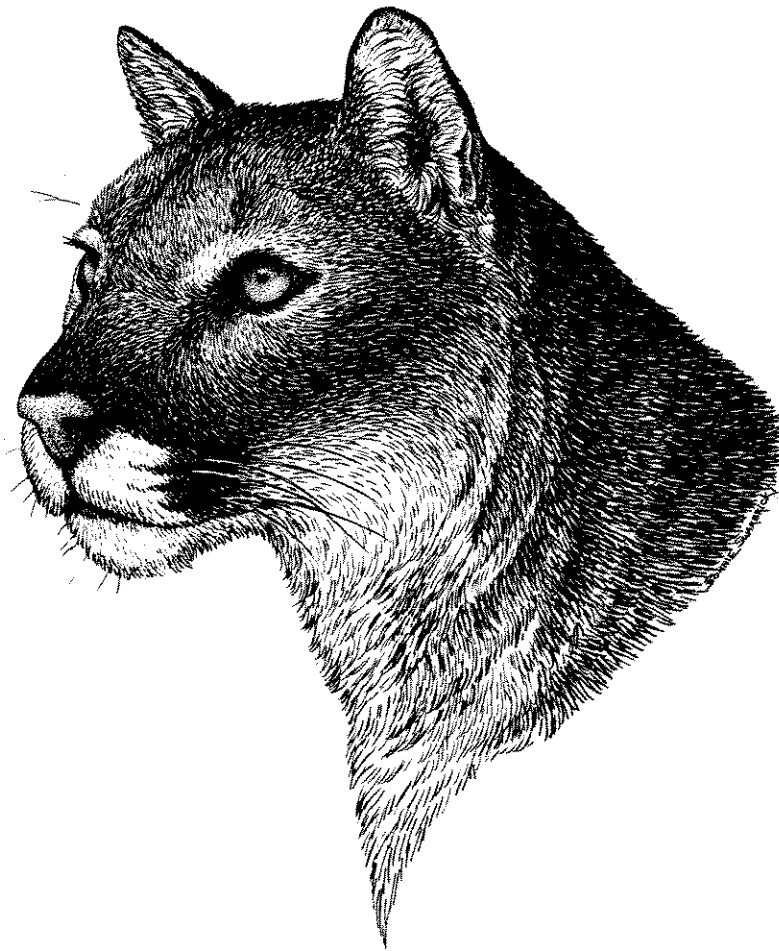


Proceedings of The Third Mountain Lion Workshop



**December 6 - 8, 1988
Prescott, Arizona**

**Arizona Chapter, The Wildlife Society
Arizona Game and Fish Department**

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The Third Mountain Lion Workshop**

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EDITORS

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December 1989

Acknowledgments

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Welcoming Address

*Duane L. Shroufe, Director
Arizona Game and Fish Department
Phoenix, Arizona*

As Acting Director of the Arizona Game and Fish Department, let me welcome you to Arizona and to our Territorial Capitol City. I can see already from the diverse geographic representation here, that this is likely to be both a productive and broad attack on the problems of mountain lion management.

I would like to begin by first giving some recognition to groups sponsoring this conference. The Arizona Chapter of the Wildlife Society has over the past 20 years or so initiated an increasing number of special interest workshops. They have conducted or sponsored workshops in communications, telemetry methods, a snag management symposium, a javelina management workshop, a southwestern deer management workshop, a wildlife law enforcement workshop, and one dealing more specifically with the problem of commercialization of wildlife.

The Arizona Game and Fish Department, as the other sponsor of this meeting, has attempted to cooperate in the efforts of this professional group and others in promoting a better understanding of the problems of wildlife and fisheries management. Thus, our involvement in this particular workshop.

We have been also working with other conservation groups such as the Arizona Riparian Council. In cooperation with this group the Department is currently producing a video program on riparian management issues and general ecology. In cooperation with The Nature Conservancy we are also acquiring habitat for threatened or endangered species as well as acquiring unique habitats themselves.

But, back to the business of this conference. It is obvious from the representation here that many of you have rather specific agendas with regards the mountain lion. I would urge you to take the opportunity to listen carefully to what is presented here in the way of information, issues, and philosophies in reaching your own conclusions about how the lion should or should not be managed. You have assembled here presumably the best experts in the U.S. on the biology and management of this valued species.

The mountain lion is many things to many people. To the deer hunter and the ranch manager it is a predator affecting populations of other valuable ungulate resour-

ces. To the sportsman the lion is an occasional, highly valued trophy big game animal. To the naturalist, hiker, photographer, and conservationist, the lion is a living symbol of wilderness. Although seldom seen, its very presence is enough to give that wilderness experience added dimension. To the economically stressed livestock operator, the lion is but one more factor affecting his ability to make a living. To the wildlife manager or the law enforcement officer the lion is occasionally a potential threat to public safety.

How can the species possibly be managed in the presence of so many conflicting interests? It is possible, if these groups can come together as you have here, and agree at least on one set of principles. The problem then becomes one of building a management model that rests on these principles. The model must, however, provide a balance in management decisions based on appropriately weighted analysis of the important human and biological factors involved. That is your task as experts.

In closing, I would especially like to address those of you who are the real lion experts. Many of you have worked with this species at very close range -- capturing, handling, radio collaring, locating, observing. I get the impression that there is a tendency for many biologist to take on the characteristics of the species itself -- solitary, quiet, mainly non-vocal. If we as resource managers are to produce well accepted, biologically sound management plans for this species, we must have your involvement at the management planning level. You also need to export what you know about mountain lions through every available medium. What you say or write may not be new information, but it still needs to be said repeatedly in popular articles, conferences, radio/television appearances, and schools. The need is to achieve a better informed constituency and, consequently, a better base of support for management programs. This is done by you who are already recognized as qualified to speak about mountain lions.

On behalf of our Department, and the Arizona Chapter of the Wildlife Society, we wish you much success in your very busy agenda. We will look forward to the products of this workshop in helping our agency solve the many faceted problem of mountain lion management.

Begging The Question: What Is Mountain Lion Management?

Susan C. Morse
Professor of Natural History
Burlington College
Burlington, Vermont

I've sure enjoyed learning about the mountain lion over the years, and my wanderings have been wonderfully enriched by growing friendships with Harley Shaw and so many others interested in lions. And, I've learned much by reading the various research publications authored by so many of you at this conference.

Like yourselves, I've appreciated both the pleasure and privilege of being out there -- of time spent studying wildlife, marveling at the rugged and exquisite beauty of the wildlands in which they live. And, I'm sure that I don't have to remind you how immensely satisfying it is to share in what for brevity's sake I'll describe as "human animals, assisted by dogs, horses, and mules, searching for lions." Each of us has shared in the magic -- the country, the early morning anticipation, the human searchers, searching an impossible, magnificent country, looking and listening for lions -- and the hounds, hopefully trailing them. And at the end of it all, the rest and companionship at the conclusion of a hard day.

In all humility, I'd like to take advantage of the variety of these experiences, coupled with the perspectives which I'm invariably influenced by as a naturalist, a generalist, if you will, and beg the question -- what is wildlife management?

Management means a lot of things to a lot of us. Management requires that we protect as well as use natural resources, with the future as well as the present in mind. Management requires that we police human interactions with natural resources and, where appropriate, protect property and provide for human safety. Management requires that there be ever-continuing field based research efforts enabling us to understand natural resources better, their place in the scheme of things, and the human-caused pressures which affect their status now and in the future. Increasingly, however mirage-like at times, management also engages us in a consideration of values, values inherent in the natural world itself. Such values transcend human uses, have absolutely nothing to do with economic or political systems, know no state or international boundaries, are not solely biological in nature, nor are they adequately described by science. These values are somehow synonymous with the best in us, the excitement, joy, sharing and peace that we experience when we're out there in a wild land that is healthy and clean.

Mirages too often vanish, and as we speed down the highway, the vision is gone. What remains is where

we've been, and what we're doing to the world around us. What we see, instead, is the latter twentieth century, where wild habitats and populations are shrinking, demanding our immediate and crucial research attention. We find that people and their property need protection from occasional wildlife offenders, where wildlife need protection from human offenders, where game and non-game species alike require management in order to perpetuate healthy populations for the enjoyment of all of us.

These are some of the immediate concerns of management. What are some of the problems? Wildlife management agencies are inadequately funded. Wildlife management goals are difficult to grasp, sometimes to justify to an increasingly urbanized populace. The complexity of the overall issue of world wildlife conservation is huge. In the alarming context of global habitat destruction and species extinction, our efforts suffer most at our hand when we can't even agree on the magnitude of the problem. Wildlife managers, past and present, have described pieces of the problem. Aldo Leopold said it most simply, "... wildlife management is comparatively easy; human management is difficult." John J. Craighead and colleagues in their monograph interpreting grizzly bear habitat described what might be the crux of the problem; herein we might just as well substitute the words mountain lion for grizzly bear.

"In wilderness is the preservation of the grizzly. If the human species cannot preserve the grizzly bear, it probably cannot preserve itself; for the type of human behavior that will permit the extinction of the grizzly will also permit the extinction of mankind. The motivation is an evolved irreverence for life and life systems, so deep seated in our biological past that neither human intellect, religion nor culture has yet substantially curbed it."

The Florida panther is probably one of the most endangered mammals in the world. Caught in a dangerous crossroad of the latter twentieth century, the panther's dilemma is sadly symbolic of the enormity of the problem. These few remaining creatures embody the urgency of *all* wildlife management, for no matter how abundant or seemingly stable, *all* wildlife and wildlands face an uncertain future at best. I'm reminded of the observations of the thirteenth century Spanish rabbi who observed that Noah's Ark couldn't possibly have been big enough to hold two representatives of every species. God must have worked a miracle to get them all in. Similarly, today's

wildlife managers must reckon with an ever-shrinking ark of wildlife refuge in a sea of human demands. Too often, we count the species, two-by-two, and come up with zero. No matter how we figure it, zero is the wrong answer.

Henry David Thoreau left us with an intriguing question when he stated, "In Wildness is the preservation of the world." Could he have foreseen the continuing ruination of forests, and with them wildlife habitats--the cleared-over, logged and eroded landscapes of nineteenth century New England, eventually spreading westward to include today's global cutting of nearly 1,000 acres of rain forest within the span of time that it will take for me to share these comments? Could he have imagined the forces which would drive the current rate of plant and animal extinction, where one generation could eliminate forever one tenth of the world's species, or our human overpopulation which is projected to double in our lifetime? Was his disappointment in the nineteenth century political status quo reason enough to worry for our future -- leaders and followers alike, who choose to ignore worldwide environmental disasters which await us all, regardless of gross national products? Whatever happened to the *Global 2000 Report*? And how is it that various public natural resource managing agencies are so often working to the detriment of each other's goals? Why do fundamental management priorities, coupled with the critical continuity of research efforts, have to flip-flop with the whims of political change. Even when we would seem to know better, our weakness is the same today as it was in Henry's era. He ruefully recognized the dominion of the dollar over the values in the latter nineteenth century, and so it is today, as we are destined to fail in what we do. We simply cannot hope to manage healthy wildlife populations if their habitat is to be continually assaulted by our various demands. Thoughtful and effective wildlife management requires that our agencies, universities, and independent researchers assume strong leadership roles now in a crucial, local and global resource planning process, and firmly draw the line on "development" before it is too late.

American Nobel Prize recipient for literature, William Faulkner, said, "The greatest single tragedy for mankind is a universal fear so long sustained by us that we can even bear it." In this age of the atomic bomb, there is indeed an underlying fear, confusion, and sense of hopelessness in an imperfect system. For those who attempt to serve as stewards of natural resources, ours is a double measure of pain. For every precious moment we cherish in the natural world, we spend many darker moments mourning its piecemeal destruction. We observe the destructive fulfillment of too many unfulfilling prophecies, that two, five, or ten decades from now life will be the same, that famine, war, and injustice will mar the accomplishments and hopes of the human animal, that environmental pollution and global habitat destruction will eclipse the survival of all that lives.

If there is hope at all, I'd like to believe it can be found in another prophecy articulated by the well-known

American poet, Robert Frost. He was asked to comment on the contributions of the twentieth century. He said, "About half of life can't be made a science of, can't ever be. We're going to learn a great deal more about that before we're through this period. That's what we'll be known for." Wildlife managers, caring stewards of our natural resources, can serve a larger cause. We must be humble to the task, however, for the plants and animals of the planet have much to teach us. If we listen, we find that we are stimulated in both body and spirit. Curiously, we find that we are made most human--discovering in ourselves the uniquely human capacity to appreciate and love the "wildness" of our plant and animal neighbors on the planet, to value these qualities, and to project to our caring into the future. Lest we think this an impossible dream, we have only to remind ourselves, as Aldo Leopold has, of former changing attitudes towards human slaves. This moral maturation allowed us to emotionally identify with and ultimately protect, the freedom, liberty, and pursuit of happiness, which we now recognize as the equal rights of all men, women and children. The "wildness" we love in the land and its wildlife is ultimately and, perhaps most profoundly, a way of thinking--a clue, perhaps, to understanding what Thoreau meant when he proclaimed, "In Wildness is the preservation of the world."

Where does the lion fit in? As wildlife managers, we have the privilege and responsibility of embracing an ever-enlarging vision of things, even as our specialties require fine focus. Indeed, we must be zealots of the cause, and actively seek to bridge the gap between what our culture believes in and believes that it knows, to what we will come to know, and come to believe in, in the future. We must give voice and actuality to Aldo Leopold's conservation ethic, a management which is defined by caring, a management which alone will guarantee the survival of lions and all that lives.

State and Provincial Status Reports

*Matt Peirce, Session Chairman
Wildlife Manager
Arizona Game and Fish Department
Wickenburg, Arizona*

Cougar Hunting Regulations and Harvest in Alberta Between 1973 and 1987

Martin G. Jalkotzy

P. Ian Ross

Arc - Associated Resource Consultants Ltd.

Calgary, Alberta, Canada

A cougar licence has been required to hunt the species in Alberta since 1973. Mandatory registration of all cougar kills has been in place since then. Residents, non-residents, and non-resident aliens are allowed to purchase one cougar licence per year. There are no restrictions on the number of licences sold. Bag limits have remained at 1 cougar per licence holder per year. Several changes to the cougar regulations have been adopted during the period 1973 to 1987. Season length has been reduced substantially. Between 1973 and 1977, the winter season (with dogs) was 50 to 60 days; between 1981 and 1987, it was about 30 days. The fall season (no dogs), which was between 81 and 100 days between 1973 and 1978, was eliminated in 1985. Use of all-terrain vehicles to hunt cougars was also reduced between 1973 and 1987.

An average of 30 cougars was legally shot each year in Alberta between 1973 and 1987. Variability in the annual harvest appeared to be linked to differences in snow conditions during each hunting season. Poor snow conditions led to reduced harvests, and increased snowfall usually resulted in more cougars harvested. Harvests declined during the years immediately following reductions in season length. However, harvests always rebounded the following year. Snow conditions did not correlate consistently with the harvest. In many Wildlife Management Units (WMU's), 1 or 2 years of relatively high harvests were followed by reduced harvests for at least 1 year.

The cougar harvest in Alberta is concentrated in the southern third of the foothills and mountains along the Continental Divide. Within this southern area, the harvest was very patchy; a few WMU's provided the majority of the harvest, while others appeared to be hunted less. Ease of motorized access seemed to be an important influencing factor. WMU 304/305, which is an island of cougar habitat surrounded by agricultural land, has recorded the highest harvests in the Province during the last decade. Poor snow conditions in some years in southern WMU's open to cougar hunting resulted in a redistribution of the cougar harvest to more northerly WMU's where snow conditions were better.

Between 1978 and 1987, the adult male sex-age group and the independent juvenile and subadult male sex-age group comprised 31% and 16%, respectively, of the aged harvest. In the Sheep River study area population, these same 2 sex-age groups represented about 20%

and 10% of the population. It would appear that cougar hunters in Alberta select for male cougars. The sex ratio of the harvest in WMU's 302, 304/305, and 400, the 3 most heavily harvested WMU's in the province, was different from the ratio in all other WMU's open to cougar hunting. Subadult males were shot most frequently in WMU's 302, 304/305, and 400, whereas adult females were the most often harvested sex-age group in the rest of the Province. A reduction in season length in the southern foothills led to an increased number of females taken in those WMU's. A similar reduction in season length in more northerly WMU's did not result in similar changes. These differences probably reflect the poorer snow conditions in the southern foothills and the resulting fewer opportunities to hunt cougars during a shortened season.

