

**MONTANA FISH, WILDLIFE AND PARKS
HUNTING SEASON-QUOTA CHANGE SUPPORTING INFORMATION**

Species: Bobcat
Region: 1
Year: 2022

1. Describe the proposed season-quotas changes and provide a summary of prior history (e.g., prior history of permits, season types).

This proposal would decrease the annual bobcat harvest quota from 275 to 225 in Trapping District (TD) 1 beginning with the 2021 season.

Bobcat harvest in TD1 is managed with a quota system. Quotas have been historically set based on a variety of data, including harvest trends, season lengths, juvenile to adult ratio of harvested bobcats, and percent females in harvest. In addition, population models have been used to estimate population status and predict the impact of harvest on bobcat numbers. Anecdotal evidence provided by trappers and biologists in the field concerning bobcat population trends is also considered when setting annual quotas, as well as trapper effort and success rate.

From 2006 through 2012, the bobcat quota for TD was 250 bobcats/year. This quota was consistently exceeded (Figure 1). At the time, available data and models indicated that the bobcat population in TD1 could sustain additional harvest, and the quota was increased to 275 for the 2013 season. This quota has been maintained since 2013. While this increase in quota was warranted based on all available data, recent data suggests that this harvest level is no longer sustainable.

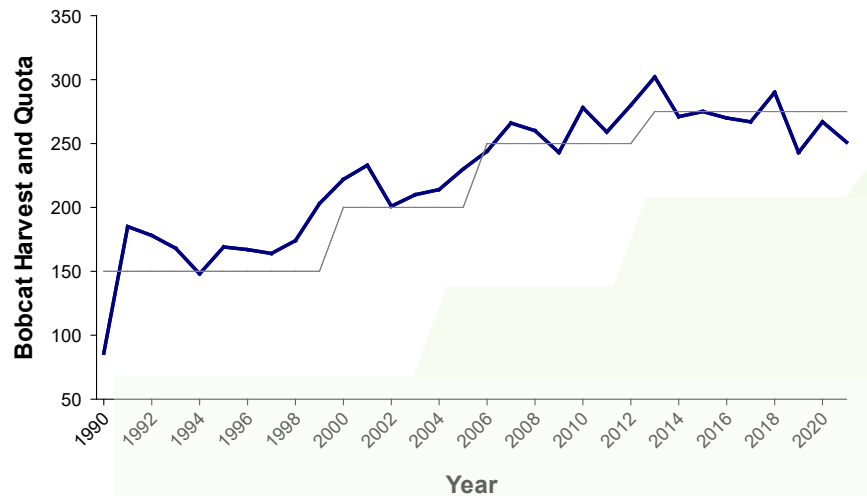


Figure 1. Bobcat harvest and quota history for Trapping District 1, Montana (1990-2021).

Because we have no direct data on population abundance, we evaluate population status of bobcats primarily using harvest data. Since 2013, the harvest has decreased (Figure 1), along with the juvenile/adult ratio, which is used as an indication of recruitment and population growth. Since 2016, the juvenile/adult ratio of harvested bobcats has been below 35, the value historically used to indicate a stable population in TD1 (Figure 2); a value below 35 suggests a decline in population

growth. In addition, the percent females in the harvest has exceeded 45% since 2013, with a sharp increase in 2021 (Figure 3). While it is difficult to interpret the relevancy of percent females in the harvest in relation to population status, a harvest containing over 50% females often indicates overharvest.

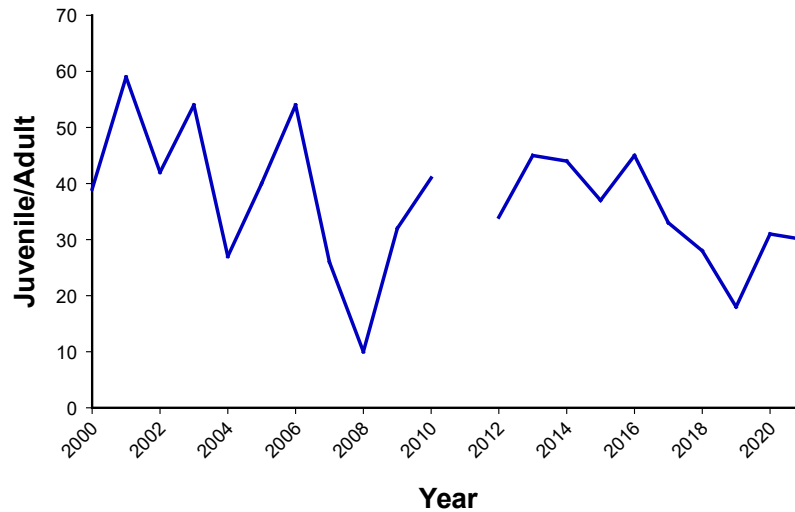


Figure 2. Juvenile/Adult ratio of harvested bobcats in TD1, Montana (2000-2021)

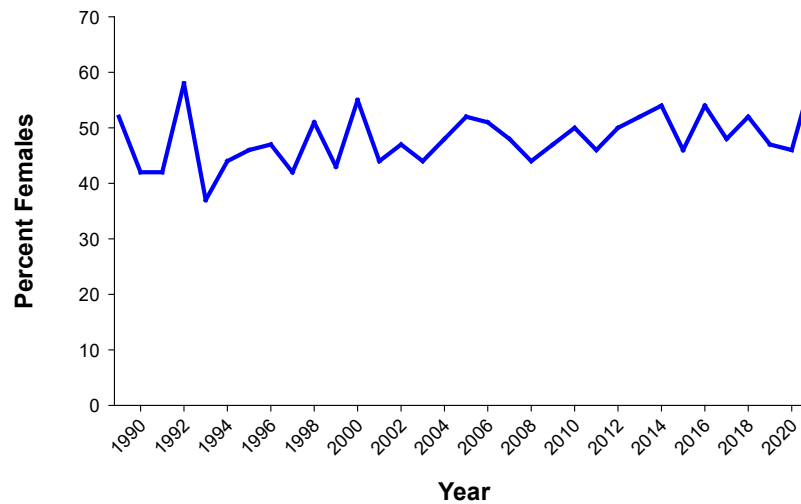


Figure 3. Percent females in the bobcat harvest in TD1, Montana (1989-2021).

In conjunction with harvest information, data concerning hunter effort and season length can provide insight into availability of bobcats on the landscape. In general, season length for bobcats has historically been around 20-25 days, with the quotas being met quickly, suggesting bobcats were abundant. While weather and snow conditions can impact season length, a trend in season length can reflect actual bobcat numbers. While harvest of bobcats has decreased since 2016, season length has increased dramatically (Figure 4). In 2020 and 2021 season length was longer than 50 days, and in 2021, the season closed February 15 without reaching quota, which hasn't

happened since the early 1990's. Since 2016, the number of trappers has increased, while the success rate has decreased (Figure 5).

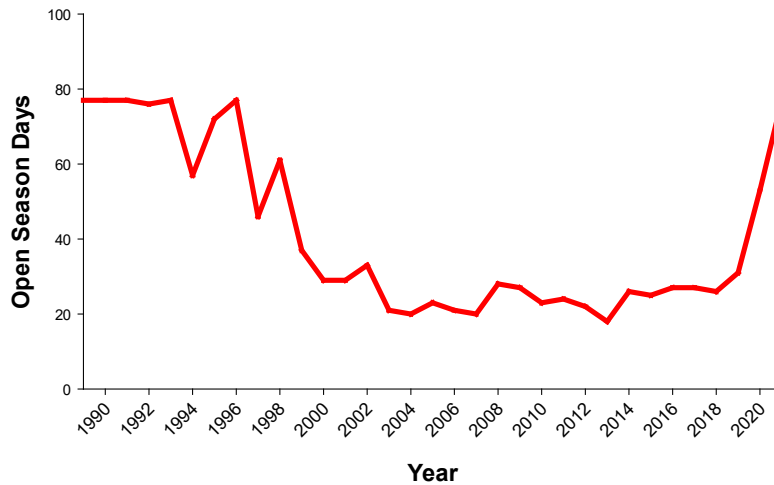


Figure 4. The number of open days in the trapping season to harvest bobcats in TD1, Montana (1989-2021)

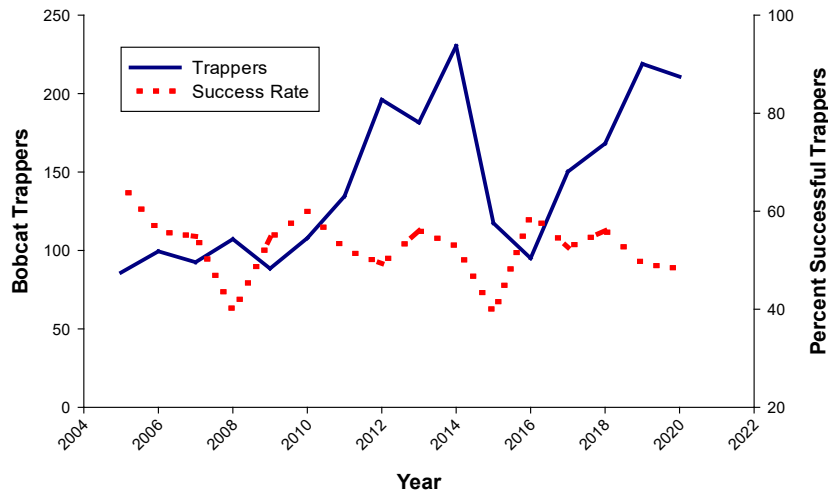


Figure 5. Estimated number of trappers and trapping success rate in TD1, Montana (2005-2020).

2. **Why is the proposed change necessary?** The reduction of the harvest quota is necessary to maintain a sustainable harvest rate for bobcats in TD1 and a stable population of bobcats in the region.
3. **What is the current population's status in relation to the management objectives? (i.e., state management objectives from management plan if applicable; provide current and prior years of population survey, harvest, or other pertinent information).**

In addition to the information provided above, we estimate the bobcat population and potential impact of harvest levels using an integrated population model (Figure 6). The current reconstruction model estimates the bobcat population in TD1 around 1200 individual. If the quota of 275 is maintained, the model suggests that bobcat numbers will continue to decline, and at an accelerated rate; however, a harvest of 200-225 should reverse this trend (Figure 7). If the harvest

exceeds 225, then there is a possibility for slower recovery or continued decline. We recommend setting the quota at 200 to account for potential over-run. While a harvest of 225 appears sustainable, a harvest that exceeds this level may result in continued decline.

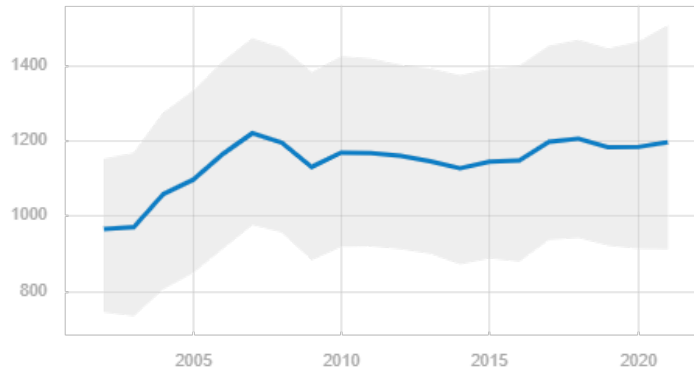


Figure 6. Bobcat population estimate for TD1.

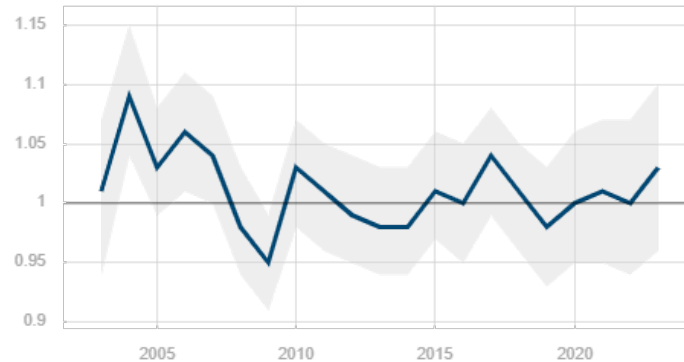


Figure 7. Estimated population growth rate with a harvest of 225 bobcats in 2023.

4. Provide information related to any weather/habitat factors that have relevance to this change (i.e., habitat security, hunter access, vegetation surveys, weather index, snow conditions, temperature-precipitation information).

Snow conditions in the winters of 2020/2021 and 2021/2022 were not ideal for trapping, with numerous thaws and freezes. There were no known changes to access.

5. Briefly describe the contacts you have made with individual sportsmen or landowners, public groups or organizations regarding this proposal and indicate their comments (both pro and con).

During our annual trapper meeting on May 1, 2022, we met with members of Montana Trappers Association and Montana Fur Harvesters to discuss the proposed quota change. We discussed changing the quota to 200 or 225 and settled on a quota of 225, which was approved at the meeting by majority vote. In addition, during the trapping season all biologists in the region routinely talked with trappers and hound hunter when they brought their bobcats in for tagging.

