

PLANNING AND IMPLEMENTING HABITAT MANAGEMENT PROGRAMS FOR MOOSE
A North American Moose Workshop Session

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The following are excerpts from talks given by personnel of the Wyoming Game and Fish Department; Doug Crowe, Planner; Dale Strickland, Assistant to Chief of Game Division; and Art Reese, Chief, Habitat and Technical Services Division.

The first speaker was Doug Crowe who presented the following: The dictionary definition of wildlife is living things growing or produced without the control and direction of man. Management is defined as the act of controlling and directing. The two terms contradict each other. I prefer to use the following definition of wildlife management: the process of maintaining wild populations at objective levels. Management is a four-phase system answering the questions:

1. Where are we? (an inventory)
2. Where do we want to be? (establishing objectives)
3. How are we going to get there? (operational planning)
4. Did we make it? (an evaluation)

These items form a strategic plan. The challenging part of planning is implementation, which is related to budgeting, work scheduling, evaluation and monitoring.

The Wyoming Game and Fish Department approaches the management of Wyoming's wildlife resource in this way. Wyoming wildlife managers do not manage moose in a vacuum. Moose are only one of 10-12 big game species that are present in the state.

The base planning unit for big game is the population. There are 21 different populations of moose in Wyoming. Each one of these populations is analyzed by the management plan described previously.

First the migration or moving from place to place of the populations through the seasons, and the geographic area that will support these populations for the full year is identified. Land ownership must be dealt with as a whole. In Wyoming this includes The National Park Service, U. S. Forest Service, Bureau of Land Management, state and private lands. Many times ownership is looked at by those who manage these lands as separate blocks and not related to the total population.

The next thing to identify is numbers of animals: how many do we have, how many do we want. This inventory is basic to any management decision. It must then be decided at what level do we want to set the population objective. Setting a population level is fairly simple to approach, but one must not set the objectives above carrying capacity or below a minimum viable population level as defined by genetics--these are biological levels. Levels between the two limits are not biological but more socio-economic considerations, and if the objective falls between the carrying capacity and the minimum viable population level, a small amount of money is required to sustain the population. These costs rise substantially when the objective is outside of the biological limits. Socio-economic considerations affect the level of the population more than biological considerations, as long as they remain within the biological limits.

The traditional definition of carrying capacity is "the number of critters that can be on-the-ground without damaging the range". Whereas, it is actually the level which the people will tolerate, which is socio-economics.

Research comes into the picture when the objective level was not met. Initiating research for some answers would provide the means of "how to get there".

Concern is expressed that biologists are hunters -- that biologists support the hunters and, more or less, go against the landowners. As wildlife managers we respond to pressure.

Concern was expressed from the floor that most of the plans never work, to which Crowe replied that they will work if levels are set from the ground up and not from the top down. Sometimes the plans fail because the bounds of the biological levels had already been met, but politicians had more impact on forming a new plan than the biologists.

No amount of planning will overcome poor administration. A good planning process is the objective, not the plan. Sometimes you have good information on the ground that doesn't get into the system, and this is the fault of the biologist, not the administrator. A biologist cannot be any better than his ability to communicate the needs of wildlife.

A biologist from Sweden expressed the thought that by evaluating the conditions of the animals is a better way to define carrying capacity than to analyze the environment. However, others disagreed saying that in the livestock industry, this method was attempted, and it was discovered that the condition of the animal was the last thing to be affected as a result of range condition.

We seldom reach the carrying capacity -- there are too many other factors in the real world. In the planning process you can define the carrying capacity, but may reach socio-economic levels before the biological carrying capacity is reached. Carrying capacity is always changing in the herbivore community because the environment is

always changing. An estimate of carrying capacity is only good for an instant in time.

The second order, harvesting, is constrained by the first order -- the population -- and by the productivity of the population. Productivity will be influenced by the sex and age structure of the harvest. The third order objectives are how many hunters, how much recreation is provided, what is the success rate you want to maintain, and how many days are spent per animal taken. Harvest objectives are economic decision-making at its maximum, sometimes entered into by wildlife managers with very little thought of the economic ramifications. Objectives are set from the ground up by looking at the historical levels and the information that the land management agencies could provide.

The amount of revenue generated usually determines how much political support the management program receives. The politician is more interested in votes than in the revenues going back into the agency and they are more apt to support resident hunting (because of votes) than non-resident hunting.

When the inventory and the objective phases of the planning are done, then it must be decided how to get there. This can be determined by seasons, cooperative efforts on habitat needs, research needs, all the questions associated with habitat improvement, and land acquisition. The last phase of planning is to ask the question, "did we make it?". This is the evaluation. It is important to incorporate planning results with other species management objectives.

Dale Strickland, Assistant Chief of Game Division of the Wyoming Game and Fish, discussed the following: As an administrator of the wildlife management agency I realize that wildlife populations will

survive in the absence of man. It is because of man that survival of wildlife populations is not assured. The role of management should increase the species survival rate for long-term survival.

People put wildlife in three categories: detrimental, neutral (people don't care) or beneficial. Management should be designed so that a species is perceived to be neutral, and hopefully beneficial.

The first step of management by objectives for moose - or any big game - is to inventory them. We have had some problems in the inventory of moose in Wyoming because they are hard to collect data on, hard to count, and have an unusual distribution. Moose appear to respond to harvest differently than elk and deer. Wyoming moose populations are small, requiring one to see most of them in a population survey. When the Game and Fish Department manages a moose population they use population rather than habitat information because it is easier to get meaningful data about populations.

After the inventory phase is completed, we set management objectives from the ground up. The first thing a manager has to do is determine the carrying capacity. Cooperation with land managers in this step is important as they usually can determine carrying capacity. Willow bottoms are not necessarily moose habitat. One must look at the vegetation and the distribution, and, on the average, determine what the habitat can sustain. One must also consider other resources like livestock, the outfitter and how much public tolerance there is for the moose. Then a series of public hearings - informal and formal begins. This includes presentations of data. Finally, the paperwork and documentation is completed and the proposed hunting seasons is ready for presentation to the Game and Fish Commission. These seasons are

designed so that population objectives will either be met or begin to be met. Objectives must be credible. The proposals are then taken to the Commission and Representatives illustrate how the management decision is designed to meet the objectives agreed to. Management objectives can be updated occasionally depending on public pressure.

Later the harvest is inventoried to determine the impact of the hunting season. Wyoming uses a process that can estimate the impact a harvest season will have on a population. Harvest is important because it should control populations so that damage to habitat doesn't occur or is minimal. This control should assure that people will like moose and will maximize their support for moose and their habitat for the recreation they provide. This will allow the agencies to fight for wildlife habitat when conflicting interests are competing, including timber, oil and gas and livestock.

The whole process is a search for credibility. In Wyoming, we have to ask what moose are doing in Wyoming anyway and what is going to result from having moose here. Our goal is an integrated comprehensive management plan.

In connection with land use planning we need to know what kind of strategy can be applied to keep development under control and protect critical habitat, which is difficult. Sometimes it is effective to have a Game and Fish employee be a member of a county planning committee. Public land acquisition and conservation easements are also important in securing the necessary habitat. Willows are not just willows. We need to know how to improve specific willows. We have a lack of knowledge of how to manage habitat and opinions vary on how to do this.

Art Reese discussed the topic of property rights as related to wildlife management. He gave a brief background on property rights. There

are usually two kinds of property, personal and real, and two kinds of systems, feudal and custodial. The Supreme Court now upholds the "Bundle of Rights" theory. Ownership of real property in actuality is ownership of certain property rights. You can use these rights as you want to. One of the best ways to administer property rights for the habitat of migrating moose is the right-of-way concept. Most agencies have the right of condemnation to make you sell, or they come up with a plan to obtain the right-of-way. Agencies managing for moose habitat should try to gain a right-of-way for a geographic area, taking into consideration the total year-around range needed for moose. There are various steps and degrees of gaining a right-of-way, from buying fee title acquisition to obtaining a pre-emptive right to buy the easement right. Another option is to have the owner exercise a certain management constraint on his property. This commonly is what land management agencies agree to through a cooperative management agreement. You may have to implement various stages of these rights-of-way with various owners within the moose range.