Journal of the Arkansas Academy of Science

Volume 72 Article 34

2018

# Incidental Captures of Plains Spotted Skunks (Spilogale putorius interrupta) By Arkansas Trappers, 2012-2017

D. Blake Sasse

*Arkansas Game and Fish Commission*, blake.sasse@agfc.ar.gov

# Incidental Captures of Plains Spotted Skunks (*Spilogale putorius interrupta*) by Arkansas Trappers, 2012-2017

D.B. Sasse*

*Arkansas Game and Fish Commission, Mayflower, AR 72106*

*Correspondence: blake.sasse@agfc.ar.gov

Running Title: Incidental Captures of Spotted Skunks

The Plains spotted skunk (S*pilogale putorius interrupta*) has historically been found between the Mississippi River and the Rocky Mountains in the central United States (Sasse 2017). Since the 1940s there has been a severe population decline due to causes, possibly including overharvest, that have yet to be conclusively determined which resulted in the filing of a petition to the U.S. Fish and Wildlife Service to list this subspecies as endangered in 2011 (Gompper and Hackett 2005, U.S. Fish and Wildlife Service 2012). Although considered a species of greatest conservation need in Arkansas (Fowler 2015), the harvest of spotted skunks is legal during the regulated trapping season. The species is rarely targeted by trappers and the commercial harvest of spotted skunks has essentially ended (Sasse and Gompper 2006). The purpose of this study was to determine the extent to which the plains spotted skunk is incidentally captured by trappers targeting other species.

Following the conclusion of the 2012-2016 Arkansas trapping seasons, surveys were distributed to everyone who obtained resident and non-resident trapper permits. For the 2012 and 2013 seasons, paper forms with postage-paid return envelopes were mailed to trappers while for the 2014 through 2016 seasons links to an internet-based survey portal were emailed to all permitted trappers with email addresses and paper forms were mailed to those that did not respond to the electronic survey or for whom no email address was available. Both the paper and electronic surveys requested that trappers report the number of nights trapped, the average number of traps set per night, and the county in which any spotted skunks were captured that season.

Post-season survey response rates were 37-46% and 49-65% of respondents reported setting traps each year. Data is reported solely from those that responded to the survey and does not represent an estimate of statewide trapping effort or spotted skunk harvest.

Trappers that reported spotted skunk captures were mailed a follow-up survey requesting additional information including the type of trap, bait, and lure used and were provided with physical descriptions and photographs of spotted skunks and striped skunks (*Mephitis mephitis*) to aid in confirming the species captured. Trappers were requested to submit photographs of these captures when available. Information obtained from six trappers that captured spotted skunks were excluded as they were not relevant to analysis of the impact of recreational trapping seasons; three were attempting to capture nuisance skunks, one was targeting spotted skunks in particular for taxidermy purposes, and two were attempting to capture rabbits and were not actively trapping furbearers.

Trap nights were calculated by multiplying the number of traps set and days trapped for all trappers that responded to this question. If a range of traps or dates was provided, the lesser number was selected for analysis. A few respondents reported trapping more days than were open during recreational seasons, primarily those involved in nuisance beaver and coyote control which can be conducted year-round, and their answers were adjusted to the maximum allowable number of recreational trapping days.

From 2012-2017 a total of 132 trappers that were targeting other species reported capturing spotted skunks. Based upon the follow-up survey, 42 reports of spotted skunk captures were confirmed from trappers that caught a total of 60 spotted skunks. The remaining 90 reports represent trappers that made a mistake while filling out the survey form, reported that they actually caught striped skunks or did not respond to the follow-up survey.

Incidental captures were rare; only 0.35-1.29% of trappers each year caught spotted skunks (Table 1). During the study period confirmed captures came from 32 trappers that caught 1 skunk, 1 trapper caught 2 skunks in 1 season, 5 trappers caught 1 skunk each in 2 seasons, 1 trapper caught 1 skunk in 1 season and 3 in another season, and 1 trapper caught 1 skunk in 1 season and 11 in another season. The unusual capture of 11

Table 1. Trapping effort and incidental capture of spotted skunks in Arkansas, 2012-2017.

| Season | Season Length (days) | Permits Issued | Survey Respondents That Trapped This Season | Reported Trap Nights | Confirmed Spotted Skunk Captures | Survey Respondents that Trapped and Had Confirmed Captures (%) |
|---|---|---|---|---|---|---|
| 2012 | 111 | 4,369 | 1,086 | 1,008,270 | 14 | 14 (1.29) |
| 2013 | 112 | 5,457 | 1,307 | 1,057,396 | 26 | 14 (1.10) |
| 2014 | 113 | 5,590 | 1,428 | 887,089 | 6 | 5 (0.35) |
| 2015 | 114 | 5,044 | 1,163 | 593,013 | 6 | 6 (0.52) |
| 2016 | 109 | 4,526 | 960 | 451,687 | 8 | 8 (0.83) |

individuals in 1 season was by a trapper that had been targeting bobcats with a homemade bobcat lure containing spotted skunk scent glands.

The spotted skunk was found throughout much of the state as recently as the late 1990s and early 2000s (Sasse and Gompper 2006), although recent records outside the Ozarks and Ouachitas are rare except for a spotted skunk that was hit by a car in Hempstead County in the spring of 2016 (Arkansas Game and Fish Commission, unpublished records). The region of capture was determined for 59/60 skunks and they were caught primarily in the Ozark (31) and Ouachita (26) regions with only two from the Gulf Coastal Plain and none from the Delta even though most reported trap nights over these five seasons came from the Delta (31.4%) and Gulf Coastal Plain (27.1%) with less reported effort in the Ozarks (25.1%) and Ouachitas (16.5%)(Figure 1).

The species being targeted in 71% of the traps that captured spotted skunks and for which the target species is known were bobcat (*Lynx rufus*) (20), raccoon (*Procyon lotor*) (18), and a combination of bobcat and raccoon (3). Other target species were fox (*Urocyon cinereoargenteus* or *Vulpes vulpes*) (4), fox and bobcat (4), bobcat and coyote (*Canis latrans*) (2), raccoon and fox (2), bobcat, fox, and coyote (1), bobcat, fox, and raccoon (1), raccoon and opossum (*Didelphis virginiana*) (1), coyote (1), and mink (*Mustela vison*)(1).

Spotted skunks were captured using a broad spectrum of traps including traditional foothold traps (34), dogproof foothold traps (12), body-gripping traps (11), and box traps (2). No spotted skunks were captured with the use of snares. Foothold trap captures were made with size 1.5 (21), 1.65 (1), 1.75 (1), 2 (9), and 3 (2) traps and body-gripping traps were in trap sizes 110 (2), 160 (8), and 220 (1).

Bait use was reported for 23 captures and included fish (10), beaver (*Castor canadensis*) (4), marshmallows (2), dog food (1), cat food (1), mix of dog food and deer (*Odocoileus virginianus*)(1), mix of cat food and sardines (1), marshmallows and grape jelly (1), marshmallow and cherries (1), and a mix of mice and rat carcasses with fried chicken (1).

Scent lure was reported for 42 spotted skunk captures and included homemade bobcat lure with spotted skunk glands (11), fish oil (5), beaver castor (3), fox lure or urine (3), bobcat lure (3), Carman's Canine Call (2), fish oil with anise (1), fish sauce (1), beaver and bobcat gland lure (1), Carman's Coon #1 (1), cat lure and urine (1), coyote urine (1), Dobbin's Back Breaker (1), Lenon's Fox All Call (1), mixture of beaver castor, bobcat urine, Taylor predator bait, and Long Distance Call (1), Caven's Predator Plus (1), Caven's Minnesota brand lure (1), a crayfish-based raccoon lure (1), Carman's Pro Choice (1), a mixture of Voodoo Lure and beaver castor (1), and an unspecified type of homemade lure (1).

Only 24/58 (41%) spotted skunk pelts with known fates were sold by trappers. Fur purchase records are often used to track harvest, but in states where spotted skunk take is legal may significantly underestimate actual harvest since most incidental catches are not sold.

While only a few states allow trapping of plains spotted skunks, the this study suggests that trap types, lures, and baits commonly used to target other species occasionally result in the capture of spotted skunks when present. However, there is no evidence that such incidental take has a negative impact on regional or statewide populations.

## Literature Cited

**Fowler AT.** (ed.). 2015. Arkansas Wildlife Action Plan. Arkansas Game and Fish Commission, Little Rock, Arkansas. 1678 pp.

**Gompper ME** and **HM Hackett.** 2005. The long-term, range-wide decline of a once common carnivore: the eastern spotted skunk (*Spilogale putorius*). Animal Conservation 8:195-201.

**Sasse DB.** 2017. Distribution of the eastern spotted skunk, *Spilogale putorius*, in the early twentieth century. Journal of the Arkansas Academy of Science 71:219-220

**Sasse DB** and **ME Gompper.** 2006. Geographic distribution and harvest dynamics of eastern spotted skunk in Arkansas. Journal of the Arkansas Academy of Science 60:119-124.

**U.S. Fish and Wildlife Service.** 2012. Endangered and Threatened Wildlife and Plants; 90-Day finding on a petition to list the prairie gray fox, the plains spotted skunk, and a distinct population segment of the Mearn's eastern cottontail in east-central Illinois and western Indiana as endangered or threatened species. Federal Register 77(233):71759-71771.

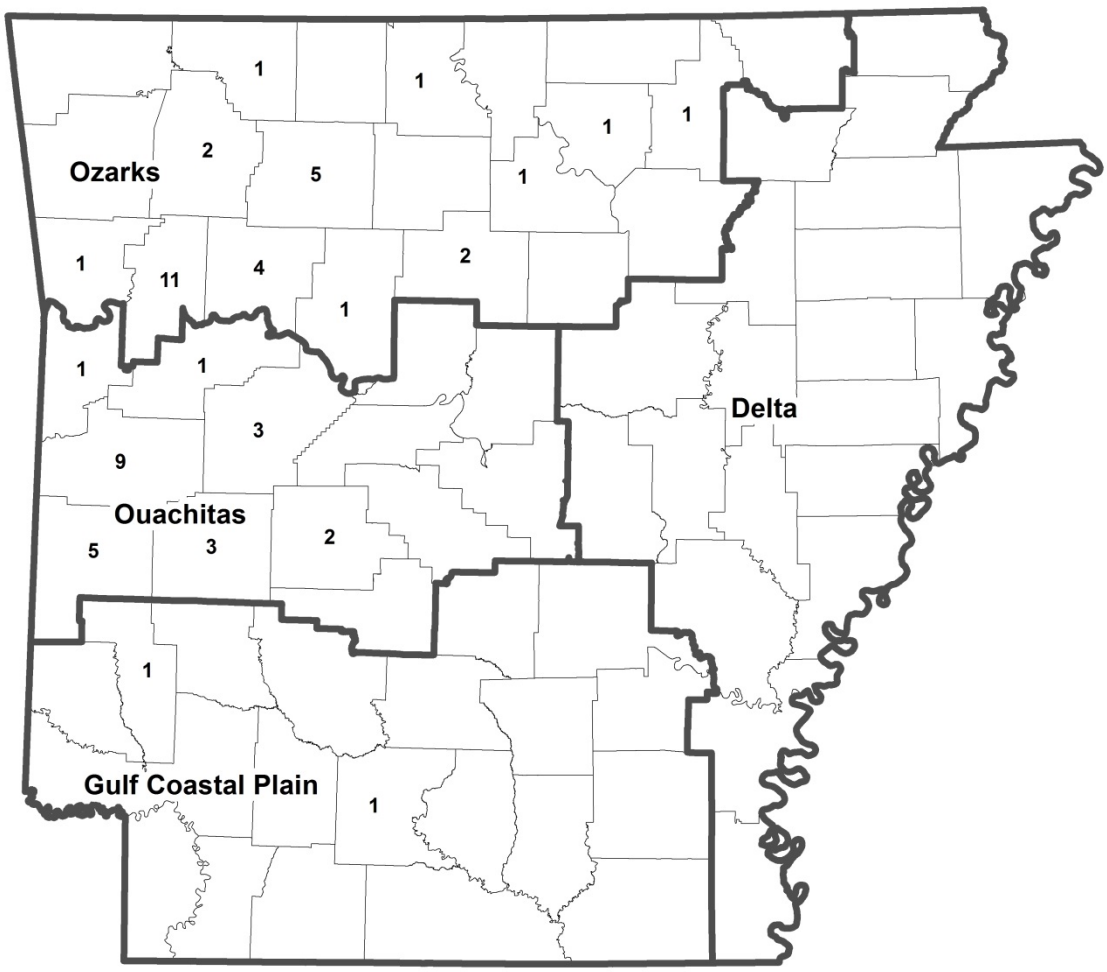


Figure 1. Number of incidental spotted skunk captures by county, 2012-2017.