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## 2020 BOBCAT HUNTER AND TRAPPER HARVEST IN MICHIGAN

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### ABSTRACT

A survey was completed to determine the number of people hunting and trapping bobcats in Michigan, the number of days spent afield (effort), and the number of bobcats registered. In 2020, 13,472 people obtained a bobcat harvest tag for the hunting and trapping seasons (23% increase from 2019 and 34% increase from 2018). About 32% (4,252) of these tag-holders attempted to hunt or trap bobcats, and 20% of these furtakers (hunters and trappers combined) registered at least one bobcat. An estimated 2,810 people hunted bobcats, and they spent 22,439 days hunting and registered 365 bobcats. About 1,887 people attempted to trap bobcats and spent 22,211 days trapping and registered 621 bobcats. The number of active furtakers increased significantly by 17% between 2018 and 2020. The estimated effort per registered bobcat in 2020 was not significantly different from 2018 for either hunters or trappers. The amount of effort per bobcat registered was a measure of how difficult it was to capture a bobcat and may be an indirect measure of the abundance of bobcats. Similar estimates among hunters and trappers during 2018 and 2020 suggested that bobcat numbers were similar in both years. Other population indices measured by hunters (i.e., the proportion of hunters that passed a bobcat) and trappers (i.e., the proportion of trappers that released a bobcat and the proportion of trappers that caught an incidental bobcat) also did not change significantly between 2018 and 2020.



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## INTRODUCTION

The Natural Resources Commission (NRC) and the Michigan Department of Natural Resources (DNR) have the authority and responsibility to protect and manage the wildlife resources of the state of Michigan. Harvest surveys are one of the management tools used to accomplish this statutory responsibility. Estimating hunter and trapper participation, harvest, and days afield (effort) are the primary objectives of these surveys. Estimates derived from harvest surveys, as well as information from mandatory registration reports, field surveys, and population modeling are used to monitor bobcat (*Lynx rufus*) populations and establish harvest regulations.

During 2020, bobcats could be harvested during both hunting and trapping seasons in six management units (Tables 1 and 2). The dates of the hunting and trapping seasons were the same as in 2018 and 2019. To hunt or trap bobcats, resident furtakers were required to obtain a free bobcat harvest tag, in addition to a fur harvester license. Nonresidents were not permitted to harvest bobcats. Bobcat harvest tags were only available from May 1 through November 30 (i.e., before the start of the earliest bobcat season). The total statewide bag limit was 2 bobcats per furtaker regardless of method of take. One bobcat could be taken on any land type (public or private) and in any management unit. A second bobcat could be taken only on private lands (excluding Commercial Forest lands) in Unit A (Figure 1). Successful furtakers were required to immediately attach their harvest tag to the bobcat and were required to register bobcats within 10 days of the end of the season in which the bobcat was taken. Furtakers were not allowed to keep bobcats that were beyond the legal limit and bobcats taken outside the area open for harvest (incidental catches). Furtakers were required to bring incidental catches to a registration station if they could not be released alive. Although all furtakers harvesting a bobcat were required to present their animals at a DNR office for registration, this survey does not present the information collected from registered bobcats.

In 2020, hunting and trapping were allowed on both public and private lands in all open management units. Trappers could use body-gripping (e.g., conibear) traps, foothold traps, and live-restraining cage traps to capture bobcats in the UP but only foothold traps in the LP.

## METHODS

The DNR provided all bobcat harvest tag holders (13,472 tag holders) the option to report information about their hunting and trapping activity voluntarily via an internet survey (Appendix A). After all the hunting and trapping seasons had ended, all bobcat harvest tag holders that had provided an email address to the MDNR (N=7,813) were sent an email invitation in late February 2021 to complete the online questionnaire. About two weeks after the email invitation had been sent, a random sample of 5,000 license buyers that had not completed the online survey was selected to receive a mail version of the questionnaire. The questionnaire sent via the mail asked the same questions as the internet version. Before the random sample was selected, 419 people had completed the online survey (5% of the people having an email address).

People completing the survey reported whether they attempted to hunt or trap a bobcat, the number of days spent afield (i.e., effort), and the number of bobcats they registered. Hunters

were also asked to report their hunting method (e.g., dogs, calls) and the number of bobcats that were within range to take but they chose not to harvest. Hunters that used dogs were asked to report who owned the dogs, the number of occasions the dogs chased a bobcat, and whether they hired a guide. Trappers were asked to report the number of bobcats caught in traps and the number of bobcats released alive. Trappers also were asked to report the types of traps used, their preferred trap type, and whether they caught any bobcats in a trap set for another animal during the open seasons for taking bobcats. All furtakers were asked about the ownership of lands where they pursued bobcats and their opinion of the status of the bobcat population in the county where they preferred to hunt or trap. All active furtakers were asked to describe the weather conditions during the season. Possible answers included excellent, above average, average, below average, and very poor. Successful hunters and trappers were asked to indicate how they intended to use the pelt from the animals they kept. Possible answers included sold to fur buyer, sold at fur auction, sold to a taxidermist, sold to a private individual, kept for personal use, or other.

To extrapolate from the tag holders that completed their questionnaire to all people obtaining harvest tags, estimates were calculated using a stratified random sampling design (Cochran 1977). We treated tag holders that had voluntarily completed the online survey before our mail sample was selected as the first stratum (N=419), while the remaining tag holders were included in the second stratum (N=13,053). The 95% confidence limit (CL) was also calculated for all estimates. This CL can be added and subtracted from the estimate to calculate the 95% confidence interval. The confidence interval is a measure of the precision associated with the estimate and implies the true value would be within this interval 95 times out of 100. Estimates were not adjusted for possible response or nonresponse biases. The 95% CL for ratio estimates (i.e., mean days of effort required per registered bobcat) were calculated using the Taylor series linearization method (survey package in the R application, Lumley 2004).

Statistical tests are used routinely to determine the likelihood that the differences among estimates are larger than expected by chance alone. The overlap of the 95% confidence intervals was used to determine whether estimates differed significantly. Non-overlapping 95% confidence intervals were equivalent to stating the difference between the means was larger than would be expected 95 out of 100 times ( $P < 0.05$ ), if the study had been repeated (Payton et al. 2003).

Shortly after the 2019 hunting and trapping seasons ended, restrictions (e.g., stay at home requirements) were implemented statewide to limit the spread of the coronavirus disease (COVID-19), a contagious respiratory disease that can cause serious illness or death of humans. The 2019 survey was not completed because of the COVID-19 pandemic restrictions. Consequently, estimates for the 2020 seasons were compared to estimates for the 2018 season.

## **RESULTS**

Questionnaires were mailed initially during early April 2021, and nonrespondents were mailed up to two follow-up questionnaires. Although 5,000 people were sent a questionnaire, 64 questionnaires were undeliverable, resulting in an adjusted sample size of 4,936.

Questionnaires were returned by 2,005 people, yielding a 41% adjusted response rate.

## Hunting and Trapping Combined

In 2020, 13,472 people obtained a bobcat harvest tag for the bobcat hunting and trapping seasons (23% increase from 2019 and 34% increase from 2018). About  $32 \pm 2\%$  (4,252) of these tag holders attempted to hunt or trap bobcats (Table 3). Furthermore, about  $3 \pm 1\%$  ( $446 \pm 92$ ) of the tag holders attempted to both hunt and trap bobcats. Among the 4,252 tag holders that attempted to take a bobcat, 56% only hunted, 34% only trapped, and 10% both hunted and trapped (Figure 2).

Furtakers spent 44,650 days afield ( $\bar{x} = 10.5 \pm 0.8$  days/furtaker) and registered 985 bobcats ( $\bar{x} = 0.23 \pm 0.03$  bobcats/furtaker). Furtakers spent about 18,410 days afield pursuing bobcats in the UP and 25,609 days in the LP (Table 3). About 20% of the furtakers registered at least one bobcat (Table 4). Nearly  $17 \pm 3\%$  of the furtakers registered only one bobcat and about 3% registered two bobcats. About 30% of the furtakers in the UP registered at least one bobcat (Table 4). Nearly  $19 \pm 5\%$  of the UP furtakers registered only one bobcat and  $11 \pm 4\%$  registered two bobcats. An estimated 16% of furtakers in the LP registered a bobcat.

The number of furtakers seeking bobcats statewide in 2020 increased significantly by 17% from 2018, and the number of days devoted to taking a bobcat increased significantly by 37% from 2018 (Table 3, Figure 3). Regionally, furtaker numbers increased significantly in the UP but were unchanged in the LP. The number of bobcats registered statewide did not change significantly between 2018 and 2020 (Table 4). The proportion of furtakers registering a bobcat was not significantly different statewide and in either the UP or in the LP.

Counties with 160 or more furtakers that pursued bobcats included Mecosta, Alcona, Montmorency, Newaygo, Chippewa, Ogemaw, Roscommon, and Mason (Table 5). Counties with 40 or more registered bobcats taken within that county included Iron, Chippewa, Ontonagon, Montmorency, and Menominee.

About  $42 \pm 3\%$  of active furtakers reported the bobcat population was stable in the county where they preferred to hunt or trap bobcats, which was the same as the 2018 estimate (Figures 4-6). About  $25 \pm 3\%$  of the furtakers reported bobcat numbers were improving but  $7 \pm 2\%$  reported fewer bobcats. Nearly  $21 \pm 3\%$  of the furtakers were uncertain of the status of bobcats.

Successful furtakers indicated that most (74%) bobcat pelts would be kept for personal use (e.g., pelt tanned or used for taxidermy mount) (Table 6). Only about 18% of the pelts would be sold. In addition, the fate of about 7% of the pelts was unknown.

## Hunting

About  $21 \pm 2\%$  (2,810 hunters) of the tag-holders attempted to hunt bobcats during the 2020 seasons (Table 7). About 525 people hunted in the UP and 2,236 hunted in the LP. About  $53 \pm 4\%$  of bobcat hunters hunted bobcats on their land or land owned by their family, while  $34 \pm 4\%$  of the hunters hunted on private land not owned by themselves or their family. About  $49 \pm 4\%$  of bobcat hunters hunted on public land. Nearly  $22 \pm 4\%$  of the hunters hunted on

public land only,  $49 \pm 4\%$  hunted on private land only, and  $27 \pm 4\%$  hunted on both public and private lands.

Hunters spent about 22,439 days afield hunting bobcats ( $\bar{x} = 8.0 \pm 0.8$  days/hunter) and registered an estimated 365 bobcats ( $\bar{x} = 0.13 \pm 0.03$  bobcats/hunter, Tables 7-8). Hunters spent about 4,906 days afield hunting bobcats in the UP and 17,116 days hunting in the LP. The estimated number of days of effort per bobcat registered by hunters statewide was 61.6 days in 2020 (Table 9).

Hunters registered about 36% of the bobcats registered by furtakers (Figure 7). About 13% of the bobcat hunters statewide harvested at least one bobcat (Table 8), but none of the hunters registered two bobcats. About 13% of the hunters in both the UP and LP registered one bobcat.

Counties with 110 or more hunters pursuing bobcats included Alcona, Montmorency, Gladwin, Roscommon, Mecosta, and Missaukee (Table 10). Counties with at least 20 hunter-registered bobcats originating from that county included Montmorency, Ogemaw, Roscommon, and Presque Isle.

The number of hunters statewide did not change significantly between 2018 and 2020 (Table 7). The number of times hunters passed up an opportunity to take a bobcat, the number of bobcats registered, and hunter success also did not change significantly statewide between 2018 and 2020 (Table 8). In contrast, hunting effort increased significantly by 42%.

The number of days of effort per bobcat registered by hunters statewide (61.6) was not statistically different from the estimate for 2018 (43.7). In addition, hunting effort per bobcat was not significantly different in any of the management units between 2018 and 2020 (Table 9, Figure 8).

Hunters most frequently used calls ( $61 \pm 4\%$ ) or dogs ( $25 \pm 4\%$ ) to hunt bobcats (Table 11). Hunters using calls were responsible for 49% of the days spent hunting bobcats, and hunters using dogs were responsible for 40% of the hunting effort (Figure 9). The estimated number of people hunting bobcats with dogs statewide in 2020 and their hunting effort was not significantly different from 2018 (Table 12). In addition, hunter success, the number of bobcats passed, and the number of bobcats registered by hunters using dogs statewide did not change significantly between 2018 and 2020 (Tables 12 and 13).

The estimated number of people hunting bobcats with calls statewide in 2020 did not significantly differ from 2018 (Table 14). In addition, their hunting effort, the number of bobcats passed and the proportion of hunters that registered a bobcat were not significantly different between 2018 and 2020 (Tables 14 and 15). The number of bobcats registered by hunters using calls also did not change significantly (224 bobcats in 2018 versus 179 bobcats in 2020). Among hunters using calls, none of them used a guide service.

Bobcat hunters using dogs participated in an estimated  $3,329 \pm 838$  chases of bobcats statewide in 2020, which increased significantly by 71% from 2018 (Figure 10). About  $23 \pm 3\%$  of the bobcat hunters had an opportunity to harvest a bobcat but chose not to harvest the bobcat, which was not significantly different from 2018. An estimated  $658 \pm 112$  hunters chose

not to harvest bobcats on  $1,952 \pm 492$  occasions in 2020 (Figure 10). Among those hunters that passed up an opportunity to take a bobcat,  $37 \pm 8\%$  passed one bobcat,  $24 \pm 7\%$  passed two bobcats,  $10 \pm 5\%$  passed three bobcats,  $16 \pm 7\%$  passed four bobcats, and  $13 \pm 6\%$  passed five or more bobcats. The estimate of the number of bobcats passed by hunters should be viewed cautiously because hunting partners may have reported passing the same bobcat; thus, the estimate will be inflated by an unknown amount. An estimated  $10 \pm 5\%$  of bobcat hunters that hunted with dogs hired a guide service to assist with their hunting ( $68 \pm 37$  hunters).

About  $42 \pm 4\%$  of bobcat hunters reported the bobcat population was stable in the county where they preferred to hunt, which was similar to the 2018 estimate (Figures 4-6). About  $22 \pm 4\%$  of hunters reported bobcat numbers were increasing but  $9 \pm 2\%$  reported fewer bobcats. Nearly  $21 \pm 3\%$  of bobcat hunters were uncertain of the status of bobcats.

About 56% of hunters indicated that the weather during the season was near average (Table 16). In contrast, about 21% of hunters indicated that the weather was better than average and about 21% of hunters reported that the weather was worse than average.

The mean value of bobcat pelts was positively correlated with the number of hunters and their days of effort during 1997-2020 in the UP but not in the LP (Table 17). In addition, pelt prices were significantly correlated with days of effort per registered bobcat in the LP but not in the UP.

Successful hunters indicated that most (83%) bobcat pelts would be kept for personal use (e.g., pelt tanned or used for a taxidermy mount) (Table 6). Only about 2% of the pelts would be sold. In addition, the fate of about 12% of the pelts was unknown.

## Trapping

An estimated  $14 \pm 1\%$  (1,887 trappers) of the tag-holders trapped bobcats during the 2020 season (Table 18). Most trappers trapped bobcats on private land owned by themselves or their family ( $63 \pm 5\%$ ). About  $44 \pm 5\%$  of trappers trapped on private lands not owned by themselves or their family and about  $31 \pm 5\%$  trapped on public land. About  $68 \pm 5\%$  trapped on private land only,  $11 \pm 3\%$  of the trappers trapped on public land only, and  $20 \pm 4\%$  trapped on both public and private lands.

Trappers spent about 22,211 days afield trapping bobcats ( $\bar{x} = 11.8 \pm 1.1$  days/trapper), caught 999 bobcats, registered 621 bobcats ( $\bar{x} = 0.33 \pm 0.06$  bobcats/trapper), and released 378 bobcats from their traps during the 2020 bobcat season (Tables 18 and 19, Figure 11).

The number of trappers statewide increased significantly by 27% between 2018 and 2020 (1,492 in 2018 versus 1,887 in 2020, Table 18). Additionally, trapping effort by trappers increased significantly by 32% in 2020. The number of bobcats captured and the number of bobcats registered did not change significantly (Tables 18 and 19). The proportion of trappers registering a bobcat did not change significantly between 2018 and 2020 (26% in 2018 versus 26% in 2020, Table 20). The estimated number of days of effort per bobcat registered by trappers statewide in 2020 did not change significantly from 2018 (39.2 days in 2018 versus 35.8 days in 2020; Table 21 and Figure 8). Regionally, trapper numbers increased significantly

by 45% in the UP but was unchanged in the LP. The estimated number of days of effort per bobcat registered by trappers in 2020 did not change significantly from 2018 in any region (Table 21).

Trappers captured about 64% of the bobcats registered by furtakers (Figure 7). About 33% of bobcat trappers captured at least one bobcat and 26% registered at least one bobcat (Table 20). Nearly  $20 \pm 4\%$  of the trappers registered one bobcat and  $6 \pm 3\%$  registered two bobcats. Nearly  $10 \pm 3\%$  of the bobcat trappers released a bobcat that they caught. They released 378 bobcats from their traps, which was not significantly different from the number released in 2018 (i.e., 350 bobcats). About  $12 \pm 3\%$  of bobcat trappers caught a bobcat in a trap set for another furbearer during the open bobcat seasons (Figure 11).

Counties with 90 or more trappers pursuing bobcats included Mecosta, Delta, Chippewa, Menominee, and Newaygo (Table 22). Iron, Chippewa, Ontonagon, Marquette, and Delta were the only counties with more than 30 registered bobcats originating from that county.

Most trappers used foothold traps (83%), while 22% of the trappers used body-gripping traps (e.g., conibears) (Table 23). Most trappers preferred to use foothold traps (65%), while 15% preferred to use conibears (Table 24). An estimated 14% of trappers did not have a preferred trap type.

About  $40 \pm 5\%$  of bobcat trappers reported the bobcat population was stable in the county where they preferred to trap (Figures 4-6). About  $31 \pm 5\%$  reported bobcat numbers were increasing but  $5 \pm 2\%$  reported fewer bobcats. Nearly  $20 \pm 4\%$  of bobcat trappers were uncertain of the status of bobcats.

About 49% of trappers indicated that the weather during the season was near average (Table 16). In contrast, about 24% of trappers indicated that the weather was better than average and about 25% of trappers reported that the weather was worse than average.

The mean value of bobcat pelts was positively correlated with the number of trappers and their days spent afield during 1997-2020 in the UP, but not in the LP (Table 25). The mean value of bobcat pelts was not significantly correlated with the number of bobcats registered in either region, but effort per bobcat registered was positively correlated in the LP.

Successful trappers indicated that most (69%) bobcat pelts would be kept for personal use (e.g., pelt tanned or used for a taxidermy mount) (Table 6). About 27% of the pelts would be sold.

## **DISCUSSION**

Many factors influence bobcat harvest trends including furtaker numbers, bobcat numbers, harvest regulations, habitat conditions, weather, and fur prices; thus, any interpretations of trends should be viewed cautiously. Moreover, estimates of events that occur infrequently (e.g., harvesting a bobcat) are difficult to estimate precisely using common sampling designs (Cochran 1977). Relatively few furtakers harvest a bobcat; thus, estimates from the statewide fur harvesters survey from previous years often have been imprecise (Frawley 2001).

Beginning with the 2004-2005 bobcat season, however, all licensed furtakers attempting to harvest a bobcat in Michigan were required to obtain a free bobcat harvest tag from the DNR. Beginning with the 2004 season, the DNR has used these lists of tag holders to design surveys that result in more precise estimates.

Using indices to monitor wildlife populations is a standard practice in wildlife management, and most states use a variety of indices for evaluating furbearer populations. The DNR considers the logistics of data collection, data reliability, the ability of the index to detect population change, and cost when selecting an index. Historical, long-term data sets are also valuable for evaluating changes in harvest regulations over time. The DNR uses several indices to monitor the bobcat populations and to recommend changes in bobcat harvest regulations to the NRC. Each of these indices measures an attribute of the bobcat population and independently can be used to monitor changes in population status. The use of multiple indices strengthens the assessment of population status.

Bobcat hunting seasons in the UP were shortened by 31 days (34% reduction) and trapping seasons in the UP were shortened by 65 days (51% reduction) in 2009 (Tables 1 and 2); thus, hunting and trapping efforts also declined in 2009 statewide (Figure 3). Since 2009, the number of furtakers participating in bobcat hunting and trapping seasons has generally increased. The increase in the number of furtakers has been driven primarily by increased participation in the LP.

In 2020, the estimated number of bobcats registered by both hunters and trappers combined (985 bobcats) increased significantly by 24% from 2018. Also, the number of bobcats registered in 2020 was 29% greater than the average (762) taken annually during 2003-2020 (Figure 3).

The changes in the estimated effort per registered bobcat in 2020 were not significantly different from 2018 estimates for both hunters and trappers (Figure 8). The amount of effort per bobcat registered was a measure of how difficult it was to capture a bobcat and may be an indirect measure of the abundance of bobcats. Similar estimates among hunters and trappers during the last two years suggested that bobcat numbers were similar in both 2018 and 2020. Other population indices measured by hunters (i.e., the proportion of hunters that passed a bobcat, Figure 10) and trappers (i.e., the proportion of trappers that released a bobcat and the proportion of trappers that caught an incidental bobcat, Figure 11) also did not change significantly between 2018 and 2020.

The number of furtakers that pursued bobcats in the LP was nearly triple the number of furtakers in the UP (3,007 versus 1,133) (Table 3). Although there were far more furtakers in the LP, the total number of days of effort in the LP was only 39% greater than in the UP (19,221 versus 13,218). The UP furtakers spent more days afield, on average, because most of their seasons were longer than in the LP (Table 1 and 2).

The number of bobcat hunters in the LP was over four times greater than the number of hunters in the UP in 2020 (2,236 versus 525) (Table 7). Also, the total number of days spent hunting bobcats in the LP was over three times greater than the number of days in the UP (17,116 versus 4,906), although the season was 28-49 days shorter in most of the LP (Table 1). Hunters in the LP also had more occasions where they chose not to harvest a



bobcat than hunters in the UP (Table 8); however, the proportion of hunters registering at least one bobcat was about the same (13%) in both the UP and LP.

The number of trappers in the LP was about 50% greater than the number of trappers in the UP in 2020 (1,135 versus 739) (Table 18); however, all trappers combined in the UP spent more days trapping bobcats than their counterparts in the LP (13,504 versus 8,492). Trappers in the UP spent more days trapping than in the LP because the UP season was 52 days longer (Table 2).

In 2020, the number of bobcats registered by trappers was significantly greater than the number registered by hunters (365 bobcats registered by hunters versus 621 registered by trappers). Since 2003, the number of bobcats registered by trappers has usually been greater than or equal to the number of bobcats registered by hunters (Figure 3). Bobcat hunters devoted an average of 43.7 days of effort per bobcat registered, which was not significantly different from the 39.2 days of effort per bobcat registered by trappers.

Hunting success in 2020 was significantly greater among hunters that used dogs than for hunters that used calls (21% of hunters using dogs registered a bobcat versus 10% of hunters using calls, Table 11). Hunters using dogs have normally experienced significantly higher success than hunters using calls in Michigan (e.g., Frawley 2020). Lovallo (2011) reported a mean success rate of 39% for hunters using dogs in Pennsylvania during 2000-2008, while the mean success rate for hunters using calls during the same period was 14%. In Wisconsin, 42-79% ( $\bar{x} = 59\%$ ) of hunters using dogs registered a bobcat during 2004-2008, while 18-48% ( $\bar{x} = 28\%$ ) of hunters not using dogs registered a bobcat (Kitchell and Olson 2005, 2006, 2007; Dhuey and Olson 2008, 2009).

About 10.3% of the bobcat trappers in Michigan released a bobcat from their traps set during the 2020 season, which was not significantly different from 2018 (12.8% in 2018, Frawley 2020). In comparison, 6-27% ( $\bar{x} = 10\%$ ) of Wisconsin bobcat trappers released a bobcat from their traps during 2006-2020 in Wisconsin (e.g., Lohr et al. 2020).

Wildlife managers often suggest that furtaker participation and their harvest are sensitive to fur prices (e.g., Conlee and Johannsen 2021); however, the relationships between bobcat fur prices and participation and harvest were weak in Michigan (Tables 17 and 25). Fur prices probably were not a primary factor determining participation and harvest because most bobcat pelts in Michigan are kept for personal use rather than sold (Table 6).

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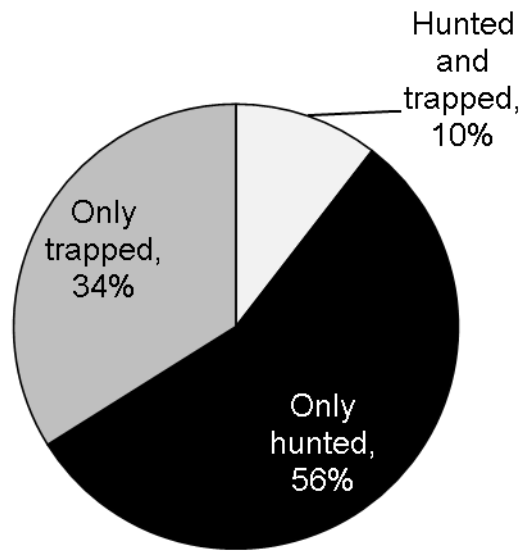


Figure 2. Proportion of active furtakers that attempted to take a bobcat via hunting or trapping methods in Michigan during 2020.

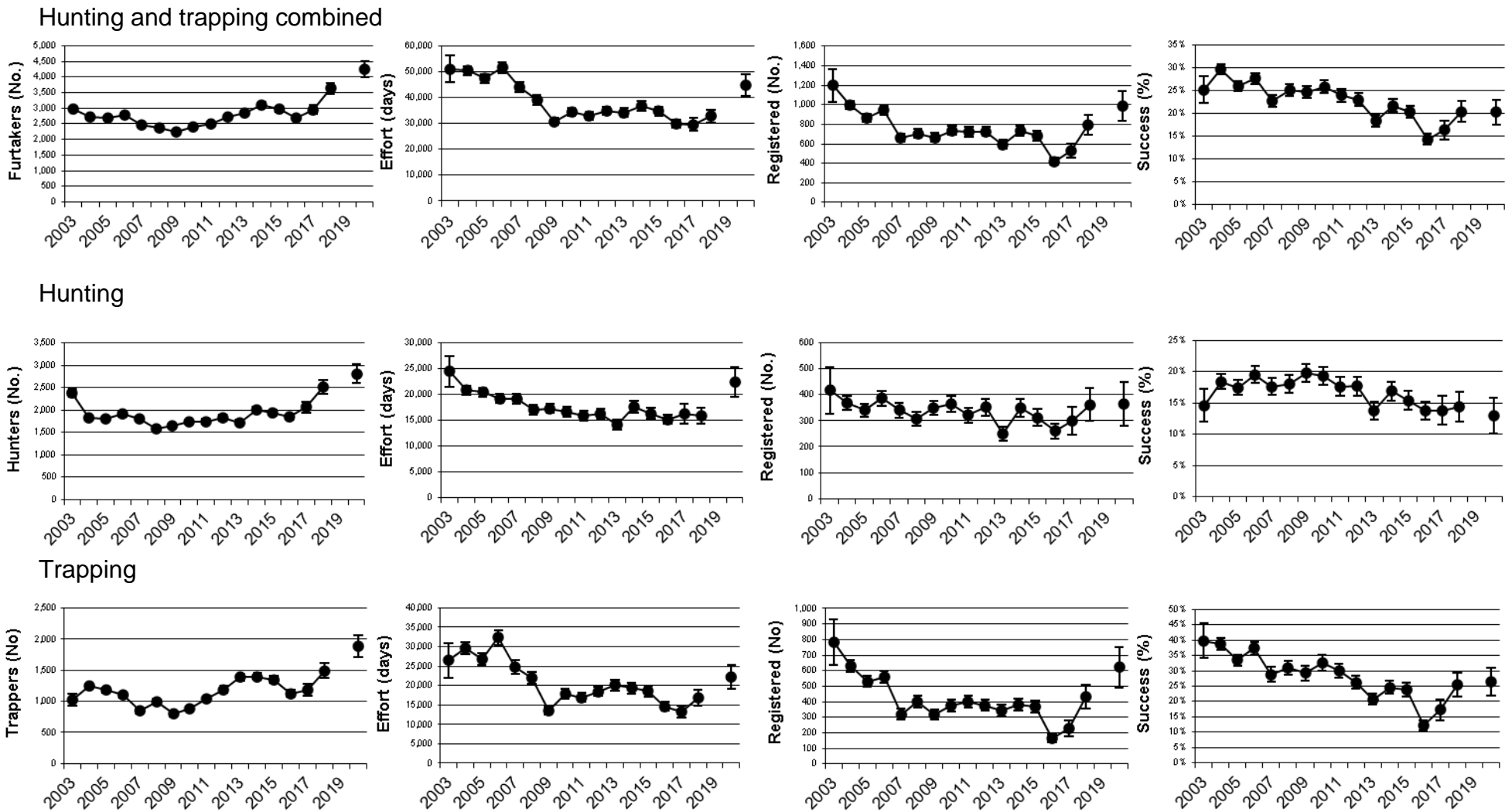


Figure 3. Number of furtakers pursuing bobcats, number of days of effort, number of bobcats registered, and proportion of furtakers registering a bobcat in Michigan during 2003-2020, summarized by method of take. Number of hunters and trappers does not add up to statewide total of hunters and trappers combined because a person could both hunt and trap bobcats. Vertical bars represent the 95% CL. The 2019 survey was not completed because of the COVID-19 pandemic restrictions.

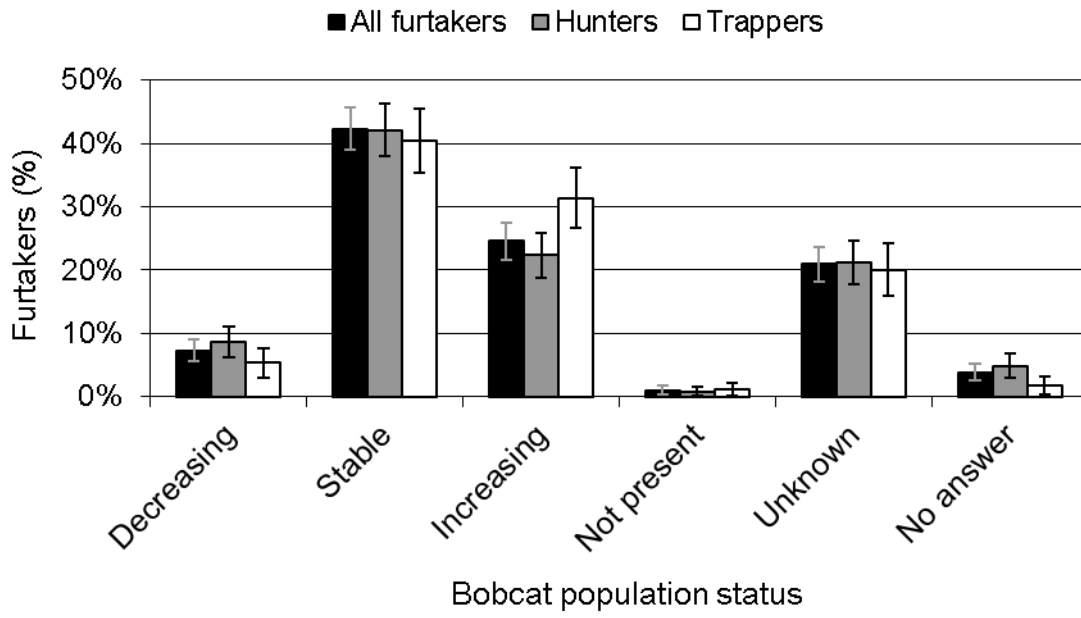


Figure 4. Status of bobcats in Michigan during 2020 as described by active bobcat hunters and trappers. Vertical bars represent the 95% CL.

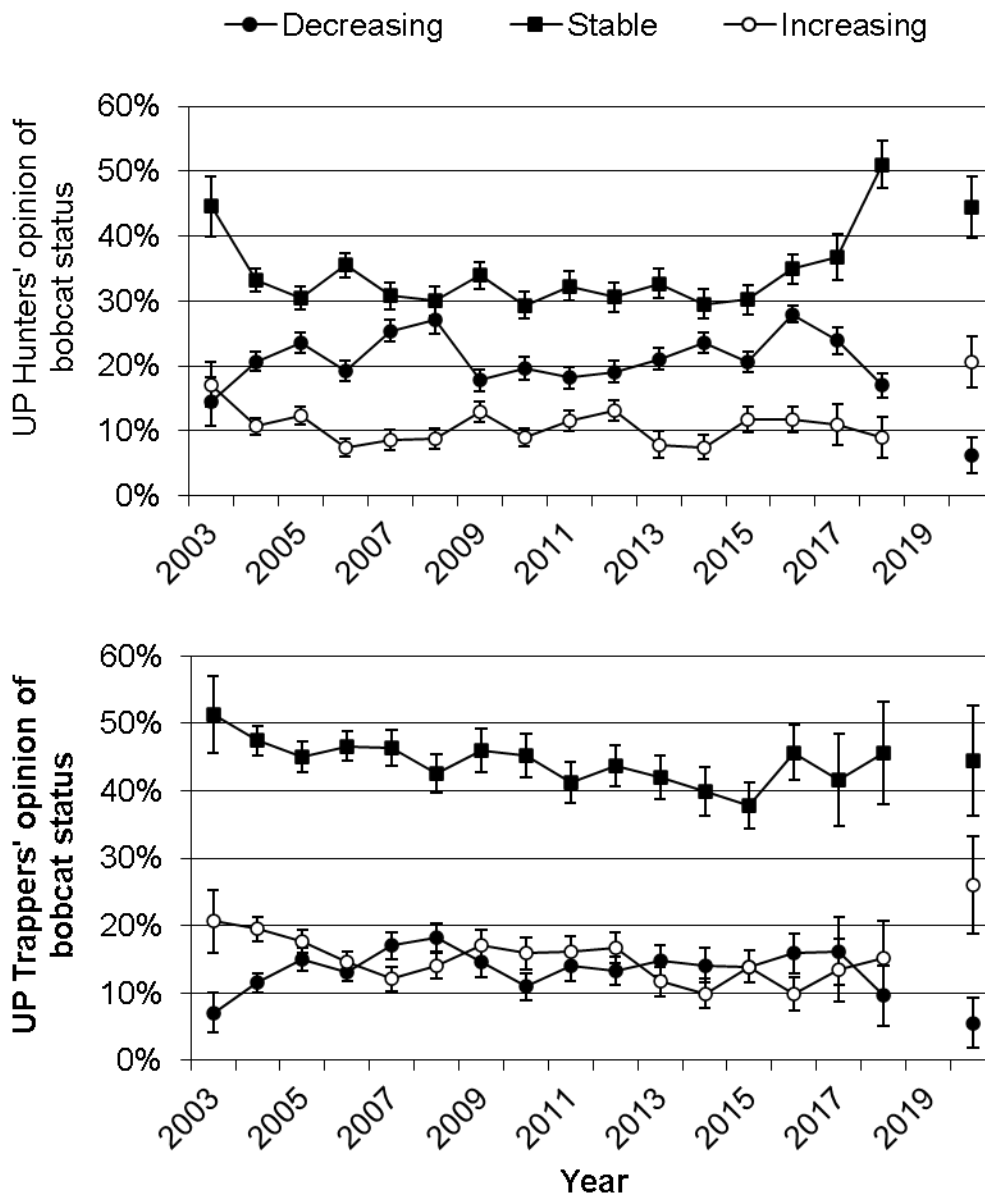


Figure 5. Status of bobcat population in Michigan as described by bobcat hunters and trappers in the Upper Peninsula, 2003-2020. Vertical bars represent the 95% CL. The 2019 survey was not completed because of the COVID-19 pandemic restrictions.



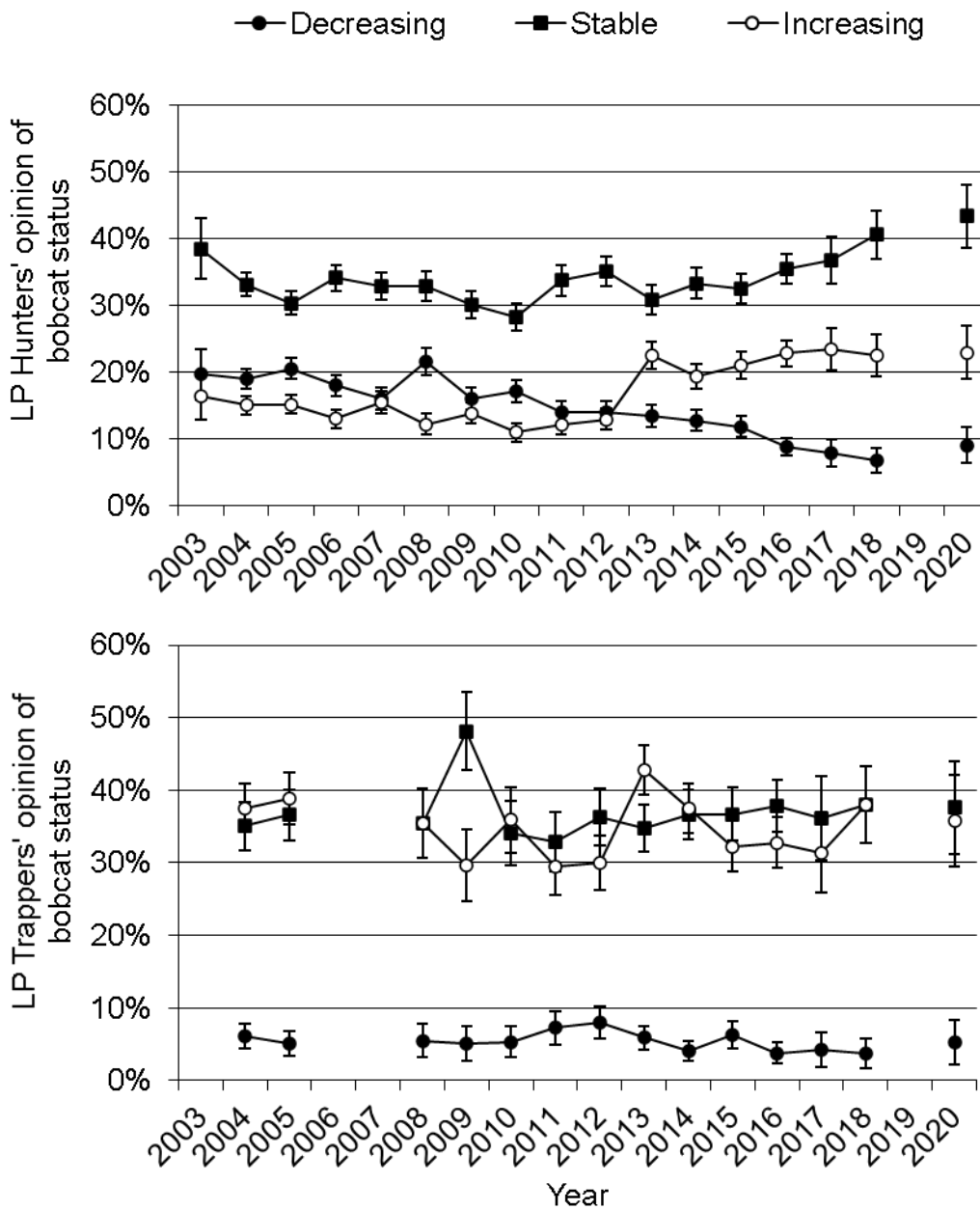


Figure 6. Status of bobcat population in Michigan as described by bobcat hunters and trappers in the Lower Peninsula, 2003-2020. Vertical bars represent the 95% CL. Bobcat could be harvested by trappers in portions of the LP during 2004-2005 and 2008-2020 only. The 2019 survey was not completed because of the COVID-19 pandemic restrictions.

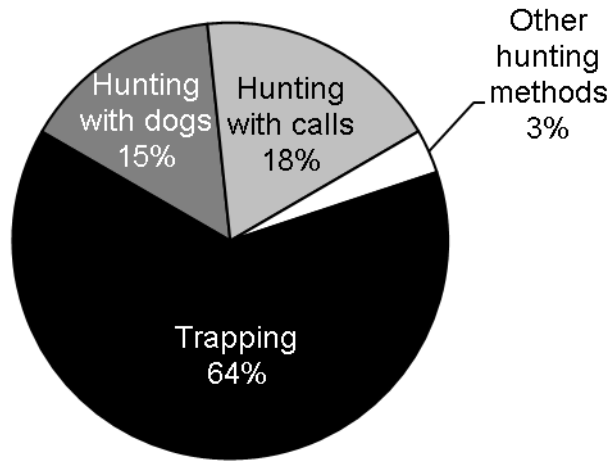


Figure 7. Proportion of bobcats registered in Michigan during 2020, summarized by method of take.

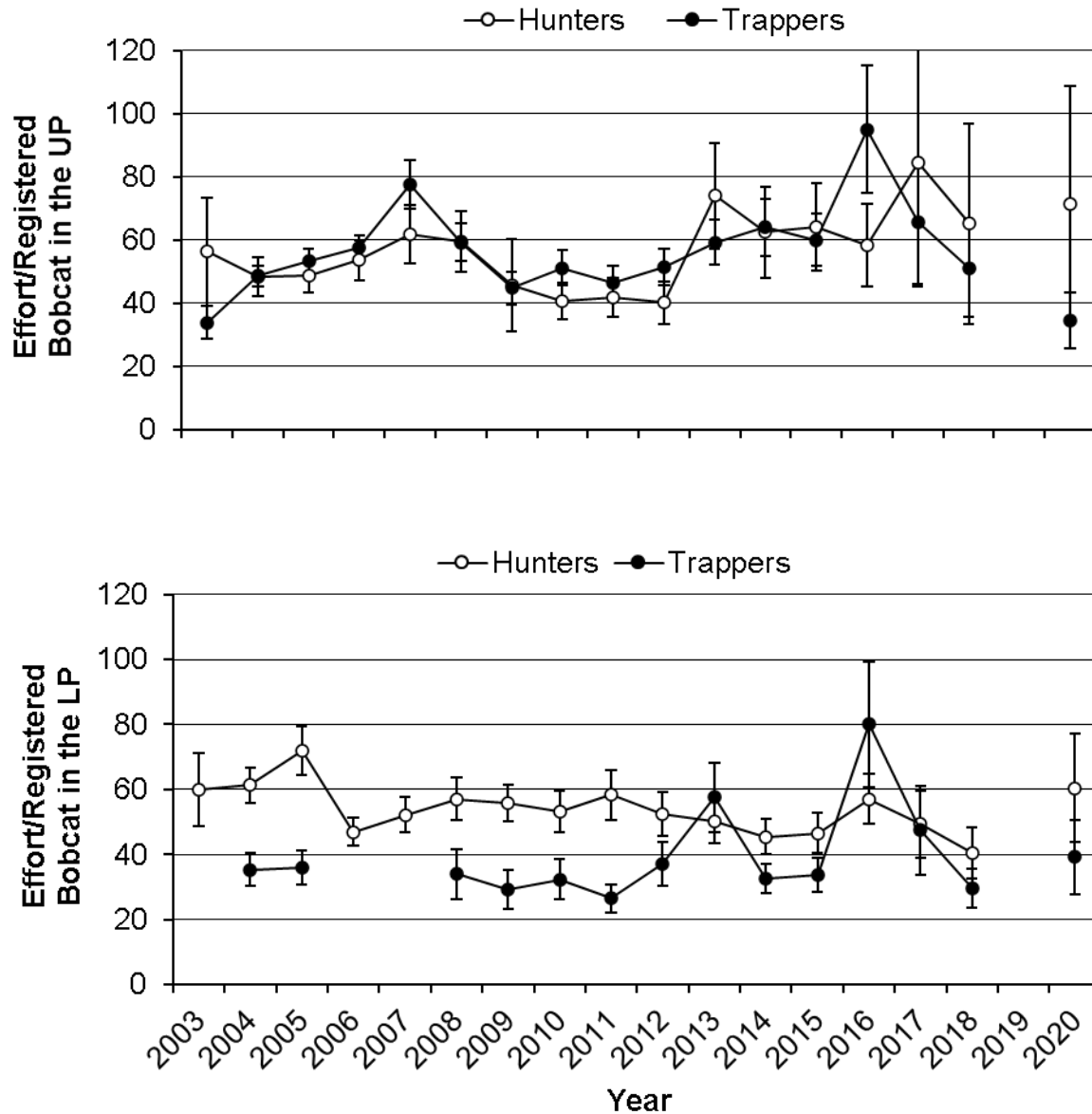


Figure 8. Estimated number of days of effort per bobcat registered in Michigan by hunters and trappers for the 1997-2020 seasons, summarized by region. Vertical error bars represent the 95% CL. Bobcat could be harvested by trappers in portions of the LP during 2004-2005 and 2008-2020 only. The 2019 survey was not completed because of the COVID-19 pandemic restrictions.

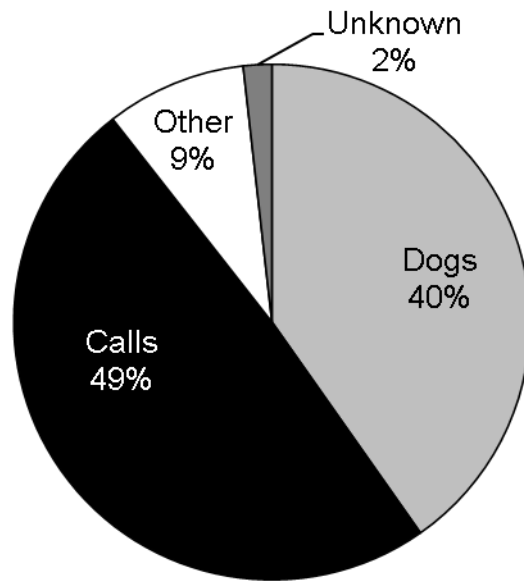


Figure 9. The proportion of hunting effort among the various hunting methods used in Michigan during 2020.

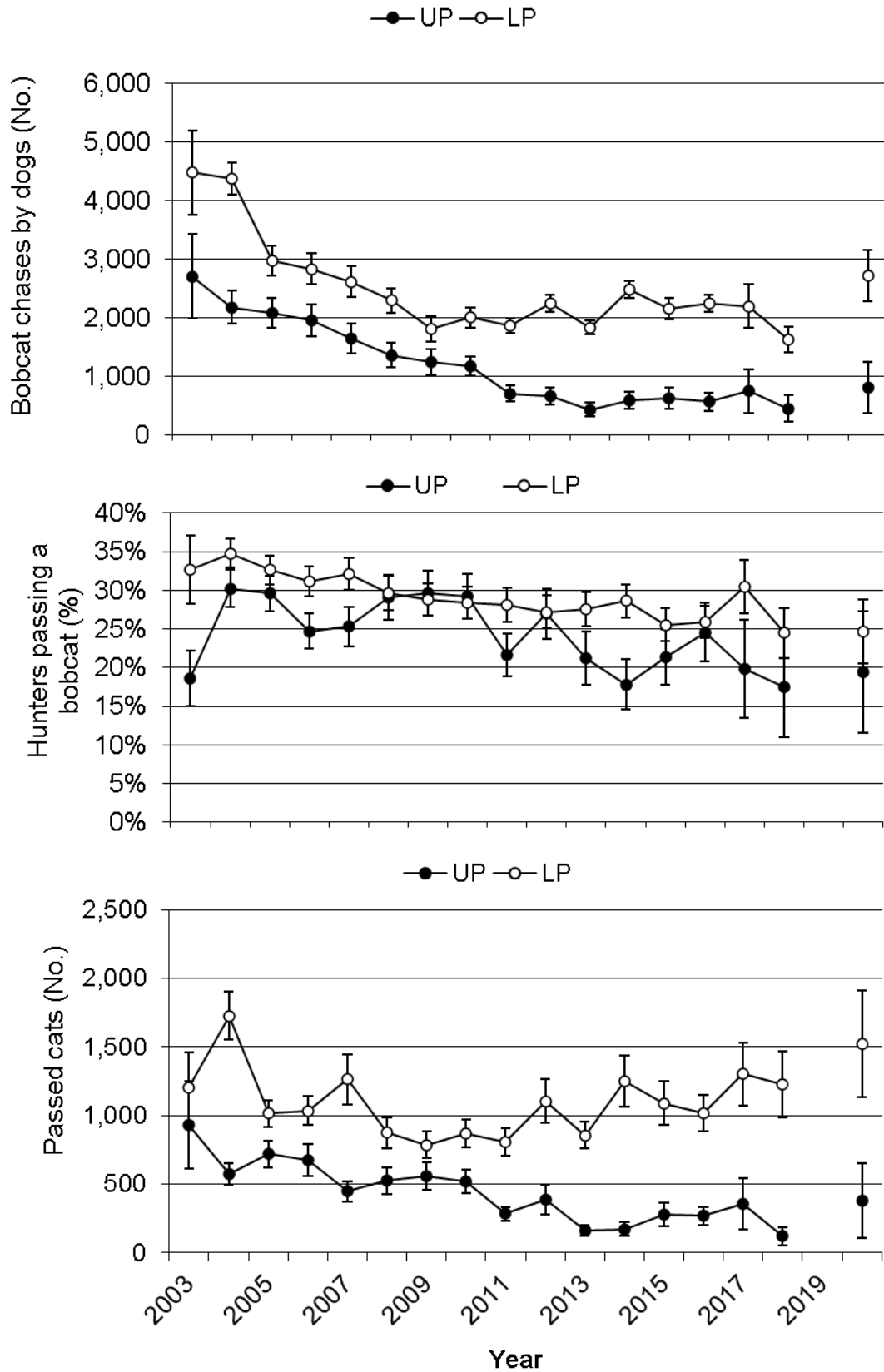


Figure 10. Number of bobcat chases by dogs, proportion of hunters passing a bobcat (bobcats within range or treed but not harvested), and number of bobcats passed by hunters (all types of hunting) in Michigan, 2003-2020. Vertical bars represent the 95% CL. The 2019 survey was not completed because of the COVID-19 pandemic restrictions.

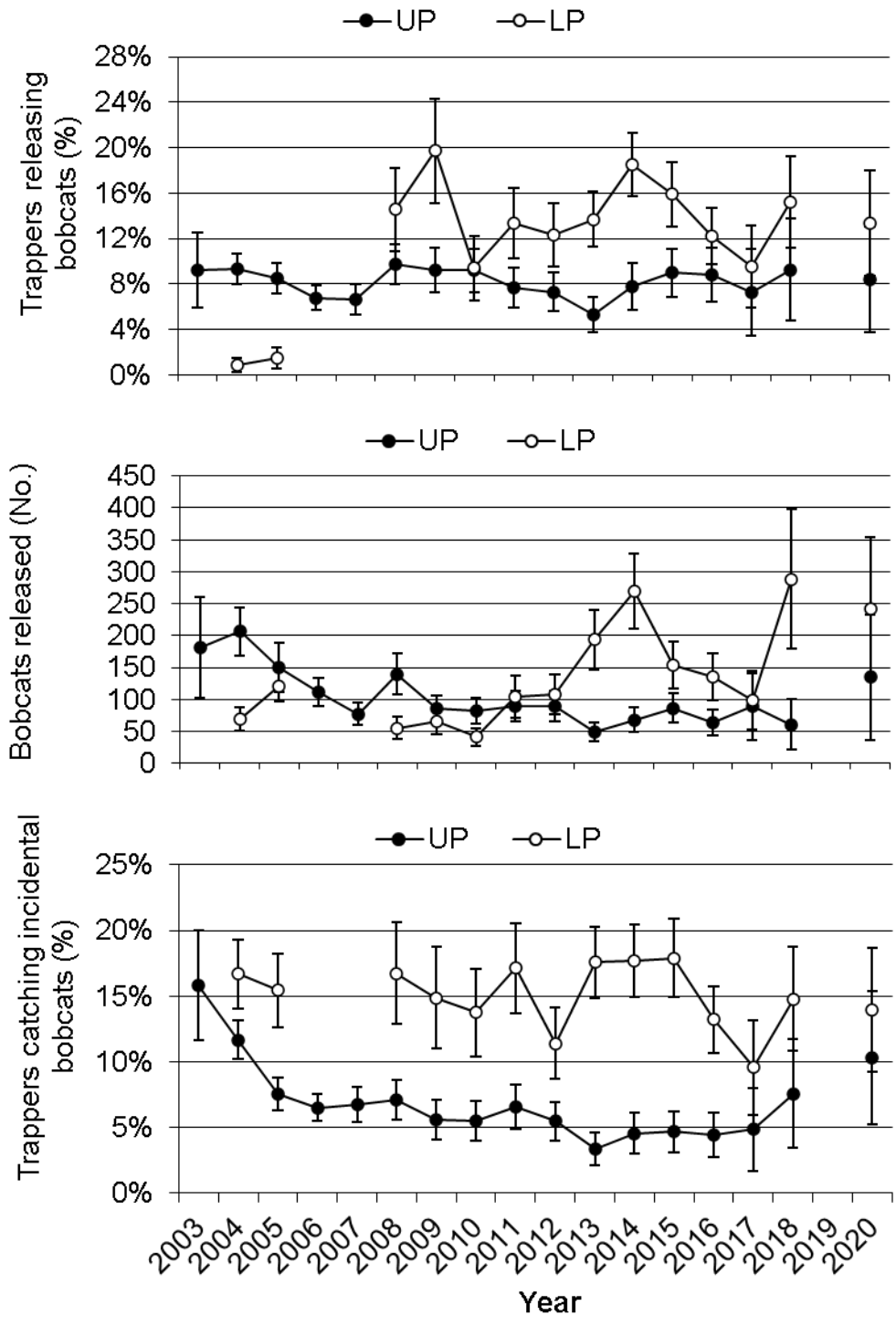


Figure 11. Number of trappers releasing bobcats from their traps, number of bobcats released from traps, and proportion of trappers that caught a bobcat in a trap set for another species (incidental catch) in Michigan, 2003-2020. Trapping of bobcat in the LP was permitted in 2004-2005 and 2008-2020 only. Vertical bars represent the 95% CL. The 2019 survey was not completed because of the COVID-19 pandemic restrictions.

Table 1. Resident bobcat **hunting** season dates and seasonal bag limits in Michigan, 1989-2020, summarized by management unit.

Year	State-wide bag limit <sup>a</sup>	UP Unit A <sup>b</sup> season dates	UP Unit A bag limit <sup>a</sup>	UP Unit B <sup>c</sup> season dates	UP Unit B bag limit <sup>a</sup>	LP Unit C <sup>d</sup> season dates	LP Unit D <sup>e</sup> season dates	LP Unit E <sup>f</sup> season dates	LP Unit F <sup>g</sup> season dates	LP Bag limit <sup>a</sup>
1989	1	10/25-3/1	1	Closed	0	1/1-3/1	1/1-2/1	Closed	Closed	1
1990	1	10/25-3/1	1	Closed	0	1/1-3/1	1/1-2/1	Closed	Closed	1
1991	1	10/25-3/1	1	Closed	0	1/1-3/1	1/15-2/16	Closed	Closed	1
1992	1	10/25-3/1	1	Closed	0	1/1-3/1	1/15-2/16	Closed	Closed	1
1993	1	10/25-3/1	1	Closed	0	1/1-3/1	1/15-2/16	Closed	Closed	1
1994	2	10/25-3/1	2	Closed	0	1/1-3/1	1/15-2/16	Closed	Closed	1
1995	2	10/25-3/1	2	10/25-3/1	1	1/1-3/1	1/15-2/16	Closed	Closed	1
1996	3	10/25-3/1	3	10/25-3/1	1	1/1-3/1	1/15-2/16	Closed	Closed	1
1997	3	10/25-3/1	3	10/25-3/1	1	1/1-3/1	1/15-2/16	Closed	Closed	1
1998	3	12/1-3/1	3	12/1-3/1	1	1/1-3/1	1/15-2/16	Closed	Closed	1
1999	3	12/1-3/1	3	12/1-3/1	1	1/1-3/1	1/15-2/16	Closed	Closed	1
2000	3	12/1-3/1	3	12/1-3/1	1	1/1-3/1	1/15-2/16	Closed	Closed	1
2001	3	12/1-3/1	3	12/1-3/1	1	1/1-3/1	1/15-2/16	Closed	Closed	1
2002	3	12/1-3/1	3	12/1-3/1	1	1/1-3/1	1/15-2/16	Closed	Closed	1
2003	3	12/1-3/1	3	12/1-3/1	1	1/1-3/1	1/15-2/16	Closed	Closed	1
2004	2	12/1-3/1	2	12/1-3/1	1	1/1-3/1	1/1-2/1	Closed	Closed	1
2005	2	12/1-3/1	2	12/1-3/1	1	1/1-3/1	1/1-2/1	Closed	Closed	1
2006	2	12/1-3/1	2	12/1-3/1	1	1/1-3/1	1/1-2/1	Closed	Closed	1
2007	2	12/1-3/1	2	12/1-3/1	1	1/1-3/1	1/1-2/1	Closed	Closed	1
2008	2	12/1-3/1	2	12/1-3/1	1	1/1-3/1	1/1-2/1	Closed	Closed	1
2009	2	1/1-3/1	2	1/1-3/1	1	1/1-3/1	1/1-2/1	Closed	Closed	1
2010	2	1/1-3/1	2	1/1-3/1	1	1/1-3/1	1/1-2/1	Closed	Closed	1
2011	2	1/1-3/1	2	1/1-3/1	1	1/1-3/1	1/1-2/1	Closed	Closed	1
2012	2	1/1-3/1	2	1/1-3/1	1	1/1-3/1	1/1-2/1	Closed	Closed	1
2013	2	1/1-3/1	2	1/1-3/1	1	1/1-3/1	1/1-2/1	1/1-11	1/1-11	1
2014	2	1/1-3/1	2	1/1-3/1	1	1/1-3/1	1/1-2/1	1/1-11	1/1-11	1
2015	2	1/1-3/1	2	1/1-3/1	1	1/1-3/1	1/1-2/1	1/1-11	1/1-11	1
2016	2	1/1-3/1	2	1/1-3/1	1	1/1-3/1	1/1-2/1	1/1-11	1/1-11	1
2017	2	1/1-3/1	2	1/1-3/1	1	1/1-3/1	1/1-2/1	1/1-11	1/1-11	1
2018 <sup>h</sup>	2	1/1-3/1	2	1/1-3/1	1	1/1-3/1	1/1-2/1	1/1-11	1/1-11	1
2019 <sup>h</sup>	2	1/1-3/1	2	1/1-3/1	1	1/1-3/1	1/1-2/1	1/1-11	1/1-11	1
2020 <sup>h</sup>	2	1/1-3/1	2	1/1-3/1	1	1/1-3/1	1/1-2/1	1/1-11	1/1-11	1

<sup>a</sup>The statewide bag limit was the maximum number of bobcats that could be taken per person from all zones (hunting and trapping combined), and the bag limit for each zone was the maximum number that could be taken within a zone (hunting and trapping combined).

<sup>b</sup>Excluded Drummond Island in the Upper Peninsula.

<sup>c</sup>Drummond Island only.

<sup>d</sup>During 1989-2020, Unit C included Alpena, Antrim, Charlevoix, Cheboygan, Emmet, Montmorency, Otsego, and Presque Isle. Alcona and Oscoda counties were added during 1991-2020.

<sup>e</sup>During 1989-2020, Unit D included Clare, Crawford, Gladwin, Iosco, Kalkaska, Missaukee, Ogemaw, Osceola, Roscommon, and Wexford counties, and Arenac County west of Highway I-75 and north of Highway M-61. Unit D also included Alcona and Oscoda counties during 1989-1990.

<sup>f</sup>Unit E included Leelanau, Benzie, Grand Traverse, Manistee, Mason, and Lake counties.

<sup>g</sup>Unit F included the counties of Oceana, Newaygo, Mecosta, Isabella, Midland, and portions of Bay and Arenac.

<sup>h</sup>One kill tag is valid for all lands and for all units combined. A second kill tag is valid on private lands (excluding Commercial Forest lands) for Unit A only.

Table 2. Resident bobcat **trapping** season dates and seasonal bag limits in Michigan, 1989-2020.

Year	State-wide bag limit <sup>a</sup>	UP Unit A <sup>b</sup> season dates	UP Unit A bag limit <sup>a</sup>	UP Unit B <sup>c</sup> season dates	UP Unit B bag limit <sup>a</sup>	LP Unit C <sup>d</sup> season dates	LP Unit D <sup>e</sup> season dates	LP Unit E <sup>f</sup> season dates	LP Unit F <sup>g</sup> season dates	LP Bag limit <sup>a</sup>
1989	1	10/25-3/1	1	Closed	0	Closed	Closed	Closed	Closed	1
1990	1	10/25-3/1	1	Closed	0	Closed	Closed	Closed	Closed	1
1991	1	10/25-3/1	1	Closed	0	Closed	Closed	Closed	Closed	1
1992	1	10/25-3/1	1	Closed	0	Closed	Closed	Closed	Closed	1
1993	1	10/25-3/1	1	Closed	0	Closed	Closed	Closed	Closed	1
1994	2	10/25-3/1	2	Closed	0	Closed	Closed	Closed	Closed	1
1995	2	10/25-3/1	2	10/25-3/1	1	Closed	Closed	Closed	Closed	1
1996	3	10/25-3/1	3	10/25-3/1	1	Closed	Closed	Closed	Closed	1
1997	3	10/25-3/1	3	10/25-3/1	1	Closed	Closed	Closed	Closed	1
1998	3	10/25-3/1	3	10/25-3/1	1	Closed	Closed	Closed	Closed	1
1999	3	10/25-3/1	3	10/25-3/1	1	Closed	Closed	Closed	Closed	1
2000	3	10/25-3/1	3	10/25-3/1	1	Closed	Closed	Closed	Closed	1
2001	3	10/25-3/1	3	10/25-3/1	1	Closed	Closed	Closed	Closed	1
2002	3	10/25-3/1	3	10/25-3/1	1	Closed	Closed	Closed	Closed	1
2003	3	10/25-3/1	3	10/25-3/1	1	Closed	Closed	Closed	Closed	1
2004	2	10/25-3/1	2	10/25-3/1	1	12/10-20	12/10-20	Closed	Closed	1
2005	2	10/25-3/1	2	10/25-3/1	1	12/10-20	12/10-20	Closed	Closed	1
2006	2	10/25-3/1	2	10/25-3/1	1	Closed	Closed	Closed	Closed	1
2007	2	10/25-3/1	2	10/25-3/1	1	Closed	Closed	Closed	Closed	1
2008	2	10/25-3/1	2	10/25-3/1	1	12/10-20	12/10-20	Closed	Closed	1
2009	2	12/1-2/1	2	12/1-2/1	1	12/10-20	12/10-20	Closed	Closed	1
2010	2	12/1-2/1	2	12/1-2/1	1	12/10-20	12/10-20	Closed	Closed	1
2011	2	12/1-2/1	2	12/1-2/1	1	12/10-20	12/10-20	Closed	Closed	1
2012	2	12/1-2/1	2	12/1-2/1	1	12/10-20	12/10-20	Closed	Closed	1
2013	2	12/1-2/1	2	12/1-2/1	1	12/10-20	12/10-20	12/10-20	12/10-20	1
2014	2	12/1-2/1	2	12/1-2/1	1	12/10-20	12/10-20	12/10-20	12/10-20	1
2015	2	12/1-2/1	2	12/1-2/1	1	12/10-20	12/10-20	12/10-20	12/10-20	1
2016	2	12/1-2/1	2	12/1-2/1	1	12/10-20	12/10-20	12/10-20	12/10-20	1
2017	2	12/1-2/1	2	12/1-2/1	1	12/10-20	12/10-20	12/10-20	12/10-20	1
2018 <sup>h</sup>	2	12/1-2/1	2	12/1-2/1	1	12/10-20	12/10-20	12/10-20	12/10-20	1
2019 <sup>h</sup>	2	12/1-2/1	2	12/1-2/1	1	12/10-20	12/10-20	12/10-20	12/10-20	1
2020 <sup>h</sup>	2	12/1-2/1	2	12/1-2/1	1	12/10-20	12/10-20	12/10-20	12/10-20	1

<sup>a</sup>The statewide bag limit was the maximum number of bobcats that could be taken per person from all zones (hunting and trapping combined), and the bag limit for each zone was the maximum number that could be taken within a zone (hunting and trapping combined).

<sup>b</sup>Excluded Drummond Island in the Upper Peninsula.

<sup>c</sup>Drummond Island only.

<sup>d</sup>During 1989-2020, Unit C included Alpena, Antrim, Charlevoix, Cheboygan, Emmet, Montmorency, Otsego, and Presque Isle. Alcona and Oscoda counties were added during 1991-2020.

<sup>e</sup>During 1989-2020, Unit D included Clare, Crawford, Gladwin, Iosco, Kalkaska, Missaukee, Ogemaw, Osceola, Roscommon, and Wexford counties, and Arenac County west of Highway I-75 and north of Highway M-61. Unit D also included Alcona and Oscoda counties during 1989-1990.

<sup>f</sup>Unit E included Leelanau, Benzie, Grand Traverse, Manistee, Mason, and Lake counties.

<sup>g</sup>Unit F included the counties of Oceana, Newaygo, Mecosta, Isabella, Midland, and portions of Bay and Arenac.

<sup>h</sup>One kill tag is valid for all lands and for all units combined. A second kill tag is valid on private lands (excluding Commercial Forest lands) for Unit A only.



Table 3. Estimated number of furtakers (hunters and trappers combined) pursuing bobcat and their hunting and trapping effort (days combined) in Michigan for 2018 and 2020, summarized by area.

Area	Total furtakers in 2018 <sup>a</sup>	Total 95% CL	Total furtakers in 2020 <sup>a</sup>	Total 95% CL	Change (%)	Total effort in 2018	Effort 95% CL	Total effort in 2020	Effort 95% CL	Change (%)
Upper Peninsula	821	94	1,133	145	38*	13,218	2,204	18,410	3,096	39
Lower Peninsula	2,796	154	3,007	216	8	19,221	1,610	25,609	2,909	33*
Unit C	902	98	927	131	3	7,178	1,191	9,449	2,076	32
Unit D	1,110	108	1,246	150	12	6,840	879	9,547	1,525	40*
Unit E	500	75	510	98	2	2,634	489	2,836	673	8
Unit F	471	73	576	105	22	2,569	515	3,778	853	47
Unspecified	57	26	189	63	232*	252	154	631	464	151
Statewide	3,630	165	4,252	242	17*	32,690	2,640	44,650	4,190	37*

<sup>a</sup>Number of furtakers does not add up to statewide total because furtakers could hunt in more than one area.

\*P<0.05.

Table 4. Estimated number of bobcats registered by furtakers (hunters and trappers combined) and proportion of furtakers registering at least one bobcat in Michigan during 2018 and 2020, summarized by area.

Area	Total bobcats registered in 2018 <sup>a</sup>	Total 95% CL In 2018	Total bobcats registered in 2020 <sup>a</sup>	Total 95% CL in 2020	Change between 2018 and 2020 (%)	Furtakers registering a bobcat in 2018 (%)	95% CL in 2018 (%)	Furtakers registering a bobcat in 2020 (%)	95% CL in 2020 (%)	Difference between 2018 and 2020 (%)
Upper Peninsula	244	64	460	117	88*	23	5	30	6	6
Lower Peninsula	541	78	500	98	-8	19	3	16	3	-3
Unit C	191	47	149	55	-22	21	5	16	5	-5
Unit D	203	48	212	65	4	18	4	17	5	-1
Unit E	53	25	77	37	46	11	5	15	7	5
Unit F	93	33	62	35	-34	20	6	11	6	-9
Unspecified	8	10	26	23	220	14	16	14	12	0
Statewide	793	99	985	152	24	20	2	20	3	0

<sup>a</sup>Although all furtakers harvesting a bobcat were required to present their animals at a DNR office for registration, this survey does not present information collected from registered bobcats.

\*P<0.05.

Table 5. Estimated number of furtakers (hunters and trappers combined) attempting to capture a bobcat, days spent afield (effort), bobcats registered, and proportion of furtakers that registered a bobcat during 2020 in Michigan, summarized by county.

County	Total furtakers	furtakers 95% CL	Total effort	Effort 95% CL	Bobcats registered	Bobcats registered 95% CL	Furtakers that registered a bobcat (%)	Furtakers that registered a bobcat 95% CL
Alcona	197	62	1,691	823	13	17	7	8
Alger	65	37	1,094	868	33	31	40	28
Alpena	142	52	1,572	887	14	17	10	11
Antrim	43	29	394	273	7	12	15	25
Arenac	16	17	118	126	0	0	0	0
Baraga	59	33	775	523	21	26	24	24
Bay	1	0	3	0	0	0	0	0
Benzie	53	31	398	264	10	12	18	21
Charlevoix	26	23	85	84	7	12	25	39
Cheboygan	109	47	989	666	14	17	13	14
Chippewa	165	57	2,518	1,201	57	41	25	15
Clare	139	52	810	373	28	23	20	15
Crawford	95	44	1,311	768	20	20	21	19
Delta	146	55	2,206	1,031	34	31	18	15
Dickinson	89	42	1,143	663	23	20	25	20
Emmet	41	29	272	235	13	17	32	33
Gladwin	154	55	889	412	7	12	4	7
Gogebic	51	31	946	801	29	33	30	28
Gd. Traverse	53	31	339	216	4	0	8	4
Houghton	47	31	380	295	9	12	16	23
Iosco	146	54	1,222	484	15	17	10	11
Iron	89	42	1,994	1,149	66	44	60	23
Isabella	58	33	365	257	1	0	2	1
Kalkaska	113	47	718	349	23	20	20	16
Keweenaw	7	12	78	141	0	0	0	0

<sup>a</sup>Number of furtakers does not add up to statewide total because furtakers could hunt and trap in more than one county.

Table 5 (Continued). Estimated number of furtakers (hunters and trappers combined) attempting to capture a bobcat, days spent afield (effort), bobcats registered, and proportion of furtakers that registered a bobcat during 2020 in Michigan, summarized by county.

County	Total furtakers	furtakers 95% CL	Total effort	Effort 95% CL	Bobcats registered	Bobcats registered 95% CL	Furtakers that	Furtakers that
							registered a bobcat (%)	registered a bobcat 95% CL
Lake	144	54	620	262	22	20	15	13
Leelanau	48	31	169	121	8	12	16	23
Luce	34	26	344	382	7	12	19	31
Mackinac	112	47	1,329	670	30	23	27	18
Manistee	91	42	372	224	0	0	0	0
Marquette	102	45	1,487	778	39	35	22	18
Mason	162	57	937	373	35	26	21	14
Mecosta	223	67	1,399	479	26	23	12	10
Menominee	149	55	2,276	1,125	41	33	23	15
Midland	53	33	342	269	0	0	0	0
Missaukee	127	50	825	431	20	20	15	15
Montmorency	189	61	1,684	708	41	29	22	13
Newaygo	169	57	1,116	472	27	23	16	13
Oceana	111	47	554	264	8	12	7	10
Ogemaw	163	57	1,051	436	34	26	21	14
Ontonagon	80	41	805	572	48	42	35	24
Osceola	157	56	921	361	33	26	21	15
Oscoda	118	48	1,233	640	14	17	12	13
Otsego	76	39	410	263	8	12	10	15
Presque Isle	124	50	1,119	693	20	20	16	15
Roscommon	163	57	1,252	605	27	23	17	13
Schoolcraft	91	44	1,035	827	26	29	21	20
Wexford	98	42	429	218	8	12	8	12
Unspecified	189	63	631	464	26	23	14	12

<sup>a</sup>Number of furtakers does not add up to statewide total because furtakers could hunt and trap in more than one county.

Table 6. The estimated number of bobcat pelts used for various purposes in Michigan, 2020.

Fate of bobcat pelt	Total hunters		Total trappers		Total furtakers	
	Total hunters <sup>a</sup>	95% CL <sup>b</sup>	Total trappers <sup>a</sup>	95% CL <sup>b</sup>	Total furtakers <sup>a</sup>	95% CL <sup>b</sup>
Sold to a fur buyer	1	0	93	50	94	50
Sold at fur auction	0	0	26	29	26	29
Sold to taxidermist	1	0	39	37	40	37
Sold to a private individual	7	12	8	12	14	17
Kept for personal use	306	76	431	98	733	122
Other	7	12	7	12	13	17
Unknown	46	31	20	26	65	41

<sup>a</sup>The sum of pelts for trappers and hunters is greater than the number of pelts for hunter and trappers combined because a few furtakers harvested a bobcat while hunting and also harvested a bobcat while trapping and these animals were double-counted.

<sup>b</sup>95% confidence limits.

Table 7. Estimated number of bobcat hunters and hunting effort (days) in Michigan for 2018 and 2020, summarized by area.

Area	2018 total hunters <sup>a</sup>	2018 total hunters 95% CL	2020 total hunters <sup>a</sup>	2020 total hunters 95% CL	Change (%)	2018 total days	2018 total days 95% CL	2020 total days	2020 total days 95% CL	Change (%)
Upper Peninsula	406	68	525	101	29	3,443	907	4,906	1,267	43
Lower Peninsula	2,101	140	2,236	193	6	12,145	1,327	17,116	2,545	41*
Unit C	752	91	761	119	1	5,276	1,017	7,660	1,895	45
Unit D	829	95	958	133	16	4,451	726	6,410	1,236	44
Unit E	337	62	343	82	2	1,227	269	1,389	403	13
Unit F	317	60	352	82	11	1,191	281	1,657	505	39
Unspecified	53	25	150	56	183*	228	149	417	376	83
Statewide	2,512	149	2,810	211	12	15,815	1,587	22,439	2,868	42*

<sup>a</sup>Number of hunters does not add up to statewide total because hunters could hunt in more than one area.

\*P<0.05.

Table 8. Estimated number of bobcats passed, bobcats registered by hunters, and proportion of hunters that registered at least one bobcat in Michigan for 2018 and 2020, summarized by area.

Area	2018 bobcats passed		2020 bobcats passed		Change (%)	2018 bobcats registered		2020 bobcats registered		Change (%)	2018 successful hunters		2020 successful hunters		Difference (%)
	bobcat passed	95% CL	bobcat passed	95% CL		bobcat registered	95% CL	bobcat registered	95% CL		successful hunters	95% CL	successful hunters	95% CL	
Upper Peninsula	122	66	384	272	215	53	25	69	35	30	13	6	13	6	0
Lower Peninsula	1,227	238	1,523	391	24	301	59	283	74	-6	14	3	13	3	-2
Unit C	447	139	530	197	18	134	39	103	45	-23	18	5	13	6	-4
Unit D	402	136	591	201	47	102	34	130	51	28	12	4	14	5	1
Unit E	203	95	234	153	15	20	15	23	20	11	6	4	7	6	1
Unit F	175	97	169	144	-3	45	23	28	23	-37	14	7	8	6	-6
Unspecified	28	21	46	39	60	8	10	13	17	60	15	17	9	11	-7
Statewide	1,378	248	1,952	492	42	362	64	365	84	1	14	2	13	3	-1

\*P<0.05.

Table 9. Estimated number of days of effort per bobcat registered by hunters in Michigan during 2017-2020, summarized by year and area.

Area	2017 effort per registered bobcat	2017 effort per registered bobcat 95% CL <sup>a</sup>	2018 effort per registered bobcat	2018 effort per registered bobcat 95% CL <sup>a</sup>	2020 effort per registered bobcat	2020 effort per registered bobcat 95% CL <sup>a</sup>	Change between 2018 and 2020 (%)
Upper Peninsula	84.6	39.3	65.2	31.6	71.5	37.3	10
Lower Peninsula	49.3	10.3	40.4	8.0	60.5	16.7	50
Unit C	46.2	14.0	39.3	12.0	74.6	34.2	90
Unit D	46.9	14.9	43.8	14.9	49.4	9.9	13
Unit E	60.3	50.5	60.4	44.7	61.6	56.2	2
Unit F	71.8	51.0	26.6	13.2	59.1	50.3	122
Unspecified	44.0	75.3	28.0	28.0	32.0	48.4	14
Statewide	54.5	10.2	43.7	7.9	61.6	14.9	41

<sup>a</sup>95% confidence limits.

\*P<0.05. Comparison between 2018 and 2020.

Table 10. Estimated number of hunters, hunting effort (days), bobcats passed, bobcats registered, and proportion of hunters that registered a bobcat in Michigan during 2020, summarized by county.

County	Total hunters <sup>a</sup>	Total hunters 95% CL	Total days	Total days 95% CL	Total bobcats passed	Total bobcats passed 95% CL	Total bobcats registered	Total bobcats registered 95% CL	Successful hunters (%)	Successful hunters 95% CL
Alcona	189	61	1,506	735	78	69	13	17	7	8
Alger	33	26	195	172	33	35	13	17	40	40
Alpena	96	42	1,116	804	10	12	1	0	1	0
Antrim	37	26	342	257	29	35	0	0	0	0
Arenac	9	12	43	47	17	23	0	0	0	0
Baraga	23	20	249	259	15	23	1	0	4	4
Bay	1	0	3	0	0	0	0	0	0	0
Benzie	35	26	186	170	20	35	0	0	0	0
Charlevoix	26	23	85	84	33	48	7	12	25	39
Cheboygan	109	47	923	648	98	96	14	17	13	14
Chippewa	95	44	1,036	655	26	37	8	12	8	12
Clare	84	41	372	242	22	26	8	12	9	13
Crawford	88	42	1,177	713	85	102	13	17	15	17
Delta	67	37	419	283	13	17	1	0	1	1
Dickinson	62	35	439	296	94	126	2	0	3	2
Emmet	28	23	207	218	65	85	0	0	0	0
Gladwin	146	54	721	362	86	67	7	12	4	8
Gogebic	9	12	225	352	0	0	1	0	12	16
Gd. Traverse	41	29	130	109	4	0	1	0	2	2
Houghton	8	12	30	47	0	0	1	0	13	21
Iosco	105	45	735	361	44	44	8	12	7	11
Iron	27	23	257	244	0	0	13	17	48	43
Isabella	38	26	123	86	8	12	1	0	3	2
Kalkaska	85	41	516	269	67	45	15	17	18	18
Keweenaw	7	12	13	23	0	0	0	0	0	0

<sup>a</sup>Number of hunters does not add up to statewide total because hunters could hunt in more than one area.

<sup>b</sup>Bobcats that hunter could have harvested but chose not to take.

Table 10. (Continued) Estimated number of hunters, hunting effort (days), bobcats passed, bobcats registered, and proportion of hunters that registered a bobcat in Michigan during 2020, summarized by county.

County	Total hunters <sup>a</sup>	Total hunters 95% CL	Total days	Total days 95% CL	Total bobcats passed	Total bobcats passed 95% CL	Total bobcats registered	Total bobcats registered 95% CL	Successful hunters (%)	Successful hunters 95% CL
Lake	108	47	425	220	98	114	7	12	6	11
Leelanau	41	29	118	89	65	70	8	12	18	26
Luce	1	0	4	0	0	0	0	0	0	0
Mackinac	82	41	647	430	66	62	15	17	18	18
Manistee	50	31	137	108	13	17	0	0	0	0
Marquette	65	37	579	395	104	124	0	0	0	0
Mason	88	42	393	214	35	48	8	12	9	13
Mecosta	130	51	611	284	21	26	13	17	10	12
Menominee	87	42	505	316	33	48	13	17	15	18
Midland	27	23	81	72	7	12	0	0	0	0
Missaukee	114	47	688	368	82	70	13	17	11	14
Montmorency	152	55	1,337	625	105	72	35	26	23	15
Newaygo	100	44	465	258	107	100	14	17	14	15
Oceana	89	42	374	206	27	47	0	0	0	0
Ogemaw	105	45	582	308	20	26	27	23	26	19
Ontonagon	40	29	183	148	0	0	1	0	2	2
Osceola	105	45	505	244	56	62	7	12	6	11
Oscoda	83	41	1,025	622	36	35	8	12	9	14
Otsego	62	35	271	198	26	47	7	12	11	18
Presque Isle	104	45	848	554	52	55	20	20	19	18
Roscommon	134	52	755	446	61	69	26	23	19	16
Schoolcraft	20	20	124	139	0	0	0	0	0	0
Wexford	77	37	317	184	53	57	8	12	10	14
Unspecified	150	56	417	376	46	39	13	17	9	11

<sup>a</sup>Number of hunters does not add up to statewide total because hunters could hunt in more than one area.

<sup>b</sup>Bobcats that hunter could have harvested but chose not to harvest.



Table 11. Estimated number of hunters, hunting effort (days), bobcats passed, bobcats registered, and proportion of hunters that registered a bobcat in Michigan during 2020, summarized by hunting method and area.

Variable and area	Dog hunters estimate	Dog hunters 95% CL	Call hunters estimate	Call hunters 95% CL	Other hunters estimate	Other hunters 95% CL	Unknown hunters estimate	Unknown hunters 95% CL
Hunters UP	138	52	273	74	96	44	26	23
Hunters LP	549	102	1,421	158	261	72	124	51
Hunters C	236	68	411	88	109	47	52	33
Hunters D	253	70	613	107	76	39	52	33
Hunters E	55	33	233	68	55	33	0	0
Hunters F	56	33	250	69	22	20	26	23
Hunters Unk	52	33	39	29	7	12	52	33
Hunters All	700	115	1,711	172	358	84	202	65
Days UP	1,734	854	1,700	565	1,095	630	378	422
Days LP	5,090	1,661	9,121	1,513	1,760	897	1,146	734
Days C	2,635	1,213	3,425	1,034	1,085	794	514	506
Days D	1,623	616	3,849	908	385	389	553	396
Days E	303	209	853	315	232	147	0	0
Days F	528	379	993	319	58	60	78	92
Days Unk	104	83	273	362	0	0	39	60
Days All	6,928	1,895	11,094	1,647	2,854	1,094	1,562	848
Passed UP	288	264	56	41	13	23	26	47
Passed LP	711	310	575	180	186	143	52	60
Passed C	217	126	199	105	82	95	33	48
Passed D	286	139	220	98	65	95	20	35
Passed E	93	116	102	87	39	50	0	0
Passed F	115	136	54	47	0	0	0	0
Passed Unk	26	33	13	17	0	0	7	12
Passed All <sup>b</sup>	1,025	423	644	192	199	145	85	77

<sup>a</sup>Number of hunters does not add up to statewide total because hunters could hunt in more than one area.

Table 11 (Continued). Estimated number of hunters, hunting effort (days), bobcats passed, bobcats registered, and proportion of hunters that registered a bobcat in Michigan during 2020, summarized by hunting method and area.

Variable and area	Dog hunters estimate	Dog hunters 95% CL	Call hunters estimate	Call hunters 95% CL	Other hunters estimate	Other hunters 95% CL	Unknown hunters estimate	Unknown hunters 95% CL
Register UP	30	23	36	26	3	0	0	0
Register LP	104	45	144	54	29	23	7	12
Register C	48	31	35	26	14	17	7	12
Register D	42	29	81	41	7	12	0	0
Register E	14	17	8	12	1	0	0	0
Register F	0	0	21	20	8	12	0	0
Register Unk	13	17	0	0	0	0	0	0
Register All	147	54	179	59	32	23	7	12
Successful UP	22	15	13	9	3	1	0	0
Successful LP	19	7	10	4	11	8	5	9
Successful C	20	12	8	6	13	14	13	21
Successful D	17	10	13	6	9	15	0	0
Successful E	25	26	3	5	2	1	0	0
Successful F	0	0	8	8	35	45	0	0
Successful Unk	25	28	0	0	0	0	0	0
Successful All	21	7	10	3	9	6	3	6

<sup>a</sup>Number of hunters does not add up to statewide total because hunters could hunt in more than one area.

Table 12. Estimated number of bobcat hunters using dogs and their hunting effort (days) in Michigan for 2018 and 2020, summarized by area.

Area	2018 Hunters using dogs <sup>a</sup>	2018 Hunters 95% CL	2020 Hunters using dogs <sup>a</sup>	2020 Hunters 95% CL	Change (%)	2018 total days	2018 total days 95% CL	2020 total days	2020 total days 95% CL	Change (%)
Upper Peninsula	126	38	138	52	10	1,093	613	1,734	854	59
Lower Peninsula	549	78	549	102	0	3,556	840	5,090	1,661	43
Unit C	232	52	236	68	2	1,748	658	2,635	1,213	51
Unit D	232	52	253	70	9	1,260	414	1,623	616	29
Unit E	69	28	55	33	-20	224	114	303	209	36
Unit F	65	28	56	33	-14	325	180	528	379	62
Unspecified	20	15	52	33	156	73	90	104	83	42
Statewide	663	85	700	115	6	4,723	1,047	6,928	1,895	47

<sup>a</sup>Number of hunters does not add up to statewide total because hunters could hunt in more than one area.

<sup>\*</sup>P<0.05.

Table 13. Estimated number of bobcats passed, bobcats registered by hunters using dogs, and proportion of these hunters that registered at least one bobcat in Michigan for 2018 and 2020, summarized by area.

Area	2018 bob- cats passed	2018 bob- cats 95% CL	2020 bob- cats passed	2020 bob- cats 95% CL	Change (%)	2018 bobcat regis- tered	2018 bobcats regis- tered 95% CL	2020 bobcat regis- tered	2020 bobcats regis- tered 95% CL	Change (%)	2018 suc- cessful hunt- ers	2018 suc- cessful hunt- ers 95% CL	2020 suc- cessful hunt- ers	2020 suc- cessful hunt- ers 95% CL	Differ- ence (%)
Upper Peninsula	37	28	288	264	689	20	15	30	23	48	16	11	22	15	6
Lower Peninsula	504	146	711	310	41	85	32	104	45	21	16	5	19	7	3
Unit C	179	74	217	126	21	49	24	48	31	-2	21	9	20	12	-1
Unit D	191	78	286	139	50	28	18	42	29	48	12	7	17	10	4
Unit E	33	24	93	116	186	4	7	14	17	245	6	10	25	26	20
Unit F	102	87	115	136	13	4	7	0	0	-100	6	10	0	0	-6
Unspecified	16	14	26	33	60	4	7	13	17	220	20	30	25	28	5
Statewide	557	149	1,025	423	84	110	36	147	54	34	17	5	21	7	4

<sup>\*</sup>P<0.05.

Table 14. Estimated number of bobcat hunters using calls and their hunting effort (days) in Michigan for 2018 and 2020, summarized by area.

Area	2018	2018	2020	2020	Change (%)	2018 total		2020 total		Change (%)
	Hunters using calls <sup>a</sup>	Hunters 95% CL	Hunters using calls <sup>a</sup>	Hunters 95% CL		2018 total days	95% CL	2020 total days	95% CL	
Upper Peninsula	215	50	273	74	27	1,605	506	1,700	565	6
Lower Peninsula	1,467	122	1,421	158	-3	7,353	918	9,121	1,513	24
Unit C	463	72	411	88	-11	2,703	619	3,425	1,034	27
Unit D	581	80	613	107	6	2,951	562	3,849	908	30
Unit E	244	53	233	68	-4	898	228	853	315	-5
Unit F	256	54	250	69	-2	801	200	993	319	24
Unspecified	20	15	39	29	92	77	61	273	362	254
Statewide	1,699	129	1,711	172	1	9,035	1,038	11,094	1,647	23

<sup>a</sup>Number of hunters does not add up to statewide total because hunters could hunt in more than one area.

\*P<0.05.

Table 15. Estimated number of bobcats passed, bobcats registered by hunters using calls, and proportion of these hunters that registered at least one bobcat in Michigan for 2018 and 2020, summarized by area.

Area	2018 bobcats passed		2020 bobcats passed		Change (%)	2018 bobcats registered		2020 bobcats registered		Change (%)	2018 successful hunters		2020 successful hunters		Difference (%)
	2018 bobcat passed	95% CL	2020 bobcat passed	95% CL		2018 bobcat registered	95% CL	2020 bobcat registered	95% CL		2018 successful hunters	95% CL	2020 successful hunters	95% CL	
Upper Peninsula	77	58	56	41	-27	16	14	36	26	119	8	6	13	9	5
Lower Peninsula	581	175	575	180	-1	203	48	144	54	-29	14	3	10	4	-4
Unit C	179	102	199	105	11	81	31	35	26	-57	18	6	8	6	-9
Unit D	207	111	220	98	6	65	28	81	41	25	11	4	13	6	2
Unit E	130	82	102	87	-22	16	14	8	12	-54	7	5	3	5	-3
Unit F	65	40	54	47	-17	41	22	21	20	-49	16	8	8	8	-8
Unspecified	12	15	13	17	7	4	7	0	0	-100	20	30	0	0	-20
Statewide	671	185	644	192	-4	224	51	179	59	-20	13	3	10	3	-3

\*P<0.05.

Table 16. The hunters and trappers' opinion of weather conditions during the bobcat hunting and trapping seasons in Michigan, 2020.

Condition	Percentage of hunters	Percentage of hunters 95% CL <sup>a</sup>	Percentage of trappers	Percentage of trappers 95% CL <sup>a</sup>
Excellent	6	2	6	2
Above average	15	3	18	4
Average	56	4	49	5
Below average	16	3	16	4
Very poor	5	2	9	3
Unknown	2	1	2	1

<sup>a</sup>95% confidence limits.

Table 17. Correlation between average bobcat pelt prices and number of hunters, days of effort, bobcats registered, and effort per registered bobcat in Michigan during 1997-2020, summarized by region.<sup>a</sup>

Estimate and region	Correlation <sup>b</sup>	Significance (P-value) <sup>c</sup>
Number of hunters		
UP	0.49	0.02
LP	-0.30	0.16
Days of effort		
UP	0.51	0.01
LP	0.02	0.94
Bobcats registered <sup>d</sup>		
UP	0.01	0.97
LP	-0.26	0.23
Effort per bobcats registered		
UP	0.05	0.83
LP	0.42	0.05

<sup>a</sup>Mean pelt prices were the average paid in Minnesota and Wisconsin (e.g., Abraham and Dexter 2019, Dhuey 2021). Pelt prices were reported in 2020 dollars by adjusting for inflation using the Consumer Price Index (Bureau of Labor Statistics 2021).

<sup>b</sup>Pearson product moment correlation coefficient.

<sup>c</sup>P-value is the probability of obtaining this correlation result (2-sided test).

<sup>d</sup>The tally of bobcats registered by furtakers at DNR registration stations was used rather than estimates from surveys because harvest estimates by region were not calculated before 2004.

Table 18. Estimated number of bobcat trappers and their trapping effort (days) in Michigan for 2018 and 2020, summarized by area.

Area	2018 total trappers <sup>a</sup>	2018 trappers 95% CL	2020 total trappers <sup>a</sup>	2020 total trappers 95% CL	Change (%)	2018 total days	2018 total days 95% CL	2020 total days	2020 total days 95% CL	Change (%)
Upper Peninsula	508	75	739	119	45*	9,775	1,943	13,504	2,693	38
Lower Peninsula	996	103	1,135	144	14	7,076	848	8,492	1,254	20
Unit C	248	53	252	70	2	1,902	473	1,789	561	-6
Unit D	350	63	431	92	23	2,390	480	3,136	771	31
Unit E	199	48	198	61	-1	1,406	379	1,447	520	3
Unit F	215	50	273	74	27	1,378	373	2,120	647	54
Unspecified	4	7	46	31	1021*	24	42	215	260	781
Statewide	1,492	122	1,887	180	27*	16,876	2,094	22,211	2,954	32*

<sup>a</sup>Number of trappers does not add up to statewide total because trappers could trap in more than one area.

\*P<0.05.

Table 19. Estimated number of bobcats captured, bobcats released alive, and bobcats registered by trappers in Michigan for 2018 and 2020, summarized by area.

Area	2018 bob-cats caught	2018 bob-cats 95% CL	2020 bob-cats caught	2020 bob-cats 95% CL	Change (%)	2018 bob-cats re-leased	2018 bob-cats re-leased 95% CL	2020 bob-cats re-leased	2020 bob-cats re-leased 95% CL	Change (%)	2018 bob-cats registered	2018 bob-cats registered 95% CL	2020 bob-cats registered	2020 bob-cats registered 95% CL	Change (%)
Upper Peninsula	252	78	526	158	109*	61	40	135	98	122	191	58	391	112	105*
Lower Peninsula	528	133	460	145	-13	289	109	243	112	-16	240	53	217	65	-10
Unit C	138	82	69	44	-50	81	75	23	26	-72	57	26	47	31	-18
Unit D	199	73	97	47	-51	98	53	15	17	-85*	102	34	82	41	-19
Unit E	98	51	117	57	20	65	38	63	35	-4	33	20	55	31	68
Unit F	93	43	176	117	89	45	32	143	102	219	49	24	34	26	-31
Unspecified	0	0	13	17	NA	0	0	0	0	NA	0	0	13	17	NA
Statewide	780	153	999	214	28	350	116	378	148	8	431	77	621	130	44

\*P<0.05.

Table 20. Estimated proportion of bobcat trappers that captured at least one bobcat and proportion that registered at least one bobcat in Michigan for 2018 and 2020, summarized by area.

Area	2018 trappers that caught a bobcat (%)	2018 trappers that caught a bobcat 95% CL	2020 trappers that caught a bobcat (%)	2020 trappers that caught a bobcat 95% CL	Difference (%)	2018 successful trappers (%)	2018 successful trappers 95% CL	2020 successful trappers (%)	2020 successful trappers 95% CL	Difference (%) <sup>a</sup>
Upper Peninsula	32	7	41	8	9	28	7	36	8	8
Lower Peninsula	33	5	27	6	-6	24	5	19	5	-5
Unit C	33	10	22	12	-11	23	9	18	11	-4
Unit D	36	9	21	9	-15	29	8	19	8	-10
Unit E	27	11	39	15	12	16	9	28	14	11
Unit F	32	11	29	12	-3	23	10	12	9	-10
Unspecified	0	0	29	31	29	0	0	29	31	29
Statewide	33	4	33	5	0	26	4	26	5	1

<sup>a</sup>P<0.05.

Table 21. Estimated number of days of effort per bobcat registered in Michigan by trappers for the 2017-2020, summarized by year and area.

Area	2017 effort per registered bobcat	2017 effort per registered bobcat 95% CL <sup>a</sup>	2018 effort per registered bobcat	2018 effort per registered bobcat 95% CL <sup>a</sup>	2020 effort per registered bobcat	2020 effort per registered bobcat 95% CL <sup>a</sup>	Change between 2018 and 2020 (%)
Upper Peninsula	65.6	19.4	51.2	15.3	34.5	8.7	-33
Lower Peninsula	47.4	13.7	29.5	6.0	39.2	11.5	33
Unit C	32.8	15.4	33.4	14.3	38.4	25.3	15
Unit D	64.0	36.7	23.5	7.0	38.2	18.0	62
Unit E	26.3	16.7	43.3	24.4	26.5	15.0	-39
Unit F	70.8	48.0	28.3	13.1	63.2	48.3	124
Unspecified	0.0	0.0	0.0	0.0	0.0	0.0	NA
Statewide	57.5	12.1	39.2	7.1	35.8	6.8	-9

<sup>a</sup>95% confidence limits.

<sup>\*</sup>P<0.05. Comparison between 2018 and 2020.

Table 22. Estimated number of trappers, trapping effort (days), bobcats captured, bobcats released, bobcats registered, and proportion of trappers that captured and registered a bobcat in Michigan during 2020, summarized by county.

County	Total trap-pers <sup>a</sup>	Total trap-pers		Total days		Total bobcats caught		Total bobcats re-leased		Total bobcats regis-tered	Total Caught at least one bobcat		Suc-cessful trappers (%)	Suc-cessful trappers 95% CL
		95% CL	Total days	95% CL	Total bobcats caught	95% CL	Total bobcats re-leased	95% CL	Total bobcats registere d		95% CL	at least one bobcat (%)		
Alcona	31	23	185	165	0	0	0	0	0	0	0	0	0	0
Alger	39	29	898	846	20	26	0	0	20	26	33	35	33	35
Alpena	69	37	457	267	13	17	0	0	13	17	19	22	19	22
Antrim	7	12	52	94	7	12	0	0	7	12	100	0	100	0
Arenac	8	12	75	117	0	0	0	0	0	0	0	0	0	0
Baraga	43	29	526	429	26	29	7	12	20	26	45	34	30	32
Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benzie	26	20	211	168	15	12	5	0	10	12	37	38	37	38
Charlevoix	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cheboygan	13	17	65	83	0	0	0	0	0	0	0	0	0	0
Chippewa	91	42	482	858	54	39	4	0	50	39	39	23	39	23
Clare	56	33	439	284	21	20	0	0	21	20	37	29	37	29
Crawford	21	20	134	141	7	12	0	0	7	12	32	47	32	47
Delta	92	44	787	954	91	85	59	79	33	31	42	24	28	22
Dickinson	35	26	704	574	21	20	0	0	21	20	59	37	59	37
Emmet	13	17	65	89	20	26	7	12	13	17	100	0	100	0
Gladwin	35	26	169	146	0	0	0	0	0	0	0	0	0	0
Gogebic	49	31	721	519	48	48	20	26	28	33	42	32	29	29
Gd.														
Traverse	27	20	209	173	16	12	13	12	3	0	40	36	11	9
Houghton	40	29	350	291	14	23	7	12	8	12	19	27	19	27
Iosco	55	33	487	299	15	23	8	12	8	12	14	20	14	20
Iron	76	39	737	1,088	53	41	0	0	53	41	53	26	53	26
Isabella	22	20	241	242	13	12	13	12	0	0	35	45	0	0
Kalkaska	37	26	202	184	8	12	0	0	8	12	21	29	21	29
Keweenaw	7	12	65	117	0	0	0	0	0	0	0	0	0	0

<sup>a</sup>Number of trappers does not add up to statewide total because trappers could trap in more than one county.



Table 22. (Continued) Estimated number of trappers, trapping effort (days), bobcats captured, bobcats released, bobcats registered, and proportion of trappers that captured and registered a bobcat in Michigan during 2020, summarized by county.

County	Total trappers <sup>a</sup>	Total trappers 95% CL	Total days	Total days 95% CL	Total bobcats caught	Total bobcats caught 95% CL	Total bobcats released	Total bobcats released 95% CL	Total bobcats registered	Total bobcats registered 95% CL	Caught			
											Total bobcats registered	Total bobcats registered 95% CL	Caught at least one bobcat (%)	Caught at least one bobcat 95% CL
Lake	36	26	196	143	35	39	20	26	15	17	61	36	42	36
Leelanau	8	12	52	82	0	0	0	0	0	0	0	0	0	0
Luce	34	26	340	382	13	17	7	12	7	12	39	38	19	31
Mackinac	38	26	681	459	35	48	20	35	15	17	40	34	40	34
Manistee	41	29	235	197	2	0	2	0	0	0	2	2	0	0
Marquette	43	29	907	670	39	35	0	0	39	35	52	33	52	33
Mason	81	41	544	297	51	39	24	20	27	23	43	25	33	24
Mecosta	107	47	787	370	59	56	46	45	13	17	24	19	12	14
Menominee	91	42	1,772	1,040	29	29	1	0	28	29	24	20	24	20
Midland	33	26	260	235	0	0	0	0	0	0	0	0	0	0
Missaukee	20	20	137	151	7	12	0	0	7	12	33	49	33	49
Montmorency	50	31	347	224	21	26	14	23	7	12	28	28	13	22
Newaygo	90	42	651	343	98	102	85	90	13	17	44	24	15	17
Oceana	29	23	180	165	8	12	0	0	8	12	26	35	26	35
Ogemaw	65	37	469	285	7	12	0	0	7	12	10	17	10	17
Ontonagon	40	29	622	553	53	47	7	12	47	42	67	34	67	34
Osceola	72	39	417	253	26	23	0	0	26	23	36	26	36	26
Oscoda	37	26	208	153	9	12	2	0	7	12	23	29	18	29
Otsego	14	17	139	174	1	0	0	0	1	0	7	8	7	8
Presque Isle	40	29	271	227	0	0	0	0	0	0	0	0	0	0
Roscommon	68	37	497	282	8	12	7	12	1	0	11	16	1	1
Schoolcraft	78	41	911	799	33	31	7	12	26	29	33	25	25	23
Wexford	29	23	112	117	1	0	1	0	0	0	3	3	0	0
Unspecified	46	31	215	260	13	17	0	0	13	17	29	31	29	31

<sup>a</sup>Number of trappers does not add up to statewide total because trappers could trap in more than one county.

Table 23. Trap type used by bobcat trappers in Michigan during 2020.

Trap type	Trappers (%)	95% CL	Trappers (No.)	95% CL
Foothold traps	83	4	1,568	166
Conibears	22	4	422	91
Other <sup>a</sup>	2	2	47	31

<sup>a</sup>Included snares and live traps, although snares were not legal to use to capture bobcats.

Table 24. Preferred trap type of bobcat trappers in Michigan during 2020.

Trap type	Trappers (%)	95% CL	Trappers (No.)	95% CL
Foothold traps	65	5	1,229	149
Conibears	15	4	284	75
No preference	14	4	267	73
Other <sup>a</sup>	2	1	29	23
No answer	4	2	78	41

<sup>a</sup>Snares were not legal to use to capture bobcats.

Table 25. Correlation between average bobcat pelt prices and number of trappers, days of effort, bobcats registered, and effort per registered bobcat in Michigan during 1997-2020, summarized by region.<sup>a</sup>

Estimate and region	Correlation <sup>b</sup>	Significance (P-value) <sup>c</sup>
Number of trappers		
UP	0.49	0.02
LP <sup>d</sup>	-0.30	0.16
Days of effort		
UP	0.51	0.01
LP <sup>d</sup>	0.02	0.94
Bobcats registered <sup>e</sup>		
UP	0.01	0.97
LP <sup>d</sup>	-0.26	0.23
Effort per bobcats registered		
UP	0.05	0.83
LP <sup>d</sup>	0.42	0.05

<sup>a</sup>Mean pelt prices were the average paid in Minnesota and Wisconsin (e.g., Abraham and Dexter 2019, Dhuey 2021). Pelt prices were reported in 2020 dollars by adjusting for inflation using the Consumer Price Index (Bureau of Labor Statistics 2021).

<sup>b</sup>Pearson product moment correlation coefficient.

<sup>c</sup>P-value is the probability of obtaining this correlation result (2-sided test).

<sup>d</sup>Bobcat could be harvested by trappers in the LP during 2004-2005 and 2008-2020 only.

<sup>e</sup>The tally of bobcats registered by furtakers at DNR registration stations was used rather than estimates from surveys because harvest estimates by region were not calculated before 2004.

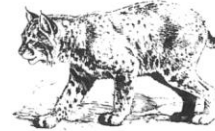


Appendix A. The questionnaire sent to people that obtained a bobcat harvest tag in Michigan for the 2020 bobcat hunting and trapping seasons.



## BOBCAT HUNTER AND TRAPPER SURVEY

This information is requested under authority of Part 435, 1994 PA 451, M.C.L. 324.43539.



- It is important that you complete this questionnaire with blue or black ink and return it even if you did not harvest a bobcat during the 2020-21 hunting and trapping seasons (December 1, 2020, through March 1, 2021).
- Only the person this questionnaire was addressed to should answer these questions. Do not report results for another person. Record answers by marking an X inside the correct box .

### SECTION A: Hunting Questions (Questions about trapping are asked in Section B)

1. Did you hunt bobcats during the 2020-21 season?

- 1  Yes      2  No (Skip to Question #9)

2. If you hunted bobcats during the 2020-21 season, please complete the following table for up to 4 hunting scenarios that account for most of your hunting this season

COUNTY HUNTED (For each hunting method used, list the county that you hunted on separate lines.)	HUNTING METHOD (Select one hunting method. If multiple methods used in a single county, repeat the county on a second row)	NUMBER OF DAYS HUNTED (Count all days hunted even if you did not have an opportunity to take a bobcat)	NUMBER OF BOBCAT REGISTERED (Count only bobcat where a seal was attached to the pelt, and the animal was returned to you.)	NUMBER OF BOBCATS NOT TAKEN (Count the number of bobcats you called within range or treed but chose <u>not</u> to harvest.)
	1 <input type="checkbox"/> Dogs 2 <input type="checkbox"/> Calls 3 <input type="checkbox"/> Other			
	1 <input type="checkbox"/> Dogs 2 <input type="checkbox"/> Calls 3 <input type="checkbox"/> Other			
	1 <input type="checkbox"/> Dogs 2 <input type="checkbox"/> Calls 3 <input type="checkbox"/> Other			
	1 <input type="checkbox"/> Dogs 2 <input type="checkbox"/> Calls 3 <input type="checkbox"/> Other			

3. On what lands did you hunt bobcats during the 2020-21 season? (You may check more than one.)

- 1  Property owned by me or my family      2  Private land, with permission  
 3  Private land open to public hunting (For example, Commercial Forests, Hunter Access Program)      4  Public land (State Game Area, State or National Forest, etc.)

4. How would you rate the weather conditions during the 2020-21 hunting season?

- 1  Excellent      2  Above Average      3  Average      4  Below Average      5  Very Poor

5. Did you hire a guide to assist with hunting bobcats at any time during the 2020-21 season?      1  Yes      2  No

6. Did you hunt bobcats with dogs during the 2020-21 season?

- 1  Yes      2  No (Skip to Question #9)

7. How many bobcat chases with dogs did you participate in during the 2020-21 season.

Number of Chases

8. Who owned the dogs that you used to hunt bobcats during the 2020-21 season? (Check one)
- 1  Hunted with dogs that I own.      2  Hunted with dogs owned by someone else.
- 3  Hunted with both dogs that I own and those owned by someone else.

**SECTION B: Trapping Questions**

9. Did you attempt to harvest a bobcat while trapping in the 2020-21 season?
- 1  Yes      2  No (Skip to Question #16 in Section C)

10. If you attempted to trap bobcats, please complete the following table for up to 4 trapping occasions that account for most of your trapping in the 2020-21 season.

COUNTY TRAPPED (List each county that you trapped for bobcat.)	NUMBER OF DAYS TRAPPED	NUMBER OF BOBCAT CAUGHT AND RELEASED (Count only bobcats you released alive from your traps.)	NUMBER OF BOBCAT REGISTERED (Count only bobcat where a seal was attached to the pelt, and the animal was returned to you.)

11. On what lands did you trap bobcats during the 2020-21 season? (You may check more than one.)
- 1  Property owned by me or my family      2  Private land, with permission
- 3  Private land open to public hunting (For example, Commercial Forests, Hunter Access Program)      4  Public land (State Game Area, State or National Forest, etc.)

12. How would you rate the weather conditions during the 2020-21 trapping season?
- 1  Excellent      2  Above Average      3  Average      4  Below Average      5  Very Poor

13. For each day you trapped, on average, how many of each of the following types of traps did you set for bobcats during the 2020-21 season? (For each type, record the average number used per day.)
- \_\_\_\_\_ Foothold traps
- \_\_\_\_\_ Conibears
- \_\_\_\_\_ Other (Please specify \_\_\_\_\_)

14. Which capture method do you prefer to catch bobcats? (Check one.)
- 1  Foothold traps      2  Conibears      3  No preference      4  Other (please specify \_\_\_\_\_)

15. Did you catch any bobcats in traps that were set for another species in the 2020-21 season?
- 1  Yes      2  No

**SECTION C: General Questions (Includes questions for both hunters and trappers)**

16. Compared to the previous three years, what is the status of bobcats in the county that you prefer to hunt or trap bobcats in the 2020-21 season?
- 1  Increasing      2  Decreasing      3  Stable      4  Not present      5  Unknown

17. If you captured a bobcat in the 2020-21 season, please describe how you used (or plan to use) the animal? Please record the number of bobcat(s) used for each category.

Number of bobcats...	1	2	None
Sold to local fur buyer	1 <input type="checkbox"/>	2 <input type="checkbox"/>	0 <input type="checkbox"/>
Sold at fur auction	1 <input type="checkbox"/>	2 <input type="checkbox"/>	0 <input type="checkbox"/>
Sold to taxidermist	1 <input type="checkbox"/>	2 <input type="checkbox"/>	0 <input type="checkbox"/>
Sold to a private individual	1 <input type="checkbox"/>	2 <input type="checkbox"/>	0 <input type="checkbox"/>
Kept for personal use (for example, tanned hide or taxidermy mount)	1 <input type="checkbox"/>	2 <input type="checkbox"/>	0 <input type="checkbox"/>
Other: Please describe: _____	1 <input type="checkbox"/>	2 <input type="checkbox"/>	0 <input type="checkbox"/>

Please return questionnaire in the enclosed postage-paid envelope.  
Thank you for your help.