

DEER AND LOGGING: A CLEAR-CUT DILEMMA

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Bill McRoberts photo



For many years a controversy has existed concerning the effect of clear-cut logging on Sitka black-tailed deer habitat in southeastern Alaska. Now, recent joint studies by the Alaska Department of Fish and Game and the U.S. Forest Service Forestry Sciences Laboratory indicate that such logging practices are detrimental.

Southeastern Alaska, the northwest corner of the black-tailed deer's natural distribution, is a narrow band of land bordered on the east by rugged, snow-capped mountains and on the west by ocean. Deer habitat in the area consists primarily of temperate rain forest and, at higher elevations, alpine tundra.

For three to five months of the year the alpine area is free of snow and provides deer with abundant, high-quality forage. However, during the rest of the year deep snow forces deer into the forested areas found at lower elevations. It is there, when deep snow limits their ability to find food, that starvation takes its greatest toll on the Sitka black-tailed deer.

Deer depend on the forested regions of southeastern Alaska for two necessities for their survival. The first is forage, a mixture of vegetation which provides them with food for the winter months. The second is adequate cover from the heavy snow found even at low elevations during the winter, and which can render existing forage inaccessible to deer.

Current timber management plans for the Tongass National Forest (which covers most of southeastern

Alaska) call for clear-cutting about 18,000 acres of commercial forest land each year. This is a sustained-yield harvest level based on a 100-year rotation period for clear-cut sites.

The problem is that 100 years of forest growth following a clear-cut does not appear to satisfy the habitat requirements of southeastern Alaska's deer.

The Department of Fish and Game and U.S. Forest Service studies suggest that in southeastern Alaska deer use of regrowth forests (from one to 147 years old) during mild winters is only a fraction of that found in adjacent or nearby old-growth forests. Deer use of regrowth areas during severe winters is likely to be so little as to be almost insignificant.

Comparisons of deer use were made by counting and analyzing pellet-groups, a standard research technique. Pellet-group counts were made on 300 one-by-ten meter plots in each regrowth and adjacent old-growth study site on Admiralty and Chichagof islands during the fall of 1977 and the spring of 1978. The fall sample gave information on deer use of the areas in the summer, while the spring count dealt similarly with winter use.

The difference in deer use of these areas is thought to have two causes. First, although recently-clear-cut areas produce abundant forage, it is often unavailable during the winter because of heavy snow accumulations. The second cause is the result of

SNOW COVER—Snow accumulations on Admiralty Island in late March make it difficult for deer to move around and find food in open areas such as muskegs or clearcuts.



FOOD AND SHELTER—In an area with adequate forest canopy, adjacent to the scene above, a photo taken the same day shows the snowpack barely evident and forage readily accessible.



natural growth in the even-aged forests following clear-cutting.

The forest canopy in even-aged regrowth timber tends to close in rapidly, shading out essential forage species within 15-20 years of the clear-cutting operation. From the time the canopy closes until well beyond the current 100-year rotation period the forest provides some protection from deep snow, but allows very little forage growth, due to the lack of sunlight under the canopy.

Old-growth (or climax) forests which are composed of trees of different ages and sizes, many of which have high, broad upper limbs which intercept a significant amount of snow. At the same time, due to the different-sized trees, blowdowns and other factors, old-growth canopies include small openings which allow the entry of sufficient light for the growth of the forest-floor vegetation used for forage. Thus, only old-growth forests seem to provide both refuge from heavy snow and enough available food to sustain deer through the critical late winter-early spring period.

In February, 1978, the U.S. Forest Service and the Alaska Department of Fish and Game co-sponsored a Sitka Black-tailed Deer Conference in Juneau. The Conference brought together about 50 individuals representing the Alaska Department of Fish and Game, the U.S. Forest Service, the U.S. Fish and Wildlife Service, the British Columbia Fish and Wildlife Branch, several timber companies, and the universities of Alaska, British Columbia,

Washington and California at Berkeley. The general consensus at the conference was that despite the old generality that timber harvesting enhances deer habitat, current forest management practices in southeastern Alaska and British Columbia are permanently eliminating the uneven-aged climax forest on the northwestern coast of North America.

There are about five million acres of forest land in southeastern Alaska with commercial potential. Thirteen per cent of that is already in young (less than 150 years) regrowth stands. If the present level and method of timber harvest continues, about 50 per cent (approximately two and one-half million acres) of the best winter Sitka black-tailed deer habitat will have been affected by the time the current clear-cuts reach rotation age.

A wildlife biologist with the British Columbia Fish and Wildlife Branch commented during a discussion at the Juneau deer conference that deer harvests on most of the logged-over areas on the east coast of Vancouver Island have decreased up to 50 per cent following logging. He went on to say that in areas with known information, the harvest has declined from 80 to 85 per cent.

Of all man's land-use practices in southeast Alaska, there is no doubt that timber management has, and under present conditions will continue to have, the single greatest influence on the welfare of the areas's deer.

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WINTER FOOD—This Admiralty Island old-growth forest shows an abundance of the vegetation deer will use during the coming winter and early spring.

72 YEARS OLD—A regrowth forest in southeastern Alaska provides cover after its canopy closes, but lacks essential forage.



147 YEARS OLD—Even well beyond average rotation age, this Admiralty Island burn still lacks the vegetation that would keep deer alive through the winter.

