Bienn. Symp. North. Wild Sheep
and Goat Counc. 9:196-200.

1994 NWS&GC MANAGEMENT WORKSHOP QUESTIONNAIRE RESPONSE: NORTH DAKOTA'S CALIFORNIA BIGHORN SHEEP MANAGEMENT PROGRAM

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QUESTION: Does your state or province have an identifiable sheep management program?

North Dakota has a loosely structured, participative management program for bighorn sheep that is identifiable under special big game.

QUESTION: What is your guiding policy statement?

It is the responsibility of the North Dakota Game and Fish Department to be the principal governmental proponent for fish and wildlife populations (including bighorn sheep) and their habitats. The department must aggressively conserve and enhance these resources and protect them from irreversible harm to ensure their existence in perpetuity for the citizens of the state. It is on that premise that the following management policies (for all species, including bighorn sheep) are formulated:

(NOTE - only those policies relating to bighorn sheep or their habitat are included.)

MANAGEMENT POLICIES

Resource Use

1. The department will support, promote and actively defend biologically sound sport fishing, hunting and trapping as traditional and legitimate uses of North Dakota's fish and wildlife resources.

2. The fish and wildlife resources of North Dakota belong to the residents of the state and, while national interests will be considered (especially as they pertain to our abundant migratory bird resources), these resources will be managed for the recreational and other legitimate benefits that can be derived primarily by the residents of North Dakota.

Education

3. The department will promote and conduct training and educational programs that emphasize outdoor skills, ethical outdoor behavior, safe hunting and boating practices, the needs of fish and wildlife, and the wise use and appreciation of the state's fish and wildlife resources.

Promotion and Marketing of Outdoor Opportunities

4. In order to ensure continued familiarity with and participation in acceptable use of renewable fish and wildlife resources, the department will market its products to residents using contemporary advertising methods.

5. Working with appropriate governmental agencies, and with input from resident sportsmen and women, the department will identify acceptable limits of nonresident use of North Dakota fish and wildlife resources and coordinate with state and local promotional groups to keep marketing to nonresidents at appropriate levels and directed at appropriate programs.

6. The department recognizes the value of rural economic development through promotion of the state's natural resources that provides exposure to and understanding of resource management requirements, as long as it is consistent with sustained use and does not negatively impact resident public use opportunities.

General Fish and Wildlife Management

7. The department will advocate that fish, wildlife and their habitats receive favorable consideration relative to other resources in land and water management decisions.

Habitat Management and Protection

8. The department will actively support and participate in efforts to protect and enhance the integrity of our native woodlands, shrublands, prairies, wetlands, and natural landscapes.

Cooperation with Other Agencies and Entities

9. The department will develop cooperative working agreements and relationships with governing agencies to ensure effective cooperative management of fish and wildlife resources involving shared management responsibilities.

10. The department will actively oppose or work to modify programs and procedures of agencies or entities whose impacts to fish and wildlife resources are unacceptable or in direct conflict with stated department program goals and objectives.

Introductions and Stocking

11. The department's management will maintain self-perpetuating populations of sport fish and wildlife whenever possible.

12. Introduction of fish or wildlife species may be considered when: (a) substantial benefits are anticipated; (b) sufficient suitable habitat is available; (c) impacts to native species, habitat, and the human environment are acceptable; and (d) where necessary, approval is obtained from appropriate agencies or private landowners.

Mitigation

13. Whenever unavoidable fish and wildlife habitat or population losses occur, the department will, where practical and legally possible, actively seek compensation for the state's losses under the following guidelines (in order of priority):

    A. For long-term losses caused by habitat elimination or degradation, compensation by acquisition and improvement of alternate habitat will be sought rather than monetary restitution. Compensation must be permanent and include funding necessary for annual operations, maintenance, and monitoring if these are required to ensure that target goals for fish and wildlife benefits are achieved.

    B. Monetary restitution, based on costs to replace lost resources, will be sought for losses caused by direct mortality.

    C. Whenever possible, replacement of losses will be by the same fish and wildlife species or by habitat capable of producing the same species that suffered the loss and compensation programs will be located in the immediate area of loss, or in a more desirable location if appropriate.

    D. "Off-site" locations and different species may be substituted in compensation programs if "on-site" and "in-kind" compensation is not possible or practical.

    E. Compensation levels will be based on loss of habitat and loss of potential for fish and wildlife production and recreation rather than numbers of animals or days of use of animals occurring at the time of loss.

Captive Fish and Wildlife

14. The department will work closely with captive fish and wildlife propagators and appropriate state and federal regulatory agencies to:

14A. Ensure only genetically pure, disease-free stock is brought into the state.

14B. Ensure aquatic or terrestrial holding facilities are adequate to prevent escape of captive populations into the state's waterways or terrestrial habitat.

14C. Ensure protection for all wild, free-ranging fish and wildlife populations from disease, interbreeding, or habitat competition from escaped captive fish and wildlife.

Financial

15. The department will investigate alternative funding sources (beyond license sales and

federal aid) that will allow all North Dakotans the opportunity to financially contribute to the future well-being of our fish and wildlife resources.

QUESTION: How do/did you do management planning?

As a state agency, the North Dakota Game and Fish Department is subject to various mandates as provided in the State Constitution, North Dakota Century Code, and other governmental regulations and policies. Within these guidelines, the department can manage fish, wildlife and their habitats to benefit a variety of publics. As part of developing the PArticipative MAnagement (PAMA) process for the department, the main fish and wildlife species that the department manages were sorted and placed into categories called Programs. The programs are grouped to represent similar management strategies.

Table 1. Programs of the North Dakota Game and Fish Department.

Big game	Small game	Recreational fisheries	Other
Special Big Game	Ring-necked Pheasant	Missouri River System	Nongame
Mule Deer	Prairie Grouse	Devils Lake	Educational Services
White-tailed Deer	Wild Turkey	Mid-sized Reservoirs	
Pronghorn	Other Small Game	Small Lakes and Reservoirs	
	Ducks	Rivers and Streams	
	Geese		
	Other Migratory Game		
	Fox and Coyote		
	Other Furbearers		

SPECIAL BIG GAME PROGRAM PLANNING

History

The term "Special Big Game" refers to 3 species of big game in North Dakota – moose, California bighorn sheep, and elk. Although they are quite different animals with very different habitat requirements, they have several things in common. In North Dakota, habitat for these species is quite limited and populations are small. To keep populations within the capacity of the range to sustain them, recreational hunting is a valuable management tool. Yet the recreational opportunities provided by these hunts are very limited. To give all North Dakota hunters equal chances to hunt these animals, licenses for these species are issued by lottery on a once-in-a-lifetime basis.

Goal

The goals of the Special Big Game Program are to maximize populations in areas where feasible and compatible with habitat and people, to provide unique hunting opportunities, and to meet appreciative-use demands.

In the strategic planning process (PAMA), 4 basic components are/were considered: Inventory (Where are we?), Strategic (Where do we want to

be?), Operational (How do we get there?), and Evaluation (Did we make it?).

At this point in time, the bighorn sheep management plan has progressed from inventory through strategic phases and is now involved with operational efforts. We will be evaluating the results in 1995.

History - Bighorn Sheep

Bighorn sheep are native to North Dakota. But the subspecies of bighorn native to the badlands of the southwest -- the Audubon bighorn -- has been extinct since the early 1900s, a victim of unregulated hunting and the changes brought about by settlement.

The department became interested in reestablishing bighorns in the badlands in the mid-1940s. It was not until 1955 that the department found a population that was both available and thought to be adaptable to the badlands environment. These sheep were California bighorns, native to the lower elevations of the mountains of central British Columbia. In November 1956 the North Dakota Game and Fish Department and the British Columbia Game Commission cooperated to trap and transplant 18 California bighorns to the North Dakota badlands. Since 1956, sheep management has emphasized a trap/transplant program to establish new herds from the original 18 sheep. In 1989, the Game and Fish Department returned to British Columbia to trap 9 additional sheep and release them into the badlands. In 1990 and 1991, the department cooperated with the state of Idaho to bring 23 and 38 California bighorns, respectively, to North Dakota.

Current Status - Bighorn Sheep

Typically, bighorn sheep in North Dakota inhabit topography which includes plateaus that altitudinally range from 2500 to 2900 feet and encompass areas of 0.6 square miles or more. These plateaus are surrounded by steep cliffs. Habitat such as this provides escape cover which is critical for sheep. Most daily movements of bighorns are on or near these plateaus with a small amount occurring on flat-top ridges. Bighorn sheep are now distributed in 11 separate bands over 151 square miles of the badlands (see Figure 1). Additional bighorn sheep habitat exists that would be suitable for future introduction.

The first recreational hunting season was proclaimed in 1975 and, with the exception of 4 years (1980-1983), seasons have been open each year since. These permits are issued by lottery on a once-in-a-lifetime basis for male sheep. In 1986 the regulations for issuing bighorn permits were changed to allow 1 permit each year to be auctioned to the highest bidder at the annual convention of the Foundation for North American Wild Sheep (FNAWS). This annual auction has raised nearly $250,000 for sheep in management in North Dakota.

Table 2. Management objectives for North Dakota's California bighorn sheep in 1995.

Year	Population Index[1] (Spring)	Hunters	Hunter Days	Days/ Hunter	Harvest	Hunter Success
1986	91	7	13	1.9	6	86%
1987	78	8	33	4.1	8	100%
1988	97	8	20	2.5	8	100%
1989	81	8	33	4.1	8	100%
1990	76	8	24	3.0	7	88%
1995	**120**	**13**	**40**	**3.1**	**12**	**95%**

[1] Relative indicator of population level based on an annual aerial survey of a designated study areas.

QUESTION: What are your management goals?

OBJECTIVES

Objectives for 1995 are highlighted in the Table 2. Data from previous years are shown for comparison purposes. Complementary Sheep Objectives

1. By 1995, determine carrying capacity of existing habitat and increase effort to improve the reliability of the population index.

QUESTION: What methods do you use to reach them?

Our own methods and research from other jurisdictions have and will provide the basis for filling voids of knowledge as our bighorn program moves toward established goals.

Field biologists conduct spring and fall aerial population surveys. Seasonal assistants determine lamb production and lungworm larvae loads in the various bighorn bands, and bait for lungworm control prior to parturition.

Department crews trap and translocate bighorns, from both in-state and other jurisdictions, to control population numbers, improve genetic diversity, and establish new breeding populations on acceptable new habitats. Biologists man field-checking stations during annual hunting seasons to gather data deemed necessary to attain management goals.

QUESTION: How much effort is devoted to reaching them?

During an average year, 3 big game biologists, 2 other biologists and 2 wildlife technicians spend 4 man-months and 3 seasonal part-time assistants spend 8.6 man-months on bighorn sheep management. The total man-months of effort for bighorn management averages 12.6 with salaries and benefits totalling $19,581.13.

QUESTION: What is your operating budget for sheep management?

The average budget for the same timeframe as referred to in answering the preceding question is $39,742.42. All line items (including salaries and benefits) are included in this figure.

Other Agency Participation in Sheep Management in North Dakota

The Bureau of Land Management, the National Park Service and the University of North Dakota are involved in sheep research and/or management in North Dakota. The amount of their funding is unknown.

Additional Funding and Foundation for North American Wild Sheep Participation

North Dakota has requested grants from FNAWS each year since the mid-1980s. During that 8-year period, grants have averaged about $5,000 per year.

This same time-frame (1986-1993) saw the North Dakota governor's permit to FNAWS average about $26,000 per year.

In recent years (since 1990) the Minnesota-Wisconsin Chapter of FNAWS has additionally funded the bighorn sheep program in North Dakota with 2 large grants, 1 for $13,000 in 1991 and a 2nd for $5,000 in 1992.

DISCUSSION

The PArticipative MAnagement Process in North Dakota is a fact of life. It is a well-structured strategic plan that involves the department and the various publics it serves. However, it may prove to be top-heavy in planning and lacking in that operational component that is to answer the question "How do we get there?" I see a real danger in managing to satisfy publics over scientifically-based management that benefits bighorn sheep.

LITERATURE CITED

PAMA, North Dakota Game and Fish Department's PArticipative MAnagement Process; 1992; North Dakota Game and Fish Department.