March 1995

COYOTES IN THE ROLLING PLAINS OF TEXAS

Wyman P. Meinzer
Benjamin, TX

COYOTES IN THE ROLLING PLAINS OF TEXAS

WYMAN P. MEINZER, JR., P O. Box 195, Benjamin, TX 79505

Abstract: Coyotes (*Canis latrans*) in the Rolling Plains region of Texas have experienced several factors in the last 40 years that may have possibly influenced population dynamics and feeding niche. The 3 most important changes were (a) the demand for coyote pelts during the 1970s, (b) a region-wide growth of the stocker cattle industry and (c) the increasing incidence of sarcoptic mange. The availability of stocker cattle carcasses may be providing a source of dependable food during a previously stessful period, thus inflating coyote survival and abundance superficially relative to traditional cow/calf ranching areas Sarcoptic mange has been present in Rolling Plains coyotes for about 10 years and appears to be depressing the abundance of coyotes in this region.

Over the last 40 years, the Rolling Plains coyote has experienced perhaps some of the most dramatic changes within its environment since the turn of the 20th century. Since the inception of government-funded predator control shortly after the turn of the century until 1965, coyote populations within most counties in the Rolling Plains were harvested heavily by state- and county-funded animal damage control agents. Since 1965, many counties have discontinued concentrated control efforts, specifically the ranches around and in Knox county of which I am most familiar. With the exception of private hunting efforts, and sport shooting from private aircraft, some areas of the Rolling Plains experienced little to no control efforts for the next 10 years

For the first 4 or 5 years after 1965, Knox County experienced a progressive increase in coyote abundance on a 500,000-acre area of rangeland under my observation. In about 1970, the population seemed to level off, with a large percentage of coyotes harvested for study showing an average age of about 4 years.

According to interviews with old timers in the region, during this 5 or so year period, coyote habitat and food sources were consistent with those dating back about the last 40 years.

Increased pelt demand

In 1974 a dramatic change occurred which, for the remainder of the decade, would affect the Rolling Plains coyotes' population dynamics significantly With the value of fur prices escalating throughout the entire state, for the first time in about a decade, the Plains coyote again faced heavy harvest pressure in almost every area in the region.

Age-class data collected from about 1,000 coyotes over a 5-year period suggested a significant drop in the Rolling Plains population density from 1974.

Stocker cattle industry

Also in the mid 1970s, ranching practices in the Rolling Plains began a slow transition away from the historical cow/calf operations. Winter grazing of stocker cattle on wheat pasture became popular and cost effective, thus significantly reducing a ranching practice (i.e , cow/calf enterprises) which had been this region's norm since the late-1800s.

The historical cow/calf operations had effectively offered the coyote a consistent environment for many decades throughout the Plains. Although the coyote was rarely a serious threat to livestock on the ranches subject to my observations, it is common knowledge to most students of coyote behavior that coyotes gravitate to cattle herds throughout the year. With many operations reducing their mother cow herds, and resting pastures until the fall stocking period, coyotes seemed to emigrate away from those ranches maintaining the old cow/calf operations and onto the areas developing the new stocker operations.

With the decline of hunting pressure from private fur hunters in about 1980, population levels soon peaked, confirming this possible new trend in coyote dispersal. Although coyotes continued to maintain a visible presence around calving grounds, by late- fall and early-winter, coyote abundance

appeared to have increased dramatically on the ranches with stocker cattle. This phenomenon appears to parallel the activity of wolves in the last days of the buffalo slaughters in the late-19th century. With carcasses available at every turn, a superficially high population of wolves would congregate around the main killing grounds.

On stocker cattle ranges, as many as 10,000 head of cattle are placed on relatively small acreages of land. This stock density, coulped with an average death rate of about 2%, yields many tons of beef for coyotes during the inclement winter months. This appears to result in a superficially high concentration of coyotes throughout the winter season on rangeland which would previously have harbored a fraction of the number With almost all ranchers and farmers in the Plains region now involved, to some degree, in the stocker program, it is plausible that the population dynamics of the Plains coyote has been affected greatly during the last 20 years.

This change in the overall environment for the Plains coyote could be responsible for some unexplained phenomena which seem to be occurring presently. During the past decade, a significant increase in white-tailed deer (*Odocoileus virginianus*) numbers has been observed in the Knox County region. My own personal observations seem to verify this as have interviews with game wardens and ranchers from throughout the region. It is conceivable that, with an almost inexhaustible meat supply (steer carcasses) available throughout a stressful time of the season, coyotes in this region may may be altering natural prey selection, e.g., white-tailed deer.

Sarcoptic mange

On the flip side, this "draw station" effect could be one reason why the Plains coyote has suffered so greatly during the past 9 years since the appearance of sarcoptic mange in north Texas. Dr. Dan Pence, Texas Tech University, informed me in the late-1970s that sarcoptic mange was spreading northward out of Mexico. He predicted its appearance in the Plains within a few years. I first observed mange in the Rolling Plains in 1986.

From harvested animals and observing incidental cases, I estimated the mange incidence in 1986 at 25% for coyotes in Knox county. It has increased steadily each year, and as of 1994, my estimate of incidence rate stands at about 80% With very little hunting pressure in the areas of my observations and fewer coyote sightings evident, mange seems to have reduced the overall coyote population in the Rolling Plains by as much as 50%. Congregating coyotes around cattle carcasses on ranches with stocker cattle could be of importance when considering the rapid spread of mange in north Texas.