

A HISTORY OF PREDATOR CONTROL
IN THE HARNEY BASIN OF SOUTHEASTERN OREGON

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Between 1976 and 1988, there were three separate predator related studies undertaken in the Harney Basin of Southeastern Oregon.

These three studies, involving Sandhill Crane production on the Malheur National Wildlife Refuge, pronghorn fawn production on the Jackass Maintains, and mule deer production on the Steens Maintains, are possibly the best combination of data thus far collected showing just how important predator control is to balanced wildlife production.

Unfortunately, even though there have been a good many of these kinds of studies completed in recent years, the information is not being made available to the public, it's being suppressed. In fact, the person, a federal employee, who saw that I received copies of the below referenced studies is still suffering the consequences of his actions.

The purpose of this summery then is two-fold. First I want the truth to be known; that it has been private agriculture and predator control and not the government that has created the abundance of wildlife we all enjoy.

And second, I want to help those that have not been directly involved understand that our opposition, those who believe that government should control all natural resources, are very serious; that they are not being honest, and will do whatever they see as necessary to achieve their goals, even if it means suppressing scientific data and spreading false propaganda against private interest.

MALHEUR NATIONAL WILDLIFE REFUGE GREATER SANDHILL CRANE PRODUCTION STUDY 1973-1983

Findings:

Predator control was an active practice on and surrounding the Malheur National Wildlife Refuge in the 1930's, 40's, and 50's, but then was reduced on the refuge during the 1960's and eliminated altogether by 1970.

During those years the Malheur National Wildlife Refuge was considered the most important migratory wildlife area in the Western United States. Ducks, geese, swans, cranes, shorebirds, and marshbirds by the tens and hundreds of thousands poured into the valley on their annual trek northward.

Greater Sandhill Cranes apparently increased after the mid-1930's as different predator control methods related to the livestock industry were developed.

(C. Sooter) reported crane nesting success was 89% in 1940.

An average of 180 Greater Sandhill Cranes successfully nested on the refuge each year making the Malheur the most important Sandhill Crane nesting area in the United States.

Declining nesting success beginning in the early 1970's resulted in the listing of the Greater Sandhill Crane as a sensitive species in 1982.

Interestingly, the decline occurred during the same period (1974-1984) that major steps were being taken to "improve nesting cover" (grazing reductions, delayed haying dates, etc.)

Studies conducted between 1973 and 1983 indicated that 45% of all Crane nests were being destroyed by predators, the most important of which was the raven followed by the raccoon and coyote.

Unfortunately predation does not stop with the destruction of nest. Radio telemetry studies in 1983 and 84 revealed that a total of 85% of all crane chicks hatched were being destroyed before fledgling stage.

In fact, Sandhill Crane production was so poor in 1973 and 1974 that only two Sand Hill Crane chicks were raised on the entire Refuge System during those two years.

Ravens

According to research done by refuge personnel, ravens were found to be abundant in Southern Oregon in the 1800's. In 1877 Bendire reported "I have seen as many as thirty [ravens] at one time, searching the manure piles or near the slaughter house for food." In a 1922 refuge report, personnel indicated that ravens were possibly 25 times more abundant than formerly.

Beginning in the late 1930's a poison control program was initiated on the refuge to control ravens. During the 1950's raven nesting sights remained largely unoccupied and population remained low through the early 1960's.

By 1974 ravens had become abundant once more on the Malheur National Wildlife Refuge. During 1977, 35 raven breeding territories had been identified on and near the Refuge. By 1982 the number had increased to 42.

In 1983, 40 raven depredated eggs were found below one raven nest.

Until that time ravens had not been suspected in chick mortalities: however, on June 7, 1985 ravens were observed attacking a small crane chick and presumably would have killed it had the ravens not been driven away.

Coyotes

Records indicate that a rabies outbreak of epidemic proportions, beginning in 1914 and lasting until about 1919, had a significant effect on coyotes, and populations remained low into the 1920's.

When populations began to recover, coyote control became an active practice on, and surrounding the Refuge in the 1930's, and with the introduction of "compound 1080" in the 1940's, populations remained low until the late 1960's.

Denning pairs of coyotes on the refuge were virtually unheard of during this period. Effective control continued on the Refuge until the mid 1960's, and continued on all areas surrounding the Refuge until February of 1972 when President Nixon issued an Executive Order eliminating the use of toxins on all Federally controlled lands.

Then from 1971 through 1981, coyotes were censused on the refuge as part of a larger effort aimed at determining the relative coyote abundance in the seventeen Western States.

For that period, 1972 through 1981 the average coyote index on the Refuge was more than double the State average.

Which is significant, in view of the fact that data obtained by the Oregon Department of Fish and Wildlife, suggest that during this same period, coyote populations in that part of Oregon had tripled since the early 1970's.

SOURCE; Draft Environmental Assessment - Alternatives to Enhance the Production of Great Sandhill Crane Production on the Malheur National Refuge., Compiled and written by David G. Poullin, Refuge biologist, July of 1985.

JACKASS CREEK
PRONGHORN FAWN PRODUCTION STUDY
1979 - 1987

Findings:

In 1979 the Oregon Department of Fish and Wildlife launched an extensive research project involving Pronghorn fawn predation.

For several years, fall composition counts (the number of fawns produced for every 100 does) had been steadily declining.

Utilizing radiotelemetry equipment (radio collars attached to newly born fawns) and various range analysis techniques, the agency set out to "determine the causes, incidence, and timing of Pronghorn fawn mortality and important habitats utilized...".

Two study areas of relatively different background were selected.

While Jackass Creek, located approximately 35 miles to the South of Burns was selected to represent typical native range with few fences and no range improvements, Bear Valley, 40 miles to the north of Burns, was selected to represent intensively managed rangeland.

Habitat was substantially different between the two areas. While the majority of land in Bear Valley is privately owned, including seven working ranches, the Jackass Creek study area was totally located on BLM administered land.

In addition, roughly 20% of Bear Valley had been seeded to created wheat and other exotic species of grass, was extensively fenced and had numerous water improvements. (Interestingly, it was found in 1981 that the pronghorn fawns in Bear Valley preferred crested wheat stands over other vegetative cover).

There were two basic conclusions to be drawn from the first phase of the study. First; it was not poor habitat conditions that was the cause of low pronghorn production, but coyotes and other predators.

It was found that ninety-one instrumented fawns died or were killed during the first 40 days of life. Coyotes accounted for 60% of the losses, golden eagles 9%, bobcats 8%, badgers 2%, unknown predators 12% and unknown causes 9%.

Second; it was clearly shown that it was on privet lands that the best fawn production occurred. Not on the governmentally managed land, like so many would like us to believe.

Fawn losses during the first 40 days of life:

Jackass Creek	94% loss in 1981	&	100% loss in 1982
Bear Valley	59% loss in 1981	&	36% loss in 1982

A second phase of the study was equally as interesting. In order to determine if range condition might be a factor in poor pronghorn production (dietary stress, as a possible factor effecting female fertility rates) 27 mature does were collected (killed), and the fetuses counted.

Of the 27 does killed, only one doe was found to be without fawn(s), or in stockmen's terms was a 96% conception rate. Which is exceptionally good, particularly in view of the fact that stockmen, recognizing that no other factor is more important to profitability than is the percent of females bred each year, believe that under normal range conditions, anything over a 95% conception rate is excellent.

It might be argued that 1981 was an exceptionally good year, or that feed conditions were above average on these two study areas, but reference is made to two other studies done in other states by H. C. Vrind and M. W. Barretts in 1978, where fetal rates were also very good, averaging 1.70 and 1.90 fawns per mature doe. So again, there is no support for the assumption that poor range condition is causing, or has caused poor fawn production.

Being situated next to the Malheur Refuge where Predator control was first eliminated may have been a factor in poor fawn production at Jackass Creek. Fall composition counts in 1981, 1982, and 1983 indicated that only 3, 2, and 3 fawns for every hundred does had been raised in those years, respectively.

This as compared to three separate studies done in Southern Oregon in the 1950's during the height of predator control when pronghorn production had averaged 111 fawns for every 100 does. (As a rule of thumb, many wildlife biologist believe that any production below 35 fawns per 100 does means a shrinking herd). Something needed to be done.

In the Spring of 1985 Helicopter gunning of coyotes was conducted in 4 passes over the Jackass Creek study area between April the 18th and May the 10th.

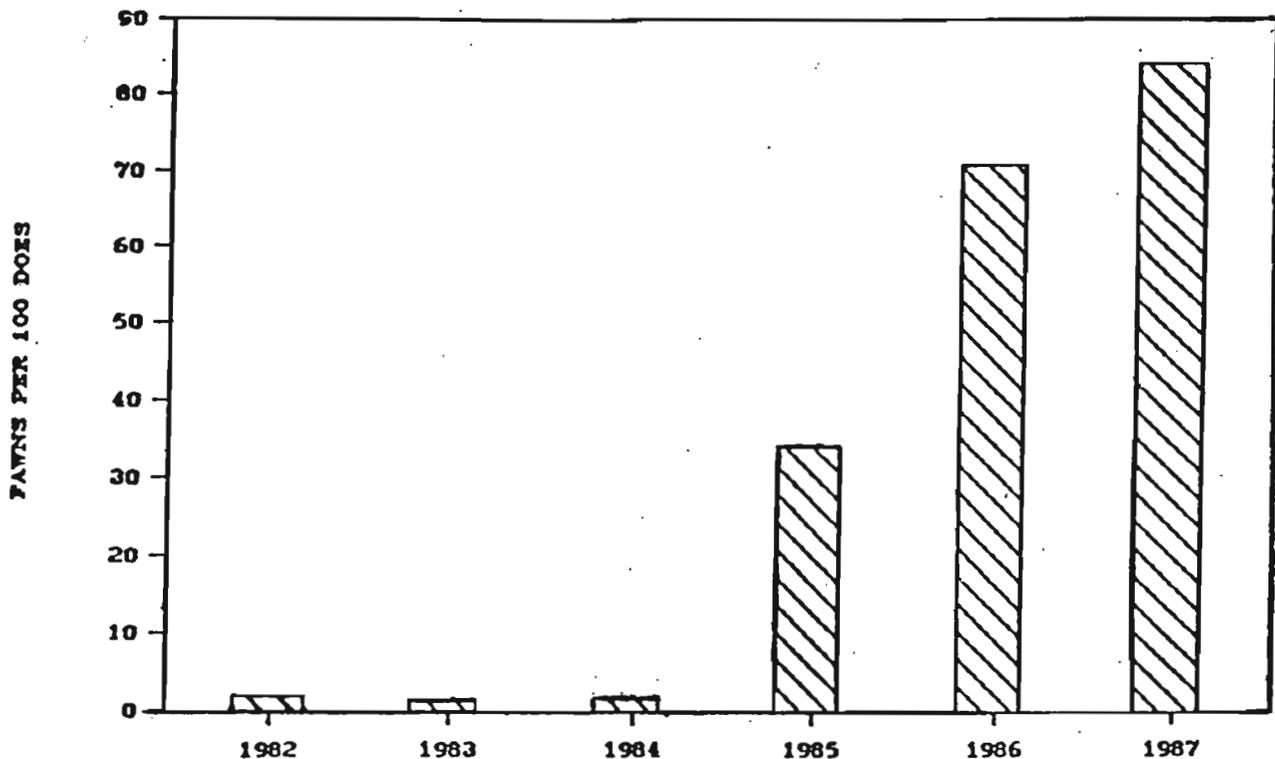
Then again in 1986 and 1987 Helicopter gunning was conducted 3 weeks prior to peak of fawn drop, and again 1 week prior to peak of fawn drop.

In addition to monitoring the effect of coyote control on Pronghorn, sage grouse production was monitored as well. For results see grafts on the following pages.

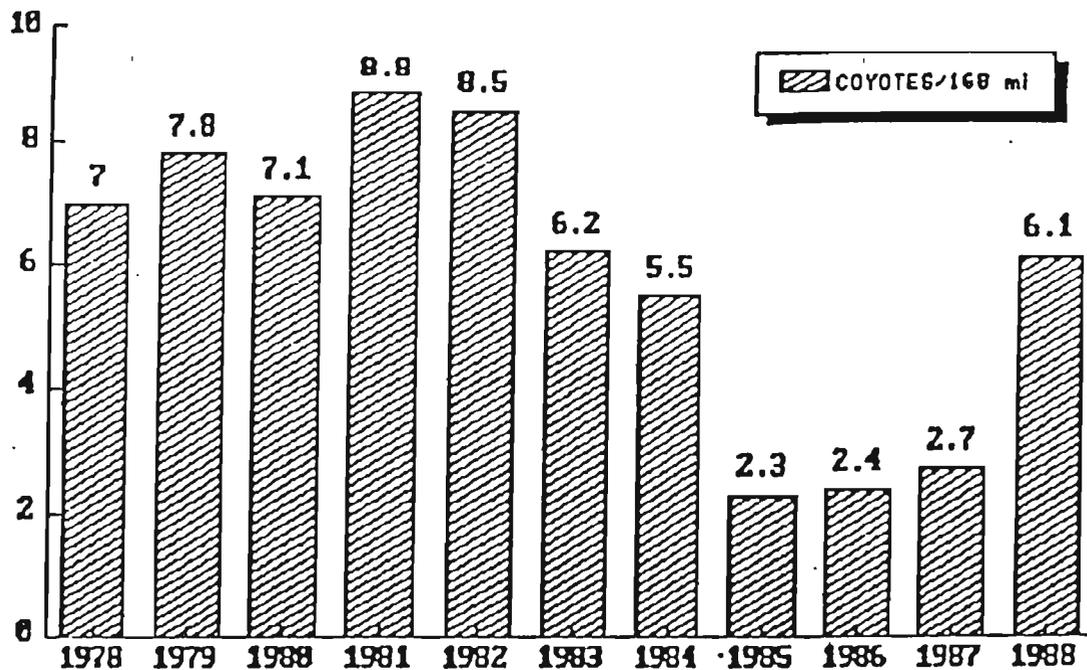
SOURCE; Fawn Mortality and Habitat use Among Pronghorn During Spring and Summer in Southeastern Oregon, 1981-82, Wildlife Research Report Number 12, Research Division, Oregon State Game Commission.

Late June composition counts conducted at Jackass Creek Study Area in 1982, 83, and 84, indicated only 3, 2, and 3 fawn raised for every 100 does, respectively. When coyote control was implemented in 1985, 86, and 87, production increased to 35 fawns per 100 does in 1985, 72 fawns per 100 does in 1986, and 84 fawns per 100 does in 1987. (Average pronghorn fawn production in southern Oregon in the 1950's, during the height of predator control, by three separate studies, was 111 fawns for every 100 does).

ANTELOPE



SOURCE: The above information were obtained from an ongoing "Wildlife Research Project - Sub-Project: 258" by the Oregon Department of Fish and Wildlife.



Procedure: Helicopter gunning of coyotes was conducted in 2 sessions approximately 12 hours each over Jackass Creek study area, 1985-87. The first session was flown 3 weeks prior to the peak of fawn drop (Apr. 20 May), and the second was flown 1 week prior to peak. Each session was comprised of 2 flights- one east to west, and one west to east. Flying was restricted to early morning and late evening hours.

SAGE GROUSE

	<u>1984</u>	<u>1985</u>	<u>1986</u>
Chicks/100 Hens	13	109	245
Chicks/100 Adults	6	61	70
Chicks/Brood		3.0	3.8
Broods/Hen		0.36	0.57

These data indicate that grouse production at Jackass Creek was extremely low in 1984, much higher in 1985, and higher still in 1986. Comparing 1985 and 1986, there were more chicks per brood, indicating a lower loss of young chicks, and more hens with broods, possibly indicating a lower nesting loss.

Summary of studies completed in other states

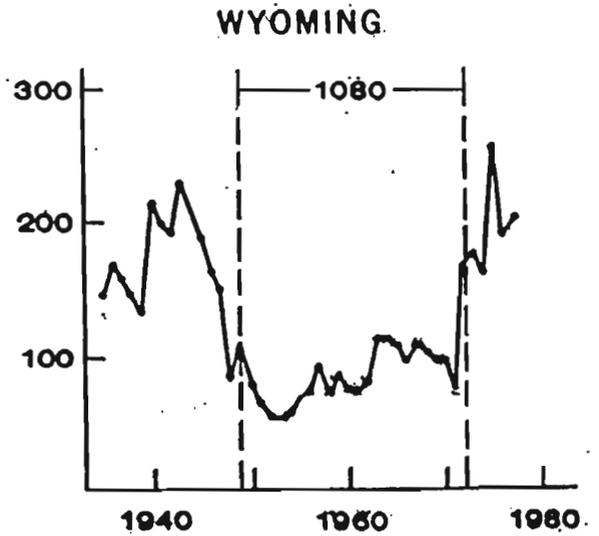
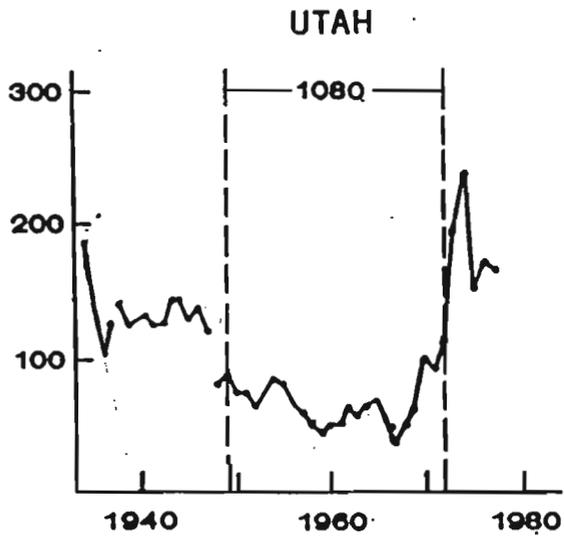
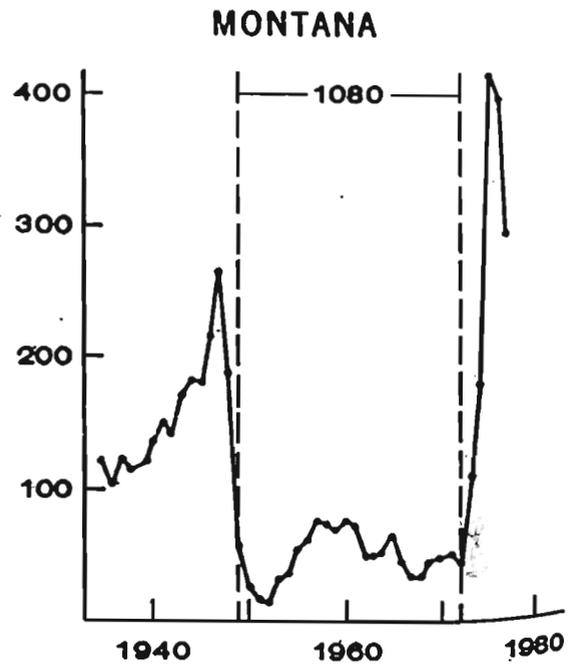
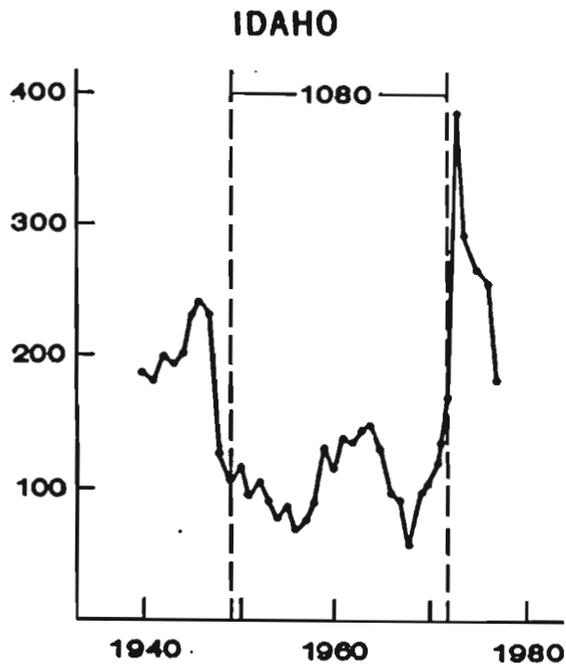
Table 34. Summary of rates and causes of fawn mortality during summer among various pronghorn populations.

Location and Date	Mortality Rate	Timing of Mortality	Major Causes of Mortality
5) Nevada, Sheldon Wildlife Refuge; 1978, 1979 (McNay 1980)	59%	90% of loss in 3 weeks	88% of loss-coyote/coyote involved.
6) Idaho, Upper Pahsimeroi R. drainage; 1976-78 (Bodie 1979)	59%	92% of loss in 2 weeks.	30% of loss - Eagle 17% - Coyote 9% - Bobcat 26% - Disease or starvation
7) Idaho, Road Cr.-Challis; 1978-80. (Autenrieth 1982)	61%	100% of loss in 3 weeks.	29% of loss - Eagle 25% - Coyote 11% - Bobcat
8) Utah, Desert Experiment Range; 1967-1971 (Beale and Smith 1973)	42%	42% of loss in 4 weeks; mortality continued throughout summer.	61% of loss - Bobcat 2% - Coyote 2% - Eagle 23% - Disease, starvation, injury.
10) Montana, National Bison Range; 1977. (Von Gunten 1978)	86%	81% of loss in 3 weeks,	72% of loss - Coyote or coyote involved. 17% - Bobcat 6% - Eagle
11) Montana, National Bison Range; 1978. (Cornell 1980)	60%	94% of loss in 3 weeks.	17% of loss - Bobcat 17% - Coyote or coyote involved 11% - Eagle 17% - Unknown predator
12) Alberta; 1971-1976. (Barrett 1978)	56%	63% of loss in 3 weeks. 78% of loss in 4 weeks.	96% of loss - Predation by coyotes or bobcats.

The above data was taken from Wildlife Research Report No. 12 - Fawn Mortality and Habitat use among Pronghorn.

Annual Coyote Population Trends

Relative effects of "compound 1080" on coyote populations



STEENS MOUNTAIN
MULE DEER STUDY, 1969 - 1977

Findings:

To determine causes for heavy mortality of mule deer fawns on the Steens Mountains, fawns were captured at 1 to 14 days of age, and again at 6 months of age, outfitted with transmitter collars, and monitored at 3 to 5 day intervals. Predators, primarily coyotes were found to be the primary cause of mortality.

Initially, in 1969, the Oregon Department of Fish and Wildlife had sighted logging, excessive access, declining range condition, human harassment and increased poaching, all as contributing factors.

In order to address these alleged problems a road closure program was initiated in 1973, on three different hunting areas, and one winter range, totaling 187,776.

Then in 1975 the road closure program was expanded to include twelve mule deer hunting areas and two winter ranges totaling 1,069,190 acres.

Fortunately, during this same period the study mentioned above, to determine the effects of predation on Mule Deer production was well underway.

The study found that fetal rates were normal, averaging 131 fetuses per 100 does, (a clear indication that it was neither poor range condition nor human interference that was causing poor production.)

The ratio of fawns to does dropped dramatically to 86 fawns per 100 does by September, 43 fawns per 100 does by December and 29 fawns per 100 does by March. Average mortality for the first 9 months of life was 78 percent. 83% of the loss was contributed to predation (83% percent of the predation was attributed to coyotes).

Aerial coyote control was began on selected winter ranges in January 1976 where fawn survival had been the lowest.

Preliminary evaluation of the control program (as of 1977) indicated a 13% fawn loss on the areas where coyotes had been reduced in number, as compared to a 65 percent loss on the remainder of the mountain.

SOURCE; Direct Causes of Mortality in Mule Deer Fawns During Summer & Winter Periods on The Steens Mountains, Oregon.-A Progress Report, by Charles Trainer. --- and --- Recent Changes In Oregon's Mule Deer Population and Management, by Paul N. Ebert.