

**MONTANA FISH, WILDLIFE & PARKS
HUNTING SEASON / QUOTA CHANGE SUPPORTING INFORMATION**

Species: Mountain Lion
Region: Region 1
Hunting District: LMU 141 and 150
Year: 2024

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

LMU 141 and 150 – Allow hunting during the winter season with any valid hunting license

Prior to the current season structure, hunting during the winter season in LMUs 141 and 150 was open to anyone with a General Lion License. Harvest was limited by LMU remoteness and wilderness designation, and annual harvest averaged a lion or two in each district. Season structure changes in 2022 further limited opportunity by grouping LMU 141 and 150 with LMU 130 and 140 under the Unlimited Special Lion License 130-05. This proposal would restore opportunity lost when new season structure was established in 2022.

- 2. What is the objective of this proposed change? This could be a specific harvest amount or resulting population level or number of game damage complaints, etc.**

The objective of this proposal is to restore hunting opportunity by removing barriers that limit harvest opportunity in LMU 141 and 150 – LMUs that are historically underharvested due to their remoteness and wilderness designation.

- 3. How will the success of this proposal be measured? This could be annual game or harvest surveys, game damage complaints.**

Success will be monitored using total lion harvest.

- 4. 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).**

During the 2022 season, a single lion was harvested in LMU 150; no lions were harvested in LMU 141. This is typical or below average harvest for these access-limited backcountry LMUs, and perhaps reflects the added limitations of restricting harvest to a particular license type. Expanding opportunity to any valid lion license will remove barriers to harvest and restore the historic opportunity – when one could hunt these LMUs with a General Lion License.

- 5. Provide information related to any weather/habitat factors, public or private land use or resident and nonresident hunting opportunity that have relevance to this change (i.e., habitat security, hunter access, vegetation surveys, weather index, snow conditions, and temperature / precipitation information).**

LMU 141 and 150 are remote units within the Great Bear and Bob Marshall Wilderness. They are difficult to access during the winter season due to remoteness, deep snow, and steep terrain. Prior to season structure changes implemented in 2022, these LMUs could be hunted in the winter season with a General Lion License.

- 6. 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).**

This proposal was discussed during public scoping sessions and received unanimous support.

Submitted by: Franz Ingelfinger
Date: 5/29/2023
Approved: _____

Regional Supervisor / Date

Disapproved / Modified by: _____
Name / Date

Reason for Modification:

**MONTANA FISH, WILDLIFE & PARKS
HUNTING SEASON / QUOTA CHANGE SUPPORTING INFORMATION**

Species: Mountain Lion
Region: 2
Hunting District: 280
Year: 2023 Biennial Season Setting (Lic. Year 2024-25)

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

Provide Early Season Opportunity in Scapegoat Wilderness Area (portion of LMU 280 that lies within the Scapegoat Wilderness) where there is early season deer/elk Opportunity.

Wilderness Opportunity within LMU 280 is not consistent with other wilderness units (LMU 150). It is difficult to get harvest in these areas in general and it makes sense if someone is out on an early season rifle hunt, has a lion license and sees a lion that they be able to harvest it if they so choose. It would also reduce confusion between backcountry regulations in LMU 150 and LMU 280.

To be consistent with the current regulations in Region 1 in the Bob Marshall Wilderness (LMU 150) we are proposing the following changes in the Scapegoat Wilderness Portion of LMU 280:

1. Change the end of archery season to sept 14th
2. Remove the Fall Season Without Dogs opportunity and start the Winter season on Sept 15th and running through April 14th the following year.
3. Allow hunting during the winter season with any valid hunting license

NOTE: If approved, this may require some additional language in the header for the region 2 section of the regs, similar to what is listed for Region 1 (see image below). I discussed this with Jenn Ard over the phone on 8/2/2023.

Mountain Lion Management Unit (LMU) Harvest Quotas and Regulations									
Season Dates for All LMUs except 150*:									
Archery Season: Sept. 02 - Oct. 15, Fall Season Without Dogs: Oct. 21 - Nov. 26, Winter Season: Dec. 01 - April 14 2024.									
* Season dates for LMU 150: Archery Season: Sept. 02 - Sept. 14, Winter Season: Sept. 15 - April 14, 2024.									
LMU	Limited Mountain Lion License Number	Number of Limited Licenses	Unlimited Mountain Lion License Number	Harvest Quotas				Nonresident Hound License Number	Number of Nonresident Hound Licenses
				Archery/Fall Quota	Winter Male Quota	Winter Female Quota or Subquota	Overall Quota		
Region 1									

Suggesting:

“*Season dates for **Scapegoat Wilderness portions** of LMU 280: Archery Season: Sept 02 – Sept 14, Winter Season: Sept 15- April 14, 202X”

4. What is the objective of this proposed change? This could be a specific harvest amount or resulting population level or number of game damage complaints, etc.

Increase lion harvest opportunity in backcountry areas and make regulations in wilderness areas of HD 280 (scapegoat Wilderness) consistent with LMU150 (Bob Marshall Wilderness)

5. How will the success of this proposal be measured? This could be annual game or harvest surveys, game damage complaints.

Success will be monitored using total lion harvest in the Scapegoat Wilderness portion in LMU 280. We would consider an increasing trend in the 3-year average harvest in the area to be success.

6. 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).

Unknown. SECR lion population estimates for the west central ecoregion have not been released yet and access to the IPM is not available to biologists at this time. Lion Harvest in R2 in winter 2022/23 was the highest it has been since 2012. Total Region 2 harvest is up 27% from 5-year average (2017-2021) and up 54% from last year which was poor snow conditions and the lowest total harvest since 2010. Part of the increase is associated with the NW Ecoregion (201,202,299,285) and 12.5% decline from LEPOC plan.

7. Provide information related to any weather/habitat factors, public or private land use or resident and nonresident hunting opportunity that have relevance to this change (i.e., habitat security, hunter access, vegetation surveys, weather index, snow conditions, and temperature / precipitation information).

2022-2023 was a good season for lion harvest in general and HD280 closed for males on 12/10/2022 and females on 12/16/2022.

8. 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).

I have discussed this with enforcement and with Region 2 wildlife program manager. I have not talked with a broad range of lion hunters about this proposal. It was presented at four season setting meetings (Missoula, Ovando, Lincoln, Seeley Lake) and received broad support from the public attending.

Submitted by: Mike Ebinger

Date: 8/01/2023

Approved:

Regional Supervisor / Date

Disapproved / Modified by:

Name / Date

Reason for Modification:

**MONTANA FISH, WILDLIFE & PARKS
HUNTING SEASON / QUOTA CHANGE SUPPORTING INFORMATION**

Species: Mountain Lion
Region: 3
Hunting District: All Region 3 LMUs
Year: 2024

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

The proposal is to change the following Region 3 mountain lion LMUs that use a total quota with a female sub-quota to separate quotas for males and females with no total quota for each LMU, i.e. the harvest season will close for each sex independently when the quota for that sex is reached:

LMUs: 301, 304 312, 313, 314, 315, 317, 318, 319, 320, 321, 322, 339, 340, 350, 380, 391

Table 1 shows the propose male and female quotas for each LMU.

LMU	Male	Female
301	13	7
304	11	6
312	6	6
313	3	1
314	7	4
315	2	1
317	3	4
318	4	2
319	3	2
320	3	4
321	2	1
322	4	4
339	6	2
340	3	1
350	2	1
380	5	6
391	6	4

See Table 2 at the end for past Region 3 wide mountain lion quota and harvest information.

2. What is the objective of this proposed change? This could be a specific harvest amount or resulting population level or number of game damage complaints, etc.

The objective is to go from a harvest quota format of a total quota with a female sub-quota to separate quotas for males and females. Under the new format there would be no total harvest quota and the male and female quotas would be independent of each other and close independently of each other. The proposed change would allow Region 3's biologists to better manage harvest of both the male and female segment of the mountain lion population. There are concerns that in some areas we may be overharvesting the male segment of the mountain lion population leading to a higher proportion of younger males in the population. This is evidenced by the younger age structure of harvested males across the Region as a whole in recent years.

The management for an older male age structure is typically desirable because of the higher trophy value of larger, older males. In addition, mountain lion social structure is based on a land tenure system where older

males hold territories and directly or indirectly inhibit incursions by young males. A high proportion of young males is often disruptive to this social structure and can lead to high rates of infanticide and occasionally adult female mortality. Finally, young male mountain lions are the segment of the population most likely to come into conflict with humans. A higher proportion of younger males in the population could potentially lead to an increased number of conflicts. By establishing a separate male quota, biologists can, when desired, exert pressure on the young male segment of the population directly by encouraging a “race” to fill the male quota. This can then indirectly retain older territorial males which can reduce the cohort of younger males.

By having a separate female quota we can better manage the female portion of the population to achieve a higher level of female harvest where it is desired. This proposal would allow biologists to direct appropriate pressure on the female segment of the population, which most strongly influences population growth.

3. How will the success of this proposal be measured? This could be annual game or harvest surveys, game damage complaints.

The proposal will be considered successful when: separate male and female quotas that are independent of each other are established; biologists are effective at meeting desired population objectives through the harvest of female lions; and observed ages of male lions increase over time. Note that in areas with more restrictive male quotas young males may potentially be disproportionately represented in the harvest. However, over time the observed ages of harvested males could increase as the age structure of the population changes. Reports from houndsmen can also provide anecdotal evidence of the presence of larger males in an LMU.

Lion harvest is monitored through mandatory reporting of harvest and inspection of harvested lions. Past harvest information, communication with houndsmen, conflicts, livestock depredation, age structure, and hunter effort may all be considered when setting lion quotas.

4. 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).

Management objectives vary across Region 3. In most areas the management objective is to provide sustainable hunting opportunity within the tolerances of available prey bases and social considerations. However, some areas near urban centers have very liberal opportunity to encourage harvest in areas where the use of hounds to chase is challenging and human residential density is high.

Region 3 is split between the West-Central mountain lion ecoregion and the Southwest mountain lion ecoregion under Montana’s Mountain Lion Monitoring and Management Strategy. While sampling has now been completed in both the primary and secondary monitoring areas in the West-Central mountain lion ecoregion, to date population estimates have only been made for the primary monitoring area near Lincoln (2.0 lions/100 sq km; 90% C.I. of 1.4-3.1). Monitoring efforts in the Southwest ecoregion are scheduled to begin next winter (2023/24). These estimates will be used to inform stakeholders of the status of the ecoregion’s lion population, so objectives can be established through the Lion Ecoregional Population Objective Committee in each ecoregion. Members of the West-Central LEPOC have been selected, but they have yet to meet. The group’s recommendations are expected this year. The Southwest LEPOC will be formed once monitoring efforts in that ecoregion are complete.

Over the past 3 years the mean and median age of harvested lions has declined to a historic low (Figure 1). Prior research suggests this could be indicative of strong harvest pressure influencing populations. Ages among harvested males specifically has been low, which suggests a very young male age structure with high turnover in the population (Figure 2). The median age of harvested males has been 2.5 years old since 2020. Typically, males establish their breeding territories after this age. This high turnover among males is likely leading to social instability among lion populations in some areas, potential for increased conflicts with humans and limited numbers of large older males for trophy hunting.

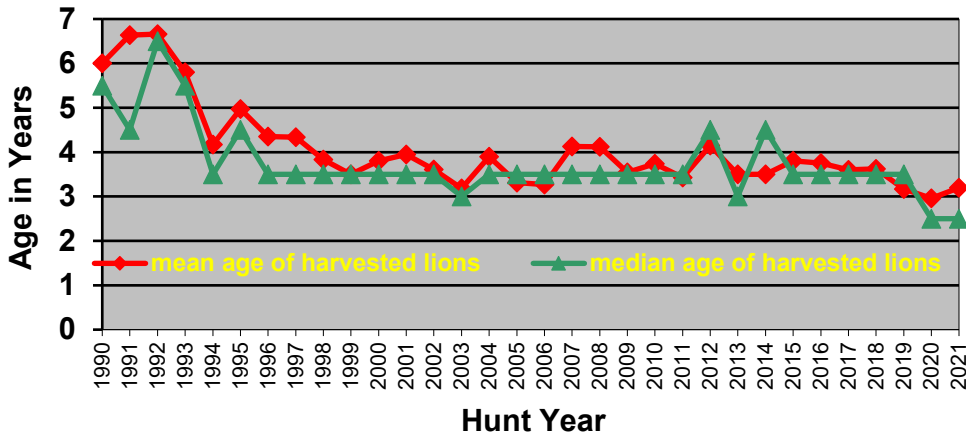


Figure 1. Mean and median ages of harvested lions in Region 3 between 1990 and 2021.

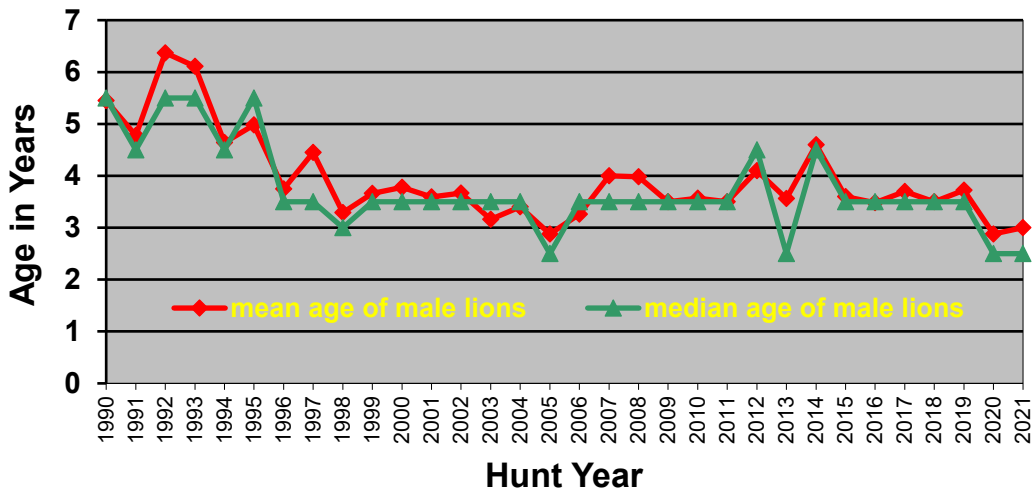


Figure 2. Mean and median age of harvested male lions in Region 3 between 1990 and 2021

5. Provide information related to any weather/habitat factors, public or private land use or resident and nonresident hunting opportunity that have relevance to this change (i.e., habitat security, hunter access, vegetation surveys, weather index, snow conditions, and temperature / precipitation information).

Hunting opportunity will likely be similar and may even increase to some degree with the proposed changes. Female quotas in at least some LMUs may stay open longer than the total quotas did – quotas often filled primarily with male mountain lions. The ability to better influence harvest on females is expected to improve the effectiveness of meeting population objectives. Male lions are often pursued with an interest in their trophy value. The ability to manipulate a separate male quota is expected to allow for an increase in the proportion of older, larger males where desired.

6. 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).

The proposal has been discussed with Region 3's hounds person's group the last couple of years, and the majority of the members seemed to be in support of the potential change. Separate male and female quotas were established in two LMUs in Southwest Montana in 2021. Conversations with houndsmen and outfitters operating in these LMUs have shown general support for this change. Among people hunting lions in those LMUs, none expressed opposition to the 2021 change.

Submitted by: Adam Grove, Wildlife Biologist – Townsend (on behalf of Region 3)

Date: 7/20/23

Approved: _____
Regional Supervisor / Date

Disapproved / Modified by: _____
Name / Date

Reason for Modification:

Table 2. Region 3 mountain Lion quotas and harvest, 1988-2022.

Hunt Year	Total Quota	Total Female Sub Quota	Total Taken	Females Taken	Males Taken	Number of lion units	Number of lion units closed early	Average Days open
1988	34	21	18	1	17	11	4	57
1989	34	21	18	2	16	11	4	60
1990	34	21	30	6	24	11	6	57
1991	39	21	30	11	19	11	2	71
1992	43	21	44	11	33	10	5	47
1993	48	23	59	18	41	11	9	38
1994	81	44	84	32	52	16	12	39
1995	86	39	86	32	54	16	13	47
1996	89	41	86	29	57	17	10	52
1997	104	49	102	43	59	17	13	45
1998 ¹	123	60	118	52	66	17	12	67
2000	134	67	111	55	56	18	9	88
2001	125	67	109	52	57	19	9	91
2002	136	70	110	46	64	20	12	86
2003	117	48	89	32	57	20	8	98
2004	105	47	83	37	46	20	12	86
2005	101	37	75	24	51	20	9	93
2006	76	27	66	16	50	20	15	65
2007	73	19	69	12	57	20	16	57
2008	73	19	74	13	61	20	18	46
2009	72	19	67	14	53	20	16	56
2010	80	23	68	17	51	21	16	58
2011	77	23	76	17	59	21	17	47
2012	109	46	104	35	69	23	19	63
2013	109	46	94	33	61	23	17	56
2014	126	53	102	32	70	23	14	77
2015	135	58	115	43	72	23	14	72
2016	140	60	111	41	70	23	11	90
2017	138	60	110	36	74	23	13	78
2018	135	58	108	32	76	23	15	76
2019	135	58	104	35	69	23	11	94
2020	134	60	108	36	72	23	15	86
2021	134	58	96	32	64	23	11	91
2022	121	46	91	28	63	21	10	-

¹ Start of April 14 closure.

MONTANA FISH, WILDLIFE & PARKS HUNTING SEASON / QUOTA CHANGE SUPPORTING INFORMATION

Species: Mountain Lion
Region: 6
Hunting District: LMU 620
Year: 2024

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

We propose to split mountain lion management unit (LMU) 620 into two LMUs (Figure 1; 2023 LMU map). Using the deer, elk, and antelope hunting district (HD; Figure 2) as a boundary reference, we propose to separate HD 621 and create a separate LMU 621 from LMU 620 (Figure 3).

Quota:

- New LMU 621: Same as 2023 LMU 620 quota
- New LMU 620: 30% of the 2023 LMU 620 quota (including 30% of female sub-quota)

Prior to 2022, mountain lion harvest was split into 2 areas: HD 690 and Region 6 except HD 690. In 2022, mountain lion management units (LMUs) were established separately from hunting districts (HDs), and 3 LMUs were created in Region 6 (Figure 1). This change created more opportunity for lion harvest and better distribution of harvest in the region.

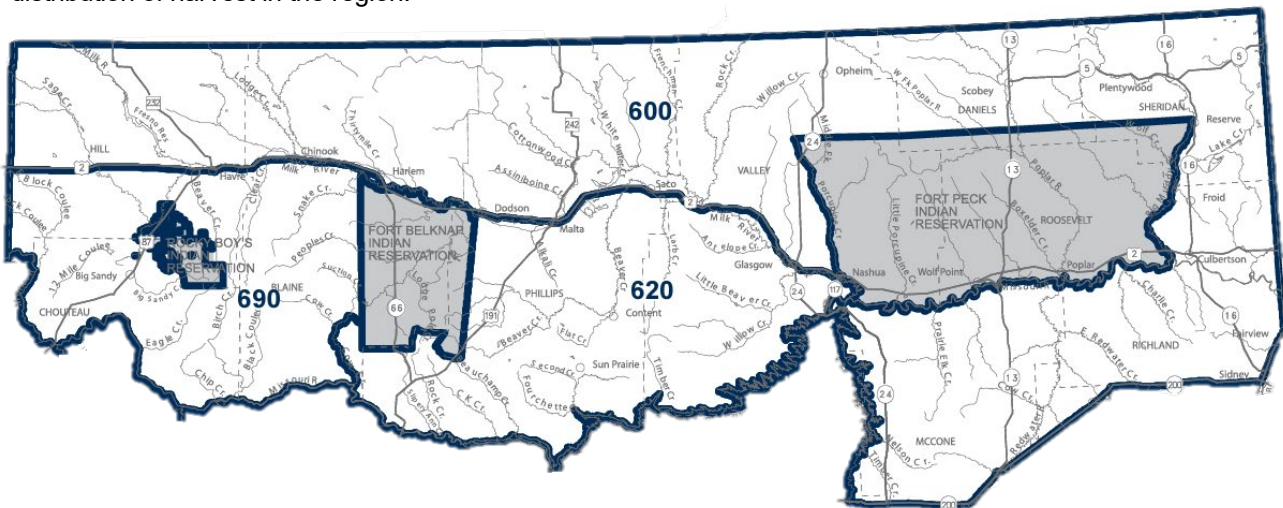


Figure 1. Current mountain lion management units (LMUs) in Region 6.

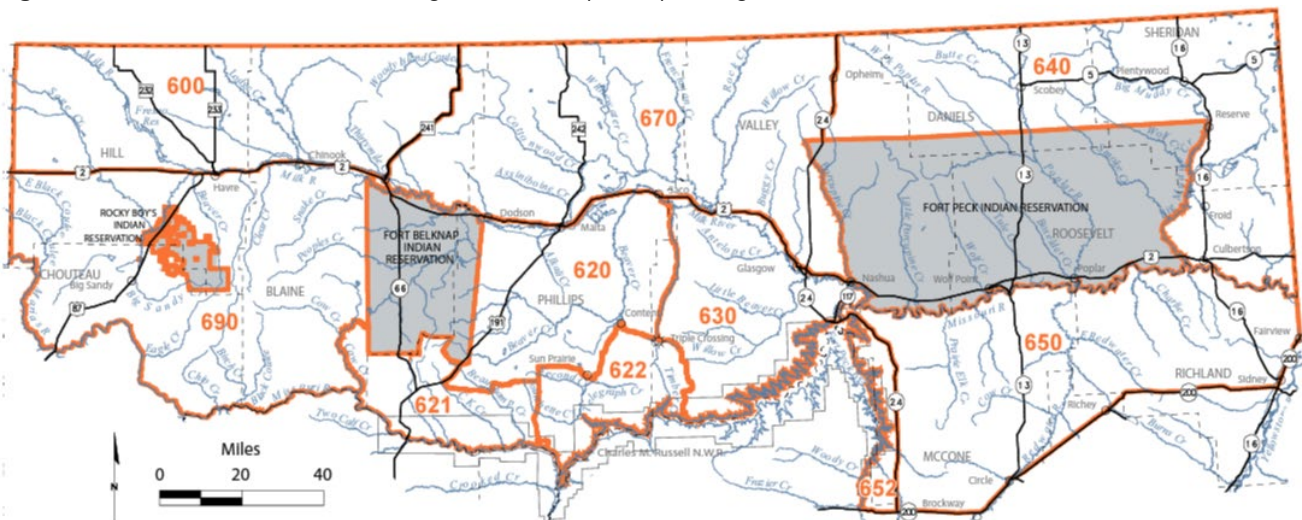


Figure 2. Current deer, elk, and antelope hunting districts (HDs) in Region 6.

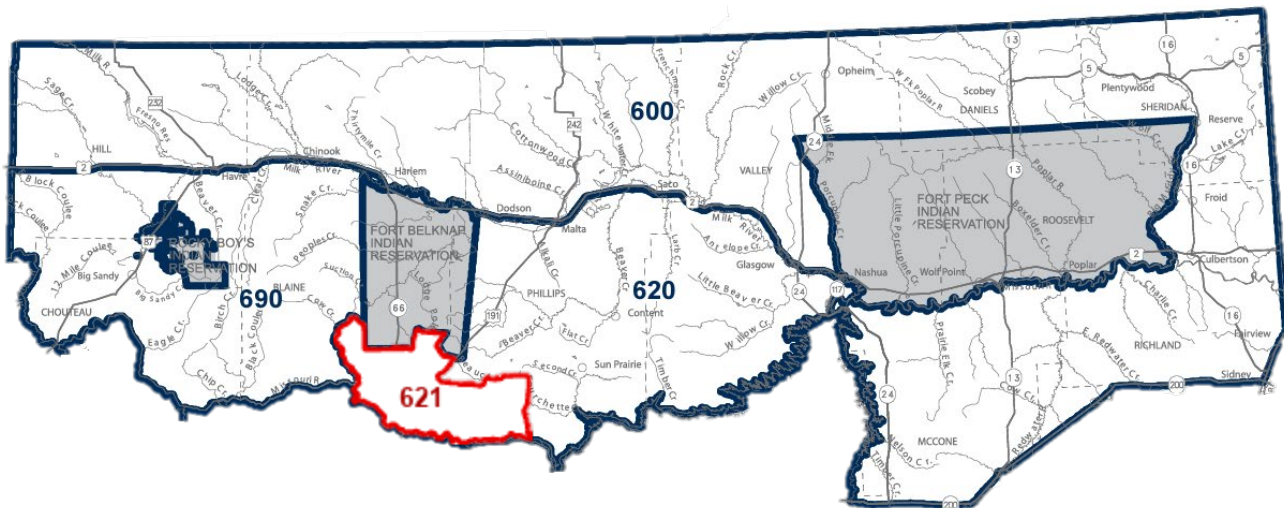


Figure 3. Proposed changes to mountain lion management units (LMUs) in Region 6. Red LMU 621 split from LMU 620.

2. What is the objective of this proposed change? This could be a specific harvest amount or resulting population level or number of game damage complaints, etc.

The objectives of splitting LMU 620 into two LMUs (LMU 620 & LMU 621) are to increase lion harvest opportunity, distribute harvest more broadly across the region, and mitigate lion conflicts.

3. How will the success of this proposal be measured? This could be annual game or harvest surveys, game damage complaints.

The success of this proposal will be measured by the length of the season staying open, the number of lions harvested, and the distribution of lion harvest locations. In addition to the more quantifiable measurements, we will also measure success with houndsmen and landowner satisfaction.

4. 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 accordance with the mountain lion Monitoring & Management Strategy 2019 Region 6 falls into the eastern ecoregion. The strategy outlines that routine lion abundance estimates, and population modeling will not be available in this ecoregion. Because of annual variations in tracking snow cover, annual harvest varies independent of population trend. We will therefore continue monitoring and managing lion populations as we have in the past relying on indirect indications of lion abundance and public input.

Management objectives for mountain lions in Region 6 are to maintain mountain lion populations at socially acceptable levels, reduce the potential for human/lion conflicts and depredation (i.e. livestock), while providing a sustainable recreational opportunity.

In the past 10 years, the Region 6 quotas and season dates have stayed the same until 2022. In 2022, we increased all LMU quotas and established LMU 600 in non-lion habitat to mitigate lion conflicts. Since 2013, quotas have been filled during 5 seasons, 3 of which were the most recent seasons (2020-2022). The winter harvest season is 19 weeks (Dec 1-April 14th) and closes when the quotas are met. In the last 2 years, the quotas were filled less than halfway through the season. Our proposal to add more opportunity for lion harvest and distribute harvest locations should increase the length of the season and the overall number of lions harvested. See Figure 4 for a map of harvest locations.

Over the past 5 years, we saw a slight increase in the number of incidental lion mortalities. These incidental mortalities are non-harvest related, i.e. human safety concerns, livestock depredation concerns, incidentally trapped, etc. After the season structure changes made in 2022 we saw a decrease in the number of incidental mortalities. Our proposal to add more opportunity for lion harvest and distribute harvest locations should

decrease incidental mortalities and provide hunter harvest as a management tool to minimize conflict. See Figure 4 below for incidental mortality locations.

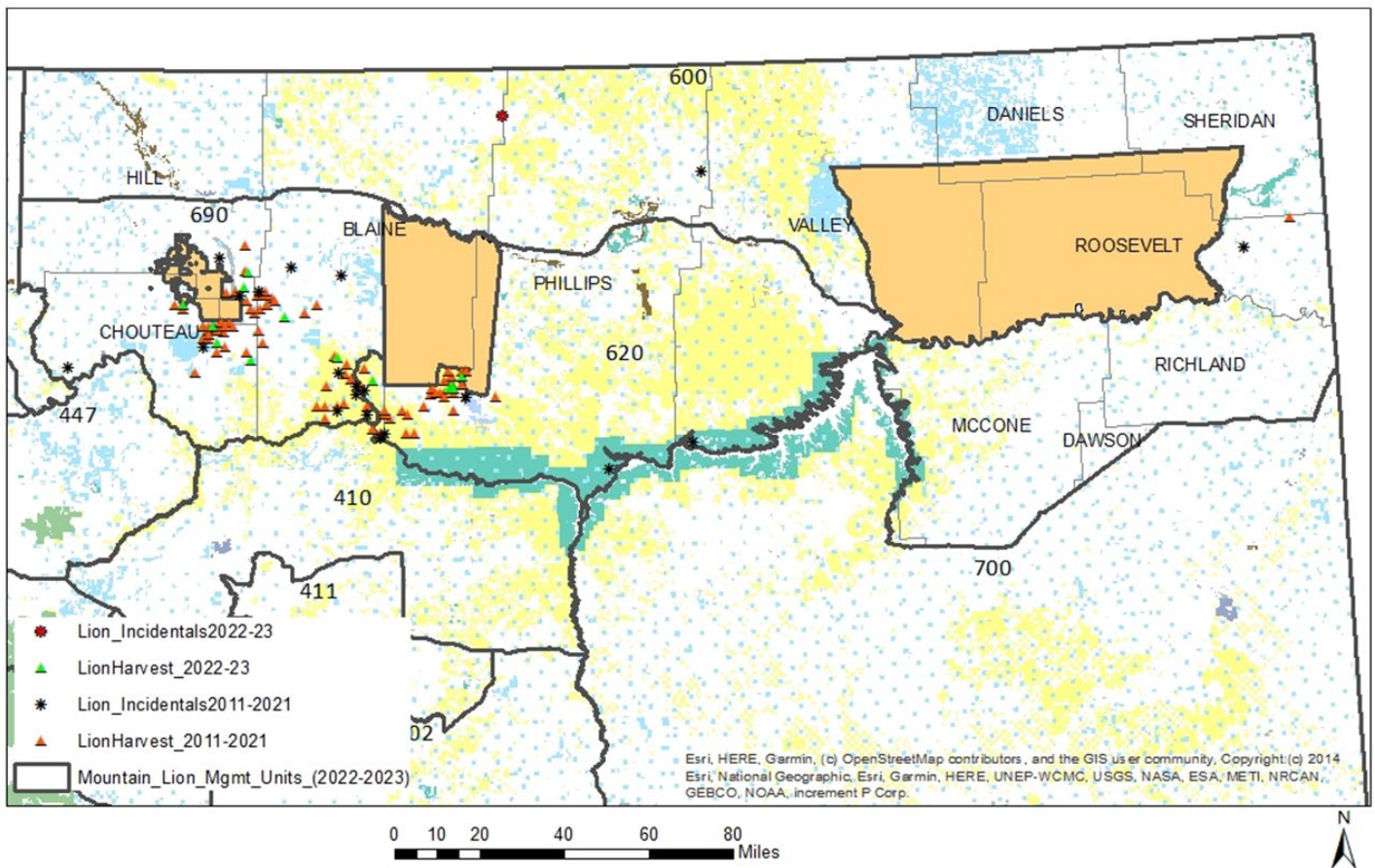


Figure 4. Region 6 mountain lion harvest locations (triangles) and incidental mortality locations (asterisk).

5. Provide information related to any weather/habitat factors, public or private land use or resident and nonresident hunting opportunity that have relevance to this change (i.e., habitat security, hunter access, vegetation surveys, weather index, snow conditions, and temperature / precipitation information).

Our proposal to split LMU 620 into 2 new LMUs (LMU 621 and LMU 620) can be justified by the difference in snow accumulation and the proportion of high-quality lion habitat in each LMU. Snow conditions that are favorable for tracking are a key limiting factor affecting mountain lion harvest in Region 6. Additionally, the most suitable mountain lion habitat lies in the Little Rockies and the Bear Paw mountains, as well as along the Missouri River (Figure 5).

The proposed LMU 621 encompasses much of the Little Rockies (5,720ft elevation), which typically accumulate more snow earlier in the season than the surrounding lowland habitat (~2,400ft elevation). This snow accumulation allows for better tracking and potentially higher harvest success. We also see a higher proportion of high-quality lion habitat in proposed LMU 621 than in LMU 620, which indicates a higher probability of use by lions (Figure 5). These favorable conditions could influence harvest success and season length.

The proposed LMU 620 accumulates snow later in the season compared to the Little Rockies. We also see a lower proportion of high-quality habitat in LMU 620, which indicates a lower probability of use by lions (Figure 5). In the past we see the lion harvest sites are concentrated near the Little Rockies and within the LMU 621 boundary (Figure 4). Due to the difference in snow conditions and habitat quality the quota for LMU 620 is generally filled in one area, rather than distributed across a broader area. By separating LMU 621 from LMU

620, we can create an additional opportunity for lion harvest in other areas of the region that may not have favorable conditions until later in the season.

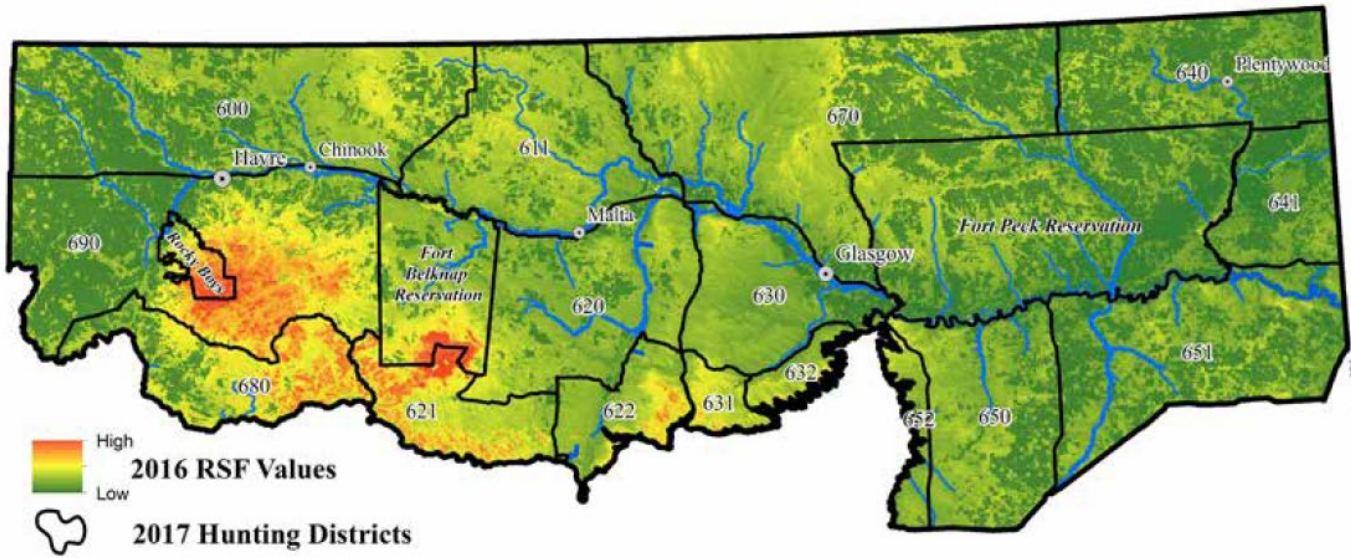


Figure 5. FWP Region 6 mountain lion winter resource selection function (RSF) and hunting districts in 2016-17. An RSF model represents the relative probability that an animal will select a particular place or resource and generally describes the overall quality of lion habitat. High = High probability of use; High quality habitat; Low = Low probability of use; Low quality habitat. (Mountain Lion Monitoring & Management Strategy 2019).

6. 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).

This proposed LMU spilt was first brought up by a landowner who resides in the current LMU 620. We directly contacted them about it and discussed some options and what it might mean for the area. They were interested in more opportunity for lion harvest in that area, since the quota is usually filled further west where there is early season snow fall (within the proposed LMU 621). Discussion with other landowners in the area showed they expressed the same support for more opportunity to harvest lions and as a means for managing conflict lions.

We brought this proposal up at the Annual R6 Houndsmen Meeting in March 2023 and they were in support of the LMU spilt and the added lion harvest opportunity. They mentioned that it might extend the harvest season and spread out houndsmen later in the year, which they agreed would be a benefit.

From a community perspective, we received positive support from the local state senator about the added lion harvest opportunity in the area.

The proposal was scoped during the season setting scoping period and heard support in Glasgow and Plentywood meetings, and no comments in Malta and Havre.

Submitted by: Nicole Hussey – Region 6

Date: 7/28/2023

Approved: _____
Regional Supervisor / Date

Disapproved / Modified by: _____
Name / Date

Reason for Modification:

MONTANA FISH, WILDLIFE & PARKS HUNTING SEASON / QUOTA CHANGE SUPPORTING INFORMATION

Species: Mountain Lion
Region: 6
Hunting District: LMU 690
Year: 2024

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

We propose to split mountain lion management unit (LMU) 690 into two LMUs (Figure 1; 2023 LMU map). Using the 2019 deer, elk, and lion hunting district (HD; Figure 2) as a boundary reference, we propose to separate HD 680 and create a separate LMU 680 from LMU 690 (Figure 3).

Quota:

- New LMU 690: 11 (sub-quota 4 females); which is 80% of the 2023 LMU 690 quota (including 80% of sub-quota)
- New LMU 680: 3 (sub-quota 1 female); which is 20% of the 2023 LMU 690 quota (including 20% of sub-quota)

Prior to 2022, mountain lion harvest was split into 2 areas: HD 690 and Region 6 except HD 690. In 2022, mountain lion management units (LMUs) were established separately from hunting districts (HDs), and 3 LMUs were created in Region 6 (Figure 1). This change created more opportunity for lion harvest and better distribution of harvest in the region.

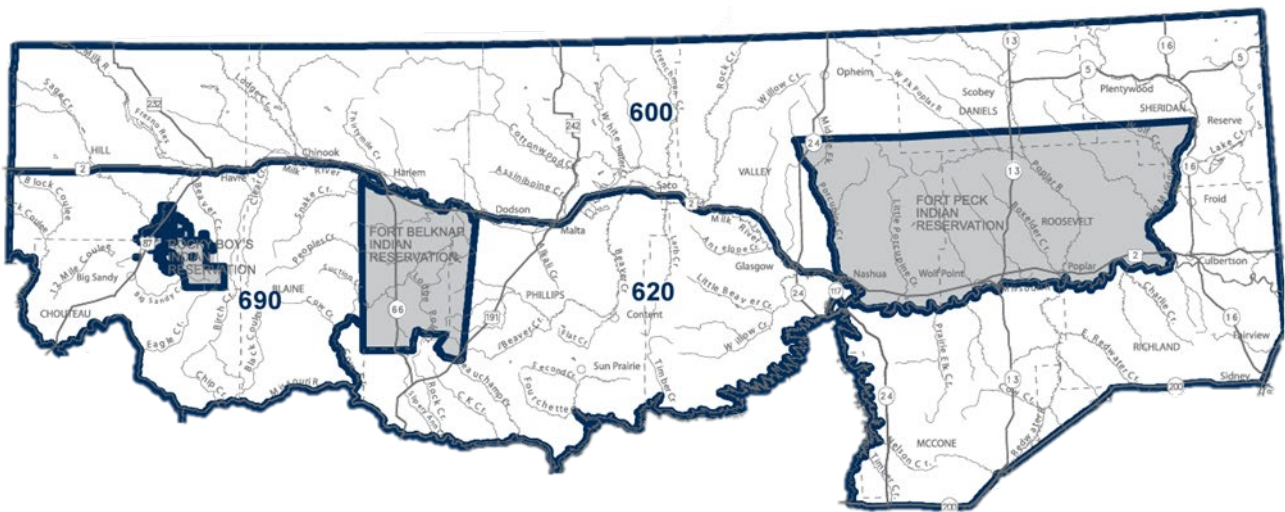


Figure 1. Current mountain lion management units (LMUs) in Region 6.

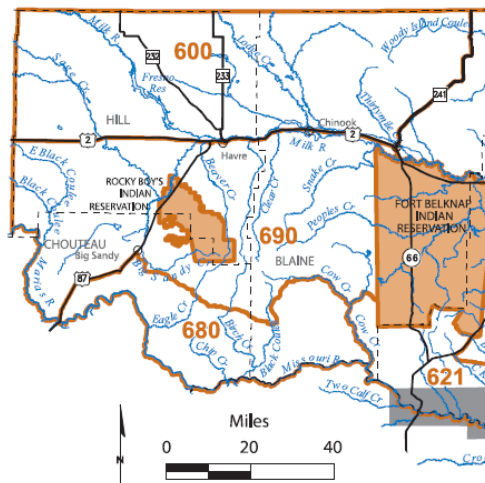


Figure 2. Relevant region 6 deer, elk, and lion hunting districts (HDs) in 2019.

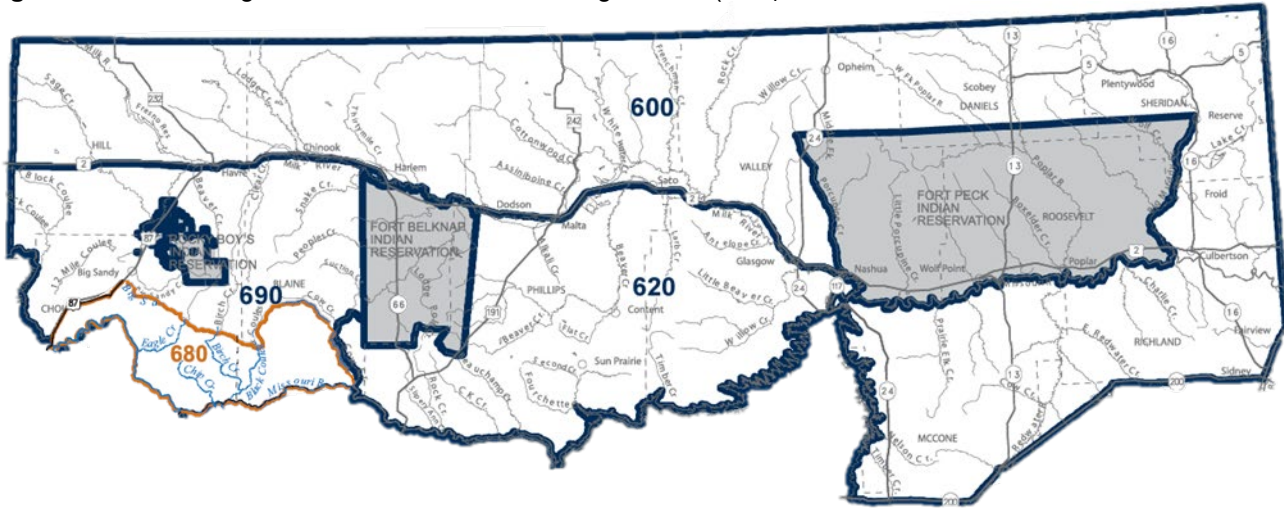


Figure 3. Proposed changes to mountain lion management units (LMUs) in Region 6. Orange LMU 680 separate from LMU 690.

2. What is the objective of this proposed change? This could be a specific harvest amount or resulting population level or number of game damage complaints, etc.

The objectives of splitting LMU 690 into two LMUs (LMU 690 & LMU 680) are to distribute harvest more broadly across the region, lengthen the overall harvest season and mitigate lion conflicts.

3. How will the success of this proposal be measured? This could be annual game or harvest surveys, game damage complaints.

The success of this proposal will be measured by the overall length of the season staying open, the number of lions harvested, and the distribution of lion harvest locations. In addition to the more quantifiable measurements, we will also measure success with houndsmen and landowner satisfaction.

4. 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 accordance with the mountain lion Monitoring & Management Strategy 2019 Region 6 falls into the eastern ecoregion. The strategy outlines that routine lion abundance estimates, and population modeling will not be available in this ecoregion. Because of annual variations in tracking snow cover, annual harvest varies independent of population trend. We will therefore continue monitoring and managing lion populations as we have in the past relying on indirect indications of lion abundance, harvest data, and public input (see Table 1 for harvest history).

Management objectives for mountain lions in Region 6 are to maintain mountain lion populations at socially acceptable levels, reduce the potential for human/lion conflicts and depredation (i.e. livestock), while providing a sustainable recreational opportunity.

In the past 10 years, the Region 6 quotas and season dates have stayed the same until 2022. In 2022, we increased all LMU quotas and established LMU 600 in non-lion habitat to mitigate lion conflicts. Since 2013, total harvest quotas have been filled during 5 seasons, 3 of which were the most recent seasons (2020-2022). The winter harvest season is 19 weeks (Dec 1-April 14th) and closes when the quotas are met. In the last 2 years, the quotas were filled less than halfway through the season. Our proposal to split LMU 690 and distribute harvest locations should increase the length of lion hunting opportunity and potentially the overall number of lions harvested. See Figure 4 for a map of harvest locations.

Over the past 5 years, we saw a slight increase in the number of incidental lion mortalities. These incidental mortalities are non-harvest related, i.e. human safety concerns, livestock depredation concerns, incidentally trapped, etc. After the season structure changes made in 2022, we saw a decrease in the number of incidental mortalities. Our proposal to add more opportunity for lion harvest and distribute harvest locations should decrease incidental mortalities and provide hunter harvest as a management tool to minimize conflict. See Figure 5 below for incidental mortality and harvest locations in Region 6.

Table 1. Summary of mountain lion harvest and incidental mortalities in Region 6 during 2011-2022 seasons.

Year	HD 690	Quota Met	HD all except 690	Quota Met	Total Harvest	Incidental Mortality	Total Mortality
2022	6M/3F	Y	2M/3F	Y ²	14 (8M/6F)	1	15
2021	5M/3F	Y	2M/2F	Y	12 (7M/5F)	4	16
2020	7M/2F	Y ¹	2M/2F	Y	13 (9M/4F)	3	16
2019	3M/3F	N	2M/2F	Y	10 (5M/5F)	2	12
2018	4M/2F	N	2M/2F	Y	10 (6M/4F)	2	12
2017	5M/3F	Y ²	2M/2F	Y	12 (7M/5F)	0	12
2016	6M/2F	Y	3M/2F	Y ¹	13 (9M/4F)	2	15
2015	3M/2F	N	1M/0F	N	6 (4M/2F)	6	12
2014	2M/1F	N	1M/1F	N	5 (3M/2F)	0	5
2013	2M/2F	N	1M/0F	N	5 (3M/2F)	1	6
2012	3M/1F	N	0M/3F	Y	7 (3M/4F)	4	11
2011	3M/3F	N	1M/2F	Y	9 (4M/5F)	3	12

¹Male overharvest

²Female overharvest

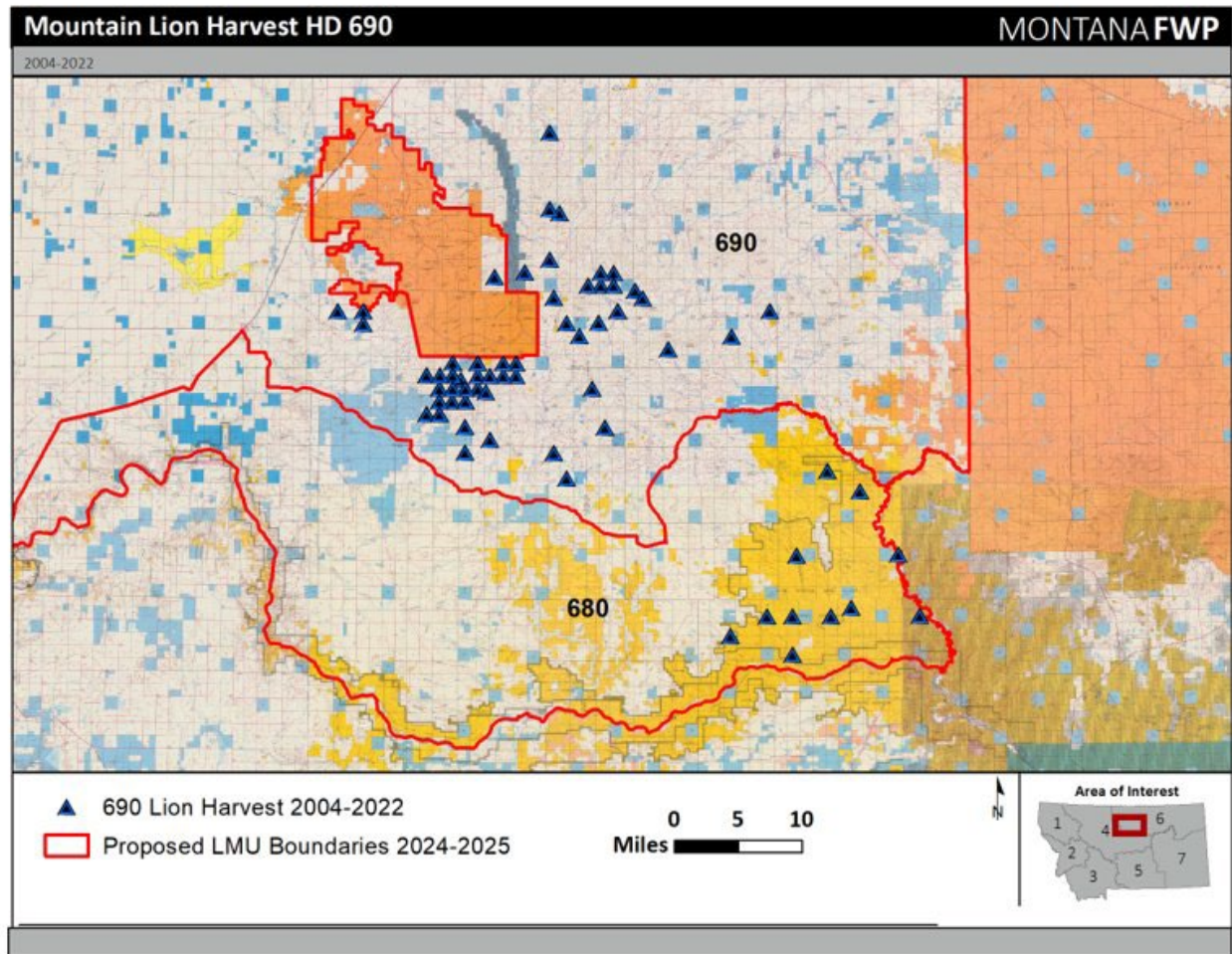


Figure 4. Region 6 mountain lion harvest locations from 2004-2022 within proposed LMU boundaries.

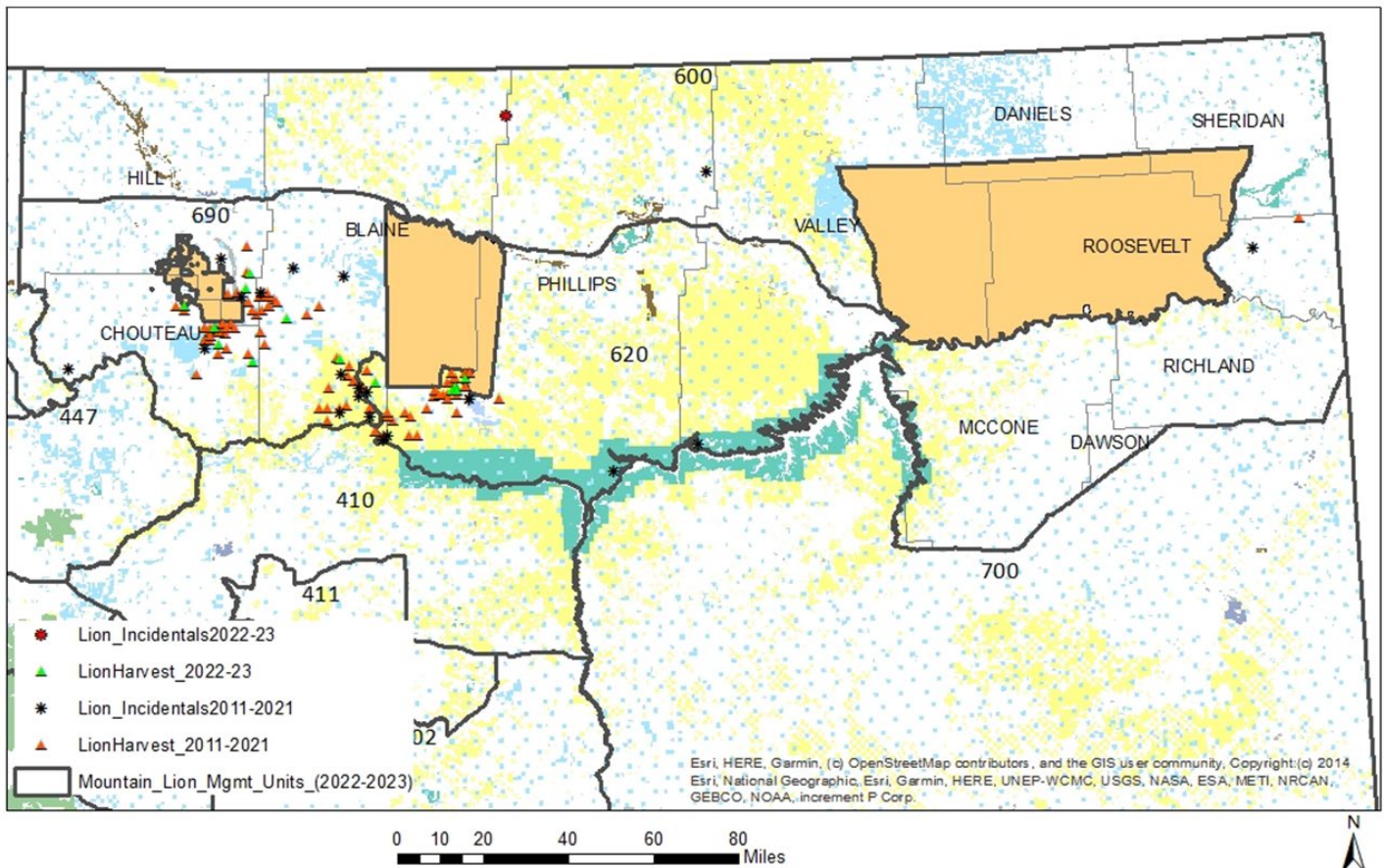


Figure 5. Region 6 mountain lion harvest locations (triangles) and incidental mortality locations (asterisk) from 2011 to 2023.

5. Provide information related to any weather/habitat factors, public or private land use or resident and nonresident hunting opportunity that have relevance to this change (i.e., habitat security, hunter access, vegetation surveys, weather index, snow conditions, and temperature / precipitation information).

Our proposal to split LMU 690 into 2 new LMUs (LMU 690 and LMU 680) can be justified by the difference in snow accumulation, the proportion of high-quality lion habitat, and public land access in each LMU. Snow conditions that are favorable for tracking are a key limiting factor affecting mountain lion harvest in Region 6. Additionally, the most suitable mountain lion habitat lies in the Little Rockies and the Bear Paw mountains, as well as along the Missouri River (Figure 5). Access on private land can be variable in the current LMU 690 and some hunters may be limited by access to public land.

The proposed LMU 690 encompasses much of the Bear Paw mountains (6,916ft elevation), which typically accumulate more snow earlier in the season and retain snow longer than the surrounding lowland habitat (~3,500ft elevation). This snow accumulation allows for better tracking and potentially higher harvest success. We also see a higher proportion of high-quality lion habitat in proposed LMU 690 than in LMU 680, which indicates a higher probability of use by lions (Figure 5). However, the proposed LMU 690 is largely made up of private land, which can limit houndsmen access. These conditions could influence harvest success and season length.

The proposed LMU 680 has fewer days with good snow cover/tracking conditions than the Bear Paw mountains. We also see a lower proportion of high-quality habitat in proposed LMU 680, which indicates a lower probability of use by lions (Figure 5). In the past we see the lion harvest sites are concentrated on public land within the proposed LMU 680 boundary (Figure 4), which could indicate more use by public land hunters. Due to the difference in snow conditions, habitat quality, and land access the quota for LMU 690 is generally filled in 2 distinct areas, rather than distributed across a broader area. By splitting LMU 680 from LMU 690, we can

create opportunity for lion harvest in other areas of the region that may not have as favorable snow conditions until later in the season and potentially extend the season length for public land hunters.

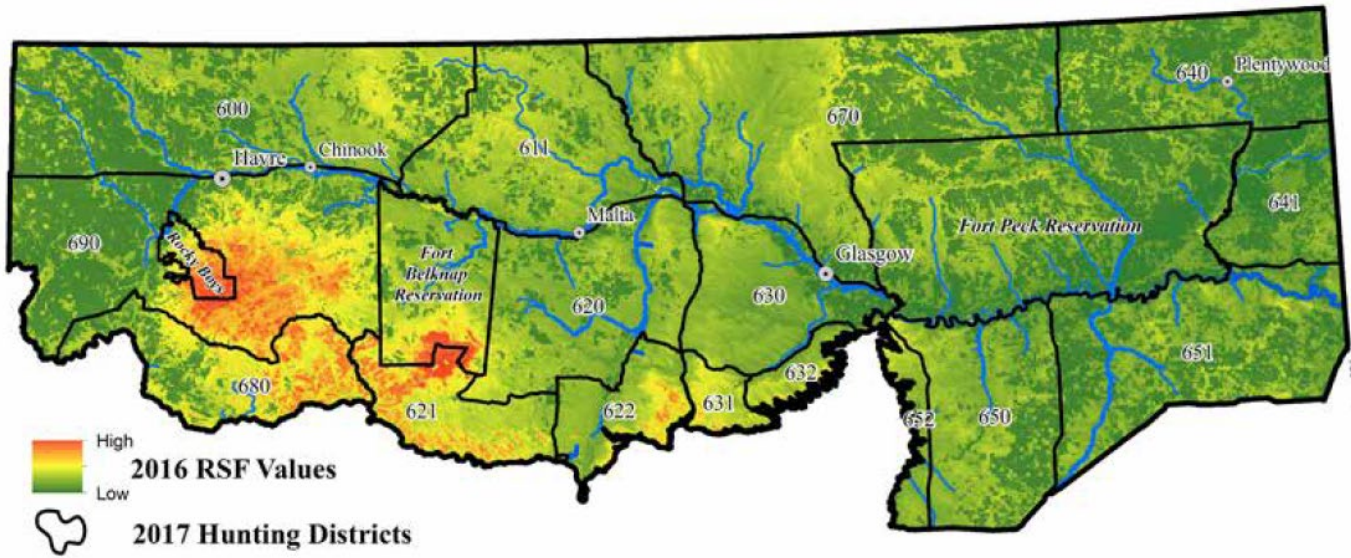


Figure 5. FWP Region 6 mountain lion winter resource selection function (RSF) and hunting districts in 2016-17. An RSF model represents the relative probability that an animal will select a particular place or resource and generally describes the overall quality of lion habitat. High = High probability of use; High quality habitat; Low = Low probability of use; Low quality habitat. (Mountain Lion Monitoring & Management Strategy 2019).

6. 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 the past 10 years, the topic of splitting LMU 690 has come up many times from houndsmen and landowners. Most of these supporters are local to the LMU 690 area and regularly chase lions in Region 6. There have been some discussion on whether to split the LMU East-West or North-South, which is what is being proposed here by splitting LMU 690 (North) and LMU 680 (South).

We brought up this proposal at the Annual R6 Houndsmen Meeting in March 2023 and they were in support of the LMU split. They mentioned that it might help to spread out houndsmen during the early season, which could extend the harvest season. Additionally, since the Bear Paws (proposed LMU 690) are mostly private land, they were in support of splitting the LMU so there would be more opportunity to harvest a lion on public land, without the race to fill the quota.

The proposal was scoped during the season setting scoping period and heard no comment.

Submitted by: Nicole Hussey – Region 6

Date: 7/28/2023

Approved: _____
Regional Supervisor / Date

Disapproved / Modified by: _____
Name / Date

Reason for Modification: