

**1994 NWS&GC MANAGEMENT WORKSHOP QUESTIONNAIRE RESPONSE:  
WYOMING'S ROCKY MOUNTAIN BIGHORN SHEEP MANAGEMENT PROGRAM**

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

Wyoming does have an identifiable sheep management program.

**QUESTION: What is your guiding policy statement?**

Our mission statement, organic act and statutory authority do not specifically mention bighorn sheep. The mission statement of the Wyoming Game and Fish Department (WGFD) is:

"It is the mission of the Wyoming Game and Fish Department to provide all publics with diverse, quality wildlife-associated recreation, contributing scientific, educational, aesthetic and economic benefits to society and ensuring that all people have equal opportunity to enjoy the wildlife resource."

Furthermore, Wyoming Statute 23-1-103 stipulates:

"For the purposes of this act, all wildlife in Wyoming is the property of the state. It is the purpose of this act and the policy of the state to provide an adequate and flexible system for control, propagation, management, protection, and regulation of all Wyoming wildlife. There shall be no private ownership of live animals classified in this act as big or trophy game."

Wyoming Statute 23-1-302 provides expressed, specific legal charges to the WGFD, under the direction of the Wyoming Game and Fish Commission.

**QUESTION: How do/did you do management planning?**

Wyoming employs a management-by-objective system for each of 185 individual big game herd

units in the state. For bighorn sheep, there are 16 discrete (or suspected to be) populations (Table 1). Population objectives are established for each herd unit, based on biological data, various public demands, and input/review from federal and private land managers.

Once established, population objectives are reviewed at least every 5 years, more often if necessary. This flexible and dynamic system attempts to integrate biological capability with biopolitical reality.

**QUESTION: What are your management goals?**

Based on population objectives set for individual herd units, an aggregate objective is established. For post-season 1993 the statewide objective is 8,635 sheep. Of the 16 herds, 7 are estimated to be at or above objective, while 8 are below objective. One population was established within the past 3 years; no objective has yet been determined. The post-season 1993 statewide population estimate is 6,960 sheep, approximately 19% below objective.

Other objectives or management goals are set for each herd unit, then combined into an aggregate statewide figure. These objectives are of a lower priority, and deal with desired harvest, number of hunters, hunter success rate, total recreation days, and days per animal harvested.

Sport hunting is one of the primary management goals for Wyoming, although some sheep herds around the state are currently managed with an emphasis on non-consumptive use, viewing, and photography. Sheep licenses are issued on a 3:1 ratio, residents to nonresidents (Table 2), and successful applicants must wait 5 years before reapplying.

**Table 1. Bighorn sheep population objectives and estimates for 16 herd units in Wyoming, post-season 1993.**

Herdcode	Herd unit	Objective	Estimate
106	Targhee	125	120
107	Jackson	500	550
121	Darby Mountain	150	150
201	Clarks Fork	500	475
202	Trout Peak	750	615
203	Wapiti Ridge	1000	1050
204	Younts Peak	900	950
205	Francs Peak	1360	1470
NA <sup>a</sup>	Shell Canyon	NA <sup>a</sup>	80
516	Douglas Creek	350	125
517	Laramie Peak	500	200
519	Encampment River	200	50
609	Whiskey Mountain	1350	1000
610	Temple Peak	250	75
614 <sup>b</sup>	Sweetwater	400	0 <sup>b</sup>
615	Ferris	300	50
<b>Statewide Total</b>		<b>8635</b>	<b>6960</b>

<sup>a</sup> Recent transplant; no objective established yet.

<sup>b</sup> Scheduled transplant; no population established yet.

**Table 2. Wyoming Game and Fish Department bighorn sheep harvest and revenue summary, 1982-1993.**

Year	Total licenses <sup>a</sup>	Total harvest	Percent success	Rec. days	Days per animal harvested	License revenue
1982	356	193	54.2	3382	17.5	48950 <sup>b</sup>
1983	361	186	51.5	3915	21.1	49550 <sup>b</sup>
1984	374	204	54.5	3963	19.4	51156 <sup>b</sup>
1985	364	226	62.1	3889	17.2	50050 <sup>b</sup>
1986	382	249	65.2	4150	16.7	52350 <sup>b</sup>
1987	374	244	65.2	3353	13.7	51250 <sup>b</sup>
1988	364	218	59.9	3732	17.1	50050 <sup>b</sup>
1989	373	226	60.6	3828	16.9	50850 <sup>b</sup>
1990	374	241	64.4	3804	15.8	51250 <sup>b</sup>
1991	356	223	62.6	3444	15.4	48950 <sup>b</sup>
1992	338	232	68.6	2962	12.8	98915 <sup>c</sup>
1993	322	209	64.9	2936	14.0	94245 <sup>c</sup>

<sup>a</sup> Licenses issued 3:1 ratio, residents to non-residents.

<sup>b</sup> Resident license = \$50; Nonresident license = \$ 400.

<sup>c</sup> Resident license = \$55; Nonresident license = \$1000.

A 3/4-curl restriction on harvesting rams has been in place statewide for years. In 1993 this restriction was changed in one hunt area near Jackson; license numbers were lowered and licenses were made valid for any sheep. Additional hunt areas are expected to make a similar change beginning in 1994.

**QUESTION: What methods do you use to reach them?**

For many herds, district wildlife biologists and game wardens annually attempt to gather data on sheep distribution, age/sex classification ratios, and hunter harvest. Available information is used in POP-II simulation modeling to estimate population size for each herd unit. Harvest data is collected via a mandatory registration and horn plugging program, in place since 1977.

No formal research program exists, although special projects (known as enhancements) are periodically funded to address particular management concerns. When funded, these projects are typically done using WGFD temporary/contract personnel or graduate students/technicians from the Wyoming Cooperative Wildlife Research Unit and/or the University of Wyoming.

To repopulate historic and/or abandoned habitat, trapping and transplanting of bighorn sheep has occurred in Wyoming since 1944. In the past 30 years, over 1800 sheep have been trapped at the Whiskey Basin winter range complex, southeast of Dubois. Over 1500 of those sheep have been moved to release sites in Wyoming, while over 300 have been provided to other states to assist their sheep management programs.

WGFD bighorn sheep managers routinely cooperate with federal land management agency biologists to maintain and enhance sheep habitat. One prominent example of coordinated, interagency management is the Whiskey Basin Technical Committee comprised of agency personnel from WGFD, the Shoshone National Forest, and the Lander Resource Area of the Bureau of Land Management (BLM). Since 1974, this group has developed and implemented management planning for the Whiskey Mountain sheep herd.

**QUESTION: How much effort is devoted to reaching management goals, and what is your operating budget for sheep management?**

There are 11 WGFD wildlife biologists with at least some sheep in their respective management districts. Other WGFD personnel (e.g., game wardens, habitat biologists) actively participate in sheep management in Wyoming. Annual trapping operations at Whiskey Basin involve personnel from WGFD, the U. S. Forest Service, BLM, conservation organizations such as FNAWS and the Wyoming Chapter FNAWS, and private citizens.

In an average year, WGFD personnel report approximately 48 work-months devoted to bighorn sheep management (Table 3). Annual expenditures on the bighorn sheep program average approximately \$290,000, with approximately 65% of that total being spent on salaries, and approximately 35% as direct project expenditures.

**Table 3. Wyoming Game and Fish Department bighorn sheep program costs, FY91 to FY93.**

Fiscal year	Direct program costs	Estimated workhours	Estimated workmonths	~Percent spent on salaries	~Percent spent on projects
FY91	251,350	8,416	48.6	71.1	29.9
FY92	218,183	5,531	31.9	56.8	43.2
FY93	398,637	10,955	63.2	64.9	35.1
<b>Ave.</b>	<b>289,390</b>	<b>8,301</b>	<b>47.9</b>	<b>64.3</b>	<b>35.7</b>

Revenue from license sales (Table 2) is currently not sufficient to meet program expenses (Table 3). Funding for WGFD's bighorn sheep management is drawn from other revenue-positive big game programs (e.g., pronghorn, mule deer).

**QUESTION: What other agency effort is directed at sheep management in Wyoming?**

The U. S. Forest Service (USFS), BLM, U. S. Fish and Wildlife Service (USFWS), and National Park Service (NPS) are also involved with bighorn sheep management and research in Wyoming. Federal agency expenditures are allocated in a fashion similar to those of WGFD, approximately 2/3 for salaries and 1/3 for project expenditures.

USFS in Wyoming reports approximately 15 work-months and spends ~\$27,000 annually on sheep management. BLM in Wyoming reports approximately 7 work-months and spends ~\$15,000 annually on bighorn sheep efforts. USFWS, in an advisory capacity to the Wind River Indian Reservation, annually contributes about 1 work-month and ~\$1,000 to bighorn sheep management in Wyoming. NPS reports about 1.5 work-months and \$2,500 on project expenditures annually on sheep management in Yellowstone and Grand Teton National Parks.

**Additional Funding and Foundation for North American Wild Sheep Participation**

Since 1981, the governor of Wyoming has annually donated a sheep license to the FNAWS. This license is fully donated, with all proceeds going to FNAWS for their sheep management efforts. The Wyoming license is the only governor's permit which is fully donated to FNAWS.

Since 1989, 6 donated Wyoming governor's licenses auctioned by FNAWS have raised a total of \$221,750. Grant-in-aid funding on Wyoming projects from FNAWS has totalled ~\$123,671 since 1989. Funding support is also often requested from the Wyoming Chapter of FNAWS. These funds are used to supplement ongoing state and federal sheep management programs throughout Wyoming, and are typically direct project expenditures (e.g., prescribed burning, sheep transplants, flight time for surveys, etc.), rather than being used to underwrite salaries for agency personnel.

**DISCUSSION**

Bighorn sheep management in Wyoming has been highly visible, and has enjoyed a great degree of support from state and federal agencies, private conservation organizations, and a variety of publics. The best-known case history is that of the Whiskey Basin herd, which for years has been the source population for transplants in and outside Wyoming.

There are a number of changes which could be made to improve management of Wyoming's mountain sheep. Habitat improvement efforts should be increased. As in many western states and provinces, bighorn habitat is slowly being eroded, due to fire suppression and vegetative succession. The problem is particularly acute on the lower-elevation fringes of designated wilderness areas, where prescriptive fire may not be allowed. Acquisition of crucial seasonal habitats could guarantee future security for many of Wyoming's herds.

Overlap with domestic livestock continues to be a management concern, from both a forage competition and disease transmission standpoint. Specific guidelines to ensure spatial and temporal separation of domestic sheep and desert bighorns have been developed and adopted in the southwestern U. S.; similar guidelines should be implemented in Rocky Mountain sheep range. In many cases, livestock management may be pivotal in reestablishing bighorn populations.

Often, agency budgets are insufficient to collect basic data (e.g., age/sex classifications, seasonal distribution, productivity/survival estimates, habitat use) on many bighorn herds. License revenue, at least in Wyoming, fails to match program expenditures. Nonresident license fees were increased in 1992; resident licenses are still underpriced. Developing supplemental funding sources to maintain or expand sheep management efforts will take on greater importance in future years.

Similar to other states, Wyoming might consider a once-in-a-lifetime harvest limitation, to reduce competition in the license draw and allow more people to participate in sheep hunting. The move toward "any sheep" licenses is biologically based, but a stronger information effort must be made to explain agency rationale to the public.

Financial bonds exist between state/federal agencies and private conservation organizations, but progress could be made in strengthening philosophical bonds. Controversial issues such as prescribed burning in wilderness, wolf reintroduction, predator control, livestock management, and continuation of sport hunting need full and open discussion.

Wyoming is proud of its mountain sheep resource, and proud of the management efforts that have been made in recent years. Continued cooperation between agencies and private citizens/organizations should ensure viable bighorn sheep populations well into the future.