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# Thunder in the Distance: The Emerging Policy Debate Over Wildlife Contraception

R. Bruce Gill and Michael W. Miller

**Abstract:** Wildlife contraception is only now emerging as a wildlife policy issue. It will emerge into a sociopolitical environment that is already polarized from a clash of ideologies. The wildlife conservation/hunting community strives to preserve the status quo while animal welfare and animal rights activists struggle to change wildlife management philosophy and practice to conform to their respective beliefs. Recent professional and popular literature reveal at least four major areas of conflict: (1) antimangement sentiment, (2) antihunting sentiment, (3) animal rights sentiment, and (4) animal welfare sentiment. Wildlife managers anticipate that the conflict over the use of contraceptives will involve value and belief conflicts between traditional wildlife management and animal rights proponents. We believe instead that the primary conflicts will revolve around pragmatic issues such

as when, where, and in which circumstances managers will use the contraceptive tool. In this context, wildlife contraception will be regarded as a "mixed bag." Given the nature and potential polarity of the wildlife contraception issue, wildlife agencies will have to behave proactively by projecting themselves into their future. Currently, wildlife agencies respond to many policy challenges reactively and defensively in an attempt to preserve their past. If a productive compromise can be reached over the issue of if, how, when, and where to use wildlife contraception, the wildlife policy decision process must be visionary, wise, bold, accessible, adaptable, and, most of all, fair.

**Keywords:** wildlife contraception, antimangement, antihunting, animal rights, animal welfare, wildlife policy decision process

## Introduction

No policy that does not rest upon philosophical public opinion can be maintained.

—Abraham Lincoln

History is a thread. It weaves from the past through the present and, inevitably, binds to the future. Earlier in this decade, wildlife policymakers in Colorado experienced an historical precedent event. On November 3, 1992, voters successfully overturned Colorado Wildlife Commission policy and outlawed the practices of hunting black bears in the spring and hunting them with bait and dogs (Loker and Decker 1995). This was the first time in Colorado history where wildlife policy was established by a citizen-referred ballot initiative. That historic event will ineluctably bind the State's past to the future because it marked a monumental failure in the policy decision process and strained State officials' credibility to deal with future controversial wildlife management issues.

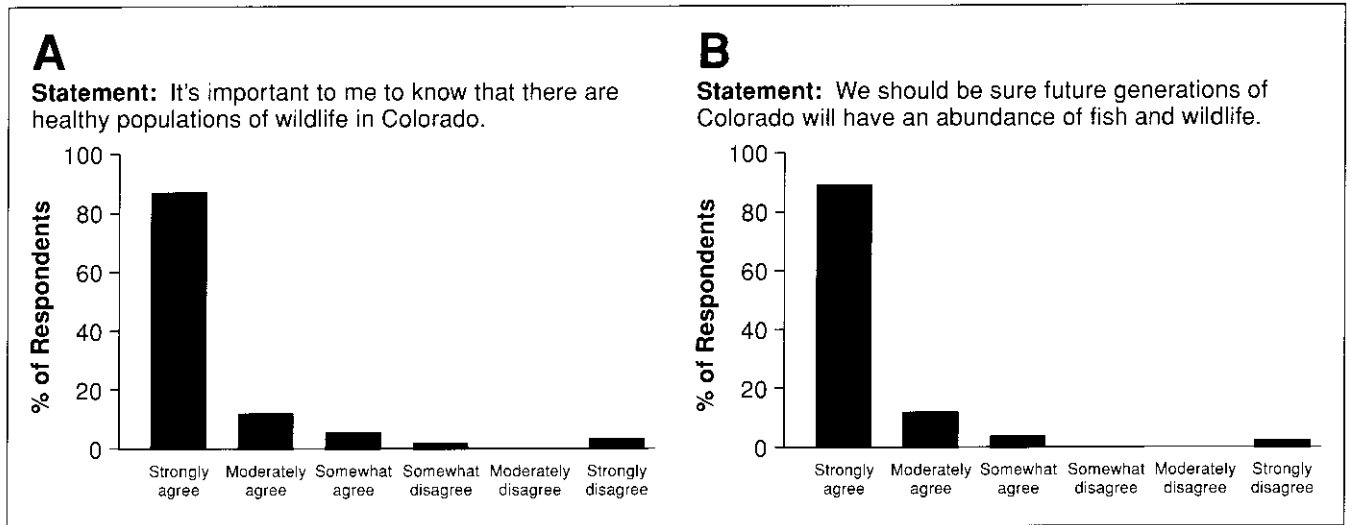
In the black bear management controversy, agency officials failed to *see* when they looked. They failed to *listen* when they heard, and they failed to *act* while there was time. They did not see a subtle evolution of public wildlife values. They did not listen to the growing chorus of public discontent. They did not act while the management environment was still tractable. We believe this failure resulted because

wildlife policymakers in Colorado were unaware of or insensitive to the social *context* into which the bear hunting issue intruded. This, in turn, allowed the issue to evolve into a polarized *controversy* before policymakers attempted to forge effective *compromises*. Furthermore, we believe the wildlife contraception issue has similar characteristics to follow a parallel evolutionary path unless policymakers assume a proactive posture from the outset.

## Context

Wildlife contraception is only now emerging as a practical tool to control growth of wildlife populations (Kirkpatrick and Turner 1991, Garrott et al. 1992). Expectations have been raised which already seem to exceed the likely potential of the technology. Indeed, its emergence is being hailed by some as the "magic bullet" to solve the problem of controlling wildlife populations where hunting is not a viable option (Kirkpatrick and Turner 1991). Nonetheless, this genesis promises to be anything but tranquil.

First, wildlife policymakers will be unable to control either the development of animal contraceptive technology or its availability. Pharmaceutical companies currently project two major markets for animal



**Figure 1.** Indexes to the value Coloradans place on their wildlife: (A) Existence value, (B) Preservation value.

contraceptives, animal production and pet neutering. They also project it will be a multimillion to multibillion dollar industry. For example, one estimate suggests that between 5.7 and 12.1 million dogs and cats are euthanized each year in America due to pet overpopulation (Olson et al. 1986). Contraception is regarded both as a more humane and a more economical solution to pet overpopulation than euthanization or surgical sterilization (Maggitti 1993). Consequently, animal contraception will be available as an alternative to lethal wildlife population control irrespective of the desires of wildlife agency policymakers.

Second, environmental values have been metamorphosing throughout the world for several decades. Whereas *laissez faire* attitudes predominated in the last century, twentieth century values have grown increasingly "green" (O'Riordan 1971, Dunlap 1991, Kellert 1993, McAllister and Studlar 1993). Contemporary environmentalism, with its emphasis on environmental protection, now enjoys widespread public support (Sagoff 1990). Wildlife agencies, on the other hand, increasingly find themselves stuck in the backwater of a bygone era of maximum sustainable use. Public support for wildlife policies based upon wildlife uses seems to be waning. As a result, support for agency wildlife management policies has weakened as opposition has intensified.

### Contemporary Public Attitudes

Colorado has long been regarded as a political bellwether State because of its geographically and philosophically diverse population. If so, perhaps the situation in Colorado forecasts trends in public wildlife values as well. The Colorado Division of Wildlife has been conducting public opinion and attitude surveys concerning wildlife issues at least since 1986. When we review the context of public attitudes, we see both consensus and conflict. We have consensus that wildlife is highly valued and conflict over how it should be valued. Consider the statement: "It's important to know that there are healthy populations of wildlife in Colorado." Virtually everyone concurs (fig. 1A). Similarly, when we ask if wildlife preservation should be a priority wildlife agenda item, affirmation is equally strong (fig. 1B).

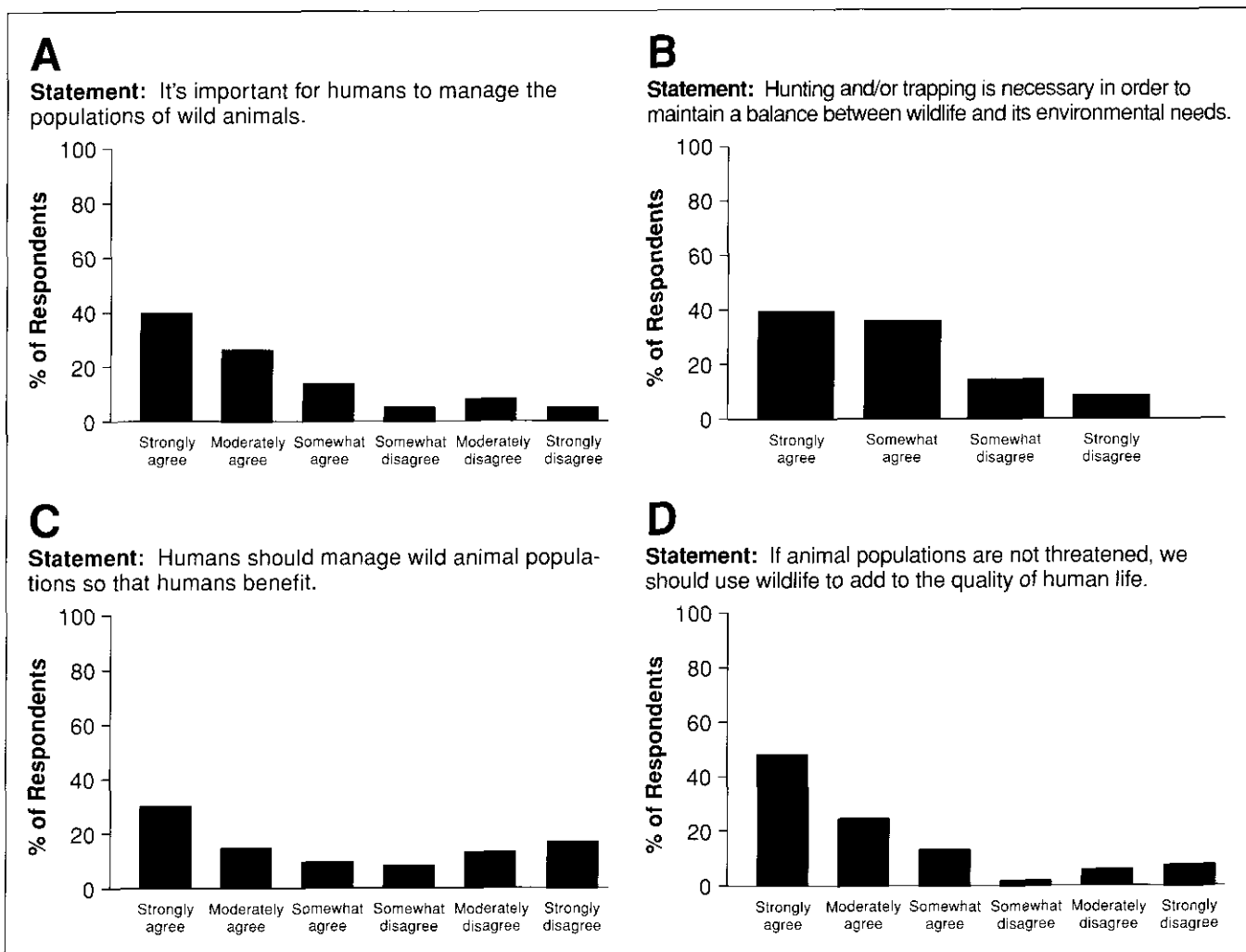
Consensus dissolves, however, when we infer purpose from value. Colorado statutes declare it State policy to manage wildlife for "the use, benefit, and enjoyment of people." Although most would agree with managing for benefits and enjoyment, public values begin to diverge over the issue of use. Some say wildlife should be managed for consumptive uses, others say it should be managed for nonconsumptive enjoyment, while still others say we should manage

people for the benefit of wildlife. Recent professional and popular wildlife literature reveals at least four major areas of conflict: (1) antimanagement sentiment, (2) antihunting sentiment, (3) animal rights sentiment, and (4) animal welfare sentiment (Goodrich 1979, Decker and Brown 1987, Schmidt 1989, Richards and Krannich 1991).

**Antimanagement Sentiment.**—Among Coloradans, public sentiment is divided over whether hunting is one of the worthy purposes of wildlife management. Surveys suggest that wildlife professionals and hunting advocates have overrated public sentiment

against management. For example, a recent planning survey conducted for the Division of Wildlife by the Human Dimensions in Natural Resources Unit of Colorado State University asked Coloradans to express their agreement or disagreement with the statement: *“It is important for humans to manage populations of wild animals.”* More than three-fourths of the respondents agreed that wildlife management is important (fig. 2A).

However, approval of wildlife management is conditioned by perceptions of management intent. When management is directed toward animal benefits,



**Figure 2.** Indexes to antimanagement sentiment among Coloradans: (A) Support for wildlife management, (B) Support for hunting and/or trapping, (C) Support for managing wildlife for human

benefits, and (D) Support for human use of wildlife to enhance the quality of life.

approval is strong. In a 1986 survey, nearly 75 percent of the respondents agreed that *"Hunting and/or trapping are necessary in order to maintain a balance between the number of wildlife and its environmental needs"* (fig. 2B). On the other hand, only 50 percent of Coloradans agree that *"Humans should manage wild animal populations so that humans benefit"* (fig. 2C). But as human benefits are clarified and conditioned—as in the statement *"If animal populations are not threatened, we should use wildlife to add to the quality of human life,"*—again, implicit support for wildlife management is high (fig. 2D).

It would seem that antimanagement sentiment per se is an unimportant public wildlife issue. Rather, the issue of management focuses on management outcomes. Management aimed at protecting wildlife populations from detrimental effects of their own excesses and focused on wildlife uses which enhance the quality of our lives is strongly sanctioned. Support declines, however, as the perceived nobility of purpose declines.

**Antihunting Sentiment.**—In general, the public does not appear to be prescriptively antihunting. When directly asked if wildlife agencies should disallow hunting, time and again the public responds that they should not. Even in the hotly contested black bear

management controversy, antihunting sentiment was not a major factor affecting the outcome. For example, when a sample of prospective voters were asked to respond to the statement, *"As I read the following four statements about hunting please tell me which one comes closest to your views: A. Don't allow any hunting; B. Allow hunting only by wildlife professionals to control animal overpopulations; C. Allow hunting by licensed sportsmen; and D. Disallow hunting only when necessary to protect wildlife populations because hunting is a basic right,"* only 7 percent of Colorado's voting population supported the abolition of all hunting. Nearly 80 percent supported legal sport hunting so long as wildlife populations were protected from overharvest (fig. 3A).

Again, however, public support for hunting is conditional. Steve Kellert's earlier survey (Kellert 1980) and our more recent one found strong public support for meat hunting, less for recreational hunting, and little support for trophy hunting (fig. 3B). As was the case for management, the public seems to be saying, *"We support hunting if it serves worthwhile social purposes, such as providing food for one's family."* But when hunting deviates from the norm of public worthiness, it loses support.

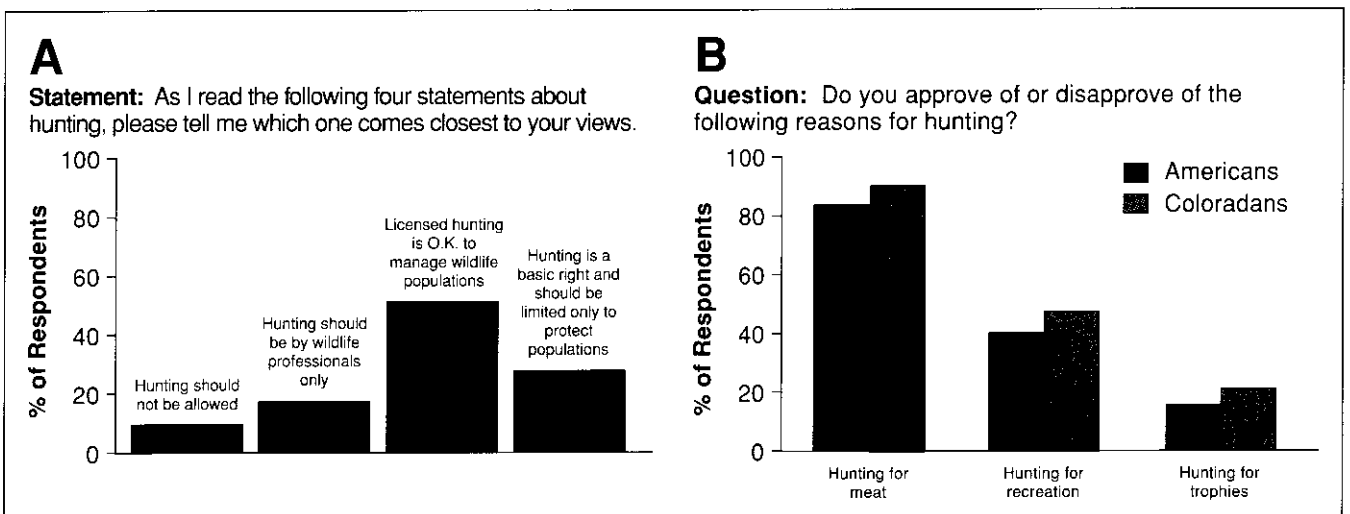


Figure 3. Indexes to antihunting sentiment among Coloradans: (A) Support for hunting, (B) Approval of reasons for hunting.

**Table 1. Comparison of animal welfare and animal rights organizations (after Macauley 1987a–c)**

Attribute	Animal welfare organizations	Animal rights organizations
Philosophies	Legalistic Humanistic, benevolent Reduce cruelty, unnecessary pain and suffering.	Moralistic and legalistic Libertarian, vegetarian, revisionist Eliminate suffering; elevate moral standing.
Concerns	Companion animals and endangered species, whales, seals, some experiments Public abuses Individual abuses and species preservation	Factory farming and experimental animals Private as well as public abuses Institutional exploitation
Motivations	Emotional, ecological Sympathy, kindness to animals	Just, ethical Philosophical
Strategies	Moderate Regulationist, incremental Educational, informational, preventative	Radical or militant Abolitionist, revolutionary Political, legal, reconstructive
Organizations	Comparatively large, established, national Well-endowed, hierarchical Homogenous, wealthy, professional membership	Comparatively small, emergent, local or regional Poorly funded, relatively decentralized Heterogenous, less affluent, diversely employed membership

**Animal Rights Sentiment.**—Wildlife professionals and hunting advocates infer cause and effect between animal rights sentiment and antihunting activism (Goodrich 1979, Richards and Krannich 1991). Despite this opinion, few public attitude surveys have investigated this connection. Much of the rhetoric and reaction to animal rights fail to separate public attitudes about animal rights from sentiments for animal welfare. Macauley (1987a–c, 1988a and b) conducted an intensive study contrasting animal welfare organizations with animal rights organizations. In general, animal welfare organizations oppose *unnecessary* pain and suffering among animals, including wildlife, whereas animal rights groups are generally opposed to human intervention in the lives of animals. Macauley concluded that animal welfare advocates are better organized, better funded, and more politically adept than animal rights groups. Strategies of animal welfare groups to change American values toward animals tend to be moderate, long-term, and educational in contrast to those of animal rights

activists, which tend to be radical, immediate, and sensational (table 1). Regan and Francione (1992) characterize the philosophy of animal welfare advocates as “gentle usage” and contrast it with an animal rights philosophy which calls for “nothing less than the **total** liberation of nonhuman animals from human tyranny.” We believe that general public values are more attuned to animal welfare than to animal rights philosophy.

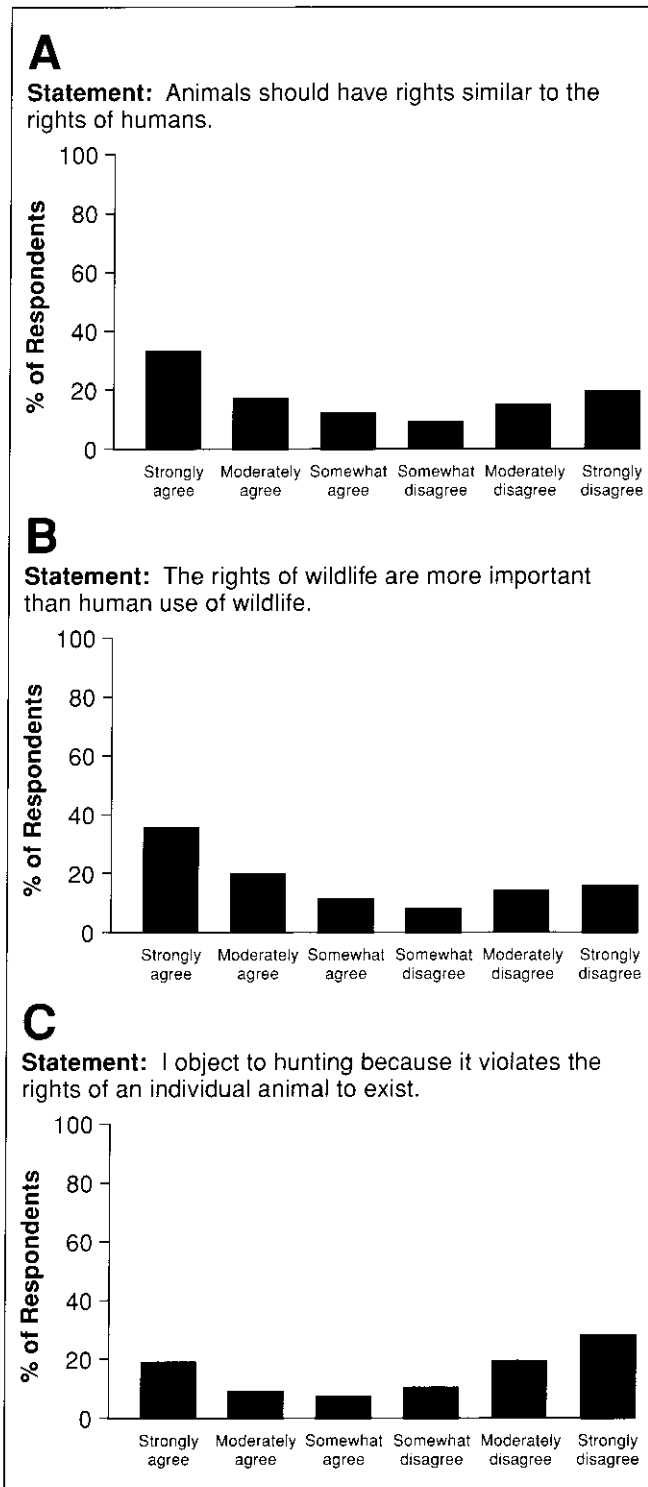
We tried to tease these issues apart by examining responses of Coloradans to a variety of questions about animal rights and animal welfare issues. Animal rights sentiment was indexed by the statement: “*Animals should have rights similar to humans.*” Astonishingly, perhaps, 60 percent of the respondents agreed, and one-third of these agreed strongly (fig. 4A). What does this mean in terms of public attitudes to wildlife uses? In response to the statement, “*The rights of wildlife are more important than human use of wildlife,*” more than half of the respondents agreed, and of these, one-third strongly agreed (fig. 4B).

Nevertheless, when asked to make choices between rights and uses, once again the public discriminates. In response to the statement, *"I object to hunting because it violates the rights of an individual animal to exist,"* nearly two-thirds of the respondents disagreed, and one-third of these disagreed strongly (fig. 4C).

**Animal Welfare Sentiment.**—It would seem that Coloradans agree with the general notion that animals should have rights, but these rights should protect them from abusive uses, not all uses. Indeed, much of the conflict between animal uses and animal rights seems to center on the issue of animal welfare, and on this issue the public is much less equivocal. For example, the statement, *"I see nothing wrong with using steel-jawed leghold traps to capture wildlife,"* evokes strong opposition from most of the public (fig. 5A). What about perceptions of the humaneness of hunting? Here the public is divided. About one-half agree and one-half disagree with the statement, *"Hunting is cruel and inhumane to animals"* (fig 5B). In effect, the public seems to be saying, "No matter how important the management outcome, the end does not justify the means."

### Controversies

So far, Statewide policymakers have treated public attitude responses as though the public was monolithic. This is clearly not the case. Wildlife values of Coloradans tend to cluster into four distinct types. Nearly one-third share the attitude that people can use wildlife to their benefit if wildlife populations are not endangered. Additionally, this sector believes that wildlife has the right to protection from abusive uses. Another cluster of similar size places high emphasis on commodity and recreational values of wildlife. A third cluster, representing about 25 percent of the population, strongly believes wild animals ought to have rights protecting them from human exploitation. A fourth cluster, representing less than 10 percent of the population, supports the use of wildlife for human benefits, such as food, fur, and fiber, but seems to be ambivalent toward recreational uses of wildlife. These

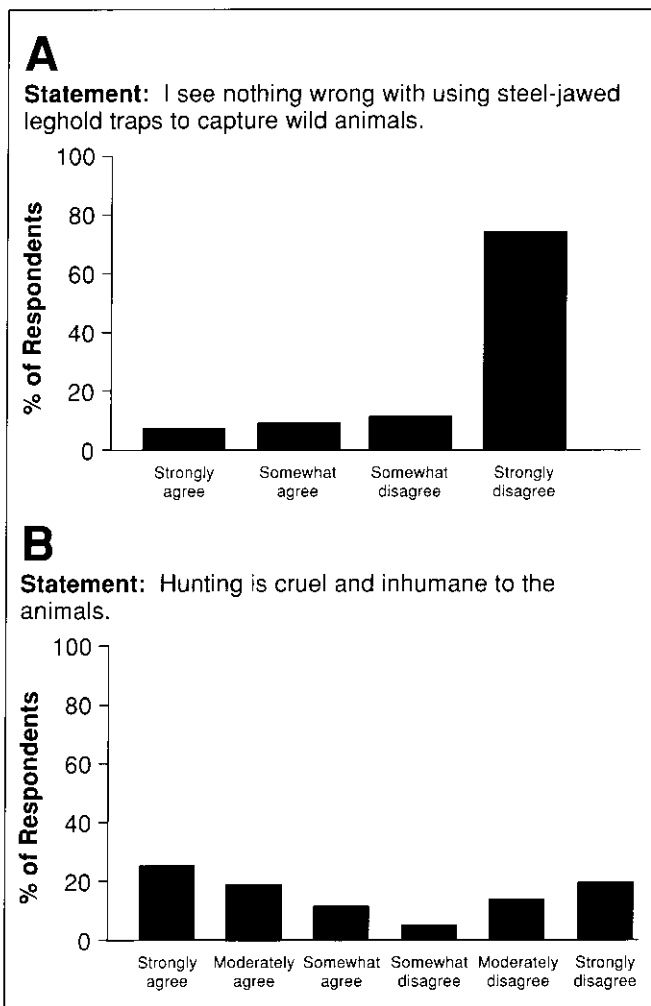


**Figure 4.** Indexes to animal rights sentiment among Coloradans: (A) Support for the concept that animals have rights similar to those of humans, (B) Support for the concept that animal rights supersede human uses of animals, and (C) Support for the concept that hunting violates the rights of animals.

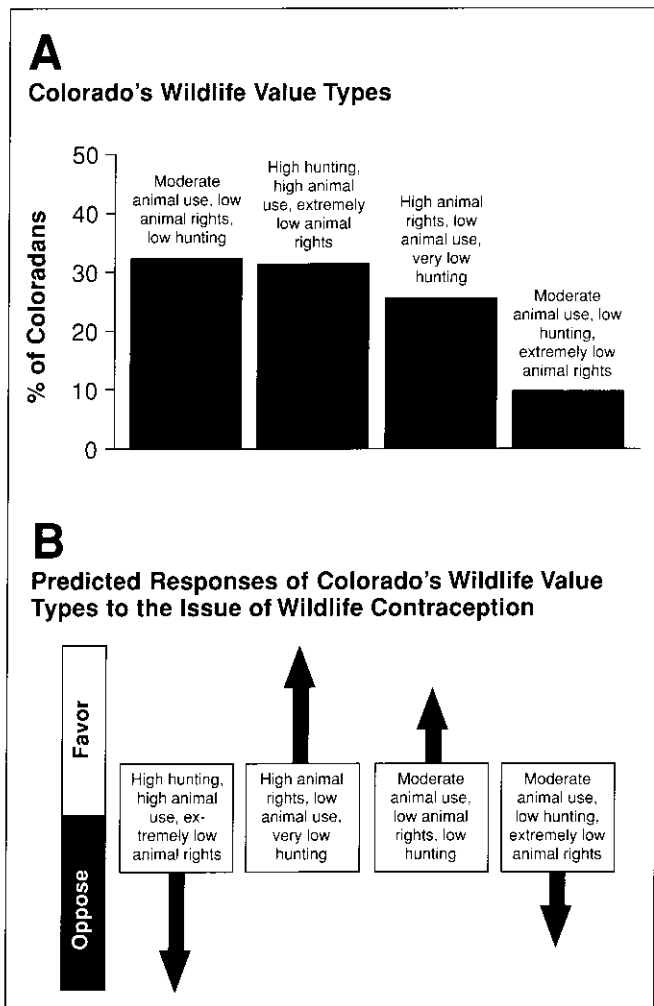
people strongly oppose the concept that animals have rights (fig. 6A).

Given this fabric of social context, how are these contrasting publics likely to respond to the issue of wildlife contraception? We predict the following controversies will emerge. Those who strongly support hunting and animal uses will see wildlife contraception as a threat to hunting and will oppose its use vigorously. The animal rights community will be divided on the issue of wildlife contraception. Some will see it as a much preferred alternative to hunting because it is nonlethal and will insist it replace hunting

as a wildlife population control tool. Others in this cluster will see wildlife contraception as just another interventive tool for humans to dominate animals. Those who moderately support animal rights and uses will support wildlife contraception to manage nuisance wildlife and will judge its utility to other management issues on a case-by-case basis. Those who are moderate toward animal uses, low on support for hunting, but strongly against animal rights will have mixed responses. Some will support wildlife contraception if it is more effective than hunting or trapping to control wildlife populations. However, most will



**Figure 5.** Indexes to animal welfare sentiment among Coloradans: (A) Opposition to the use of the steel-jawed trap, and (B) Support for the concept that hunting is cruel and inhumane to animals.



**Figure 6.** (A) Clusters of wildlife value types in Coloradans, and (B) Predicted responses of Colorado's wildlife value types to the issue of wildlife contraception.



**Table 2. Advantages and disadvantages of competing wildlife contraception technologies**

Contraceptive technology	Advantages	Disadvantages
Steroidal contraceptives	Readily available Orally active  Reversible	Remains in the food chain Lengthy Food and Drug Administration approval Slow biodegradation
Immunocontraceptives	Reversible Inexpensive Amenable to remote delivery  Minimal side effects Rapid biodegradation	Requires multiple treatments Currently not completely efficacious Must be developed specifically for each species
Hormonal toxin contraceptives	Requires only a single treatment Amenable to remote delivery  Equally efficacious to both sexes Single chemical formulation efficacious across all vertebrate species Rapid degradation	Irreversible Alters reproductive behavior of treated individuals

oppose moralistic-based efforts of animal rights activists to substitute wildlife contraception for all hunting (fig. 6B).

### Compromise

Left unmanaged, the wildlife contraception controversy will devolve into confrontational questions of *will we* or *won't we*. The challenge of the wildlife policy decision process will be to focus the debate on circumstantial questions such as *how will we* or *where will we*.

Currently, three distinctly different contraception technologies are being developed and tested for use in free-ranging wildlife populations: contraceptive steroids, immunocontraceptives, and chemosterilants such as hormonal toxins. Each technology has its advantages and disadvantages (table 2). Regardless of which technology is used, modeled responses of simulated populations suggest that applied wildlife contraception will be both prohibitively expensive and logistically daunting unless a single treatment endures for the reproductive lifetime of each treated individual (N. T. Hobbs, pers. comm.). Furthermore, the most efficacious treatments involved a combination of

hunting (or culling) to lower population levels and contraception to maintain them at the desired level. In addition, the use of contraception to maintain wildlife populations is more precarious than shooting because much of the reproductive portion of the population has been uncoupled from density-dependent reproductive responses. Based upon what wildlife biologists now know, a prudent answer to the *how will we* question might be to control populations with both hunting and contraception.

Moreover, it seems unlikely that wildlife contraception will replace hunting as the wildlife population control of choice even if that were the most desired option. Hunting provides for an efficacious control on large-animal populations because an army of volunteer hunters not only donates its time but also pays for the opportunity. Consequently, hunting is not only effective, it is also economical. The niche for wildlife contraception most likely will be to control wildlife populations in areas such as nature preserves, wildlife parks, and urban open space, where control by licensed hunters is either impractical, undesirable, or unsafe (Hoffman and Wright 1990, Underwood and Porter 1991, Warren 1991, Curtis and Richmond 1992, Porter 1992).

**Table 3. Contrasting characteristics of proactive v. reactive agencies**

Proactive agencies	Reactive agencies
Driven by vision	Shackled by tradition
Committed to planning	Addicted to action
Planning anticipates the need for action.	Action precipitates a need for crisis planning.
Policy is by design: from the top down.	Policy is by default: from the bottom up.
Macromanagement: focuses on outcomes	Micromanagement: focuses on activities

Deflecting the wildlife contraception debate from confrontation to compromise will require a policy decision process that informs, educates, involves, and responds to the values of all stakeholders. Is the current process up to the challenge? Not without change.

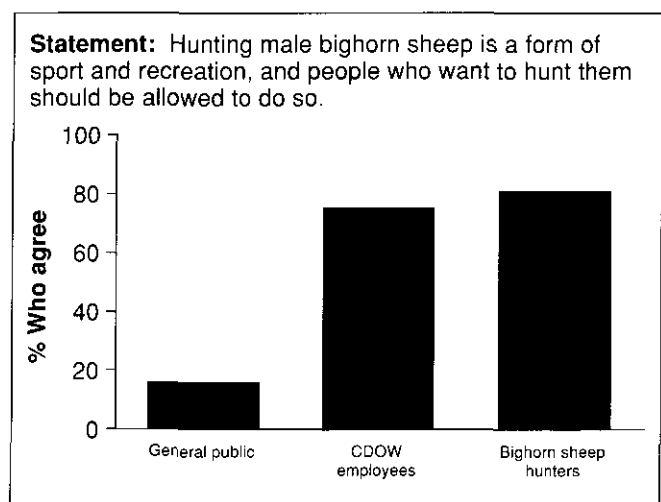
In the first place, the current policy decision process is fundamentally reactive, not proactive. Wildlife agencies, for the most part reflect the philosophy, "if it ain't broke, don't fix it." Consider the contrasts between reactive and proactive organizations. Reactive organizations tend to be shackled by tradition and addicted to action. That action often leads to defensive planning. Policymaking tends to come from the bottom up, and there is a compulsion to micromanage activities and ignore or overlook the larger policy issues. In contrast, proactive agencies are driven by vision and committed to planning which, then, leads to action. Policy is formulated by design and implemented from the top down. Implementation is macromanaged by focusing on outcomes rather than activities (De Greene 1982, Gawthrop 1984, Morgan 1988). Reactive agencies look over their shoulders, fixed in their past. Proactive agencies, in contrast, scan the horizon in search of their future (table 3).

Attitudes of wildlife agency employees reflect a fixation on the past by clustering more closely toward traditional clients than toward the general public (Kennedy 1985, Peyton and Langenau 1985). For example, one of our Colorado surveys contrasted attitudes of bighorn sheep hunters, the general public,

and Colorado Division of Wildlife employees. When asked whether they agreed or disagreed with the statement, "Hunting male bighorn sheep is a form of sport and recreation, and people who want to hunt them should be allowed to do so," large majorities of both agency employees and bighorn sheep hunters agreed. In contrast, a substantial majority of the general public disagreed with the statement (fig. 7).

If most wildlife agencies are, indeed, fundamentally reactive, first and foremost they need to change their basic management philosophy from "if it ain't broke, don't fix it" to "if it ain't broke, break it" because management environments change constantly and management responses also must change constantly to keep pace. Wildlife agencies will have to break from their traditional biases to form effective partnerships with all of their publics to develop and evaluate truly public wildlife policies (Anderson 1975, Clark and Kellert 1988).

In the case of the pending wildlife contraception controversy, wildlife agencies still have an opportunity to be proactive. None of the developing technologies is yet operational. As a result, the management environment remains relatively unpolarized over the contraception issue. Thus, the future can be influenced and will depend largely on how agencies



**Figure 7.** Contrasts between the attitudes of Colorado Division of Wildlife employees, bighorn sheep hunters, and the general public over whether bighorn sheep hunting for sport and recreation ought to be permitted.

respond to contraception as an emerging wildlife management tool. Proactive wildlife agencies dedicated to the overall public interest will respond with a combination of vision, wisdom, courage, accessibility, adaptability, and fairness.

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