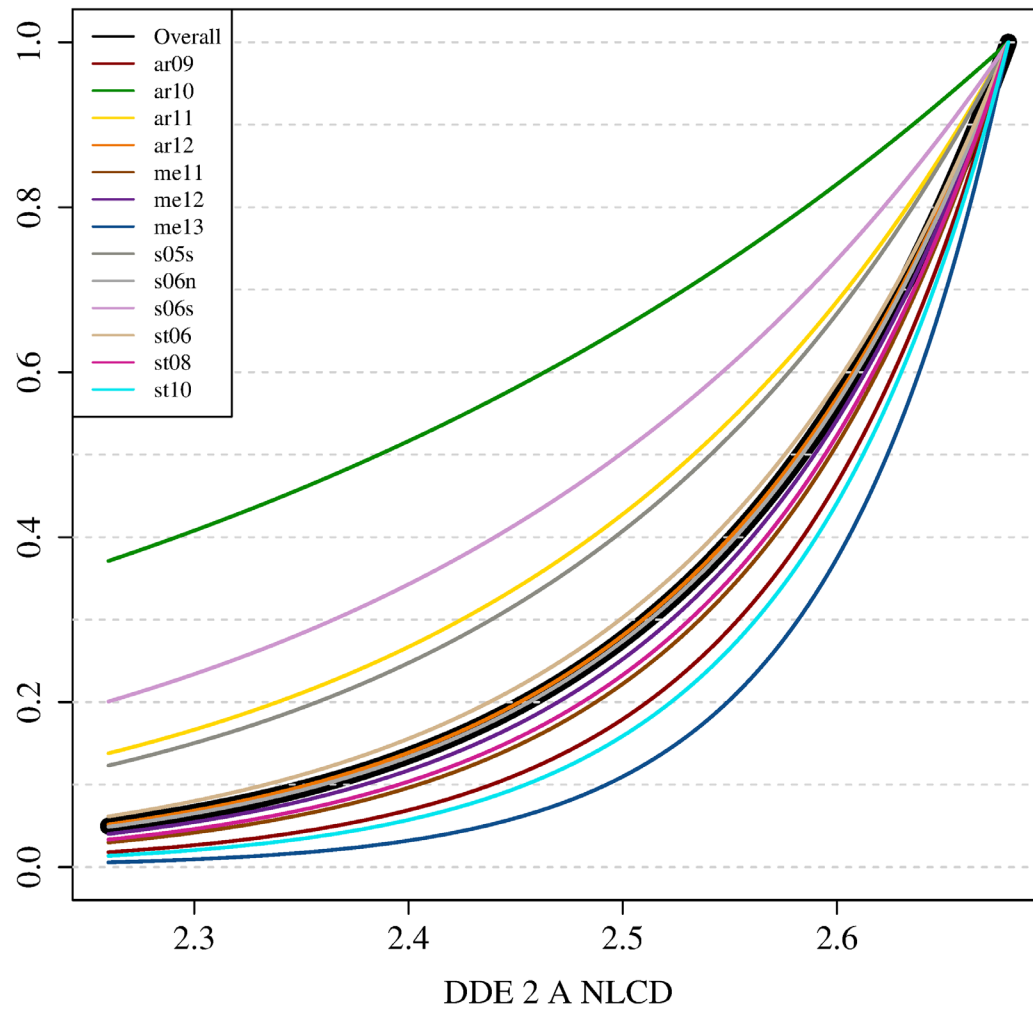




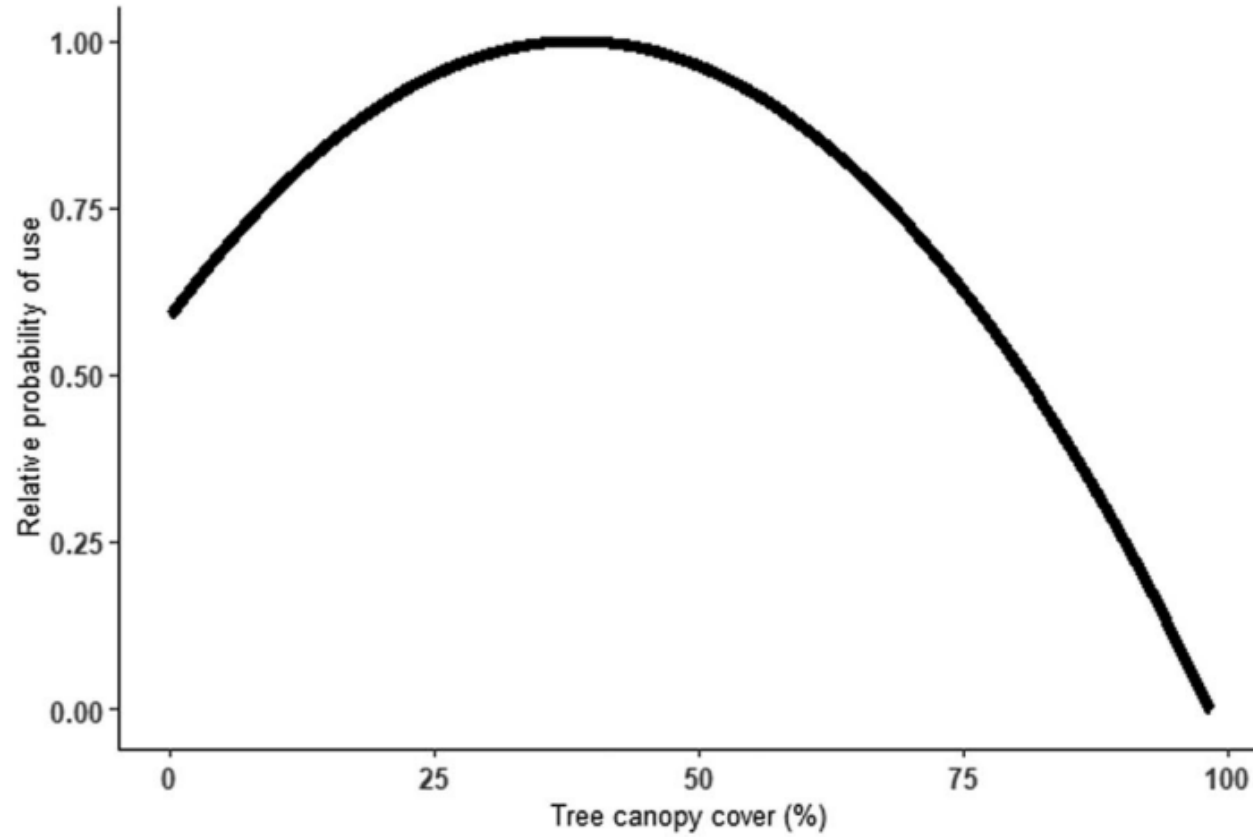
Summer Range



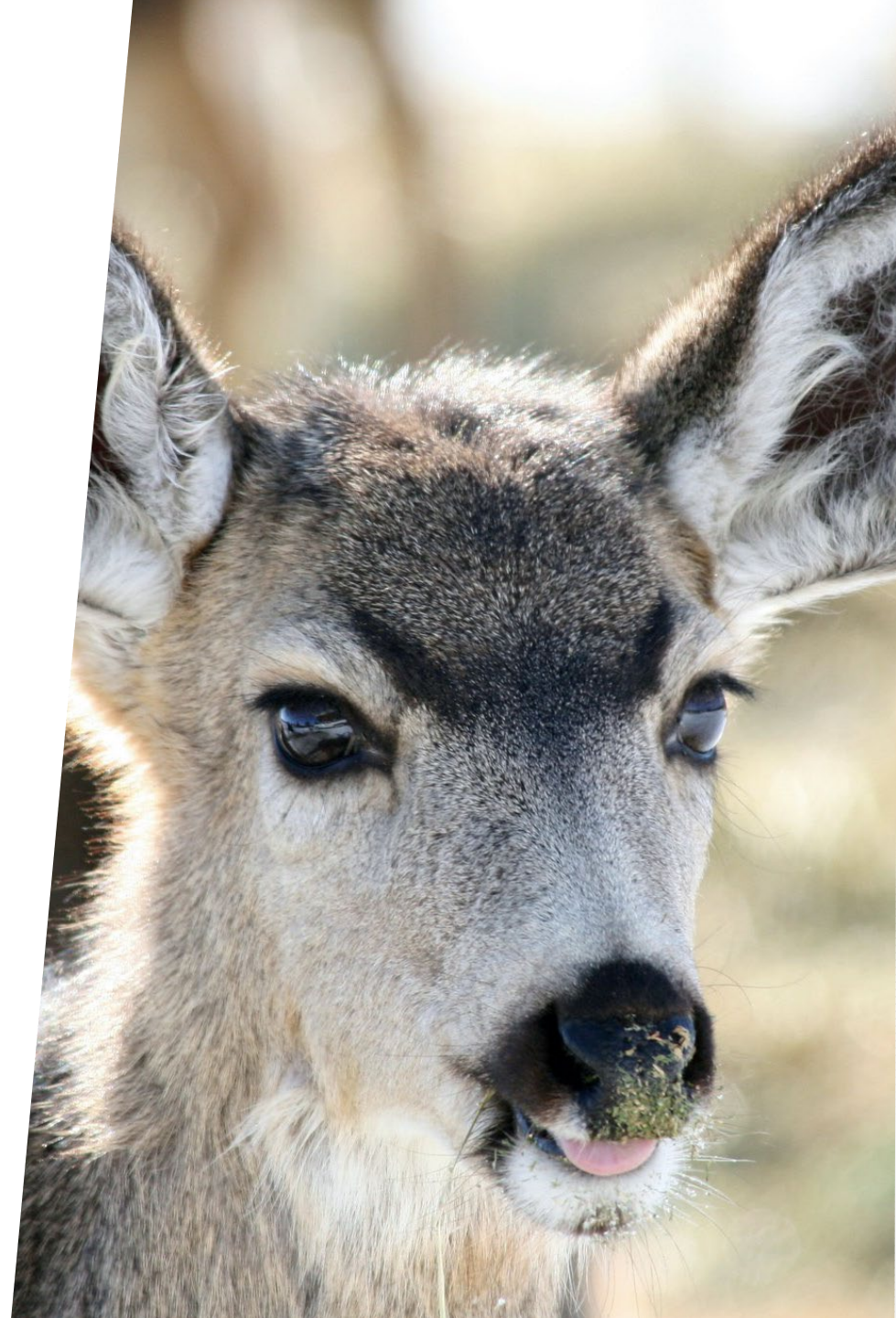
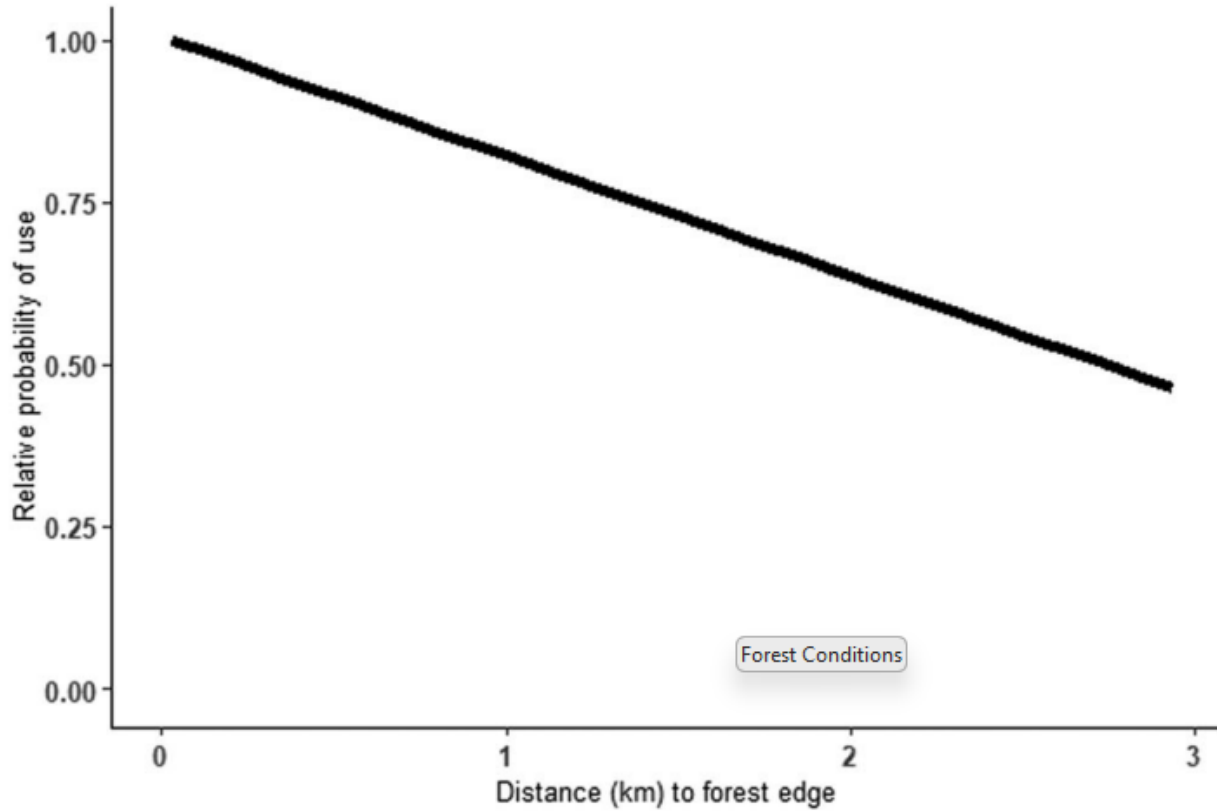
Forage



Forest Conditions



Forest Conditions

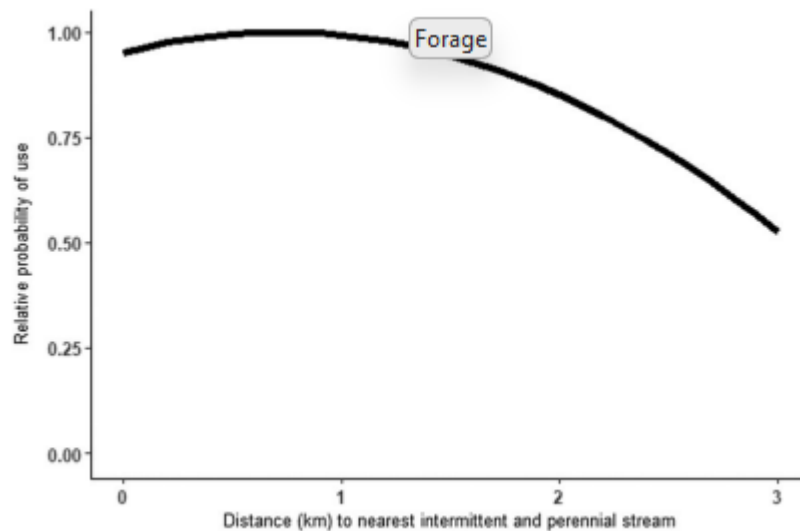


Riparian Areas

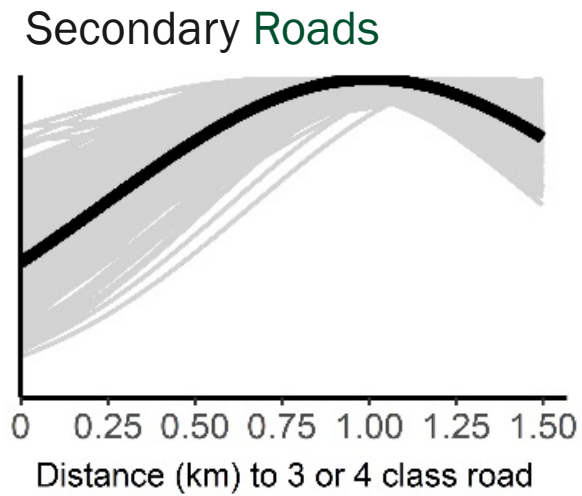
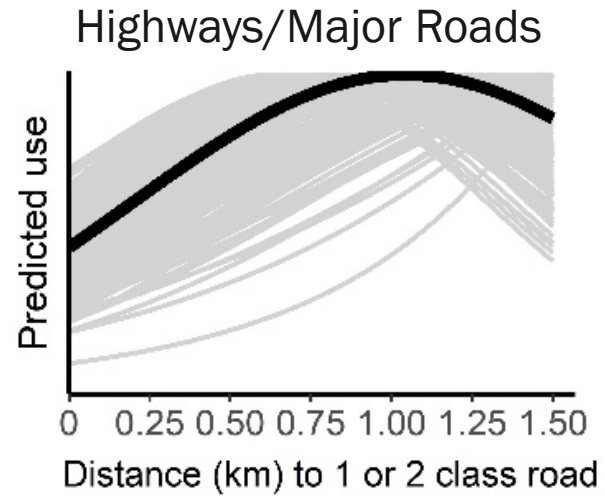


Benefits to Ungulates

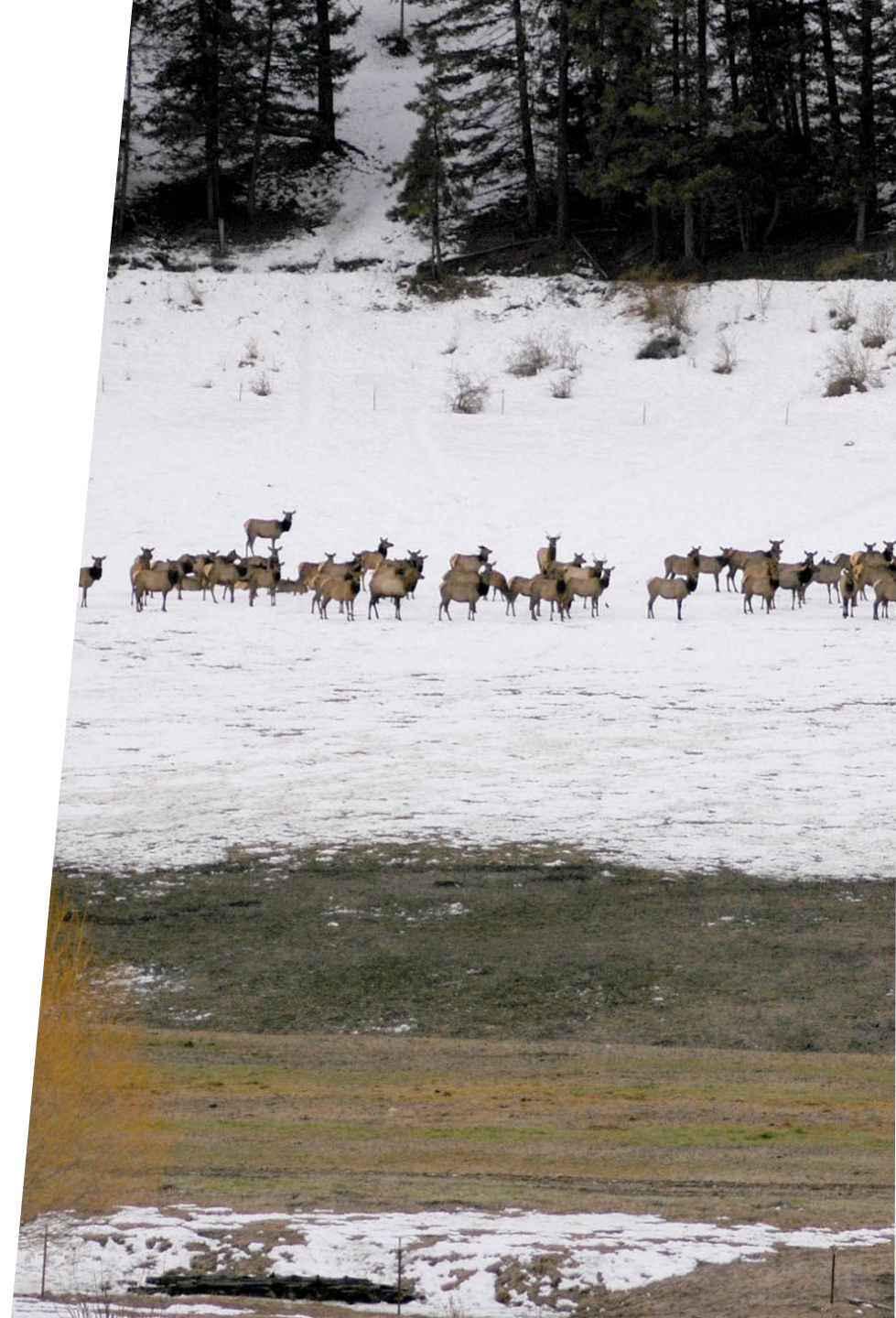
- Forage and water
- Hiding cover
- Thermal cover and refugia



Motorized Routes



Avoidance of roads open to public use to ~1 km

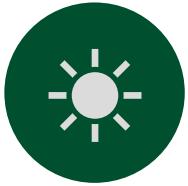




Winter Range

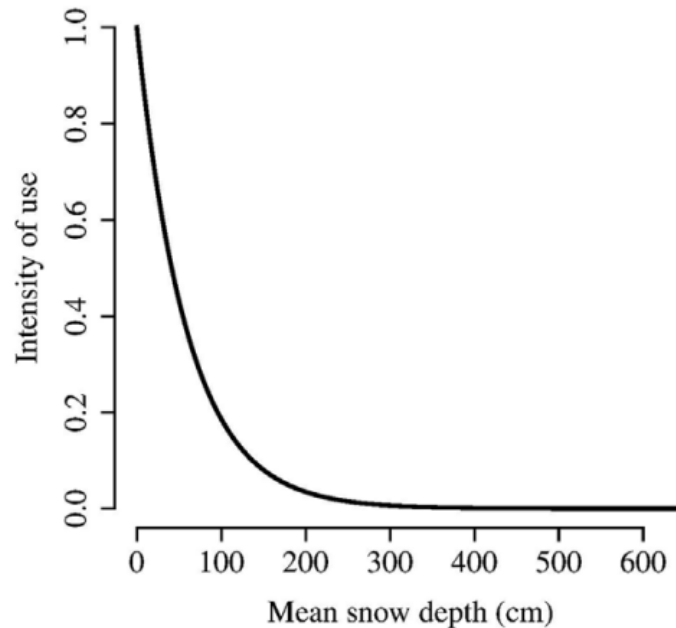


Low or Snow Free



Reduced energy demands

- Easier movement
- Foraging efficiency



Cover



Thermal

- Reduce heat loss
- Intercept snow

Hiding

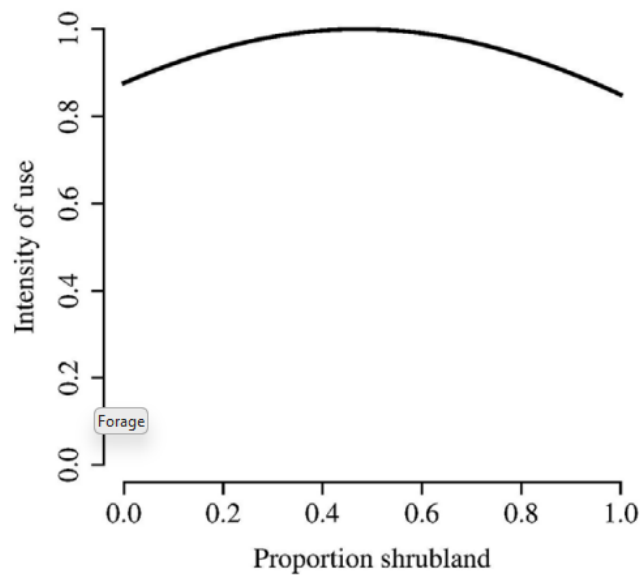
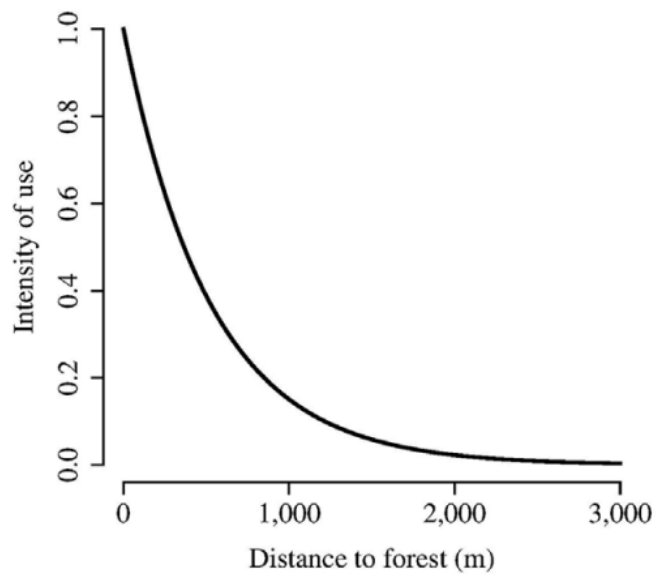
- Reduce predation risk
- Minimize human disturbance



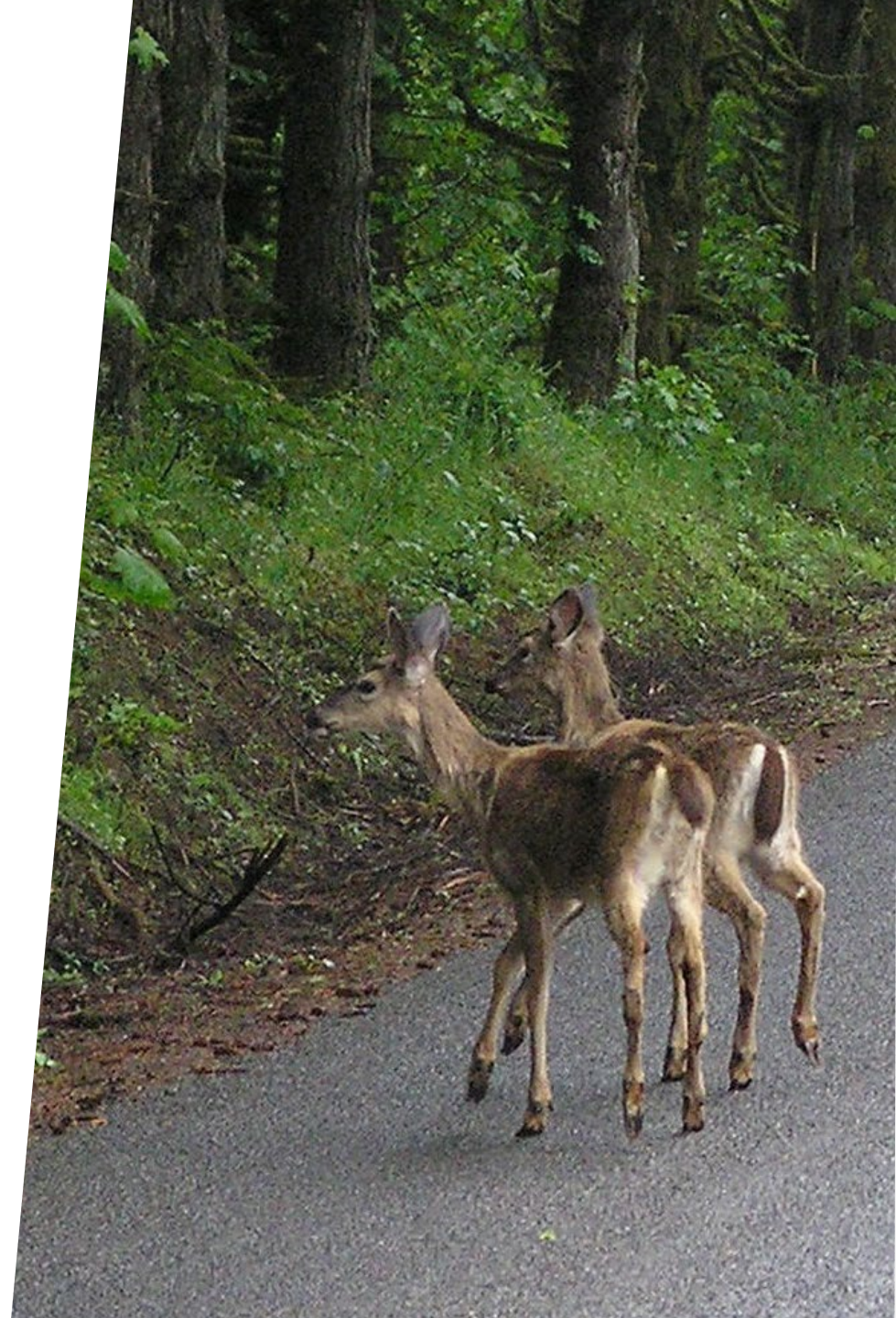
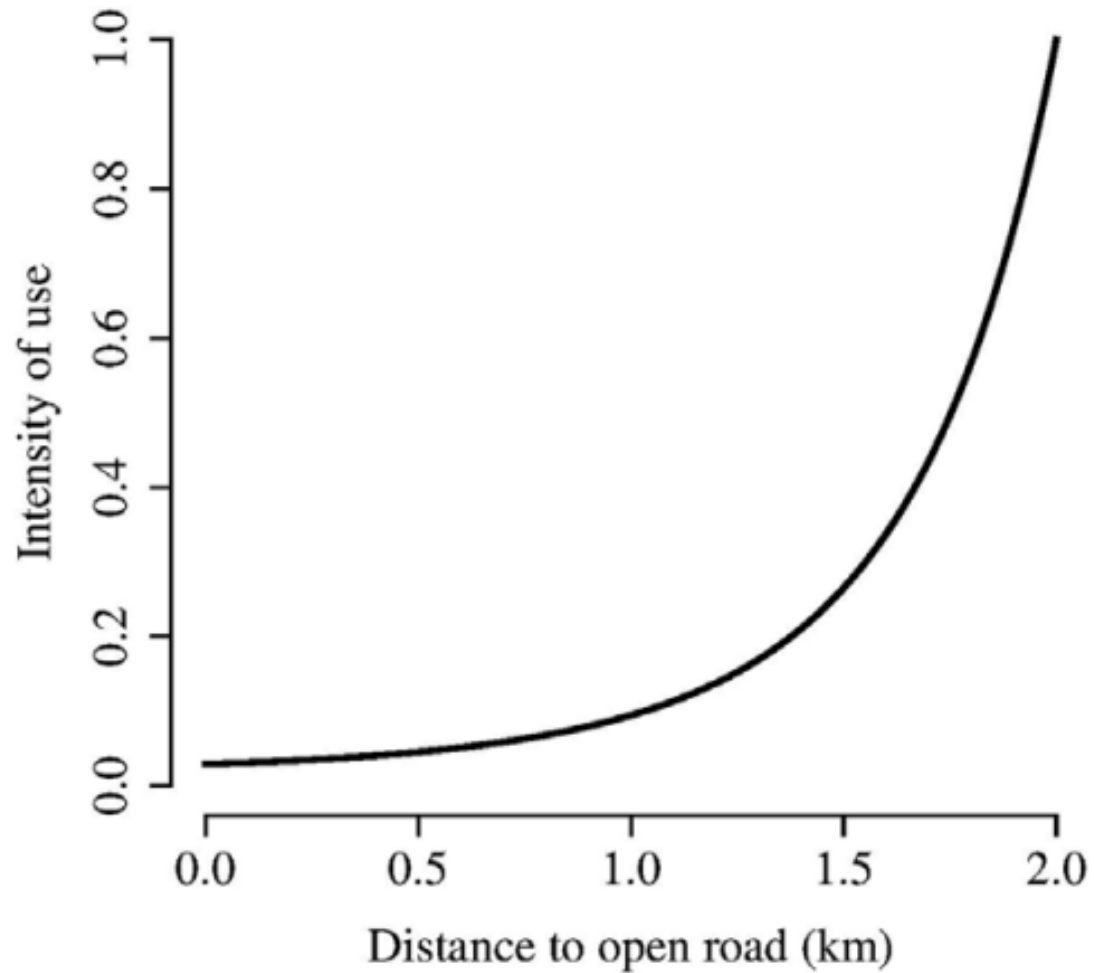
Forage



Access to shrubs



Motorized Routes





Migration



Why Migrate?



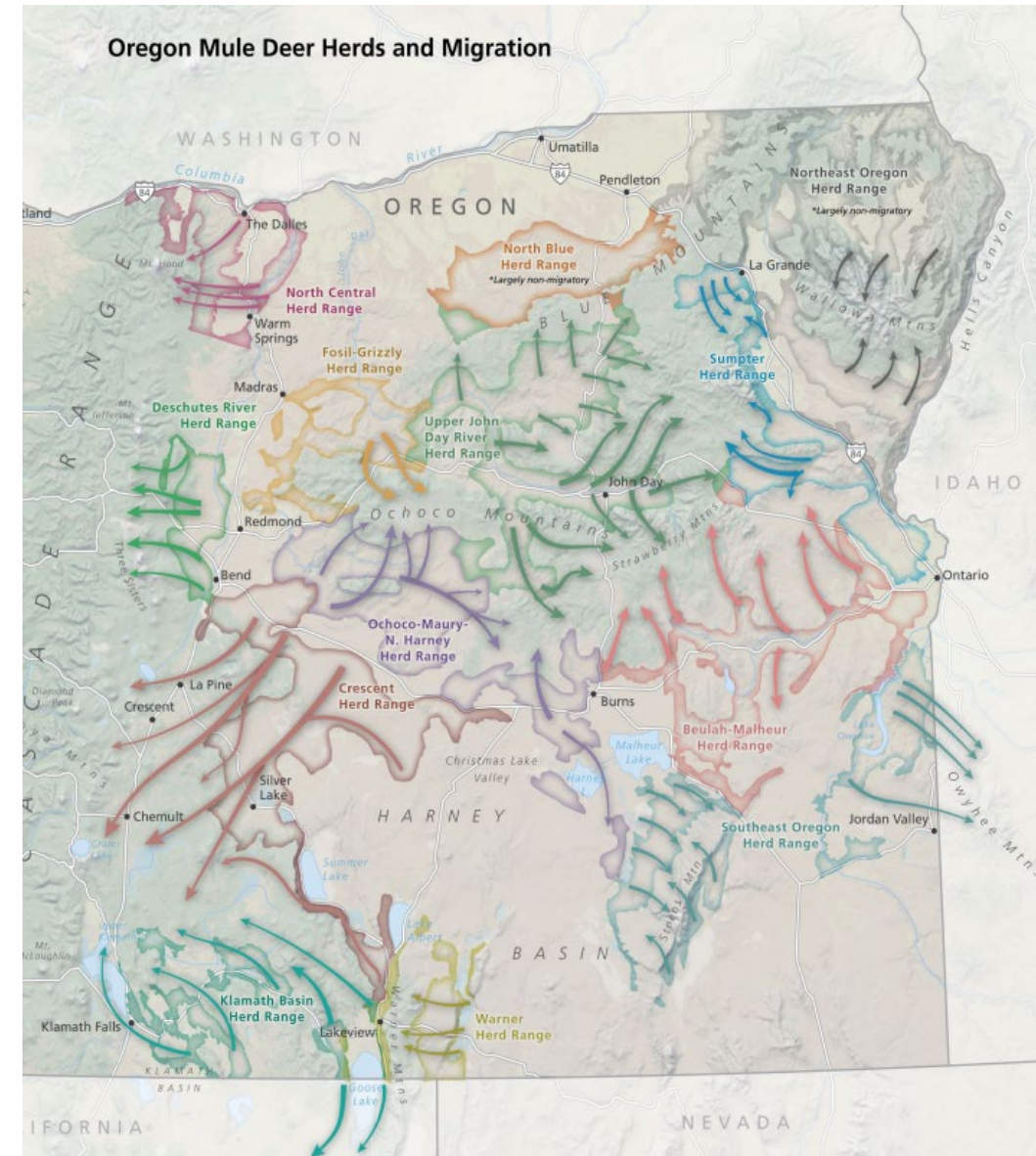
Summer Range

- Higher elevation
- Better forage



Winter Range

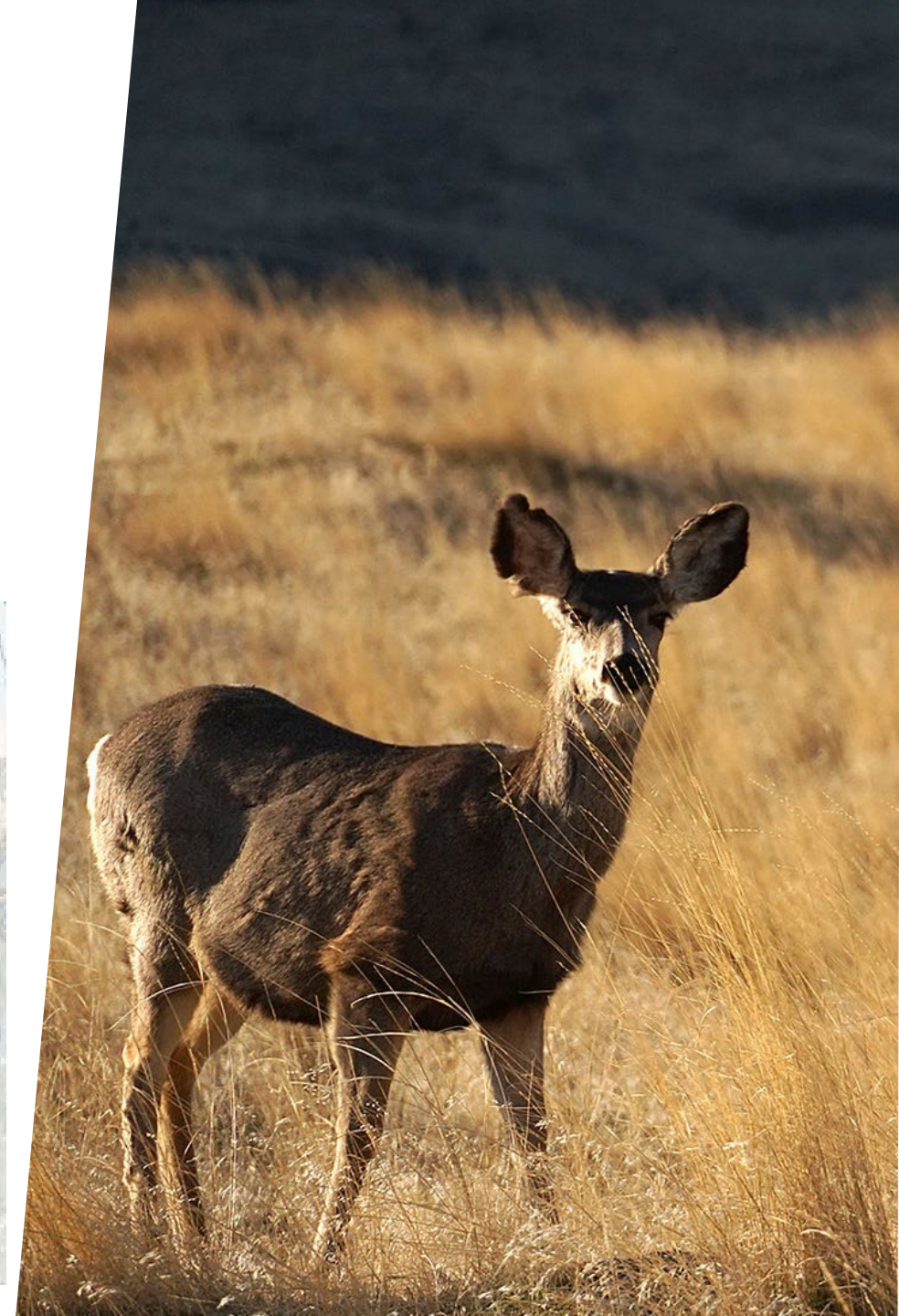
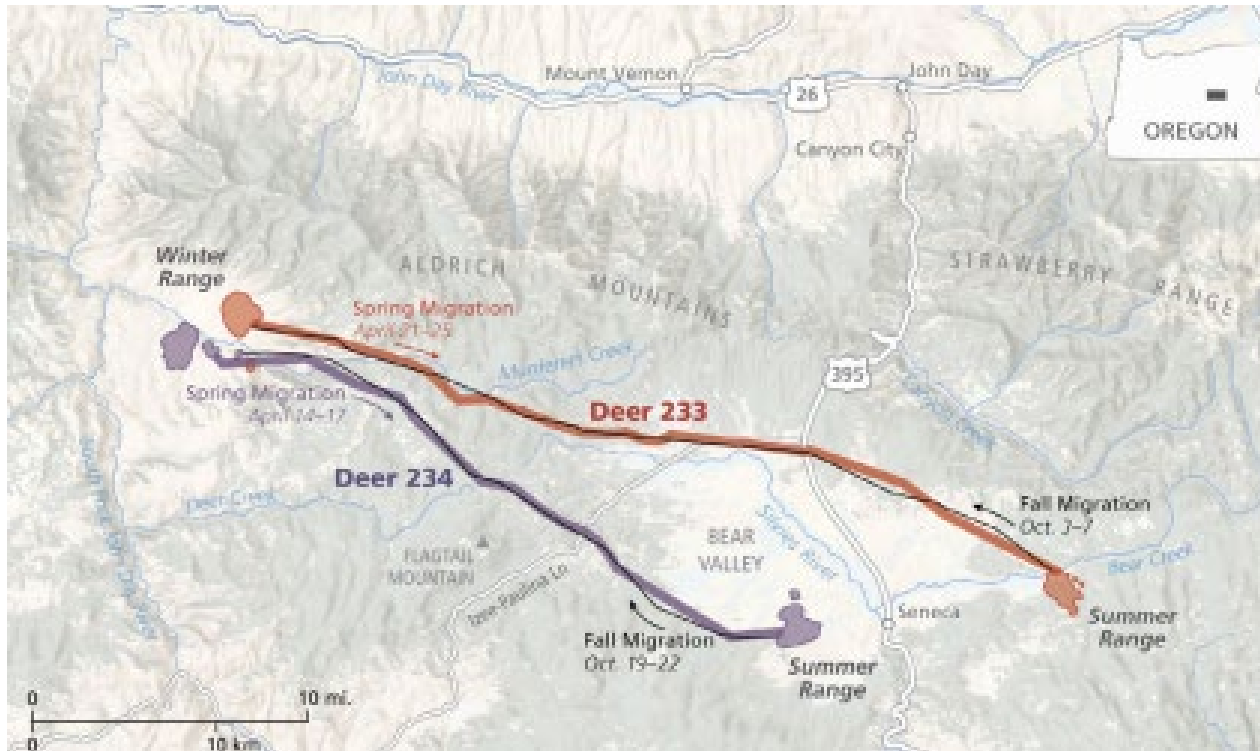
- Lower elevation
- Reduced energetic costs



Migration



Maternally transmitted



Threats to Migration



Fences

- Reduce landscape permeability
- Entanglements



Highways

- Vehicle strikes
- Loss of migration





Habitat Management



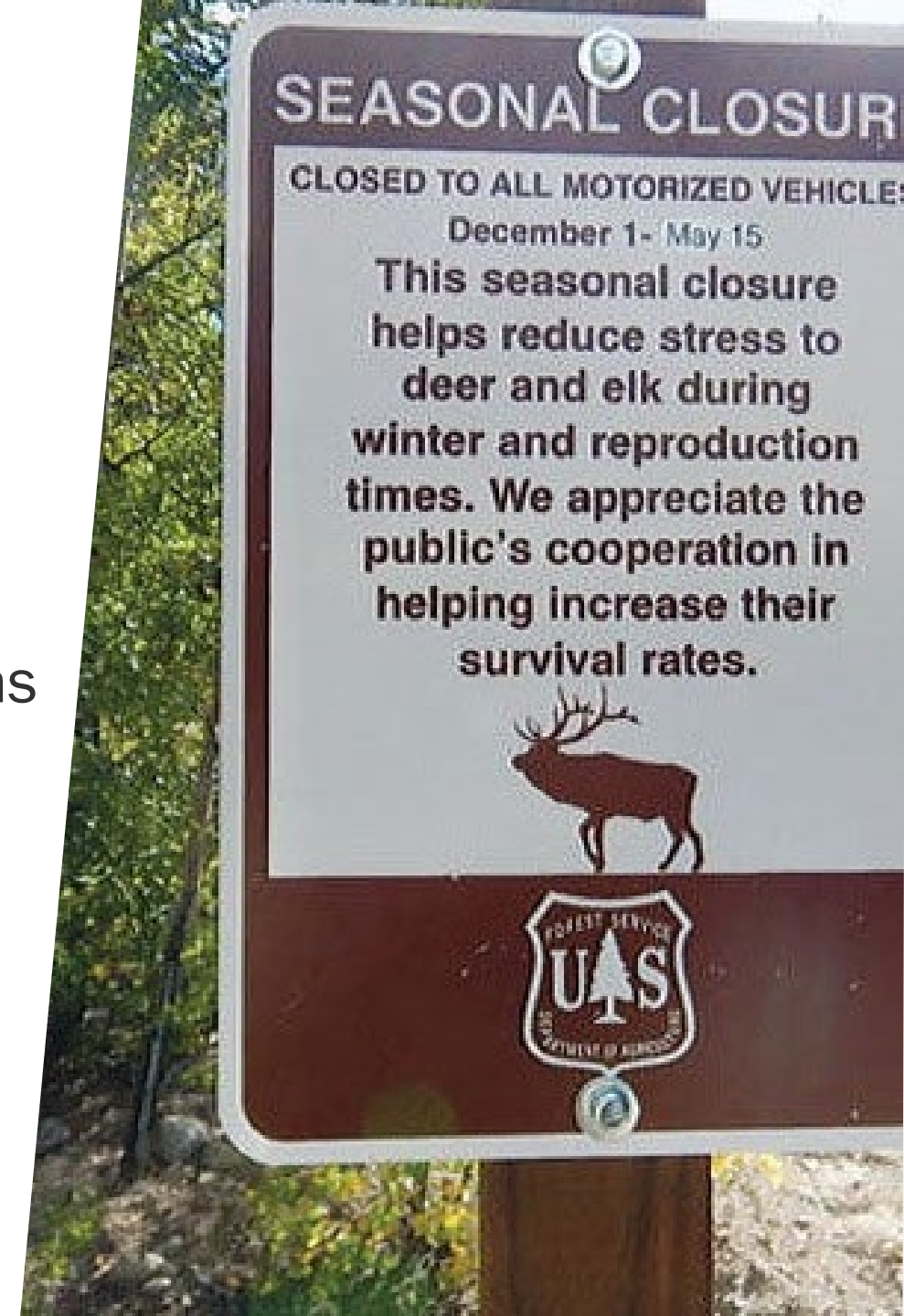
Travel Management



Dry Beaver – Ladd Canyon

- Habitat improvements
- Motorized vehicle use restrictions

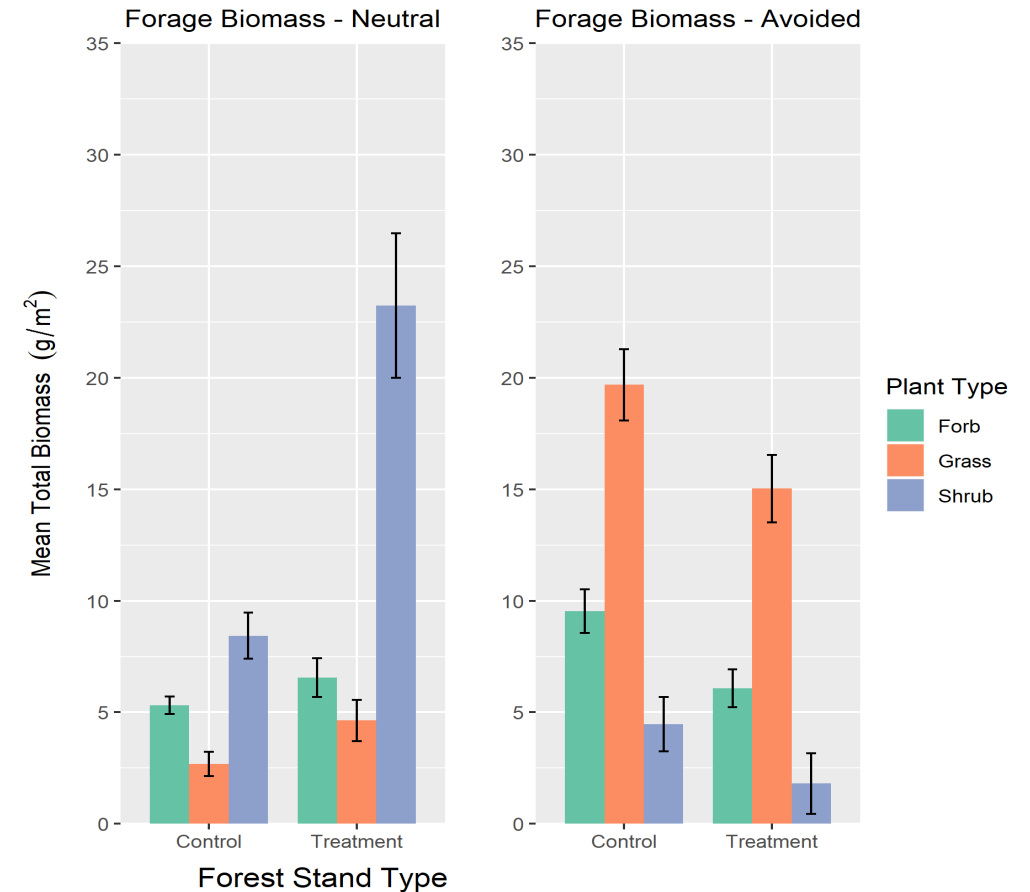
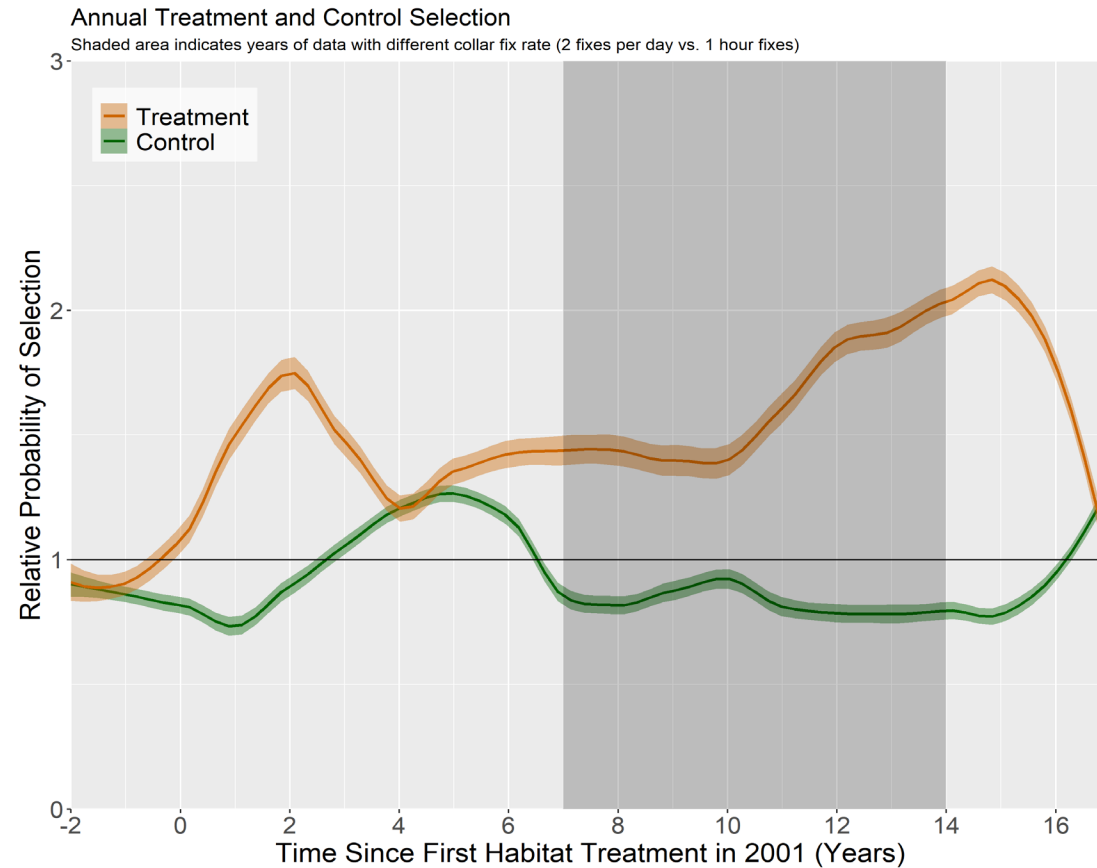
Restored migration patterns
Increased use of public lands



Fuel Treatments



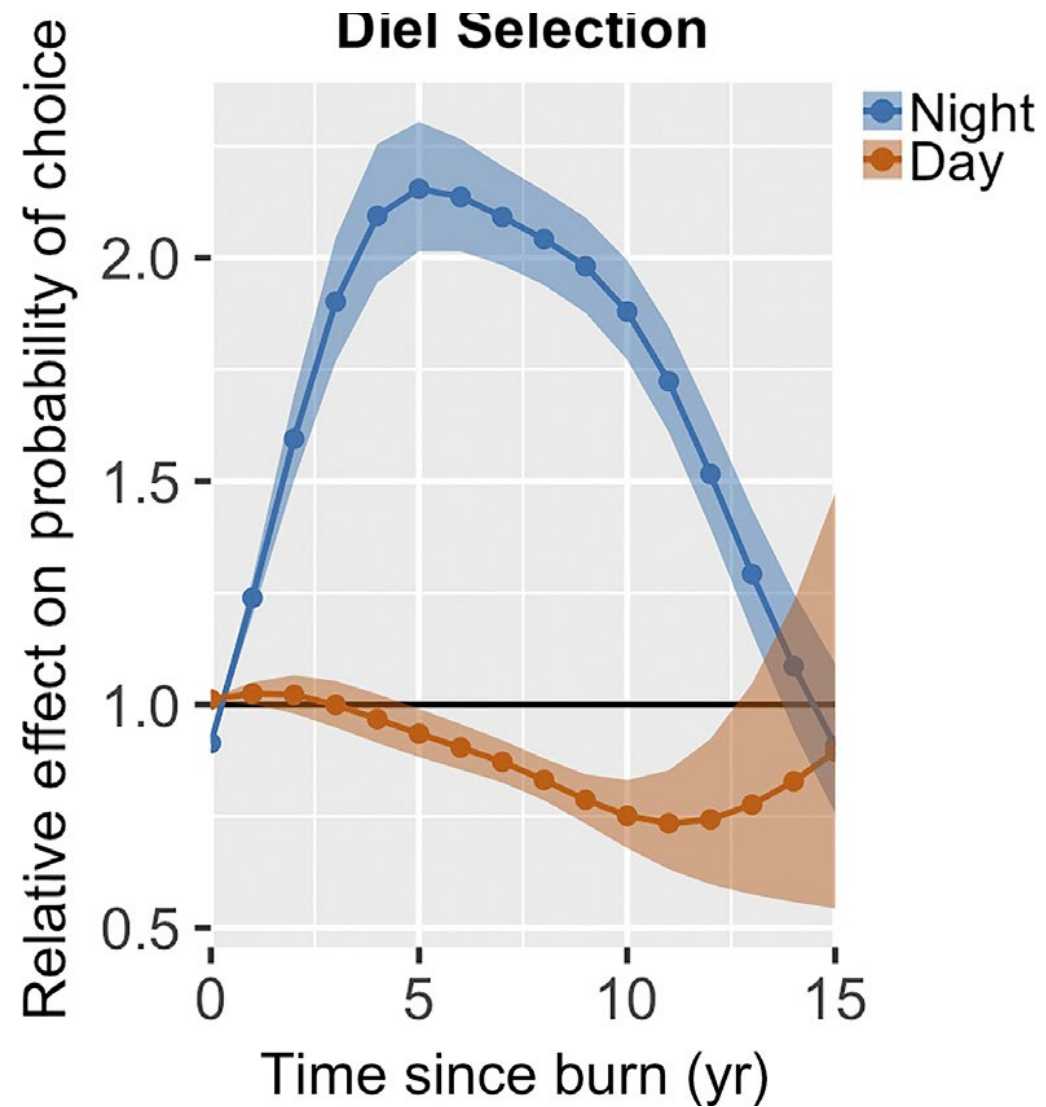
Fuel Treatments – Long-term



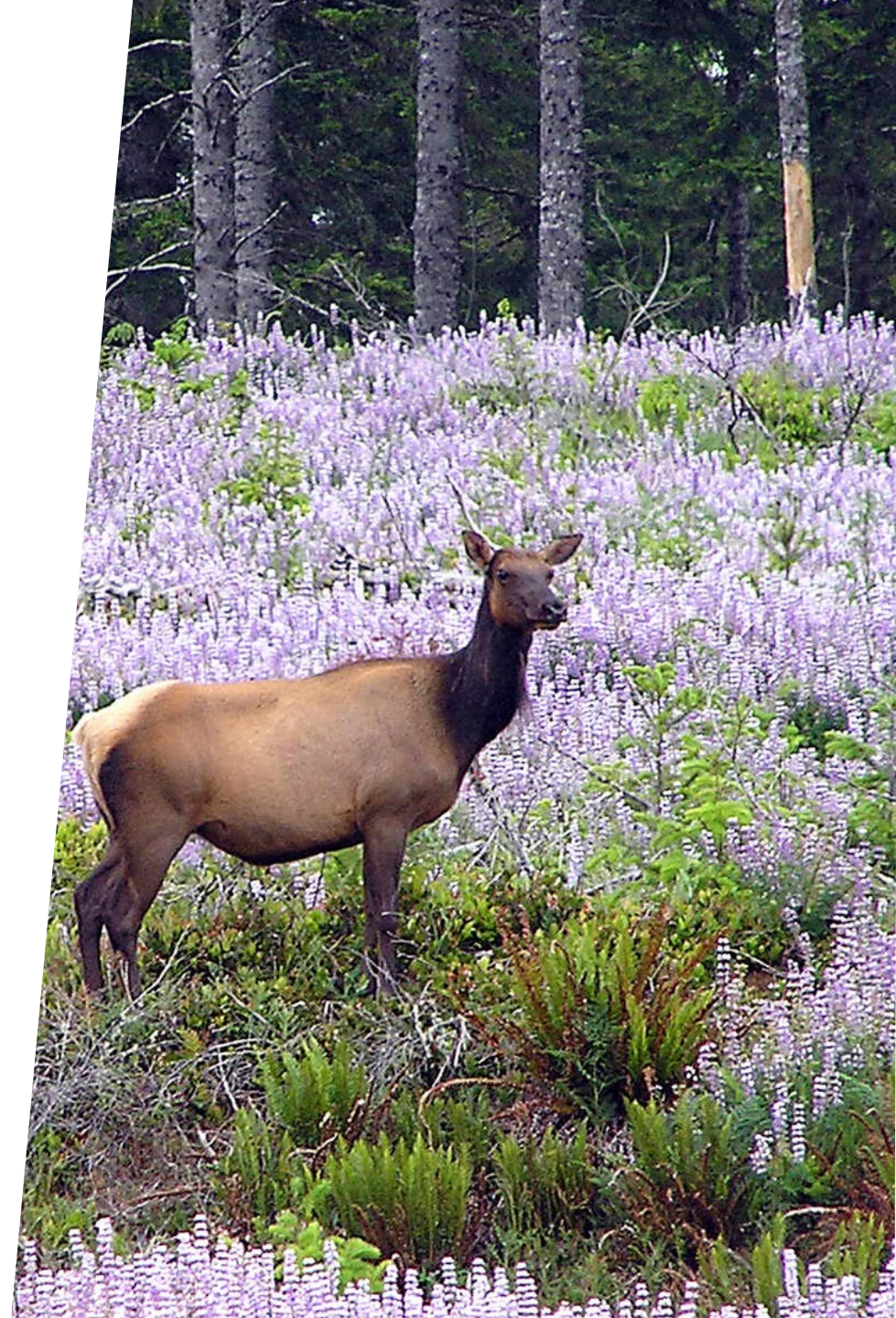
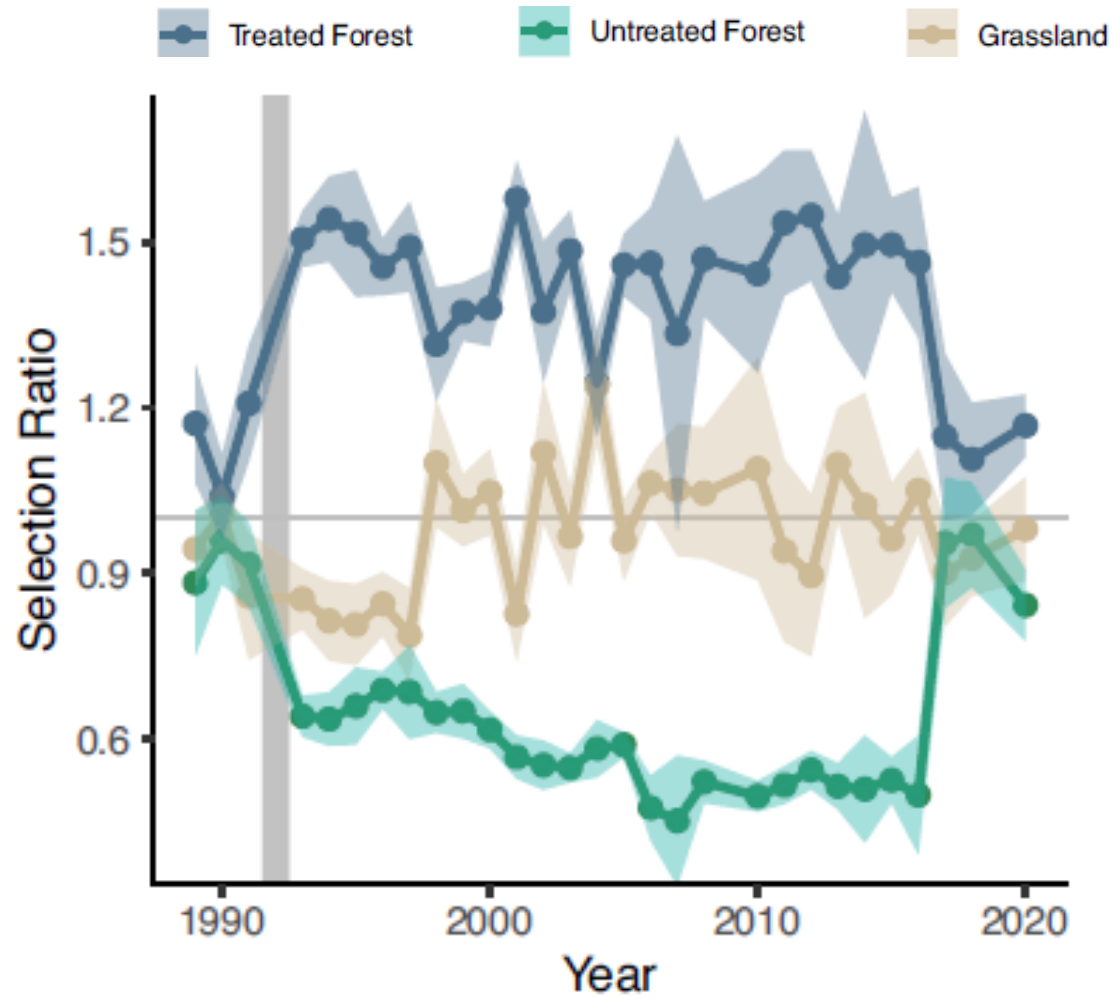
Thinning overstory and understory trees creates better forage



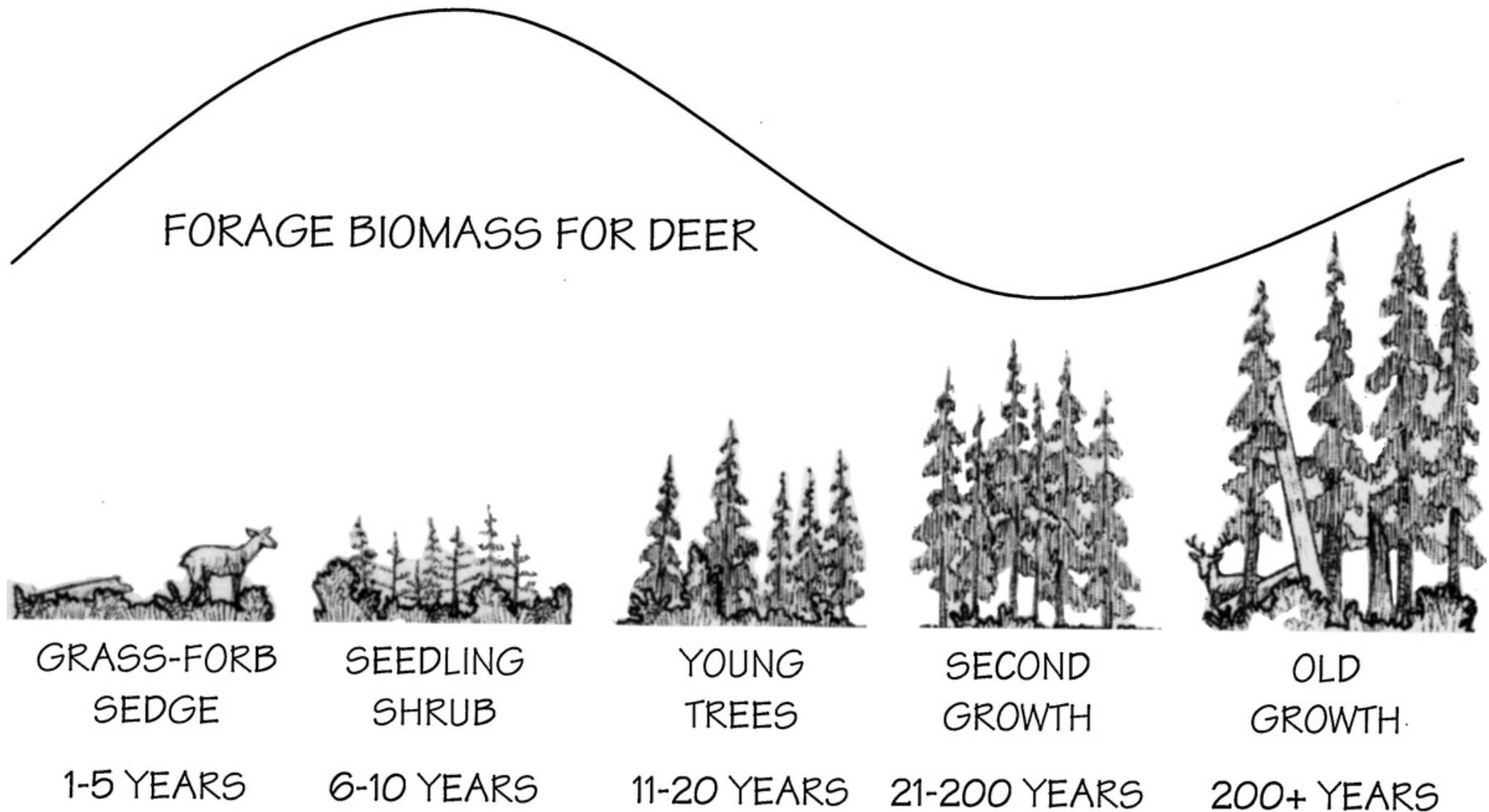
Fuel Treatments – Long-term



Timber Harvest



Vegetation Management



Elk and Deer Need Choices

