

PUBLIC ATTITUDES AND PREDATOR CONTROL: THE BIOLOGIST'S PUPPETEER?

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Abstract: People have controlled predators throughout history in attempts to meet management goals for other wildlife species. In recent decades, public attitudes towards predators have changed and predator control, especially lethal control, is not viewed positively by a majority of the public. However, when confronted with specific situations and the rationale for predator control, public acceptance increases. Public support for predator control to benefit endangered species is higher than control to benefit game animals. Support also is greater if control focuses on less charismatic predators (e.g., snakes vs. hawks). Failure to seek public input when designing and implementing predator control programs may cause backlash with unforeseen and potentially detrimental consequences. While public opinion influences wildlife management decisions, an informed public with input into management actions will generally respect decisions of professional biologists.

In the most fundamental sense, societal values ultimately control management programs rather than vice versa (Ball 1996).

Managing predator populations to meet a goal for another wildlife species is older than recorded human history. Prehistoric people hunted predators in part because predators competed for food. Even as the efficiency of food production increased and wildlife was valued more for recreation than food, predator control was used to promote populations of desirable species. Predators have been intensively managed for centuries in Europe to promote large herbivore and upland gamebird populations. In 1917, Dr. E. W. Nelson, Chief of the United States Bureau of the Biological Survey, stated at a professional meeting that "The Biological Survey is engaged in another activity that is helpful to game. This is the destruction of predatory animals, particularly in the west..." (Trefethen 1975:165). Raptors were

routinely shot by sportsman who wished to promote gamebird populations. Through the early 1900s, predator control to meet wildlife management objectives was generally accepted by the public.

As the 20th century progressed, the recreational value of wildlife and the outdoors increased, especially non-consumptive recreation. Predators were considered less as competitors and more as valued wildlife species. Large segments of the public began to value individual animals and became concerned with humane treatment of wildlife. These shifts in attitudes fueled a storm of controversy over predator management, especially federally funded programs to reduce predation on livestock (e.g., Leopold et al. 1964, Cain et al. 1972). As a result, agency policy has been altered over the past 30 years so that it is generally illegal to kill some predators (e.g., raptors throughout the United States and mountain lions (*Puma concolor*) in California) and predators that had been

extirpated are being reintroduced (e.g. wolves (*Canis lupus*) in Yellowstone).

Public attitudes concerning predators and predation may dictate the tools available for wildlife managers (Clay and Schmidt 1998). When a majority of the public feels strongly that a management technique is not acceptable, that technique is generally lost from the wildlife manager's tool kit. A tool may be lost through executive order, (e.g., President Nixon's canceling the use of specific chemicals for predator control on federal lands and in federal programs), legislative action (e.g., Federal Golden Eagle Protection Act), ballot initiative (e.g., banning of certain traps in Arizona, Colorado, Massachusetts, and California; Andelt et al. 1999), or economic boycott (e.g., boycott of Alaskan tourism in protest of predator control to benefit moose (*Alces alces*) populations). Thus, understanding and influencing public attitudes concerning predator control as a wildlife management technique is essential if such programs are to be part of the biologists' toolbox.

My goal in this paper is to use recent research to describe public attitudes toward predators and predator control for wildlife management. Much of the information I present is derived from a 1996 survey of the United States public concerning their attitudes and beliefs about predators and predator management (Messmer et al. 1999).

ATTITUDES TOWARDS PREDATORS AND PREDATION

Studies of the public's attitudes towards predators conducted in the 1970s showed generally negative feelings towards

coyotes (*Canis latrans*) and wolves (Arthur et al. 1978, Kellert 1985). Research in the 1980s and 1990s indicated residents in Minnesota (Kellert 1986), New England (Stevens et al. 1994), Colorado (Pate et al. 1996), and Michigan (Hook and Robinson 1982) generally had positive attitudes towards wolves and coyotes. Bears (*Ursus* spp.) are viewed very positively by North Americans (Kellert 1994). Respondents to a nationwide survey agreed that predators have existence, scientific, and recreational value, although most would not enjoy consumptive recreation involving predators (Table 1; Arthur et al. 1978). Attitudes vary among segments of the public, with young, urban, female, wealthy, and more educated people generally having more favorable attitudes towards predators than older, rural, male, poor, and less educated people (Hook and Robinson 1982, Kellert 1986, Stevens et al. 1994). Young, urban, and female people tend to value wildlife as they value pets or other people (Mankin et al. 1999).

The general public feels that predators are an essential part of nature and will help control populations of prey animals (Pate et al. 1996; Table 2). There is no consensus about whether predators kill only a doomed surplus of prey or whether predators can cause extinction of prey. Most of the public disagrees with the statement that predators only kill sick and old prey animals (Table 2). The public generally believes that predators kill to obtain food (Table 3) and not because they are naturally cruel or simply for pleasure (Kellert 1986). This view of predators was held despite strong agreement that prey experiences terror when captured and eaten by a predator (Table 3). Only 20% of people felt that predators have an unfair advantage over prey.

ATTITUDES TOWARDS PREDATOR DAMAGE AND CONTROL

In general, the public does not feel that predators cause extensive damage, especially concerning negative impacts of predators on other wildlife species (Table 4). Respondents to a survey in Colorado tended to disagree with statements that introducing wolves would result in damage to livestock and large reductions in deer and elk populations (Pate et al. 1996). In a survey of New England residents, 81% did not feel coyote damage was sufficient to justify funds for a control program (Stevens et al. 1994). However, those that believed funds were justified rated coyote predation on deer and other wildlife as the primary reason they would support coyote control. The threat of disease was the second most common reason to support control followed by damage suffered by livestock producers and killing of pets. Despite believing that damage by predators is not widespread, over 90% of the public realized that coyotes kill sheep (Arthur et al. 1978).

There are many techniques that can potentially be used to reduce the impact of predators on another species of wildlife. Survey data are very clear that, after human safety, animal welfare and humaneness are the primary criteria used by most of the public in deciding if a technique is acceptable (Arthur et al. 1978, Andelt et al. 1999, Reiter et al. 1999). Lethal techniques, particularly leghold traps, snares, shooting from aircraft, and poisons are considered particularly inhumane (Reiter et al. 1999). Non-lethal techniques, especially fences and scaring devices, are considered humane. Other criteria

important to the public in assessing the acceptability of trapping methods are effectiveness, specificity, and environmental impacts, while cost is considered less important (Arthur et al. 1978, Reiter et al. 1999). Surprisingly, the public listed public opinion as the least important of 8 criteria (Reiter et al. 1999). Despite negative attitudes towards lethal control, the public did not favor a ban on hunting and trapping and tended to agree that hunting and trapping are acceptable control techniques (Table 5). That such opinions are not held throughout the United States is illustrated by votes to ban trapping in at least 5 states (Andelt et al. 1999). There is no strong consensus on whether control is necessary to fully use natural resources and the public feels that predators should be allowed to exist even if they interfere with human activities (Table 5).

ATTITUDES TOWARDS PREDATOR CONTROL IN WILDLIFE MANAGEMENT

Because of the different values people have for predators, controversy is likely whenever predators are manipulated to achieve a wildlife management goal. As described above, the public generally views predators favorably and lethal predator control unfavorably. Thus, public opinion of predator control is typically negative; a fact largely borne out in survey results. However, most surveys do not provide a context for the public to understand the reason why predator control is being considered.

Messmer et al. (1999) asked a sample of the United States public about their views on the acceptability of predator control to meet a variety of wildlife

management objectives. Each question was preceded by 2-4 sentences describing the situation in which predator control may be considered. Respondents were then asked if they would support control of predators. Support was strong (> 65%; Table 6) when the control effort focused on less charismatic predators (e.g., brown tree snake (*Boiga irregularis*), gulls, and crows) and when the control would benefit endangered species. Support declined (50-60%) when control efforts focused on medium sized mammalian predators to increase productivity of common waterfowl species, upland game birds, and songbirds (Table 6). There was much less support for control of hawks and owls to benefit upland gamebird populations.

CONCLUSIONS

The trend in wildlife agencies is to incorporate public input into policy and management decisions (Hewitt and Messmer 1997, Clay and Schmidt 1998). When the process works, compromises can be reached that enable the agency to fulfill its mission while serving a broad constituency (Manfredo et al. 1999). When the process is bypassed and segments of the public feel they have no representation or input, those segments may resort to other democratic options to have their views considered. For example, anti-trapping activists in Colorado participated in a policy formation process that arrived at a compromise acceptable to the participating parties. However, the state legislature did not support the compromise and transferred trapping authority to the Colorado Department of Agriculture. The activists responded with a successful ballot initiative that banned most trapping in Colorado (Cockrell 1999).

The lessons from this paper are that the public feels predators are an important part of the ecosystem and that predators add positive value to people's lives. Lethal control of predators is generally unacceptable. However, when specific situations and the rationale for predator control are explained, a majority of the public may support predator management. The level of support will depend on the reason for control, the wildlife species that will benefit, the predator species that will be affected, the geographic and time scale of control, and the techniques employed (Ball 1996). The public wants input in wildlife management decisions, but respects the judgement of wildlife professionals (Reiter et al. 1999). Thus, public opinion guides the actions of biologists, but the puppeteer of public opinion is not absolute. Agencies that arrive at decisions openly after providing factual information to all stakeholders and seeking their informed input and consensus are much more likely to consistently fulfill their mission over time (Hewitt and Messmer 1997).

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Table 1. Survey respondents' attitudes on the value of predators, June 1996 (Messmer et al. 1999). Responses "Don't Know" and "Neutral" not included.

Statement	Agree	Disagree
I enjoy knowing bears and wolves exist	79%	6%
Maintain predators to study nature	72%	9%
Track adds enjoyment to experience	54%	26%
Making living more important than having predators	30%	37%
Enjoy challenge of trapping predator	15%	69%
My life would not be affected with loss of predators	15%	70%

Table 2. Survey respondents' opinions on the role of predators in nature, June 1996 (Messmer et al. 1999). Responses "Don't Know" and "Neutral" not included.

Statement	Agree	Disagree
Predators an essential part of nature	93%	5%
Prey will overpopulate w/o predators	80%	10%
Predators only kill surplus prey and not the breeding population	32%	32%
Predators can cause prey extinction	32%	40%
Predators only kill old or sick animals	21%	63%

Table 3. Survey respondents' feelings about the act of predation, June 1996 (Messmer et al. 1999). Responses "Don't Know" and "Neutral" not included.

Statement	Agree	Disagree
Prey experience terror when depredated	73%	4%
Predators kill only to obtain food	66%	17%
Not stop a snake from eating baby birds in a nest	44%	36%
Uncomfortable watching an act of predation on film	32%	47%
Predators have an unfair advantage over prey	21%	49%

Table 4. Survey respondents' beliefs about the extent of predator damage, June 1996 (Messmer et al. 1999). Responses "Don't Know" and "Neutral" not included.

Statement	Agree	Disagree
Gamebird declines due to predators	12%	58%
Harmful b/c kill wildlife people enjoy	10%	73%
Lion/bear => people avoid outdoors	39%	39%
Many people killed by predators in NA	8%	60%
Chance of getting disease from predator is high	17%	54%
Predators cause large livestock losses	20%	48%

Table 5. Survey respondents' attitudes about techniques to manage predators, June 1996 (Messmer et al. 1999). Responses "Don't Know" and "Neutral" not included.

Statement	Agree	Disagree
Hunting is acceptable control tech.	61%	20%
Trapping is acceptable control tech.	47%	27%
Control not needed to fully use NR	35%	42%
No need to reintroduce predators	25%	51%
Predators exist only if do not interfere	23%	61%
Ban all predator trapping and hunting	19%	59%

Table 6. Survey respondents' support for managing predators to meet different wildlife management goals, June 1996 (Messmer et al. 1999). Responses "Don't Know" and "Neutral" not included.

Predator Control Scenario	Support Control
Control brown tree snakes to protect birds on Guam	82%
Control foxes, raccoons, skunks...	
To protect duck species in danger of extinction	81%
To protect endangered shorebirds	67%
To improve duck nesting success	59%
To increase songbird populations	55%
To improve upland gamebird populations	56%
Control gulls and crows to protect endangered shorebird	72%
Control hawks and owls to improve upland gamebird populations	36%