

Deer and Elk: Iconic Early Seral Wildlife




History
Habitat Use Characteristics
Representative of other species needs?

Photo by Brian Wolfer

Historical

- 1850 mule deer abundant
- 1909 First buck hunting law, then refuges and closed areas
- 1930's mule deer over-utilizing range
- 1940's herd control measures
- 1980's severe winters - mule deer decline

No. 1803 **HUNTER'S LICENSE** 

STATE OF OREGON,
COUNTY OF MULTNOMAH, ss.

This Certifies That Donald Gilbert
Leeds One Pt.
a resident of the State of Oregon, described as follows:

Age 14 years Complexion Fair
Height 5 feet 5 inches Color of hair Black
Weight 109 pounds Color of eyes Brown

having paid to me the statutory license fee of \$1.00 is hereby licensed to hunt within the State of Oregon, subject to the regulations, restrictions and penalties provided by law.

This license expires on December 31, 1907, and is not transferable, and must be shown upon demand to any officer authorized to enforce the game or fish laws of this State.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of the County Court, this 13th day of Sept 1907

F. S. FIELDS,
County Clerk

By H. G. Schuman
Deputy

Donald Gilbert
Signature

THIS LICENSE MUST BE ON YOUR PERSON WHILE HUNTING
MAHN & BEACH, PRINTERS, 92 FIRST STREET, PORTLAND.

Historical

- Early 1800's elk were plentiful.
- Market hunting = few small herds of elk.
- 1905 market hunting illegal.
- 1908 hunting banned.
- Re-introductions began 1911.
- 1933 hunting re-instated.
- 1938 elk damage complaints in Elkhorn Mtns.
- 1970's transplants in western OR.



Elk Meat Confiscation -1924

Deer and Elk

- Deer and elk are generalists.
 - Deer more specialized than elk.
- Higher densities – early seral forest habitat.
 - Not entirely dependent upon early seral forests.
- Ample evidence deer and elk populations can decline as ESF habitat declines.



Tillamook Burn

- In 1958, 340 acres fenced.
- 47 deer removed from the enclosure 1959.
- There were 109 deer per square mile until die off of 1/3.
- There were 62 deer per square mile for 5 years.



Early Seral Forest Habitat

- For deer and elk:
 - Food: quality and quantity
 - Microclimate and microhabitat
- Quality vs. quantity: differs between elk and deer.
- Early seral: post disturbance to closed canopy (little or no understory).

Deer



- Deer rumen: small volume:body mass
 - Microbial digestion relatively short time
 - High quality diet:
 - Nutritious: crude protein, digestible energy
- Forage quickly
- Seek cover to ruminate
- Decreased winter food intake:
 - must gain weight/body fat in growing season,
 - winter forage is also important.

Elk



- Elk rumen: large volume:body mass
 - Microbial digestion breaks down more indigestible vegetation.
- Forage quickly.
- Seek cover to ruminate.
- Decreased winter food intake:
 - must gain weight/body fat in growing season.

Deer and Elk Forage

- Quality of Forage
 - Crude protein highest during growing season
 - Crude fiber affects digestibility
 - Crude fiber goes up in winter = less digestible
 - -dietary digestible energy is very important to lactating cow elk.
- Dry matter affects quantity of nutrients available for digestion.
 - Lowest during summer, highest during winter.
- Plts more nutritious, digestible spring-summer, some plt spp show little seasonal change.

Deer

- Plant species diversity important.
- Majority of food is browse.
 - Stems, leaves woody vegetation
 - Forbs
 - grasses
- Preference and use seasonal.



Black-tailed Deer

- Important foods:
 - Trailing blackberry
 - Vine maple
 - Huckleberry
 - Grasses (green)
 - Red Alder
 - Ocean spray
 - Madrone
 - Oak (acorns)
 - herbs



Mule Deer

- Important Foods
 - Bitterbrush
 - Aspen
 - Serviceberry
 - Ninebark
 - Snowbrush
 - Willow
 - Redstem ceonothus
 - Buckwheat
 - Penstemon
 - A. Balsamroot
 - Grasses



Elk



Gerald and Buff Corsi ©
California Academy of Sciences

- Prefer grasses when both shrubs and grasses present.
- Variable diet.
- Spring green-up: grasses selected
- Forbs and shrubs selected as grasses mature.

Deer and Elk Habitat Use

- Density can be misleading indicator of quality
 - See Van Horne 1983. JWM 47(4):1983
 - Could be just a seasonal use
 - Could be a temporary use or based on previous year's attraction
 - Social interactions may force into lower quality
 - Could be a result of survey methodology
- Density, survival, reproduction involved.

Other Wildlife Species

- Large number of species use ESF
 - Many have specialized needs
- In Oregon there are at least 20 herptiles, dozens of mammals and birds.
- Fish can indirectly benefit from ESF.
- Examine a few species use of ESF

ESF Species

- Mountain bluebird
 - Variety habitats mostly open habitat
 - Nests in cavities
 - Insects 90% diet, berries.
 - Physical structure is important



Credit: Jesse Achtenberg, US Fish and Wildlife Service

ESF Species

- Hummingbirds
- Calliope is a good example – prefers ESF and open canopies.
 - Abundance of flowering species
 - Currants, gooseberry, columbine, paintbrush, penstemon



Credit: Lee Karney, US Fish and Wildlife Service

ESF Species



Credit: Dave Menke, US Fish and Wildlife Service

- Bewick's wren
 - Prefers ESF
 - Cavity nester
 - Insects and spiders
 - Does not occur in arid deserts nor moist forests.
- Mtn. Quail
 - Benefit from ESF
 - Significant decline

ESF Species

- Reptiles like this w. fence lizard
 - Attracted to open habitats
 - Some prefer arid like this fence lizard
 - Some prefer humid such as N. alligator lizard.



Credit: Scott Rheam, US Fish and Wildlife Service

ESF Species

- Many species of snakes use ESF
- Rubber Boa in western OR
 - Found commonly in ESF that contain rotting stumps and logs



Credit: Gary M. Stolz, US Fish and Wildlife Service

ESF Species

- Clouded Salamanders
 - Primarily forest dweller
 - Common in ESF with large downed logs
 - Eat ants, termites
- Other amphibians:
 - Great Basin Spadefoot
 - Western Toad



Clouded Salamander © 2006
William Flaxington

ESF Species

- Wide variety of mammals
 - Rodents, bats, carnivores, etc.
- Pacific Shrew
- White-footed vole
- Western Harvest Mouse



Credit: John Good, National Park Service

ESF Species



Photo By Dave Pitkin

- Black Bears:
 - Can live anywhere and eat anything

Deer and Elk: Early Seral Forests

- ESF that provide quality habitat, especially for deer, provides benefits to other ESF species.
- ESF of low quality has limited value.
- Many other wildlife species require different attributes in ESF in addition to what deer and elk need.
- Landscape management specifically for deer/elk will not benefit all ESF species.

A photograph of a stream flowing through a forest. The water is dark and turbulent, with white foam from rapids. Large, weathered logs of driftwood are scattered along the banks. The foreground is filled with lush green vegetation, including ferns and small pink flowers. The background shows more trees and dense foliage.

Questions?