

2021



Furbearer Program Annual Report



Missouri Department of Conservation

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Welcome Letter

The Missouri Department of Conservation's Furbearer Program works to monitor and manage the state's furbearing species for the sustainable harvest by hunters and trappers, as well as for the enjoyment of outdoor recreationalists from Missouri and around the country. This is done with the help of the state's hunting and trapping community, volunteers who help run surveys and report sightings, and the financial support received from the one-eighth of one percent Conservation Sales Tax, permits sales and income generated by the fish and wildlife tourism. Missouri is fortunate to have a wide range of furbearing species. From the charismatic larger mammals like coyotes and bobcats to the small and rare long-tailed weasel, our natural areas contain many furbearers for us to enjoy.

We would like to thank everyone who has helped us in our efforts. Last year, bow hunters recorded furbearer sightings for over 80,000 hours to help compile our Archer's Index. We received reports of sightings of rare furbearer sightings of badgers, least weasels, long-tail weasels and mountain lions. Volunteers helped us with our state-wide Sign Station Surveys. Hunters and trappers provided teeth from harvested bobcats and otters to help monitor the populations.

With everyone's cooperation, we can enjoy seeing and harvesting our furbearing species in the state for generations to come.

Thank you

-Missouri Department of Conservation Furbearer Program

Annual Highlights

- ✿ Beginning in 2021, work was started to transition the bowhunter observation survey to a digital format, in hopes of reducing labor and financial costs (print, mail, and process surveys) required to complete this survey each year. The new digital platform will be initiated during the 2022 bow season but will still include the paper format for the next several years to allow hunters time to transition to the new sampling methods. We look forward to hearing what hunters think of this new format.
- ✿ The plains spotted skunk and prairie gray fox have seen declines in their population both nationwide and in Missouri and are under consideration for listing under the federal Endangered Species Act. To better understand their occupancy and distribution in Missouri, a multi-year study was initiated in 2020. Game cameras were set up at more than 500 locations across much of the forest regions of the Ozarks in southern Missouri and within the first two year of the study, 3 spotted skunks and 87 gray foxes were detected. Spotted skunk were detected in Pilot Knob Conservation Area, on the Pioneer Forest, and on a portion of the Mark Twain National Forest in Reynolds County. These sightings indicate that spotted skunk are indeed rare but arguable well distributed in the state. Unfortunately, with so few detections, occupancy modeling cannot be conducted as this time for this species. However, gray fox were detected across much of the study area and occupancy models are being generated now to assess how landscape features and other mesocarnivores, such as coyotes and bobcats, might influence gray fox occurrence.
- ✿ The program continued receiving public reports of rare furbearer species, including badgers, least weasel, and long-tail weasel.
- ✿ During the 2020-2021 season, one new furbearer with a record-weight was identified, a nutria from Stoddard County weighing in as 19lbs. See the complete list of Record Furbearers on page 47 for more information.
- ✿ Bobcat pelt auction prices doubled from \$21.47 in 2019-2020 to \$43.55 in the 2020-2021 season.
- ✿ Check the Department website for updates on projects and sightings. Black bear and mountain lion information is no longer included in this annual report as the websites contain the most up-to-date information. There were no new wolf confirmations during this reporting period.

Introduction

Missouri's wild fur market has been monitored annually since 1940, with some information dating back to 1934. Over time, tremendous fluctuations in the harvest of Missouri's primary furbearing species have been observed as both market and social trends changed. The Missouri Department of Conservation (MDC) monitors the fur market within the state using mandatory fur dealer transaction records, mandatory pelt registration of bobcats (since 1980) and river otters (since 1996), and information gathered at fur auctions. The information in this report is based on the harvest by both trappers and hunters.



The number of Fur Dealer Permits issued by MDC peaked at 1,192 during the 1945-46 trapping and hunting season. In 2021, MDC issued **32 Resident Commercial Fur Buyer Permits** 6 less than was issued in 2020, and **8 Non-Resident Commercial Fur Buyer Permits**, 2 more than were issued in 2020.



Permits to harvest Missouri furbearers by trapping methods were first required in 1953. The number of issued Resident Trapping Permits peaked during 1980-81 at 13,248 and reached an all-time low in 2000-01 at 2,050 permits issued. During the 2020-21 trapping season, MDC issued 7699 **Resident** and **398 Non-Resident Trapping Permits**. That is over a thousand more resident permits issued than the previous year.

The highest peak of total pelts harvested reached 834,935 in 1940-41 (over 70% were opossum and skunk pelts) and reached the second highest peak in 1979-80 at 634,338 when average raccoon pelt values were estimated at \$27.50. The economic value of harvested fur also peaked in 1979-80 at over \$9 million. Pelt values declined dramatically during the late 1980s and through the mid-1990s. As a result, the number of participants also fell to all-time lows. The international fur market is at an all time low due to declining prices, the disruptive Covid-19 pandemic and the resulting world-wide recession.

The first section of this annual report describes the methods used to annually monitor the status of furbearer harvests and populations, which includes tracking furs harvested and sold, as well as auction prices for common furbearing species. Additionally, annual sign station surveys are conducted in 25 counties every year since 1977 and the Archer's Index is compiled from bowhunter observations which have been done since 1983. For less common species, public reports of sightings play an important part in tracking frequency and locations of those species across the state.

In Section II, each species is broken down using the metrics described in the methods section. The use of long-term data sets allows for the comparison from year to year and more importantly the long-term trend of each species.

For more information about this report or about the furbearer species mentioned, please contact Nate Bowersock at Nathaniel.Bowersock@mdc.mo.gov or visit www.mdc.mo.gov.



SECTION I: Annual Furbearer Monitoring Methods



Fur Harvest and Auction Price Comparisons

Individuals interested in buying or selling fur in Missouri (i.e., fur dealers) must obtain a commercial permit from MDC. Permit requirements include maintaining and submitting records of all fur transactions (e.g., buying, selling, retaining inventory, etc.). Data collected from fur dealers provide MDC an estimate of furbearer harvest. Additionally, bobcat and river otter harvest numbers are gathered from mandatory pelt registration, including tagging, as required by CITES for export outside the United States.



The Missouri Trappers Association (MTA) hosts fur auctions each year in the state of Missouri, providing opportunity to buy or sell harvested pelts. In the 2020-21 season, MTA hosted just one auction in February. Pelt prices are averaged from all fur sold, including green, finished, and damaged furs. This year’s MTA auction prices dipped from last year’s minor increases with all species seeing lower prices except striped skunks (Table 1).

Table 1. Furbearer harvest and pelt prices in Missouri over the last three harvest seasons.

Species	2020-21		2019-20		2018-19	
	Pelts sold ¹ or registered*	Pelt Prices from MTA Auctions ²	Pelts sold or registered*	Pelt Prices from MTA Auctions ²	Pelts sold or registered*	Pelt Prices from MTA Auctions ²
Raccoon	21,589	\$4.46	24,652	\$3.32	22,562	\$5.04
Opossum	949	\$1.52	782	\$1.32	593	\$2.31
Muskrat	8,256	\$3.62	3,635	\$2.63	3,344	\$4.69
Coyote	6,790	\$20.50	5,083	\$20.85	5,164	\$22.43
Beaver	4,457	\$8.79	2,124	\$6.98	2,094	\$9.59
Mink	203	(m) \$7.00 (f) 0	135	(m) \$3.12 (f) \$1.56	163	(m) \$9.12 (f) \$3.00
Red Fox	402	\$11.53	481	\$8.24	562	\$15.99
Gray Fox	213	\$15.67	278	\$8.95	242	\$15.54
Striped Skunk	233	\$8.42	221	\$7.50	156	\$1.50
Badger	29	\$15.50	29	\$20.67	18	\$29.00
Bobcat*	2,065	\$43.55	2,520	\$21.47	2,161	\$47.51
River Otter*	1,509	\$15.59	1,558	\$20.10	1,412	\$29.90
Trapping permits issued	8,097		6,952		6,956	

¹ Number of pelts sold is based on reports received from 34 Fur Dealer Permittees.

² Pelt prices are averaged from all fur sold, including green, finished, and damaged furs.

* Bobcat and River Otter harvest numbers are based on CITES registration.

- No information available.



Overall, average pelt prices increased by about 20% from last year (Table 2). All species showed an increase in average pelt prices except coyote has a slight decline, badger, although only one pelt was sold, and otter which showed a 22% decrease in prices. The largest gain in price from the previous year was mink which rose from an average of \$2.34 last year to \$7.00, although only seven were sold. Red fox, gray fox and bobcat also saw substantial increases from 2020 prices. Fur auction prices are closely monitored because, as seen in each furbearer status, fur harvest closely correlates with fur prices set at auction. Although these increases will be good for trappers, the overall fur market remains down significantly from its peak with no immediate changes in the future.

Table 2. Furbearer pelt prices in Missouri from the annual Missouri Trappers Association Fur Auction February 13, 2021, Montgomery City, Missouri.

Species	2020-2021 Summary		Change from 2019-2020	Change from Peak in 2012-2013	5-year Average
	Total Sold	Average price			
Raccoon	1,096	\$4.46	34.3%	-78.5%	\$5.19
Virginia Opossum	78	\$1.52	15.2%	21.6%	\$1.95
Muskrat	156	\$3.62	37.6%	-69.3%	\$4.62
Coyote	253	\$20.50	-1.7%	-7.9%	\$17.70
Beaver	204	\$8.79	25.9%	-59.5%	\$9.20
Mink	7	\$7.00	199.1%	-70.9%	\$9.85
Red Fox	19	\$11.53	39.9%	-70.5%	\$21.18
Gray Fox	3	\$15.67	75.1%	-54.9%	\$15.51
Striped Skunk	12	\$8.42	12.3%	159.1%	\$3.61
Badger	1	\$15.50	-25.0%	3978.9%	\$26.56
Bobcat	57	\$43.55	102.8%	-62.3%	\$47.53
River Otter	83	\$15.59	-22.4%	-81.8%	\$31.89

* Change in Badger pelt price is artificially inflated because average pelt price in 2012-2013 was \$0.38 and very few pelts were sold.

Furbearer Sign Station Survey



Beginning in 1977, annual sign station surveys for furbearers have been conducted each September and October. The purpose of the survey is to collect population trend information for Missouri's furbearing species. Twenty-five routes are distributed throughout the state in 25 different counties. Routes consist of 5 segments with 10 sign stations per segment for a total of 50 stations per route. Each sign station is a 36-inch diameter circle of sifted soil, spaced 0.3 miles along gravel road shoulders. A fatty acid scent disc is placed in the center of each station as an attractant. Each station is operated for one night and evaluated the following day for visitation. Each station is described as operable or inoperable by the observer, stations with tire tracks or those destroyed by a road grader were deemed inoperable. All operable stations were included in calculations of indices, regardless of track presence, but inoperable stations were not used for calculations. Tracks were identified within the 36-inch circle of the station. Occupancy of a station by a species

was recorded, but not the number of individuals per species.

A total of 22 routes out of 25 (Figure 1) were completed in 2021 with a total of 1,019 operable stations out of a possible 1,250 stations. Fair weather in September and October allowed many of the surveys to be complete before inclement weather set in November. A summary of operable stations for each zoological region is presented in Table 1. Inoperable stations were either destroyed with a road grader or had tire tracks in them. The most common species to visit stations were raccoon, opossum, deer, and coyotes (Figure 2). The least common were weasels, minks, muskrats, and red foxes. One black bear track was recorded from Howell County. Non-mammalian visitors were primarily birds, such as crows and turkeys.

Species specific population index trends from 1977 to 2021 based on the Furbearer Sign Station Survey are displayed in Figures 3 through 9. Most furbearers have an overall increasing trend with the exception of red and gray fox populations, which have been in an overall decline since the initiation of the Sign Station Survey. These trends are also reflected in the Bowhunter Observation Index and harvest records. Compared to last year's survey results, this year saw an increase in opossum and coyote visits per 1000 operable stations. Gray foxes nearly remained the same while raccoon, skunk, bobcat, and red fox visits dropped slightly. However, unknown fox tracks, where the surveyors were unable to differentiate between red and gray fox, increased. Small mammal populations frequently see year to year changes depending on variables such as food abundance, predator population size and many other ecological variables. For management purposes, the long-term trends are the main indicator of a population's stability and there are no signs of alarming drops in these species.

Again this year, volunteers greatly assisted MDC staff to complete the surveys. Missouri Master Naturalists completed or assisted MDC staff with seven county surveys. Students from Northwest Missouri State University Wildlife Club completed the Worth County survey. Additionally, students from Southeast Missouri State University Wildlife Society completed the Stoddard County survey and students from the Missouri Western State University Wildlife Society completed the Andrew County survey. An online training was provided to give specific instructions and provide wildlife track identification training. Volunteers were able to observe bobcat and fox prints along with more common species like raccoon and opossum. After volunteers first assisted in surveys in 2019, the expansion to use more volunteer help has greatly reduced the pressure on MDC staff to complete this large-scale survey. Their help has been greatly appreciated and we expect to use volunteer help in future surveys.

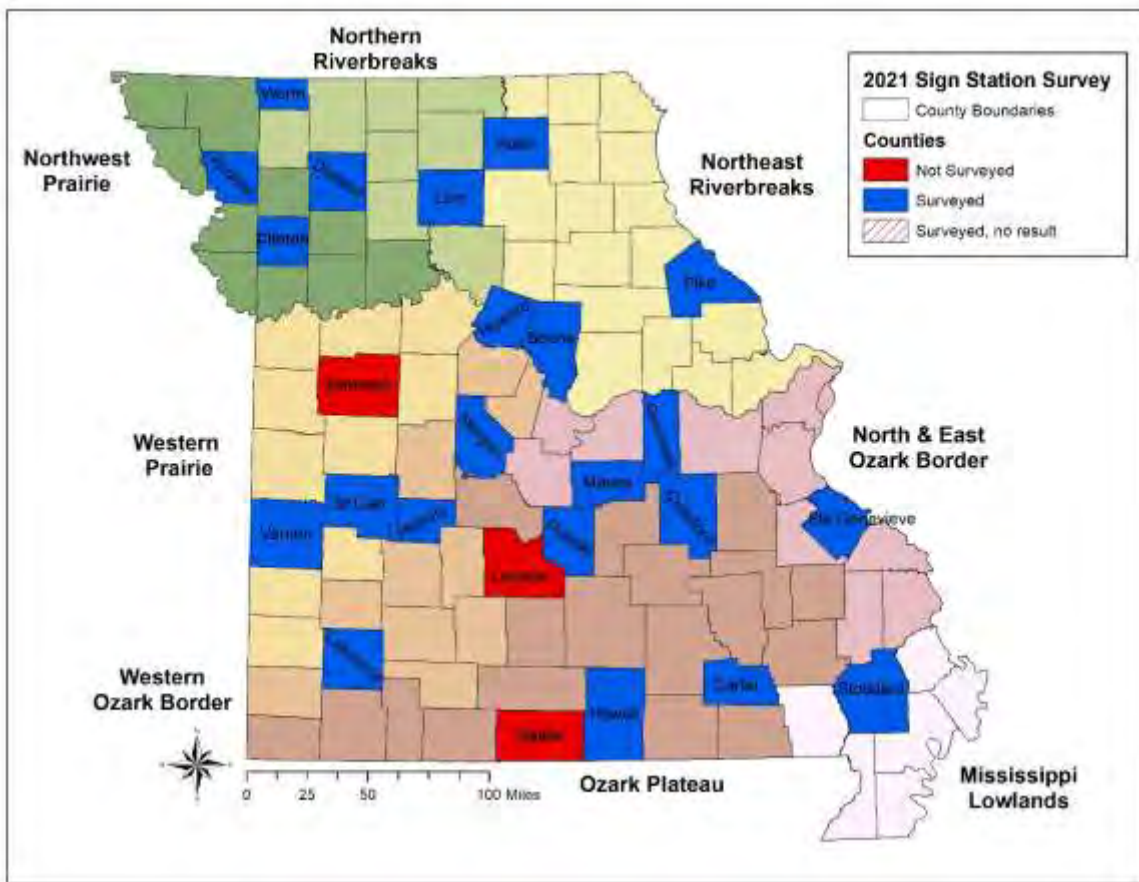


Figure 1. Missouri’s 8 zoological regions and counties where data were collected (blue); all counties with permanent transects were surveyed in 2021, except Johnson, Laclede and Ozark counties.

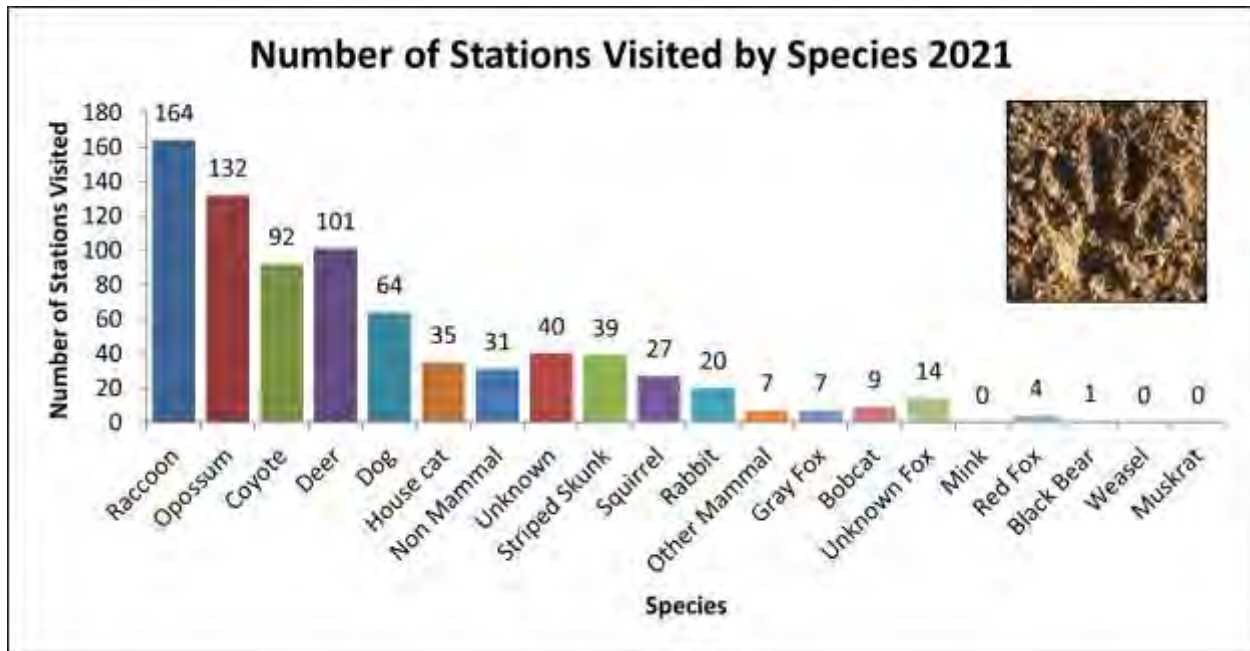


Figure 2. The number of stations visited by each mammal species, including non-furbearer species, out of 1,019 operable stations in the 2021 Missouri Furbearer Sign Station Survey.

Archer’s Index of Furbearer Populations

Missouri Department of Conservation has conducted annual surveys of wildlife populations via the Bowhunter Observation Survey for 39 consecutive years (1983-2021). Each fall, several thousand archery deer and turkey hunters keep daily observation records of furbearers, other small game animals, deer, and turkeys. Archers volunteer through post-season surveys, articles in the *Missouri Conservationist* magazine, and during sign-ups at bowhunter club meetings and other outdoor events. Archery hunters are asked to record the number of hours hunted, during both morning and evening hunts, and to use a standardized daily diary to record hours and sightings of wildlife. MDC uses the number of sightings of each species divided by the total number of hours hunted statewide to calculate a sighting index which is expressed as sightings per 1,000 hunter hours, called the Archer’s Index.

Wildlife population indices calculated from archers’ diaries are useful trend indicators for terrestrial wildlife species, such as coyotes, raccoons, foxes, and bobcats. Hunters are well distributed statewide with volunteers in all counties during most years. Bowhunters averaged 55,626 hours per year in the stand over the last 38 years and ranged from 30,990 hours in 1985 to 98,898 hours in 2017 (See Appendix A). In 2020, hunters spent **80,657 total hours** in the stand, which is the fourth highest recorded hours in the history of the survey.

Line graph representations of Archer's Indices for several furbearer species are shown in Section II by species. Based on these indices, long-term raccoon, coyote, and opossum observations suggest population increases. Striped skunk and bobcat populations are relatively steady, while observations suggest a downward trend for red and gray fox populations. Wildlife population indices are also depicted by county in Appendix B.



Monitoring and Demographic Assessment of River Otters and Bobcats in Missouri



River otter and bobcat are commonly sought-after furbearers in Missouri and there are no harvest level restrictions on river otters or bobcats. Various population indices suggest these species are not in danger of being over harvested; however, harvest of these species has been challenged in a number of states. MDC began a research project to document the sex and age of harvested animals and measure harvest effort by trappers for these species. These and other data will enable MDC to utilize Statistical Population

Reconstruction (SPR) to generate abundance estimates and measure the impact of harvest and regulations on river otter and bobcat populations. Through SPR, the MDC will have a better understanding of the relationship between harvest rates and demographics of each species.

In order to utilize SPR, MDC collects information on harvested river otter and bobcat through mandatory registration and voluntary tooth submission. Trappers are asked to remove one of the lower canine teeth from each river otter and bobcat they harvest so that age-at-harvest can be determined. Sex, date of harvest, method, and effort are collected when river otter or bobcat are tagged or registered with the Department.

A total of 416 lower canine teeth from the 2020-21 harvest season and several teeth from previous harvest seasons (not depicted below) were collected from both river otters and bobcats and sent for age analysis. The samples sent for aging consisted of 188 bobcat teeth (Figure 25) and 228 river otter teeth (Figure 29). Age data for the 2021-22 season are not yet complete.



SECTION II: Missouri Furbearer Status 2019 - 2020

Raccoon Harvest and Population Trends

Raccoon harvest in 2020-21 totaled 21,589 and included individuals harvested by both trapping and hunting methods (Figure 3). This year's harvest was down 12.2% from last year. Harvest is down 4.3% from two years ago, following a decrease in pelt prices. The 2020-21 season resulted in the second lowest raccoon harvest since 1942. Average raccoon pelt prices increased by 12.3% this year from 2018-19 and are down 78.5% from the last price peak in the 2012-13 season.

Population trends are derived from the Archer's Index Survey and the Sign Station Survey. For a detailed description of these surveys, see Section I of this report. During the hunting season of 2020, bowhunters submitted the number of raccoons observed during archery hunting hours and the number of hours spent afield. Based on these observations, the number of raccoons sighted per 1,000 hours increased by 3% to



49.3 in 2020 from 47.5 in 2019 (Figure 4). Presence of raccoon tracks at furbearer sign stations also increase to an index of 190.8 in 2020 from 1520 in 2019 (Figure 5). Indices derived from Bow Hunter Observation Surveys and Sign Station Surveys indicate an overall increasing trend in raccoon population abundance. Short-term fluctuations are normal and expected due to the dynamic nature of raccoon populations. Based on harvest and pelt prices of previous trapping and hunting seasons, harvest pressure is expected to remain stable for the 2021-22 season.

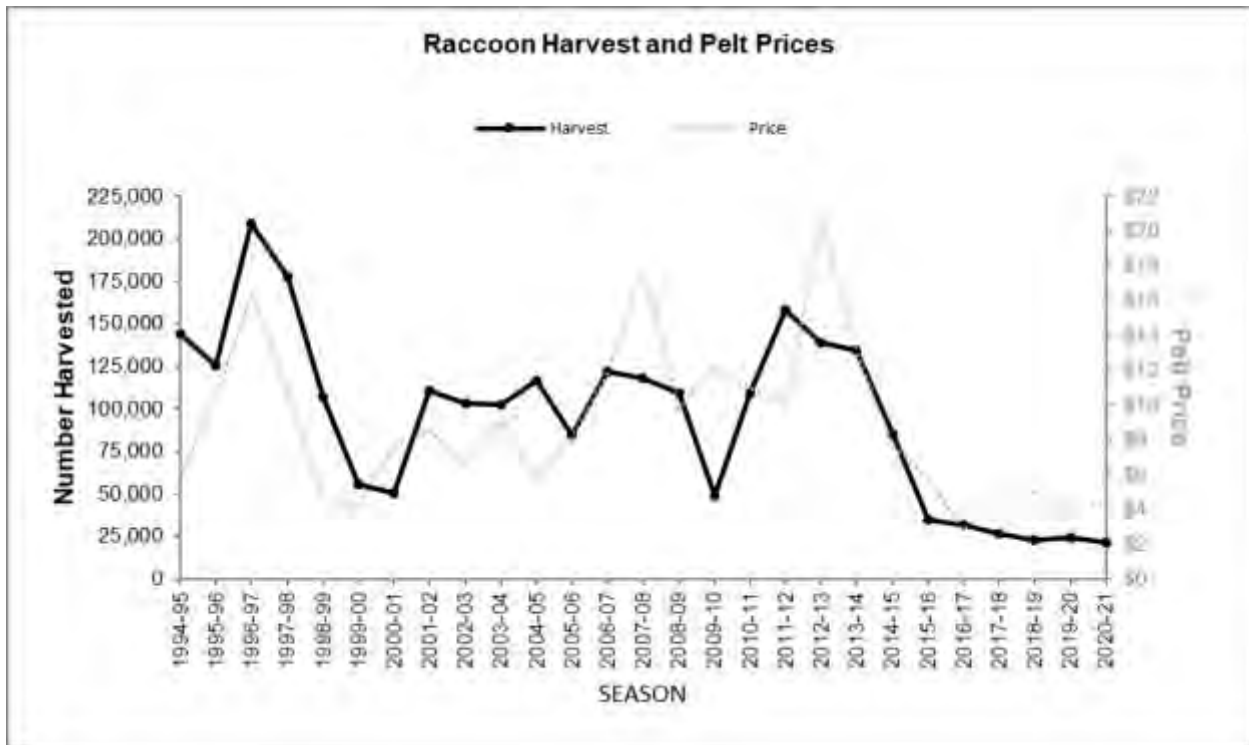


Figure 3. Comparison of Missouri raccoon harvest and pelt prices since 1994. Harvest estimates are derived from fur buyer records. Annual pelt prices are the average price from the Missouri Trappers Association Fur Auction.

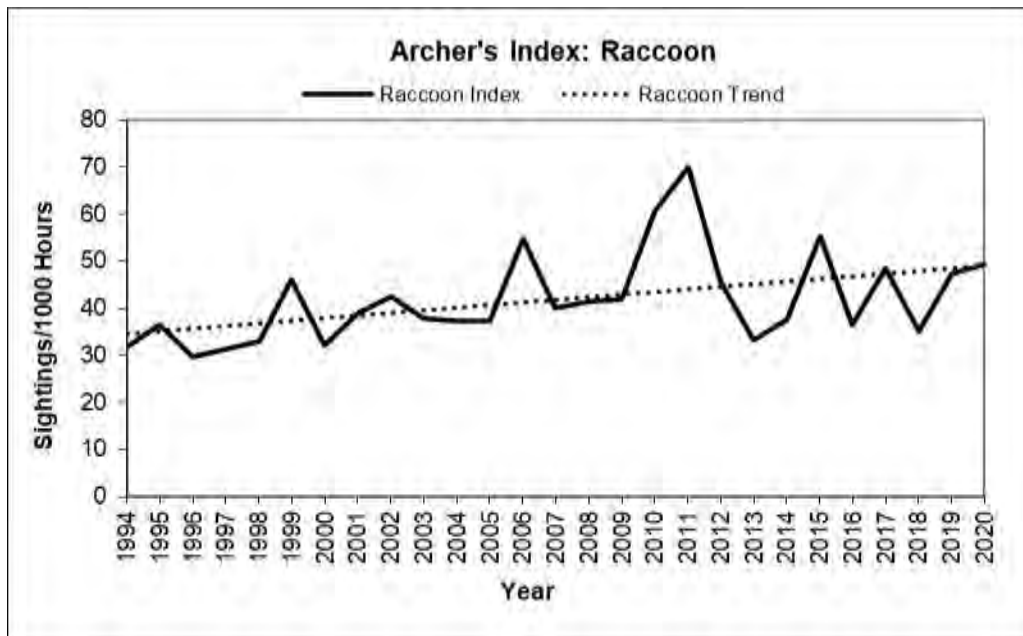


Figure 4. Raccoon population trends based on the Archer's Index, derived from the MDC Bowhunter Observation Survey.

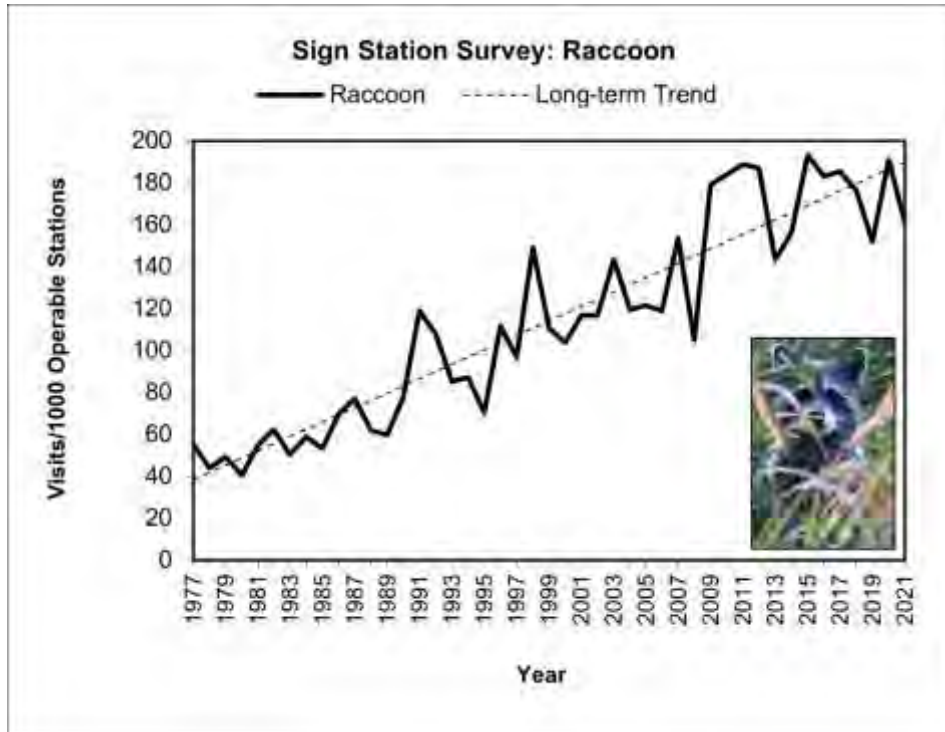


Figure 5. Missouri raccoon population trends based on the Furbearer Sign Station Survey Index.



Virginia Opossum Harvest and Population Trends

Virginia opossum harvest in 2020-21 totaled 942 (Figure 6). This year’s harvest was up 21.4% from last year’s harvest of 782 individuals. Harvest is up 60% from two years ago, following an increase in pelt prices from the 2015-16 low of \$0.64. Average Virginia opossum pelt prices for 2020-21 increased to \$1.52 and are just below the 5-year average.



Population trends are derived from the Archer’s Index and Sign Station Survey. Based on bowhunter observations, the number of Virginia opossums sighted per 1,000 hours increased by just 2% to 13.0 in 2020 from 13.3 in 2019 (Figure 7). Presence of Virginia opossum tracks at furbearer sign stations increased to an index of 113.5 in 2020 from 78.0 2019 (Figure 8). The long-term population trend data from surveys suggest populations are stable and increasing slightly over time.

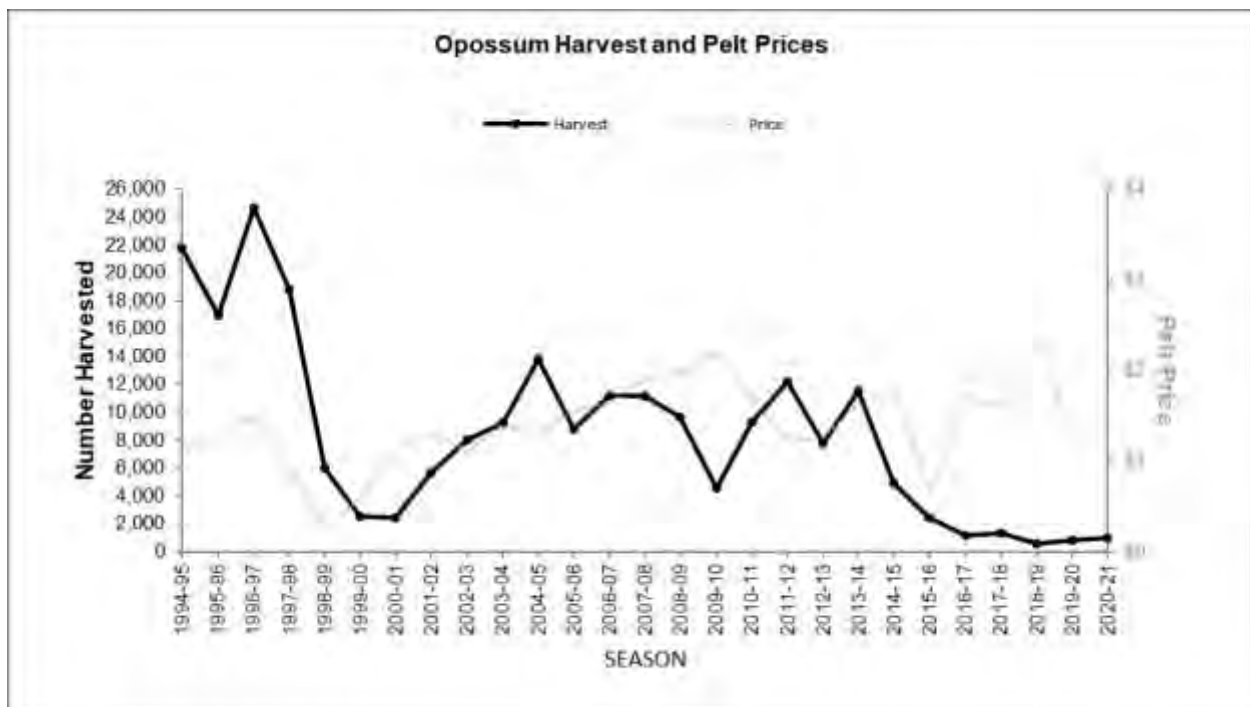


Figure 6. Comparison of Missouri Virginia opossum harvest and pelt since 1994. Harvest estimates are derived from fur buyer records. Annual pelt price estimates are the average price from the Missouri Trappers Association Fur Auction.

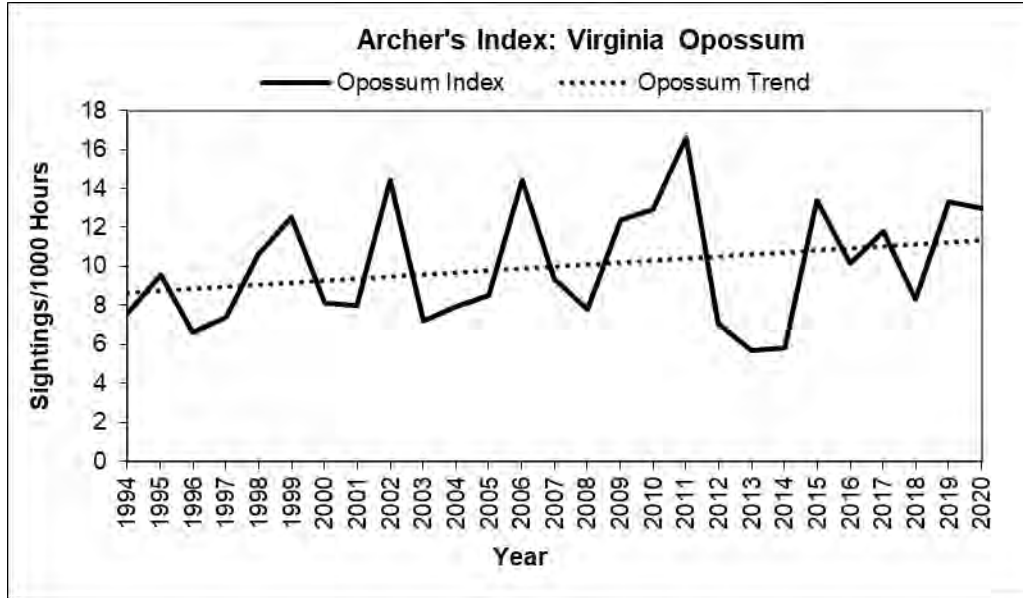


Figure 7. Virginia Opossum population trends based on the Archer's Index, derived from the MDC Bowhunter Observation Survey.

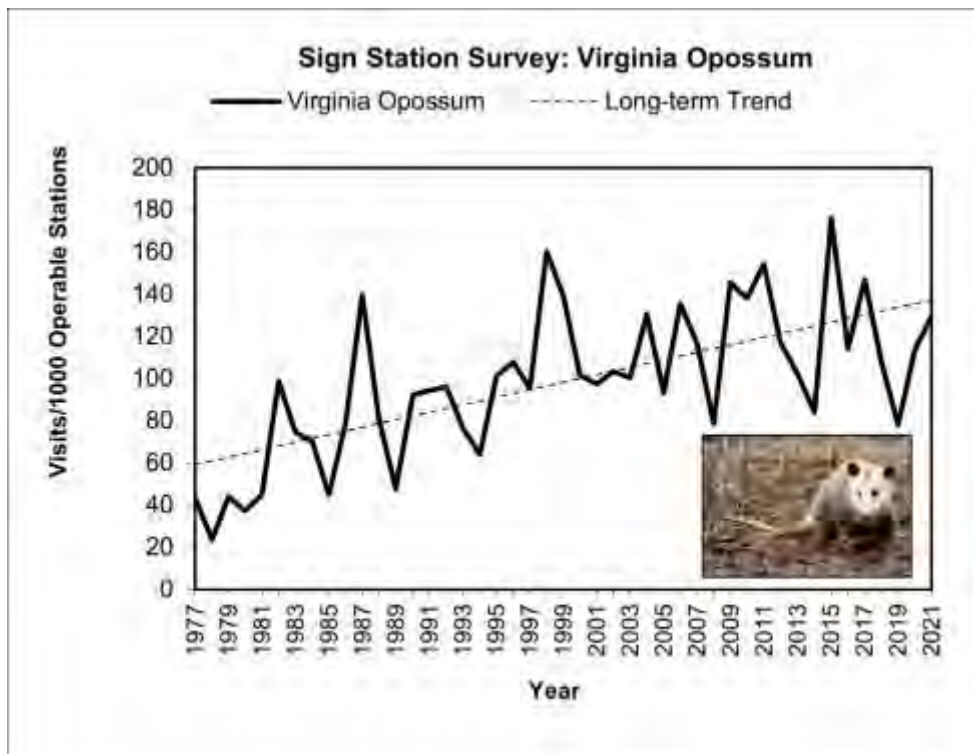


Figure 8. Missouri Virginia opossum population trends based on the Furbearer Sign Station Survey Index.

Coyote Harvest and Population Trends

Coyote harvest, based on Commercial Fur Buyer reports, during the 2020-21 furbearer season was up significantly from the 2019-20 season with 6,790 individuals harvested (Figure 9). Predator hunting continues to increase in popularity, and survey data suggest over 25,000 people hunt coyotes annually. Many trappers enjoy the challenge of catching coyotes, and this is reflected in the harvest totals. Coyote pelt prices averaged \$20.50 this year. However, coyote pelts are becoming increasingly popular in the international fur market, which may influence the local market for this species (NAFA, 2019; FHA, 2019).



Population trend data from the Archer’s Index (Figure 10) and Sign Station Survey (Figure 11) for coyotes suggest populations are currently stable with an overall increasing trend since the 1970s when the Sign Station Survey began and the early 1980s when the Archer’s Index began. Based on bowhunter observations, the number of coyotes sighted per 1,000 hours dropped slightly with 22.8 in 2020 from 25.2 in 2019. Presence of coyote tracks at furbearer sign stations also decreased to an index of 77.3 in 2020 from 96.0 in 2019.

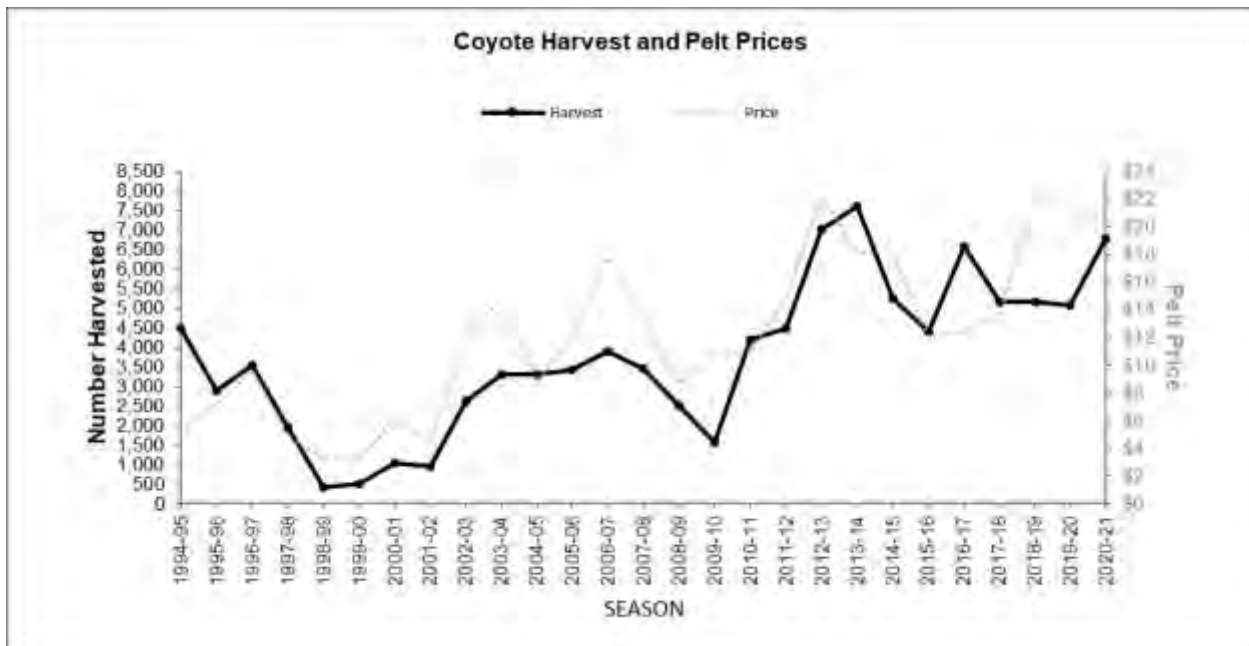


Figure 9. Comparison of Missouri coyote harvest and pelt prices over the last 25 years. Harvest estimates are derived from fur buyer records. Annual pelt price estimates are the average price from the Missouri Trappers Association Fur Auction.

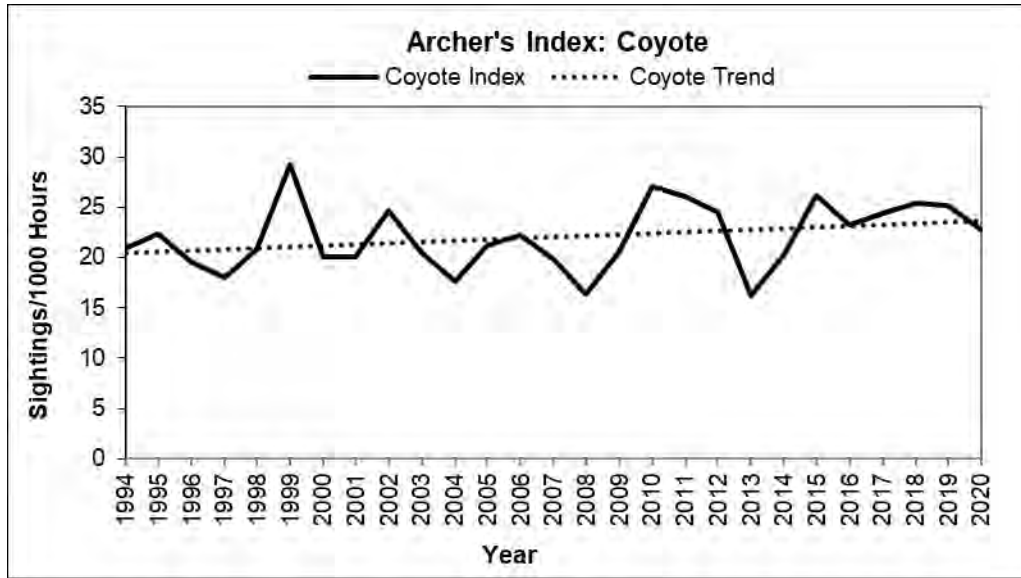


Figure 10. Coyote population trends based on the Archer's Index, derived from the MDC Bowhunter Observation Survey.

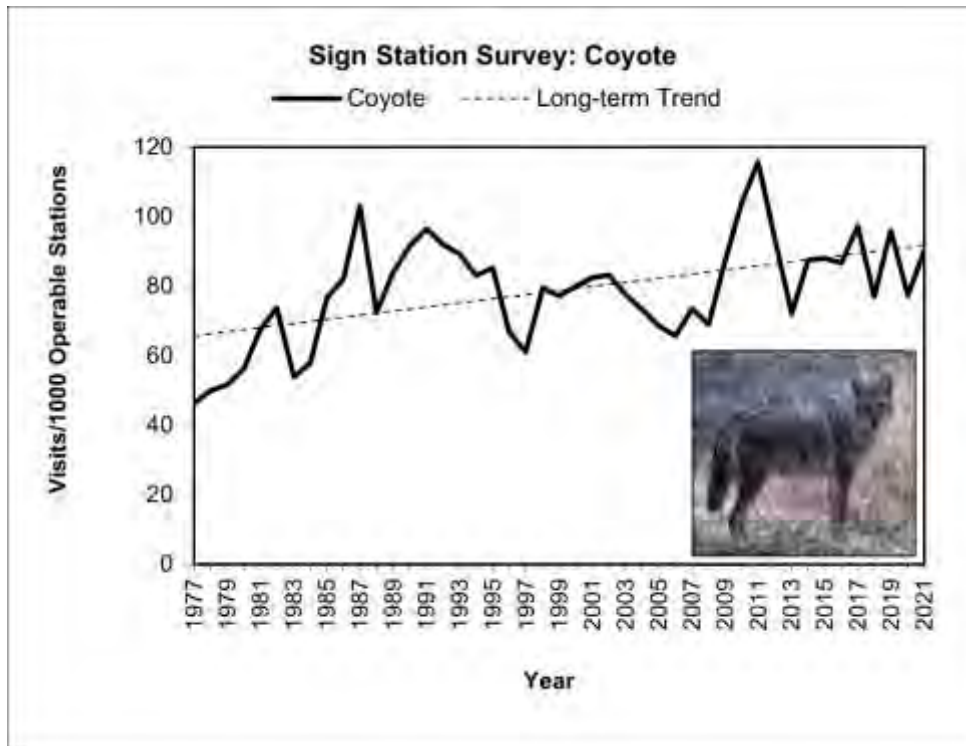


Figure 11. Missouri coyote population trends based on the Furbearer Sign Station Survey Index.



Fox Harvest and Population Trends

Red fox harvest during the 2020-21 season decreased 16.4% from 481 to 402 individuals harvested (Figure 12). **Gray fox harvest** decreased in 2020-21 by 23.4% to 213 individuals compared with last year's harvest of 278 (Figure 13). Fox harvest is typically a by-product of bobcat or coyote trapper effort but it's unclear why there is such a large

difference in the red and gray fox harvest.

Population trends are derived from the Archer's Index and Sign Station Survey. Bowhunter observations and sign station surveys offer a long-term perspective suggesting declines in both red and gray fox populations (Figures 14 -16). Long-term fox population declines may be the result of interspecific competition with coyotes and bobcats. Another possible strain on gray fox populations is the increasing population of raccoons and the associated distemper virus, for which gray fox may be particularly vulnerable. Regional variability in fox abundance likely occurs, including around suburban areas where foxes may seek refuge from coyotes or respond to increased prey availability, but the overall long-term trend for both fox species indicates a decline in abundance.



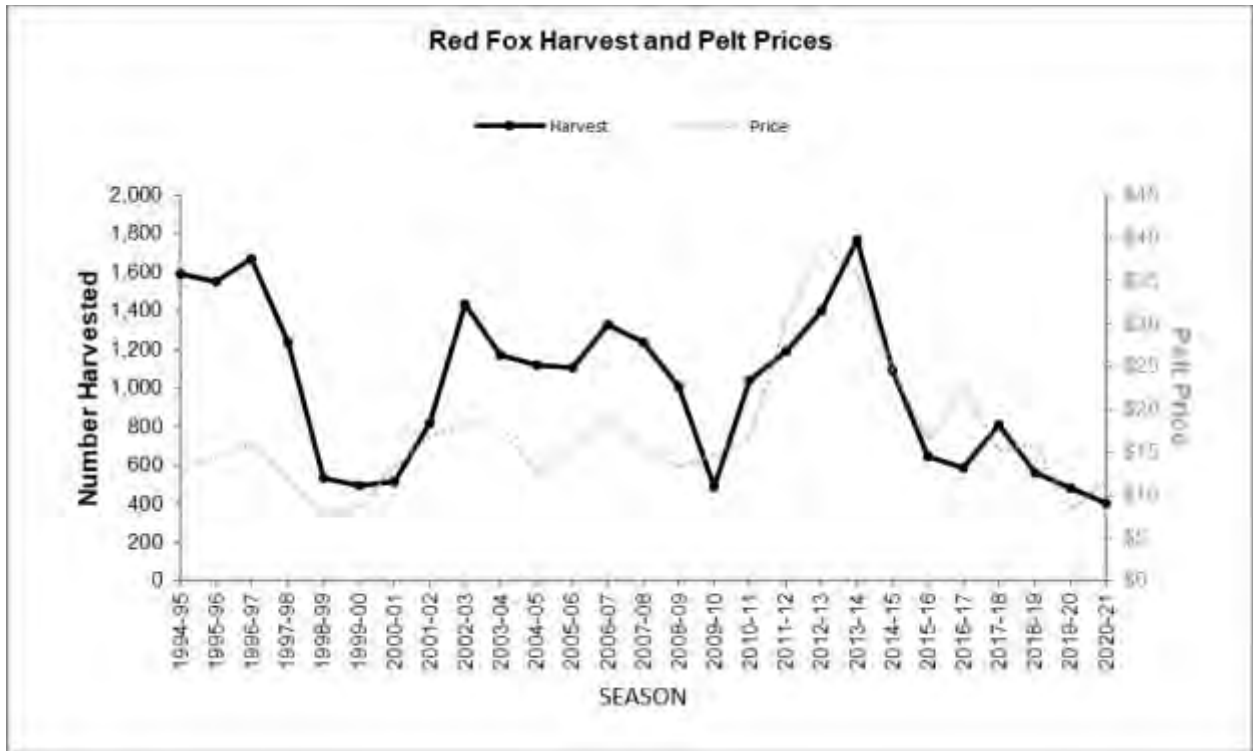


Figure 12. Comparison of Missouri red fox harvest and pelt prices since 1994. Harvest estimates are derived from fur buyer records. Annual pelt price estimates are the average price from the Missouri Trappers Association Fur Auction.

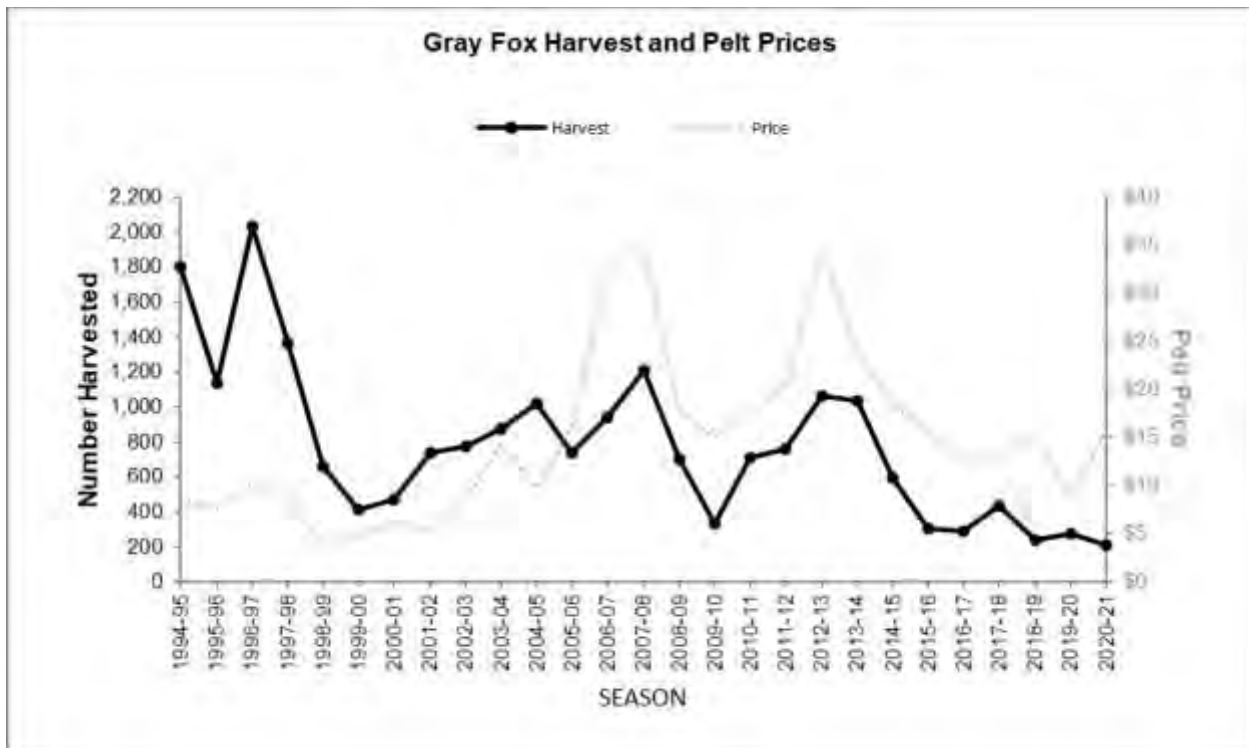


Figure 13. Comparison of Missouri gray fox harvest and pelt prices since 1994. Harvest estimates are derived from fur buyer records. Annual pelt price estimates are the average price from the Missouri Trappers Association Fur Auction.

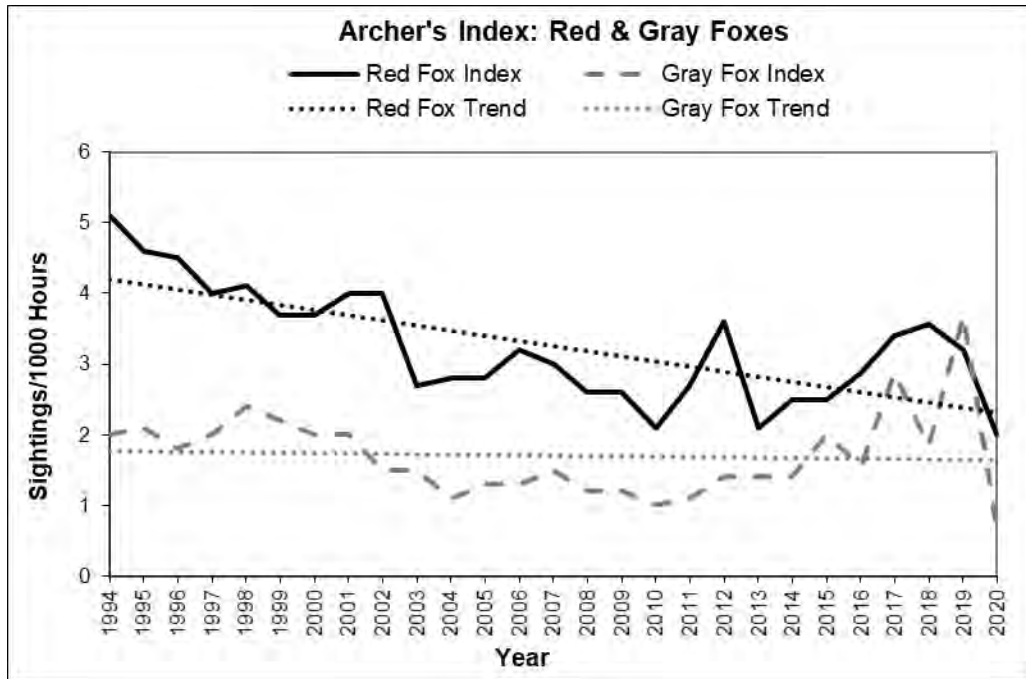


Figure 14. Missouri fox population trends based on the Archer's Index, derived from the MDC Bowhunter Observation Survey.

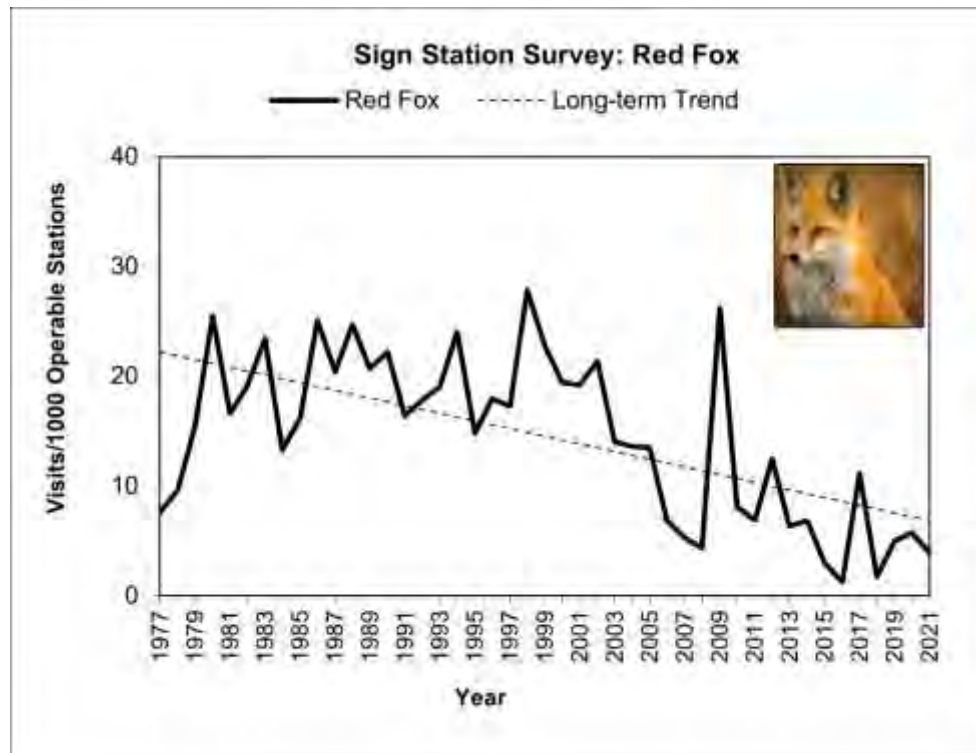


Figure 15. Missouri red fox population index trends from 1977 to 2021.

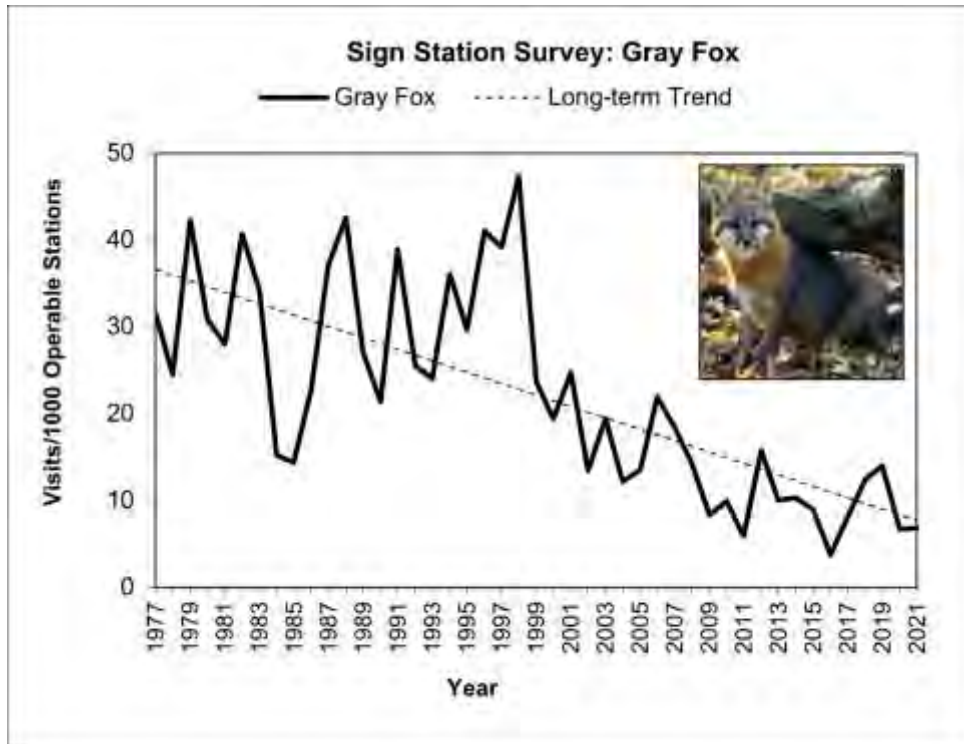


Figure 16. Missouri gray fox population index trends from 1977 to 2021.

Striped Skunk Harvest and Population Trends

Striped skunk harvest in 2020-21 totaled 233 with most individuals harvested by trapping (Figure 17). This year’s harvest was up just 5% from last year’s harvest of only 221 individuals. Harvest is more similar to two years ago, following erratic pelt prices since 2016-17. Average striped skunk pelt prices for 2019-20, increased 12.3% from 2018-19 from \$7.50 to \$8.42. The 2020-21 season resulted in the highest ever pelt price for striped skunk again after last year’s record high.



Population trends are derived from the Bowhunter Observation Survey and Furbearer Sign Station Survey. Population trend data from the Archer’s Index (Figure 18) and Sign Station Survey (Figure 19) for striped skunk continue to suggest that the population is stable.

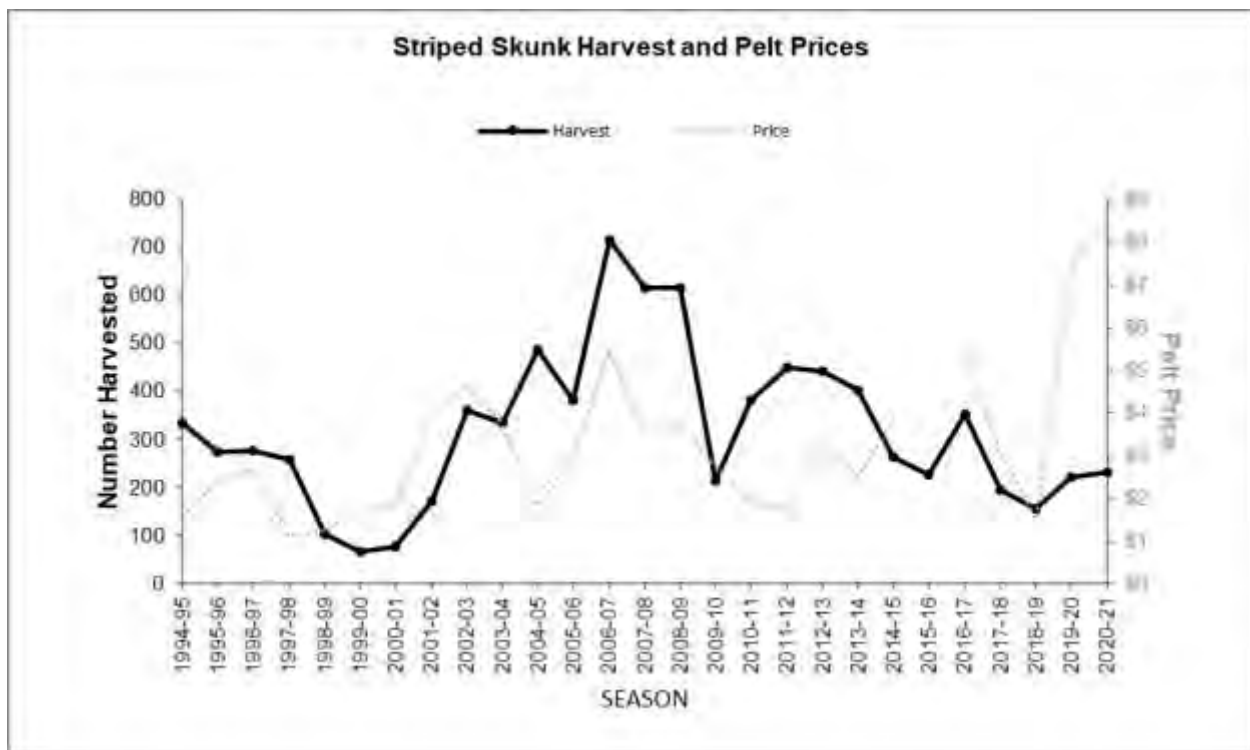


Figure 17. Comparison of Missouri striped skunk harvest and pelt prices since 1994. Harvest estimates are derived from fur buyer records. Annual pelt price estimates are the average price from the Missouri Trappers Association Fur Auction.

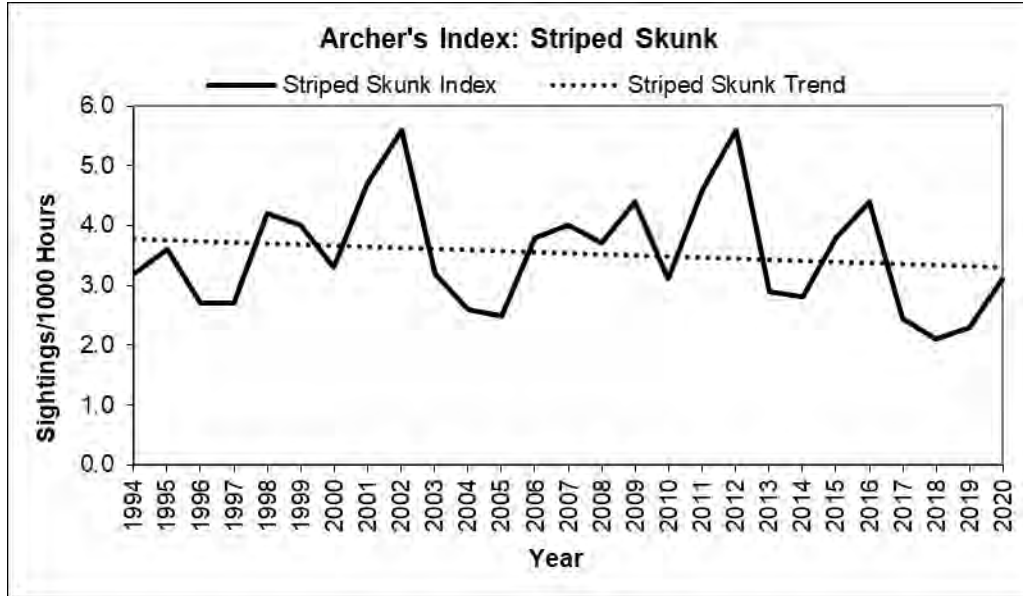


Figure 18. Striped skunk population trends based on the Archer's Index, derived from the MDC Bowhunter Observation Survey.

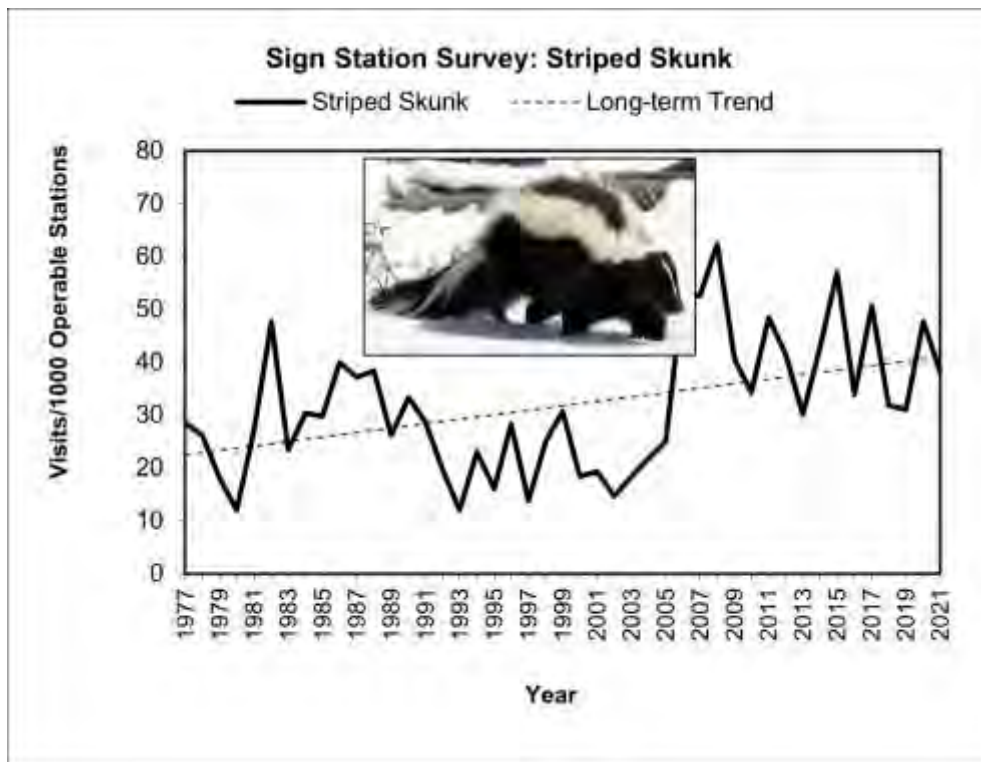


Figure 19. Missouri striped skunk population trends based on the Furbearer Sign Station Survey Index.

Bobcat Harvest and Population Trends

Bobcat harvest during the 2020-21 season was up 18.5% from 2019-20 and only down 5.0% from 2018-19 harvest seasons (Figure 20) with **2,053 bobcats** harvested. Prices during the 2020-21 season recovered from last year's drop by increasing 102.8% from the previous year, to \$43.55. Trappers and hunters are required to check or register bobcat carcasses or green pelts at MDC offices or with Conservation Agents. The number of bobcat pelts purchased by fur dealers (1,022) was significantly less than those registered by trappers and hunters as required by CITES (2,053). In 2020, only 756 pelts were purchased by fur dealers. Instead of selling to fur buyers, trappers usually make more money selling carcasses to taxidermists or selling mounted bobcats or may retain bobcat pelts for personal use. Trappers may have taken advantage of the recovered price for bobcat pelts to reduce large inventories from previous years.

Population trends are derived from the Bowhunter Observation Survey and Furbearer Sign Station Survey. Both Sign Station Survey and Archer's Index data suggest bobcat populations appears to be stable (Figures 21 and 22).

Geographic distribution of harvest varies by county and method. Trappers harvested 1,270 bobcats, while hunters harvested 735 bobcats. Clark County had the highest total harvest at 57 (Figure 23). Harrison County had the highest hunting harvest (Figure 23), while Clark and Vernon Counties had the highest trapper harvest (Figure 24).

Age analysis of teeth submitted to the department show a majority of individuals harvested were in the age classes three years of age or below (Figure 25). These and other data will enable MDC to utilize Statistical Population Reconstruction (SPR) to monitor the bobcat population.



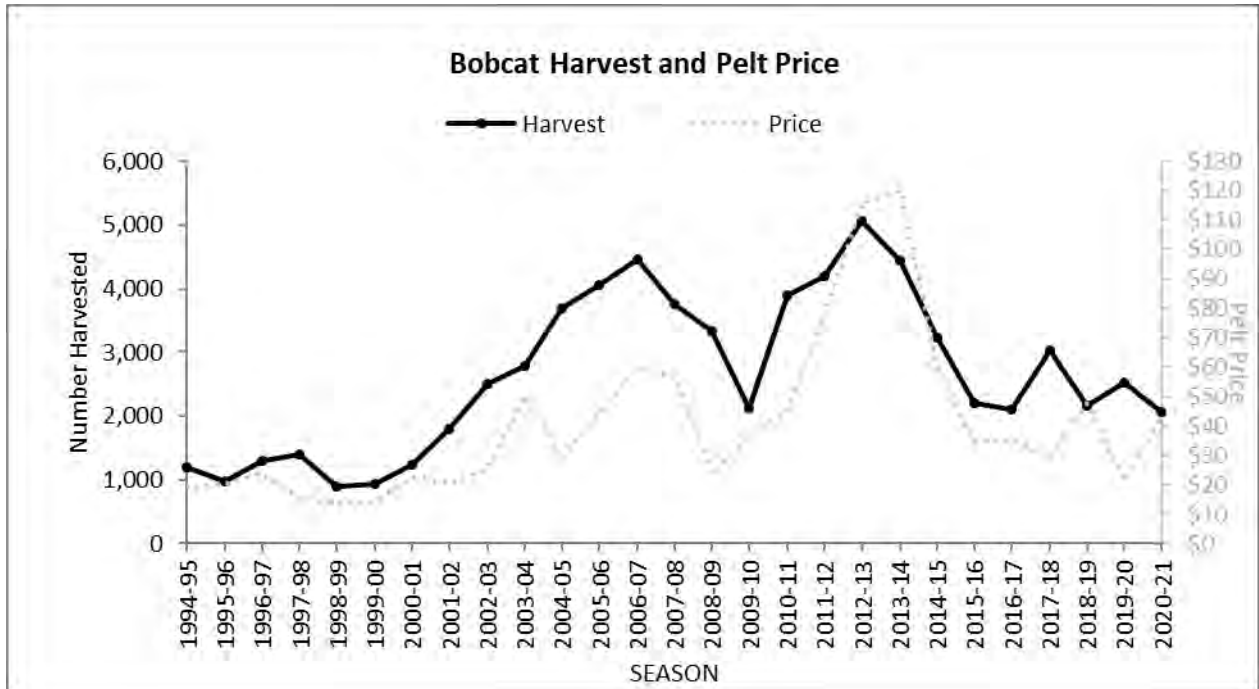


Figure 20. Missouri bobcat harvest trends since 1994 compared to average pelt prices.

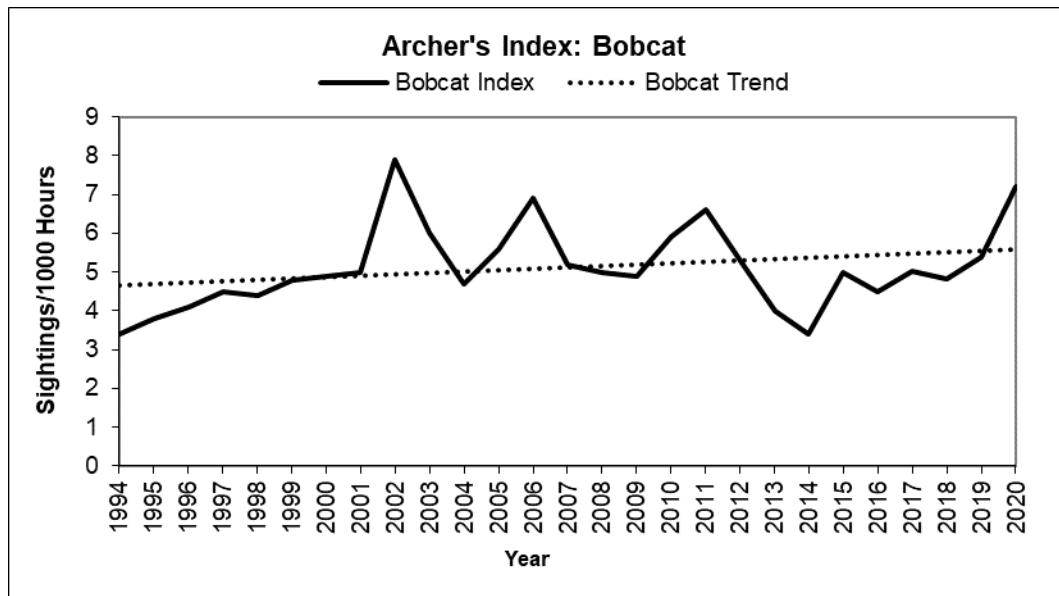


Figure 21. Missouri bobcat population trends based on the Archer's Index, derived from the MDC Bowhunter Observation Survey.

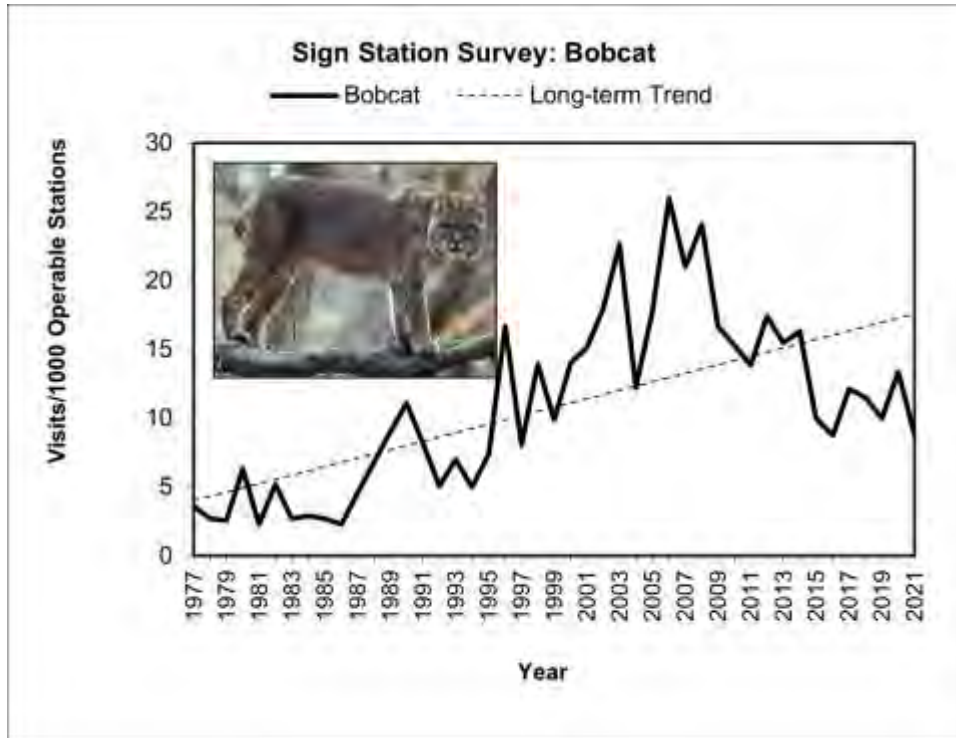


Figure 22. Missouri bobcat population trends based on the Furbearer Sign Station Survey Index.

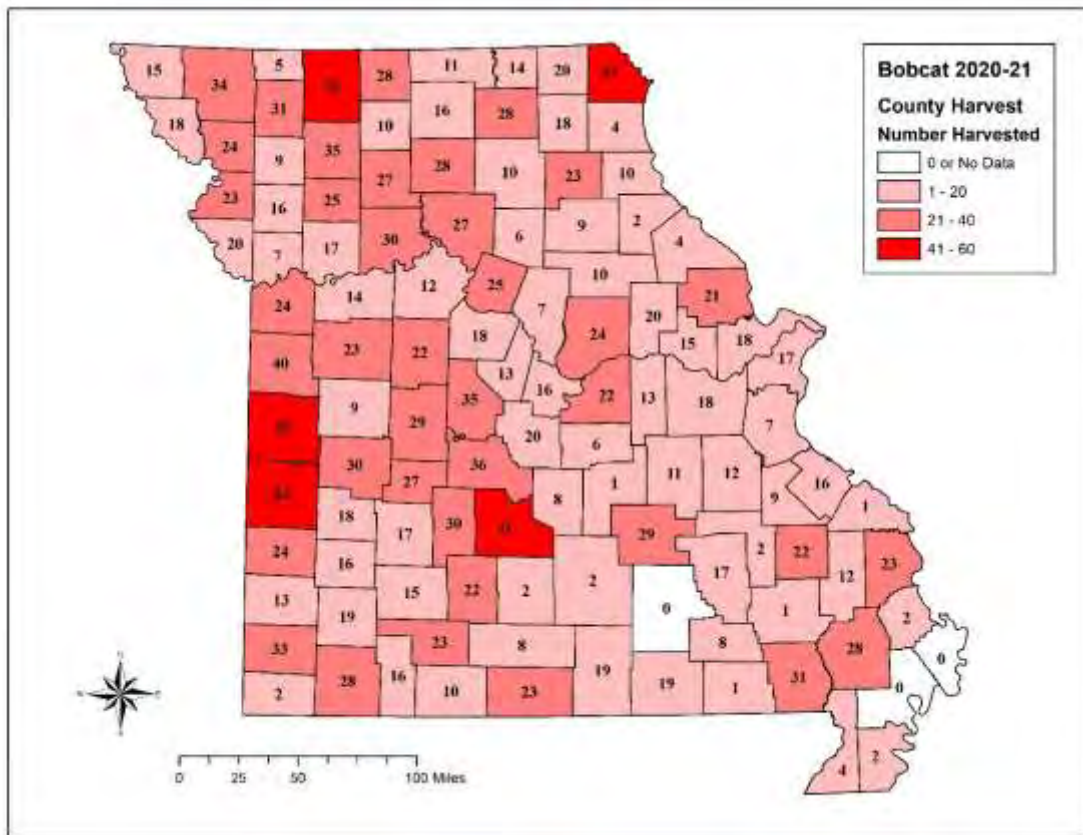


Figure 23. Number of Missouri bobcats harvested per county during the 2020-21 season.

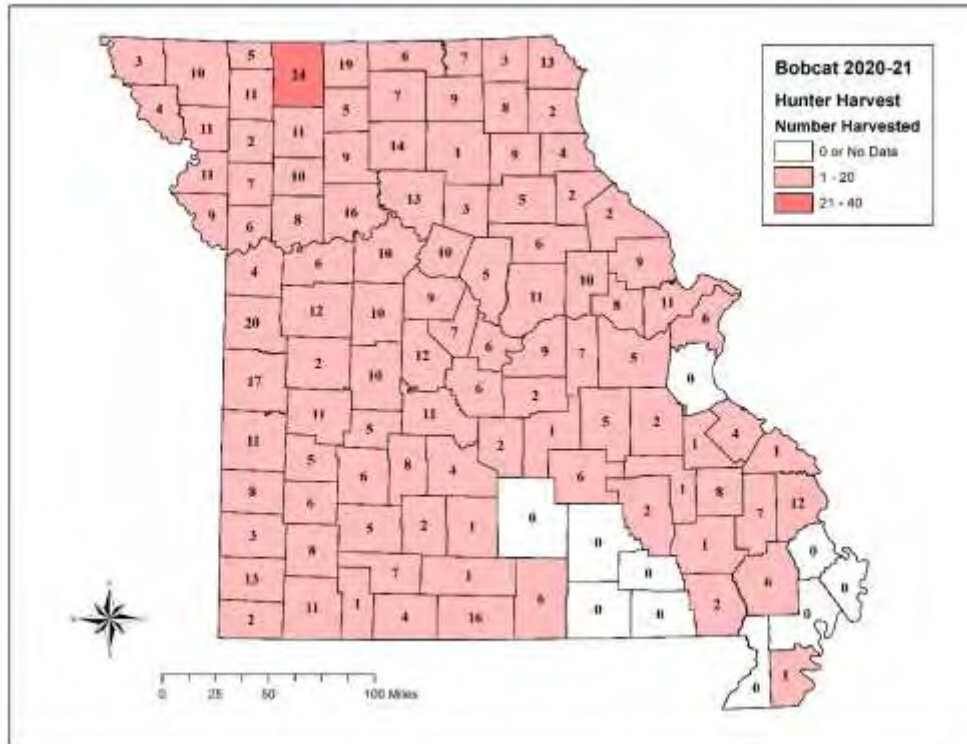


Figure 24. Number of Missouri bobcats harvested by hunting methods per county in the 2020-21 season.

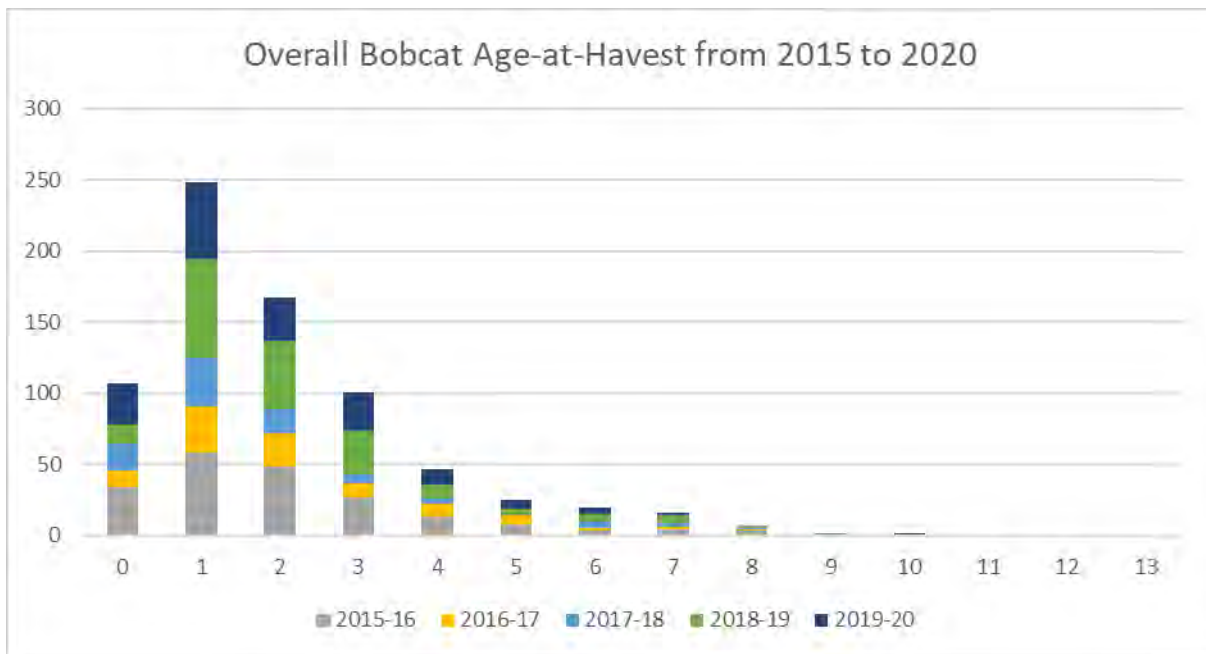


Figure 25. Ages of bobcats harvested from 2015 to 2020 stacked by age. Age is determined by analysis of teeth submitted voluntarily by trappers and hunters.

River Otter Harvest

River otter harvest for the 2020-21 furbearer season was **1,251 river otters**, up 57.4% from last year and up 33.8% from the 2019-20 season. River otter pelt prices decreased 24% from last year and were 81.8% lower than the peak prices in 2012-13 season. The relatively low harvest of the last five seasons can be attributed to the steady decline in pelt prices (Figure 26).



Trappers are required to check or register river otter carcasses or green hides at MDC offices or with Conservation Agents in accordance with requirements by CITES for exportation outside of the United States.

River otter harvest was highest in Chariton County with 129 individuals harvested (Figure 27). Harvest in Chariton County also was among the highest harvest counties in the last four seasons. River otter harvest during the 2020-21 season was highest in the Grand and Missouri River watersheds with 140 each (Figure 28). Nearly 20% of the total harvest was taken from these two watersheds (Table 3).

Age analysis of teeth submitted to the department indicates that individuals in the one-year age class represent the highest proportion of the harvest compared to other age classes (Figure 29.) These and other data will enable MDC to utilize Statistical Population Reconstruction (SPR) to monitor the bobcat population.



Figure 26. Missouri river otter harvest and average pelt prices from 1996 to 2021.

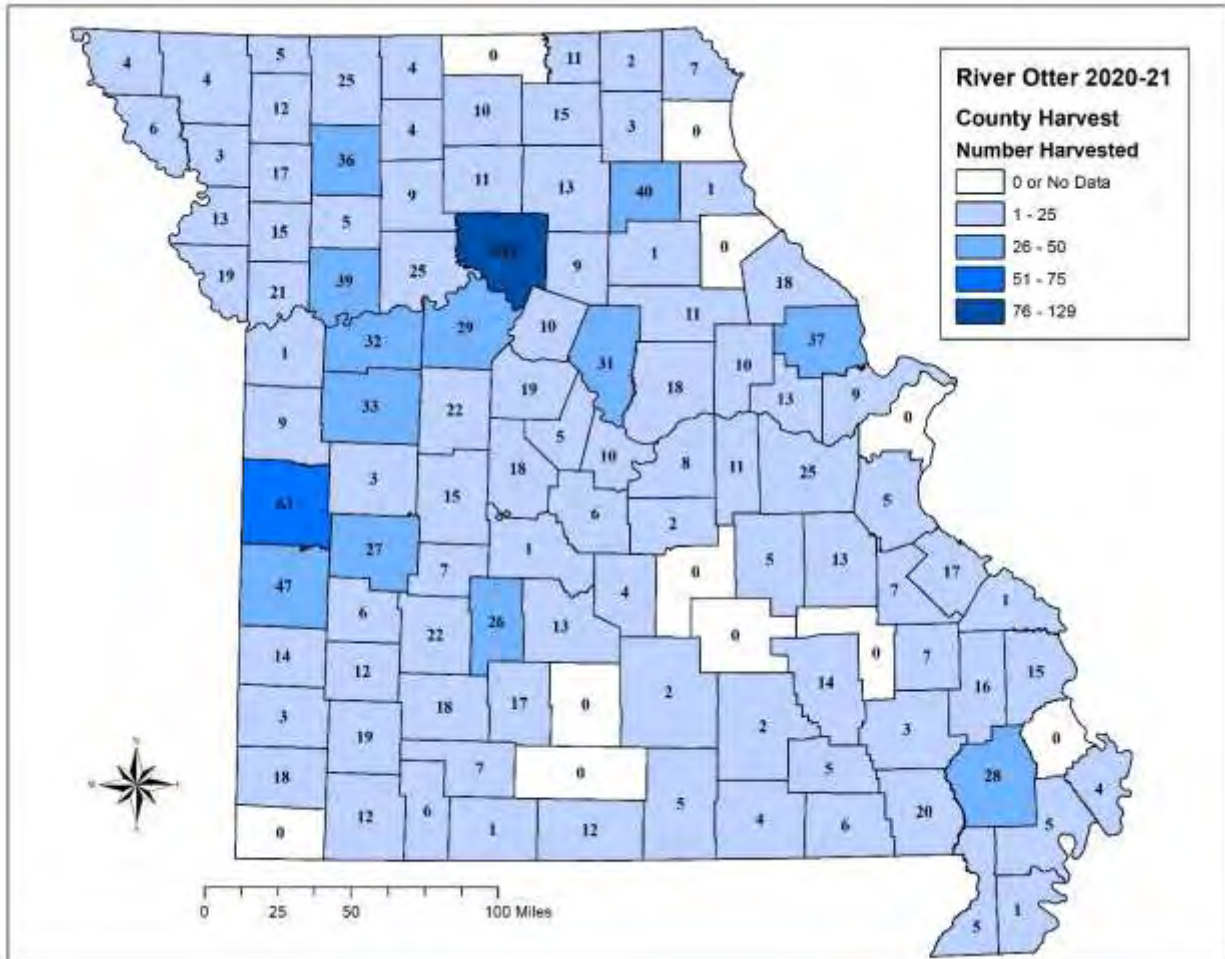


Figure 27. Number of Missouri river otters harvested in each county during the 2020-21 season.



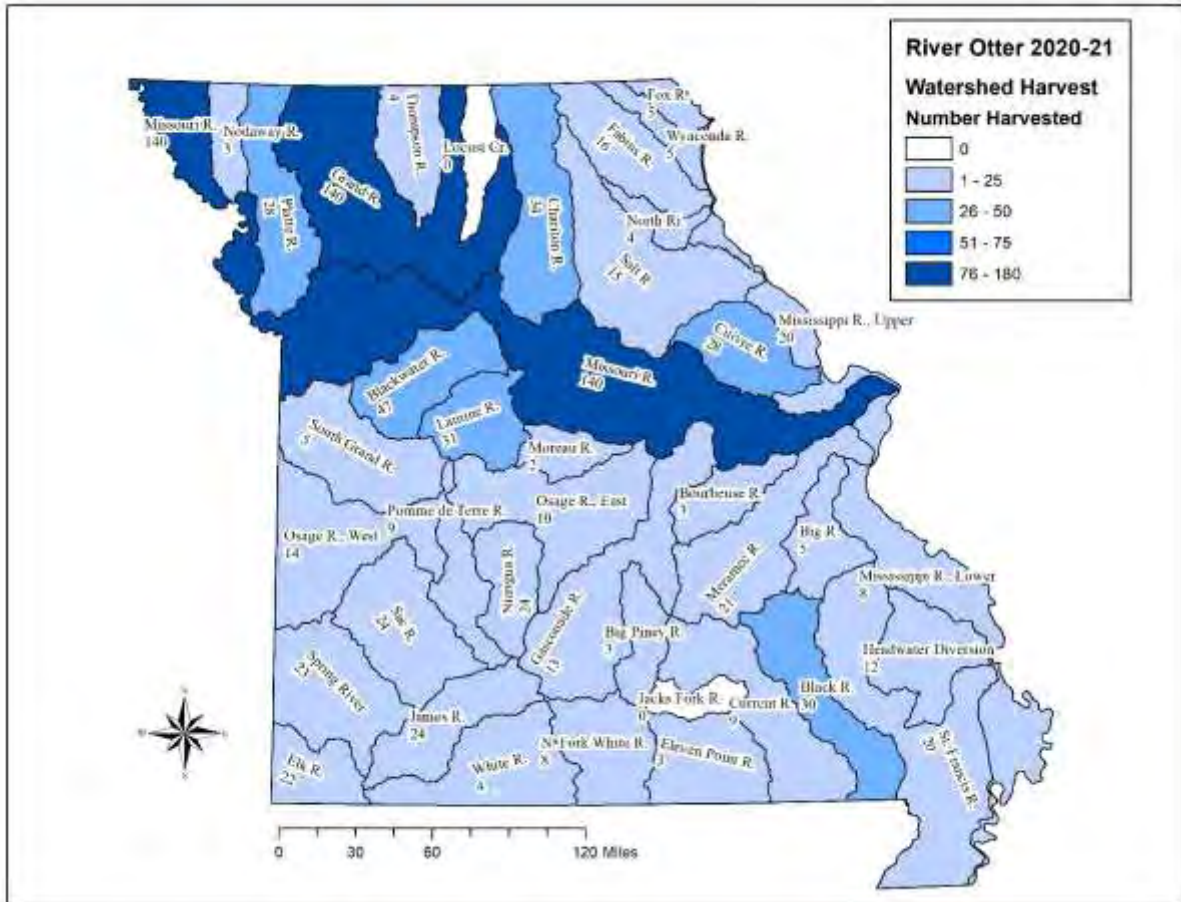


Figure 28. Missouri river otter harvest distribution among watersheds during the 2020-21 trapping season.

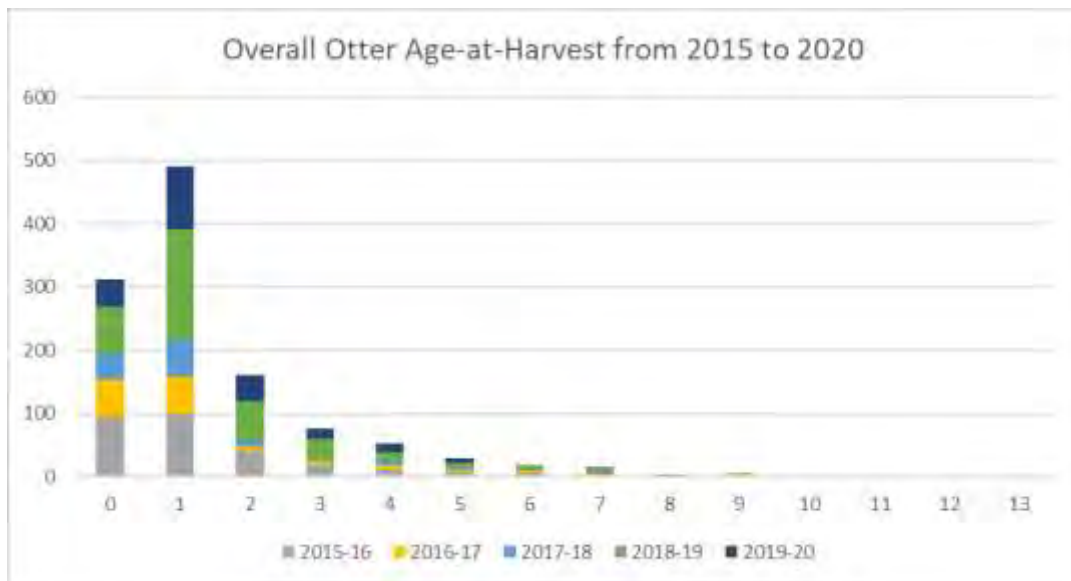


Figure 29. Ages of otter harvested from 2015 to 2020 stacked by age. Age is determined by analysis of teeth submitted voluntarily by trappers.

Table 3. Missouri river otter harvest distribution among watersheds during the 2020-21 trapping season

Watershed	Number Harvested	Percent of Harvest	Watershed	Number Harvested	Percent of Harvest
Big Piney River	3	0.20%	Mississippi River (upper)	20	1.36%
Big River	5	0.34%	Missouri River	140	9.54%
Black River	30	2.04%	Moreau River	2	0.14%
Blackwater River	47	3.20%	N. Fork White River	8	0.55%
Bourbeuse River	3	0.20%	Niangua River	24	1.64%
Chariton River	34	2.32%	Nodaway River	3	0.20%
Cuivre River	28	1.91%	North River	4	0.27%
Current River	9	0.61%	Osage River East	10	0.68%
Eleven Point River	3	0.20%	Osage River West	14	0.95%
Elk River	22	1.50%	Platte River	28	1.91%
Fabius River	16	1.09%	Pomme de Terre River	9	0.61%
Fox River	5	0.34%	S. Grand River	5	0.34%
Gasconade River	13	0.89%	Sac River	24	1.64%
Grand River	140	9.54%	Salt River	15	1.02%
Headwater Diversion	12	0.82%	Spring River	23	1.57%
Jacks Fork River	0	0.00%	St. Francis River	20	1.36%
James River	24	1.64%	Thompson River	4	0.27%
Lamine River	31	2.11%	White River	4	0.27%
Locust Creek	0	0.00%	Wyaconda River	5	0.34%
Meramec River	21	1.43%	Unknown	651	44.38%
Mississippi River (lower)	8	0.55%	Total Harvest	1,467	100.00%

Mink, Muskrat, and Beaver Harvest and Population Trends

Mink, muskrat, and beaver harvests continue to fluctuate in somewhat predictable ranges. Since 1990, mink harvests have varied from about 150 – 1,500 (Figure 30), muskrat harvests from 5,000 – 20,000 (Figure 31), and beaver harvests from 2,000 – 10,000 (Figure 32). Historically, mink and muskrat numbers have fluctuated widely; however, habitat degradation has limited populations and subsequently reduced harvest. Beavers are a longer-lived species and less vulnerable to depredation; harvest rates are more likely related to pelt values. Trappers harvested 203 mink (Figure 30), 8,256 muskrats (Figure 31), and 4,457 beavers (Figure 32) during the 2020-21



season. Mink prices more than doubled to \$7.00. Muskrat prices also increased this to \$3.62. Beaver prices also increased slightly to \$8.38.

Population trends for these species are derived from the Bowhunter Observation Survey. Population trend data are low (Figure 33), in part, because these animals are associated with water bodies and may not be a common sighting for archers and are rarely present in Sign Station Surveys. Given that, trends of mink, muskrat, and beaver suggest populations are stable with slight declines for beaver.

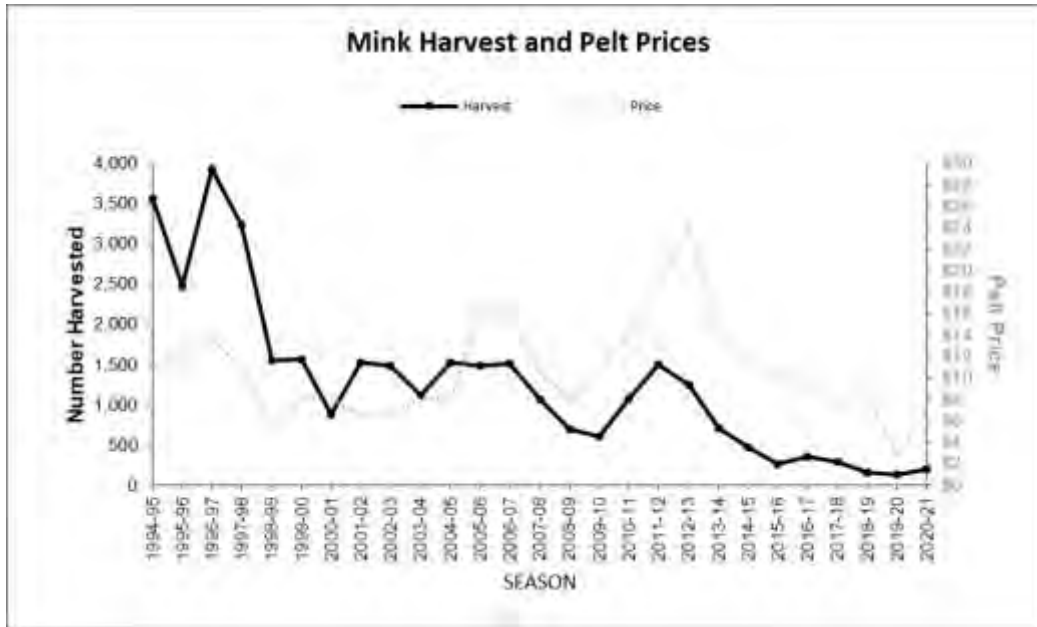


Figure 30. Missouri mink harvest trends since 1994 compared to average pelt prices. Harvest estimates are derived from fur buyer records. Annual pelt prices are the average price from the Missouri Trappers Association Fur Auction.

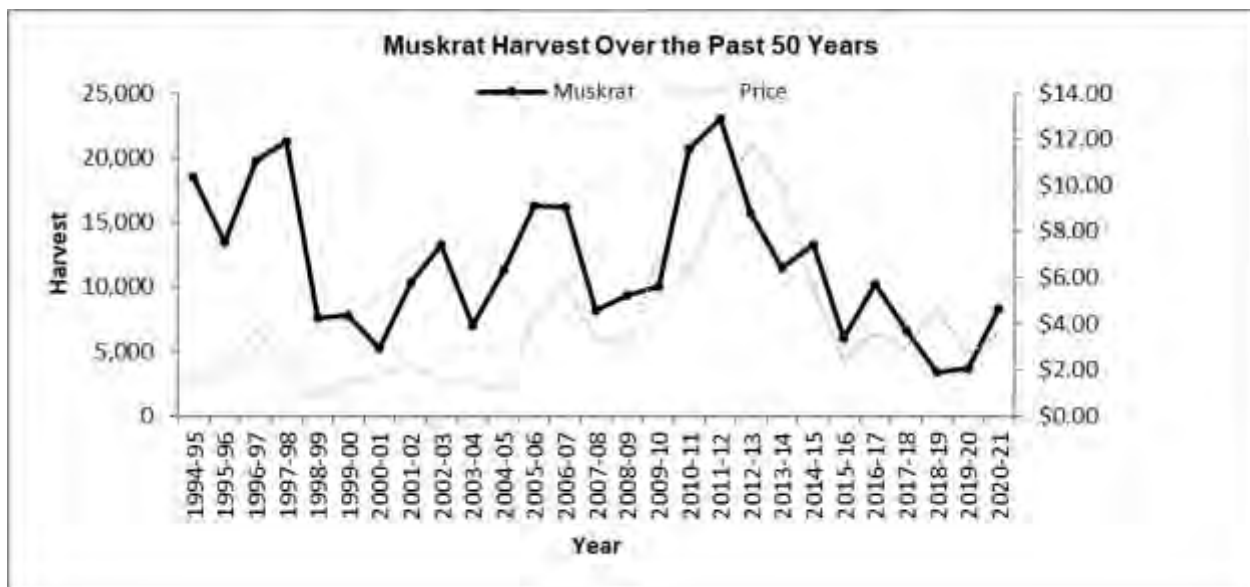


Figure 31. Comparison of Missouri muskrat harvest and pelt prices over the last 50 years. Harvest estimates are derived from fur buyer records. Annual pelt prices are the average price from the Missouri Trappers Association Fur Auction.

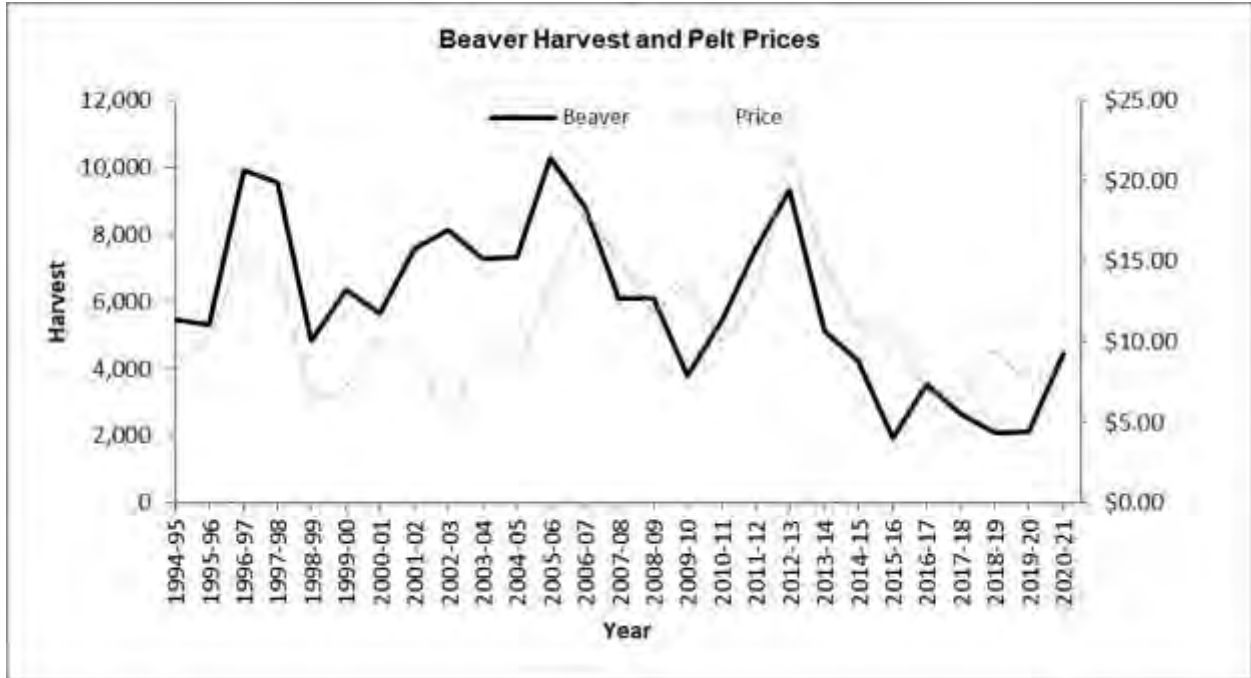


Figure 32. Comparison of Missouri beaver harvest and pelt prices over the last 50 years. Harvest estimates are derived from fur buyer records. Annual pelt prices are the average price from the Missouri Trappers Association Fur Auction.

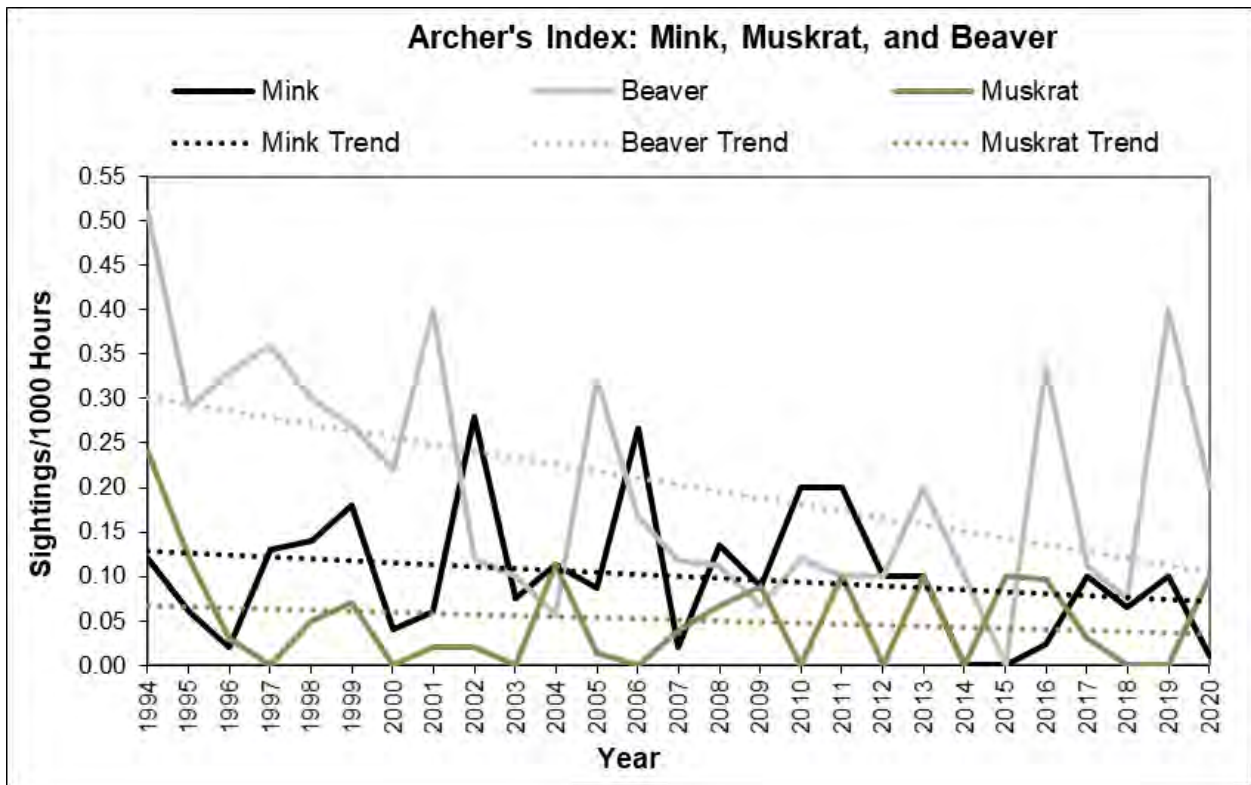


Figure 33. Mink, muskrat, and beaver population trends based on the Archer's Index, derived from the MDC Bowhunter Observation Survey.



American Badger Status in Missouri

The **American badger** is a native, but uncommon, furbearing species in Missouri and is state-ranked as a **Vulnerable Species of Conservation Concern** by MDC. American badgers are a fossorial (burrowing animal) species and require habitat where suitable soil is available for digging burrows for both themselves and for hunting prey. American badgers can be found throughout the state in any of the **8 zoological regions** (Figure 34), but soil most suitable for burrowing mammals occurs primarily in four regions: Western Prairie, Northwest Prairie, Northern Riverbreaks, and Northeast Riverbreaks. Consequently, the bulk of the recorded observations in the Missouri Natural Heritage database occur in these four regions.

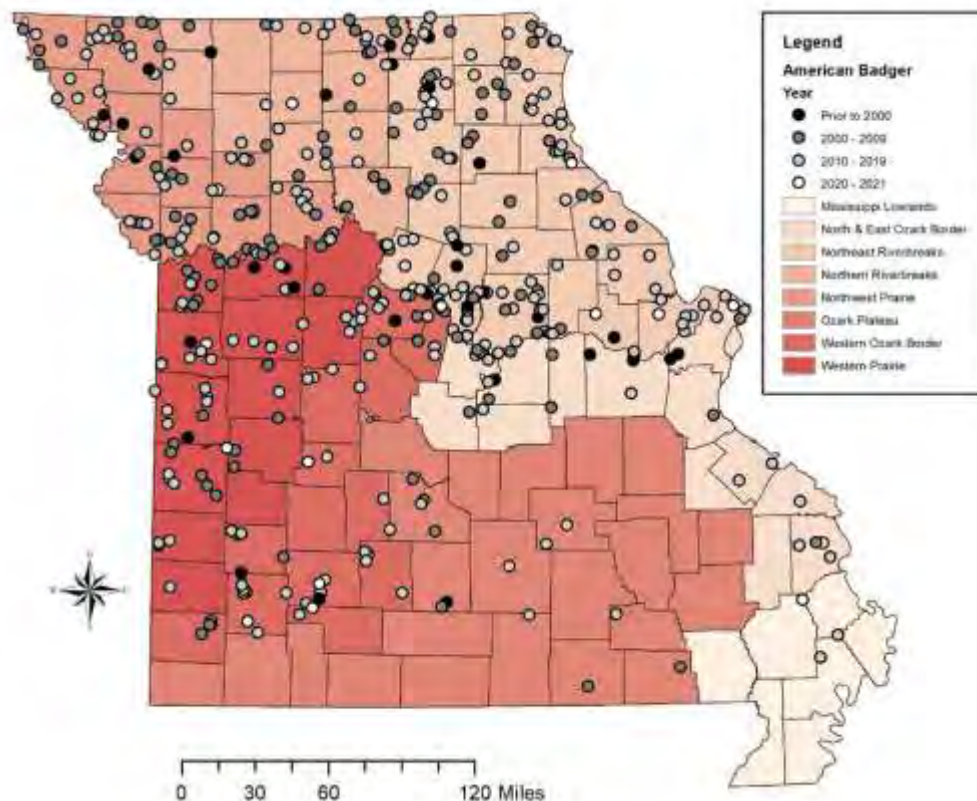


Figure 34. American badger sightings in the Missouri Natural Heritage database range from the 1940s to present and occur in all 8 zoological regions. This includes 18 new sightings in 2020 and 2021.

Considered a furbearing species in the state of Missouri, American badgers are harvested annually during the trapping season. However, harvest has historically been low compared to other furbearers because American badger pelts are not as desirable and typically sell for lower prices than other, more valuable pelts (Figure 35). Furthermore, most American badger harvest occurs as a result of nuisance animal removal. In recent decades, harvest has declined and likely is a result of several factors. First, grasslands and prairies, where the soil substrate is suitable for burrowing, are primary habitat types for American badgers. As these habitats are converted to intensive agriculture, available habitat for American badgers decreases, mostly due to the loss of prey species in these areas. Second, interest in trapping also has declined and fewer individuals participate in trapping.

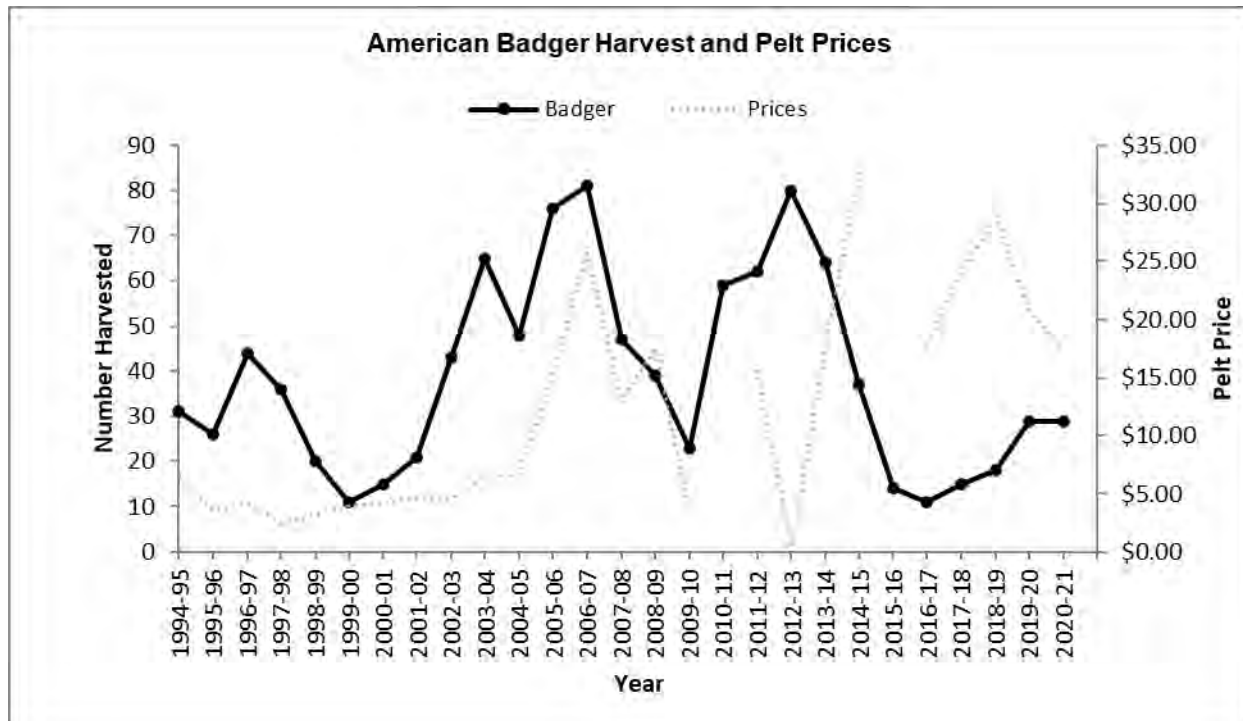



Figure 35. American badger harvest (1961 to present) and pelt prices (1983 to present) in Missouri.





To offset the reduced number of observations and low harvest, MDC made a concerted effort to collect and record American badger observations and specimens from citizens (e.g., trappers) and MDC personnel from 2009 through 2011 to better understand the demographics and distribution of American badgers in Missouri. As a result, more than 300 records occur within the Missouri Natural Heritage database allowing the Department to determine where the species is most prevalent in the state. In 2017, MDC once again made a call for American badger observations with the distribution of a flyer to the Missouri Trappers Association, MDC Regional Offices and Nature Centers, and Missouri DNR State Parks (Figure 36). This renewed effort produced 101 new sightings of American badgers across the state, but primarily in the four suitable zoological regions mentioned previously (Figure 34). MDC will continue to collect information about American badgers from citizens and MDC personnel.





Have you seen a rare Missouri furbearer?

The Missouri Department of Conservation is taking reports for the following species...

American Badger		<p>Flattened body with short, stocky legs. Face is distinctive with black patches, whitish chin and throat, and a prominent white stripe down the head. Weigh 8 to 20 pounds.</p>
Spotted Skunk		<p>Distinct white spot in the center of the forehead and in front of each ear. Broken stripes down the body give a "spotted appearance." Weigh 0.5 to 2 pounds.</p>
Least Weasel		<p>Long, tubular shape with a tail that is 25% of the head-body length. May turn white in the winter, in summer have brown pelts with white feet and underside. Found in northern Missouri and weigh 1 to 3.5 ounces.</p>
Long-tailed Weasel		<p>Tail is 50% or more of the head-body length. May turn white in the winter, but have brown pelts in the summer with cream-yellow undersides. Found statewide and weigh 3 to 16 ounces.</p>

HOW TO REPORT

MDC needs the following information with report submissions:

- ◆ Date and Time of observation
- ◆ Number of individuals observed and number of young in group
- ◆ Location (county and estimated GPS coordinates)
- ◆ Sex, if known
- ◆ Status (alive, trapped, road-killed, etc.)
- ◆ Name, address, phone number, and/or email

Report Sightings to:

Nathaniel Bowersock
Furbearer Biologist
Missouri Department of Conservation
Central Regional Office
3500 East Gans Road
Columbia, MO 65201
(573) 815-7900 ext. 2903
Nathaniel.Bowersock@mdc.mo.gov

Additional Information:

Badger can be legally harvested in Missouri during the established season. Please report any badger sightings, captures or road-kill animals.

There is **NO** trapping or hunting season for weasels or spotted skunks. Please report any sightings, photos, or road-kill animals to the Department.

If you accidentally trap a weasel or spotted skunk and the animal is alive, it must be immediately released. Please report the incidental capture. If you accidentally trap a weasel or spotted skunk and the animal is dead, the entire carcass must be turned over to your local conservation agent.

Figure 36. Rare furbearer sightings request flier distributed by Missouri Department of Conservation.

Rare Furbearers of Missouri

Missouri residents are fortunate to reside in a state with abundant natural resources, including wildlife, and an exceptional diversity of furbearing species. As a result, opportunities for observing wildlife, hunting, and trapping also are abundant. Three traditional furbearing species, the eastern spotted skunk (subspecies plains spotted skunk), least weasel, and long-tailed weasel, recently (within the last 3 decades) exhibited declines in population trends and harvest. The Missouri Department of Conservation (MDC) decided to close trapping for those species due to this significant decline.

The subspecies of **eastern spotted skunk** native to Missouri is the plains spotted skunk. This species was once abundant, albeit not as abundant as their striped cousins, and harvest of 30,000 or more individuals each year was common in Missouri. Declines in annual harvest began in the late 1940s as total harvest dropped precipitously from a high point of more than 55,000 to less than 10,000 individuals over a period of 7 years. After another 5 years, annual harvest dipped to less than 1,000 individuals until harvest dropped to less than 10 each year and MDC closed the season for spotted skunks in 1991-92 (Figure 37). Currently, the plains spotted skunk is listed as **state Endangered** and state-ranked as a **critically imperiled Species of Conservation Concern** in Missouri. Records of spotted skunk sightings are maintained in the Missouri Natural Heritage database, which tracks locations of all Missouri species of conservation concern (Figure 38).

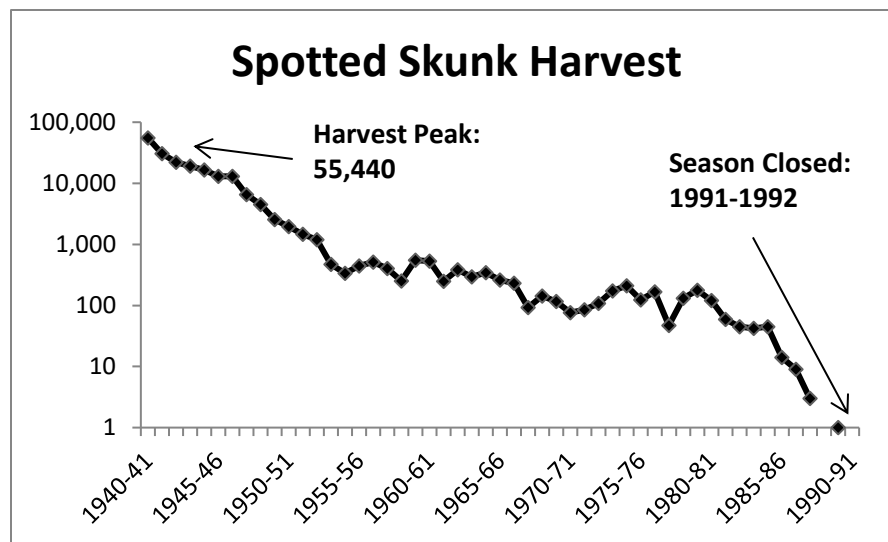


Figure 37. Historic spotted skunk harvest in Missouri from the peak harvest in 1940-1941 to the close of the spotted skunk trapping season in 1991-92.

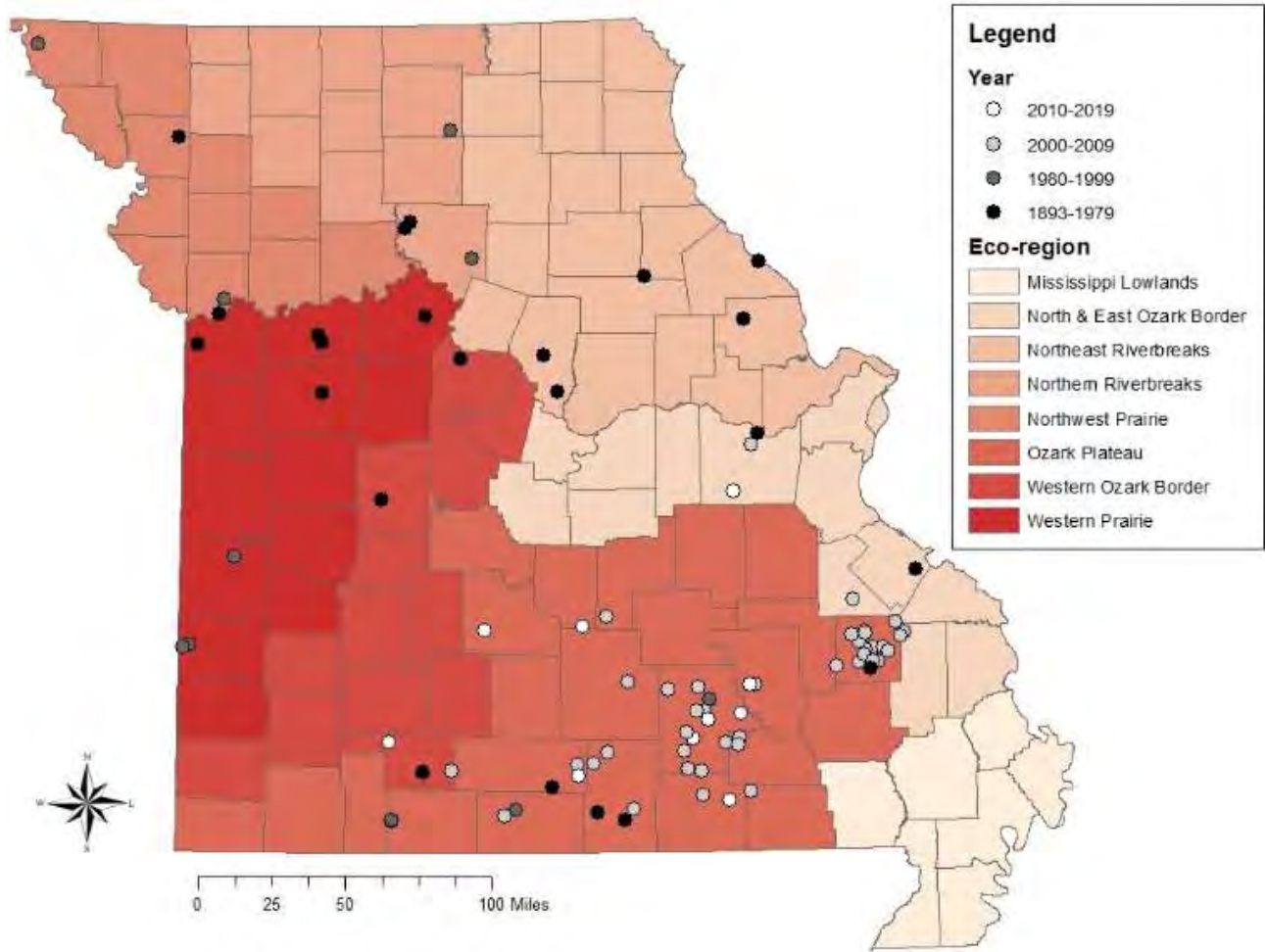


Figure 38. Plains spotted skunk sighting locations from the Missouri Natural Heritage Database.



Northern Missouri is the southern extent of the **least weasel's** range; therefore, the species was never widespread in the state. Although traditionally considered a furbearer, Missouri's *Wildlife Code* does not define least weasels as a furbearing or game species. Conversely, **long-tailed weasels** can be found from central Canada into portions of South America and thus, can be found throughout the state of Missouri. Long-tailed weasels are the primary target of weasel trapping efforts in Missouri, but harvest records indicate an overall 'weasel' category suggesting take of both species occurred. Weasels were never a large proportion of the fur harvest in Missouri, but harvest peaked in the mid-1930s before steadily declining until the season was closed in 2000-01 (Figure 39).

Currently, both weasel species are classified as **Species of Conservation Concern** and state-ranked as **Vulnerable**. Like spotted skunks, sightings of both weasel species are maintained in the Missouri Natural Heritage database providing an indication of their distributions in Missouri (Figures 40 and 41).

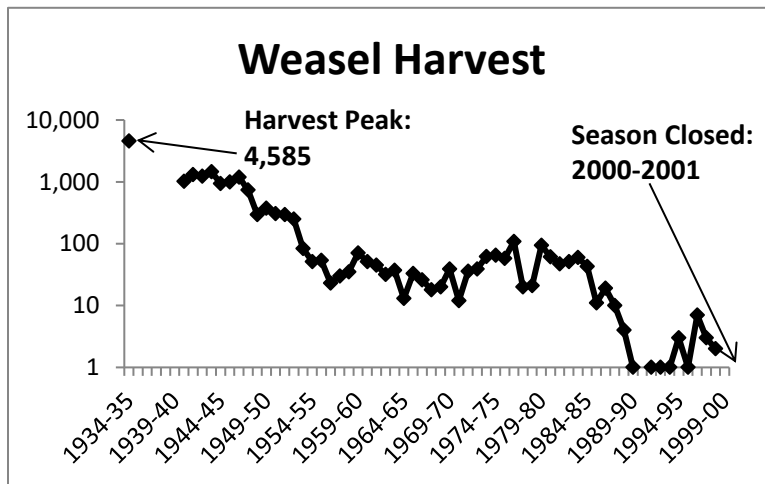


Figure 39. Historic weasel harvest in Missouri from the harvest peak in 1934-35 to the close of the weasel trapping season in 2000-01 with a gap in harvest data from 1935-36 through 1939-40.

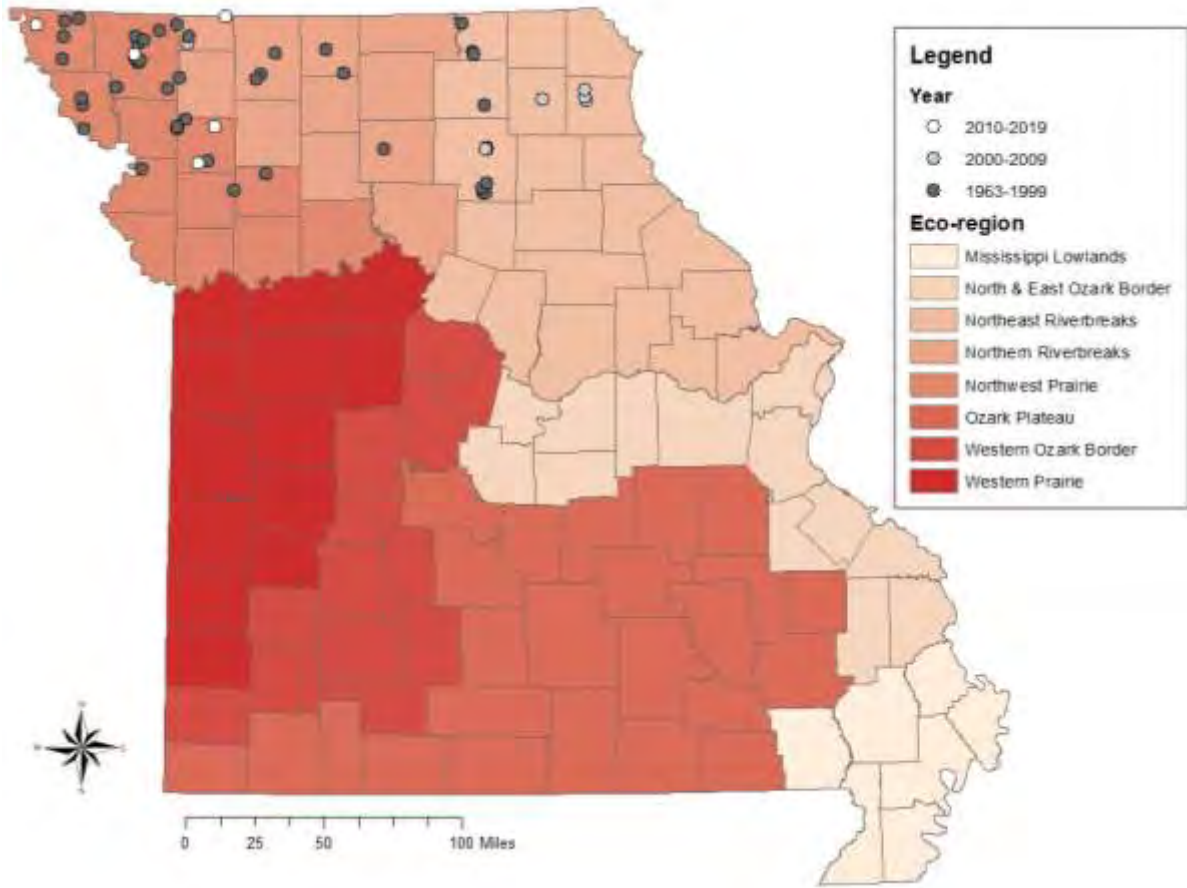


Figure 40. Least weasel sighting locations in the Missouri Natural Heritage database.



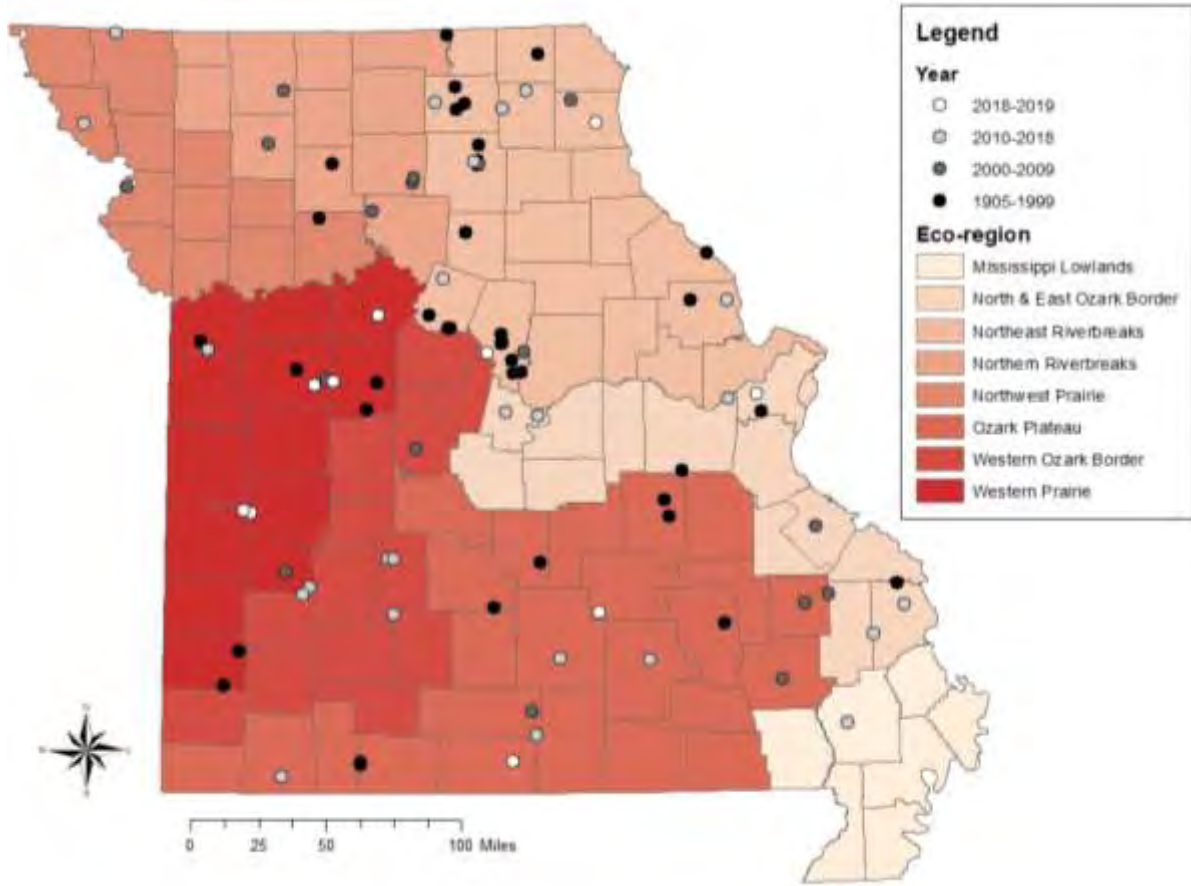


Figure 41. Long-tailed weasel sighting locations in the Missouri Natural Heritage database, including 22 sightings since 2017.



State Furbearer Records



Official furbearer weight records began in 2011. Candidate furbearers must be weighed at MDC's Central Regional Office in Columbia for or verified by MDC staff on a certified scale. Only **One new** record-sized furbearer was harvested in the 2020-21 hunting and trapping seasons (Table 4). Spencer Spears set the record for Nuria at 19 lbs. Please note that some larger weights may have occurred prior to official record keeping in 2011 but cannot be considered record weights at present.

Table 4. Current record-holders and weights of record furbearing species. * Indicates new record.

Current Record Furbearers

Species	Sex	Date Taken	County Taken	Weight (lbs.)	Ounces (oz.)	Hunter/Trapper
Badger	M	17 Dec 2014	Perry	28	14.4	Corey Robinson
Badger	M	21 Nov 2017	Randolph	28	14.4	Glen & Kyle Fessler
Beaver	F	8 Mar 2020	Chariton	81	0	Clay Creech
Bobcat	M	22 Feb 2020	Worth	38	7.5	Harold Owens
Coyote	M	12 Jan 2020	Maires	51	8	Bradley Deeken
Gray Fox	M	2 Jan 2016	Marion	12	11	Lance Hudson & Bobby Gruenloh
Mink	M	19 Jan 2013	Ralls	5	3.2	Jeff Thompson
Muskrat	M	21 Jan 2020	Cass	4	5.3	Dennis Hull
Nutria*	M	31 Jan 2021	Stoddard	19	0	Spencer Spears
Opossum	M	18 Dec 2016	Lincoln	16	2.6	Jacob Doll
Raccoon	M	4 Dec 2015	Gentry	28	8	Dennis Nelson
Red Fox	F	29 Dec 2018	Cape Girardeau	13	5.7	Jake Partridge
River Otter	M	4 Feb 2019	Ozark	32	11.2	Sam Day
Striped Skunk	M	4 Dec 2018	Moniteau	9	14	Ethan Starr

Appendix A

Missouri hunter hours and furbearer population indices based on archer's diaries, 1983 to 2020.

YEAR	Hunter Hours	Coyote	Red Fox	Gray Fox	Bobcat	Raccoon	Virginia Opossum	Striped Skunk	Mink	Beaver	Muskrat	Weasel	Badger	River Otter	Black Bear
1983	55,374	20.0	6.5	5.1	1.7	23.8	12.6	5.0	0.7	0.3	0.5	0.1	0.1	0.0	0.0
1984	32,746	18.8	6.8	3.1	1.2	16.9	6.4	3.5	0.3	0.3	0.1	0.0	0.1	0.0	0.0
1985	30,990	20.1	5.3	2.8	1.5	15.4	8.6	4.2	0.5	0.4	0.4	0.1	0.1	0.1	0.0
1986	51,727	23.5	5.7	2.8	1.5	15.3	6.9	3.5	0.3	0.4	0.0	0.0	0.0	0.0	0.0
1987	57,457	23.5	4.5	2.5	2.0	23.3	10.1	3.0	0.3	0.7	0.2	0.1	0.1	0.1	0.0
1988	84,497	22.4	4.7	2.4	1.7	16.7	4.8	2.7	0.3	0.6	0.1	0.0	0.1	0.1	0.0
1989	72,992	21.1	5.1	2.4	1.8	19.6	5.6	3.5	0.1	0.6	0.1	0.0	0.2	0.1	0.0
1990	72,227	23.6	4.9	2.3	2.9	24.0	7.2	3.5	0.2	0.4	0.1	0.0	0.1	0.1	0.0
1991	64,434	26.1	4.7	3.0	3.3	30.5	11.7	4.0	0.3	0.3	0.1	0.0	0.1	0.0	0.1
1992	64,452	22.5	4.7	2.3	2.9	24.3	8.9	2.8	0.6	0.7	0.1	0.0	0.1	0.3	0.0
1993	53,857	19.7	4.2	2.1	3.2	28.1	7.7	3.7	0.2	0.5	0.2	0.0	0.1	0.3	0.0
1994	49,102	21.0	5.1	2.0	3.4	32.0	7.6	3.2	0.1	0.5	0.2	0.0	0.2	0.2	0.0
1995	66,106	22.3	4.6	2.1	3.8	36.5	9.6	3.6	0.1	0.3	0.1	0.0	0.1	0.3	0.1
1996	60,077	19.6	4.5	1.8	4.1	29.7	6.6	2.7	0.0	0.3	0.0	0.0	0.1	0.5	0.0
1997	47,816	18.0	4.0	2.0	4.5	31.2	7.4	2.7	0.1	0.4	0.0	0.0	0.1	0.6	0.0
1998	43,152	20.8	4.1	2.4	4.4	33.0	10.6	4.2	0.1	0.3	0.1	0.0	0.2	0.3	0.1
1999	44,012	29.2	3.7	2.2	4.8	45.9	12.5	4.0	0.2	0.3	0.1	-	0.1	0.5	-
2000	50,795	20.0	3.7	2.0	4.9	32.1	8.1	3.3	0.0	0.2	0.0	0.0	0.1	0.3	0.0
2001	47,023	19.5	3.6	2.1	5.2	38.7	8.2	4.7	0.1	0.4	0.0	0.0	0.1	0.3	0.0
2002	42,826	24.6	3.8	1.5	7.9	42.6	14.4	5.6	0.3	0.1	0.0	0.0	0.1	0.8	0.1
2003	39,964	20.5	2.7	1.5	6.0	37.9	7.2	3.2	0.1	0.1	0.0	0.0	0.2	0.6	0.0
2004	35,071	17.6	2.8	1.1	4.7	37.3	7.9	2.6	0.1	0.1	0.1	0.0	0.1	1.2	0.0
2005	68,440	21.2	2.8	1.3	5.6	37.3	8.5	2.5	0.1	0.3	0.0	0.0	0.1	0.5	0.0
2006	60,040	22.2	3.2	1.3	6.9	54.4	14.4	3.8	0.3	0.2	0.0	0.0	0.1	0.5	0.0
2007	50,390	19.8	3.0	1.5	5.2	40.0	9.4	4.0	0.0	0.1	0.0	0.0	0.1	0.4	0.0
2008	44,471	16.3	2.6	1.2	5.0	41.5	7.8	3.7	0.1	0.1	0.1	0.0	0.4	0.3	0.0
2009	44,919	20.6	2.6	1.2	4.9	42.0	12.4	4.4	0.1	0.1	0.1	0.0	0.2	1.2	0.1
2010	42,907	27.1	2.1	1.0	5.9	60.6	12.9	3.1	0.2	0.1	0.0	0.0	0.2	0.7	0.0
2011	41,370	26.1	2.7	1.1	6.6	70.1	16.6	4.6	0.2	0.1	0.1	0.0	0.2	0.9	0.0
2012	63,621	24.4	3.6	1.4	5.3	45.8	7.1	5.6	0.1	0.1	0.0	0.0	0.3	1.1	0.0

YEAR	Hunter Hours	Coyote	Red Fox	Gray Fox	Bobcat	Raccoon	Virginia Opossum	Striped Skunk	Mink	Beaver	Muskrat	Weasel	Badger	River Otter	Black Bear
2013	68,674	16.2	2.1	1.4	4.0	33.3	5.7	2.9	0.1	0.2	0.1	0.0	0.1	0.6	0.1
2014	60,560	20.3	2.5	1.3	3.4	37.5	5.8	2.8	0.0	0.1	0.0	0.0	0.3	0.3	0.1
2015	58,203	26.2	2.5	2.0	5.0	55.2	13.4	3.8	0.0	0.0	0.1	0.0	0.3	0.6	0.1
2016	41,409	23.3	2.9	1.5	4.5	36.6	10.2	4.4	0.0	0.3	0.1	-	0.2	0.2	0.2
2017	98,898	24.3	3.4	2.9	5.0	48.5	11.8	2.5	0.1	0.1	0.0	-	0.2	0.6	0.1
2018	91,936	25.4	3.6	1.8	4.8	35.0	8.4	2.1	0.1	0.1	-	0.0	0.2	0.8	0.2
2019	87,821	25.2	3.3	3.9	5.4	47.6	13.3	2.3	0.1	0.4	0.0	-	0.1	0.6	0.1
2020	80,657	22.8	2	.07	7.2	49.3	13.0	3.1	0.1	0.2	0.1	0	0.1	1.1	0.3

Appendix B.

Missouri furbearer species population indices (sightings/1,000 hours) by county derived from the MDC Bowhunter Observation Survey in 2020.

County	Coyote	Red Fox	Gray Fox	Bobcat	Raccoon	Virginia Opossum	Striped Skunk	Mink	Beaver	Muskrat	Weasel	Badger	River Otter	Black Bear
Adair	17	3	0	11	40	19	7	0	0	0	0	0	0	0
Andrew	16	2	0	7	62	21	0	0	0	2	0	0	0	0
Atchison	147	15	0	0	74	0	15	0	0	0	0	0	0	0
Audrain	23	2	0	0	180	14	5	1	0	0	0	0	0	0
Barry	23	0	0	6	72	3	5	0	0	0	0	0	0	0
Barton	51	0	0	6	99	33	6	0	0	0	0	0	0	0
Bates	33	0	0	9	76	9	2	0	0	0	0	0	0	0
Benton	20	1	0	6	29	15	1	0	0	0	0	0	0	0
Bollinger	20	0	0	3	43	9	3	0	0	0	1	0	0	0
Boone	11	5	2	3	35	14	4	0	0	0	4	0	0	0

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County	Coyote	Red Fox	Gray Fox	Bobcat	Raccoon	Virginia Opossum	Striped Skunk	Mink	Beaver	Muskrat	Weasel	Badger	River Otter	Black Bear
Buchanan	24	0	0	5	87	10	0	0	0	0	0	0	0	0
Butler	3	0	7	3	39	10	0	0	0	0	0	0	0	0
Caldwell	30	0	0	5	40	25	5	0	0	0	0	0	0	0
Callaway	8	2	2	3	33	19	3	0	0	0	0	0	0	0
Camden	0	0	0	0	5	2	2	0	0	0	0	0	0	0
Cape Girardeau	13	0	6	7	65	10	6	0	0	0	3	0	0	0
Carroll	40	0	0	7	141	13	3	0	0	0	0	0	0	0
Carter	12	0	0	0	37	0	0	0	0	0	0	0	0	0
Cass	41	0	0	11	34	25	0	0	0	0	0	0	0	0
Cedar	55	2	0	0	91	28	8	0	0	0	0	0	0	0
Chariton	36	2	0	2	159	34	10	0	5	0	0	0	0	0
Christian	19	0	0	0	11	11	0	0	0	0	0	0	0	0
Clark	20	5	0	1	58	12	10	0	2	0	0	0	0	0
Clay	19	6	0	0	69	15	2	0	2	0	0	0	0	0
Clinton	46	0	0	4	42	27	4	0	0	0	0	0	0	0
Cole	44	0	2	3	16	2	2	0	0	0	0	0	0	0
Cooper	28	1	1	6	106	16	4	0	4	0	0	1	0	0
Crawford	9	3	4	2	15	1	2	0	0	0	0	0	0	0
Dade	34	0	0	9	70	24	3	0	0	0	0	0	0	0
Dallas	32	0	2	6	55	6	0	0	0	0	0	0	0	0
Daviess	18	3	0	1	56	16	0	0	0	0	0	1	0	0

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County	Coyote	Red Fox	Gray Fox	Bobcat	Raccoon	Virginia Opossum	Striped Skunk	Mink	Beaver	Muskrat	Weasel	Badger	River Otter	Black Bear
Dekalb	53	0	0	2	52	26	4	0	0	0	4	0	0	0
Dent	6	1	0	6	5	0	1	0	0	0	0	0	0	0
Douglas	4	0	4	4	0	9	0	0	0	0	21	0	0	0
Dunklin	0	0	0	21	77	14	0	0	0	0	0	0	0	0
Franklin	12	1	1	2	20	3	2	1	0	0	0	0	0	0
Gasconade	51	1	2	10	24	9	1	0	0	0	0	0	0	0
Gentry	25	0	0	0	89	20	0	0	0	0	0	0	0	0
Greene	4	6	0	4	37	8	12	0	0	0	0	0	0	0
Grundy	31	0	0	0	34	0	0	0	0	0	10	0	0	0
Harrison	44	0	0	8	87	18	4	0	1	0	0	0	0	0
Henry	34	0	0	24	83	8	3	0	0	0	0	0	0	0
Hickory	20	4	0	8	16	2	2	0	0	0	2	0	0	0
Holt	41	0	0	0	96	27	0	0	0	0	0	0	0	0
Howard	35	0	0	4	78	19	2	0	2	0	2	0	0	0
Howell	14	1	0	3	3	2	2	0	0	0	0	0	0	0
Iron	6	0	3	0	37	9	9	0	0	0	0	0	0	0
Jackson	12	2	0	3	50	10	14	0	0	0	5	0	0	0
Jasper	11	0	0	16	23	20	0	0	0	2	0	2	0	0
Jefferson	7	5	1	1	34	7	4	0	1	0	1	0	0	0
Johnson	23	1	0	3	57	18	2	0	0	4	0	0	0	0
Knox	39	0	0	8	145	35	5	0	0	1	0	0	0	0

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County	Coyote	Red Fox	Gray Fox	Bobcat	Raccoon	Virginia Opossum	Striped Skunk	Mink	Beaver	Muskrat	Weasel	Badger	River Otter	Black Bear
Laclede	15	0	0	10	51	16	1	0	0	0	0	0	0	3
Lafayette	60	8	0	21	71	39	0	0	0	0	13	0	0	0
Lawrence	21	0	0	0	10	10	0	0	0	0	0	0	0	0
Lewis	21	0	0	4	55	21	0	2	0	0	2	0	0	0
Lincoln	23	2	1	5	14	8	0	0	0	0	2	0	0	0
Linn	27	0	0	0	54	12	2	0	0	0	0	0	0	0
Livingston	18	0	0	4	123	11	4	0	0	0	0	0	0	0
McDonald	37	0	0	5	5	5	0	0	0	0	0	0	0	0
Macon	35	1	0	3	74	29	5	1	0	0	0	0	0	0
Madison	13	0	1	4	8	1	0	0	0	0	0	0	0	1
Maries	2	0	0	7	36	2	0	0	0	0	0	0	0	0
Marion	34	3	0	3	49	19	3	0	0	0	0	0	0	0
Mercer	39	3	0	3	89	41	0	0	0	0	0	0	0	0
Miller	5	5	0	16	53	5	5	0	0	0	16	0	0	0
Mississippi	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Moniteau	81	12	6	12	74	25	0	0	0	0	0	0	0	0
Monroe	28	7	0	4	76	15	2	1	0	0	0	0	0	0
Montgomery	18	2	1	2	75	27	5	0	0	0	3	0	0	0
Morgan	4	0	0	3	17	4	1	0	0	0	0	0	0	0
New Madrid	48	0	0	16	95	0	0	0	0	0	0	0	0	0
Newton	0	0	0	8	25	13	3	0	0	0	0	0	0	1

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County	Coyote	Red Fox	Gray Fox	Bobcat	Raccoon	Virginia Opossum	Striped Skunk	Mink	Beaver	Muskrat	Weasel	Badger	River Otter	Black Bear
Nodaway	65	0	0	4	84	9	0	0	0	0	0	0	0	0
Oregon	12	2	2	3	28	17	8	0	0	0	0	0	0	3
Osage	33	1	1	7	22	15	6	0	0	0	0	0	0	0
Ozark	13	0	0	2	0	0	2	0	0	0	0	0	0	0
Pemiscot	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Perry	9	2	0	3	40	3	1	0	0	0	0	0	0	0
Pettis	30	0	0	7	146	15	1	0	0	0	6	0	0	0
Phelps	8	2	0	5	7	6	0	0	0	0	0	0	0	1
Pike	24	3	0	6	32	21	3	0	0	0	0	0	0	0
Platte	56	0	0	0	69	13	5	0	3	0	31	0	0	0
Polk	43	0	0	6	67	27	10	0	0	0	0	0	0	0
Pulaski	11	3	4	5	32	28	11	0	0	0	0	0	0	0
Putnam	10	0	0	22	28	17	2	0	0	0	1	0	0	0
Ralls	20	6	0	3	46	13	4	0	0	0	0	0	0	0
Randolph	15	2	4	4	76	13	0	0	0	0	4	0	0	0
Ray	53	0	2	2	63	14	2	0	0	0	0	0	0	0
Reynolds	15	2	0	17	50	12	7	0	0	0	0	0	0	2
Ripley	9	0	2	12	37	2	12	0	0	0	0	0	0	0
St. Charles	15	9	4	0	25	5	6	0	4	0	0	0	0	0
St. Clair	39	0	0	3	9	12	0	0	0	0	0	0	0	0
St. Francois	19	2	3	2	16	2	0	0	0	0	0	0	0	0

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County	Coyote	Red Fox	Gray Fox	Bobcat	Raccoon	Virginia Opossum	Striped Skunk	Mink	Beaver	Muskrat	Weasel	Badger	River Otter	Black Bear
Ste. Genevieve	21	14	0	2	16	7	2	0	0	0	0	0	0	0
St. Louis	27	6	2	1	36	6	2	0	0	0	0	0	0	1
Saline	46	1	1	13	200	25	5	0	2	0	0	0	0	0
Schuyler	51	0	0	6	57	13	0	0	0	0	0	2	0	0
Scotland	11	1	0	1	89	8	4	0	0	0	2	0	0	0
Scott	44	0	0	0	96	15	0	0	0	0	0	0	0	0
Shannon	98	0	0	10	7	3	3	0	0	0	0	0	0	6
Shelby	17	1	2	6	136	10	3	0	0	0	4	0	0	0
Stoddard	15	3	0	0	13	0	0	0	0	0	0	0	0	0
Stone	25	5	0	2	5	0	0	0	0	0	0	0	0	0
Sullivan	50	0	0	2	29	42	2	0	0	0	0	0	0	0
Taney	10	0	0	7	3	0	0	0	0	0	0	0	0	0
Texas	2	6	0	4	17	4	0	0	0	0	0	0	0	17
Vernon	32	0	0	21	91	53	0	0	0	0	23	0	0	0
Warren	24	2	1	1	19	13	2	0	0	0	0	0	0	0
Washington	16	5	2	0	9	0	5	2	0	0	0	0	2	0
Wayne	10	0	0	2	10	6	6	0	0	0	4	0	0	0
Webster	17	2	0	284	85	8	2	0	0	0	0	0	0	0
Worth	36	5	0	5	45	32	9	0	0	0	0	0	0	0
Wright	7	0	0	15	44	7	11	0	0	0	0	0	0	0
Statewide Index	22.8	2	0.7	7.2	49.3	13	3.1	0.1	0.2	0.1	0.0	0.1	1.1	0.3

