

Refuge biologists discuss role of science in Alaska wildlife management

by John Morton

Although the National Wildlife Refuge System is celebrating its 100th birthday this year, you might be surprised to learn that wildlife management was not really considered a science until as recently as 1933. That was the year that Aldo Leopold, often considered the founding father of wildlife ecology, published his cornerstone book *Game Management*. This landmark work created a new science that intertwined forestry, agriculture, biology, zoology, ecology, education and communication. Soon after its publication, the University of Wisconsin created a new department of “Game Management,” and appointed Leopold as its first chair.

From this start in the upper Midwest, wildlife management as a profession has continued to evolve and mature. In a 1978 textbook, Dr. Bob Giles defined wildlife management as the “science and art of making decisions and taking actions to manipulate the structure, dynamics, and relations of populations, habitats, and people to achieve specific human objectives by means of the wildlife resource.”

Well, there certainly is art and a lot of politics in managing wildlife, particularly on the Kenai, but that’s not the focus of this article. We’ll save that for another day. It’s the science in Wildlife Management that I’d like to discuss, and it’s something that continues to resonate (as one biologist recently told me) in the wildlife profession. In 1981, in what is now considered an opening volley over the bow (so to speak), Dr. Charles Romesburg published a paper in *The Journal of Wildlife Management* that called for more and better science in the profession. He suggested that we do fewer observational studies and more experimentally-based research.

In April, over 70 biologists working on the 16 National Wildlife Refuges in Alaska got together for four days at the Kenai Princess Lodge in Cooper Landing to talk about science. Dan Ashe, the former director of the National Wildlife Refuge System and now the science advisor to new director of the U.S. Fish and Wildlife Service, kicked off the Refuge Biologist Conference by giving us the perspective from Washington, D.C. He described the recommendations and products

that several national teams are developing on issues ranging from habitat monitoring protocols, to Geographic Information Systems, to exotic and invasive species.

We had a lot of technical presentations from a variety of scientifically-minded professionals. Sam Droege, a monitoring expert from the Patuxent Wildlife Research Center in Maryland, shared his rules-of-thumbs for improving our ability to detect changes in animal populations. Other presenters discussed statistical techniques for classifying vegetation, the geospatially-based Ver Hoef method for estimating moose populations, the use of remote sensing data to monitor changes in vegetation and land use, and Web-based approaches for database management.

We also discussed the need to monitor the ecological effects of wild and prescribed fire in Alaska. Dr. Dave McGuire from the Alaska Cooperative Fish & Wildlife Research Unit showed how moose populations can respond positively to wildfire in interior Alaska as long as 30 years after a burn. We learned that several Refuges in the northeastern U.S. are studying how varying the water drawdown in diked impoundments can provide foraging habitat for migrating shorebirds in the spring, as well as for waterfowl in the fall and winter. The message here was less about duck management, and more about how Alaskan Refuges might be able to coordinate research and monitoring across the state.

The U.S. Fish and Wildlife Service is not the only Federal land agency trying to get a better handle on scientific approaches to monitoring wildlife and habitat. Sara Wesser described how the National Park Service has created a series of networks across the U.S. that allow for regional database management, standardized monitoring protocols, and web-based information dissemination. Bea VanHorne described how the U.S. Forest Service is implementing a pilot program to monitor wildlife on permanent plots used for timber inventory. Carl Markon from the U.S. Geological Survey reviewed progress on a comprehensive landcover map of Alaska, based primarily on satellite imagery.

Now, some of these topics may have been a little bit too technically-oriented for some folks, even for number-crunching biologists. Sometimes the coffee just didn't seem like it had any kick to it. Fortunately, we were reminded why we all became wildlife biologists with some great stories from Will Troyer and Jim King, two biologists who retired from the USFWS. Will Troyer was one of the early managers at the Kenai and Kodiak Refuges. He told us how he learned to drug bears so they could be ear-tagged, including a deliberate poke in the bear's rear-end to make sure it was actually knocked out. One bear he poked turned out to be just sleeping on the riverbank, and was not one of his study animals. It's sometimes hard to figure out when the old-timers are telling you a story and when they're story telling!

Jim King almost single-handedly developed modern aerial surveys for waterfowl, and was one of the key players in identifying lands to be set aside as part of the National Wildlife Refuge System in Alaska. Even though Jim denied that his talk was to be inspirational, it very clearly served that purpose. I think most biologists in that room, if they didn't already have it,

got a much better sense of the living history and tradition of the Refuge System.

Although the purpose of the conference was, in part, to improve the level of science currently being done on Refuges, the outcome of Jim King's talk was also to remind us that there's more to being a refuge biologist than technical know-how. There's a culture of passion for living things that is part of being a professional wildlife biologist, and the feeling of satisfaction that comes from protecting and managing these resources. However, in a world that is more litigation-minded, and with a growing list of species vulnerable to extirpation, I think that wildlife biologists need to package that enthusiasm with tighter science. We need scientifically grounded data that are strong enough to stand up in court, as well as providing effective guidance for long-term management of our wildlife and land resources.

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