Prince of Wales Deer

A Subsistence Management Success Story

By Wini Kessler, Director, Wildlife, Fisheries, Ecology, Watershed, and Subsistence Management

Five years ago, the Sitka black-tailed deer on Prince of Wales Island were the thorniest of all subsistence management problems, not only for the Forest Service, but for the Federal Subsistence Management Program overall. The resolution of this issue through community engagement, interagency cooperation, and science is a success story well worth telling.

The Sitka black-tailed deer is an important source of nutritious and affordable food for many families and communities in Southeast Alaska. Title VIII of the Alaska National Interest Lands Conservation Act (ANILCA) provides a priority to rural Alaskans to harvest wild fish and game on federal lands for subsistence purposes. If resources shortages occur, it may be necessary to restrict other users to ensure that subsistence needs are met. However, such restrictions are highly controversial because of their impacts on other users.

Six or seven years ago, subsistence hunters on Prince of Wales Island were seeking to restrict other users because they were having difficulty securing enough deer to meet their needs. The controversy rose to a fever pitch. Was a restriction really necessary? Possibly, if indeed, a shortage of deer was the cause of the problem.

There were two other possible explanations, however. Maybe subsistence hunters were having difficulty because of increased competition and interference from other hunters who were traveling to POW Island on the new Inter-Island Ferry service. Or perhaps subsistence hunters were less effective at finding deer because vegetation had grown up in clearcuts and along logging roads, thereby reducing visibility.

Todd Brinkman begins an early field season to sample deer pellets on Prince of Wales Island.

A two-pronged approach was needed to address the issue: a social process to work through access and sharing issues; and, scientific investigations to improve methods and estimates relating to the abundance of deer on the island.

In 2003, the Forest Service engaged Jan Caulfield of Sheinberg Associates to assess the feasibility of using a cooperative management process to address the issue. The results were favorable enough that the Unit 2 Deer Management Planning Process was launched as a subcommittee of the Southeast Subsistence Regional Advisory Council. The inclusive, grass-roots effort of this group led to regulatory changes that strengthened the subsistence priority while maintaining opportunity for others. There was broad support for the sharing arrangement, and the issue changed from a full boil to a quiet simmer.

Meanwhile, the Forest Service Subsistence Management Program issued a call-for-proposals for research to bolster the science side of the equation. The successful proponents set to work on three objectives: 1) to develop a reliable and statistically robust method for estimating deer population levels on Prince of Wales Island using DNA extracted from fecal pellets; 2) compare the existing methods for monitoring deer (pellet transects) with the new DNA-based method and identify practical modifications to improve reliability; and 3) develop estimates of deer population abundance and compare them across different habitats. The final report, "Developing a Method for Estimating Deer Abundance on Prince of Wales Island, Alaska" is

in hand. It is clear that the team—consisting of Dave Person of the Alaska Department of Fish & Game; Todd Brinkman, F. Stuart Chapin III, and Kris Hundertmark of the University of Alaska, Fairbanks; and Winston Smith of the Pacific Northwest Research Station—achieved a milestone for deer research and monitoring in Southeast Alaska. Aspects of their findings are also published as articles in *Conservation Genetics,* a scientific journal.

There is more to this success story thanks to the exceptional effort by team member Todd Brinkman, who completed much of the work as part of his PhD program at UAF. No ordinary graduate student,

POW Island deer

Brinkman is a Research Fellow in a special program of the National Science Foundation called the Interdisciplinary Graduate Education and Research Training (IGERT) program. IGERT's purpose is to develop doctoral graduates who are adept at addressing complex problems by working across disciplinary lines. Brinkman fulfilled his PhD requirements not only by conducting high-tech biological work; in addition, he completed social investigations that yield new understanding about subsistence hunting in rural Southeast Alaska. These findings are published in *Ecology and Society* and the *Journal of Ecological Anthropology* .

When it comes to the management of subsistence resources, there's no shortage of complex and often contentious issues. The experience with Prince of Wales deer demonstrates what can be achieved through effective investment, cooperation, and creative effort.