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A Review of the Bounty System as a Method of Controlling Undesirable Animal Populations in Houston County, Minnesota (1883-1965)

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ABSTRACT — The bounty system has been in effect for 82 years in Houston County, Minnesota. Over $170,000 in bounties have been paid during that time for wolves, foxes, rattlesnakes, pocket gophers, striped gophers, woodchucks, and crows. Over 7,000 rattlesnakes have been bountied in a single year. A family of semi-professional bounty hunters collected 2,511 rattlesnakes in one year. With the possible exception of wolves, the bounty system has had little apparent effect in controlling animal populations in Houston County. Habitat change has been primarily responsible for the decrease in numbers of wolves and for the rapid increase in numbers of red fox and deer.

The practice of paying bounties in North America has a long history. According to Omand (1950), it was considered a necessity to pay bounties on wolves as early as 1683 in Pennsylvania. Black (1954) reported that bounties were paid on gray squirrels in Pennsylvania as early as 1749.

Under the bounty system, people are paid to kill or capture animals that have been deemed undesirable by various governmental bodies. Payments are made when specified parts of the animal, such as the pelt, head, feet, or ears, are presented to an appointed official.

Originally, the bounty system was initiated to eliminate predators, agricultural pests, and dangerous species. Payments are made on the presumption that bounties will encourage hunters and trappers to aid in the control of noxious species. Over the years, however, this original concept has been altered numerous times. Bounties have been continued in many areas as a means of distributing money to the poor. Some individuals feel that bounties should be continued because they provide an effective way of keeping young people occupied and, at the same time, increasing their financial independence. Whatever the reasons may be, they appear to have been sufficient to keep bounties of some type active in most states.

Professional conservationists generally agree that bounties are relatively ineffective in reducing numbers of predators. Kimball (1964) stated that professional conservationists are not opposed to the bounty system because they like predators — nor do they claim that predators do not eat game — but because the bounty system is a waste of money: it does not control the predator population.

Most biologists today believe that bounties skim off the excess predators every year and leave the remainder to produce a new crop; the result is good predator management but not control. Balser and Moyle (1958) substantiated these points by revealing that in Minnesota, after bountying foxes for 20 years, there is no indication that we now have fewer foxes.

The Bounty System in Houston County

Houston County is the most southeastern county in Minnesota. The majority of information on the bounty system in Houston County was obtained from court house records; which included bounty claim records, auditor reports, auditor warrants and receipts, and minutes from meetings of the County Board of Commissioners. Approximately 240 hours were spent obtaining, examining, and compiling the available data (Munkel, 1965).

According to court house records, the State of Minnesota first paid bounties on wolves during the year 1893. The records also reveal that Houston County made payments on wolves as early as 1883, and fox bounties were initiated in 1932. Bounty was paid on gray fox only, however, until the year 1944. Bounty was imposed by the county on rattlesnakes in 1934, and on pocket gophers, crows, or woodchucks in 1942. Bounties on the latter four species are not state supported. All of the aforementioned county-supported bounties were still in...
effect in 1966. In July 1965, the State of Minnesota ceased paying a share of fox and wolf bounties, which it had paid for many years.

Generally, the persons concentrating in the bountying of one species of animal are also active in the bountying of other species. Certain families in Houston County have been very proficient bounty hunters from one generation to the next. Five members of one family have been active in the bountying of wolves, fox, and other species of animals for over 60 years.

**Striped Gopher Bounties**

A 5-cent bounty on striped gophers (*Citellus tridecumlineatus*) was initiated during 1957 in Houston County and remained constant through the year 1963. From 1957 to 1963 inclusive, 5,158 striped gophers were bountied at a cost of $255.90 to the county. Approximately 1,000 striped gophers were bountied during the peak year of 1958. This number is small, however, in view of the apparent striped gopher populations in Houston County.

**Crow Bounties**

Houston County first paid a 10-cent bounty on crows (*Corvus brachyrhynchos*) in 1944 and continued it until 1957, when it was raised to 25 cents. A total of 2,972 crows were bountied from 1944 to 1963 at a cost of $563 to the county.

From 1944 to 1962 the number of crows bountied remained relatively small, rarely rising above 200. In 1963, however, the number rose to 700. This acute rise can be attributed mainly to the efforts of one man who, during the months of April and May, bountied 314 crows.

**Woodchuck Bounties**

Woodchuck (*Marmota monax*) bounties began in 1944 in Houston County. A 15-cent bounty remained in effect until the year 1957 and then was raised to 25 cents. Between 1944 and 1963 inclusive, 5,675 woodchucks were bountied at a cost of $1400.70.

It appears that woodchucks, as in the case of striped gophers and crows, are bountied as a matter of convenience rather than as a purposeful effort. The records indicate that these animals usually were bountied in small numbers as compared to the large numbers of pocket gophers, that were bountied. One exception to this pattern occurred during the peak year of 1958 when a total of 1,064 woodchucks were bountied; of that number, one man was responsible for bountying 130 woodchucks.

**Pocket Gopher Bounties**

Bounty was first paid on pocket gophers (*Geomys bursarius*) in Houston County during 1944. A 5-cent bounty was levied and it remained in effect until 1957 when the county-supported payment was raised to 10 cents. Some townships, however, supplemented the county payments with additional monies.

During the years 1944 to 1963 inclusive, 207,403 pocket gophers were bountied at a cost to the county of $16,419.15. The number of pocket gophers bountied increased sharply from 1955 to 1957 because of the townships' supplements during these years. A sharp decrease in the number of pocket gophers bountied occurred during 1959, which may be attributed to a sudden increase in the use of poisons and toxic gases in Houston County. Many farmers used them as a method of control until they generally proved to be ineffective and expensive.

One man trapped gophers professionally. For several years he annually trapped over 2,000 gophers and occasionally in excess of 3,000. In addition to the county — and township — supported payments that ranged from 10 cents to 25 cents each, he also received compensation from the farmer on whose land the pocket gophers were trapped.

A detailed, yearly analysis of the statistics on bounties for striped gophers, crows, woodchucks and pocket gophers has been presented elsewhere (Munkel, 1965).

**Rattlesnake Bounties**

Rattlesnake bounties of 50 cents were first levied during 1935, and in 1955, the bounty was raised to $1.00. From 1935 to 1963, 60,179 rattlesnakes were bountied at a cost of $45,403.50 to Houston County.

One family, responsible for bountying 2,511 rattlesnakes during 1959, bountied in excess of 7,300 rattlesnakes during a 4-year period from 1958 to 1961.

Figure 1 reveals that the number of rattlesnakes bountied dropped very sharply after the year 1941. It is common knowledge among the residents of the area that timber rattlers descend into the valleys during the time of drought and are thus more frequently captured. We feel that the low numbers of snakes bountied during the years 1942–1953 may have resulted principally from wet years, hunters entering the service, and lack of interest because of a 50-cent payment. A sharp increase in numbers bountied occurred in 1955 when payment was increased to $1.00. One factor that may have a bearing on the decreased number of snakes bountied in recent years is that rattlesnakes now are often sold to snake farms where the snakes are milked for their venom.

The timber rattler (*Crotalus horridus*) is the most common rattlesnake in Houston County. The massasauga, or swamp rattler (*Sistrurus catenatus*) is occasionally collected in the Mississippi River bottoms, however.

**Wolf Bounties**

In Houston County, wolf bounties of $3 each were initiated during 1883. Payments varied considerably until 1957 when the bounty was set at $35 per animal. During the years 1883–1947, 3,380 wolves were bountied and $25,508 was spent for their removal.

The number of bountied wolves attributed to one hunter was usually one or two and rarely three. On one occasion, however, an individual was responsible for bountying 24 wolves in one year (1926) and a total of 69 during a period of six years (1924–1929). After 1919, the number of wolves bountied decreased steadily until 1937.

Coyotes are now extremely rare in Houston County. Although there is no record of a coyote (*Canis latrans*) ever being bountied as such in Houston County, it seems...
logical to assume that most "wolves" bountied in this region in recent years were actually coyotes, which are commonly called "brush wolves" in this area. The timber wolf (*Canis lupus*) probably occurred in the area when the settlers first came, but these animals are presently confined to the northern part of the state (Gunderson and Beer, 1953).

**Fox Bounties**

Houston County introduced fox bounties in 1932. Bounty was paid only on gray fox (*Urocyon cinereoargenteus*) because red fox (*Vulpes fulva*) were considered to be relatively scarce and not a threat to game populations. Bounties on red fox appear in the records for the first time in 1944.

In 1932, the bounty per fox was $1 and varied from $1 to $4 during 1932–1963. During these years 28,325 fox were bountied at a cost of $86,946. The largest number of fox bountied by one individual occurred in 1958 and was 478 fox.

Figure 2 reveals a sigmoid curve, which indicates that the fox population was relatively stable from 1932 to 1942 and increased sharply from 1942 to 1949. Since 1949, the fox population seems to have remained relatively stable and subject to minor fluctuations that suggest alternate years of abundance. These deductions rest, of course, on the premise that the number of animals bountied is indicative of population density.

It seems likely that the fox has filled the ecological niche left vacant by coyotes and wolves. The latter animals were the dominant predators in Houston County until civilization, habitat change, and hunting pressure caused their withdrawal. With the disappearance of wolves and coyotes in this area, the number of fox increased rapidly but then became relatively stable as environmental resistance increased. Factors such as space, intraspecific strife, food supply, cover, hunting pressure, and disease effectively determine the carrying capacity of the range for most game species. The carrying capacity of the range for foxes in Houston County seems to have been reached. This carrying capacity is the equilibrium point beyond which major population increases of foxes are unlikely to occur unless the environmental resistance factors are modified. In comparison with the previous coyote and wolf populations, foxes are obviously more abundant. It seems apparent that one fox cannot fill the predator gap left by one wolf or one coyote.

Habitat change has probably had the most significant
effect in changing the large predator population of Houston County from wolves and coyotes to foxes. Houston and Winona Counties, which lie in extreme southeastern Minnesota, were originally prairie. Elk and bison were common but deer were rare (Pike, 1811). The forests of the area were confined to the Mississippi River bottoms, the deep tributary valleys, and the north facing sides of the bluffs. Even large expanses of the Mississippi River flood plain in the Winona, Minnesota, and La-Crosse, Wisconsin, areas were grassland (presumably due to fire). As he travelled up the Mississippi River in this area, Pike (1811:48) wrote,

... the shores are more than three-quarters prairie on both sides, or more properly speaking, bald hills, which, instead of running parallel with the river, form a continual succession of high perpendicular cliffs and low valleys ... but this irregular scenery is sometimes interrupted by a wide extended plain, which brings to mind the verdant lawn of civilized regions, and would almost induce the traveller to imagine himself in the centre of a highly cultivated plantation.

The first settlers modified the habitat by cutting the the forests from the hillsides and using the cleared hill-sides for grazing. The hillsides were burned regularly to maintain pasturage (Holzinger, 1913). The principal crop in the early days was wheat, which was shipped to market; as better transportation and modern machinery were developed, the principal crop became corn, which is fed to pigs.

Most hillsides have been taken out of grazing now and are reforested as the result of modern conservation practices, fire control, and a lessened need for wood as fuel.

Thus, the habitat of Houston County has been changed in the last 100 years from a virgin prairie area, to a prairie and wheat area, and finally to an area that is essentially one of corn and forest. The writers feel that this habitat change and the increased pressures of civilization were sufficient to change Houston County from wolf and coyote habitat to fox habitat.

The aforementioned habitat change has apparently also benefited the white-tailed deer (*Odocoileus virginian-us*). This species was rare in Houston County as recently as 1930. The increase in the deer population has paralleled that of the fox in recent years. Deer are now important game animals in southeastern Minnesota.

With the possible exception of wolves, the bounty system has had little demonstrable effect in controlling predatory animals in Houston County. In examining the
number of crows, woodchucks, and ground squirrels bountied, it is evident that the bounties were not appreciably significant in determining the populations of these animals. Greater numbers of foxes, pocket gophers, and rattlesnakes have been bountied, but this more concentrated effort resulted in no apparent population decreases. Habitat alteration and the encroachment of civilization have been responsible for the replacement of wolves by foxes.

The total cost of the bounty system in Houston County for the years 1883 to 1963, inclusive, was $170,751.50. This figure includes the recognized state and county-supported payments but does not include the additional payments endowed by townships or individual farmers.

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