Animal damage management in Pacific northwest forests, March 25-27, 1987, Spokane Washinton. (Sponsored by) Cooperative Extension, Washington State University... (et. al.) 1987.

HABITAT IMPROVEMENT TO REDUCE DEER DAMGE TO DOUGLAS-FIR

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ABSTRACT

Management of black-tailed deer (Odocoileus hemionus columbianus) populations to minimize browsing damage in Douglas-fir (Pseudotsuga menziesii) forests is enhanced by a natural abundance of preferred forage. An abundance of preferred forage, usually about 15 percent (as ground cover) the first year and increasing to 30 or 40 percent or more in the next 2 or 3 years, is necessary to keep deer browsing on Douglas-fir to moderate levels. The normal natural abundance of native trailing blackberry (Rubus ursinus), preferred as browse by deer in winter, is usually adequate to eliminate excessive winter browsing on Douglas-fir seedlings in western Washington and Oregon. In certain coastal areas, trailing blackberry is not abundant and winter browsing damage can be severe. On many areas where old growth has been recently cut there is sufficient occurrence and abundance of fireweed (Epilobium sp.) and preferred forage species such as hawkweed (Hieracium albiflorum) and red huckleberry (Vaccinium parvifolium) to minimize deer damage to Douglas-fir. After logging second- and third-growth stands of Douglas-fir , however, there usually is a limited amount of preferred forage for several years. These "new generation" plantations often have an abundance of nonpalatable plant species that compete for space and cause deer to browse more Douglas-fir, particularly during late spring when very few preferred forbs are available. Normally, even on these plantations, deer damage to Douglas-fir stops in mid-summer when adequate alternate browse becomes available.

In recent studies, certain preferred forbs have been seeded in newly burned and unburned clearcuts to speed up and help control plant species succession and to provide adequate and abundant forage for deer. The forb species selected do not appear to compete with Douglas-fir. Species recommended for seeding are catsear (Hypochaeris radicata), fleabane (Erigeron strigosus septentrionalis), phacelia (Phacelia nemoralis), hawksbeard (Crepis capillaris), redstem fireweed (E. watsonii watsonii), and hawkweed. Evergreen forb species provide some forage in winter but are most beneficial in early summer. In the spring and early summer, deer prefer the flowering stems of these forbs.

A mixture of preferred forbs should be seeded in late summer so that plants will be established before frost. A good seed mixture provides a variety of palatable plants and a variety of flowering dates, with earliest flowering being most beneficial by coinciding with bud burst of Douglas-fir. The recommended seeding rate is a mixture of the above species sown at 1 to 1.5 pounds per acre. Specific information on obtaining seed and sowing rates for each species has been published. Studies have shown that seeding entire

clearcuts is preferable to seeding edges because the natural spread of seeds is too slow. Deer spend about equal amounts of time in seeded areas and unseeded areas, consequently, browsing damage to Douglas-fir is highest where preferred forage is least available. No changes in deer populations have been observed on forb seeded vs. unseeded plantations.

Investigations should be made to determine if winter preferred forage plants such as trailing blackberry and blackcap (Rubus leucodermis) can be introduced in those areas low in preferred browse. Study is also needed to determine if Douglas-fir found genetically resistant to deer browsing can have that resistance enhanced by the addition of an abundance of preferred forage.

REFERENCES

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