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2015 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 2015, 6,451 people obtained a bobcat harvest tag valid for the hunting and trapping seasons (1% fewer than in 2014). About 46% (2,969) of these tag-holders attempted to hunt or trap bobcats, and 20% of these furtakers registered at least one bobcat. An estimated 1,926 people attempted to hunt bobcats and spent 16,278 days hunting and registered 311 bobcats. Nearly 1,350 people attempted to trap bobcats and spent 18,494 days trapping and registered 369 bobcats. The number of hunters and trappers combined and their take of bobcats was not significantly different between 2014 and 2015. In 2015, the number of furtakers (hunters and trappers combined) participating in hunting and trapping seasons was near the highest level recorded since 2009, when the current season lengths were established. The estimated number of bobcats registered by both hunters and trappers in 2015 was near the average taken annually since 2009. In 2015, the effort per registered bobcat was not significantly different between hunters and trappers statewide and in any of the management units. The amount of effort per bobcat registered is a measure of how difficult it was to capture a bobcat and may be an indirect measure of the abundance of bobcats. Similar estimates during the last two years suggest similar conditions existed in 2014 and 2015.

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INTRODUCTION

The Natural Resources Commission (NRC) and 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 2015, 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 2014. In order 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 bobcat. The total statewide bag limit was 2 bobcats per furharvester regardless of method of take. In the Upper Peninsula (UP), except Drummond Island, furtakers could legally take and register two bobcats in the hunting and trapping seasons combined. Only one bobcat could be taken from Drummond Island (Unit B), and only one bobcat could be legally taken and registered from all Lower Peninsula (LP) units combined (Figure 1). Successful furtakers were required to immediately attach the 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 of bobcats per person or 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 information collected from registered bobcats.

In 2015, hunting was allowed on both public and private lands in all open management units. In addition, trapping was allowed on both public and private lands in units A, B, E and F; however, trapping was allowed only on private land in units C and D. In 2015, trappers could use body-gripping (e.g., conibear) traps, foothold traps, and live restraining cage traps to capture bobcats in the UP and only foothold traps in the LP.

METHODS

A questionnaire (Appendix A) was sent to everyone who obtained a bobcat harvest tag in 2015 (6,451 tag holders). Furtakers receiving the questionnaire reported whether they attempted to hunt or trap a bobcat, number of days spent afield, and 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, number of occasions their 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 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.

Questionnaires were mailed initially during late March 2016, and nonrespondents were mailed up to two follow-up questionnaires. Although 6,451 people were sent the questionnaire, 103 questionnaires were undeliverable, resulting in an adjusted sample size of 6,348. Questionnaires were returned by 3,440 people, yielding a 54% adjusted response rate.

Although all harvest tag holders had an opportunity to report information about their hunting and trapping activity, not everybody reported. To extrapolate from the tag holders that completed their questionnaire to all people obtaining harvest tags, estimates were calculated using a simple random sampling design (Cochran 1977). 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 bias. 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 R, Lumley 2004).

Statistical tests are used routinely to determine the likelihood the differences among estimates are larger than expected by chance alone. The overlap of 95% confidence intervals was used to determine whether estimates differed. Non-overlapping 95% confidence intervals was equivalent to stating the difference between the means was larger than would be expected 995 out of 1,000 times ($P < 0.005$), if the study had been repeated (Payton et al. 2003).

RESULTS

Hunting and Trapping Combined

In 2015, 6,451 people obtained a bobcat harvest tag valid for the bobcat hunting and trapping seasons, which was 1% less than in 2014 (6,525 people obtained a tag in 2014). About 46 ± 1% (2,969) of these tag holders attempted to hunt or trap bobcats (Table 3). Furthermore, about 5 ± 1% (308 ± 31) of the tag holders attempted both hunting and trapping bobcats.

Furtakers spent 34,772 days afield ($\bar{x}$ = 11.7 ± 0.5 days/furtaker) and registered 681 bobcats ($\bar{x}$ = 0.23 ± 0.02 bobcats/furtaker). Furtakers spent about 19,248 days afield pursuing bobcats in the UP and 14,650 days in the LP (Table 3). About 20% of the furtakers registered at least one bobcat (Table 4). Nearly 18 ± 1% of the furtakers registered only one bobcat and 2% registered two bobcats. About 25% of the furtakers in the UP registered at least one bobcat (Table 4). Nearly 19 ± 2% of the UP furtakers registered only one bobcat and 6 ± 1% registered two bobcats. An estimated 18% of furtakers in the LP registered a bobcat.

The number of furtakers seeking bobcats statewide and their effort to take a bobcat did not change significantly between 2014 and 2015 (Table 3, Figure 2). Regionally, furtaker numbers and their effort did not change significantly in the UP; however, the furtaker numbers declined significantly by 9% and their effort decreased significantly by 15% in the LP. As the number of furtakers seeking bobcats decreased in the LP, the number of bobcats registered in the LP also decreased significantly by 17% between 2014 and 2015 (Table 4). The proportion of

furtakers registering a bobcat did not change significantly statewide or in the either the UP or the LP.

Counties with 120 or more furtakers that pursued bobcats included Alcona, Delta, Iron, Newaygo, and Menominee (Table 5). Counties with 35 or more registered bobcats taken within that county included Iron, Dickinson, Mason, and Gogebic.

About 28 ± 1% of furtakers reported the bobcat population was stable in the county they preferred to hunt or trap bobcats, which was similar to the 2014 estimate (Figures 3-5). About 14 ± 1% reported bobcat numbers were improving and 9 ± 1% reported fewer bobcats. Nearly 40 ± 1% of the furtakers were uncertain of the status of bobcats.

Hunting

About 30 ± 1% (1,926 hunters) of the tag-holders attempted to hunt bobcats during the 2015 seasons (Table 6). About 465 people hunted in the UP and 1,433 hunted in the LP. The hunters statewide had hunted bobcats an average of 8.0 years (±0.5 year). Bobcat hunters most frequently hunted on public land (60 ± 2%). About 42 ± 2% hunted bobcats on their own land or land owned by their family, while 40 ± 2% of the hunters hunted on private land not owned by themselves or their family. Nearly 29 ± 2% of the hunters hunted on public land only, 40 ± 2% hunted on private land only, and 31 ± 2% hunted on both public and private lands.

Hunters spent about 16,278 days afield hunting bobcats ($\bar{x}$ = 8.5 ± 0.5 days/hunter) and registered an estimated 311 bobcats ($\bar{x}$ = 0.16 ± 0.02 bobcats/hunter, Table 7). Hunters spent about 5,414 days afield hunting bobcats in the UP and 10,205 days hunting bobcats in the LP. The estimated number of days of effort per bobcat registered by hunters statewide was 52.3 days in 2015 (Table 8).

Hunters registered about 46% of the bobcats registered by furtakers (Figure 6). About 15% of bobcat hunters statewide harvested at least one bobcat (Table 7). Nearly 15 ± 1% of hunters registered only one bobcat and <1% registered two bobcats. An estimated 17% of the hunters in the UP registered at least one bobcat; 16 ± 3% of UP hunters registered one bobcat and 1 ± 1% registered two bobcats. An estimated 15% of hunters in the LP registered a bobcat.

Counties with 80 or more hunters pursuing bobcats included Alcona, Montmorency, Presque Isle, Mason, Missaukee, Ogemaw, and Roscommon (Table 9). Counties with at least 15 hunter-registered bobcats originating from that county included Cheboygan, Alcona, Dickinson, and Iron.

The number of hunters statewide and their hunting effort did not change significantly between 2014 and 2015 (Table 6). In addition, the number of times hunters passed up an opportunity to take a bobcat, the number of bobcats registered, and hunter success did not change significantly statewide between 2014 and 2015 (Table 7).

Although hunter numbers, hunting effort, the number of bobcats registered by hunters, and hunting success were not significantly different statewide between 2014 and 2015, fewer hunters pursued bobcats in Management Unit D (Table 6). In addition, the number of bobcats registered and hunter success in 2015 was significantly less among hunters in Management

Unit C than in 2014 (Table 7). The number of days of effort per bobcat registered by hunters statewide (50.2) was not statistically different from estimates for 2014. In addition, hunting effort per bobcat was not significantly different in any of the management units between 2014 and 2015 (Table 8, Figure 7).

Hunters most frequently used calls (61 ± 2%) or dogs (35 ± 2%) to hunt bobcats (Table 10). The estimated number of people hunting bobcats with dogs statewide in 2015 and their hunting effort was not significantly different from 2014 (Table 11). 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 2014 and 2015 (Tables 11 and 12). Among hunters using calls, the estimated number of people hunting bobcats statewide and their hunting effort also did not change significantly between 2014 and 2015 (Table 13). In addition, the number of bobcats passed and number registered were not significantly different between 2014 and 2015 (Table 14). Among hunters using calls, less than 1% used a guide service (11 ± 6 hunters).

Bobcat hunters using dogs participated in an estimated 2,865 ± 353 chases of bobcats statewide in 2015, which was not significantly different from 2014 (Figure 8). About 25 ± 2% of the bobcat hunters had an opportunity to harvest a bobcat but chose not to harvest the bobcat, which was not significantly different from 2014. An estimated 476 ± 39 hunters chose not to harvest bobcats on 1,526 ± 205 occasions in 2015 (Figure 8). Among those hunters that passed up an opportunity to take a bobcat, 40 ± 4% passed one bobcat, 23 ± 4% passed two bobcats, 11 ± 3% passed three bobcats, 6 ± 2% passed four bobcats, and 19 ± 3% 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 11 ± 2% bobcat hunters that hunted with dogs hired a guide service to assist with their hunting (77 ± 16 hunters).

About 32 ± 2% of bobcat hunters reported the bobcat population was stable in the county they preferred to hunt bobcats, which was similar to the 2014 estimate (Figures 3-5). About 19 ± 2% reported bobcat numbers were increasing and 14 ± 1% reported fewer bobcats. Nearly 28 ± 2% of bobcat hunters were uncertain of the status of bobcats.

The mean value of bobcat pelts was positively correlated with the number of days of effort per registered bobcat during 1997-2015 in the UP but not in the LP (Table 15). In addition, pelt prices were not significantly correlated with hunter numbers, hunting effort, or bobcats registered in either region.

Trapping

An estimated 21 ± 1% (1,350 trappers) of the tag-holders trapped bobcats during the 2015 season (Table 16), and these trappers had trapped bobcats an average of 6.9 years (±0.5 year). Most trappers trapped bobcats on private land owned by themselves or their family (54 ± 2%). About 44 ± 2% of trappers trapped on private lands not owned by themselves or their family and about 29 ± 2% trapped on public land. About 71 ± 2% trapped on private land only, 12 ± 2% of the trappers trapped on public land only, and 17 ± 2% trapped on both public and private lands.

Trappers spent about 18,494 days afield trapping bobcats ($\bar{x}$ = 13.7 ± 0.8 days/trapper), caught 613 bobcats, registered 369 bobcats ($\bar{x}$ = 0.27 ± 0.03 bobcats/trapper), and released 244 bobcats from their traps during the 2015 bobcat season (Table 16, Figure 9).

The number of trappers did not significantly change statewide between 2014 and 2015. Additionally, trapping effort, the number of bobcats captured, and the number of bobcats registered by trappers did not change significantly (Table 16 and 17). The proportion of trappers registering a bobcat also did not change significantly between 2014 and 2015 (25 versus 24%, Table 18). The estimated number of days of effort per bobcat registered by trappers statewide was 50.1 days in 2015 and did not change significantly from 2014 (Table 19, Figure 7). In addition, trapping effort per bobcat was not significantly different in any of the management units between 2014 and 2015.

Trappers registered about 53% of the bobcats registered by furtakers (Figure 6). About 30% of bobcat trappers captured at least one bobcat and 24% registered at least one bobcat (Table 18). Nearly 20 ± 2% of the trappers registered only one bobcat and 3 ± 1% registered two bobcats. Nearly 11 ± 2% of the bobcat trappers released bobcats that they caught. They released 244 bobcats from their traps, which was not significantly different from the number released in 2014. About 10 ± 2% of bobcat trappers caught a bobcat in a trap set for another furbearer during the open bobcat seasons (Figure 9).

Counties with 70 or more trappers pursuing bobcats included Iron and Marquette (Table 20). Iron and Gogebic were the only counties with more than 30 registered bobcats originating from that county.

Most trappers used foothold traps (87%), while 30% of the trappers used body gripping traps (e.g., conibears) (Table 21). Most trappers preferred to use foothold traps (59%), while 18% preferred to use conibears (Table 22). An estimated 18% of trappers did not have a preferred trap type.

About 38 ± 2% of bobcat trappers reported the bobcat population was stable in the county they preferred to trap bobcats (Figures 3-5). About 22 ± 2% reported bobcat numbers were increasing and 10 ± 1% reported fewer bobcats. Nearly 27 ± 2% of bobcat trappers were uncertain of the status of bobcats.

The mean value of bobcat pelts was positively correlated with the number of trappers and their days spent afield during 1997-2015 in the UP, but not in the LP (Table 23). In contrast, the mean value of bobcat pelts was not significantly correlated with the number of bobcats registered and effort per bobcat registered in either region.

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 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 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, 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 to the NRC changes in bobcat harvest regulations. Each of these indices measures an attribute of the bobcat population and independently can be used to monitor changes in population status. Use of multiple indices strengthens the assessment of population status.

In 2015, the number of furtakers (hunters and trappers combined) participating in bobcat hunting and trapping seasons was near the highest level recorded since 2003 (Figure 2). The increase during recent years was primarily driven by an increased number of trappers. Although the number of furtakers was near the highest levels in 2015, the days spent hunting and trapping lagged the increases in furtaker numbers because 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).

In 2015, the estimated number of bobcats registered by both hunters and trappers was near the average taken annually since hunting and trapping seasons were shortened in 2009 (Figure 2). In addition, about 20% of bobcat hunters and trappers combined registered at least one bobcat in Michigan during the 2015 seasons, while 18-26% ($\bar{x}$ = 23%) of bobcat hunters and trappers harvested at least one bobcat annually in Michigan since 2009.

The estimated effort per registered bobcat in 2015 was not significantly different from 2014 for either hunters or trappers (Figure 7). The amount of effort per bobcat registered is a measure of how difficult it was to capture a bobcat and may be an indirect measure of the abundance of bobcats. Similar estimates during the last two years suggest similar conditions existed in both 2014 and 2015.

The number of furtakers (hunters and trappers combined) pursuing bobcats in the LP is about 80% greater than the number in the UP; however, furtakers in the UP expended 31% more effort than their counterparts in the LP (Table 3). These differences between regions partly reflect differences in regulations as furtakers could legally harvest only one bobcat from the LP, while two bobcats could be taken from the UP. Moreover, seasons were longer in the UP than in the LP (Tables 1 and 2).

About 3 times more people attempted to hunt bobcats in the LP than in the UP in 2015 (Table 6), although the season was shorter in the LP (Tables 1 and 2). Hunters in the LP spent 2.2 times as many days hunting bobcats than their counterparts in the UP. Hunters in the LP had more occasions where they chose not to harvest a bobcat than hunters in the UP (Table

7); however, the proportion of hunters registering at least one bobcat was about the same (17% and 15%) in the both the UP and LP.

Although there were nearly 1.4 times as many bobcat hunters as trappers in Michigan during the 2015 seasons (Tables 6 and 16), trappers registered about 1.2 times as many bobcats as hunters. Bobcat hunters devoted an average of 52.3 days of effort per bobcat registered, while trappers spent about 50.1 days of effort per bobcat registered. These estimates of effort per catch for hunters and trappers were not significantly different.

A higher proportion of hunters that used dogs were successful than hunters using calls, and the difference was significant (18% of hunters using dogs registered a bobcat versus 12% of hunters using calls, Table 10). Hunters using dogs have normally had significantly higher success than hunters using calls in Michigan (Frawley 2017). 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 in Pennsylvania was 14%. Kitchell and Olson (2005, 2006, 2007) and Dhuey and Olson (2008, 2009) reported 42-79% ($\bar{x}$ = 59%) of hunters using dogs registered a bobcat in Wisconsin during 2004-2008, while 18-48% ($\bar{x}$ = 28%) of hunters not using dogs registered a bobcat.

About 11% of the bobcat trappers in Michigan released a bobcat from their traps set during the 2015 season, which was not significantly different from 2014 (11.4% versus 12.2%, Frawley 2017). In comparison, 6-27% ($\bar{x}$ = 11%) of Wisconsin bobcat trappers released a bobcat from their traps during 2006-2015 in Wisconsin (e.g., Lohr et al. 2016).

ACKNOWLEDGEMENTS

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LITERATURE CITED

Abraham, J, and M.H. Dexter. 2016. Minnesota fur buyers survey for the 2015-2016 hunting and trapping season. Unpublished report, Division of Fish and Wildlife, Minnesota Department of Natural Resources, St. Paul, USA.

Bureau of Labor Statistics. 2015. Consumer Price Index-All Urban Consumers, United States Department of Labor. http://www.bls.gov. Accessed 30 January 2017.

Cochran, W. G. 1977. Sampling techniques. John Wiley & Sons, New York, USA.

Dhuey, B. and J. Olson. 2008. Bobcat hunter/trapper survey, 2007. Wisconsin Wildlife Surveys, Wisconsin Department of Natural Resources, Madison, Wisconsin, USA.

Dhuey, B. and J. Olson. 2009. Bobcat hunter/trapper survey, 2008. Wisconsin Wildlife Surveys, Wisconsin Department of Natural Resources, Madison, Wisconsin, USA.

Frawley, B. J. 2001. 1997-2000 Michigan furbearer harvest surveys. Wildlife Division Report 3355. Michigan Department of Natural Resources, Lansing, USA.

Frawley, B. J. 2017. 2014 bobcat hunter and trapper harvest in Michigan. Wildlife Division Report 3634. Michigan Department of Natural Resources, Lansing, USA.

Kitchell, J. and J. Olson. 2005. Bobcat hunter/trapper survey, 2004. Wisconsin Wildlife Surveys, Volume 15, Issue 5, Wisconsin Department of Natural Resources, Madison, Wisconsin, USA.

Kitchell, J. and J. Olson. 2006. Bobcat hunter/trapper survey, 2005. Wisconsin Wildlife Surveys, Wisconsin Department of Natural Resources, Madison, Wisconsin, USA.

Kitchell, J. and J. Olson. 2007. Bobcat hunter/trapper survey, 2006. Wisconsin Wildlife Surveys, Wisconsin Department of Natural Resources, Madison, Wisconsin, USA.

Lohr, J. R. 2016. Wisconsin fur buyers report 2015-2016. Wisconsin Wildlife Surveys, Wisconsin Department of Natural Resources, Madison, Wisconsin, USA.

Lohr, J. R., B. Dhuey, and S. Rossler. 2016. Bobcat hunter/trapper survey, 2015. Wisconsin Wildlife Surveys, Wisconsin Department of Natural Resources, Madison, Wisconsin, USA.

Lovallo, M. J. 2011. Bobcat harvest management. Federal Aid Project Annual Job Report, Project Number 06630, Pennsylvania Game Commission, Harrisburg, Pennsylvania, USA.

Lumley, T. 2004. Analysis of complex survey samples. Journal of Statistical Software 9: 1-19.

Payton, M. E., M. H. Greenstone, and N. Schenker. 2003. Overlapping confidence intervals or standard error intervals: what do they mean in terms of statistical significance? Journal of Insect Science 3:34.

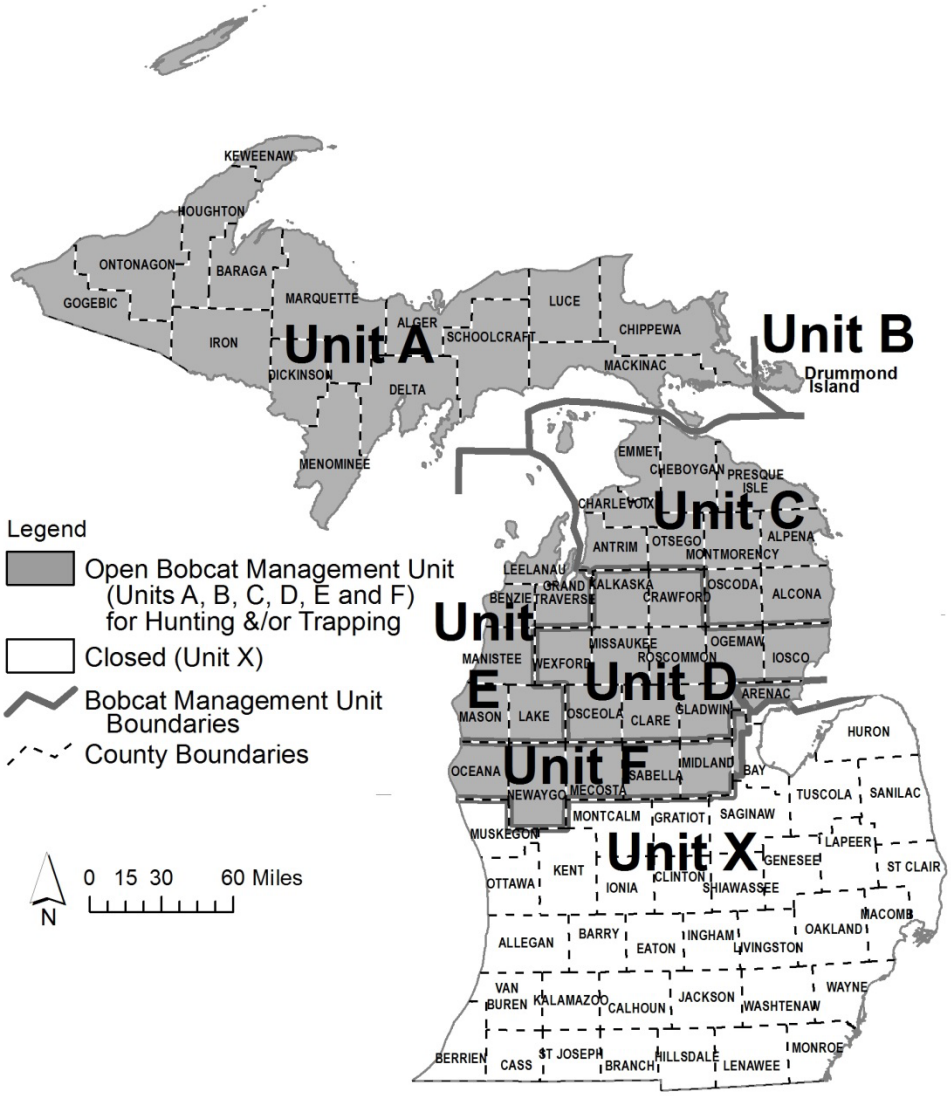

Figure 1. Bobcat Management Units in Michigan for the 2015 hunting and trapping seasons.

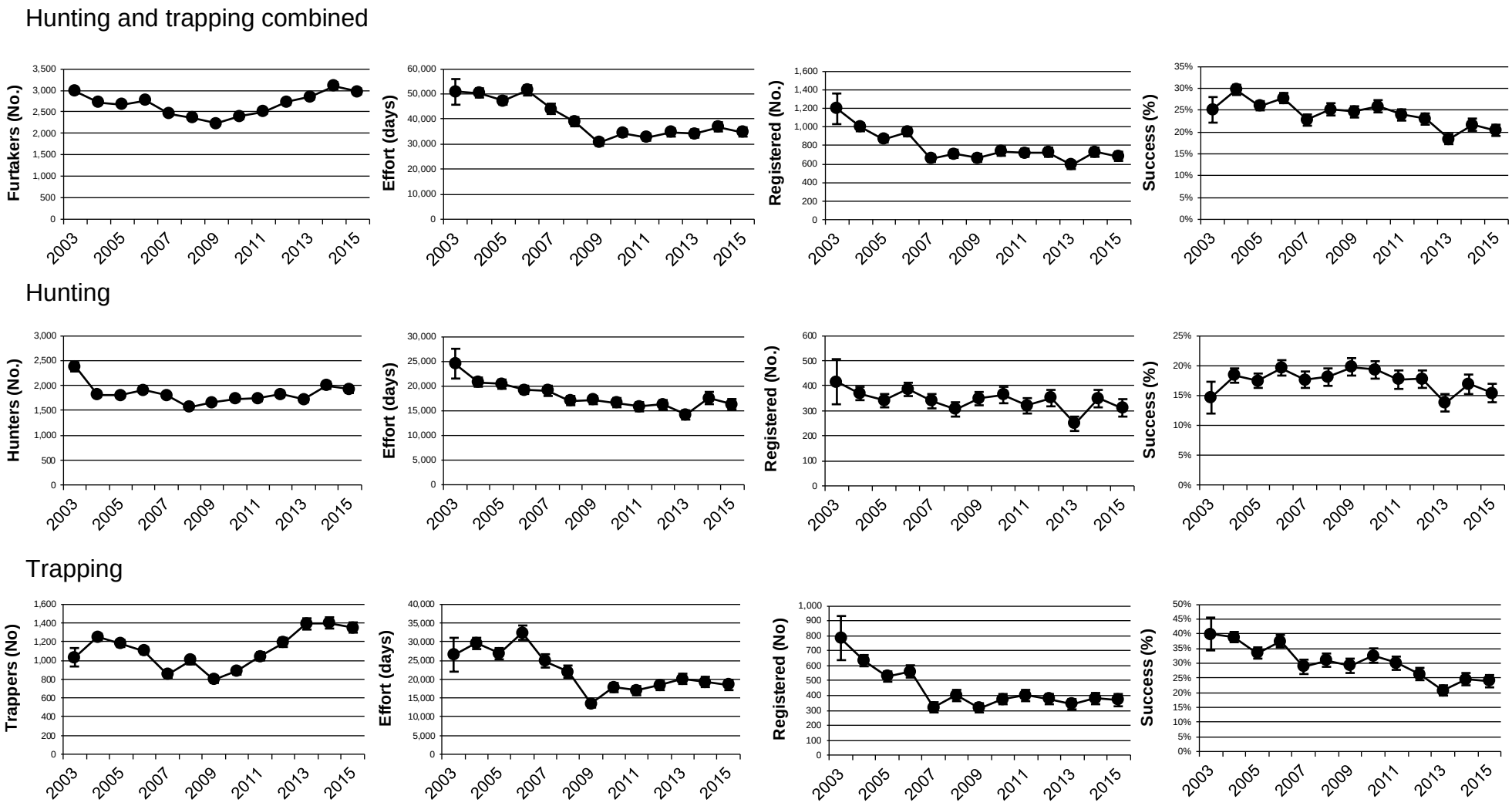

Figure 2. Number of furtakers pursuing bobcats, number of days of effort, number of bobcats registered, and proportion of furtakers registering a bobcat in Michigan during 2003-2015, summarized by method of take. Number of hunters and trappers does not add up to statewide total of hunters and trappers combined because a person could both hunt and trap bobcats. Vertical bars represent the 95% CL.

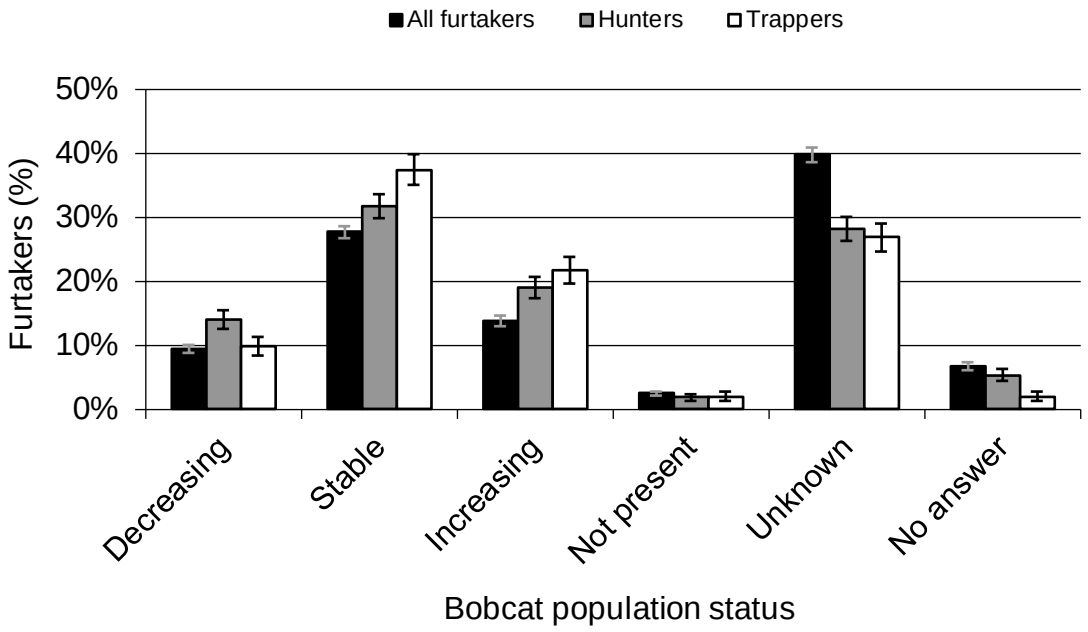

Figure 3. Status of bobcats in Michigan during 2015 as described by bobcat hunters and trappers. Vertical bars represent the 95% CL.

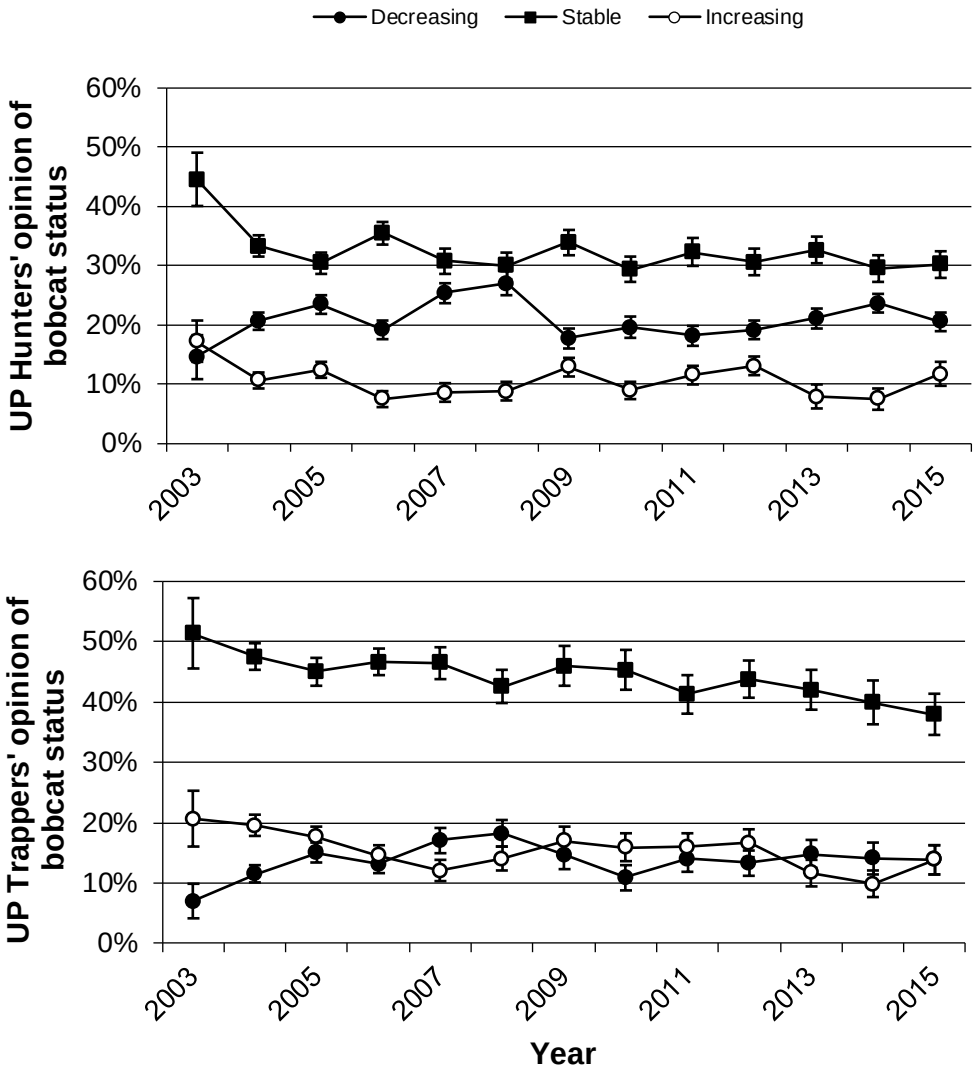

Figure 4. Status of bobcat population in Michigan as described by bobcat hunters and trappers in the Upper Peninsula, 2003-2015. Vertical bars represent the 95% CL.

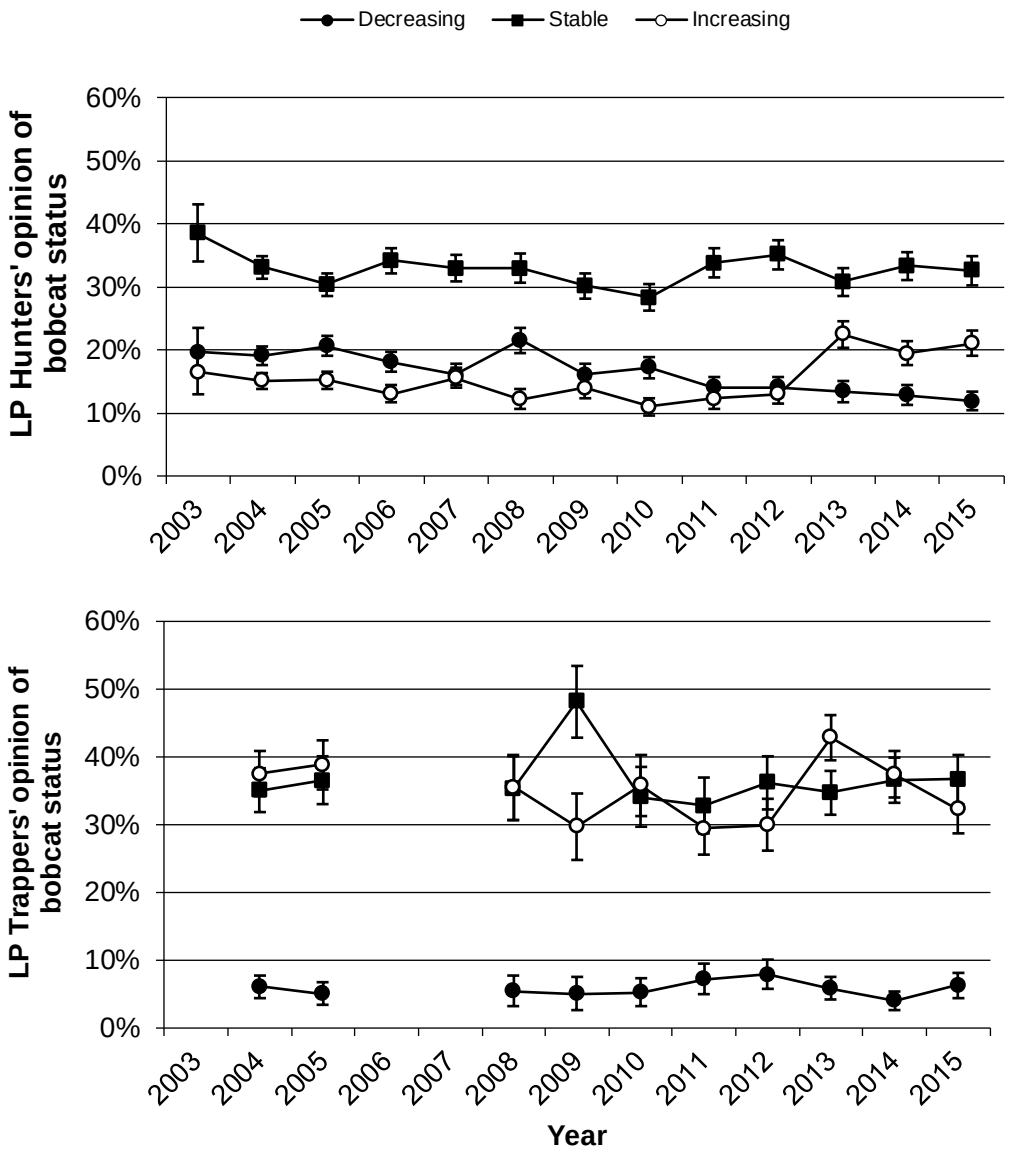

Figure 5. Status of bobcat population in Michigan as described by bobcat hunters and trappers in the Lower Peninsula, 2003-2015. Vertical bars represent the 95% CL. Bobcat could be harvested by trappers in portions of the LP during 2004-2005 and 2008-2015 only.

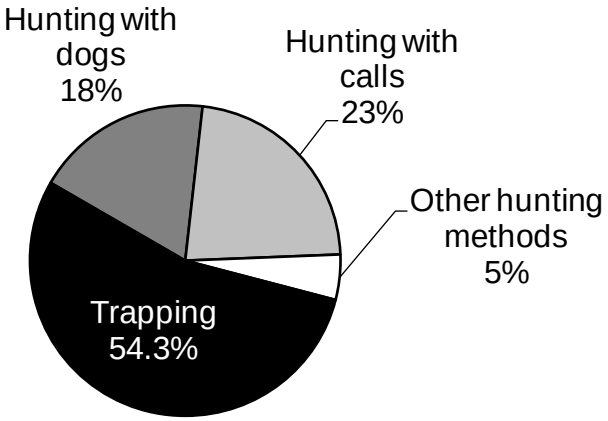

Figure 6. Proportion of bobcats registered in Michigan during 2015, summarized by method of take.

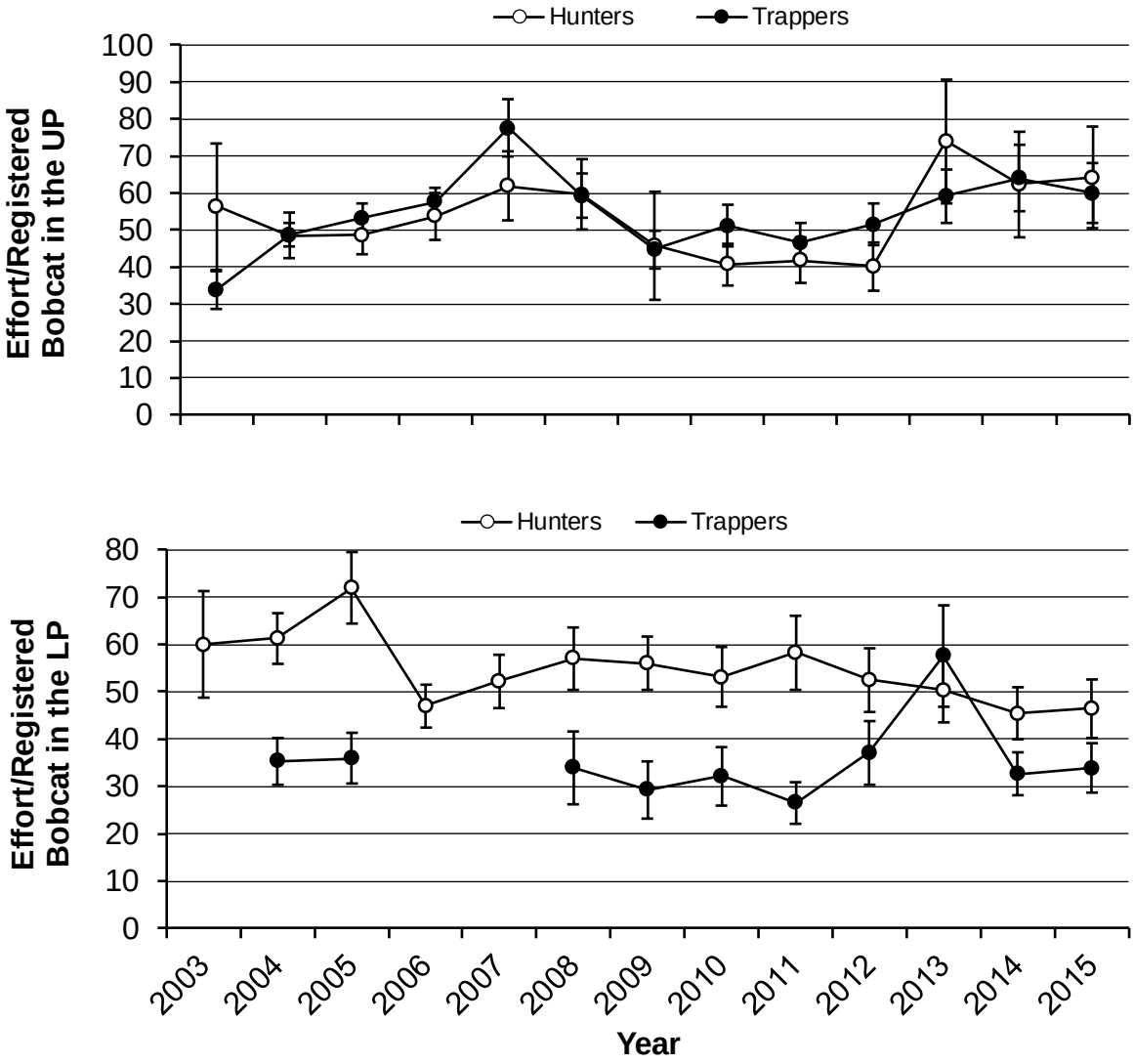

Figure 7. Estimated number of days of effort per bobcat registered in Michigan by hunters and trappers for the 1997-2015 seasons, summarized by region. Vertical error bars represent the 95% CL. Bobcat could be harvested by trappers in portions of the LP during 2004-2005 and 2008-2015 only. The 95% CL's were recalculated for estimates 2003-2014.

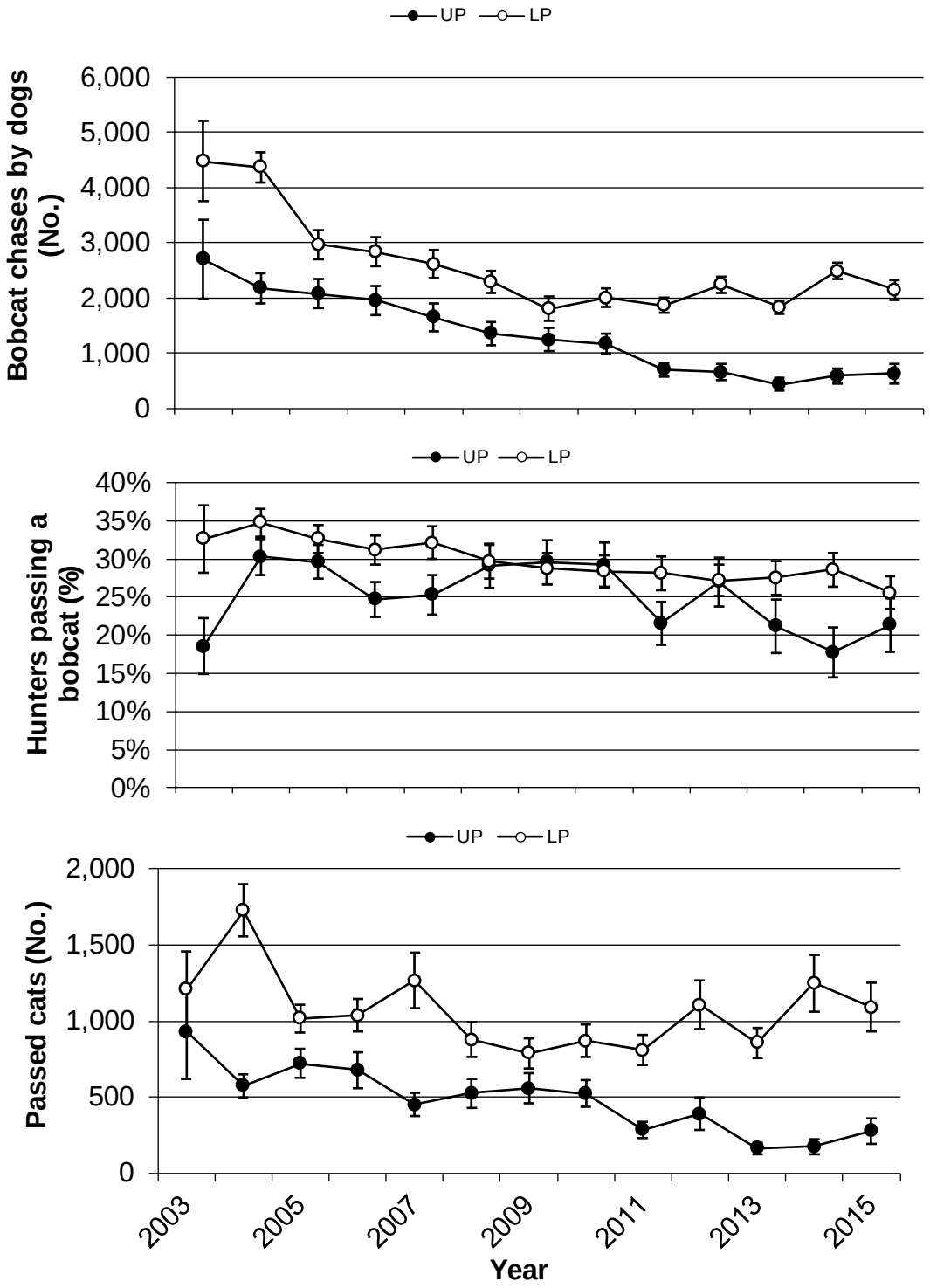

Figure 8. Number of bobcat chases by dogs, proportion of hunters passing a bobcat (bobcats within range or treed but not harvested), and number of bobcats passed by hunters (all types of hunting) in Michigan, 2003-2015. Vertical bars represent the 95% CL.

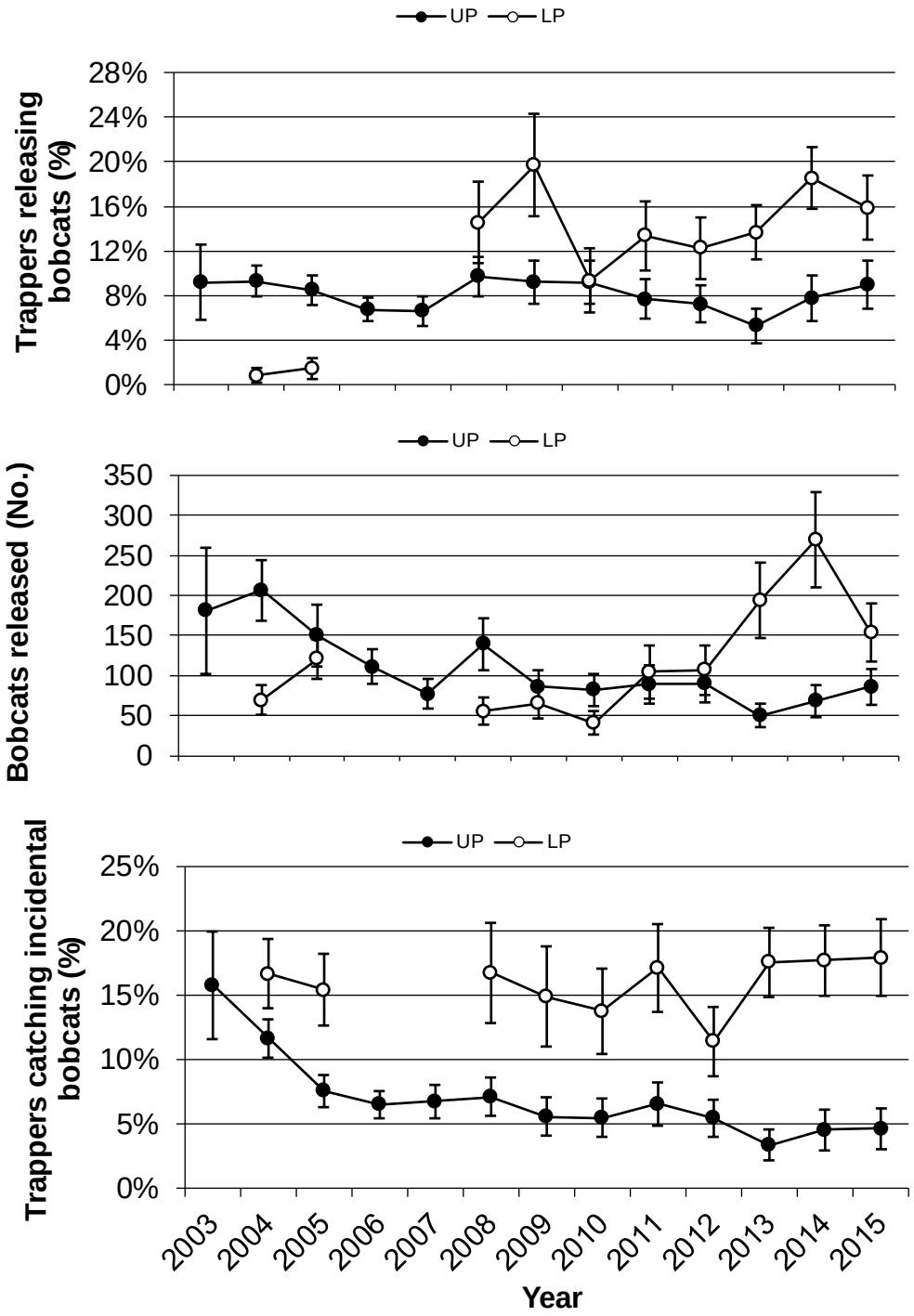

Figure 9. Number of trappers releasing bobcats from their traps, number of bobcats released from traps, and proportion of trappers that caught a bobcat in a trap set for another species (incidental catch) in Michigan, 2003-2015. Trapping of bobcat in the LP was permitted in 2004-2005 and 2008-2015 only. Vertical bars represent the 95% CL.

Table 1. Resident bobcat **hunting** season dates and seasonal bag limits in Michigan, 1989-2015.

		Bobcat management unit								
		Upper Peninsula				Lower Peninsula				
		Unit A[b]		Unit B[c]		Unit C[d]	Unit D[e]	Unit E[f]	Unit F[g]	
Year	State-wide bag limit[a]	Season dates	Bag limit[a]	Season dates	Bag limit[a]	Season dates	Season dates	Season dates	Season dates	Bag limit[a]
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

[a]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).

[b]Excluded Drummond Island in the Upper Peninsula.

[c]Drummond Island only.

[d]During 1989-2015, Unit C included Alpena, Antrim, Charlevoix, Cheboygan, Emmet, Montmorency, Otsego, and Presque Isle. Alcona and Oscoda counties were added during 1991-2015.

[e]During 1989-2015, 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.

[f]Unit E included Leelanau, Benzie, Grand Traverse, Manistee, Mason, and Lake counties.

[g]Unit F included the counties of Oceana, Newaygo, Mecosta, Isabella, Midland, and portions of Bay and Arenac.

Table 2. Resident bobcat trapping season dates and seasonal bag limits in Michigan, 1989-2015.

		Bobcat management unit								
		Upper Peninsula				Lower Peninsula				
		Unit A[b]		Unit B[c]		Unit C[d]	Unit D[e]	Unit E[f]	Unit F[g]	
Year	State-wide bag limit[a]	Season dates	Bag limit[a]	Season dates	Bag limit[a]	Season dates	Season dates	Season dates	Season dates	Bag limit[a]
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

[a]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).

[b]Excluded Drummond Island in the Upper Peninsula.

[c]Drummond Island only.

[d]During 1989-2015, Unit C included Alpena, Antrim, Charlevoix, Cheboygan, Emmet, Montmorency, Otsego, and Presque Isle. Alcona and Oscoda counties were added during 1991-2015.

[e]During 1989-2015, 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.

[f]Unit E included Leelanau, Benzie, Grand Traverse, Manistee, Mason, and Lake counties.

[g]Unit F included the counties of Oceana, Newaygo, Mecosta, Isabella, Midland, and portions of Bay and Arenac.

Table 3. Estimated number of furtakers (hunters and trappers combined) pursuing bobcat and their hunting and trapping effort (days combined) in Michigan for 2014 and 2015, summarized by area.

	Furtakers[a]					Hunting and trapping effort				
	Year					Year				
	2014		2015		Change	2014		2015		Change
Area	No.	95 CL	No.	95 CL	(%)	Days	95 CL	Days	95 CL	(%)
Upper Peninsula	1,009	54	1,005	53	0	19,055	1,637	19,248	1,535	1
Lower Peninsula	2,038	70	1,851	67	-9*	17,181	1,035	14,650	901	-15*
Unit C	734	47	653	44	-11	7,018	785	6,179	686	-12
Unit D	780	49	658	45	-16*	5,777	513	4,454	452	-23*
Unit E	376	35	324	32	-14	2,165	263	1,678	217	-22*
Unit F	383	35	396	35	3	2,220	257	2,338	268	5
Unspecified	135	21	176	24	31	571	224	874	285	53
Statewide	3,108	75	2,969	73	-4	36,807	1,886	34,772	1,722	-6

[a]Number of furtakers does not add up to statewide total because furtakers could hunt in more than one area.
*P<0.005.

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 2014 and 2015, summarized by area.

	Bobcats registered[a]					Furtakers registering a bobcat				
	Year					Year				
	2014		2015		Change	2014		2015		Difference
Area	No.	95 CL	No.	95 CL	(%)	%	95 CL	%	95 CL	(%)
Upper Peninsula	300	37	315	38	5	25	3	25	3	1
Lower Peninsula	425	37	351	34	-17*	21	2	18	2	-2
Unit C	165	24	103	19	-38*	22	3	15	3	-7*
Unit D	133	21	101	18	-24	17	2	15	3	-2
Unit E	59	14	77	16	31	16	3	24	4	8*
Unit F	68	15	69	15	2	18	4	18	4	0
Unspecified	6	4	15	9	164	4	3	6	3	2
Statewide	730	51	681	51	-7	22	1	20	1	-1

[a]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<0.005.

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 2015 in Michigan, summarized by county.

	Furtakers[a]		Hunting and trapping effort (days)		Bobcats registered		Furtakers that registered a bobcat	
County	No.	95% CL	No.	95% CL	No.	95% CL	%	95% CL
Alcona	139	21	1,120	245	24	9	18	6
Alger	54	13	728	262	6	4	10	8
Alpena	98	18	1,024	263	9	6	10	5
Antrim	23	9	174	88	2	3	8	11
Arenac	21	8	161	94	0	0	0	0
Baraga	53	13	724	239	15	8	25	11
Bay	6	4	39	33	2	3	33	36
Benzie	19	8	96	49	2	3	10	13
Charlevoix	30	10	341	157	9	7	25	14
Cheboygan	96	18	720	179	24	9	25	8
Chippewa	92	17	1,166	337	30	12	27	8
Clare	75	16	414	110	11	6	15	8
Crawford	58	14	416	147	0	0	0	0
Delta	131	21	1,975	420	26	11	17	6
Dickinson	118	20	1,804	410	38	13	27	7
Emmet	45	12	345	115	2	3	4	5
Gladwin	60	14	328	109	6	4	9	7
Gogebic	79	16	1,785	475	36	14	33	10
Gd. Traverse	38	11	199	77	9	6	25	13
Houghton	53	13	566	202	8	6	11	8
Iosco	54	13	300	85	2	3	3	5
Iron	122	20	2,528	606	51	15	34	8
Isabella	54	13	227	73	6	4	10	8
Kalkaska	68	15	474	133	13	7	19	9
Keweenaw	23	9	379	199	0	0	0	0

[a]Number of furtakers does not add up to statewide total because furtakers could hunt and trap in more than one county.

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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 2015 in Michigan, summarized by county.

	Furtakers[a]		Hunting and trapping effort (days)		Bobcats registered		Furtakers that registered a bobcat	
County	No.	95% CL	No.	95% CL	No.	95% CL	%	95% CL
Lake	77	16	409	108	19	8	24	9
Leelanau	13	7	47	27	0	0	0	0
Luce	38	11	345	134	15	8	35	14
Mackinac	69	15	643	219	11	7	14	8
Manistee	84	17	390	96	11	6	13	7
Marquette	107	19	1,962	445	30	13	19	7
Mason	118	20	538	106	36	11	30	8
Mecosta	109	19	581	128	19	8	17	7
Menominee	120	20	2,714	641	24	11	14	6
Midland	45	12	291	91	8	5	17	10
Missaukee	96	18	587	164	11	6	12	6
Montmorency	109	19	902	219	9	6	9	5
Newaygo	122	20	735	148	19	8	15	6
Oceana	96	18	465	105	17	8	18	7
Ogemaw	92	17	452	117	15	7	16	7
Ontonagon	51	13	1,005	339	15	9	22	11
Osceola	73	16	403	117	15	7	21	9
Oscoda	86	17	450	149	4	4	4	4
Otsego	47	13	263	128	8	5	16	10
Presque Isle	94	18	840	212	11	6	12	6
Roscommon	92	17	523	130	13	7	14	7
Schoolcraft	64	15	925	310	11	6	18	9
Wexford	64	15	394	123	15	7	24	10
Unspecified	176	24	874	285	15	9	6	3

[a]Number of furtakers does not add up to statewide total because furtakers could hunt and trap in more than one county.

Table 6. Estimated number of bobcat hunters and hunting effort (days) in Michigan for 2014 and 2015, summarized by area.

	Hunters[a]					Hunting effort				
	Year					Year				
	2014		2015		Change	2014		2015		Change
Area	No.	95% CL	No.	95% CL	(%)	Days	95% CL	Days	95% CL	(%)
Upper Peninsula	482	39	465	38	-3	5,328	727	5,414	706	2
Lower Peninsula	1,524	63	1,433	61	-6	11,800	953	10,205	805	-14
Unit C	600	43	553	41	-8	5,715	756	5,136	649	-10
Unit D	626	44	527	40	-16*	4,108	435	3,004	353	-27*
Unit E	262	29	246	28	-6	1,148	172	983	146	-14
Unit F	228	28	257	29	13	829	131	1,082	168	31
Unspecified	59	14	84	17	43	412	196	658	232	60
Statewide	2,002	69	1,926	67	-4	17,539	1,226	16,278	1,080	-7

[a]Number of hunters does not add up to statewide total because hunters could hunt in more than one area.
*P<0.005.

Table 7. Estimated number of bobcats passed, bobcats registered by hunters, and proportion of hunters that registered at least one bobcat in Michigan for 2014 and 2015, summarized by area.

	Bobcats passed					Bobcats registered					Hunters that registered a bobcat				
	Year					Year					Year				
	2014		2015			2014		2015			2014		2015		Differ-
Area	No.	95% CL	No.	95% CL	Change (%)	No.	95% CL	No.	95% CL	Change (%)	%	95% CL	%	95% CL	ence (%)
Upper Peninsula	175	51	278	84	59	85	19	84	18	-1	16	3	17	3	1
Lower Peninsula	1,248	186	1,091	160	-13	260	29	219	27	-16	17	2	15	2	-2
Unit C	558	120	375	71	-33	118	20	73	16	-38*	20	3	13	3	-7*
Unit D	374	116	326	66	-13	97	18	81	16	-17	15	3	15	3	0
Unit E	156	39	171	63	10	25	9	36	11	44	9	3	15	4	5
Unit F	161	57	219	72	36	21	8	30	10	44	9	4	12	4	3
Unspecified	65	54	158	87	144	4	4	8	5	98	6	6	9	6	2
Statewide	1,488	227	1,526	205	3	349	35	311	33	-11	17	2	15	2	-1

*P<0.005.

Table 8. Estimated number of days of effort per bobcat registered by hunters in Michigan during 2013-2015, summarized by year and area.

	Year						
	2013		2014		2015		
Area	Effort per registered bobcat	95% CL[a]	Effort per registered bobcat	95% CL[a]	Effort per registered bobcat	95% CL	Change between 2014 and 2015 (%)
Upper Peninsula	73.9	16.8	62.4	14.3	64.2	13.7	3
Lower Peninsula	50.3	6.7	45.4	5.4	46.5	6.2	2
Unit C	69.7	16.7	48.6	9.0	70.2	15.9	45
Unit D	43.9	8.5	42.5	7.9	37.3	7.8	-12
Unit E	33.1	11.8	46.5	17.4	27.6	8.3	-41
Unit F	43.3	16.7	39.7	15.4	36.1	12.0	-9
Unspecified	49.3	41.6	108.5	111.3	87.8	57.2	-19
Statewide	56.9	6.6	50.2	5.5	52.3	5.9	4

[a]95% CL's were recalculated for 2013 and 2014 estimates.
[*]P<0.005. Comparison between 2014 and 2015.

Table 9. Estimated number of hunters, hunting effort (days), bobcats passed, bobcats registered, and proportion of hunters that registered a bobcat in Michigan during 2015, summarized by county.

	Hunters[a]		Hunting effort (days)		Bobcats passed by hunters[b]		Bobcats registered by hunters		Hunters that registered at least one bobcat	
County	No.	95% CL	No.	95% CL	No.	95% CL	No.	95% CL	%	95% CL
Alcona	124	20	968	229	54	26	19	8	15	6
Alger	28	10	218	123	0	0	2	3	7	9
Alpena	79	16	804	233	45	22	6	4	7	5
Antrim	17	8	120	77	8	5	2	3	11	14
Arenac	21	8	122	64	28	27	0	0	0	0
Baraga	19	8	199	107	21	18	6	6	20	17
Bay	6	4	39	33	0	0	2	3	33	36
Benzie	11	6	43	31	19	25	0	0	0	0
Charlevoix	26	9	309	154	28	16	8	5	29	16
Cheboygan	79	16	596	167	71	33	21	8	26	9
Chippewa	38	11	161	61	9	7	9	7	20	12
Clare	45	12	144	53	8	6	9	6	21	11
Crawford	56	14	369	131	23	12	0	0	0	0
Delta	75	16	797	248	51	48	8	5	10	6
Dickinson	66	15	563	177	23	15	19	9	26	10
Emmet	38	11	255	99	11	9	0	0	0	0
Gladwin	54	13	270	99	43	24	6	4	10	8
Gogebic	28	10	379	193	43	50	2	3	7	9
Gd. Traverse	26	9	90	40	8	6	6	4	21	15
Houghton	13	7	86	48	0	0	2	3	14	18
Iosco	39	11	171	59	8	6	2	3	5	6
Iron	66	15	587	205	38	22	17	8	26	10
Isabella	47	13	133	45	19	13	6	4	12	9
Kalkaska	49	13	289	99	28	19	8	5	15	9
Keweenaw	4	4	58	75	2	3	0	0	0	0

[a]Number of hunters does not add up to statewide total because hunters could hunt in more than one area.
[b]Bobcats that hunter could have harvested but chose not to take.

Table 9. (Continued) Estimated number of hunters, hunting effort (days), bobcats passed, bobcats registered, and proportion of hunters that registered a bobcat in Michigan during 2015, summarized by county.

	Hunters[a]		Hunting effort (days)		Bobcats passed by hunters[b]		Bobcats registered by hunters		Hunters that registered at least one bobcat	
County	No.	95% CL	No.	95% CL	No.	95% CL	No.	95% CL	%	95% CL
Lake	66	15	279	85	73	35	11	6	17	9
Leelanau	11	6	41	26	6	6	0	0	0	0
Luce	21	8	137	76	8	6	6	4	27	18
Mackinac	43	12	231	107	13	8	2	3	4	6
Manistee	68	15	231	61	34	25	6	4	8	6
Marquette	53	13	536	175	19	13	6	4	11	8
Mason	83	17	298	69	32	15	13	7	16	7
Mecosta	64	15	257	77	79	45	11	6	18	9
Menominee	73	16	973	308	34	17	6	4	8	6
Midland	23	9	86	41	13	13	0	0	0	0
Missaukee	83	17	413	121	41	21	11	6	14	7
Montmorency	98	18	816	214	60	25	6	4	6	4
Newaygo	75	16	306	86	54	25	4	4	5	5
Oceana	68	15	261	71	54	37	8	5	11	7
Ogemaw	81	16	349	95	36	21	13	7	16	8
Ontonagon	23	9	264	171	6	6	2	3	8	11
Osceola	54	13	203	71	34	21	9	6	17	9
Oscoda	79	16	379	140	36	18	4	4	5	4
Otsego	36	11	176	96	32	26	4	4	11	9
Presque Isle	84	17	713	198	30	14	6	4	7	5
Roscommon	81	16	428	119	51	23	11	6	14	7
Schoolcraft	34	11	225	95	13	12	0	0	0	0
Wexford	49	13	248	93	28	19	11	6	23	11
Unspecified	84	17	658	232	158	87	8	5	9	6

[a]Number of hunters does not add up to statewide total because hunters could hunt in more than one area.
[b]Bobcats that hunter could have harvested but chose not to harvest.

Table 10. Estimated number of hunters, hunting effort (days), bobcats passed, bobcats registered, and proportion of hunters that registered a bobcat in Michigan during 2015, summarized by hunting method and area.

	Hunting method							
	Dogs		Calls		Other		Unknown	
Variable and area	Estimate	95% CL	Estimate	95% CL	Estimate	95% CL	Estimate	95% CL
Hunters (No.)[a]								
UP	137	21	291	31	81	16	2	3
LP	523	40	880	51	128	21	13	7
Unit C	231	27	324	32	47	13	2	3
Unit D	236	28	287	30	34	11	2	3
Unit E	71	15	156	23	24	9	4	4
Unit F	68	15	171	24	24	9	6	4
Unspecified	51	13	28	10	4	4	2	3
Statewide	677	45	1,183	57	212	26	17	8
Hunting effort (Days)								
UP	1,765	432	2,852	458	788	210	9	13
LP	4,608	634	4,868	475	683	174	47	26
Unit C	2,487	511	2,350	376	293	115	8	10
Unit D	1,399	243	1,354	226	246	112	6	8
Unit E	317	92	559	96	88	55	19	19
Unit F	405	116	606	110	56	30	15	12
Unspecified	450	212	178	91	24	26	6	8
Statewide	6,822	806	7,899	657	1,495	273	62	30
Bobcats passed by hunters (No.)								
UP	163	76	90	33	24	11	0	0
LP	741	148	289	53	56	27	6	8
Unit C	253	61	111	35	11	9	0	0
Unit D	227	61	84	25	15	11	0	0
Unit E	105	58	45	17	21	18	0	0
Unit F	156	68	49	19	9	10	6	8
Unspecified	139	84	19	25	0	0	0	0
Statewide[b]	1,043	191	398	67	81	30	6	8

[a]Number of hunters does not add up to statewide total because hunters could hunt in more than one area.

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 2015, summarized by hunting method and area.

	Hunting method							
	Dogs		Calls		Other		Unknown	
Variable and area	Estimate	95% CL	Estimate	95% CL	Estimate	95% CL	Estimate	95% CL
Bobcats registered by hunters (No.)								
UP	30	11	39	12	15	7	0	0
LP	90	17	113	20	17	8	0	0
Unit C	32	10	28	10	13	7	0	0
Unit D	43	12	36	11	2	3	0	0
Unit E	9	6	24	9	2	3	0	0
Unit F	6	4	24	9	0	0	0	0
Unspecified	6	4	2	3	0	0	0	0
Statewide	126	21	154	24	32	10	0	0
Hunters that registered at least one bobcat (%)								
UP	19	6	13	4	19	8	0	0
LP	17	3	12	2	13	6	0	0
Unit C	14	4	8	3	28	12	0	0
Unit D	18	5	12	4	6	7	0	0
Unit E	13	7	16	5	8	10	0	0
Unit F	8	6	14	5	0	0	0	0
Unspecified	11	8	7	9	0	0	0	0
Statewide	18	3	12	2	15	5	0	0

[a]Number of hunters does not add up to statewide total because hunters could hunt in more than one area.

Table 11. Estimated number of bobcat hunters using dogs and their hunting effort (days) in Michigan for 2014 and 2015, summarized by area.

	Hunters using dogs[a]					Hunting effort				
	Year					Year				
	2014		2015		Change	2014		2015		Change
Area	No.	95% CL	No.	95% CL	(%)	Days	95% CL	Days	95% CL	(%)
Upper Peninsula	144	22	137	21	-5	1,636	366	1,765	432	8
Lower Peninsula	619	44	523	40	-15*	5,721	775	4,608	634	-19
Unit C	287	31	231	27	-19	3,170	609	2,487	511	-22
Unit D	252	29	236	28	-6	1,746	303	1,399	243	-20
Unit E	93	18	71	15	-23	452	126	317	92	-30
Unit F	82	17	68	15	-17	353	98	405	116	15
Unspecified	34	11	51	13	48	231	117	450	212	94
Statewide	755	48	677	45	-10	7,588	888	6,822	806	-10

[a]Number of hunters does not add up to statewide total because hunters could hunt in more than one area.
*P<0.005.

Table 12. 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 2014 and 2015, summarized by area.

	Bobcats passed[a]					Bobcats registered					Hunters that registered a bobcat				
	Year					Year					Year				
	2014		2015			2014		2015			2014		2015		
Area	No.	95% CL	No.	95% CL	Change (%)	No.	95% CL	No.	95% CL	Change (%)	%	95% CL	%	95% CL	Difference (%)
Upper Peninsula	99	43	163	76	65	36	12	30	11	-17	24	7	19	6	-5
Lower Peninsula	884	161	741	148	-16	140	22	90	17	-36*	23	3	17	3	-5
Unit C	393	111	253	61	-36	68	15	32	10	-53*	24	5	14	4	-10*
Unit D	254	85	227	61	-11	46	12	43	12	-5	18	4	18	5	0
Unit E	95	33	105	58	11	13	7	9	6	-29	14	7	13	7	-1
Unit F	142	56	156	68	9	13	7	6	4	-58	16	8	8	6	-8
Unspecified	40	32	139	84	248	4	4	6	4	48	11	10	11	8	0
Statewide	1,023	184	1,043	191	2	180	25	126	21	-30	23	3	18	3	-5

*P<0.005.

Table 13. Estimated number of bobcat hunters using calls and their hunting effort (days) in Michigan for 2014 and 2015, summarized by area.

	Hunters using calls[a]					Hunting effort				
	Year					Year				
	2014		2015		Change	2014		2015		Change
Area	No.	95% CL	No.	95% CL	(%)	Days	95% CL	Days	95% CL	(%)
Upper Peninsula	302	31	291	31	-4	2,429	366	2,852	458	17
Lower Peninsula	869	51	880	51	1	5,064	470	4,868	475	-4
Unit C	311	32	324	32	4	2,110	360	2,350	376	11
Unit D	357	34	287	30	-20*	2,002	267	1,354	226	-32*
Unit E	156	23	156	23	0	560	98	559	96	0
Unit F	125	21	171	24	36	393	79	606	110	54*
Unspecified	17	8	28	10	65	161	109	178	91	10
Statewide	1,167	57	1,183	57	1	7,654	612	7,899	657	3

[a]Number of hunters does not add up to statewide total because hunters could hunt in more than one area.
*P<0.005.

Table 14. 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 2014 and 2015, summarized by area.

	Bobcats passed					Bobcats registered					Hunters that registered a bobcat				
	Year					Year					Year				
	2014		2015			2014		2015			2014		2015		Differ-
Area	No.	95% CL	No.	95% CL	Change (%)	No.	95% CL	No.	95% CL	Change (%)	%	95% CL	%	95% CL	ence (%)
Upper Peninsula	65	21	90	33	40	38	13	39	12	4	11	3	13	4	2
Lower Peninsula	294	56	289	53	-2	82	17	113	20	38	9	2	12	2	3
Unit C	121	34	111	35	-9	32	11	28	10	-13	10	3	8	3	-2
Unit D	110	40	84	25	-23	40	12	36	11	-11	11	3	12	4	1
Unit E	46	18	45	17	-1	8	5	24	9	221*	5	3	16	5	11*
Unit F	17	11	49	19	186*	2	3	24	9	1185*	2	2	14	5	13*
Unspecified	23	24	19	25	-18	0	0	2	3		0	0	7	9	7
Statewide	381	76	398	67	4	120	21	154	24	29	10	2	12	2	2

*P<0.005.

Table 15. Correlation between average bobcat pelt prices and number of hunters, days of effort, bobcats registered, and effort per registered bobcat in Michigan during 1997-2015, summarized by region.[a]

Estimate and region	Correlation[b]	Significance (P-value)[c]
Number of hunters		
UP	0.29	0.23
LP	0.25	0.31
Days of effort		
UP	0.37	0.12
LP	0.37	0.12
Bobcats registered[d]		
UP	-0.39	0.10
LP	-0.12	0.62
Effort per bobcats registered		
UP	0.41	0.09
LP	0.60	0.01

[a]Mean pelt prices were the average paid in Minnesota and Wisconsin (e.g., Abraham and Dexter 2016, Lohr 2016). Pelt prices were reported in 2015 dollars by adjusting for inflation using the Consumer Price Index (Bureau of Labor Statistics 2015).
[b]Pearson product moment correlation coefficient.
[c]P-value is the probability of obtaining this correlation result (2-sided test).
[d]The tally of bobcats registered by furtakers at DNR registration stations, rather than estimate from survey.

Table 16. Estimated number of bobcat trappers and their trapping effort (days) in Michigan for 2014 and 2015, summarized by area.

	Trappers[a]					Trapping effort				
	Year					Year				
	2014		2015		Change	2014		2015		Change
Area	No.	95% CL	No.	95% CL	(%)[b]	Days	95% CL	Days	95% CL	(%)[b]
Upper Peninsula	634	44	673	45	6	13,727	1,316	13,834	1,282	1
Lower Peninsula	694	46	593	43	-15*	5,381	410	4,444	376	-17*
Unit C	173	24	143	22	-17	1,303	201	1,043	185	-20
Unit D	213	27	180	24	-15	1,670	229	1,450	221	-13
Unit E	139	22	109	19	-21	1,017	181	696	145	-32
Unit F	192	25	173	24	-10	1,391	204	1,256	199	-10
Unspecified	80	16	94	18	18	159	110	216	159	35
Statewide	1,398	62	1,350	60	-3	19,268	1,359	18,494	1,320	-4

[a]Number of trappers does not add up to statewide total because trappers could trap in more than one area.
*P<0.005.

Table 17. Estimated number of bobcats captured, bobcats released alive, and bobcats registered by trappers in Michigan for 2014 and 2015, summarized by area.

	Bobcats captured					Bobcats released alive					Bobcats registered				
	Year					Year					Year				
	2014		2015			2014		2015			2014		2015		
Area	No.	95% CL	No.	95% CL	Change (%)[a]	No.	95% CL	No.	95% CL	Change (%)[a]	No.	95% CL	No.	95% CL	Change (%)[a]
Upper Peninsula	283	42	317	43	12	68	20	86	23	26	214	31	231	32	8
Lower Peninsula	434	68	285	48	-34*	269	59	154	36	-43*	165	24	131	21	-20
Unit C	110	31	73	23	-34	63	25	43	17	-31	47	13	30	10	-37
Unit D	131	45	45	15	-66	95	42	24	11	-74*	36	11	21	8	-43
Unit E	89	31	68	24	-24	55	27	26	16	-52	34	11	41	12	21
Unit F	104	26	99	32	-5	57	19	60	25	5	47	13	39	11	-17
Unspecified	9	11	11	11	19	8	10	4	5	-51	2	3	8	7	295
Statewide	727	80	613	65	-16	345	63	244	43	-29	381	39	369	39	-3

*P<0.005.

Table 18. Estimated proportion of bobcat trappers that captured at least one bobcat and proportion that registered at least one bobcat in Michigan for 2014 and 2015, summarized by area.

	Trappers that captured a bobcat					Trappers that registered a bobcat				
	Year					Year				
	2014		2015		Difference	2014		2015		Difference
Area	%	95% CL	%	95% CL	(%)	%	95% CL	%	95% CL	(%)[a]
Upper Peninsula	30	3	32	3	2	28	3	28	3	0
Lower Peninsula	36	3	30	3	-6	24	3	22	3	-2
Unit C	36	7	30	7	-6	27	6	21	6	-6
Unit D	29	6	20	5	-10	17	5	11	4	-6
Unit E	37	8	41	9	4	25	7	38	9	13
Unit F	39	7	33	7	-6	25	6	23	6	-2
Unspecified	5	4	4	4	-1	2	3	4	4	2
Statewide	31	2	30	2	-2	25	2	24	2	-1

*P<0.005.

Table 19. Estimated number of days of effort per bobcat registered in Michigan by trappers for the 2013-2015, summarized by year and area.

	Year						
	2013		2014		2015		
Area	Effort per registered bobcat	95% CL[a]	Effort per registered bobcat	95% CL[a]	Effort per registered bobcat	95% CL	Change between 2014 and 2015 (%)
Upper Peninsula	59.2	7.2	64.0	9.0	60.0	8.2	-6
Lower Peninsula	57.6	10.7	32.6	4.5	33.9	5.2	4
Unit C	67.1	26.5	27.5	6.7	34.8	11.2	26
Unit D	85.8	35.1	46.3	13.8	70.3	28.2	52
Unit E	36.8	12.1	29.8	9.4	16.9	4.6	-43
Unit F	50.8	18.1	29.3	7.6	31.9	8.7	9
Unspecified	12.0	1.8	84.0	98.9	28.8	30.6	-66
Statewide	58.3	6.0	50.5	5.2	50.1	5.3	-1

[a]95% CL's were recalculated for 2013 and 2014 estimates.
*P<0.005. Comparison between 2014 and 2015.

Table 20. 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 2015, summarized by county.

	Trappers[a]		Trapping effort (days)		Bobcats captured by trappers		Bobcats released alive by trappers		Bobcats registered by trappers		Trappers that captured at least one bobcat		Trappers that registered at least one bobcat	
County	No.	95% CL	No.	95% CL	No.	95% CL	No.	95% CL	No.	95% CL	%	95% CL	%	95% CL
Alcona	23	9	152	67	13	10	8	6	6	4	33	18	25	17
Alger	34	11	510	203	4	4	0	0	4	4	11	10	11	10
Alpena	30	10	219	80	13	10	9	9	4	4	25	14	13	11
Antrim	6	4	54	42	0	0	0	0	0	0	0	0	0	0
Arenac	4	4	39	37	0	0	0	0	0	0	0	0	0	0
Baraga	36	11	525	213	13	7	4	4	9	6	37	15	26	14
Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benzie	8	5	53	37	6	8	4	5	2	3	25	29	25	29
Charlevoix	6	4	32	29	2	3	0	0	2	3	33	36	33	36
Cheboygan	19	8	124	61	6	6	2	3	4	4	20	17	20	17
Chippewa	62	14	1,005	322	32	14	11	7	21	10	33	11	27	10
Clare	34	11	270	93	2	3	0	0	2	3	6	7	6	7
Crawford	6	4	47	38	0	0	0	0	0	0	0	0	0	0
Delta	64	15	1,178	336	34	14	15	11	19	9	35	11	24	10
Dickinson	66	15	1,241	351	21	10	2	3	19	9	26	10	26	10
Emmet	9	6	90	54	2	3	0	0	2	3	20	24	20	24
Gladwin	8	5	58	40	0	0	0	0	0	0	0	0	0	0
Gogebic	58	14	1,406	431	36	14	2	3	34	13	42	12	42	12
Gd. Traverse	15	7	109	55	8	6	4	4	4	4	38	23	25	21
Houghton	41	12	480	195	13	12	8	7	6	6	14	10	9	8
Iosco	17	8	129	60	2	3	2	3	0	0	11	14	0	0
Iron	79	16	1,941	506	47	17	13	9	34	12	40	10	36	10
Isabella	15	7	94	55	0	0	0	0	0	0	0	0	0	0
Kalkaska	24	9	186	76	9	7	4	4	6	4	31	17	23	16
Keweenaw	21	8	321	151	2	3	2	3	0	0	9	12	0	0

[a]Number of trappers does not add up to statewide total because trappers could trap in more than one county.

Table 20. (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 2015, summarized by county.

	Trappers[a]		Trapping effort (days)		Bobcats captured by trappers		Bobcats released alive by trappers		Bobcats registered by trappers		Trappers that captured at least one bobcat		Trappers that registered at least one bobcat	
County	No.	95% CL	No.	95% CL	No.	95% CL	No.	95% CL	No.	95% CL	%	95% CL	%	95% CL
Lake	19	8	129	60	8	5	0	0	8	5	40	21	40	21
Leelanau	2	3	6	8	0	0	0	0	0	0	0	0	0	0
Luce	23	9	208	92	9	7	0	0	9	7	33	18	33	18
Mackinac	32	10	413	187	11	7	2	3	9	7	29	15	24	14
Manistee	28	10	159	62	6	4	0	0	6	4	20	14	20	14
Marquette	75	16	1,425	390	32	15	8	6	24	11	25	9	25	9
Mason	47	13	240	75	41	20	19	15	23	9	52	13	48	13
Mecosta	47	13	324	96	23	10	15	9	8	5	40	13	16	10
Menominee	66	15	1,740	486	26	12	8	5	19	9	29	10	23	10
Midland	26	9	204	77	28	24	21	21	8	5	29	16	29	16
Missaukee	19	8	174	78	11	9	11	9	0	0	30	19	0	0
Montmorency	13	7	86	50	6	4	2	3	4	4	43	25	29	23
Newaygo	62	14	429	108	23	11	8	6	15	7	27	10	24	10
Oceana	34	11	204	76	26	14	17	10	9	6	39	15	28	14
Ogemaw	15	7	103	52	2	3	0	0	2	3	13	16	13	16
Ontonagon	30	10	741	290	19	9	6	4	13	8	50	17	31	16
Osceola	34	11	201	73	9	7	4	4	6	4	22	13	17	12
Oscoda	9	6	71	47	0	0	0	0	0	0	0	0	0	0
Otsego	13	7	86	53	19	13	15	11	4	4	71	23	29	23
Presque Isle	23	9	128	59	13	10	8	6	6	4	25	17	25	17
Roscommon	13	7	96	52	4	4	2	3	2	3	29	23	14	18
Schoolcraft	43	12	699	266	19	10	8	6	11	6	30	13	26	12
Wexford	19	8	146	65	6	4	2	3	4	4	30	19	20	17
Unspecified	94	18	216	159	11	11	4	5	8	7	4	4	4	4

[a]Number of trappers does not add up to statewide total because trappers could trap in more than one county.

Table 21. Trap type used by bobcat trappers in Michigan during 2015.

Trap type	Trappers (%)	95% CL	Trappers (No.)	95% CL
Foothold traps	87	2	1,180	57
Conibears	30	2	407	36
Other[a]	2	1	26	9

[a]Included snares and live traps, although snares were not legal to use to capture bobcats.

Table 22. Preferred trap type of bobcat trappers in Michigan during 2015.

Trap type	Trappers (%)	95% CL	Trappers (No.)	95% CL
Foothold traps	59	2	801	49
Conibears	18	2	248	28
No preference	18	2	236	28
Other[a]	1	1	17	8
No answer	4	1	49	13

[a]Snares were not legal to use to capture bobcats.

Table 23. Correlation between average bobcat pelt prices and number of trappers, days of effort, bobcats registered, and effort per registered bobcat in Michigan during 1997-2015, summarized by region.[a]

Estimate and region	Correlation[b]	Significance (P-value)[c]
Number of trappers		
UP	0.61	0.01
LP[d]	0.04	0.92
Days of effort		
UP	0.58	0.01
LP[d]	0.04	0.92
Bobcats registered[e]		
UP	0.05	0.85
LP[d]	0.25	0.30
Effort per bobcats registered		
UP	0.43	0.07
LP[d]	0.26	0.47

[a]Mean pelt prices were the average paid in Minnesota and Wisconsin (e.g., Abraham and Dexter 2016, Lohr 2016). Pelt prices were reported in 2015 dollars by adjusting for inflation using the Consumer Price Index (Bureau of Labor Statistics 2015).
[b]Pearson product moment correlation coefficient.
[c]P-value is the probability of obtaining this correlation result (2-sided test).
[d]Bobcat could be harvested by trappers in the LP during 2004-2005 and 2008-2015 only.
[e]The tally of bobcats registered by furtakers at DNR registration stations, rather than estimate from survey.

Appendix A. The questionnaire sent to people that obtained a bobcat harvest tag in Michigan for the 2015 bobcat hunting and trapping seasons.

MICHIGAN DEPARTMENT OF NATURAL RESOURCES, WILDLIFE DIVISION
PO BOX 30030 LANSING MI 48909-7530

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 and return this questionnaire even if you did not harvest a bobcat during the 2015-16 hunting and trapping seasons (December 1, 2015, through March 1, 2016).
- Only the person this questionnaire was addressed to should answer these questions. Do not report results for another person.

PART A: Hunting Questions *(Questions about trapping are on reverse side)*

1. Did you hunt bobcats during the 2015-16 season?

1 ☐ Yes 2 ☐ No (*Skip to Question #9*)

2. How many years have you hunted bobcats? _____ Years

3. If you hunted bobcats during the 2015-16 season, please complete the following table.

HUNTING METHOD (Select hunting method used.)	**COUNTY HUNTED** (For each hunting method used, list the county that you hunted on separate lines.)	**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 not to harvest.)
1 ☐ Dogs 2 ☐ Calls 3 ☐ Other				
1 ☐ Dogs 2 ☐ Calls 3 ☐ Other				
1 ☐ Dogs 2 ☐ Calls 3 ☐ Other				
1 ☐ Dogs 2 ☐ Calls 3 ☐ Other				

4. On what lands did you hunt bobcats during the 2015-16 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.)

5. Did you hire a guide to assist with hunting bobcats at any time during the 2015-16 season? 1 ☐ Yes 2 ☐ No

6. Did you hunt bobcats with dogs during the 2015-16 season?

1 ☐ Yes 2 ☐ No (*Skip to Question #9*)

7. Report the number of bobcat chases with dogs you participated in during the 2015-16 season. _____ Chases

Continued on next page

8. **Who owned the dogs that you used to hunt bobcats during the 2015-16 season?** (Check one)

1 ☐ Normally use dogs that I own.
2 ☐ Normally use dogs owned by someone else.
3 ☐ Normally use a combination of my dogs and dogs owned by someone else.

PART B: Trapping Questions

9. **Did you attempt to harvest a bobcat while trapping in the 2015-16 season?**

1 ☐ Yes 2 ☐ No (*Skip to Question #16*)

10. **How many years have you trapped bobcats?** _____ Years

11. **If you trapped bobcats during the 2015-16 season, please complete the following table.**

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.)

12. **On what lands did you trap bobcats during the 2015-16 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.)

13. **How many of the following traps did you set for bobcat in the 2015-16 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 2015-16 season?**

1 ☐ Yes 2 ☐ No

PART C: General Questions

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 2015-16 season?**

1 ☐ Increasing 2 ☐ Decreasing 3 ☐ Stable 4 ☐ Not present 5 ☐ Unknown

17. **Do you have any comments or suggestions about bobcat management in Michigan? Also describe any other incidental bobcats you may have captured but have not reported on this report.**

_____
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_____
_____
_____

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