MISC0189

Woodland Fish and Wildlife

Managing Deer on Small Woodlands

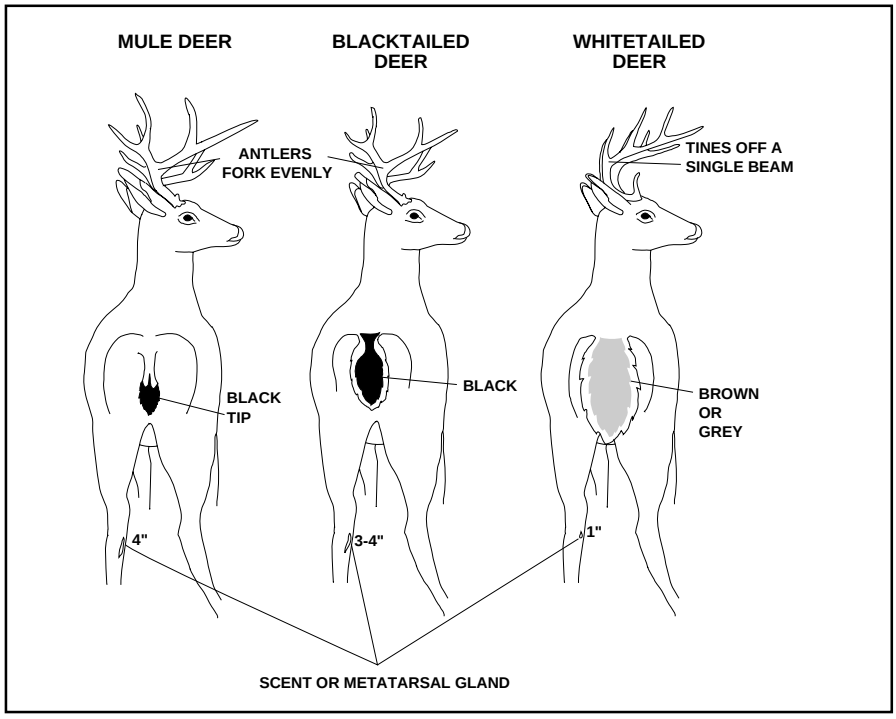
Most of us have an opinion about how many deer there are and about how many there ought to be...the numbers rarely match. There always seem to be too few, if one is a hunter or watcher of game animals, and too many, if one is attempting to raise crops, whether they be trees or gardens. What is the true trend in deer populations in the Northwest? It depends on the specific location, but in general, there is less habitat base available in Washington and Oregon each year, due to human population growth and land use changes. The management of deer populations on a shrinking habitat base is not a simple task.

One part of deer management is accomplished by hunting regulations developed by state fish and wildlife agencies. In the spring of each year, deer populations increase about 25-35 percent. Hunters normally harvest about 12 percent. The number of deer remaining through the year is based on critical habitat needs being met, such as necessary food, cover, and water.

Deer and other big game range over a fairly large area, so woodlot owners with large acreages can be influential in the management of deer habitat. Those with small acreages can also contribute, as every bit helps. This publication describes the general requirements of deer, and outlines some ways in which forest management can be accomplished while at the same time maintaining or improving deer habitat.

Description and Distribution

Two species of deer occur in Oregon and Washington. East of the Cascade Mountains, white-tailed deer (*Odocoileus virginianus ochrouris*) and mule deer (*Odocoileus hemionus hemionus*) are found. West of the mountains, a sub-species of mule deer, the black-tailed deer (*Odocoileus hemionus columbianus*) prevails. The Columbian white-tailed deer



(*Odocoileus virginianus columbianus*) also exists on the westside (lower Columbia river and the area around Roseburg, Oregon) and is classified as an endangered subspecies of white-tailed deer.

Mule deer are distinguished from other species by a black tipped tail and white over the rump above the tail. The black-tailed deer, as the name suggests, has a tail which is mainly black on the outer surface. White-tailed deer have large (about 11 inches long) reddish-brown or grayish tails that flag white when raised. Another characteristic that distinguishes white-tailed from mule and black-tailed deer is the antler shape. White-tailed deer antlers have unbranched tines that originate from a single beam, while mule deer and black-tailed deer have branched tines and a branched beam.

Life History

Deer breed in November and December and have their fawns from May through July. Young females, or does, usually give birth to one 5-8 pound fawn, while older does often have twins and sometimes triplets. The fawns retain spots until they are about three months old. Male fawns (bucks) develop buttons (small bumps) at six to eight months of age which eventually become antlers. Adult bucks grow new antlers each year. Antler growth begins in early spring and is complete by early fall. When antler growth is complete, the coating of soft velvet dries and peels off, leaving the hard antler ready for the breeding season, or rut. Antlers are shed after the rut in December or January.

Habitat Requirements

Deer don't necessarily stay in the same areas year round. In winter, deer generally prefer lower elevations and moderate sloping areas with south or southeast exposures. Black-tailed and white-tailed deer are normally resident in a small area (1/2 to 1 square mile), although some herds migrate. Herds of mule deer usually migrate rather long distances to winter ranges.

In spring, fawning areas are sought. These are usually flat and within several hundred feet of water. Ideal locations include riparian areas, low shrubs or small trees from 2-6 feet tall under a tree overstory of approximately 50 percent crown closure for cover and a supply of succulent forage.

In summer, deer range widely, spending considerable time near water where green forage is most available.

Year-round, deer require some basic habitat elements: water, food, and cover. The availability of these vary with the time of the year.

WATER: If there is water on your property - even if it's only a marsh, intermittent stream, or spring - it is important. During timber harvest, protection of these areas and the associated riparian areas will maximize their value to deer and other wildlife.

FOOD: Deer browse on the growing tips of woody, brushy plants. Grasses and forbs are readily consumed, especially in late winter and early spring and depending on the species mix and availability. The optimum amount of forage in a deer's home range is between 40 and 60 percent. The way that this food is distributed and mixed with cover is important, since deer will not generally use forage areas that are more than 600 feet from hiding cover (sufficient vegetation or topographic features to provide security from predators). If an opening is more than about 25 acres, deer may not use all of it unless hiding cover is provided within the opening.

Forage is provided in natural openings, or in openings that have been created through timber harvest, fire, blowdown, or other disturbance. Quantities of deer forage can be increased during the 10-15 years following timber harvest. Preferred forage species for deer are listed on the next page. Some preferred commercially prepared forage mixes can be sown on disturbed sites. Some common, well-tested mixes are listed on page 5.

COVER: Deer use cover for two reasons: security from predators (hiding cover) and protection against the elements (thermal cover). Optimally, 40-60 percent of a deer's home range will provide cover. Thermal cover helps deer to tolerate the heat of summer and the cold of winter, and is provided in winter by stands of evergreen trees and by evergreen or deciduous trees in the summer. Thermal cover is most effective when the canopy is dense (70 percent or more closed), and in the winter is

best when the tree diameter is large as well. Stands of 5-36 acres are most effective. You will often find winter and summer beds under patches of thermal cover.

Preferred Food Plants

MULE DEER	BLACK-TAILED DEER	WHITE-TAILED DEER
Trees and Shrubs:		
Thimbleberry	Salmonberry	Westside:
Snow brush	Snow brush	Snowberry
Snowberry	New growth of	Elderberry
New growth of	Douglas fir	Red-osier dogwood
Douglas Fir	Bitterbrush	Evergreen blackberry
Bitterbrush	Willow	
Willow	Trailing blackberry	Eastside:
Rose	Ceanothus	Willow
Ninebark	Red huckleberry	Sagebrush
Mock orange	Vine maple	Deer brush
Dogwood	Western red cedar	Serviceberry
Currant	Salal	Bitterbrush
Cherry		Wild cherry
Red stem ceanothus		Buckbrush
Buckbrush		Evergreen ceanothus
Serviceberry		Red stem ceanothus
		New growth of Douglas fir
		Western red cedar
Forbs and Legumes:		
Alfalfa	Alfalfa	Westside:
Clover	Clover	Swordfern
Balsamroot	Deer vetch	Bulrush
Bluebells	Pearly everlasting	
Burnet	Fireweed	Eastside:
Hawkweed	Vetch	Burnet
Prickly lettuce	Deer-fern	Alfalfa
Dandelion	Cats Ear	Dandelions
Twinflower	Clover	
Trefoils	Balsam root	
Grasses and Others:		
Bluegrass	Bluegrass	Westside:
Wheat	Wheat	Bulrush
Oats	Oats	Sawgrass
Cheatgrass	Lichens	Reed canary grass
Lichens	Mushrooms	
Mushrooms		Eastside:
		Wheat
		Orchard grass
		Lichens
		Mushrooms

See back panel for additional list of grasses and legumes that can be planted for deer.

Hiding cover protects deer from predators. It consists of vegetation thick enough to hide about 90 percent of a deer from observation at a distance of 200 feet or less, and can be provided by small trees or tall shrubs. Greatest benefit is provided if hiding cover is maintained where deer may otherwise be seen: along roads, between openings, along travel corridors such as riparian areas. Young conifer plantations provide excellent hiding cover, especially when provided in patches at least an acre in size.

Both thermal cover and hiding cover are most effective when they are distributed well. Generally, about half of all cover should be in thermal cover, and half in hiding cover, with slightly more toward thermal cover if in a winter range.

Forest Management For Deer

Habitat can be maintained or enhanced during land management activities such as timber harvest. Habitat needs can be most effectively considered when planning timber harvest, such as harvest scheduling. A long-term or large-scale planning approach allows consideration of habitat needs throughout a large area and through time, and individual units of land, managed well, contribute to this approach.

Harvest Scheduling: One of the most important considerations in providing deer habitat is the pattern and quantity of forage, hiding cover, and thermal cover throughout

an animal's home range. Using the information provided earlier, a landowner can assure a well-distributed mix of quality forage and cover over a large area. Harvested units, for 10-15 years, provide forage, but will not provide adequate thermal and hiding cover unless the residual stand meets the criteria for cover described above (such as 70 percent canopy closure).

Site-Specific Techniques: To protect sites known to be heavily used by deer during fawning season and under severe winter conditions, it's best to avoid disturbing these areas. When management activities such as logging are necessary, there will be smaller impact if they are conducted during seasons not critical for deer. For example, management activities on deer winter ranges will cause the least stress to wintering animals if conducted during late spring to autumn.

With any timber harvest activity, there are techniques one can use to enhance or retain deer habitat. Where riparian areas are protected, they provide travel corridors and cover for deer as well as essential habitat for other wildlife and fish. Roads can be constructed to avoid key habitat such as riparian areas or thermal cover and to maintain as much hiding cover as possible. When no longer needed, roads and landings can be closed and seeded (and fertilized where necessary) to improve deer forage and prevent erosion. Some seed mixes are listed on page 5.

If slash is burned, availability and growth of some forage species including willow, ceanothus, and serviceberry may increase. If slash is not burned, windrowing or piling will create feeding areas easily traversed by deer.

Deer may eat seedlings in a plantation. If this is a problem in your area, repellents, protective devices, or fencing may be needed. Protective devices include some commercially available tubes placed over seedlings after planting or treated paper bud caps stapled over the terminal buds. Numerous repellents are available. All give some protection but are not the final solution where extensive deer browsing occurs in plantations. Sacrificial crops, forage seedings, and native browse can be planted or maintained adjacent to plantations in some situations to reduce browsing pressure on new seedlings. For more information on animal control, check the references for two helpful publications or contact your local fish and wildlife agency or cooperative extension office.

The checklist will help you to evaluate the potential for your woodland to provide excellent deer habitat. If managing for winter range, heavier snowpack areas will require more cover.

Checklist

Percent of Area in cover:
- ❑ 40-60

Ratio of Thermal to Hiding Cover:
- ❑ 50:50

Forage:
- ❑ 50-100% herbaceous vegetation (grasses, forbs, legumes) and/or shrubs less than seven feet tall
- ❑ One acre patches of forage
- ❑ Less than 600 feet from cover

Hiding Cover:
- ❑ Capable of screening 90% of a standing adult deer
- ❑ 1-5 acre patches

Thermal Cover:

(West of the Cascades)
- ❑ Evergreen forest stand at least 40 feet tall
- ❑ Crown closure of at least 50-70%
- ❑ Smaller than 5 acre patches
- ❑ Large (21" diameter) trees preferable

(East of the Cascades)
- ❑ Stand of trees at least five feet tall (summer)
- ❑ Stand of trees at least pole/sapling size (winter)
- ❑ Crown closure of at least 50-70%

Forage Mixes

Several mixes of legumes and grasses are available that will increase deer forage on disturbed sites such as logging roads and landings. They supply forage to deer and other species while reducing erosion on road cuts. Many variations of these mixes can be used depending on the site, soil and moisture conditions, and seed availability and cost.

On the east side of the Cascades, a mix of about 60-70 percent grass to 30-40 percent legume is commonly used, although these can be varied depending on the site and seed availability. Many of the legumes are used first by the deer but may die out leaving the grasses.

Fall and spring sowings may be the best on the westside with fall, winter, and spring sowings adequate on the east side. The key is to sow the site as soon as possible after site disturbance to assure good seed set and to beat out the competition by noxious weeds that will rapidly fill in most disturbed sites.

East Side

Mixes vary on the east side of the Cascades. Therefore, they are given here in precentages of the total. These can be adjusted according to the site conditions and seed availability. Normal sowing rate is from 10-16 pounds per acre. The purer the seed mix, the lighter the sowing can be. White Dutch clover is excellent but usually much more expensive than Alsike clover. One mix that can be varied is as follows:

Species	Percentage of Total
Sherman big bluegrass	4%
Regar meadow brome grass	20
Paiute orchardgrass	18
Festorina tall fescue	10
Timothy grass	11
New Zealand white Dutch clover	10
Small burnett	5
Ladino clover	10
Medium red clover	9
Lakak alfalfa	3
	100% seed mix of: 63% grass seed 37% legume seed

West Side

Species	Pounds/Acre
Shade Mix	
Fine fescue	17
Big trefoil	2
Annual rye grass	1
White Dutch or subterranean clover	2
Total	**22 pounds/acre**
Clear-Cut Areas	
Perrenial rye grass	2
Annual rye grass	2
Orchard grass (dwarf if available)	4
Tall fescue	1
Yellow sweet clover	4
White dutch or Subterranean clover	2
Birdsfoot trefoil	5
Total	**20 pounds/acre**

REFERENCES

Controlling Deer

Oregon State Univ. Extension Service. 1985. *Understanding and Controlling Deer Damage in Young Plantations.* The Woodland Workbook Extension Circular 1201. 15pp.

Washington Department of Fish & Wildlife. *Controlling Nuisance Deer.* Factsheet. Olympia, WA. 4pp.

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Publications in this series provide practical information on fish and wildlife management to private woodland owners and managers.

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