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Sitka black-tailed deer are the most abundant and most widely hunted big game animal in southeast Alaska. One recent survey indicated that over 50 percent of southeast Alaska households depend on deer to some extent for food. Gaining reliable population estimates of deer is important to wildlife managers in recommending hunting seasons and bag limits, as well as providing for the long-term health of this valuable species.

In the past, counting southeast Alaska's deer population has been a difficult task because of the secretive nature of the animal and the density of the old-growth forest it inhabits. Biologists have had to rely on hunter surveys and their own "gut feeling" to get a general indication of population trends. Today, however, department biologists are using a new method to estimate deer populations—counting pellet groups.

A "pellet group" is a single deposit of fecal pellets left by a deer. The primary advantage of conducting these counts is that pellet groups are a visible, persistent, and immobile indicator of deer presence which can be statistically analyzed. When biologists want to know how a deer population is faring in a particular drainage over a period of years, or want to make relative comparisons among drainages in southeast Alaska, they count pellet groups.

Deer pellet density has been sampled in southeast Alaska since 1981. The counting season starts in early April when snow has receded up the mountainsides and ends in late May when emerging vegetation makes counting pellet groups impractical. Field work starts in the south at Ketchikan and moves north as snow conditions allow. Biologists board the 65 foot ADF&G vessel, *M/V Polaris* (Charlie McLeod, skipper) and make two 12-day trips. Drainages to be sampled are picked with a number of factors in mind: accessibility, level of hunter use, and whether a significant change is expected in the deer population.

A typical drainage is sampled by three or more transects oriented roughly perpendicular to the shoreline. These transects consist of bands one meter wide running up the mountain from the beach. Teams of two walk a straight line compass course through the woods counting the number of pellet groups which

## Counting Deer in Southeast Alaska

by Mark Kirchoff



Sitka black-tailed fawn, Second Place, David Krause



lie within half a meter of either side of the line. Teams continue their transect until 1500 feet elevation is reached, or a mile and a quarter is traveled. Biologists assume that most winter deer use is measured within these boundaries, based on extensive monitoring of radio-collared deer.

While conducting the pellet survey, the biologists record other characteristics of the forest including slope, aspect, elevation, timber volume, plant species composition, and wildlife sightings. At the end of the day all of these data are entered into a computer as the *Polaris* steams to her next destination.

To date, deer have been found to be most abundant on the ABC islands (Admiralty, Baranof, and Chichagof), and least abundant on Kuiu Island. Deer pellet sampling has also shown that deer populations are on the rise on Prince of Wales Island and Mitkof Island after long periods of decline.

Everyone agrees pellet group counting is a great job when the sun is shining, but how often is that? During the 1987 season, it rained every day. Dragging oneself out of a bunk to the sound of driving rain on the deck and anticipating a day's climb in full rain gear through devil's club can dampen almost anyone's enthusiasm. Yet each new year new volunteers are found to complete the season, lured with tales of the wonderful places and things they will see.

One of the places pellet counters rave about most is the Finger River drainage located on the northern shore of Hoonah Sound on Chichagof Island. This area has consistently exhibited some of the highest pellet group densities in all of Southeast. Deer are almost always seen in this drainage, and the river itself has a feature that shouldn't be missed. About a mile upstream, along a big bend in the river, is a small peninsula about 25 yards long. Growing on this terrace is a pure stand of giant Sitka spruce, their clean and columnar trunks piercing the sky. Amidst the undergrowth is a luxuriant patch of moss inviting the traveler to stop and rest a while as the river rushes by.

Anyone who hikes in southeast Alaska comes quickly to an understanding of the diversity of this coastal old-growth forest, from the 200-foot-tall spruce along river systems to the poorly-drained muskeg bogs. The forest is a complex mosaic of habitat types to which deer respond differently according to the season. For example, during the summer and early fall, deer use a variety of habitat types including clearcuts, alpine, and low and high volume old-growth forest. Throughout the winter and early spring, deer use old-growth forest almost exclusively, and during a winter with deep snow, deer seek out high volume old-growth over all other habitat types.

In southeast Alaska, the most important factors influencing deer populations are winter snow accumulation and availability of high quality winter range. Southeast hasn't seen a really hard winter since 1971, and deer populations in many areas are thought to be at or near all-time highs. When the next severe winter strikes, biologists expect heavy mortality in southeast Alaska's deer population.

Even without a severe winter, biologists expect deer populations in Southeast to decline in the future because of loss of habitat. The relatively rare high-volume old-growth forest that



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is so critical for winter deer survival is also the most valuable for timber production. In the next 100 years, if timber harvests proceed as scheduled, deer populations throughout southeast Alaska will likely be substantially reduced, along with hunting and viewing opportunities. Given the economic importance of deer to southeast Alaskans, it is important now more than ever to accurately measure deer populations so that the trade-offs between wildlife and timber extraction can be clearly understood by all.

Much of that census effort will come from the ADF&G deer pellet crew that gathers each spring to begin its month-long survey of selected transects around the Alexander Archipelago. Crew members will see every variety of deer habitat from magnificent 1000-year-old cedar stands to newly clearcut hillsides. The information they collect will be invaluable in better understanding deer/habitat relationships and how deer populations are affected by human uses of the forest.

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