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A PUBLIC INFORMATION PROGRAM ON PREDATOR DAMAGE CONTROL

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ABSTRACT: A public information and education program was developed in Oregon to defuse a controversy between environmentalists and livestock growers over management of predator damage control. Emphasis was placed on involving special interest and leadership/influential groups in the program and participation was high. Attempts were made to involve the "general public" but response to solicitation and participation were low. Participating groups thought the program was of high value and expressed the need for additional information. Attitudes and beliefs of the special interest groups were changed little by the program, but constructive communications between the groups increased and the controversy dwindled. A 17 month survey of livestock losses to predation was conducted as part of the program. Loss rates of livestock to predation (3.9 percent of lambs, 1.6 percent of ewes, and 0.7 percent of calves) agreed with those of studies in surrounding states and provided another perspective for objective evaluation of the predator control controversy by participating groups.

Often, controversies arise involving conflicting viewpoints regarding proper management of wildlife species. Controversies involving control of animal damage to man's crops and livestock usually are emotionally charged affairs between strongly polarized special interest groups. When the issue is control of predator damage to livestock, the controversy is often heated. Typically, groups concerned with conservation of species and environmental quality are pitted against groups advocating control of animal damages. The groups sometimes resort to hyperbole, emotionalism and political pressure in their lobbying efforts to win the support of decision makers affecting management of the controversial species. Objectivity may be replaced by subjectivity. Under these circumstances, responsible decisions for proper management of animal damages are difficult to make.

A candidate method for neutralizing animal damage control controversies is an aggressive information and education program whereby concerned and influential publics are appraised of issues central to the controversy and of other relevant facts. The program should be presented by representatives of a recognized non-advocacy institution with emphasis on fostering mutual understanding and a spirit of compromise between opposing special interest groups. On a broader scale, education of other influential publics, including youth, civic leaders, educators and sportsmen may help promote better community understanding of and involvement in decisions for management of animal damage control.

In 1975 the Oregon State Legislature supplied the impetus and financial support for such an education and information program. In response to the controversy surrounding management of predator damages in Oregon, the legislature appropriated $81,500 for a 2 year Predator Information and Education Program, to be conducted jointly by Oregon State University's Cooperative Extension Service and Department of Fisheries and Wildlife. The development and delivery of the program, and the response it generated are presented to provide information useful to others in developing similar programs.

PROGRAM GOAL AND OBJECTIVES

The goal of the program was to increase the knowledge and objectivity of concerned publics so that they would demand and support rational, responsible management of damages by predators to livestock in Oregon.

To achieve this goal, four objectives were identified: (1) provide a factual background on predators and predator control for all concerned citizens; (2) reduce the polarization and emotionalism that existed between stockmen and groups opposed to predator control; (3) document the magnitude of livestock losses caused by predators in Oregon; and (4) educate and inform County Extension agents, stockmen and others about integrated programs for controlling predation on livestock.

PROGRAM DEVELOPMENT

Initial efforts in program development were divided between accumulating written (books, leaflets) and visual (35 mm slide sets, film clips) reference materials and establishing the content of the delivered program. Consultations were held with key individuals and groups representing livestock and environmental interests to identify the concerns of the special interest groups and misconceptions the groups held concerning predators and predator control as topics for inclusion in the program. Extension county agents and extension specialists were queried to determine the kinds of information about predator control special interest groups and the general public requested to provide additional direction for program content.

Content of the developed program included: key concerns of the special interest groups; a short history of predator control in the United States; an overview of the magnitude and characteristics of losses of livestock and wildlife to predators, including discussion of the important predators; a review of lethal and non-lethal predator damage control methods including pros and cons; and discussion of predator control management and problems in the future. All topics were couched in a non-advocacy tone and the emphasis was on presentation of the facts and points of view and not on support for or criticism of any of the topics discussed.

Target audiences included opposing special interest groups (environmentalist and livestock groups), state and federal natural resource professionals, community leadership and influential groups (service clubs, educators, sportsmen) and youth. Attempts were made to avail the program to the general public but such efforts received secondary attention because of the difficulty in reaching and stimulating the members of this group.

PROGRAM DELIVERY

We quickly determined that the television medium, although holding the potential for reaching the greatest diversity and number of people, would be too expensive for the comprehensive, sustained program we wished to deliver. Also, because of the complexity of predator control issues, we felt there was need for two-way communication in the delivery of the program wherein questions generated by the prepared presentation could be answered individually. With the exception of "feed-back" programs, neither television nor any of the other mass-media agencies (radio, newspapers) are capable of instantaneous two-way communication. Therefore, we placed primary emphasis on presenting the developed information in two slide lecture shows (adult and youth) narrated by persons with special training and experience in wildlife biology and predator management.

The narrative slide lectures were presented primarily to the special interest, natural resource professionals, influential leadership and youth groups. Attempts were made to reach the general public through television and radio "feed-back" programs and series of 1-5 minute radio releases that were aired throughout the state.

A series of 5 circulars were written covering various aspects of predator control management (deCalesta, 1976a, 1976b; DeLorenzo, 1976a, 1977b; Kuhn, 1977) presented in the narrative slide talks. The circulars were distributed at the slide lectures and were available to the public through the State Extension Service.

An attempt was made to extend the impact of the program beyond its budgeted 2 year limit. In spring (1977) of the final year, a predator control workshop was held to provide information and training on practical and controversial aspects of predator control to county extension agents. The two slide shows were expanded to include information addressing most often asked questions and the narrations were recorded on tape cassettes and synchronized with the slides. These self-narrating slide lectures are available for use throughout the state extension service.

PROGRAM SOLICITATION

News releases were sent to local newspapers announcing the availability of the agents for presenting the talks on the predator control controversy. Two short television spot commercials (60 and 30 seconds), advertising the availability of program speakers and materials were prepared and released to local television stations and aired for six months.

To maximize participation in the program by the primary audiences, flyers were mailed to all identified environmental, livestock, sportsman, and civic groups, extension county agents, and elementary and high school biology teachers. Flyers were also sent to minority/women/handicapped groups. The flyers outlined the content of the slide lectures, invited the participation of the group and provided instructions for obtaining a speaker to present the show. In some cases biology-ecology instructors from intermediate schools, community colleges and state universities were contacted directly by the special agents and invited to participate in the program.

PROGRAM EVALUATION

Although we were interested in the impact of the program statewide, we were primarily concerned with the responses of the selected audiences receiving the slide lecture program. Initially we had considered conducting a statewide survey of attitudes and level of knowledge concerning predators and their control before and after delivery of the program. However, because we concentrated our efforts on reaching selective audiences that would be most likely to influence the decisions regarding management of predator control, we directed evaluation efforts at responses of these audiences. At the conclusion of the slide lecture and ensuing discussion period, a questionnaire was distributed (Table 1) allowing audiences to summarize their responses to the program.

DOCUMENTATION OF LIVESTOCK LOSSES TO PREDATORS

To estimate and characterize losses of livestock to predators; a 17 month survey of livestock losses was conducted (deCalesta, 1978). Cooperating livestock growers submitted monthly loss reports detailing: type and numbers of livestock grown; type and intensity of management practices conducted against predators; date of loss; predator(s) involved; losses to other causes; and sex and age classes of animals lost to all causes.

RESULTS AND DISCUSSION

Program Development

The program developed as anticipated with no problems save that of time lag. Time planned for events within the developmental state often was inadequate and usually because of events beyond our control. The hiring of two new staff members to develop and deliver the program was delayed several

Table 1. Questionnaire given following lecture programs and response.

Question	Number responding	Percent
1. Do you think Oregon:		
a. Needs more predator control?	1836	43.3
b. Has enough predator control?	1976	46.6
c. Needs less predator control?	225	5.3
d. Should stop all predator control?	94	2.2
e. Other	111	2.6
2. Did this program help you to better understand predators and predator control?		
a. Yes	4051	94.7
b. No	210	4.9
c. Other	19	0.4
3. Would you be interested in additional programs?		
a. Yes	3570	84.7
b. No	607	14.4
c. Other	36	0.9

weeks past the projected date, which delayed program development a corresponding period. Assembly and preparation of materials (slide sets and circulars) took longer than anticipated as the first agent found his time available for program development increasingly constrained by time spent in delivering the then evolving slide lecture. Delays were also experienced in delivery of slide and circular materials being prepared by other agencies. The television spot commercials were contracted to a private advertising agency and the process of solicitating and receiving bids, selecting and working with the agency required 6 months before the commercials were completed.

Time elapsed between approval of and funding for the program and delivery of the slide lectures was approximately 7 months. This is probably a representative time lag given the constraints of having to hire new personnel and develop a program with minimal starting materials.

Program Solicitation and Delivery

General Public

Number of requests for information directly resulting from the television spot commercials (aired approximately 220 times) was extremely low (50). The lack of general public interest in obtaining information on predator control was observed again when the two radio feed-back programs were aired: 12 persons called to ask questions on the first and none called on the second program. Response to the television feed-back program was better but the majority of the calls came from the livestock growers and environmentalists. The 22 radio programs, covering single topics of predator control and ranging 1-5 minutes in length received no discernable response. Flyers were sent to 37 minority/women/handicapped organizations but none requested the slide lecture or any other information.

Identified Special Audiences

Responses by identified special audiences to solicitation were immediate and overwhelming and utilized all available time of the agents. Total audiences for the slide lectures was 13,196, with over half the participants being youth (Table 2). Portion of total attendance at slide lectures

Table 2. Attendance at lecture programs by audience affiliation.

Group Affiliation	Number	Percent
Livestock	806	6.1
Environmental	168	1.3
Sportsmen	364	2.8
Youth	8,895	67.4
Community Service	1,916	14.5
University	455	3.5
Other	592	4.5
Total	13,196	100.1

representing the opposing special interest groups (livestock [6.1 percent] and environmentalists [1.3 percent]) does not reflect low degree of participation in the program by these groups. Rather, numbers of members of these two groups are dwarfed by comparison with numbers of members in the youth and community service groups. Participation by groups in the slide lectures was in direct proportion to numbers of flyers sent to each group.

Number of participants in the slide lectures grew steadily throughout the program but mean attendance size (35.5) remained stable. Peak monthly participation in the program (2,800 in November 1976, 2,000 in April 1977) resulted from response to mailings to and personal contacts with the elementary and high school biology teachers.

The length of slide lecture programs was highly variable. Community service organizations typically allocated 30 minutes for the program, the shortest time allotment for the information program. The school systems are structured on 45-minute class periods and participation utilized a full period for most contacts, with some contacts of 90 minutes. Program time allotments from sportsmen, livestock and environmental groups varied from 30 minutes to 4 hours, and usually lasted approximately 2 hours. The increased length in programs resulted from a high interest level in the program, and the flexibility of night meetings. Contact of 2 hours or more in length provided an in-depth educational opportunity for audiences.

Evaluation of Program

A total of 4,312 participants responded to the questionnaire given at the end of slide lectures (Table 1).

The majority of lecture participants exhibited varying levels of support for predator control. Only 2.2 percent of the respondents favored stopping all predator control (Question 1). Different responses to question 1 were predictable, based on affiliation of each audience (Table 3). For example,

Table 3. Response by audience affiliation to question 1 from lecture questionnaire.

Category	Percent responding to answers a-e				
	a	b	c	d	e
Livestock	93.8	5.3	0.0	0.9	0.0
Community Service	67.3	22.0	3.4	1.4	6.0
Sportsmen	48.9	28.9	11.1	0.0	11.1
Other	48.0	44.0	3.4	0.6	4.0
University	38.8	41.4	6.0	3.5	10.3
Youth	33.7	57.5	4.8	3.0	1.1
Environmental	15.2	21.2	24.2	3.0	36.4

the percent of respondents favoring increased predator control efforts was greatest for livestock groups, and least for environmental and university groups. Percent of respondents favoring less control of predators was highest for environmentalists, and lowest for livestock groups.

Response to question 2 indicated that the program was helpful to nearly 95 percent of the participants. There was little variation of response to question 2 among audiences of different affiliation.

Response to question 3 indicated that nearly 85 percent of participants were interested in additional programs. Again, there was little variation of response among audiences of different affiliation.

The responses to the questionnaire indicated that the program did not change the attitudes of special interest groups. However, following lecture programs, many individuals from various audiences indicated that the program altered previously-held beliefs concerning the controversy. Response indicated that increased understanding of the controversy and of the facts essential for this understanding resulted from lecture programs. The slide lectures were well received, as indicated by the positive response to questions 2 and 3 on the questionnaire.

Predator Control Workshop

Sixteen extension county agents attended the 1 1/2 day workshop. Current methods for control , including poison (M-44 device), trapping, snaring and calling were demonstrated. Presentations were given concerning history, policy, philosophy and associated topics (i.e. dog control) to provide the agents with a comprehensive grounding in predator damage control. At the workshop's conclusion all counties in Oregon were provided with a notebook containing current, key articles broaching all topics of predator damage control.

Documentation of Livestock Losses

A total of 181 sheep growers and 141 cattle growers participated in the 17 month survey. Losses of livestock to disease, accidents, predation and unknown causes were expressed as a percentage of

total animals (Table 4). Losses to disease and accidents were greater than to predators. Greater proportions of ewes and lambs were lost to all causes than proportions of cattle. Lambs and calves suffered higher losses, respectively, to predators than did ewes and cows (Table 4).

Table 4. Percent of livestock lost to disease and accidents (D/A), predation (P), and unknown causes (U).

Sheep						Cattle					
Ewes			Lambs			Cows, heifers, and steers			Calves		
D/A	P	U	D/A	P	U	D/A	P	U	D/A	P	U
3.55	1.60	1.37	5.83	3.91	1.65	1.32	0.04	0.48	4.78	0.74	1.12

Combined lamb and ewe loss rates to predation (2.8 percent) were in close agreement with herd loss rates (0.5 - 7.9 percent) reported for other western states.

Sheep growers practicing more intensive predator management (utilizing three or more practices, including use of trappers, shed lambing, checking sheep daily, confining sheep nightly and other steps) had 78 percent fewer ewe losses and 64 percent fewer lamb losses than did growers practicing less intensive predator management (using two or less practices). Thirty-eight percent of sheep growers practicing more intensive predator management had losses of sheep to predators whereas 63 percent of growers practicing less intensive predator management lost sheep to predators.

The coyote was responsible for the majority of livestock kills, but proportion of loss to different predators varied between eastern and western Oregon (Table 5). Dogs killed a greater proportion of sheep in western than eastern Oregon, probably because densities of dogs are high in western Oregon.

Table 5. Apportionment of total predation loss among species of predators.

Livestock	Predator	Eastern Oregon	Western Oregon
Sheep	coyote	89.7	70.4
	dog	8.1	16.8
	eagle	0.0	3.6
	bobcat	0.0	2.5
	other (puma, bear, raven, fox)	0.0	1.3
	unidentified	2.2	5.4
		Eastern Oregon	Western Oregon
Cattle	coyote	67.3	75.0
	dog	5.5	0.0
	bobcat	5.5	0.0
	unidentified	21.7	25.0

Few livestock losses were credited to bears, pumas, foxes, ravens or bobcats. Eagles were the third most frequent predator of sheep in western Oregon, but magnitude of losses to eagles was low.

A large number of livestock growers (approximately 1/3 of all growers) initially were contacted before the final sample of cooperating growers was selected. Contacts with leaders of livestock organizations also were made in developing and reporting results of the survey. These contacts with the growers and their leaders furthered their perception of the concern and commitment of the personnel involved in the program for the development of representative, reliable information in the program. This attitude of the growers also helped to reduce their feelings of isolation and made them more receptive to receiving information concerning attitudes and concerns of environmentalists and others.

CONCLUSIONS

The information and education program provided short and long term benefits for resolving the predator control controversy. Within the short term (2 year) period useful visual and written aids were produced that provided up-to-date, objective information to a large number of persons directly involved or influential in the course of the controversy. During the period of the program the conflict between opposing groups abated, at least partially as a result of the exposure of the groups to the program presentations and materials. Special interest groups became better educated and more objective concerning key issues in the controversy.

Perhaps the most important impact of the program is the long term effect. Most of the written and visual materials are and will continue to be readily available to interested publics. Training provided to extension county agents will permit them, with the assistance of other specialists, to maintain the availability of the program and its message to concerned groups. The large investment of time spent in delivery of the program to youth during the short-term period will surely bear fruit in the form of a better informed group of young adults which will be able to bring objectivity to discussions and decisions involving control of predator damages in the future.

A number of points concerning information and education programs related to animal damage control were learned. The general public apparently is rather apathetic to the problem of animal damage and is not interested in becoming involved in or learning anything about the topic. Attempts to involve the general public, or even special interest groups, receive poor response when they consist of one-way-mass media contacts. Much better success in solicitation of involvement of groups is achieved by contacting identified organizations with direct written solicitation as was offered by the flyers. The problem is probably at least partially linked to the relative ease with which groups of individuals can be contacted and involved compared to the difficulty of motivating individuals. An important preliminary step in preparing a public information and education program concerning animal damage control is to identify the prospective audiences; should the general public be identified as an important audience a means will have to be found for motivating individuals to participate in the program.

When an education and information program is being developed, sufficient lead time should be planned to allow enough time to develop visual, written and other materials and to contact and solicit participation by identified target audiences.

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