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## **WILDLIFE MANAGEMENT BY REFERENDUM: WHEN PROFESSIONALS FAIL TO COMMUNICATE**

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During late 1983, approximately \$500,000 was spent by citizens' groups supporting or opposing a referendum to terminate Maine's annual moose (*Alces alces*) season. The group, Save Maine's Only Official State Animal (SMOOSA), obtained the 40,000 voter signatures necessary to place Referendum Question #1, Shall Maine repeal the law which allows an annual moose hunt?, on the state's 1983 ballot.

Those favoring the hunt were led by the Sportsman's Alliance of Maine (SAM) and its hastily formed offshoot, The Council for Sensible Game Management (TCFSGM). Extensive support and funds also came from numerous conservation and sporting organizations, and firearm manufacturers across the nation. Aside from SAM and TCFSGM, others favoring the hunt locally included The Maine Chapter of The Wildlife Society (MCTWS) and Maine's Department of Inland Fisheries and Wildlife (MDIFW).

This paper examines events leading to the referendum and factors affecting its outcome (Fig. 1). More importantly, it examines potential responses and long-term answers to a developing public relations issue faced by those who manage natural resources.

### ***Maine's Moose Season***

A gradually increasing moose population in Maine resulted in continual (1943-1979) legislative attempts to re-establish a moose hunt. In 1980 an experimental hunt was conducted. Following that hunt, moose hunting regulations were approved by the legislature and governor and, after a 35-year lapse, an annual moose hunt was reinstated in 1982. Briefly, the law gave the Commissioner of MDIFW

the authority to regulate a 6-day hunt in northern Maine and limited the maximum number of moose permits to 1,000/year (90% resident).

### ***Background on the Referendum and the Media***

The media basically recognized and covered 2 sides in the moose hunt controversy: SMOOSA and SAM. SMOOSA opposed the hunt, whereas SAM and TCFSGM expounded the position of Maine's (and to a large extent America's) sportsmen. The media also occasionally presented the views of informed citizens and members of MCTWS. Nonetheless, the media was reluctant to give time and space to nonpolar positions. For instance, some press releases by MCTWS were ignored initially, possibly because the media did not know who the Society represented or how its views differed from SAM's.

### ***SAM's Role***

Prior to the vote SAM commissioned polls to determine how their advertising monies should be spent and to assess the possible outcome of the referendum. Early polls showed that about 20% of voters were undecided and that the remainder were divided about equally on the issue (David Allen, pers. commun.). These polls also indicated that: (1) differences of opinion were not related to political party; (2) the hunt generally was opposed by women, elderly voters (65+ yrs), those who had attended college, those with above average incomes, and those in urban areas with little education and low income; (3) educated urbanites believed that professionals should manage the hunt but they had misconceptions about the

hunt and wildlife management; (4) the outcome of the referendum would be determined largely by nonhunters; and (5) some hunters also opposed the hunt. In a later poll conducted by SAM, voters rated game wardens with field experience as having the most credible opinion on the moose hunt issue (especially if the voter was a hunter), professors of wildlife biology second, and state game biologists third.

SAM also conducted a tracking poll that began in September 1983 and continued until the election in early November 1983. That poll asked, "How are you going to vote on the moose hunt referendum question?" After the 1983 moose hunt, which was covered extensively by the media, SAM's tracking poll showed that voter support of the hunt decreased. Nonetheless, as the referendum approached there seemed to be a gradual change from opposition to support, although a large segment of voters remained uncommitted (David Allen, pers. commun.). During that time SAM began its advertising campaign, predominantly featuring state game wardens, including a female warden, who explained that the hunt was "responsible wildlife management." SAM's campaign also was designed to convince sportsmen that SMOOSA was actually an anti-hunting organization, not simply against hunting moose, as they claimed. SAM documented that claim by demonstrating that much of SMOOSA's funding came from out-of-state groups opposed to hunting.

#### **Other Participants**

As SAM's campaign intensified, an informational bulletin from The Maine Chapter of TWS was published by some newspapers 6 weeks before the vote; further, Maine Chapter members began to contribute relevant newspaper articles and make radio and TV appearances. At that time the Wildlife Management Institute circulated a pamphlet entitled "MOOSE: the Maine Facts," that was a cred-

ible representation of the views of professional wildlifers. Unfortunately, it contained statements that would later haunt supporters of the hunt. The most problematic was: "A healthy moose population expands at about 20–25% annually." Although it was impossible to determine precisely Maine's moose population growth rate, we calculated from MDIFW data that the population probably expanded at a 4–8% annual rate during the previous 20 years. SMOOSA asked where the moose were if the population had increased at the rate professionals had suggested.

SMOOSA also quoted the Commissioner as stating that the moose population could stand an annual harvest of 20–25% and implied that he would soon recommend such a harvest. More importantly, SMOOSA began focusing part of its attack directly on the biologists, contending that they had mismanaged white-tailed deer (*Odocoileus virginianus*), American black ducks (*Anas rubripes*), and landlocked salmon (*Salmo salar*) in Maine. Further, SMOOSA suggested biologists supported the hunt primarily because of the money it generated and were interested only in managing wildlife for hunters. SMOOSA claimed biologists would refuse to close seasons even when species were threatened because they feared the loss of license fees. Such examples of biological mismanagement were specious, but as generalities were difficult to refute. The credibility of biologists suffered, primarily because of a shortage of time to defend these unrelated programs and a lack of media interest in concepts of habitat alterations or how populations respond to harvest.

#### **Analysis of the Referendum Vote**

Voters in all 16 counties favored the continuation of the annual moose hunt in Maine (Table 1); overall, 60.5% of 306,728 votes were to continue the moose season. The importance of this issue to the people of Maine was reflected in: (1) the higher than expected absentee bal-



Fig. 1. In November 1984, Maine voters determined by a 3 to 2 margin that an annual hunting season for moose would continue in that state.

lot return, and (2) the moose hunt referendum receiving 9,714 votes more than any other of 7 issues on the ballot.

Many specifics about the voting population were unavailable; however, a 2-sample *Z*-test (Remington and Schork 1970) showed that a significantly ( $Z = 30.0$ ,  $P < 0.001$ ) higher proportion of voters in counties where moose were hunted favored the hunt than those in the remaining counties (59% of 228,194 votes). However, factors other than the location of the hunt may have influenced the outcome of the vote. A Mann-Whitney *U*-test (Siegel 1956) indicated that human population density in counties where moose were hunted ( $\bar{x} = 6.7/\text{km}$ ,  $SD = 5.5/\text{km}$ ) was significantly lower ( $U = 4$ ,  $P = 0.007$ ) than in other counties ( $\bar{x} = 38.7/\text{km}$ ,  $SD = 30.8/\text{km}$ ). However, a Spearman rank correlation (Siegel 1956) showed that the percentage of votes to continue the hunt

was not correlated significantly ( $r_s = -0.412$ ,  $P = 0.11$ ) with the density of human populations across all 16 counties. Thus, whether voters lived in counties where moose were hunted seemed to have the strongest influence on the way they voted.

#### **Future Needs**

We believe the failure of professional wildlife conservationists to communicate contributed to the call for a moose hunt referendum in Maine. That failure has been reported in many states, and has troubled those who understand the consequences of natural resource managers' poor communication and public attitude assessment abilities (Mater 1977, Arthur and Wilson 1979, Todd 1980, Cooper 1982, Deneke and Moll 1982, Hendee 1984). SAM's poll indicated that wildlife biologists were the

Table 1. Human population demography, moose hunting, and the outcome of the moose referendum for the 16 Maine counties.

County	Moose hunted?	Human population	Human population/km <sup>2</sup>	Votes on question #1	Percentage favoring hunt
Androscoggin	No	99,657	83.8	30,637	58.6
Aroostook	Yes	91,331	5.5	18,766	77.0
Cumberland	No	215,789	97.7	58,538	54.4
Franklin	No	27,078	5.8	7,681	65.0
Hancock	No	41,781	10.6	13,598	54.4
Kennebec	No	109,889	48.3	30,009	62.3
Knox	No	32,941	34.0	9,533	60.4
Lincoln	No	25,691	21.7	9,240	63.3
Oxford	No	48,968	9.3	14,929	69.8
Penobscot	Yes	137,015	16.2	34,176	61.2
Piscataquis	Yes	17,634	1.8	5,715	52.1
Sagadahoc	No	28,795	44.5	8,408	57.1
Somerset	Yes	45,028	4.8	12,324	64.6
Waldo	No	28,414	15.2	8,620	63.2
Washington	Yes	34,963	5.3	7,553	62.5
York	No	139,666	54.5	37,001	58.0

least likely of the wildlife professionals to be believed, especially by sportsmen: probably because wildlifers, from technicians through administrators, often avoid or are ineffective in presenting their views to the public. Consequently, wildlife personnel currently face vigorous, emotional, and uninformed challenges to otherwise sound natural resource management.

The problem is typified by the synonymous misuse of "conservation" and "preservation." The media makes no distinction between the terms and often refers to anyone involved with natural resource issues, regardless of their philosophy or approach, as "environmentalists." If the media does not distinguish between conservation and preservation, how can the public make that distinction?

According to the 1980 census, about 75% of the United States population live in urban areas (Deneke and Moll 1982). McCullough (1984) suggested that a majority of those advocating a protectionist philosophy were urbanites who have been insulated from processes of life and death and whose knowledge of wildlife came solely from the media, books, and movies. Shaw (1977) also noted that anti-hunters came from predominantly urban backgrounds and

our data, although not statistically significant, suggest the same. These urbanites apparently expect to find beauty and harmony in nature, not consumptive use, unless it is associated with need. Kellert (1980) reported that 59–62% of Americans opposed recreational hunting, although 82–85% supported hunting if it was linked to a practical benefit, such as obtaining meat.

Nonetheless, the outcome of Maine's moose hunt referendum indicated that urban and suburban voters, who initially opposed the hunt, do respond favorably to understandable biological information. This observation supports Goodrich's (1979) assertion that facts are more persuasive than emotion, and people can be educated about wildlife management.

### *Offense Needed*

Offense is better than defense for effective communication. For instance, if the Maine moose hunt referendum was decided solely on money, it is clear the offense (SMOOSA), which spent \$40,000 getting 39.5% of the votes, was more effective than the \$465,000 spent by the defense (SAM).

But how can wildlifers take the offense?

Giles (1978) suggested targeting information to decision-makers or influential groups. That tactic moved the moose hunting law through the Maine State Legislature. Still, the public must be informed and convinced of the legitimacy of public (or private) resource management actions to assure the long-term success of those programs. Public opinion assessment (Mater 1977) can help determine where to concentrate the effort. Indeed, assessment followed by effective communication may be critical in the successful implementation of natural resource projects.

Unless natural resource managers gain public support, all other management, regardless of its biological merit, may be useless or prohibited. As Gabrielson (1941) noted, the most uncertain factor in wildlife management is public support for a suitable and effective program. It is unrealistic, however, for a wildlife department to designate a small staff to information and education (I and E), hoping those individuals will favorably shape public opinion. All department personnel and staff members must be positive forces in this process. In addition, resource agencies must improve their image. To begin, agencies should strive to insure that all department personnel are convinced of the validity of management decisions. If department personnel "feel good" about management decisions, that attitude will be reflected in their dealings with the public. Moreover, wildlife professionals at all levels must learn more about communication; we recommend Fazio and Gilbert (1981) as a starting point.

A large segment of the public has developed, or is developing, a preservationist perspective (Scheffer 1976, Kellert 1978, 1980). Individuals and groups expressing the preservationist viewpoint are sincere in their commitment to the welfare of wildlife (Shaw 1977). Wildlife professionals must appreciate that such concerns are genuine and take advantage of the public's interest in natural resources. Wildlife biologists should be aware that inter-

ests of the general public and hunters are often similar. Both groups favor conservation of habitat and providing sanctuaries (Arthur and Wilson 1979). This shared interest offers natural resource workers a special opportunity to communicate their knowledge and experiences toward a more integrated conservation effort.

In addition to sharing our knowledge, wildlife professionals must begin to listen to the public's concerns about natural resource issues. Communication is achieved only through an understanding of the ideas presented by both sides.

Wildlife biologists must seize every reasonable opportunity to communicate. Wildlife-related projects (research, inventory, management) should be exposed through individual contact and the local media so that residents know that wildlife professionals are knowledgeable and concerned about the resources. Also, individual talents of professionals must be examined, encouraged, and refined to improve communication abilities. Most importantly, the profession must anticipate and address upcoming resource issues before making controversial management decisions. In this respect, public attitude assessment (Mater 1977, Brown and Decker 1982) is valuable. Wildlife professionals also must begin to educate the public about conservation principles—remembering that 1 successful presentation will not inform or convince all. Advertising agencies and teachers know the importance of repetition.

Finally, wildlife personnel must keep the media honest. Reporters and editors generally strive to present accurate information. The media, however, tend to exploit controversy and give differential preference to extreme views thereby allowing some inaccuracies to appear. Still, editors seldom tolerate repeated inaccuracies and need help and cooperation in spotting errors and eliminating error-makers from their staffs.

Departments and agencies also should re-

alize that free media coverage is available. Once made aware of a resource project most reporters will develop the story. Information and education personnel should be aware that reporters normally want to talk directly to the source of a story and therefore, a service I and E can perform is to direct the reporter to the individual with information. Wildlife biologists and managers also should consider reporting their own story. Unlike scientific publishing, a similar story may be acceptable to several popular outlets. These articles should incorporate experiences, some basic ecological principles, and be entertaining.

### CONCLUSION

Social values, particularly those related to wildlife management, have changed rapidly since Leopold (1933). The public continually questions many technical decisions (Naisbitt 1982), including those within natural resource management. Americans seem to be shifting from a representative to a participatory democracy, whereby they become actively involved in issues believed to affect them directly (Naisbitt 1982).

The consequences of the public's involvement in natural resource issues has become obvious recently. During the last 15 years protectionist activities have surfaced whenever a plan to harvest deer (*Odocoileus* spp.) from overpopulated ranges near urban areas is developed (Langenau et al. 1984); and the public has shown an increasing tendency to bring wildlife related issues to a referendum. In 1976, voters in Missouri increased the state sales tax to provide additional revenue for wildlife management. In 1977 voters in Ohio defeated a call for a statewide trapping ban (Goodrich 1979), as did voters in Oregon in 1980 (Goodrich, pers. commun.). In 1983 voters defeated a referendum that called for an end to moose hunting in Maine, and this year Arkansas citizens narrowly defeated a sales tax increase referendum designed to benefit wildlife (sim-

ilar to that passed in Missouri in 1976) and South Dakota citizens overwhelmingly approved a referendum allowing mourning dove (*Zenaida macroura*) hunting.

Solutions to biological problems seem obvious to biologists, however, those solutions are often not intuitive (Gross 1972, McCullough 1979). Nonetheless, the goal is to achieve responsible natural resource management, and the challenge is to communicate those management decisions concerning natural resources (including their bases and consequences) accurately and honestly to the public. The profession must listen and respond to public concerns. This task will be eased by distinguishing among scientific, ethical, economic, and political issues, and focusing on the scientific aspects of decisions (Anderson 1979).

The Moose Hunt Referendum was an expensive exercise in democracy. However, its value may provide the impetus to start resource managers communicating. A commitment to effective communication is essential to the resources, and possibly to the long-term survival of the wildlife profession as currently structured. Clearly, serious resource problems lie ahead if wildlife professionals continue to underestimate the importance of past communication failures.

### SUMMARY

The public increasingly is questioning natural resource management decisions and the way those decisions are made. When Americans were more agriculturally oriented, they intuitively understood the goals of conservation; however, today approximately 75% of Americans are "service sector/information-distributing urbanites." Public support of natural resource management has become increasingly important, and it is likely to be critical in the future. Unfortunately, wildlife professionals have tended to ignore human demographic and social changes and are poorly

prepared to meet this communication challenge. Maine's recent moose hunt referendum resulted from this lack of preparation. Although Maine voters retained the hunt by a 3 to 2 margin, the preservationist philosophy has become an important force in natural resource management. Serious problems lie ahead for wildlife resources if professionals continue to underestimate the importance of past failures. Wildlife professionals must: (1) take the offense, (2) improve or develop agencies', departments', and individual images, and (3) communicate with the public on all wildlife related issues.

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