

Plains Spotted Skunk Pelt Purchase Trends in the Ozarks and Ouachitas, 1943-1990

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Running Title: Plains Spotted Skunk Purchase Trends

The plains spotted skunk (*Spilogale putorius interrupta*) was previously considered a common animal across much of the central United States. However, this subspecies has undergone a severe population decline and the current rarity of this subspecies has led to it being petitioned for protection under the Endangered Species Act (Gompper and Hackett 2005, U.S. Fish and Wildlife Service 2012). While difficult to find across most of its range, it can still be found, though uncommon, in the Arkansas Ozarks and Ouachitas (Hackett *et al.* 2007; Lesmeister *et al.* 2009; Perry *et al.* 2018; Sasse and Gompper 2006; Sasse 2018).

The Arkansas Game and Fish Commission requires buyers of fur pelts to report on the number and species of pelts purchased each year and records from 1943-1990 were summarized by region. Pelt purchases from the Delta and Gulf Coastal Plains as well as all post-1990 spotted skunk pelt purchases were negligible and are not included (Sasse and Gompper 2006). Data on spotted skunk pelt purchases in the Ozark Plateau region of Missouri is from Sampson (1980). In order to allow for comparisons across regions data was standardized to harvest/1000 square kilometers (Figure 1).

Purchases in all three regions were relatively high in the 1940s but began a steep decline in the Missouri Ozarks in the mid-1940s and in the Arkansas Ozarks and Ouachitas in the early 1950s. While purchases in the Missouri Ozarks continued to decline slowly the Arkansas Ozarks saw a modest recovery in the early 1960s and in the mid-1970s nearly returned to 1940s harvest levels. Curiously, there was no increase in Ouachitas purchases in the mid-1960s however it too returned to 1940s levels in 1978. Although Missouri Ozarks purchases increased 460% from 1971 to 1974 it was still much lower than seen in earlier years.

Arkansas spotted skunk pelt purchases have been shown to be dependent on pelt price and these spikes in purchases occurred in years with higher spotted skunk values (Sasse and Gompper 2006), however, in other states this relationship with price has not always been as strong, especially in recent decades as harvest has

become incidental to take of other species (Clark *et al.* 1985; Gompper and Hackett 2005; Sasse 2018; Sasse and Gompper 2006).

Like other mountainous areas of spotted skunk range, total pelt purchases in these regions of Arkansas and Missouri were relatively small. The increased trapper effort associated with high fur prices in the 1970s did not result in similar increases in spotted skunk harvests in formerly-prairie lands that had been converted to agriculture and that previously had extremely dense spotted skunk populations (Gompper and Hackett 2005). Since fur purchases in the Ozarks and Ouachitas in the mid-1960s and 1970s were similar to those observed in the 1940s, and lacking any other data upon which to assess spotted skunk population trends, this suggests that populations in these regions did not decline from the 1940s through the 1970s as they did elsewhere (Gompper and Hackett 2006).

A significant amount of research in recent years has focused on similar ecosystems (Wilson *et al.* 2016; Thorne *et al.* 2017; Sprayberry and Edelman 2018), but may not be particularly useful in illuminating the causes of, or solutions for, declines seen in Oklahoma, Kansas, Iowa, and northern Missouri. Their current rarity may therefore represent their historic status and implies that the factors, which are not well understood, that allowed very dense populations to develop in the Great Plains in the first half of the 1900s are not relevant to mostly forested mountain regions such as the Ozarks and Ouachitas.

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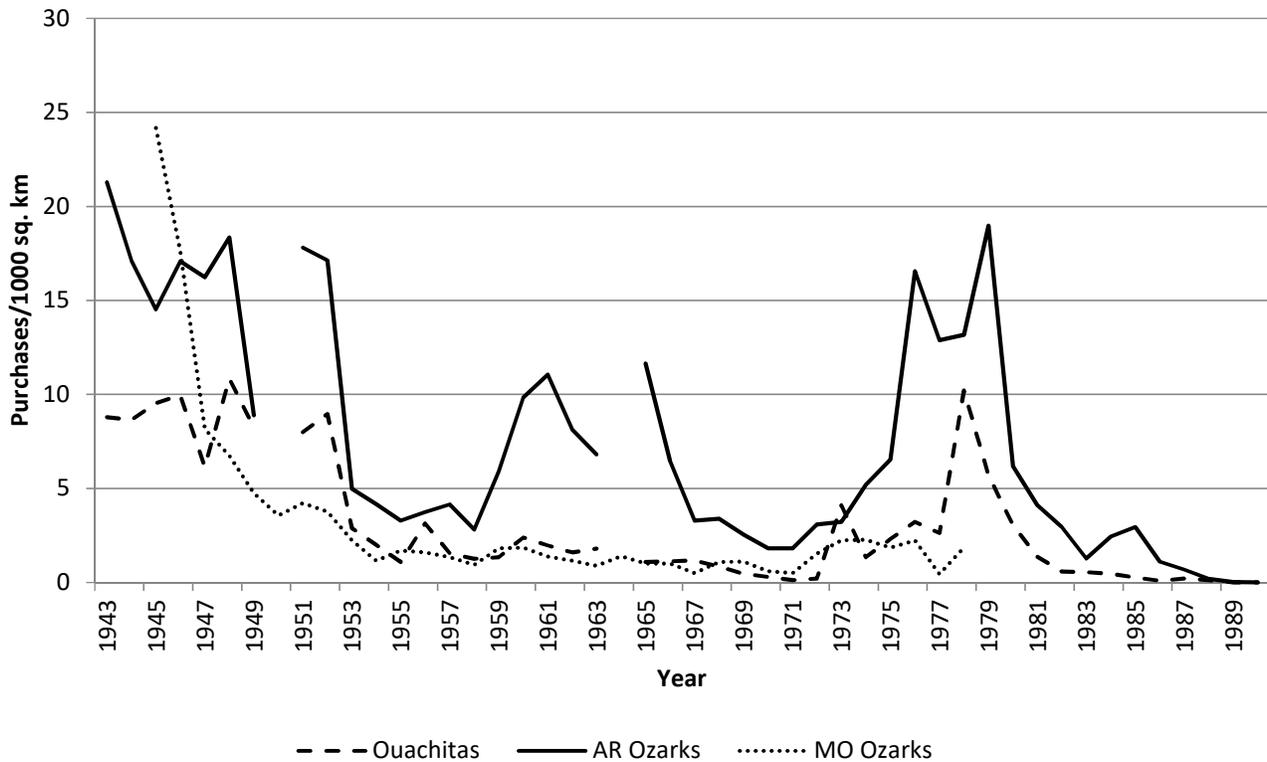


Figure 1. Spotted Skunk Pelt Purchases by Region, 1943-1990.