WYOMING MOUNTAIN LION MORTALITY REPORT

HARVEST YEARS: 2019–2021

1 September, 2019 – 31 March, 2022

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Lander, WY

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INTRODUCTION

The following report contains a synthesis of material related to mountain lion management for Wyoming from 1 September 2019 (Harvest Year [HY] 2019) through 31 March 2022 (HY 2021). The results represent an analysis of the current (5th) 3-year cycle of mountain lion management in Wyoming since Commission approval of the Wyoming Game and Fish Department (WGFD) Mountain Lion Management Plan in 2006 (WGFD 2006). Data is summarized for Mountain Lion Management Units (MLMU) or Data Analysis Sub-units (DAU; units within the large West MLMU) and presented by hunt area to estimate local sub-population function. Statewide population-level harvest data are synthesized by trend data from the hunt area and management unit levels. These data are intended to assess trend of mountain lion population status and to evaluate the efficacy of management strategies. These management strategies relate to mountain lion mortality, population status and viability, as well as how harvest relates to other issues pertaining to mountain lion ecology in Wyoming. Tabulated data applicable to the current management cycle is also provided in Appendices D & E.

Mountain lion mortality data were gathered annually from 32 hunt areas grouped into 5 MLMUs (Figure 1). The boundaries of MLMUs encompassed large areas with contiguous habitat and topographic features indicative of high quality mountain lion habitat which represent landscape-level mountain lion populations. Within hunt areas, mortality limits are developed based upon the desired local population trend. If a mortality limit was reached, the hunt area automatically closed; otherwise hunt area closure occurred at the end of the harvest season.

During mandatory inspections of harvested animals, many variables were recorded including: harvest date, location, sex, lactation status, estimated age, number of days spent hunting, use of dogs, other lions observed, as well as several other parameters. Skulls and pelts were generally presented in unfrozen condition so teeth could be removed and to provide evidence of sex and lactation status. Lactation status was used to determine age class for female mountain lions. The information gathered during inspection was used to assess sex/age structure of harvested animals. In addition to harvest data, all known mortalities were documented and quantified to better assess trends related to mountain lion mortality and determine a total influence related to human-caused mortality of mountain lions throughout Wyoming.

The Wyoming Mountain Lion Management Plan supports an adaptive management process, enabling Department personnel the ability to evaluate management changes as they occur by sustaining mountain lion populations in core habitat at varying densities depending on management objectives across the State. For more in-depth explanation of data analysis techniques, harvest criteria, and discussions on statewide mountain lion management, access the Mountain Lion Management Plan (WGFD 2006) available from the Large Carnivore Section or through the WGFD Website: http://wgfd.wyo.gov.

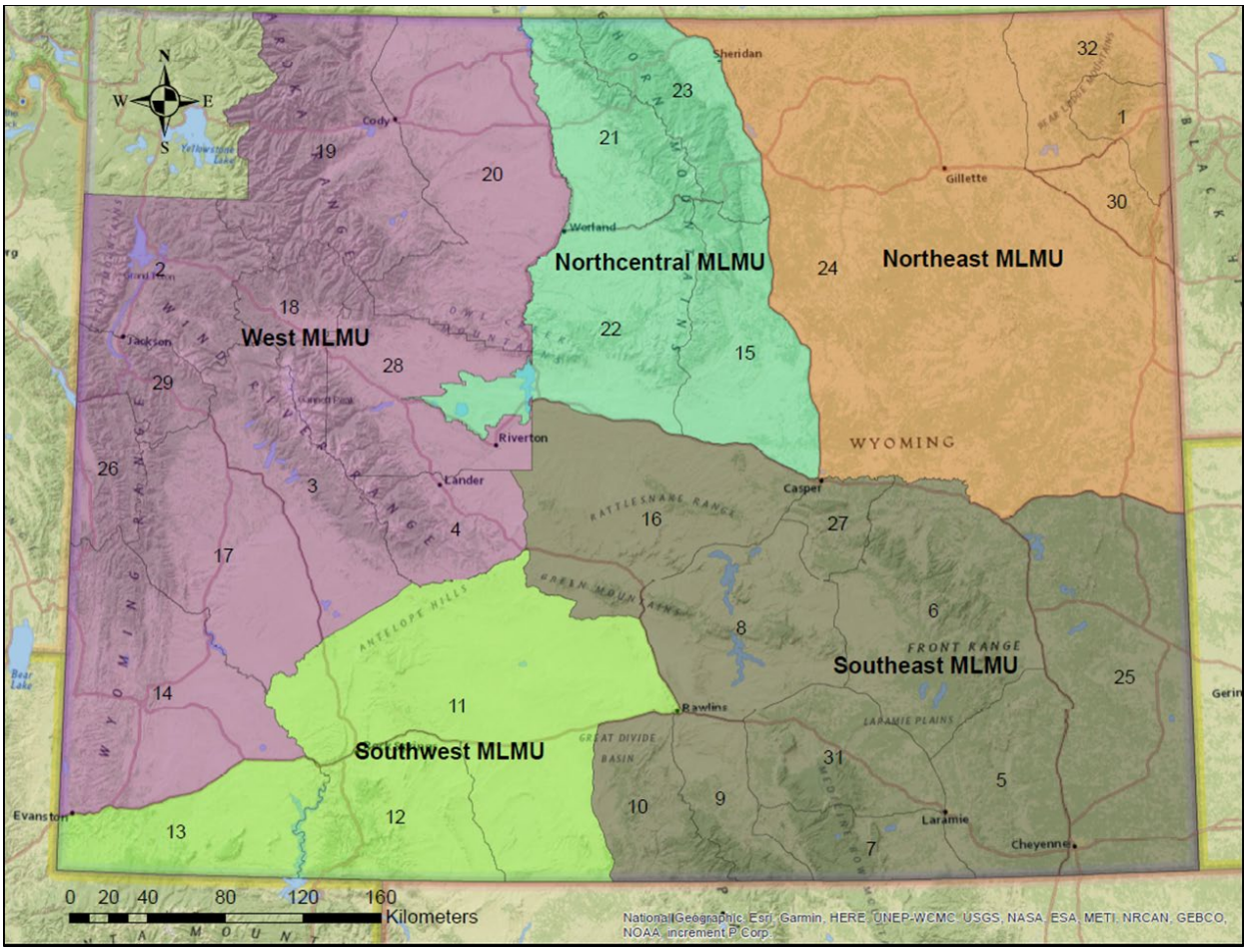


Figure 1. Hunt area and mountain lion management unit map for mountain lions in Wyoming, HY2019-HY2021. Due to the large size of the West MLMU, this unit is separated into 3 Data Analysis Units (DAUs) including the Absaroka DAU (HAs 19 and 20), Wind River DAU (HAs 3, 4, 18, and 28), and Wyoming Range DAU (HAs 2, 14, 17, 26, and 29).

WGFD does not estimate mountain lion abundance or densities to manage populations. Rather, population trends are assessed through sex and age composition of mortality data (Anderson and Lindzey 2005) and an evaluation of the total mortality documented in relation to overall suitable mountain lion habitat. The density of mortality quantified by habitat is the driver of the monitoring criteria used to evaluate management. Management objectives for MLMUs and hunt areas are determined by balancing mountain lion life history and ecology, public input, and biological requirements for sustainable mountain lion populations across the landscape. If observed trends are consistent with objectives set forth for each hunt area, changes in mortality limits are not necessary. However, if trends deviate from hunt area objectives, mortality limit fluctuations may be recommended for the next 3-year management cycle. The 3-year management cycle is utilized in order to allow enough time for mountain lion populations to respond to management changes and to identify trends from data collected.

WGFD utilizes a regional management schematic based on source/sink/stable population dynamics (CMWG 2005) for managing mountain lions. These terms were developed by

researchers and managers based on natural movements and populations of mountain lion populations at a landscape level, where source management is akin to low levels of human-caused mountain lion mortality in order to allow for natural emigration of mountain lions. Conversely, the objective of sink management is to reduce a local population. As in all facets of wildlife management, quantification of categorical data does not necessarily fit a black and white viewpoint, but rather is more indicative of a color spectrum; therefore categorization of hunt areas occurs on a continuum from Source → Sink based on documented mortality levels and population composition. Managing for a combination of increasing, stabilizing, or decreasing mountain lion subpopulations within MLMUs (i.e., at the hunt area level) provides flexibility to address local management concerns, while maintaining overall population viability at a landscape level. The Wyoming Mountain Lion Management Plan suggests managers strive toward a combination of Source, Stable, and Sink hunt area objectives in order to maintain population viability at landscape (i.e., MLMU) and statewide levels (WGFD 2006). Hunt area management objectives include:

1. Sink management: REDUCE local mountain lion densities.
    a) Maintain density of human-caused mortality >8 mountain lions/1,000 km^2 (386 mi^2) suitable habitat.
    b) Achieve adult female harvest >25% of total harvest for 2 seasons.
    c) Progression in mean age of harvested adult females should decline to <5 years old.
2. Stable management: STABILIZE local mountain lion densities.
    a) Maintain human-caused mortality density between 5-8 mountain lions/1,000 km^2 (386 mi^2) suitable habitat.
    b) Adult female harvest should not exceed 25% of total harvest for more than 1 season.
    c) Maintain intermediate aged adult females (mean approx. 4-6 years old) in the harvest. Adequate age evaluation may require averaging age data over time to achieve meaningful sample sizes.
3. Source management: MAINTAIN OR AUGMENT local mountain lion densities.
    a) Maintain density of human-caused mortality <5 mountain lions/1,000 km^2 (386 mi^2) suitable habitat.
    b) Maintain adult female harvest <20% of total harvest.
    c) Maintain older-age adult females in the population (>5 years old). This will be difficult to identify without additional sampling due to low sample size from harvest, but would be expected for lightly hunted populations.

It is important to note that monitoring criteria (#1 - mortality density, #2 - proportion of adult females in the harvest, #3 - average age of adult females harvested) used to assess population status cannot be used singly when evaluating management objectives. Density of human-caused mountain lion mortality, when coupled with percentage of adult females harvested and their subsequent age, is the most effective way to assess if a hunt area is moving toward a desired management direction over a 3-year period. The quantification of hunt area status is derived from an assessment of the 3 monitoring criteria in combination and additional pertinent data related to immigration/emigration from adjacent lion populations and habitat availability. Finally, the Large Carnivore Section (LCS) continues to collect new harvest information (e.g., tooth laboratory results), correct any errors, incorporate compelling data sources, and update

habitat estimates. Therefore, information in this report supersedes previous reporting as the most current and up to date information on mountain lion management in Wyoming.

Acknowledging that managers rarely have precise information to measure success of management objectives, that mountain lion densities vary regionally, and that the criteria proposed here are general guidelines; these criteria should be compared to one another and applied adaptively to evaluate efficacy of management prescriptions. Applying management objectives in an adaptive management framework, where density of human-caused mortality, harvest composition, and age of harvested adult females are monitored relative to expectations (criteria above) allows assessment of whether or not management objectives are being achieved and if management strategies need to be modified to produce desired outcomes.

Relevant Changes Implemented for the 5th Management Cycle (HY2019 – HY2021)

It is important to note changes that have occurred in management criteria and regulations that impact mountain lion management in the state. Scientifically assessing and quantifying the impacts of harvest on mountain lion populations, in addition to how lion management actions relate to other issues relevant to wildlife management in Wyoming are essential for sound decision making. Evaluating and adapting management strategies (adjustment of mortality limits, season length) is the basis of adaptive harvest management. Primary changes related to general harvest regulations incurred for HY2019-2021 were:

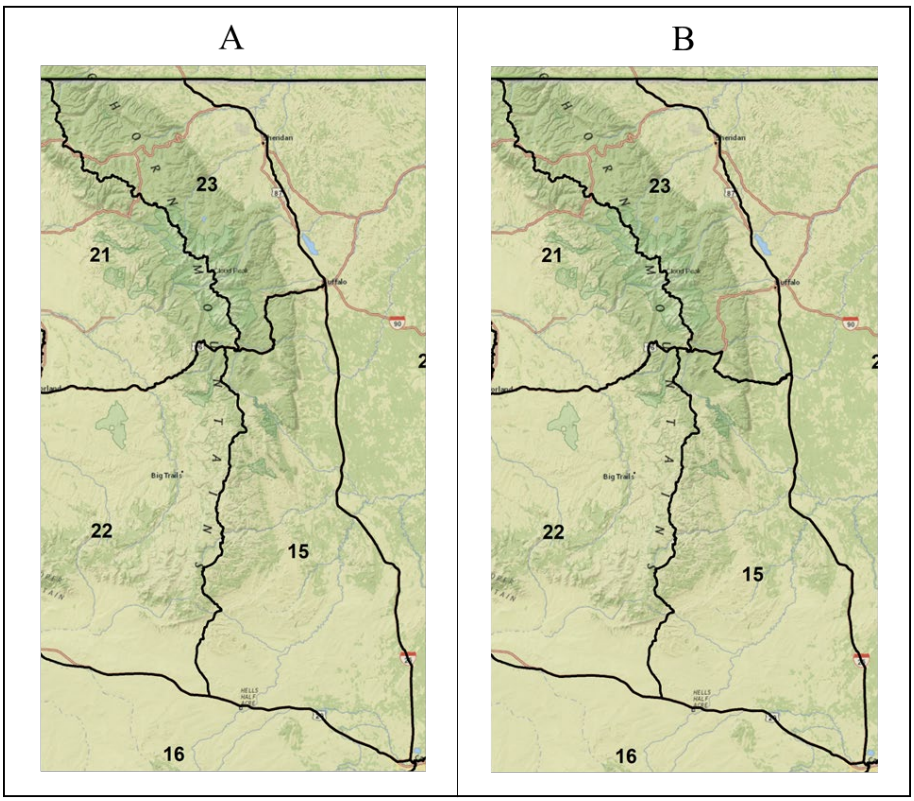


Figure 2. Previous boundary between hunt area 15 and hunt area 23 (A) and changes implemented before the HY2019 – HY2021 season cycle (B).

- Slight boundary changes impacting hunt area 15 and hunt area 23 within the Northcentral Management Unit (Figure 2). Boundary changes were implemented to focus harvest pressure within hunt area 15 more specific to areas that incur livestock depredation. Therefore, the southern border of hunt area 23 was slightly extended south to encompass more suitable habitat and areas without active livestock grazing.

- Edits were made within the Mountain Lion Hunting Regulations to include language for instances of captured and released mountain lions.

> Section 3 (i) No person shall knowingly take a mountain lion caught in a trap or snare within twenty-four (24) hours after the mountain lion is released from a trap or snare.

MOUNTAIN LION HUNT AREA ASSESSMENTS

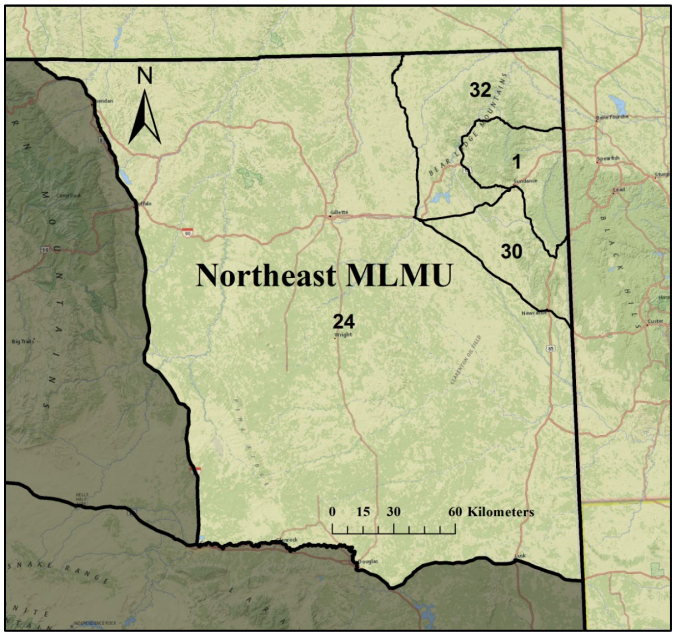
Detailed hunt area metrics and information are represented as standard panel figures by hunt area. These panels are intended to provide trend data by harvest year (HY), and include the primary mountain lion monitoring criterion #1- #3 as well as other pertinent information that lends to determining hunt area function (Table 1). Due to the large amount of information provided in this report, panel figures are not indexed within the Table of Contents.

Table 1. Description of panel figures used to assess local hunt area trends. Monitoring criteria thresholds are shaded green = Source, blue = Stable, and red = Sink indicative of local population function. Red crosses throughout figures indicate the 3-yr cycle average. Shaded regions reflect data acquired prior to significant spatial changes to a hunt area or where new hunt areas were established, rendering earlier data no longer applicable for assessment.

Mountain lion mortality and harvest limits*	Mortality density – human-caused mortality/1000 km^2 habitat (Criterion #1)
% Adult females harvested (Criterion #2)	Average age of adult females harvested (Criterion #3)
Age/sex composition of harvest	Mean age of harvested animals
% Males in harvest (5+ years)	Resident/non-resident harvest

* Some areas allow unlimited harvest, and are therefore represented by the last applicable and numerical harvest limit.

NORTHEAST MLMU



Overview

The Northeast MLMU continues to demonstrate high mortality, with regional objectives to suppress mountain lion densities in northeast Wyoming. Field personnel report mountain lion densities began to show apparent declines at the end of the 3rd management cycle (HY2015). However, social tolerance for mountain lions in northeast Wyoming is generally low, and less than three conflicts have been reported each year in the current cycle across the management unit. Therefore, mortality limits have remained unchanged since 2012. While surrounding HAs 30 and 32 have not reached mortality limits since 2014, HA 1 also did not meet allowable mortality in HY2021. These data indicate that regional objectives to reduce mountain lion densities have been successful, and HA 1, 30, and 32 are classified as Sink hunt areas. It appears from conflict and depredation data that negative interactions between mountain lions and humans/livestock will continue to be generally ameliorated. Immigration from a source population in South Dakota will likely continue to supply young animals into the hunt areas in Northeast Wyoming. Maintaining the regional objective for the northeast MLMU results in limited access to older age classes, but high accessibility to recreational harvest, particularly for resident hunters. This results in a demographically young population, which de facto yields a management strategy similar to that of "recreational" management in ungulates, versus "special" or "trophy" management.

Northeast MLMU

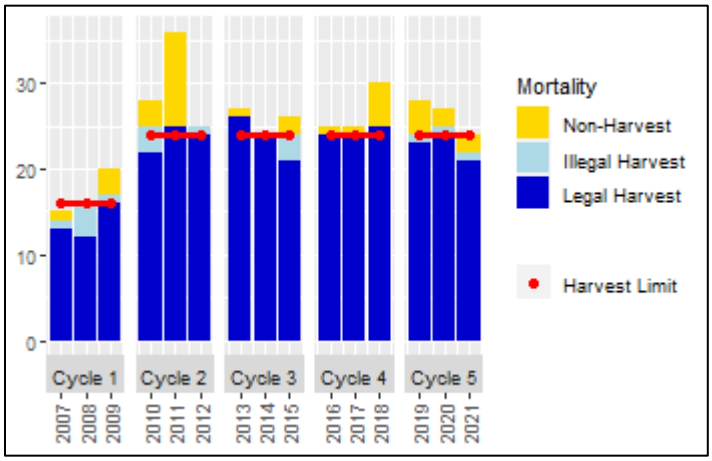
Hunt Area 1.

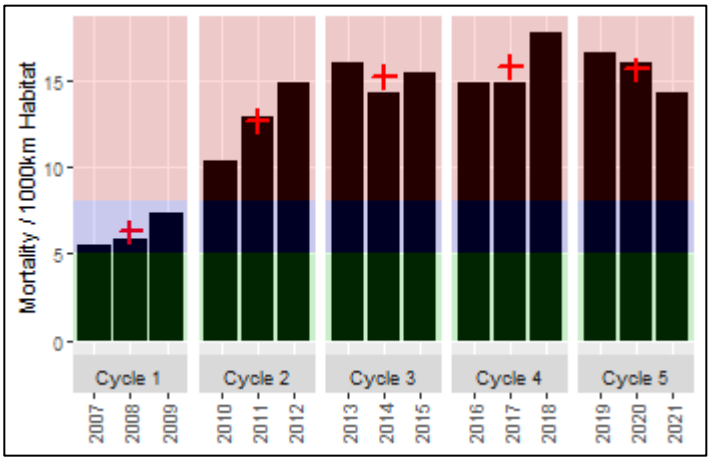
HY2019-HY2021 Regional Objective : Sink management

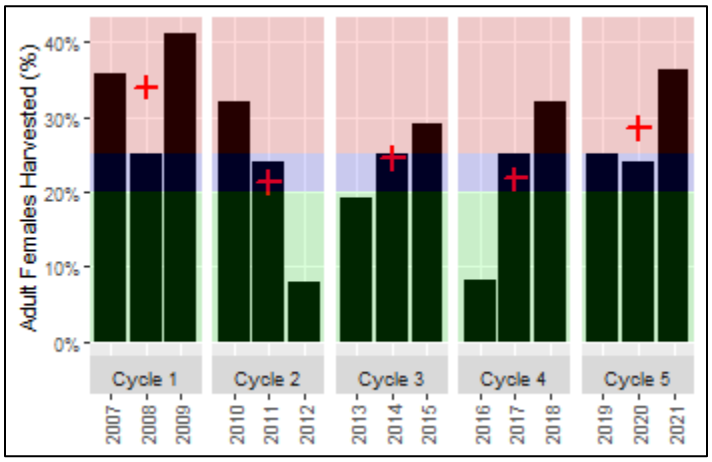
Assessment

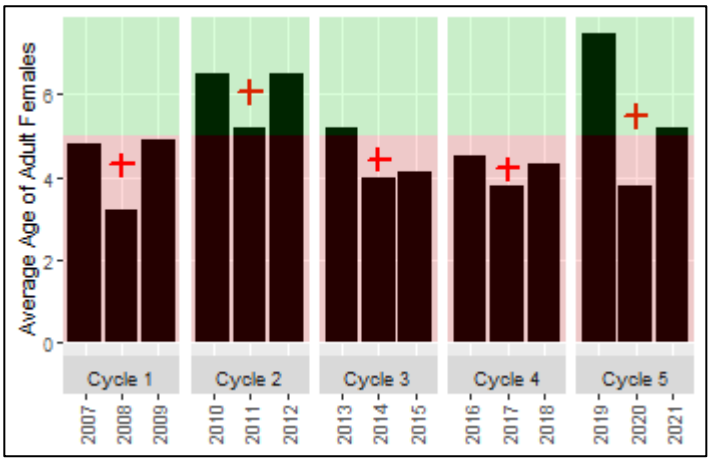
SINK: Mortality densities in HA 1 remain high. HY2021 was the first time mortality limits were not reached before the season closure in nearly 14 years. Trend data indicate HA 1 may be stabilizing an age structure still skewed toward sub-adult population segments, although adult females were also consistently harvested during this cycle. Non-resident hunting is restricted to 4 of the 24 allowable harvests within the area, reducing competition and hunter crowding that increases opportunity for resident hunters. Reported conflicts have been few since HY2012. The regional objective for sink management in this hunt area is being met. HA 1 will continue to serve to maximize hunter opportunity via immigration of young mountain lions from the Black Hills in South Dakota.

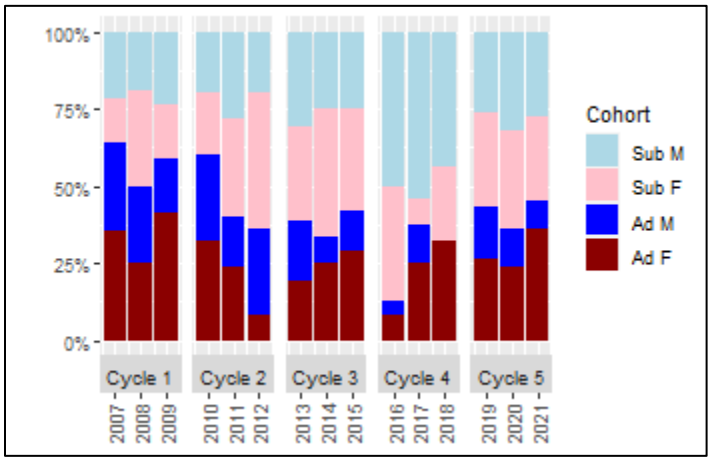
Hunt Area 1.

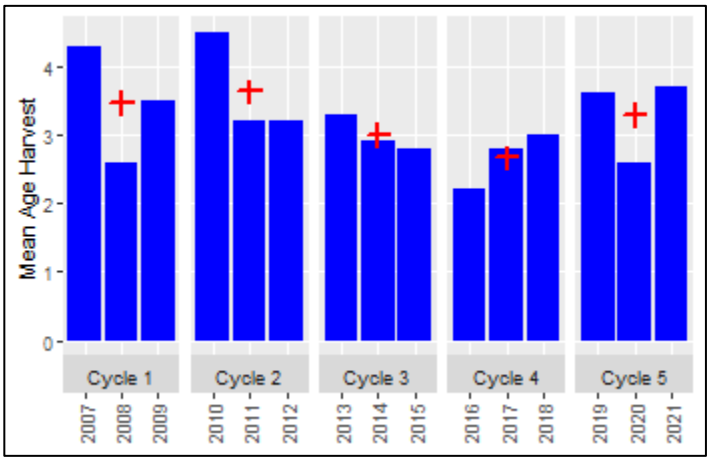

Mortality
Non-Harvest
Illegal Harvest
Legal Harvest
Harvest Limit
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

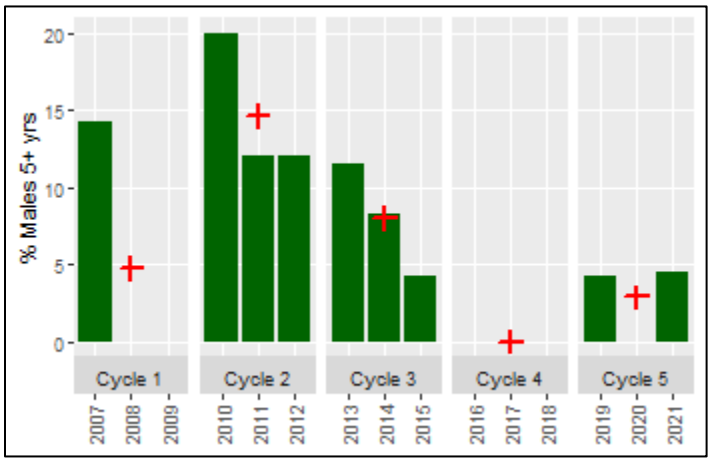

Mortality / 1000km Habitat
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

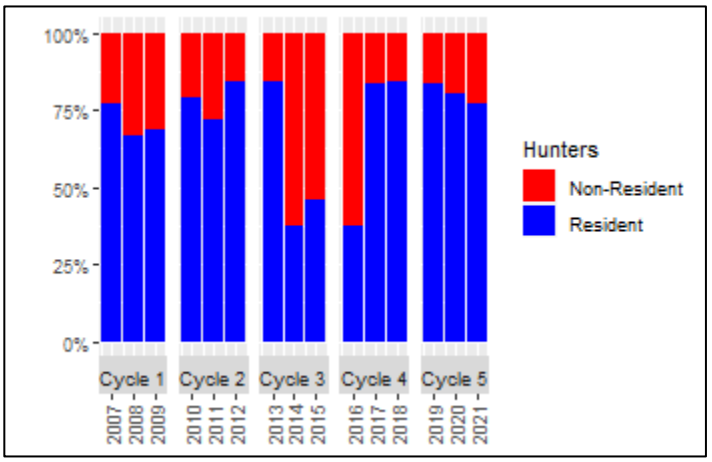

Adult Females Harvested (%)
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Average Age of Adult Females
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Cohort
Sub M
Sub F
Ad M
Ad F
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Mean Age Harvest
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


% Males 5+ yrs
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Hunters
Non-Resident
Resident
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

Northeast MLMU

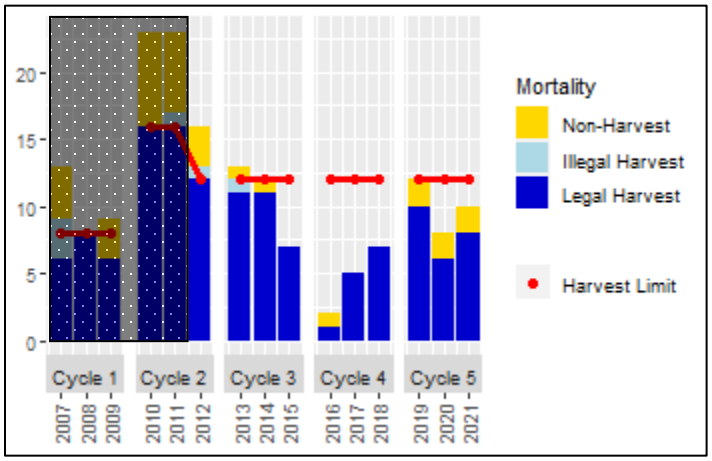
Hunt Area 30.

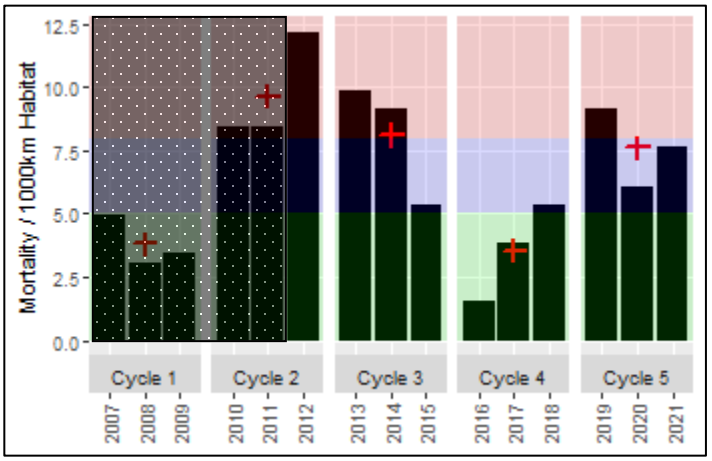
HY2019-HY2021 Regional Objective : Sink management

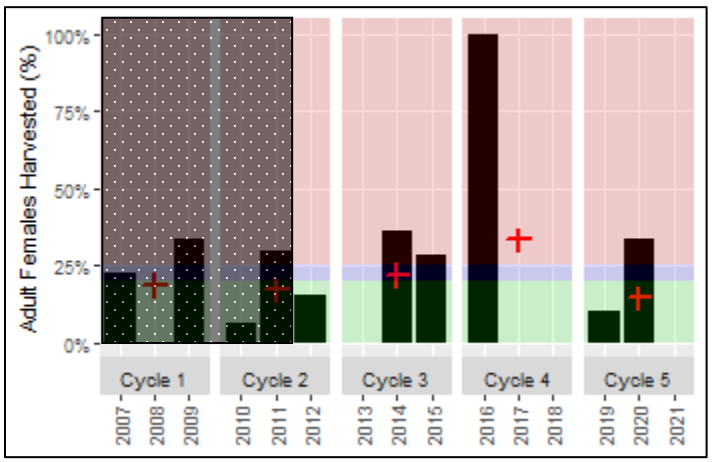
Assessment

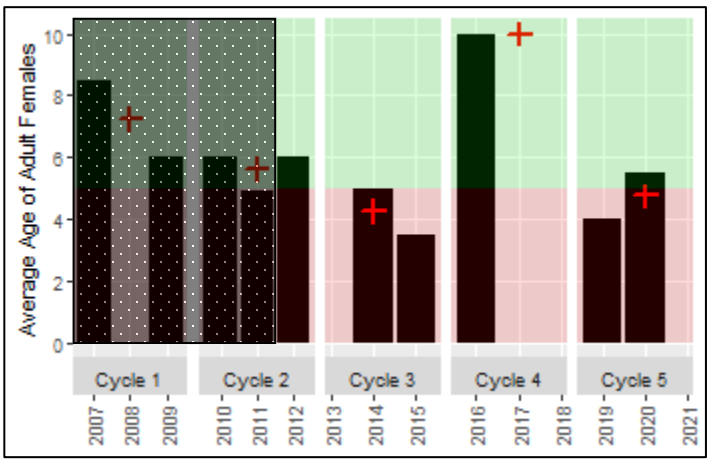
SINK: With lower harvest occurring during the 4th management cycle, the current cycle saw an increase in harvest but still has not reached allowable mortality since HY2013. As in previous cycles, most of the harvest in HA 30 is distributed along the border with South Dakota northeast of Newcastle, WY. Similar to HA 1, mountain lion densities in this area are likely driven primarily by dispersal, but maintaining hunting pressure will likely continue to suppress densities in the area and achieve management objectives for fewer mountain lions. As with HA 1, reported conflicts are low.

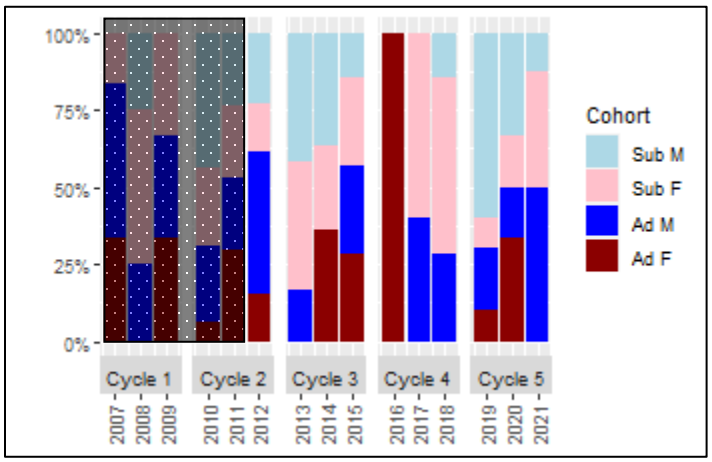
Hunt Area 30.

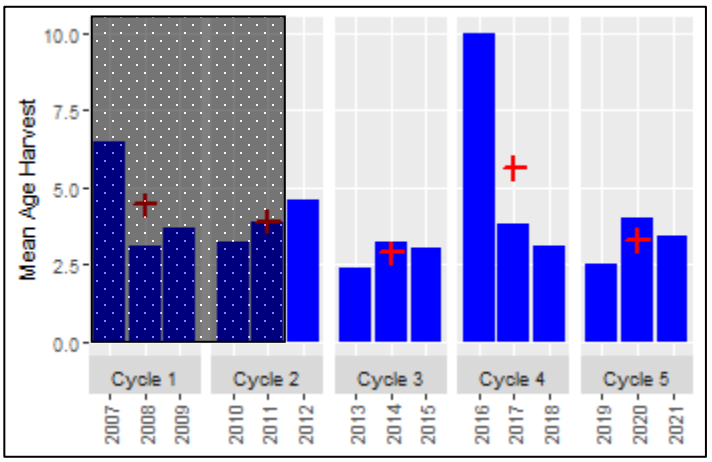

Mortality
Non-Harvest
Illegal Harvest
Legal Harvest
Harvest Limit
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

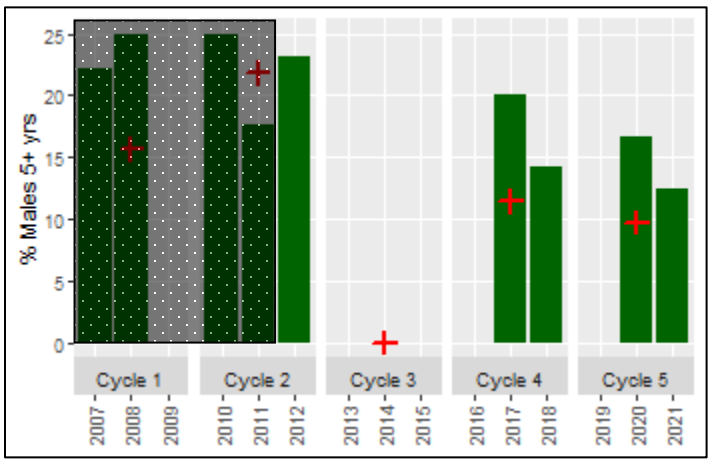

Mortality / 1000km Habitat
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

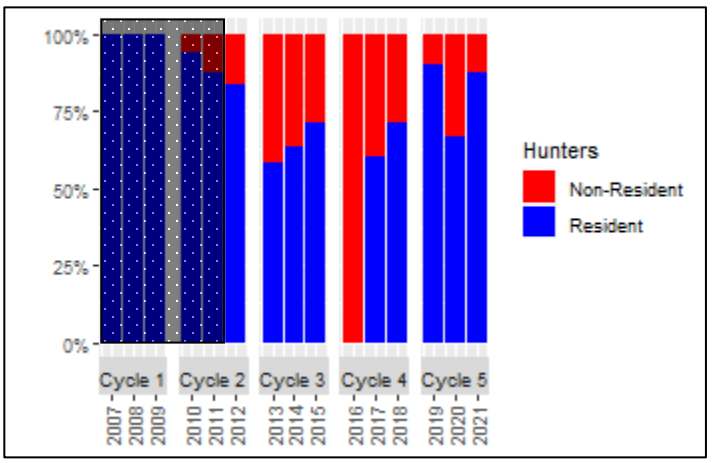

Adult Females Harvested (%)
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Average Age of Adult Females
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Cohort
Sub M
Sub F
Ad M
Ad F
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Mean Age Harvest
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


% Males 5+ yrs
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Hunters
Non-Resident
Resident
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

Northeast MLMU

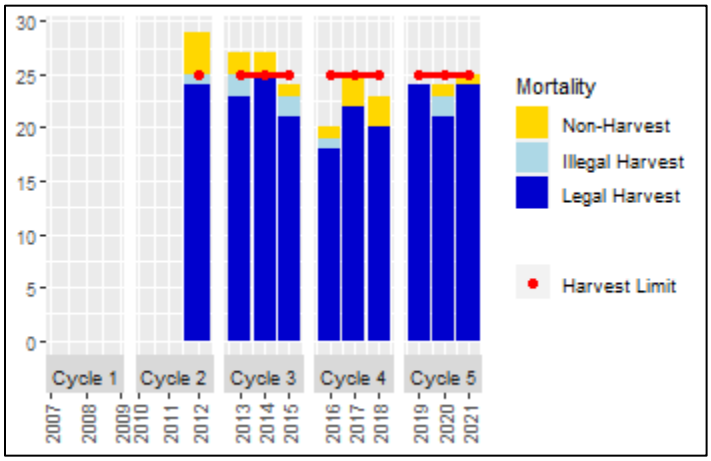
Hunt Area 32.

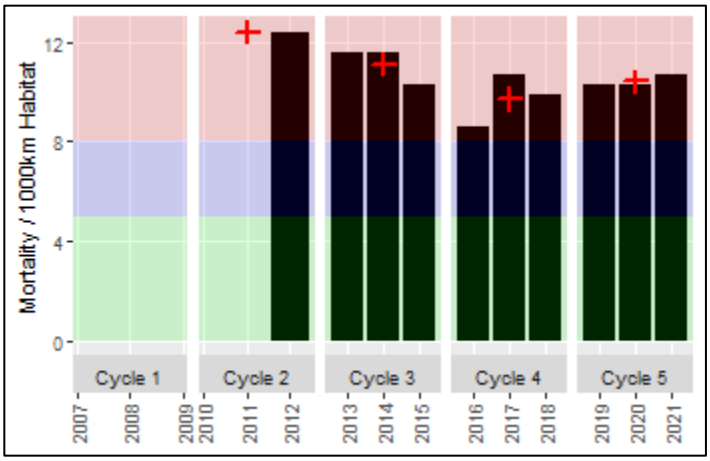
HY2019-HY2021 Regional Objective : Sink management

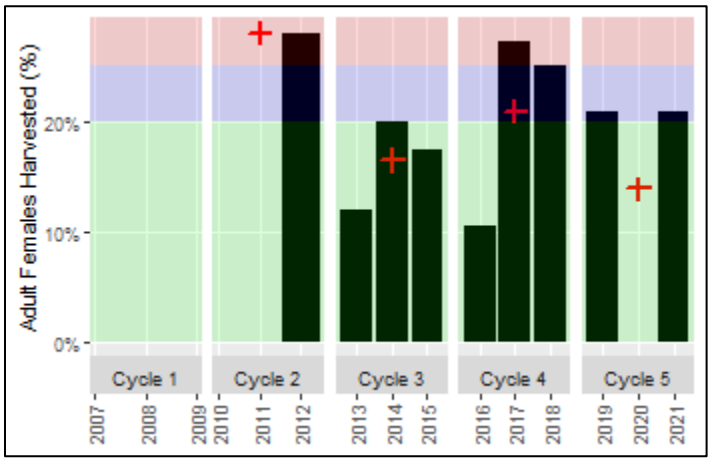
Assessment

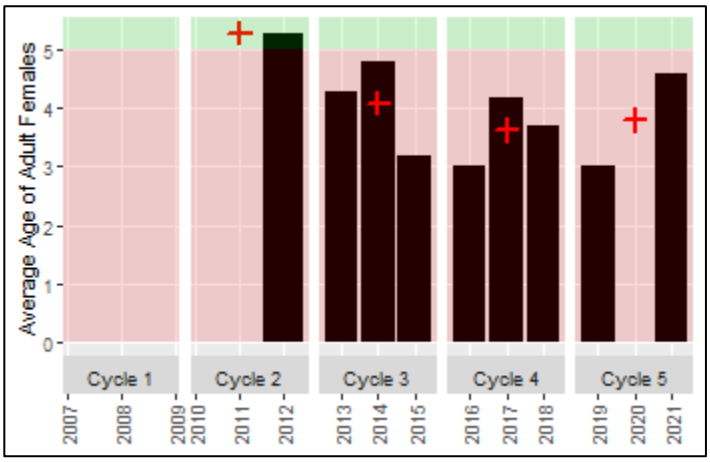
SINK: HA 32 was created from a partition of the northern portion of HA 30 beginning in HY2012, with a regional objective to reduce local mountain lion densities in an area with mostly private land status. HA 32 shows the youngest age structure within the NE MLMU, indicative of dispersing mountain lions on the periphery of the Black Hills. Non-resident hunting pressure remains moderate. Few conflicts were reported during the current cycle, with only two reports of domestic sheep losses. Data indicate the regional objective to direct harvest on to private lands and reduce mountain lion densities are being met.

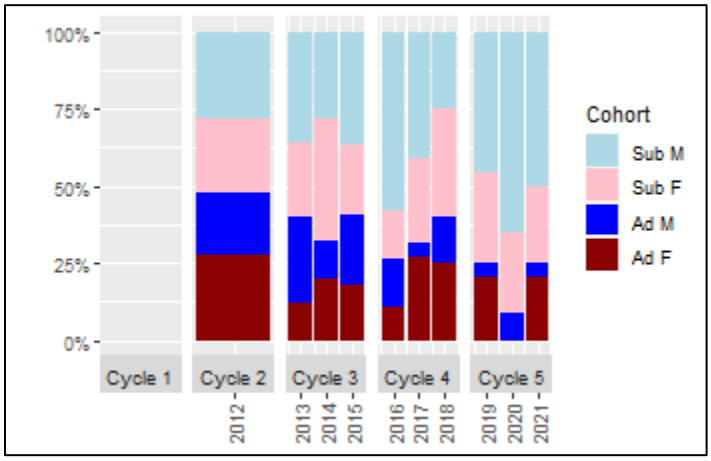
Hunt Area 32.

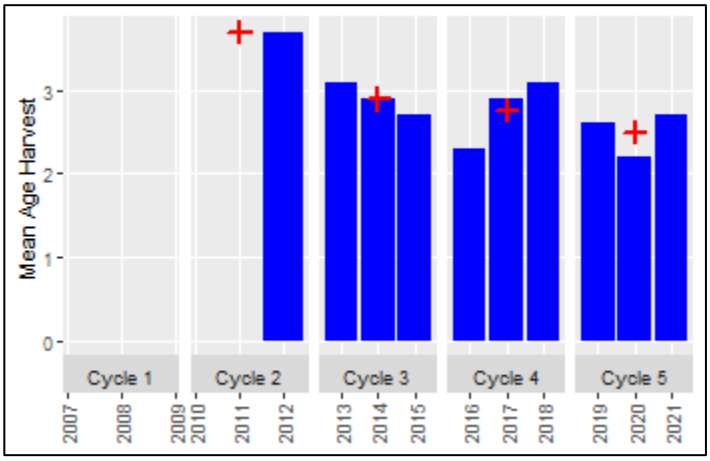

Mortality
Non-Harvest
Illegal Harvest
Legal Harvest
Harvest Limit
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

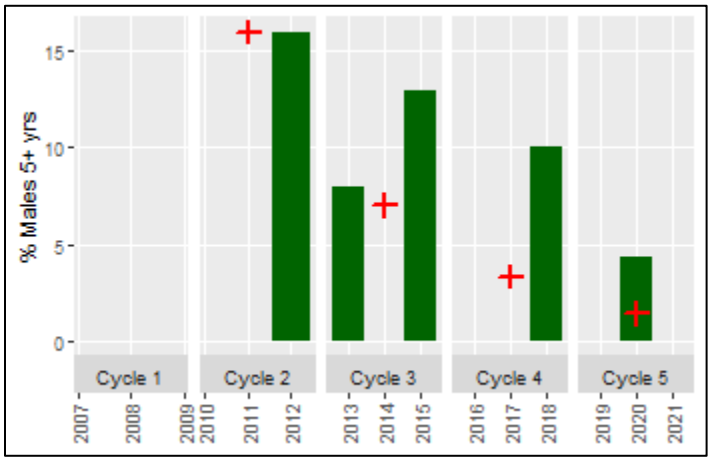

Mortality / 1000km Habitat
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

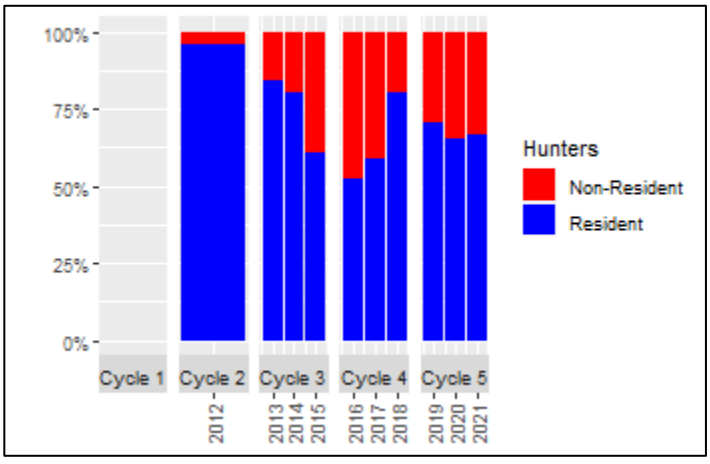

Adult Females Harvested (%)
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Average Age of Adult Females
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Cohort
Sub M
Sub F
Ad M
Ad F
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Mean Age Harvest
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


% Males 5+ yrs
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Hunters
Non-Resident
Resident
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

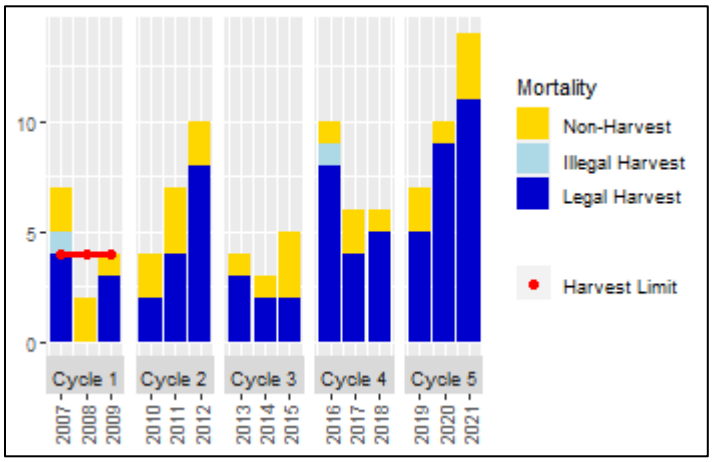
Northeast MLMU

Hunt Area 24.

HY2019-HY2021 Regional Objective : N/A

Assessment

N/A: HA 24 had increased mortality during the 5th cycle. HA 24 allows unlimited harvest, has low levels of dispersed habitat throughout the area, and is not currently managed for population viability. No conflicts have been reported in the last 3-year cycle.



NORTHCENTRAL MLMU

Overview

The Northcentral MLMU has most of the suitable habitat in the southern portion of the unit (~70%), and therefore can sustain higher harvest rates in southern HAs 15 and 22. Elevated harvest occurred in HA 21 and HA 22 compared to previous cycles while HA 23 exceeded a newly established limit that was slightly lowered to maintain stable function. However, HA 15 showed the highest mortality under no restrictions on allowable harvest, resulting in unprecedented mortality densities in two of the past three years. Therefore, the 5th management cycle of this MLMU incurred the highest mortality to date, with three of the last four seasons exceeding 100 animals. Generally, this data indicates the Northcentral MLMU is under population suppression. In the southern portion of the management unit, particularly within HA 15, current cycle mortality levels allow for a continued assessment of mountain lion conflict as well as correlation with ungulate population trends that will be assessed by the Department into the future.

Northcentral MLMU

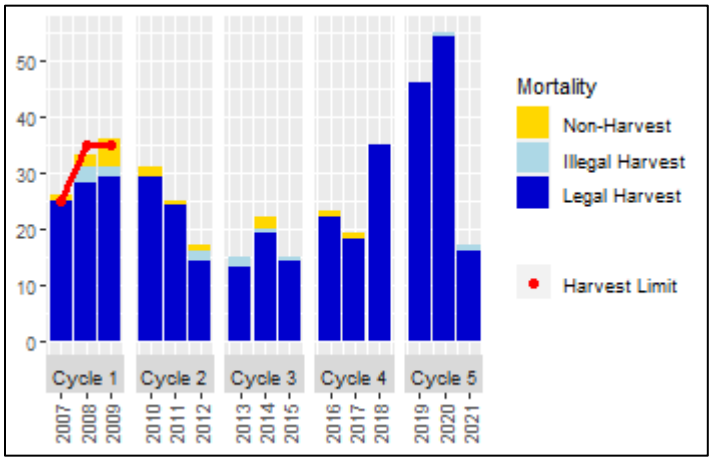
Hunt Area 15.

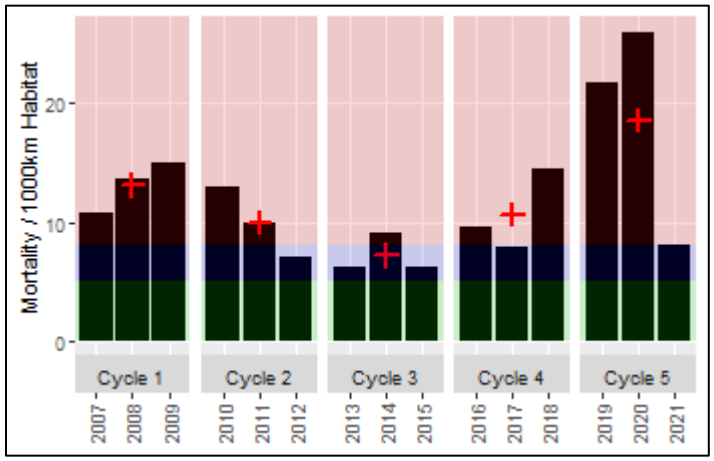
HY2019-HY2021 Regional Objective : Sink management

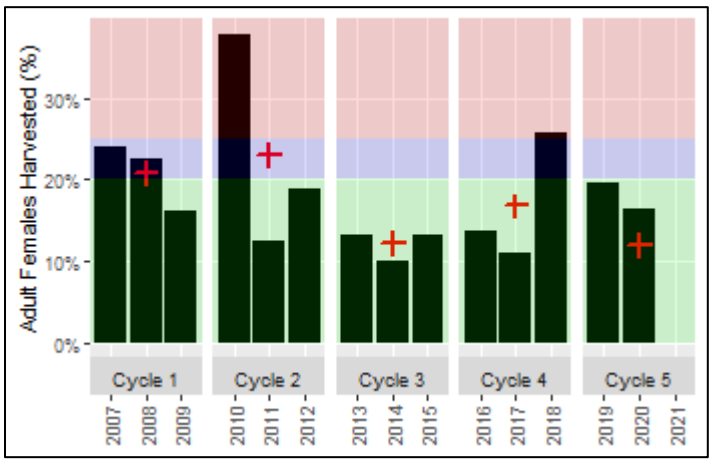
Assessment

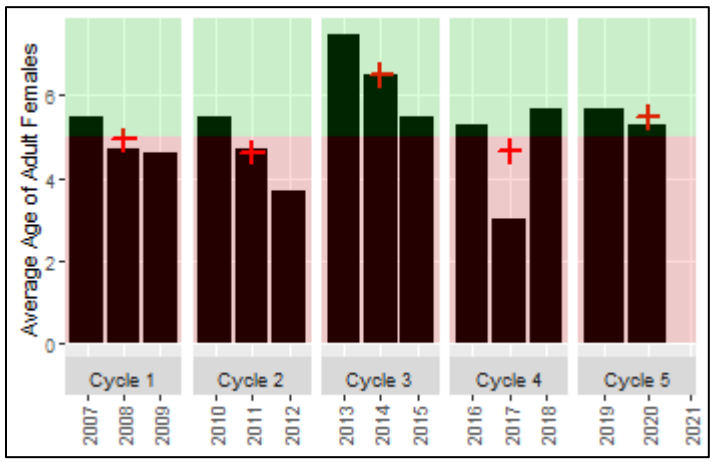
SINK: Updated habitat estimates for HA 15 better align mortality densities with population trend. All reported livestock conflicts in HA 15 are attributed to domestic sheep depredation, which increased during the 4th cycle, and continued early in the 5th cycle. In response, HA 15 incurred the highest mortality densities documented in the state. Intense harvest corresponded with a shift in age structure and reduction in conflicts throughout this cycle, and fewer harvests were reported in HY2021. Hunting conditions during this cycle were also considered excellent, which allowed consistent access and good tracking conditions that also influenced recent harvest levels in the hunt area.

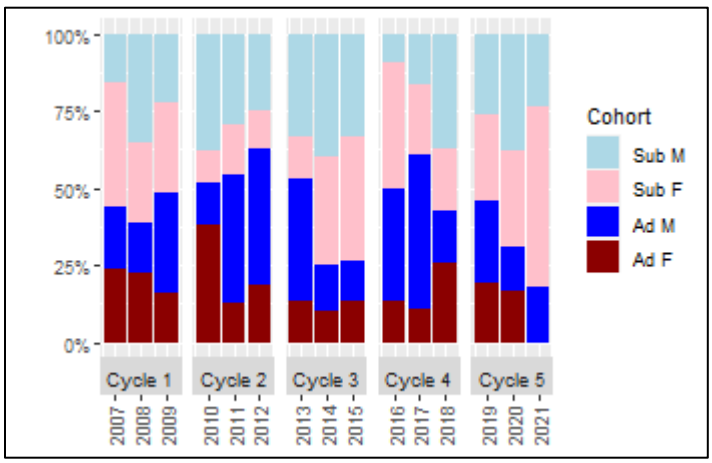
Hunt Area 15.

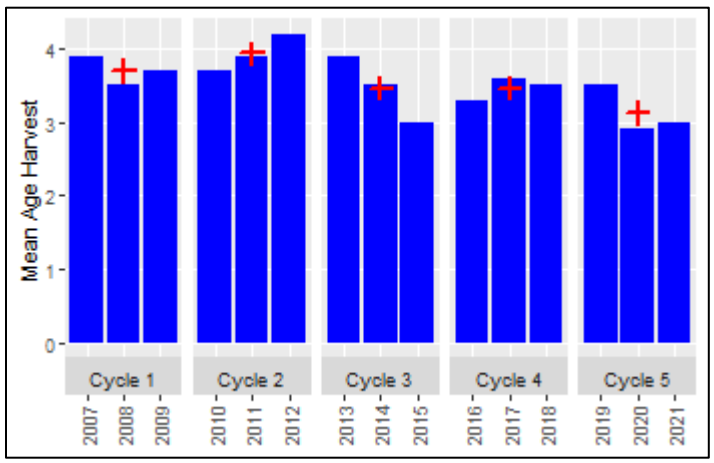

Mortality
Non-Harvest
Illegal Harvest
Legal Harvest
Harvest Limit
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

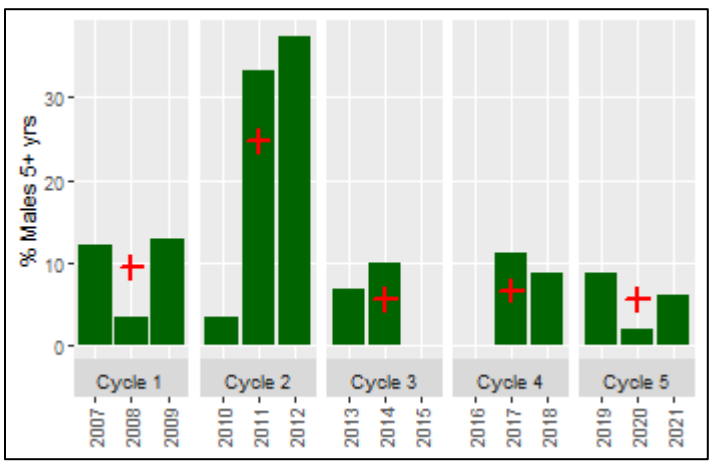

Mortality / 1000km Habitat
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

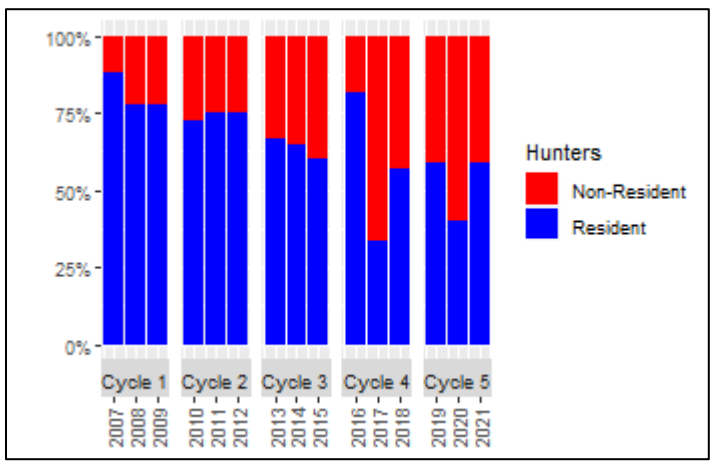

Adult Females Harvested (%)
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Average Age of Adult Females
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Cohort
Sub M
Sub F
Ad M
Ad F
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Mean Age Harvest
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


% Males 5+ yrs
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Hunters
Non-Resident
Resident
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

Northcentral MLMU

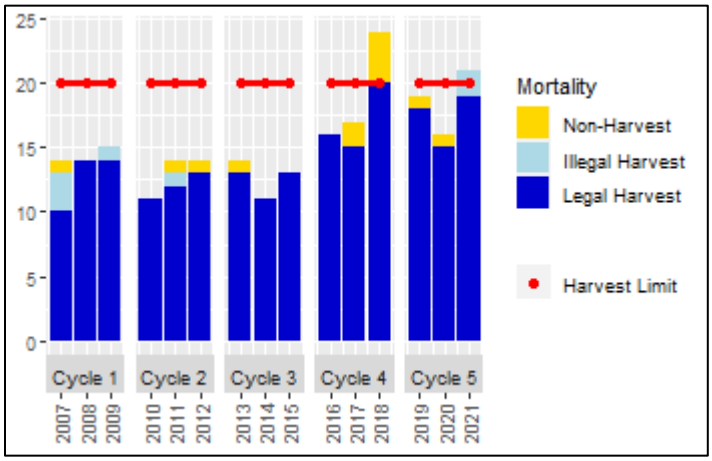
Hunt Area 21.

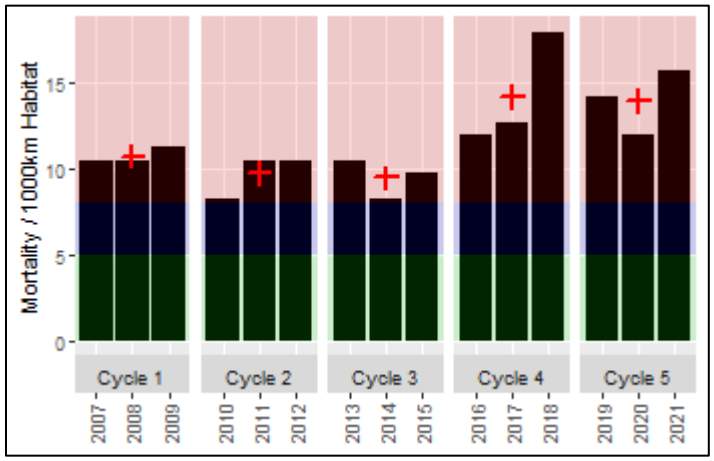
HY2019-HY2021 Regional Objective : Stable/Sink management

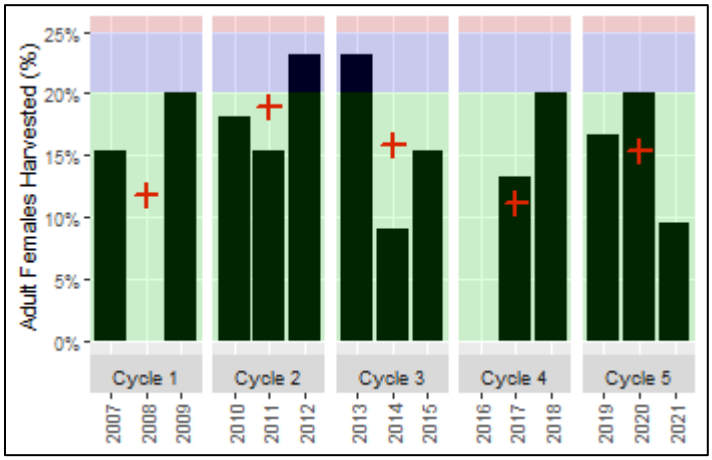
Assessment

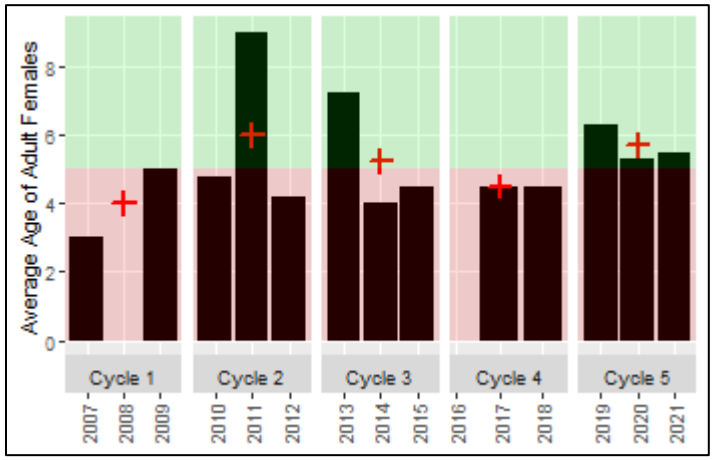
STABLE/SINK: HA 21 has shown increased harvest during the past 2 management cycles, with a few years reaching allowable mortality. Although mortality densities are elevated, proportion of adult females harvested remains low and older aged males are still represented. Overall structure has slightly shifted toward more subadults in the harvest. Harvest is well distributed and aligns well with habitat estimates. Only one conflict was reported during this cycle. Like many areas, weather conditions, terrain, and mountain lion distribution appear to influence harvest levels in HA 21.

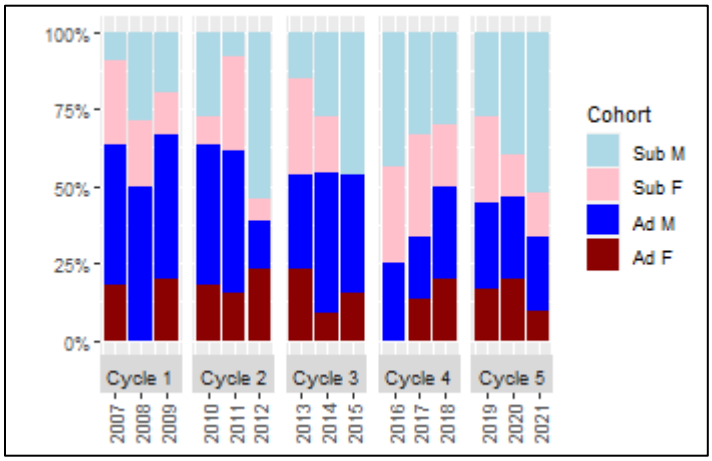
Hunt Area 21.

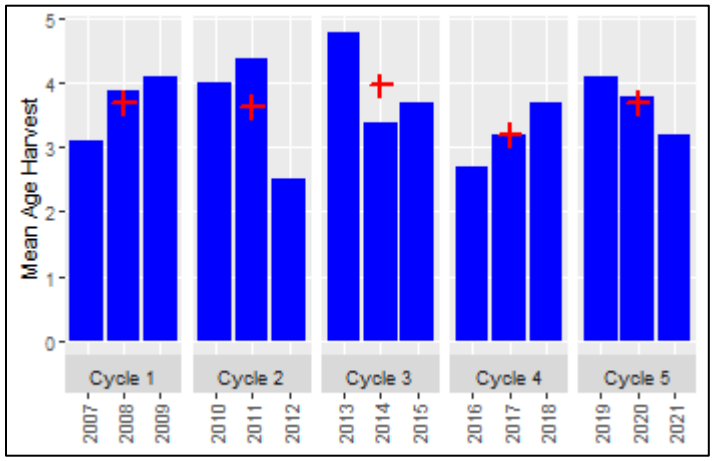

Mortality
Non-Harvest
Illegal Harvest
Legal Harvest
Harvest Limit
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

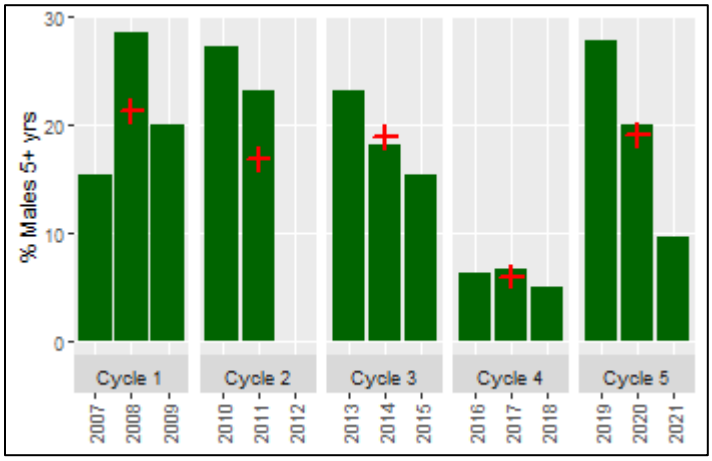

Mortality / 1000km Habitat
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

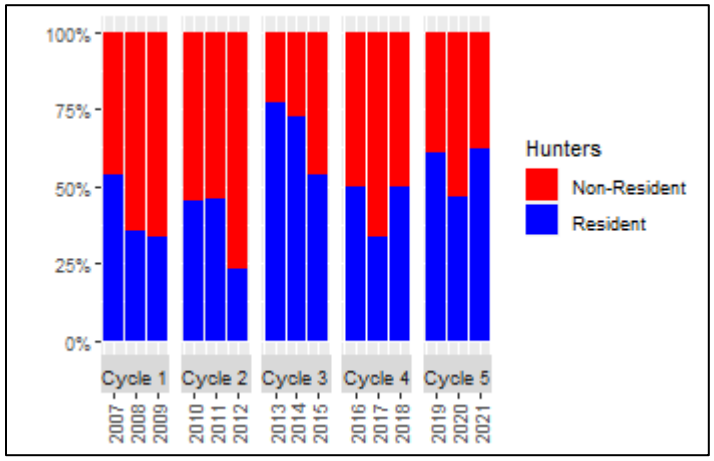

Adult Females Harvested (%)
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Average Age of Adult Females
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Cohort
Sub M
Sub F
Ad M
Ad F
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Mean Age Harvest
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


% Males 5+ yrs
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Hunters
Non-Resident
Resident
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

Northcentral MLMU

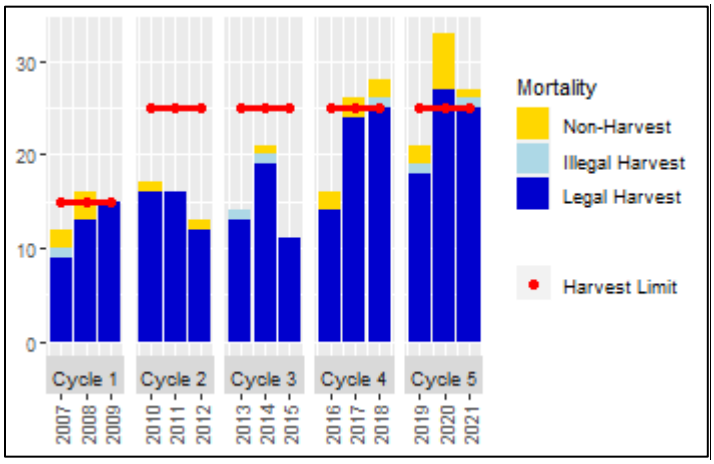
Hunt Area 22.

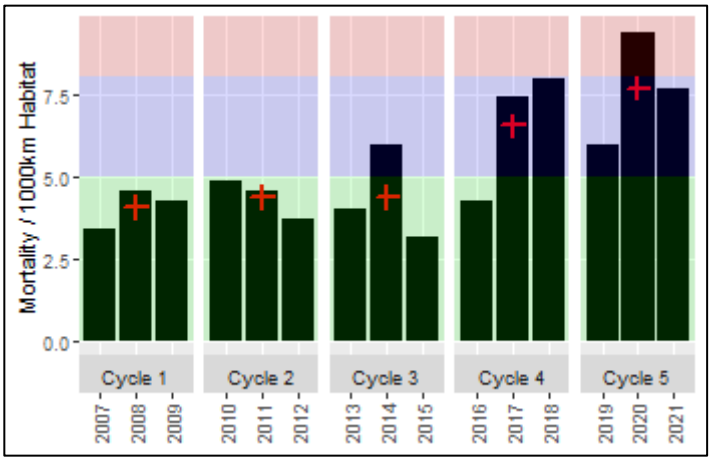
HY2019-HY2021 Regional Objective : Sink management

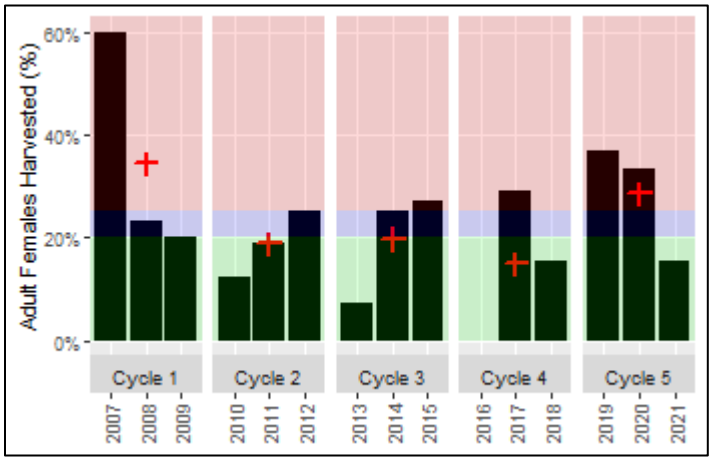
Assessment

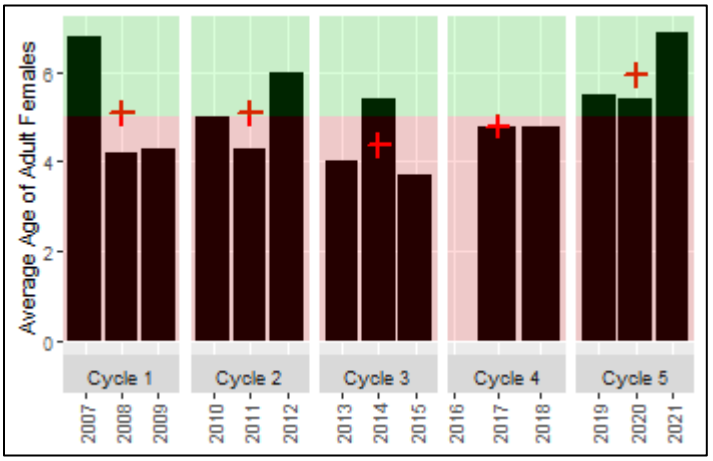
STABLE/SINK: Harvest in HA 22 has maintained higher levels, and elevated adult female mortality was documented in the 5th management cycle. Suitable habitat within HA 22 is probably overestimated. Age structure has shifted toward sub-adult animals and less older-aged males have been seen in the harvest when compared to previous cycles. Domestic sheep conflicts are focused toward the boundary with HA 15, and most of the harvest occurs in the northeast portion of HA 22 where conditions typically allow for earlier access and tracking conditions.

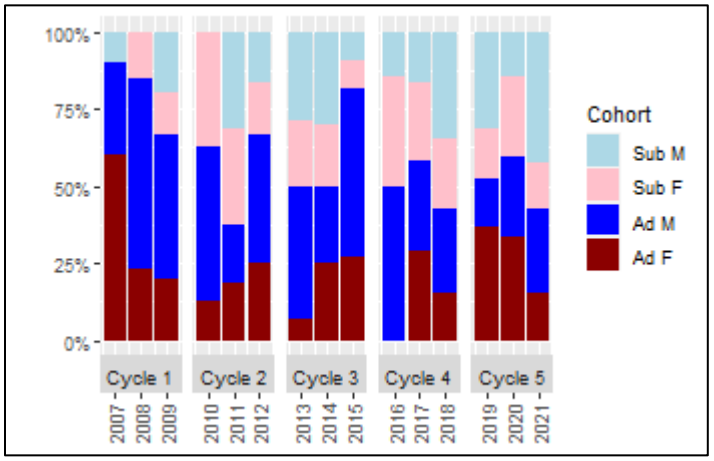
Hunt Area 22.

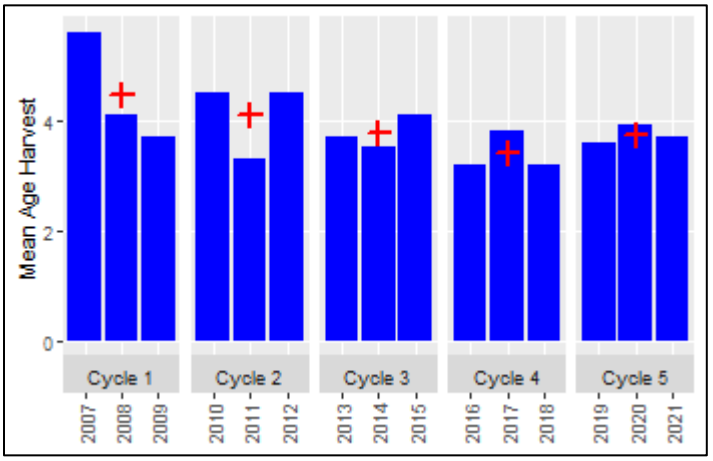

Mortality
Non-Harvest
Illegal Harvest
Legal Harvest
Harvest Limit
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

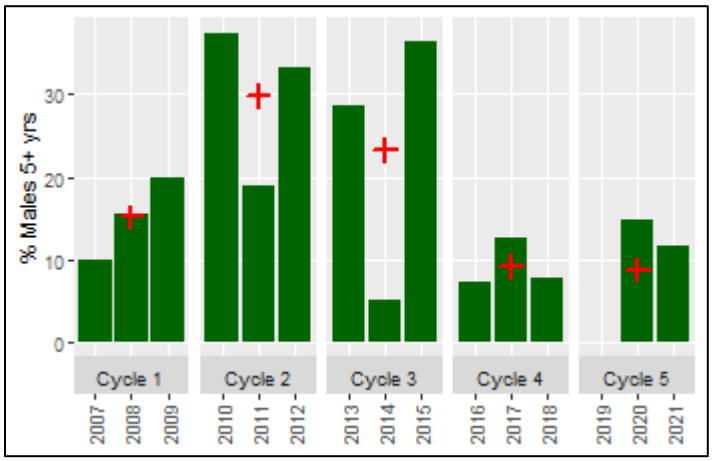

Mortality / 1000km Habitat
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

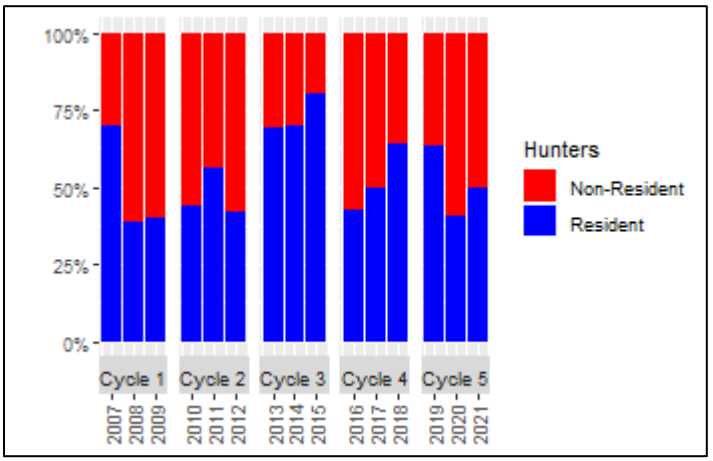

Adult Females Harvested (%)
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Average Age of Adult Females
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Cohort
Sub M
Sub F
Ad M
Ad F
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Mean Age Harvest
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


% Males 5+ yrs
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Hunters
Non-Resident
Resident
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

Northcentral MLMU

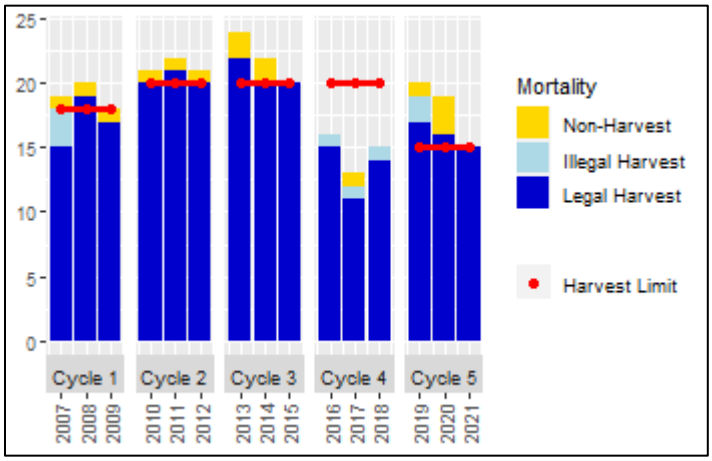
Hunt Area 23.

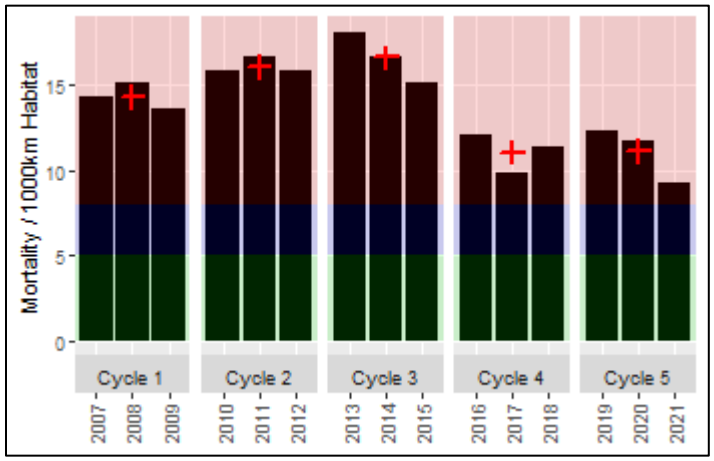
HY2019-HY2021 Regional Objective : Stable management

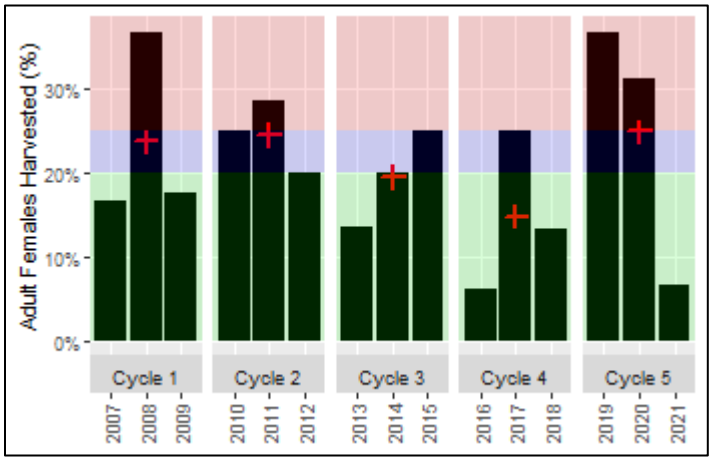
Assessment

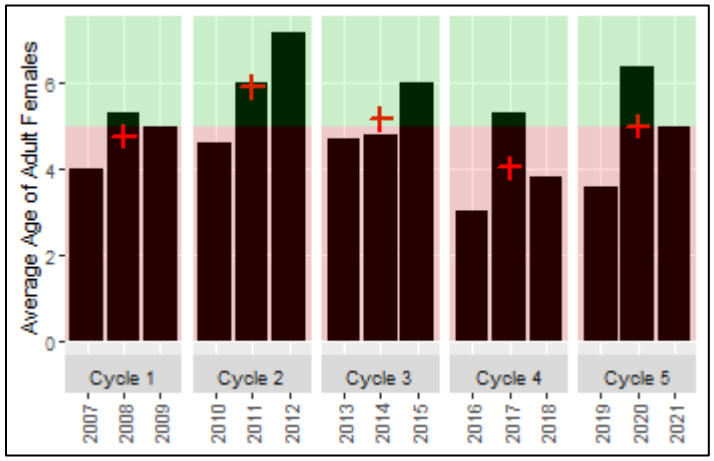
STABLE/SINK: Mortality limits in HA 23 were slightly reduced prior to this cycle in an attempt to maintain stability within the hunt area. This change resulted in mortality densities just above stable range, and similar to HA 21, harvest coincides well with habitat estimates and are well distributed across the area. Adult male mountain lions were well represented during this cycle, although adult female harvest exceeded 30% for two seasons during the 5th cycle, indicating resident mountain lion population suppression. Three conflicts were reported.

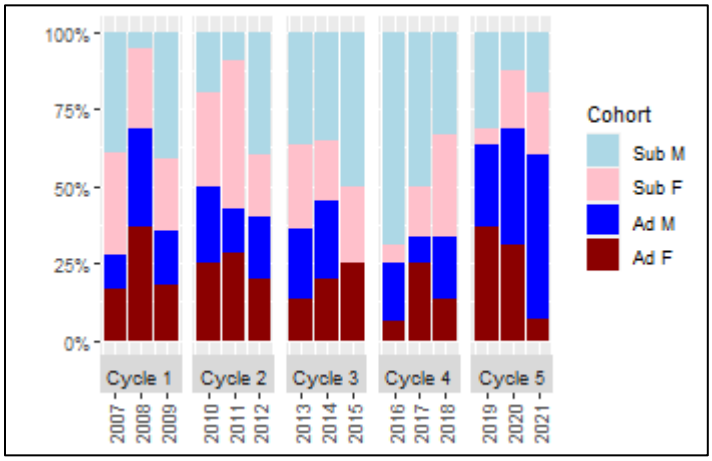
Hunt Area 23.

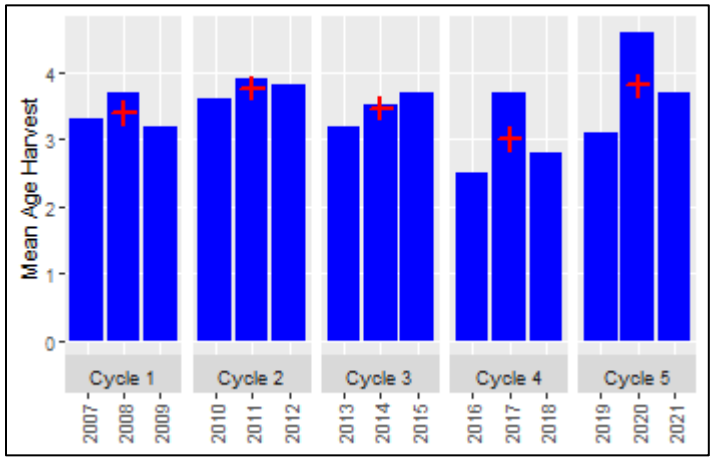

Mortality
Non-Harvest
Illegal Harvest
Legal Harvest
Harvest Limit
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

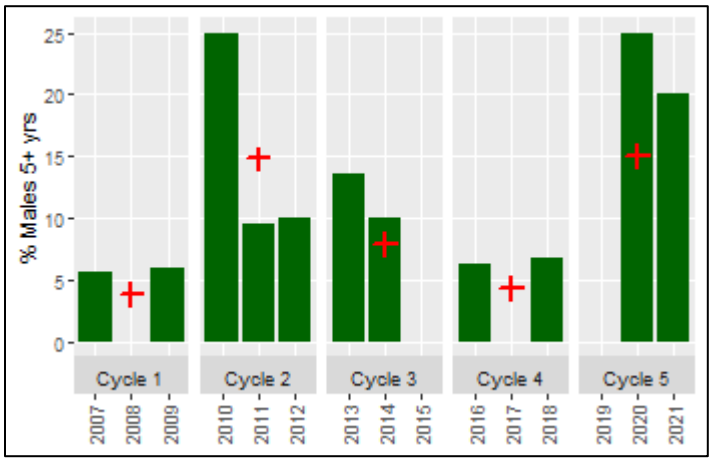

Mortality / 1000km Habitat
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

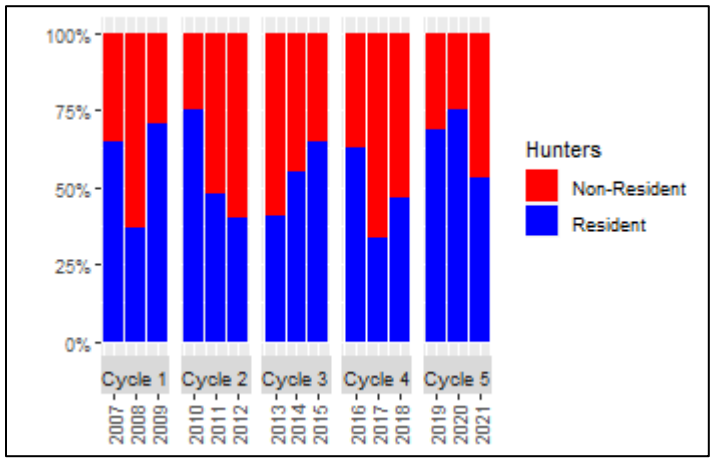

Adult Females Harvested (%)
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Average Age of Adult Females
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

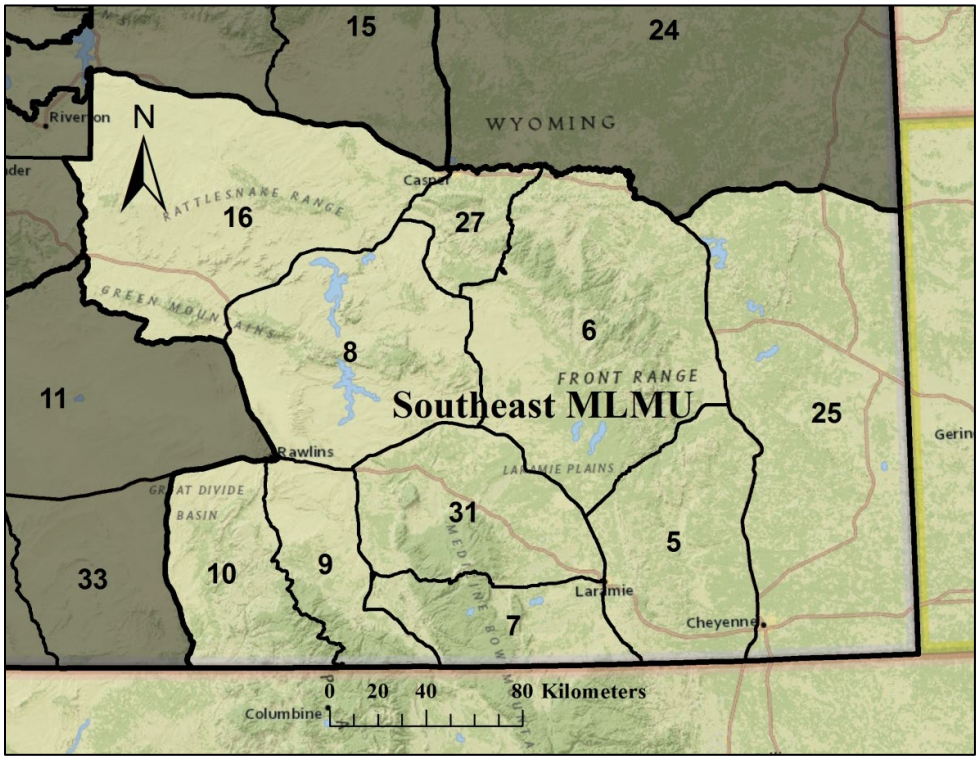

Cohort
Sub M
Sub F
Ad M
Ad F
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Mean Age Harvest
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


% Males 5+ yrs
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Hunters
Non-Resident
Resident
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

SOUTHEAST MLMU



Overview

The Southeast MLMU includes 10 total hunt areas. However, HA 6 and HA 27 in the Laramie range, as well as HAs 7, 9, and 31 likely support higher mountain lion densities within the management unit. Harvest increased substantially during the 5th management cycle, with higher harvest reported in most hunt areas corresponding with younger aged animals taken. Hunt areas along the Wyoming/Colorado state line likely receive some immigration from the south. Therefore, this MLMU maintains stability through immigration and source/stable objectives and habitat in hunt areas 5 & 6, where dispersing animals support densities in surrounding hunt areas.

Southeast MLMU

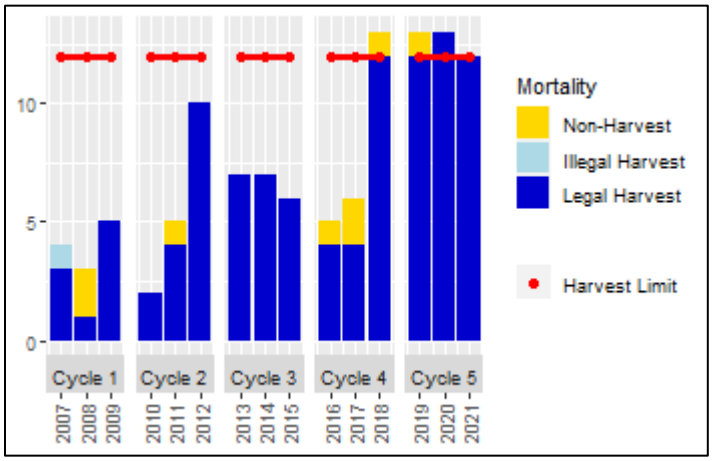
Hunt Area 5.

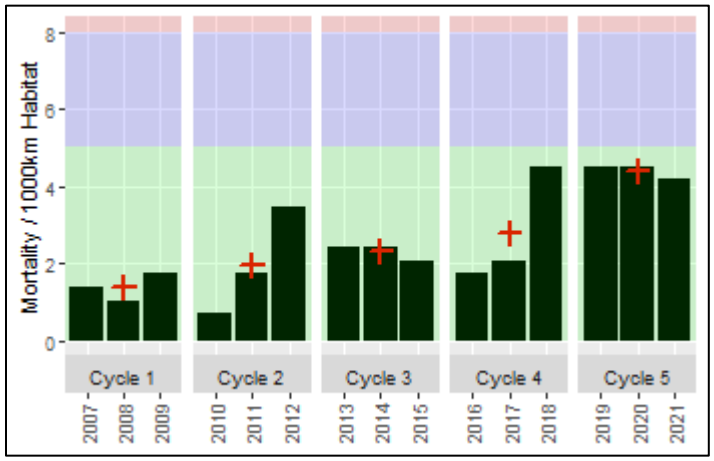
HY2019-HY2021 Regional Objective : Stable/Source management

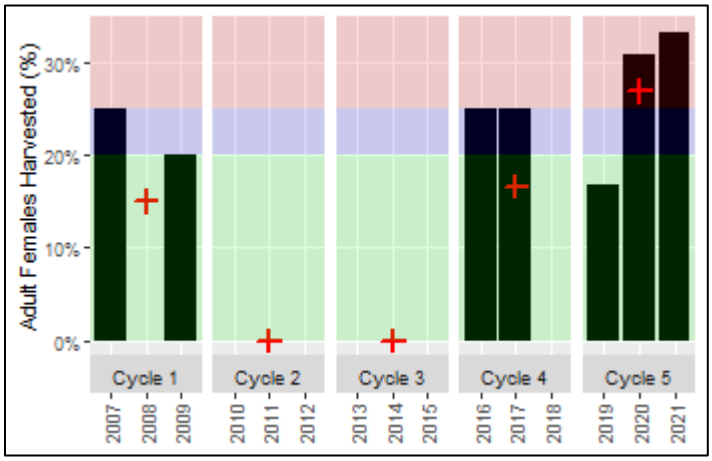
Assessment

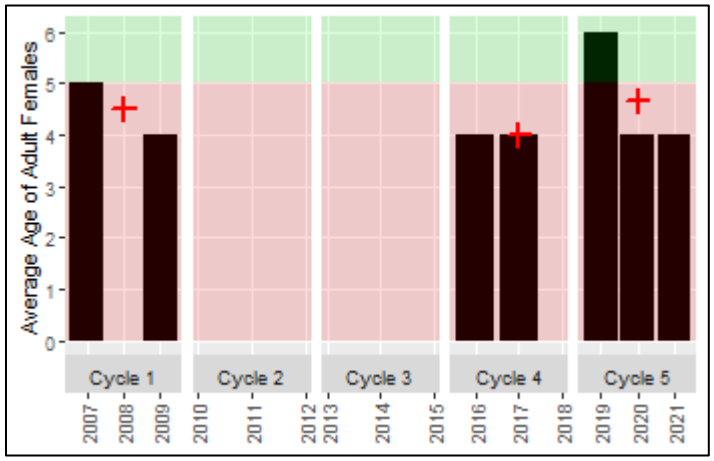
STABLE: HA 5 has reached or exceeded mortality limits for the past 4 seasons. Mortality densities remain in source range, while the proportion of adult females in the harvest exceeded 30% during the past 2 seasons which may impact recruitment. Suitable habitat may be slightly overestimated in this area, but private lands and environmental conditions favor harvests occurring on the eastern portion of winter habitat, and therefore seasons extend through April off national forest lands. Non-resident hunters have recently represented about 25% of the harvest, with an increase in guided hunts within the hunt area. Overall, the age structure in HA 5 has remained stable. Five domestic sheep conflicts were reported during the cycle, an increase from previous years.

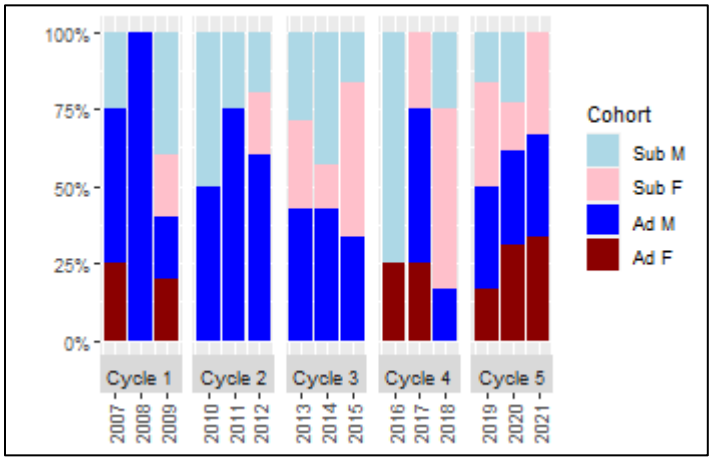
Hunt Area 5.

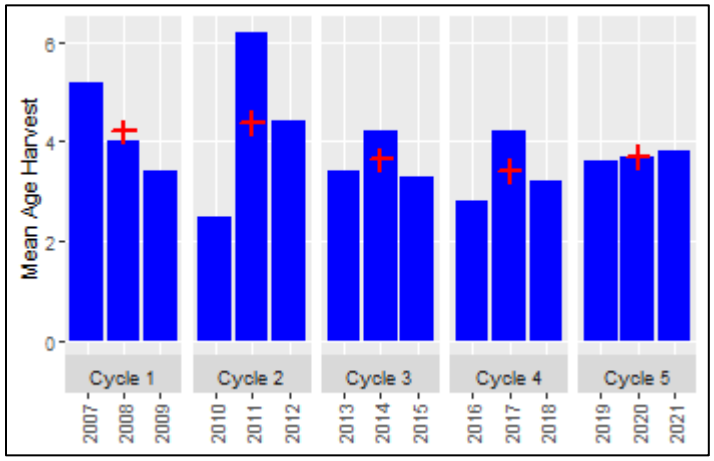

Mortality
Non-Harvest
Illegal Harvest
Legal Harvest
Harvest Limit
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

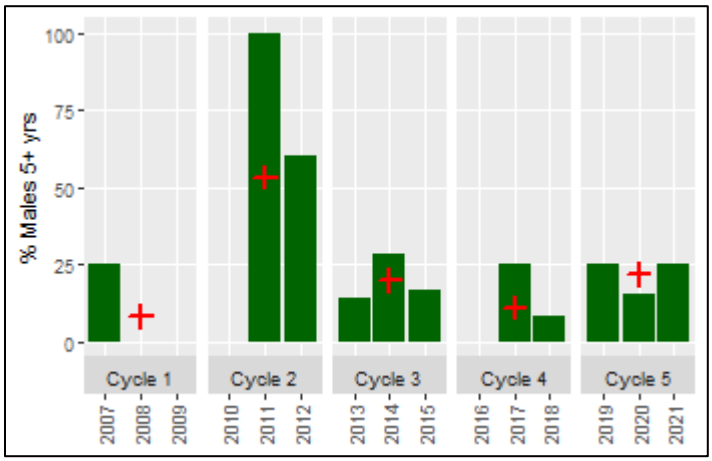

Mortality / 1000km Habitat
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

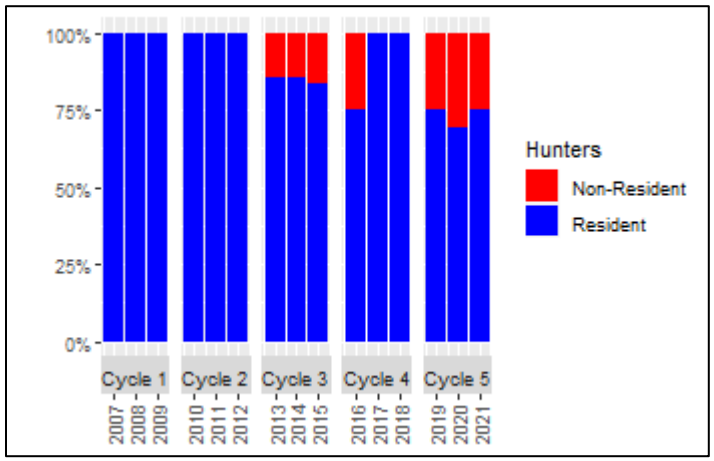

Adult Females Harvested (%)
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Average Age of Adult Females
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Cohort
Sub M
Sub F
Ad M
Ad F
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Mean Age Harvest
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


% Males 5+ yrs
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Hunters
Non-Resident
Resident
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

Southeast MLMU

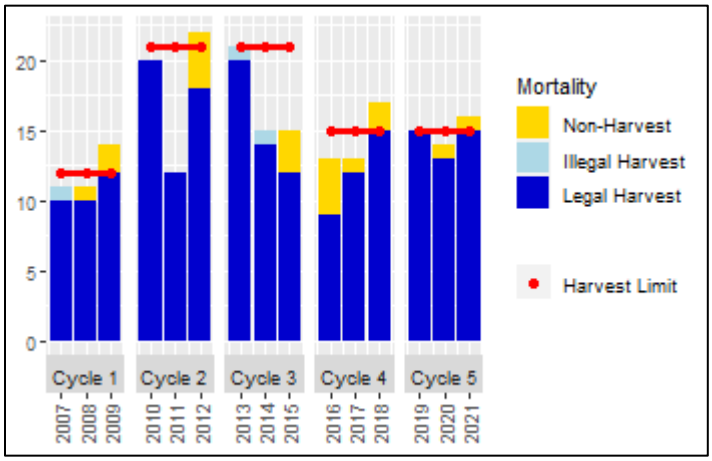
Hunt Area 6.

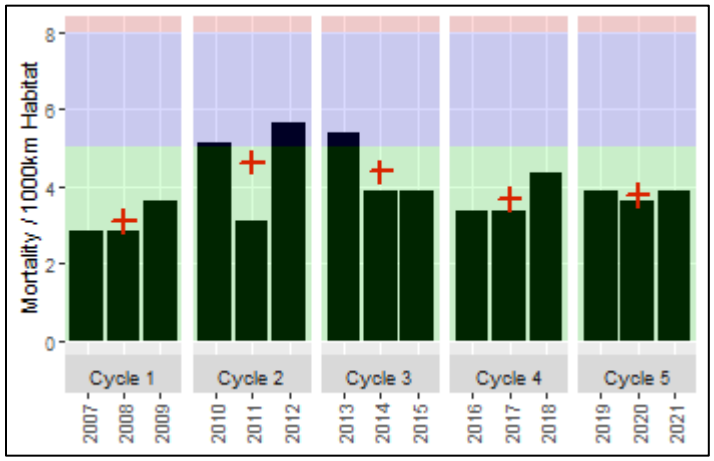
HY2019-HY2021 Regional Objective : Stable/Source management

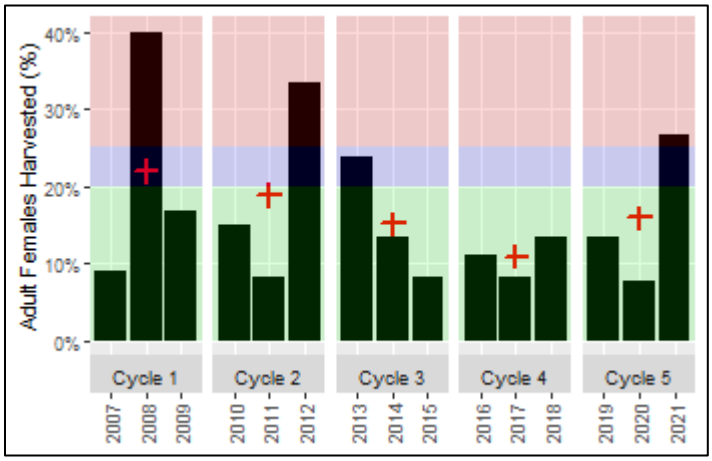
Assessment

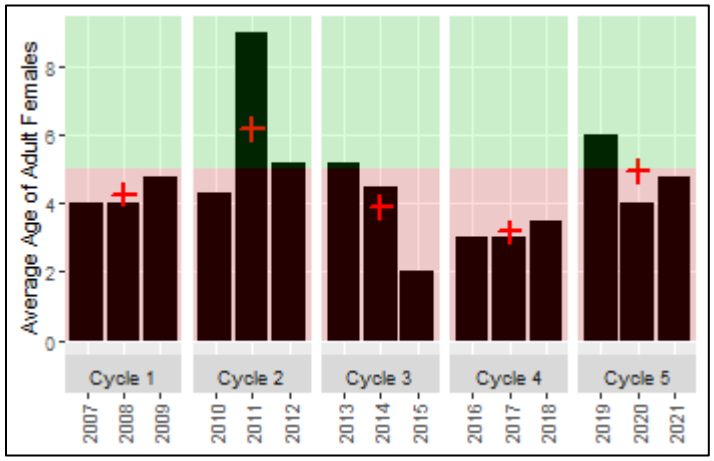
STABLE/SOURCE: The harvest limit for HA 6 was reduced from 21 to 15 in HY2016 in an attempt improve quality of harvest in the hunt area. Subsequent data shows rebounds in overall age and older aged males within the harvest. Adult female harvest has been low with only one year showing harvest over 25% during the cycle. As predicted, rebounding age structure has likely occurred over the past 3-4 years. However, guided hunts have increased along with reported selectivity which also may be reflected in older-aged harvests. No mountain lion conflicts have been reported since 2009.

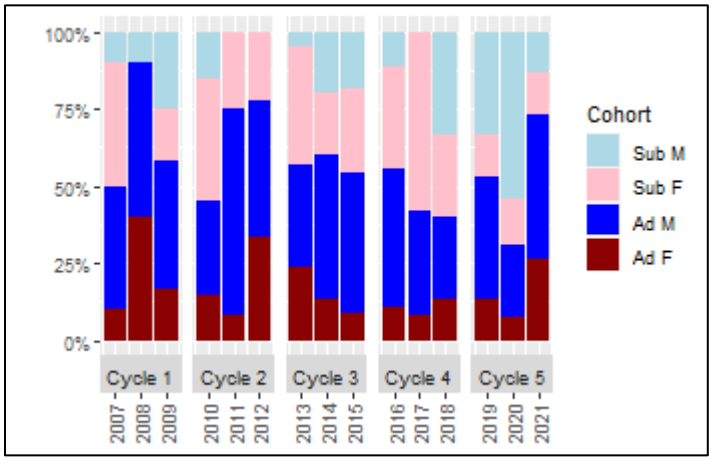
Hunt Area 6.

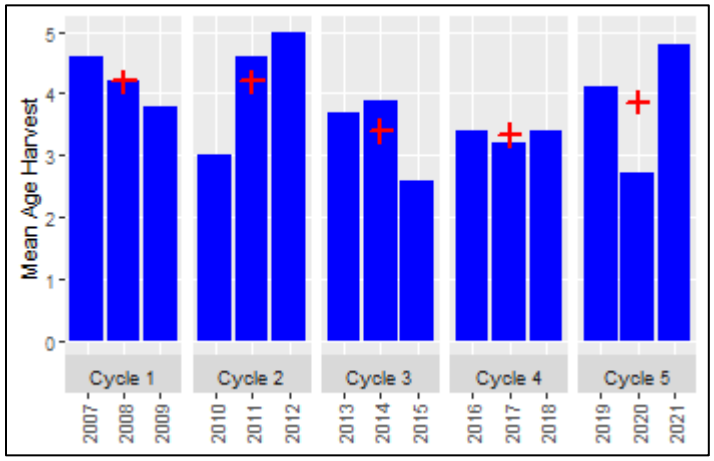

Mortality
Non-Harvest
Illegal Harvest
Legal Harvest
Harvest Limit
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

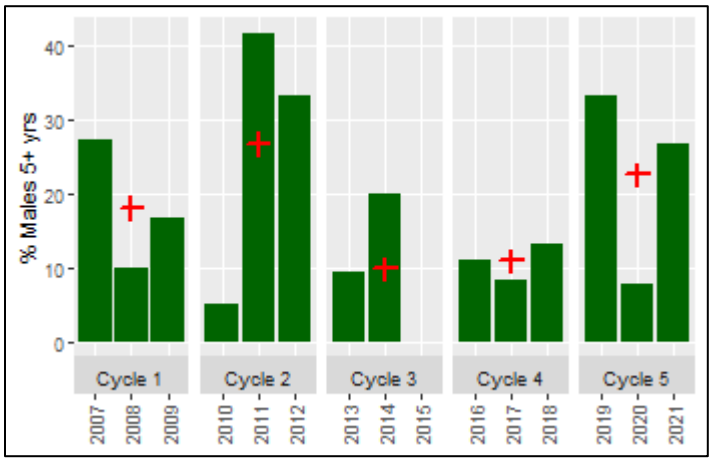

Mortality / 1000km Habitat
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

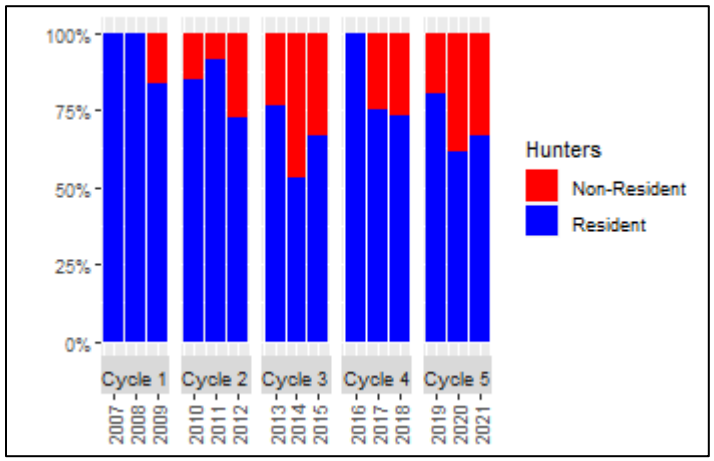

Adult Females Harvested (%)
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Average Age of Adult Females
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Cohort
Sub M
Sub F
Ad M
Ad F
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Mean Age Harvest
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


% Males 5+ yrs
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Hunters
Non-Resident
Resident
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

Southeast MLMU

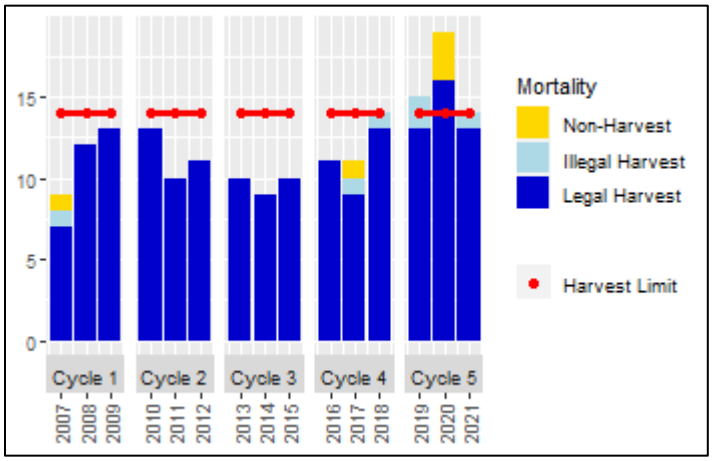
Hunt Area 7.

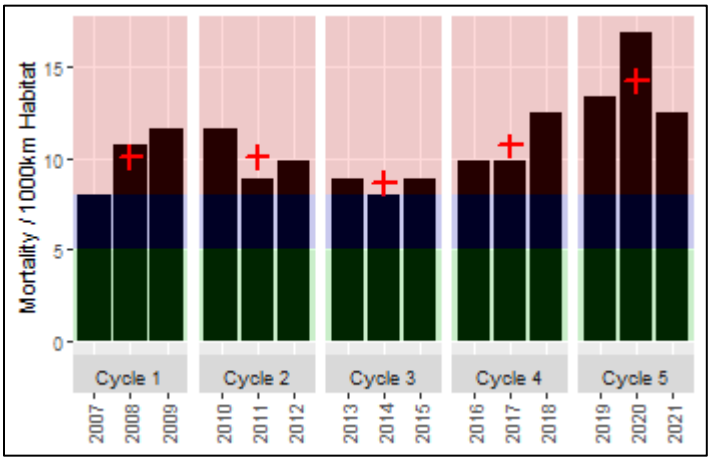
HY2019-HY2021 Regional Objective : Sink management

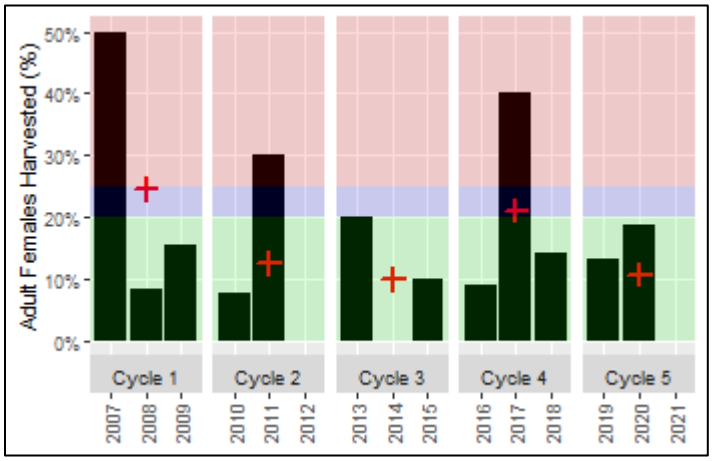
Assessment

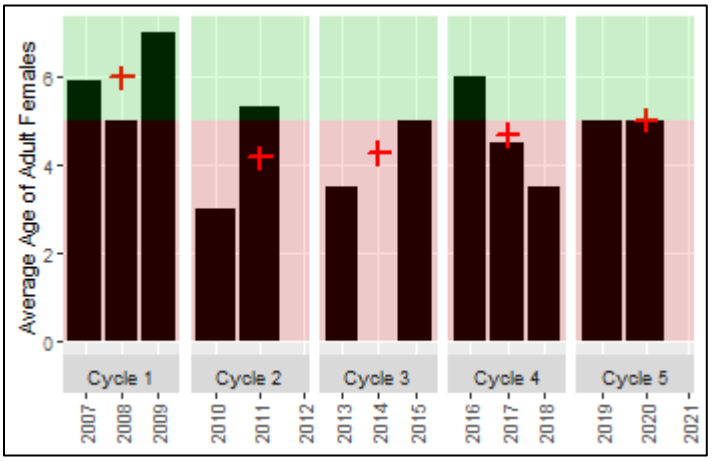
STABLE/SINK: HA 7 reached or exceeded mortality limits each season within the 5th management cycle, although adult female harvest remained low. While mortality densities demonstrate sink function, age structure remains relatively stable and current harvest aligns well with habitat estimates. Immigration from Colorado likely impacts mountain lion densities in HA 7, although harvest is not overly concentrated along the border. Resident harvest has slightly increased in HA 7, and conflicts are rare, with only one natural encounter reported in the last 3 years.

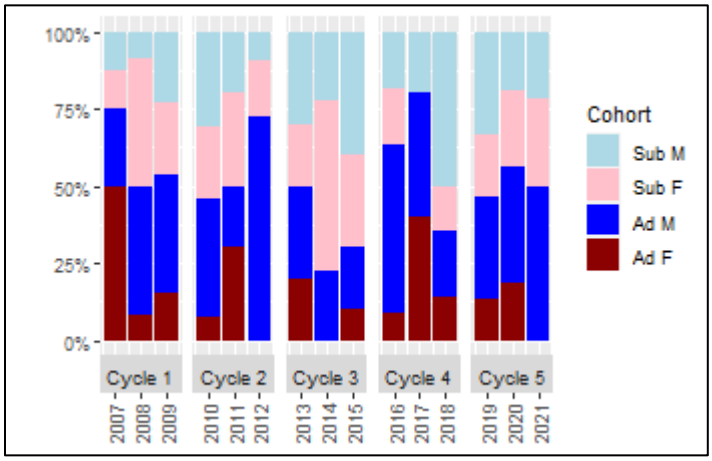
Hunt Area 7.

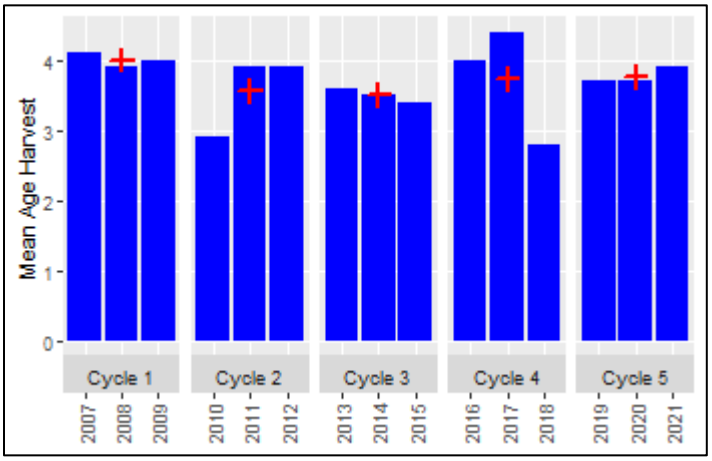

Mortality
Non-Harvest
Illegal Harvest
Legal Harvest
Harvest Limit
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

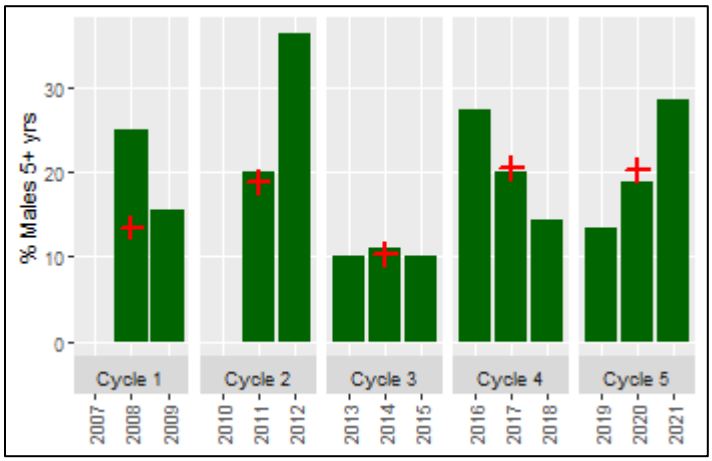

Mortality / 1000km Habitat
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

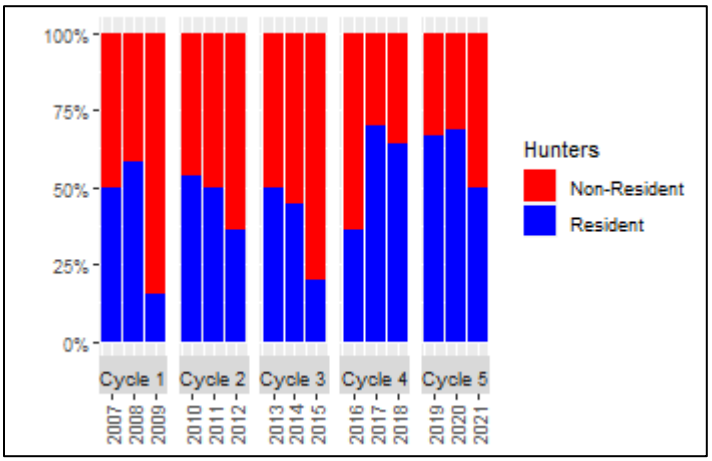

Adult Females Harvested (%)
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Average Age of Adult Females
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Cohort
Sub M
Sub F
Ad M
Ad F
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Mean Age Harvest
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


% Males 5+ yrs
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Hunters
Non-Resident
Resident
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

Southeast MLMU

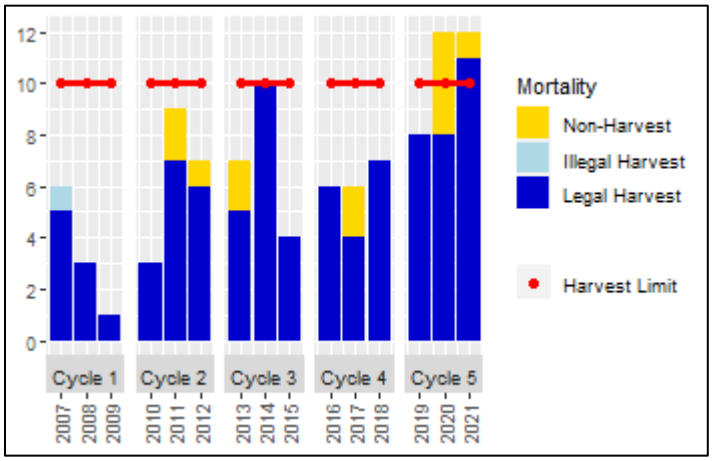
Hunt Area 8.

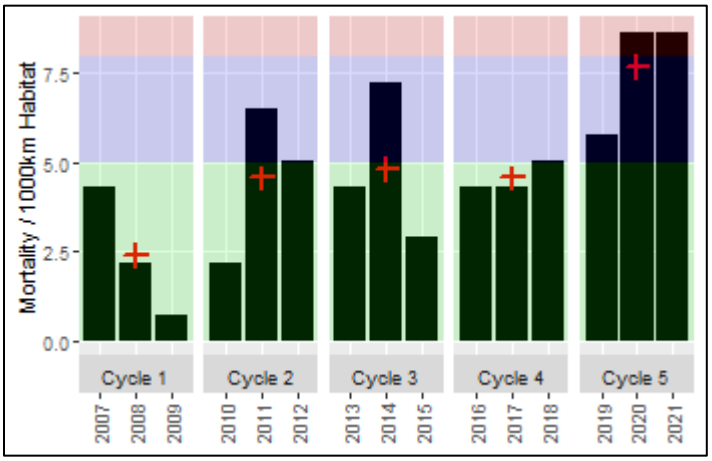
HY2019-HY2021 Regional Objective : Stable management

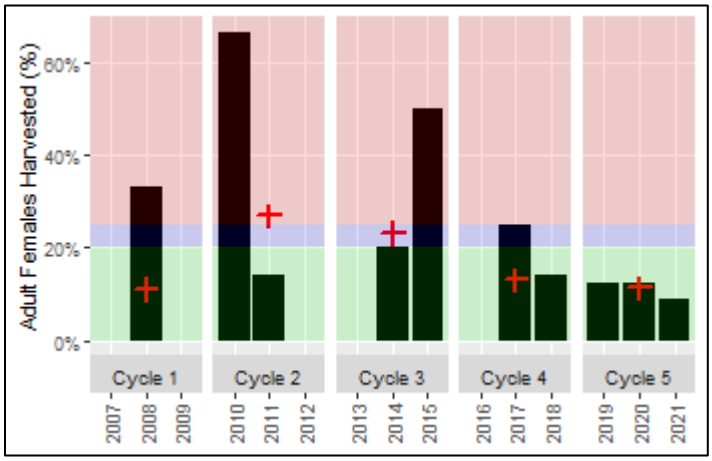
Assessment

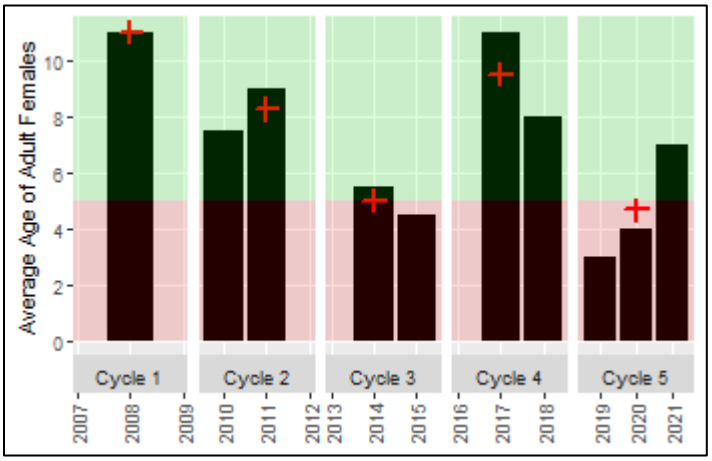
STABLE: HA 8 reached the mortality limit in HY2021 for the first time since HY2014. Human-caused mortality densities rose for the first time into sink status, but adult female mortality remained low. While these metrics indicate stability within the hunt area, there is also a general trend toward younger aged animals and less older aged males available for harvest. Guided hunts have also emerged during the last cycle, and correspond to the increased portion of non-resident hunters. One conflict was reported back in 2013.

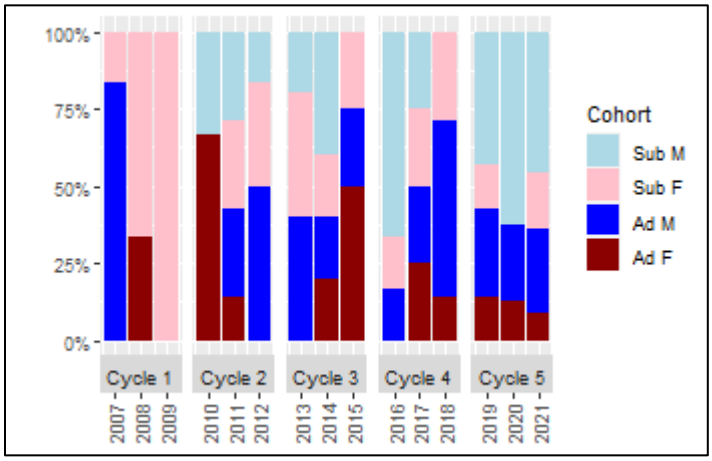
Hunt Area 8.

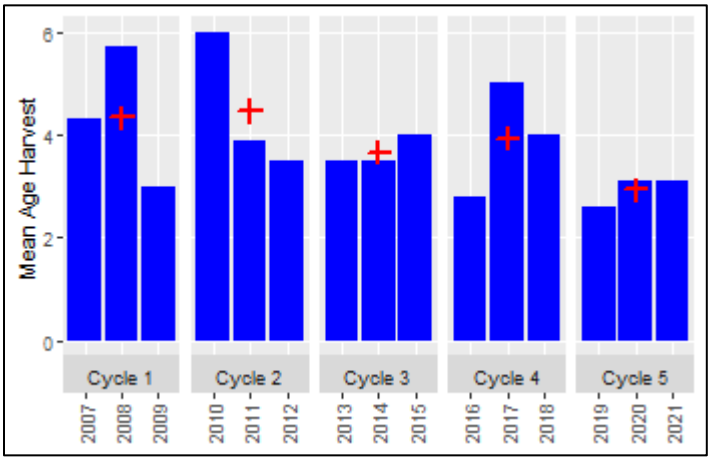

Mortality
Non-Harvest
Illegal Harvest
Legal Harvest
Harvest Limit
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

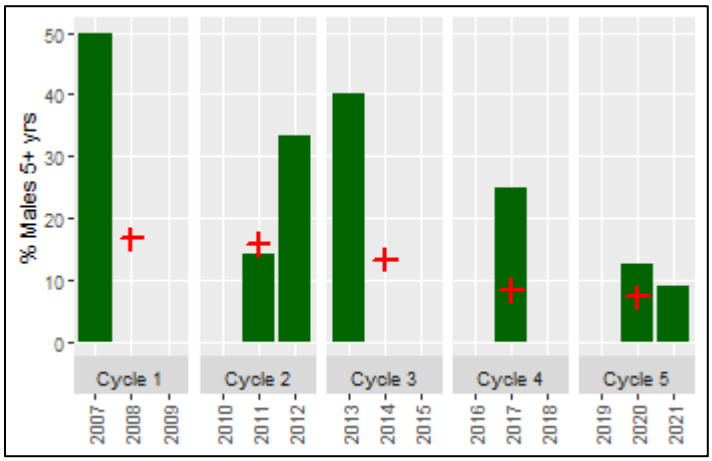

Mortality / 1000km Habitat
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

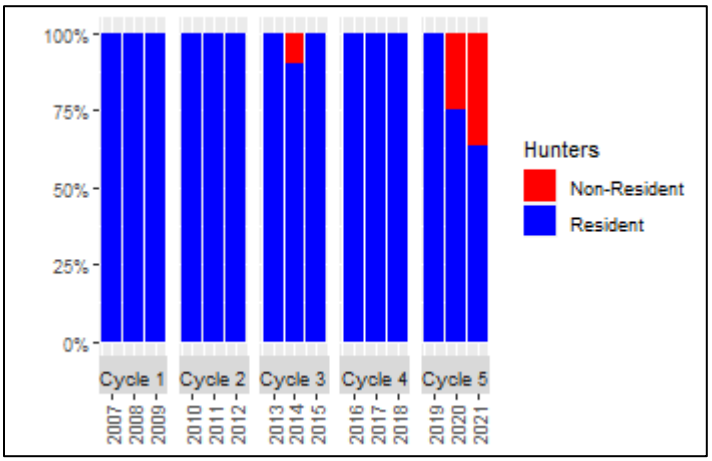

Adult Females Harvested (%)
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Average Age of Adult Females
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Cohort
Sub M
Sub F
Ad M
Ad F
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Mean Age Harvest
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


% Males 5+ yrs
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Hunters
Non-Resident
Resident
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

Southeast MLMU

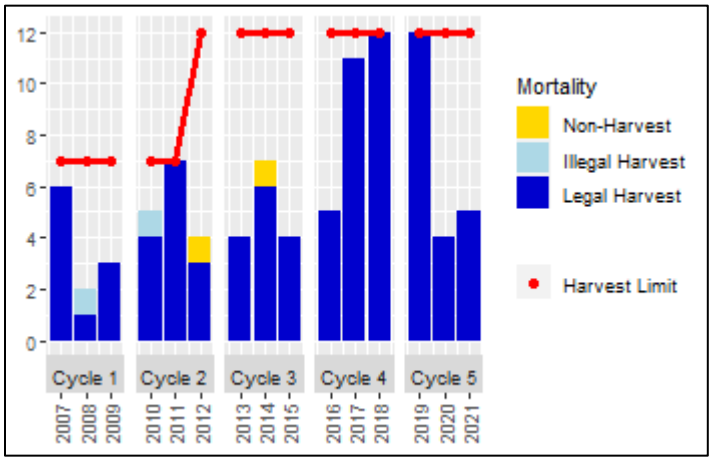
Hunt Area 9.

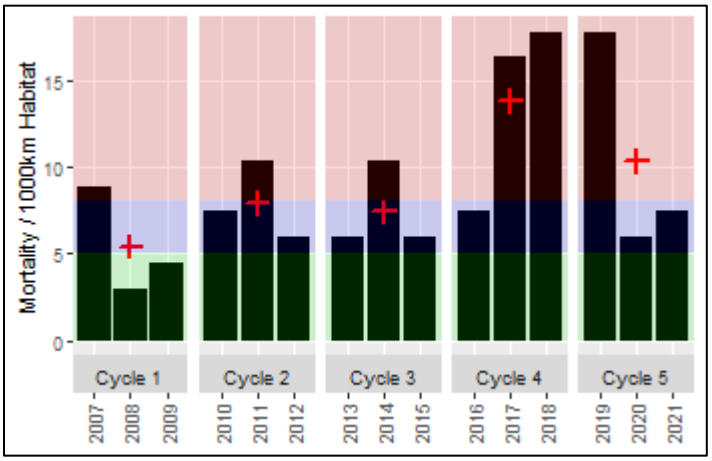
HY2019-HY2021 Regional Objective : Sink management

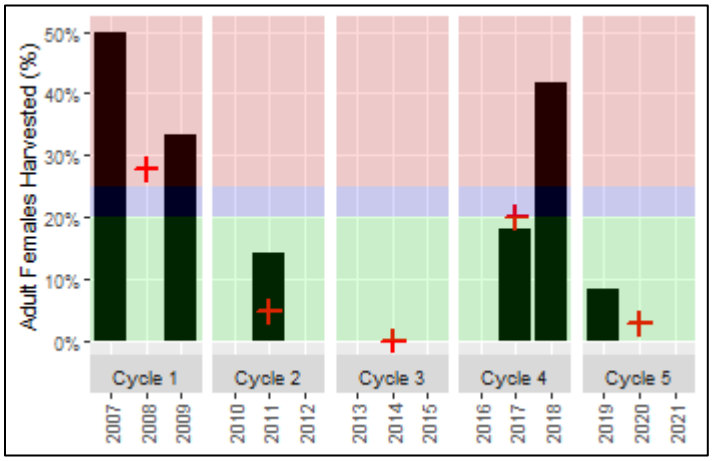
Assessment

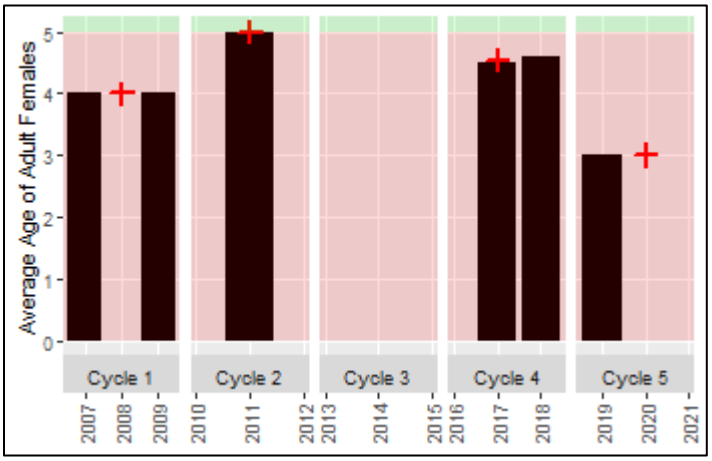
STABLE/SINK: HA 9 had three consecutive years of elevated harvest followed by stable mortality density estimates for the past two seasons. Almost no adult female harvest has occurred during the current cycle, but HA 9 shows consistent decreases in adult aged cohorts, overall age, and older aged males in the harvest. Although harvest aligns with habitat estimates, almost all the harvest pressure has been applied to the southern portion of the hunt area. This may be one reason for observed shifts in age structure, and local mortality densities in the southern portion is likely much higher but offset by little harvest north. One domestic sheep loss was reported in the last 3-year cycle. Selectivity by hunters for older-aged mountain lions has increased, but has not corresponded with harvest quality in HA 9.

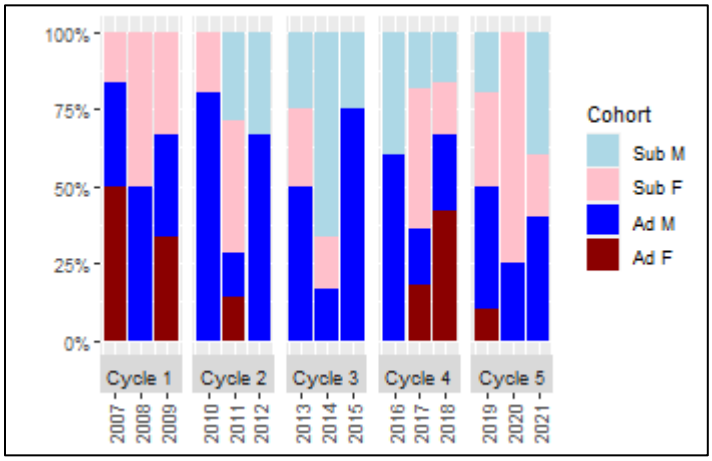
Hunt Area 9.

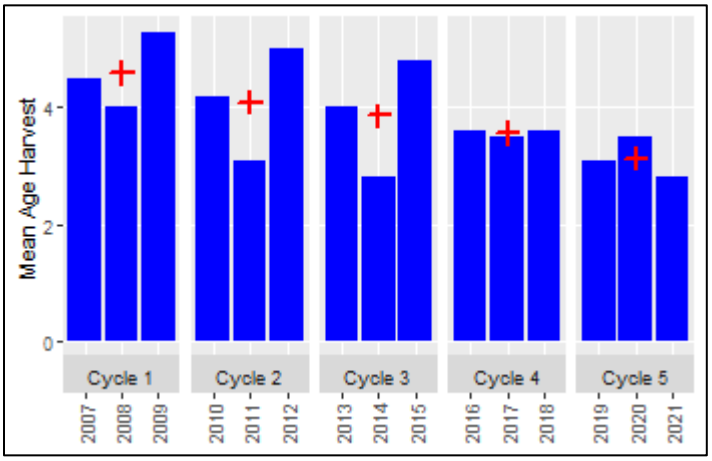

Mortality
Non-Harvest
Illegal Harvest
Legal Harvest
Harvest Limit
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

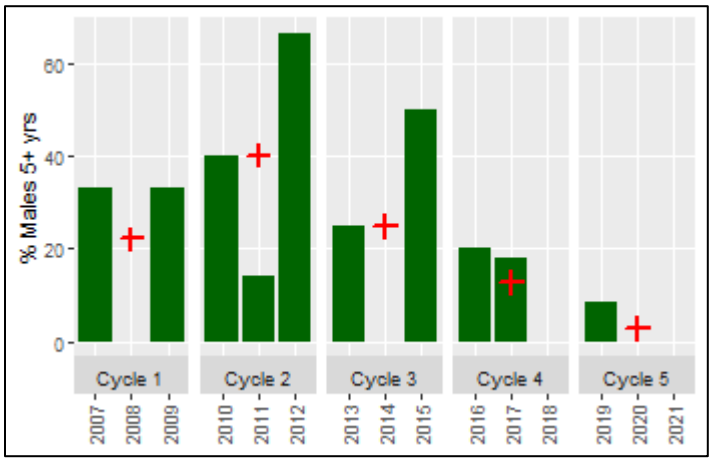

Mortality / 1000km Habitat
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

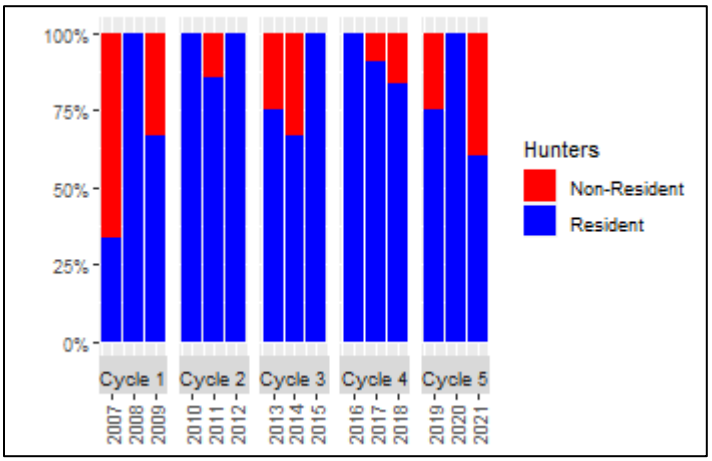

Adult Females Harvested (%)
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Average Age of Adult Females
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Cohort
Sub M
Sub F
Ad M
Ad F
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Mean Age Harvest
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


% Males 5+ yrs
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Hunters
Non-Resident
Resident
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

Southeast MLMU

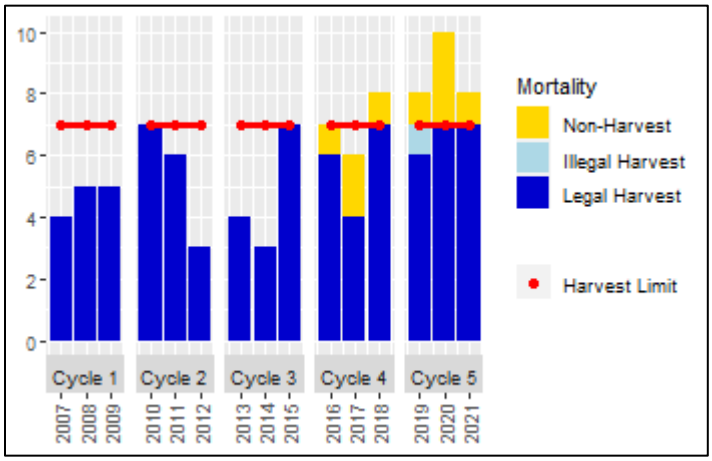
Hunt Area 10.

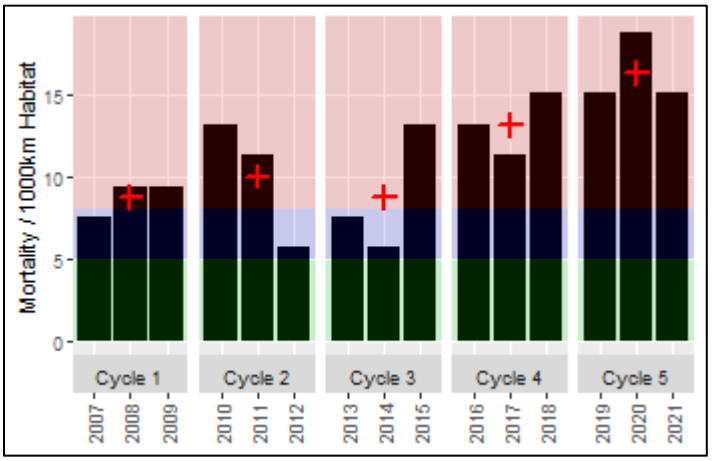
HY2019-HY2021 Regional Objective : Sink management

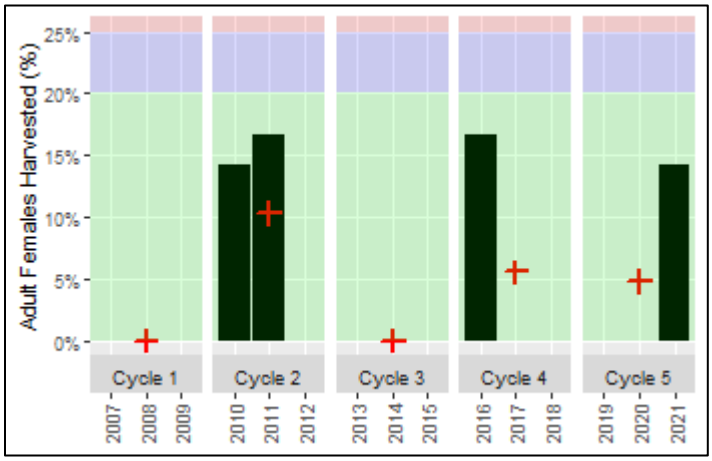
Assessment

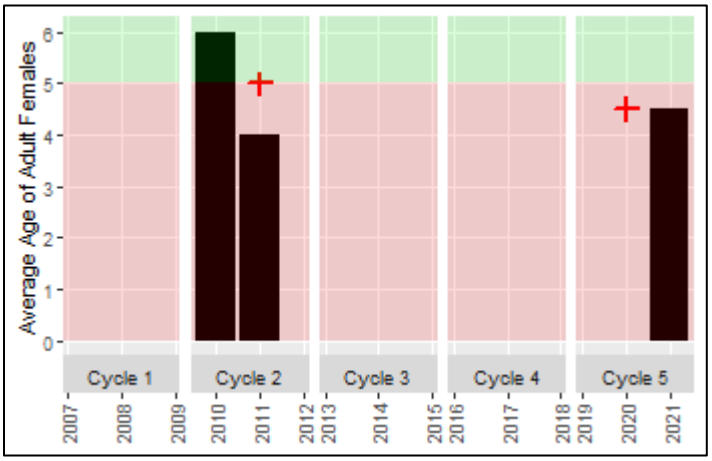
SINK: HA 10 has incurred elevated harvest during the current cycle, likely due to decreased selectivity by hunters, better winter tracking conditions with good snow, greater overall effort, and likely immigration from the south with increased densities from previous years. Mortality densities indicate sink status and HA 10 has few adults represented in the harvest. The Regional objective for sink management is being met. Non-resident hunters account for nearly half the harvest that occurs in HA 10.

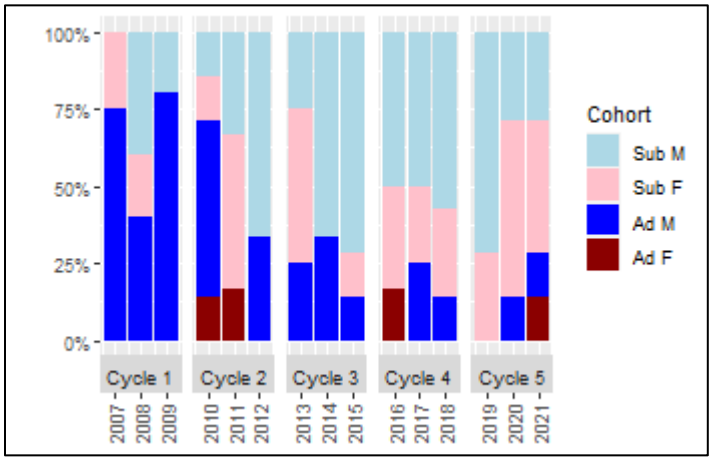
Hunt Area 10.

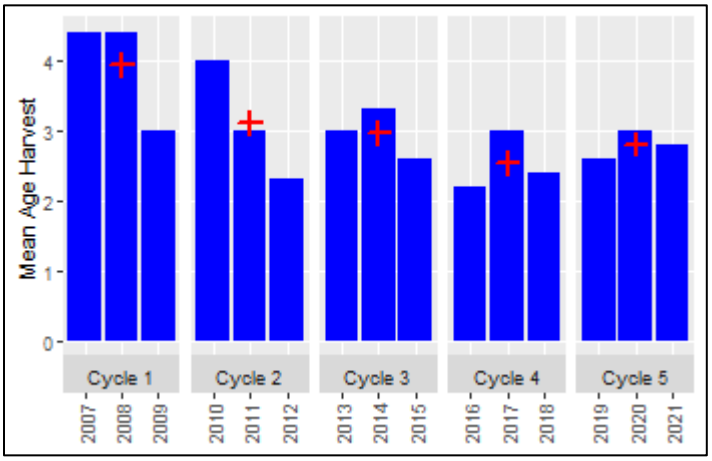

Mortality
Non-Harvest
Illegal Harvest
Legal Harvest
Harvest Limit
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

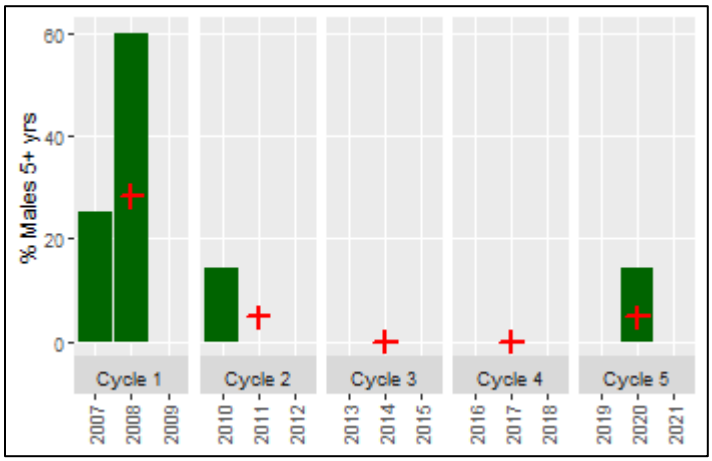

Mortality / 1000km Habitat
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

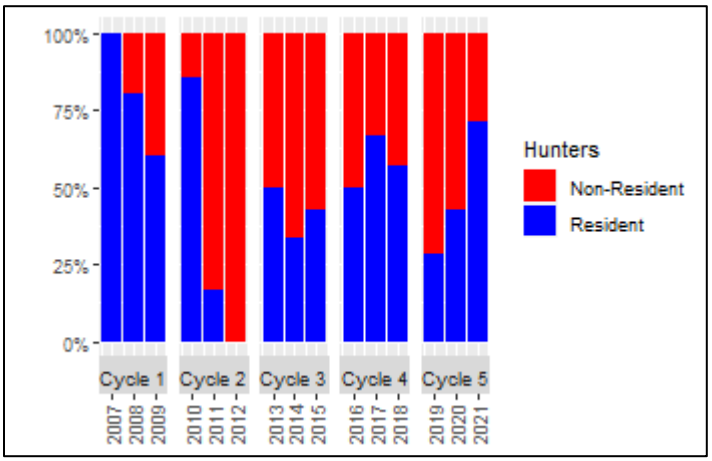

Adult Females Harvested (%)
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Average Age of Adult Females
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Cohort
Sub M
Sub F
Ad M
Ad F
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Mean Age Harvest
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


% Males 5+ yrs
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Hunters
Non-Resident
Resident
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

Southeast MLMU

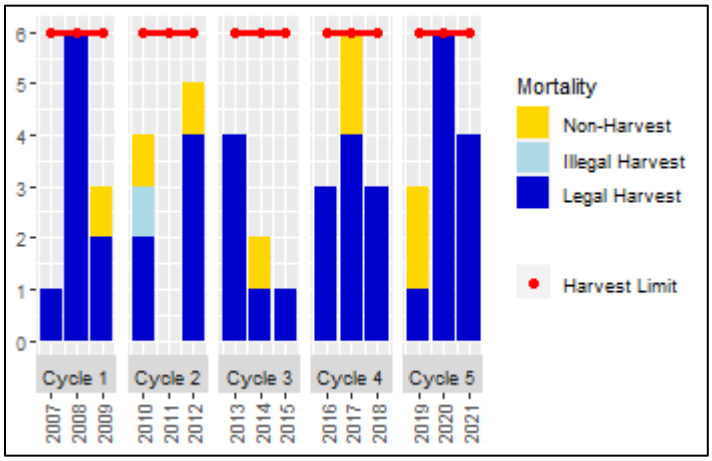
Hunt Area 16.

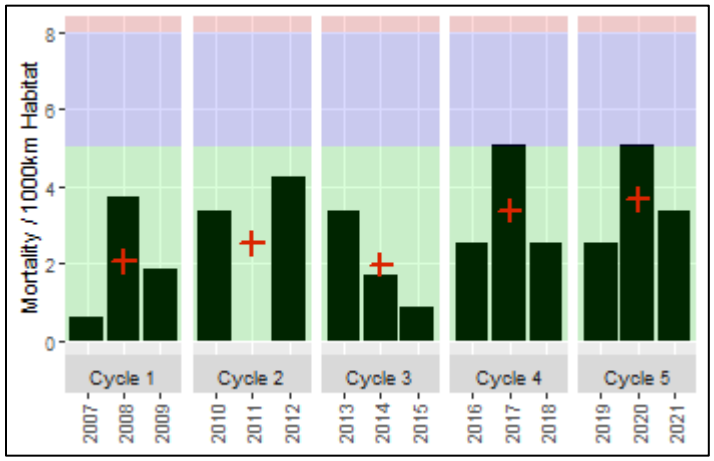
HY2019-HY2021 Regional Objective : Stable management

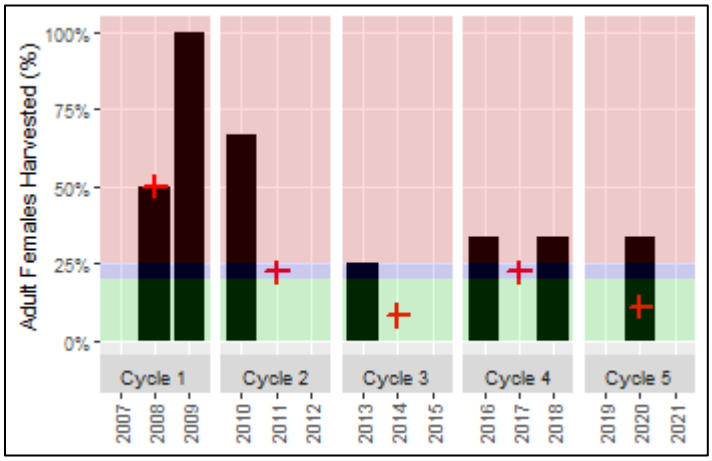
Assessment

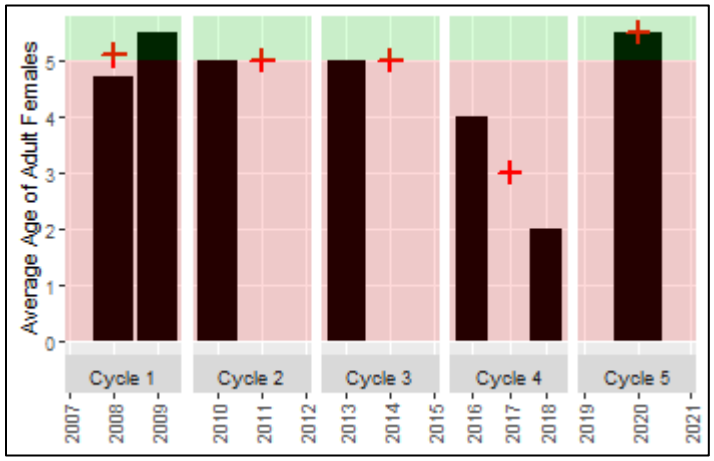
STABLE: Mortality densities in HA 16 have slightly increased, but still fall within the source management range. Allowable mortality was reached in HY2020 for the first time since HY2008. While harvest is variable, adult female harvest occasionally exceeds 25% while no adult female mortality is observed during many other seasons. Average age of harvested animals has maintained younger animals since the drop during the previous cycle, and older aged males are not well represented in the harvest. Data generated from harvested animals does not provide adequate context for evaluation of the local mountain lion population. HA 16 has less contiguous habitat when compared to hunt areas that encompass mountainous terrain or front ranges, and local populations are likely stable, but at low densities. No conflicts were reported in the last cycle. Guided hunts have increased during the past few cycles and reported selectivity has increased.

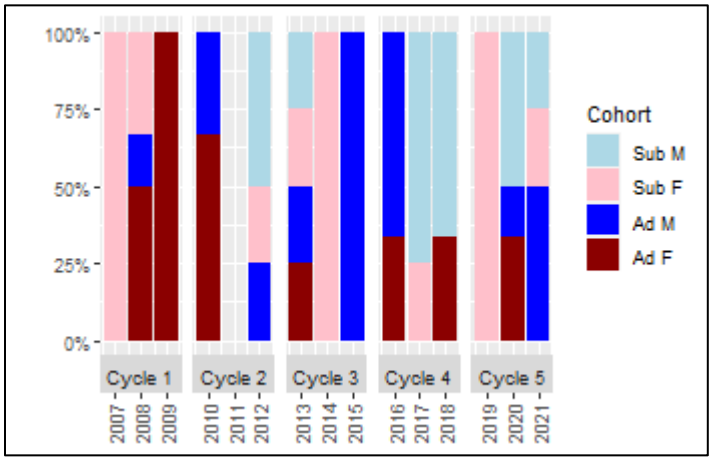
Hunt Area 16.

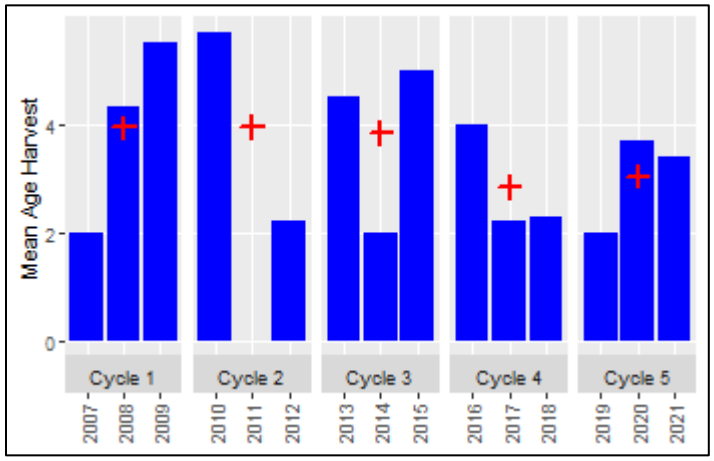

Mortality
Non-Harvest
Illegal Harvest
Legal Harvest
Harvest Limit
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

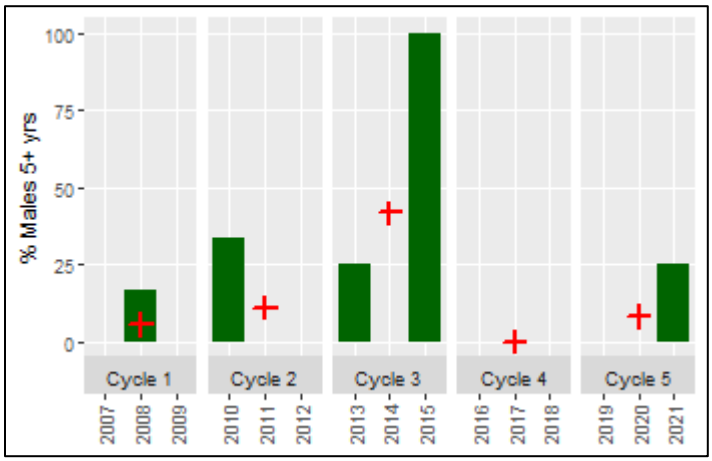

Mortality / 1000km Habitat
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

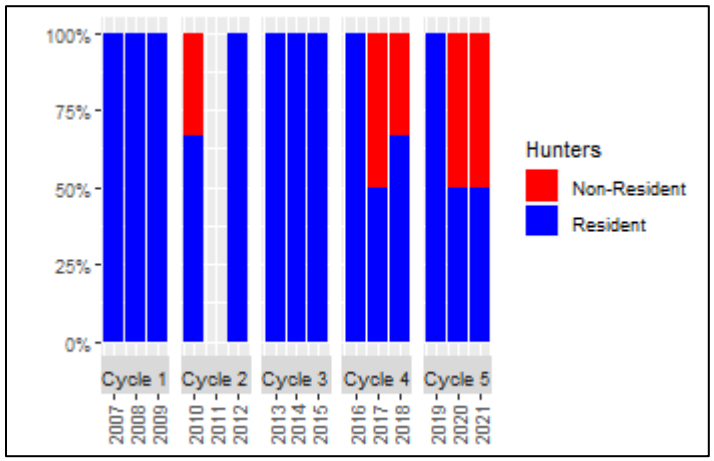

Adult Females Harvested (%)
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Average Age of Adult Females
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Cohort
Sub M
Sub F
Ad M
Ad F
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Mean Age Harvest
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


% Males 5+ yrs
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Hunters
Non-Resident
Resident
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

Southeast MLMU

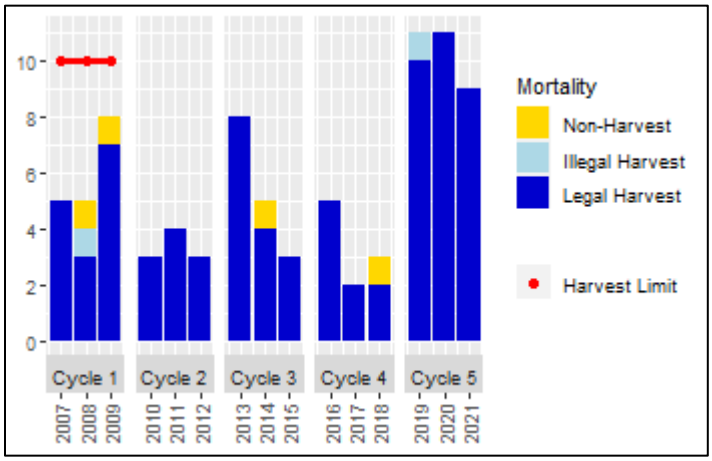
Hunt Area 27.

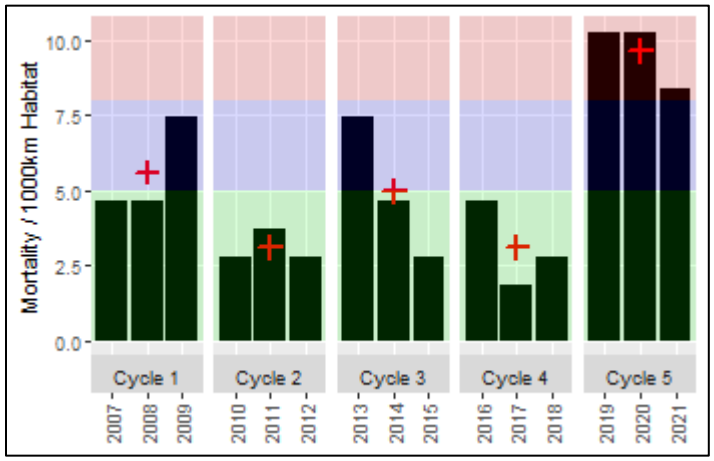
HY2019-HY2021 Regional Objective : Sink management

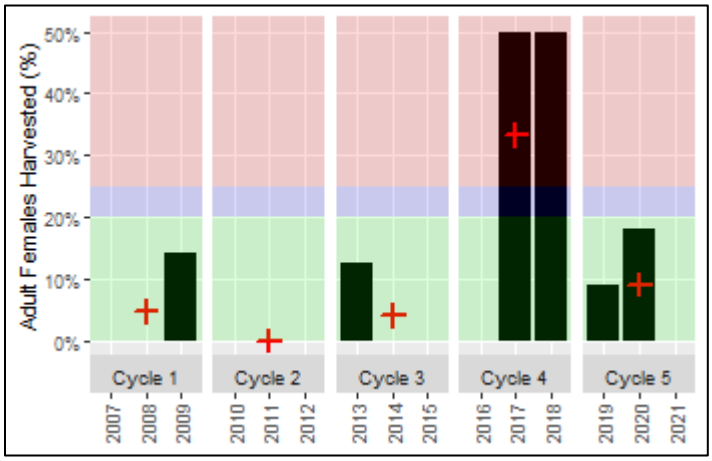
Assessment

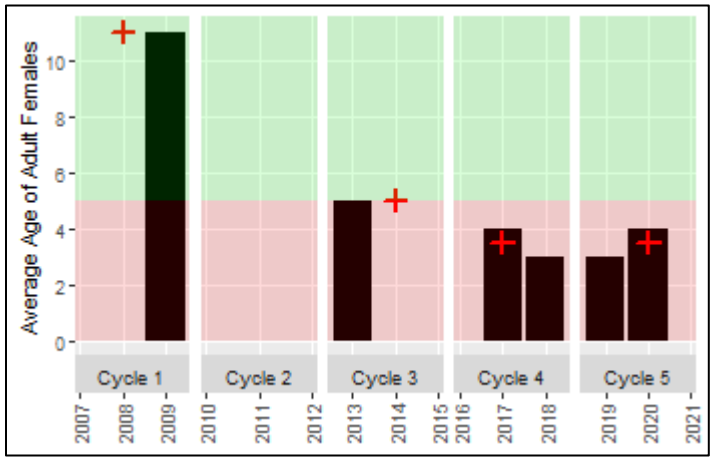
STABLE/SINK: HA 27 reported marked increases in harvest during the current management cycle. Mortality densities indicate sink status for the past three years, and as opposed to previous cycles, a reduction in older aged animals were reported in the harvest. Few adult females have been harvested and monitoring in the area indicates immigration of young animals occupying the hunt area, likely from HA 6. Hunter selectivity has declined. One sheep depredation occurred in 2019, with two additional conflicts reported due to proximity to Casper, WY.

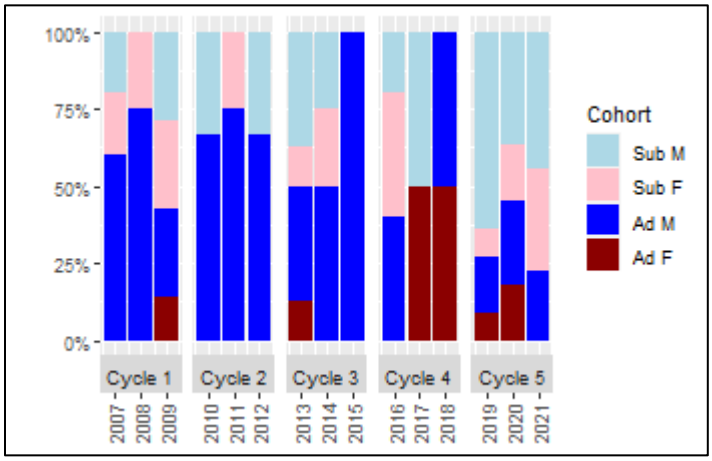
Hunt Area 27.

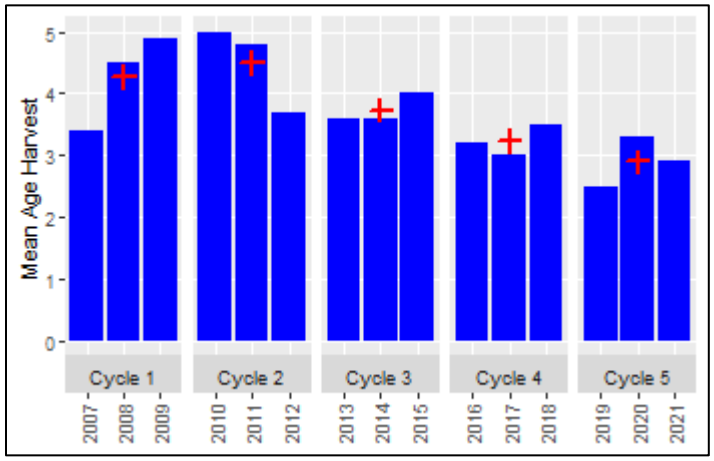

Mortality
Non-Harvest
Illegal Harvest
Legal Harvest
Harvest Limit
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

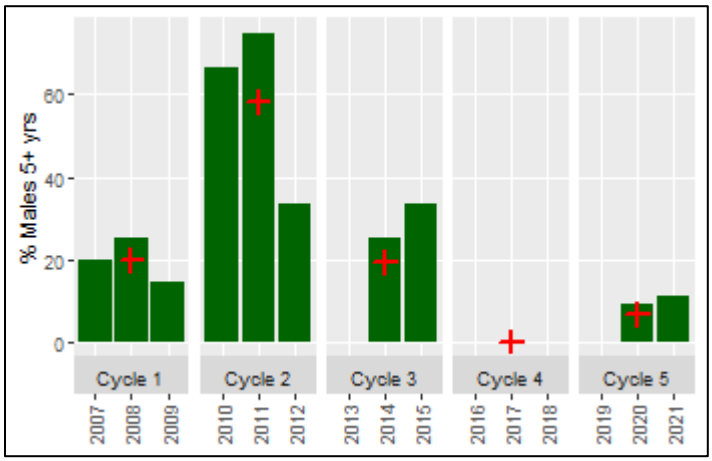

Mortality / 1000km Habitat
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

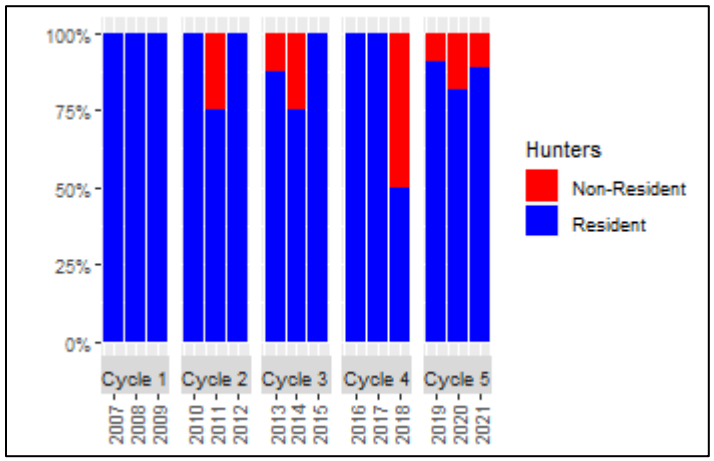

Adult Females Harvested (%)
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Average Age of Adult Females
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Cohort
Sub M
Sub F
Ad M
Ad F
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Mean Age Harvest
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


% Males 5+ yrs
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Hunters
Non-Resident
Resident
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

Southeast MLMU

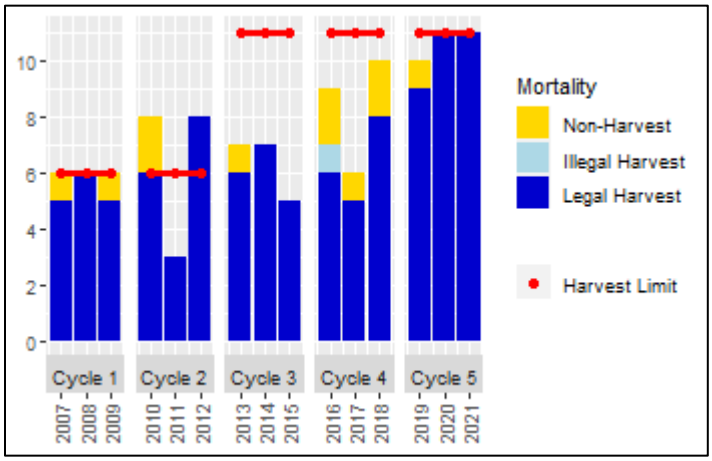
Hunt Area 31.

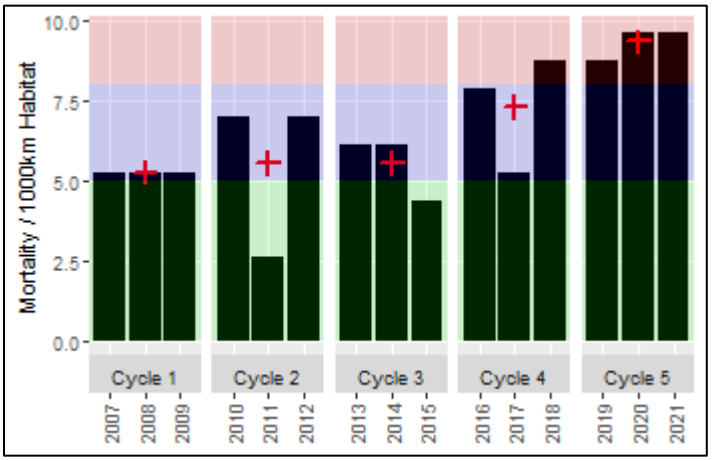
HY2019-HY2021 Regional Objective : Sink management

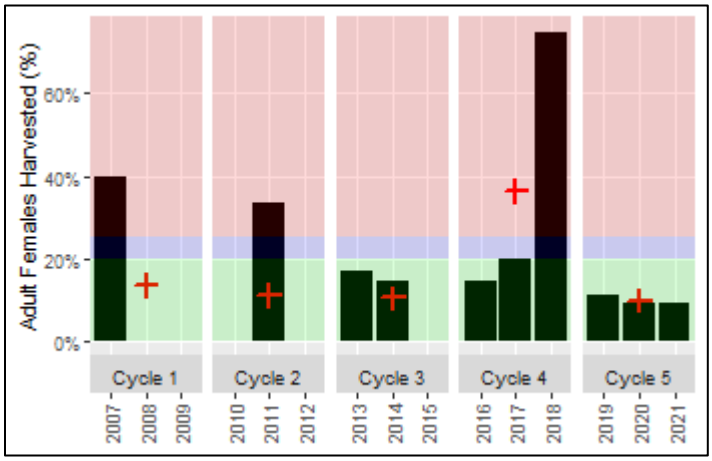
Assessment

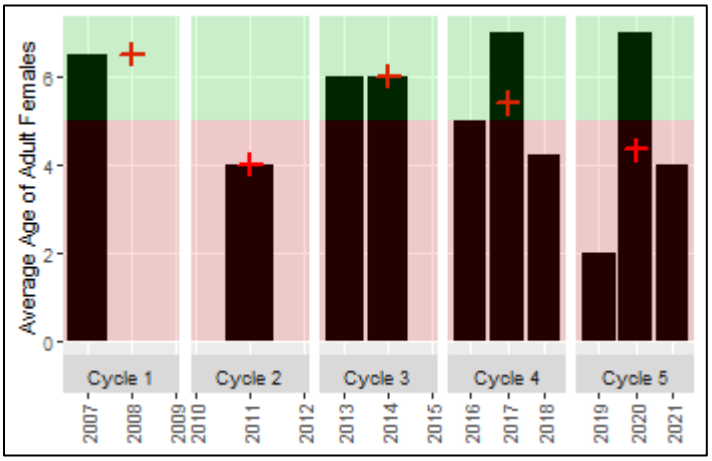
STABLE: HA 31 reached mortality limits during the last two years of the current cycle resulting in continued mortality densities indicating sink status. While older adult males remain lower than in previous cycles, adult female mortality is also low. Average age of harvested animals has remained relatively stable and adult animals comprise most of the harvest. Non-resident hunters represent half of the harvest for HA 31 with more guided hunts occurring, and increases in selectivity may bolster the adults harvested in this area. Of note, hunting opportunity in HA 31 is somewhat limited by winter closures on ungulate winter ranges which likely serves as a refuge for some mountain lions in the area. No conflicts have been reported since HY2017.

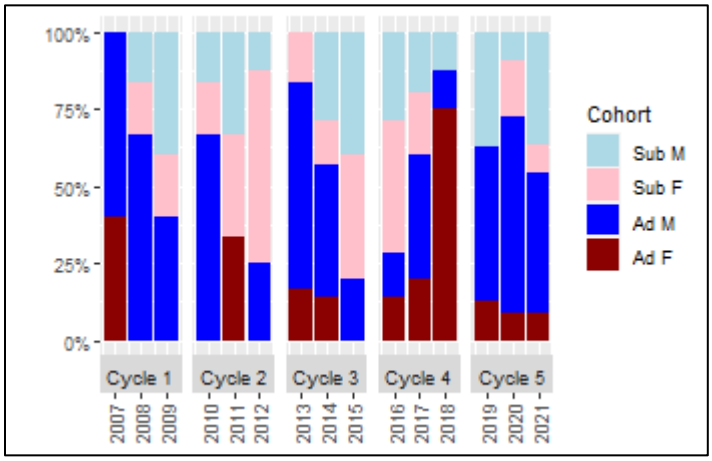
Hunt Area 31.

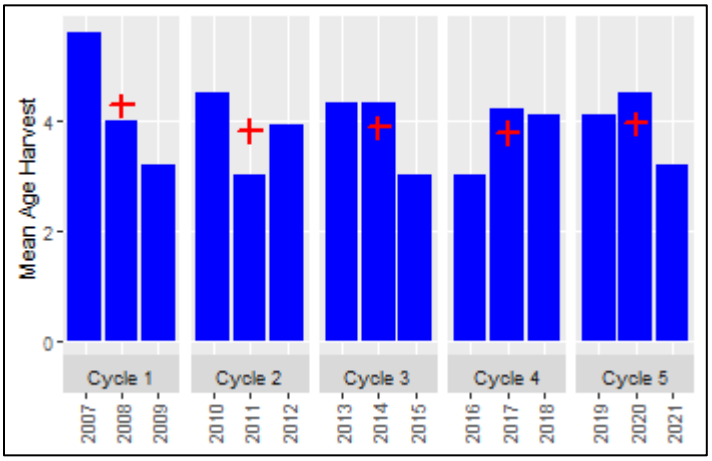

Mortality
Non-Harvest
Illegal Harvest
Legal Harvest
Harvest Limit
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

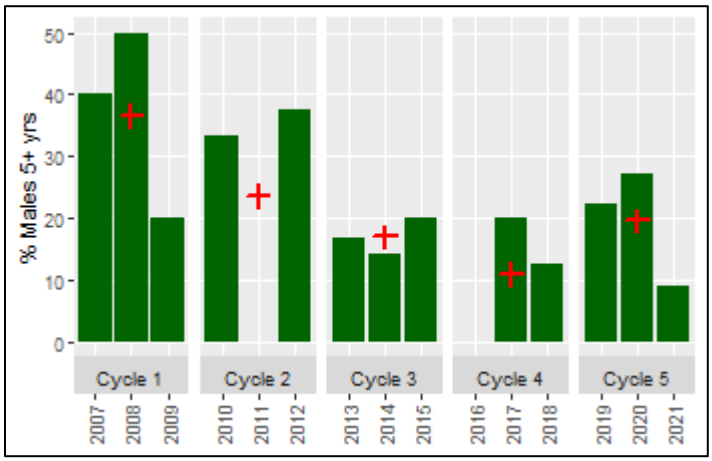

Mortality / 1000km Habitat
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

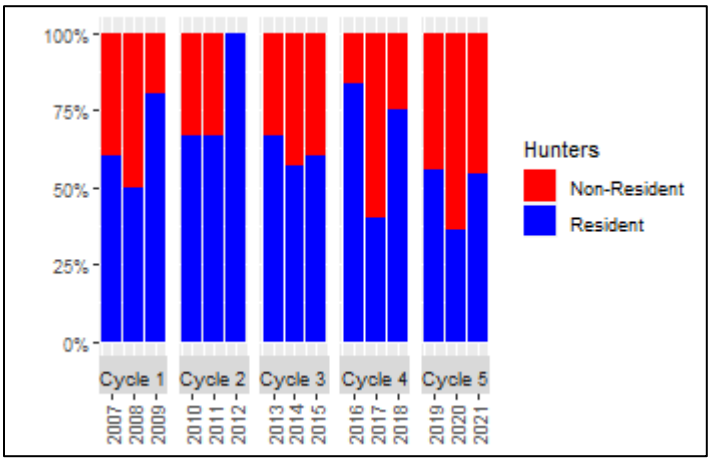

Adult Females Harvested (%)
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Average Age of Adult Females
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Cohort
Sub M
Sub F
Ad M
Ad F
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Mean Age Harvest
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


% Males 5+ yrs
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Hunters
Non-Resident
Resident
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

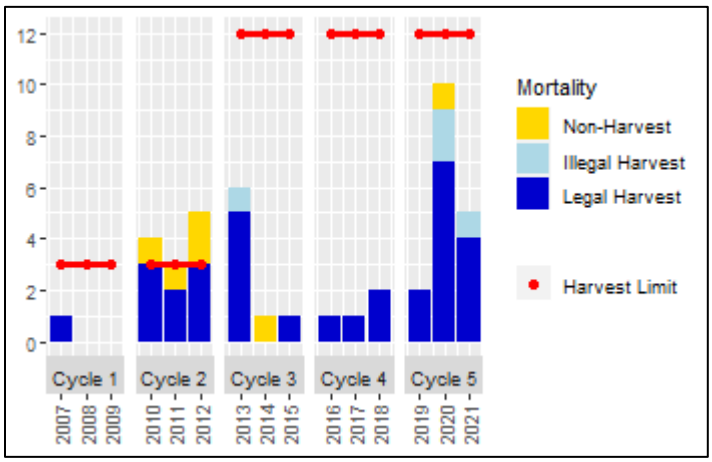
Southeast MLMU

Hunt Area 25.

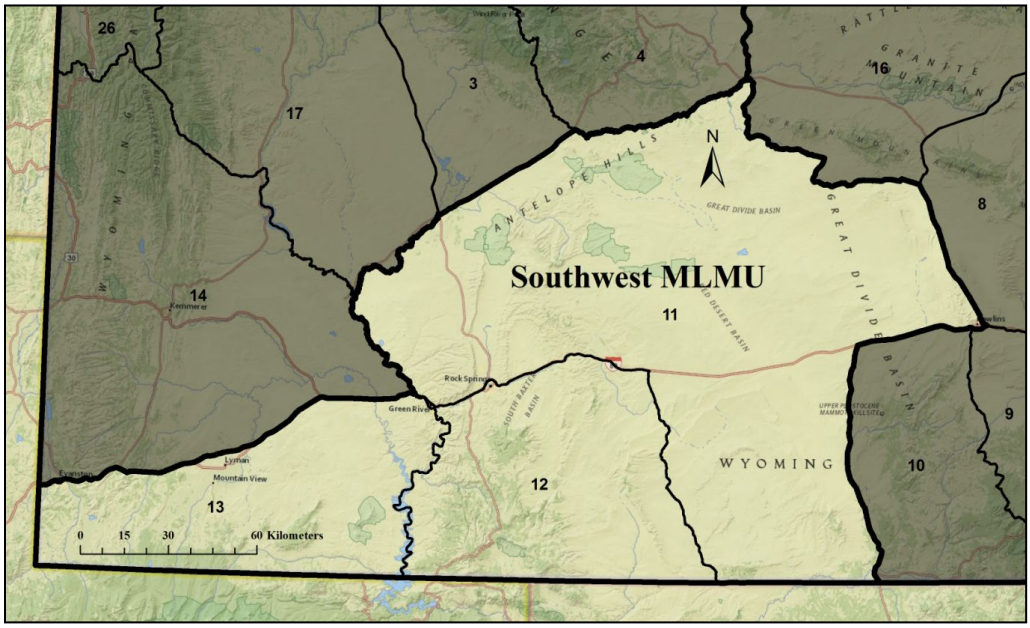
HY2019-HY2021 Regional Objective : N/A

Assessment

N/A: HA 25 has low levels of dispersed habitat throughout the area and is not currently managed for population viability. No conflicts have been reported in the last 7 years.



SOUTHWEST MLMU



Overview

The Southwest MLMU comprises two hunt areas (HAs 12 and 13) with suitable mountain lion habitat and managed for sustainable mountain lion populations. Most harvest within HA 12 and HA 13 occur near the southern border and where habitat within the Uinta Mountains in Utah transition into high desert systems in southwest Wyoming. This likely results in variable mountain lion densities, with less estimated habitat in HA 13 and higher habitat estimates in HA 12, that likely support lower densities of mountain lions. HA 11 holds little suitable mountain lion habitat and is not managed for long-term population viability. The MLMU is meeting regional objectives by providing stable populations that also offers quality hunting opportunity. No conflicts were reported within this management cycle.

Southwest MLMU

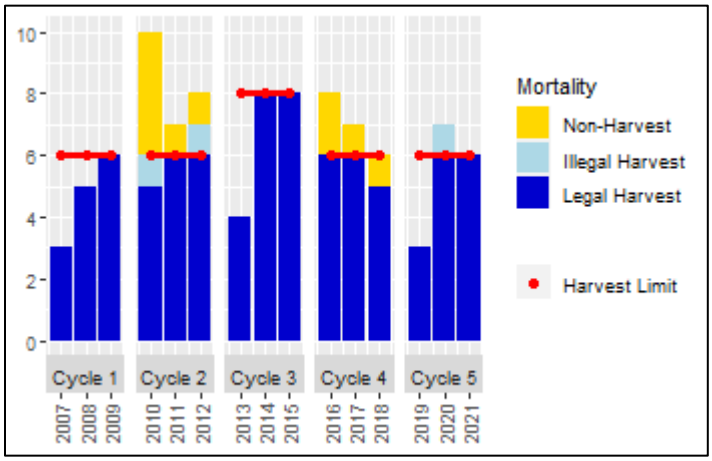
Hunt Area 12.

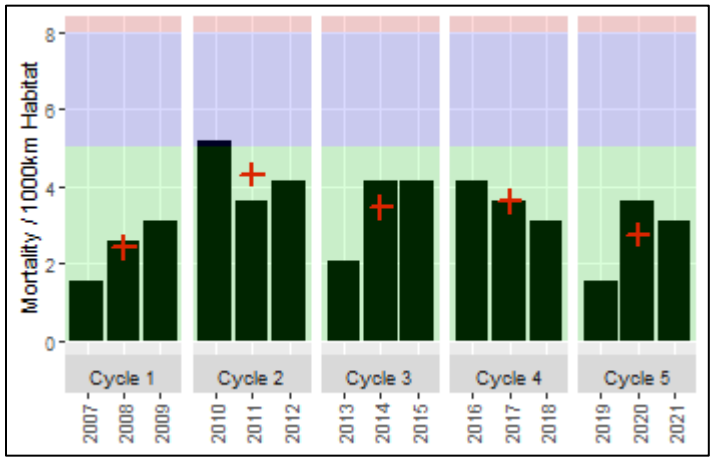
HY2019-HY2021 Regional Objective : Stable management

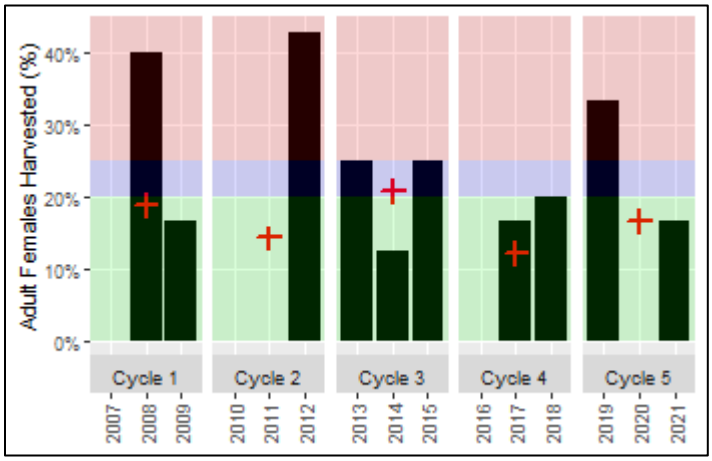
Assessment

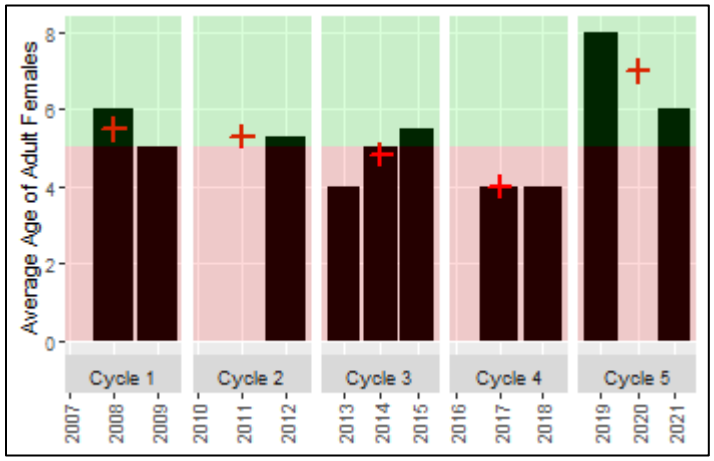
STABLE: New habitat evaluations increased suitable habitat considerably in HA 12, resulting in a change from the higher end of stability to source-level mortality densities. However, the density of mountain lions in HA 12 is likely not as high as the densities applied to estimate mortality thresholds. Adult female harvest was variable this cycle, but included older females than in previous seasons. Limited samples also restrict robust assessment for HA 12. However, overall age has remained stable and adult mountain lions were represented in the current cycle. HA 12 demonstrates stability in line with regional objectives as well as quality mountain lion hunting for selective hunters. No conflicts or guided hunts were reported during the current cycle.

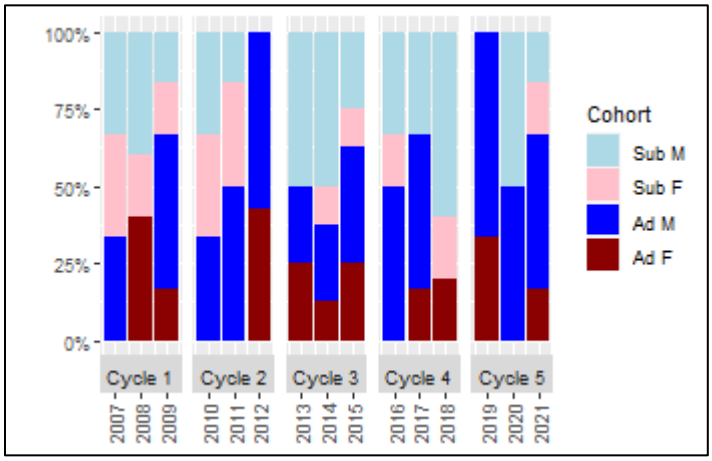
Hunt Area 12.

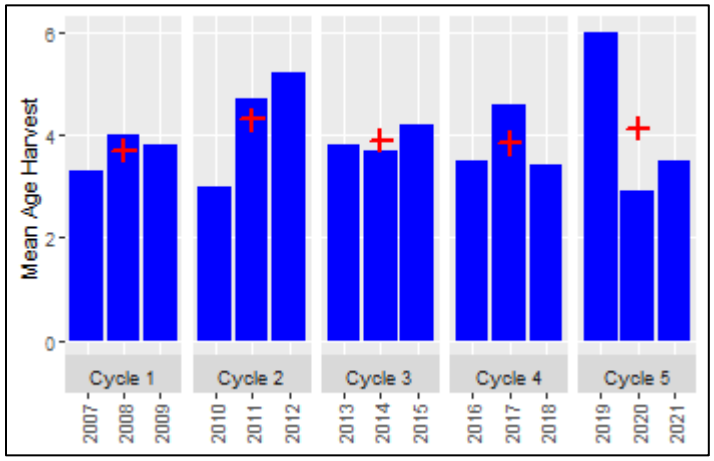

Mortality
Non-Harvest
Illegal Harvest
Legal Harvest
Harvest Limit
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

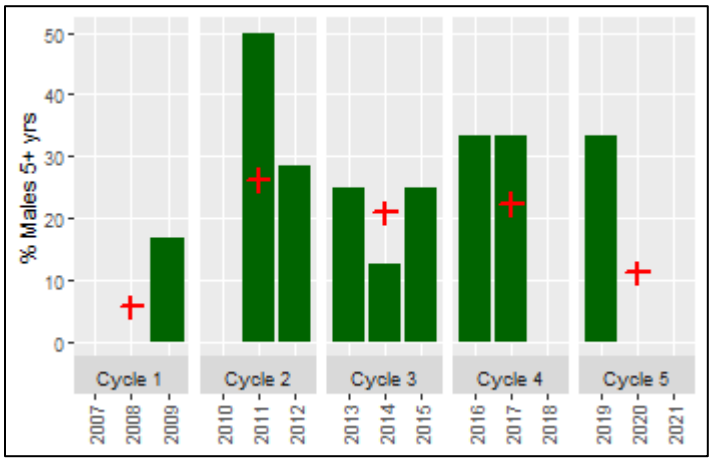

Mortality / 1000km Habitat
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

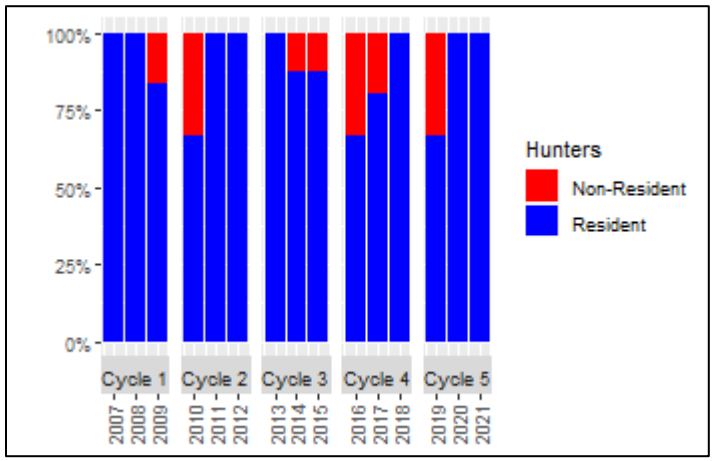

Adult Females Harvested (%)
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Average Age of Adult Females
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Cohort
Sub M
Sub F
Ad M
Ad F
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Mean Age Harvest
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


% Males 5+ yrs
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Hunters
Non-Resident
Resident
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

Southwest MLMU

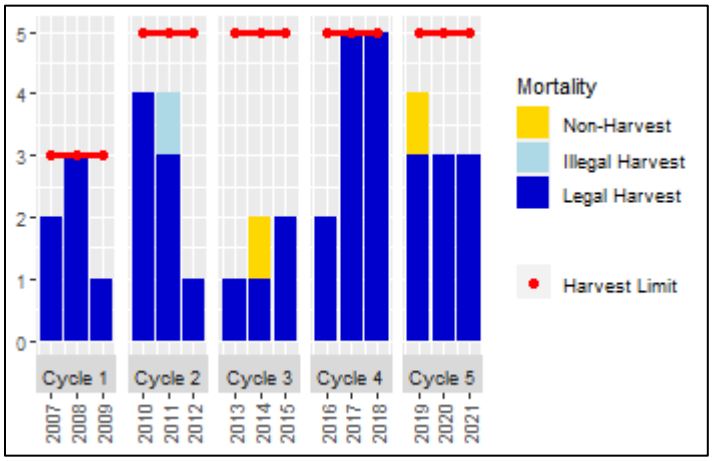
Hunt Area 13.

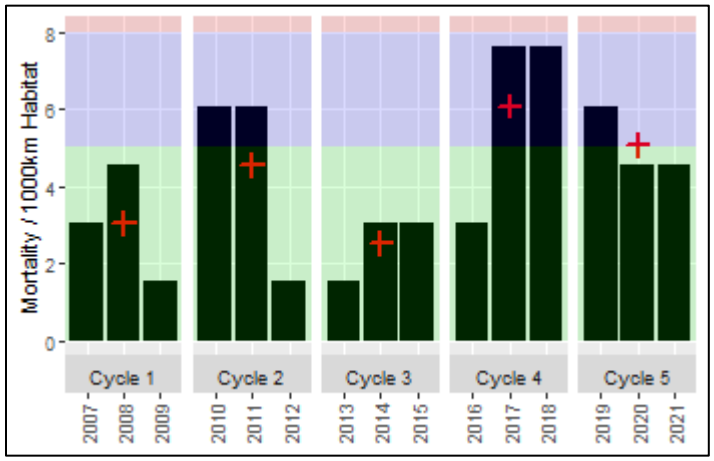
HY2019-HY2021 Regional Objective : Stable management

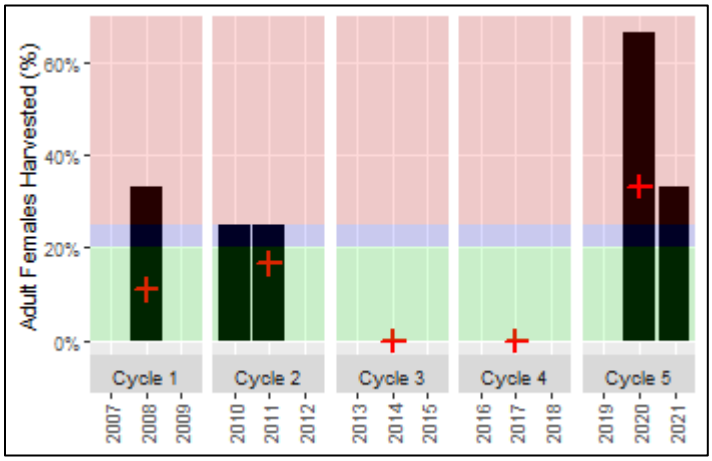
Assessment

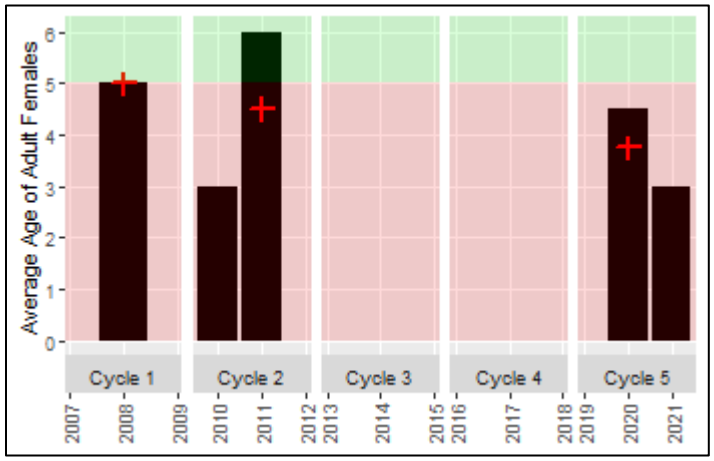
STABLE: HA 13 reported three harvests each year during the current management cycle following mortality limits that were met two consecutive years during the previous cycle. Habitat estimates predict mortality densities at source/stable levels while adult female harvest was higher during the last two seasons. A few older-aged male mountain lions were also harvested. There is also a significant amount of small parcel private lands that make some areas difficult to hunt, and no non-resident hunts or guided services were reported. No conflicts were reported during the management cycle. Tracking conditions were reported as being very good during the first year, followed by poor conditions in HY2020 and HY2021.

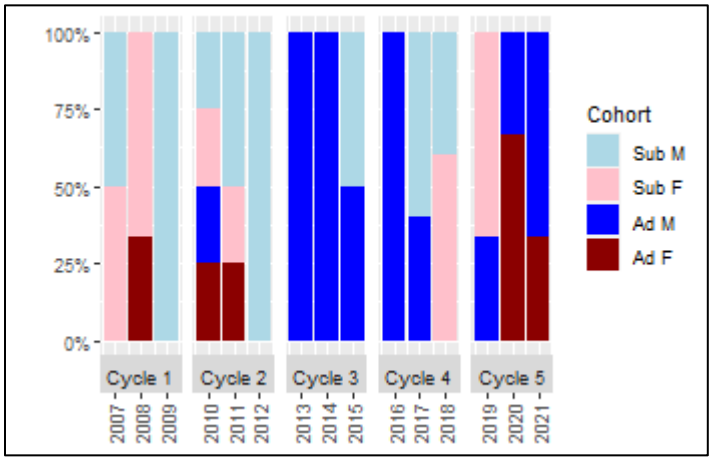
Hunt Area 13.

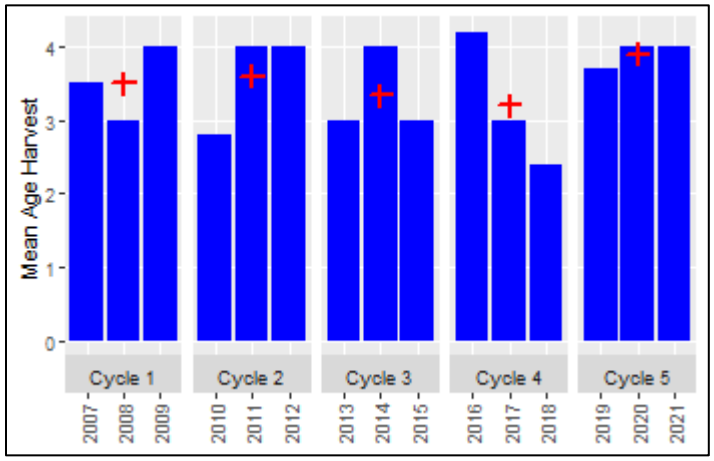

Mortality
Non-Harvest
Illegal Harvest
Legal Harvest
Harvest Limit
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

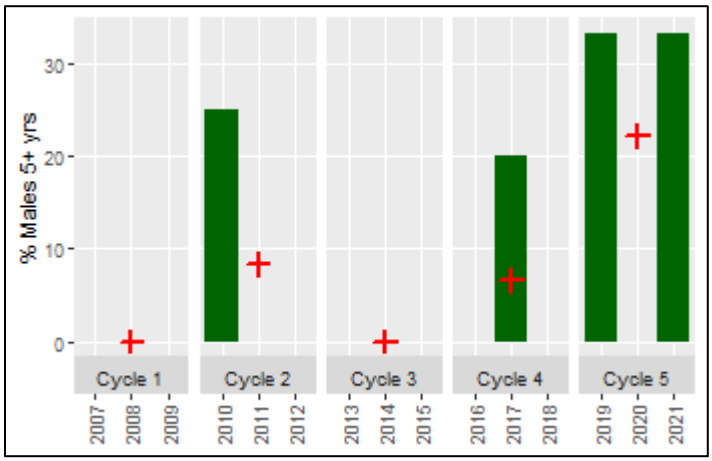

Mortality / 1000km Habitat
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

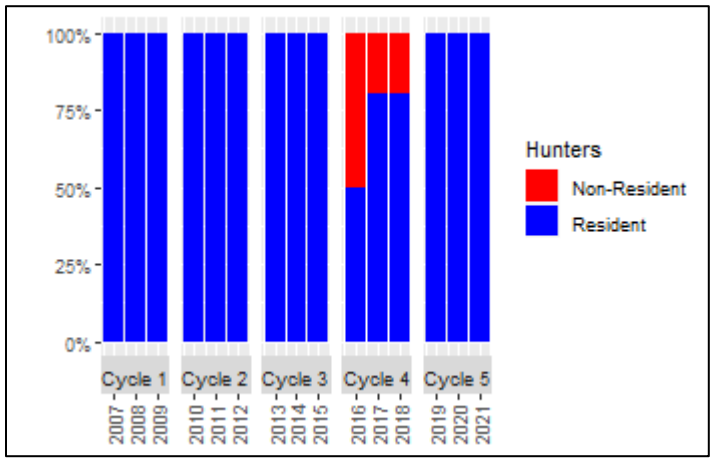

Adult Females Harvested (%)
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Average Age of Adult Females
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Cohort
Sub M
Sub F
Ad M
Ad F
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Mean Age Harvest
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


% Males 5+ yrs
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Hunters
Non-Resident
Resident
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

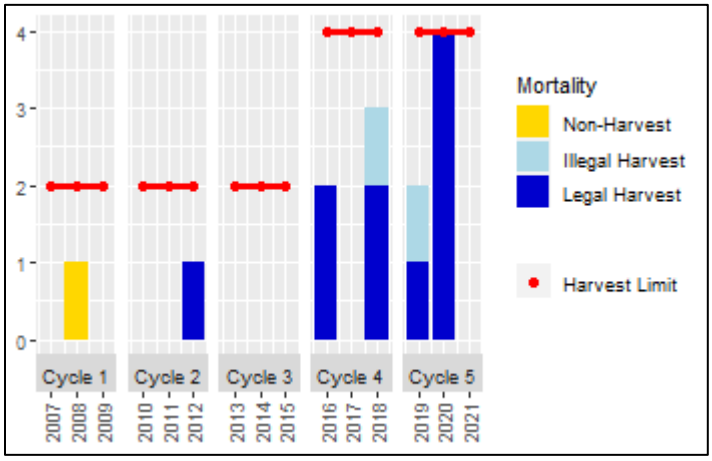
Southwest MLMU

Hunt Area 11.

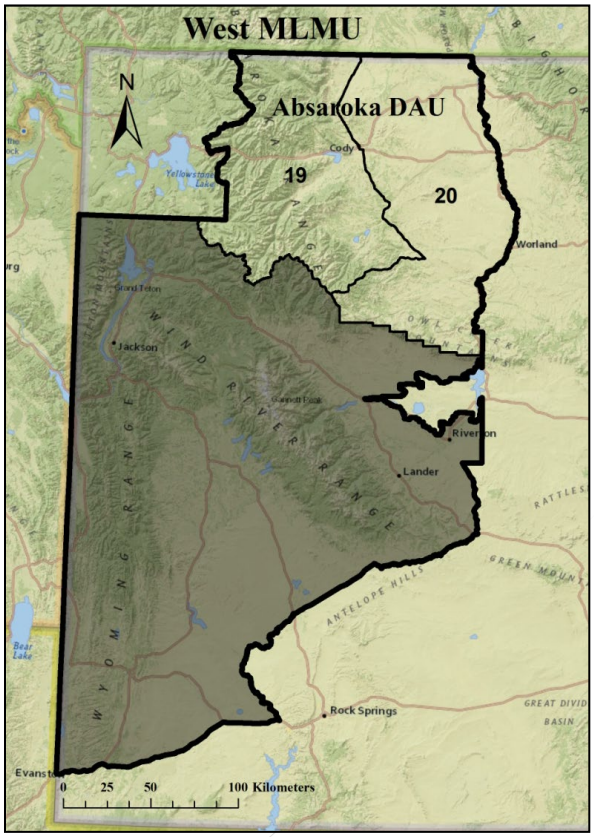
HY2019-HY2021 Regional Objective : N/A

Assessment

N/A: HA 11 has low levels of dispersed habitat throughout the area and reports few harvests, but is not currently managed for population viability. With a few exceptions, this area most likely provides dispersal habitat for mountain lions without established home ranges. Because of this, regional objectives intend to provide some hunting opportunity in this area that is made up largely of dispersing animals from adjacent populations.



ABSAROKA DAU



Overview

The Absaroka DAU was reconfigured prior to HY2016, with HA 19 and HA 20 boundaries redrawn within the DAU. Trend data is relevant at the DAU level, but hunt area trends are only applicable for the current management cycle (reflected in shaded areas within panel figures). The Absaroka DAU is functioning near regional objectives. HA 20 functions mainly as a Sink population with removal of young dispersing animals throughout the Bighorn Basin with the exception of the southwest portion that holds more habitat but also reports occasional conflict. Due to the size of HA 19, it provides good hunting opportunity as well as quality animals for selective hunters. HA 19 slightly increased allowable mortality prior to the 5th management cycle, and saw elevated mortality from the previous cycle.

Absaroka DAU

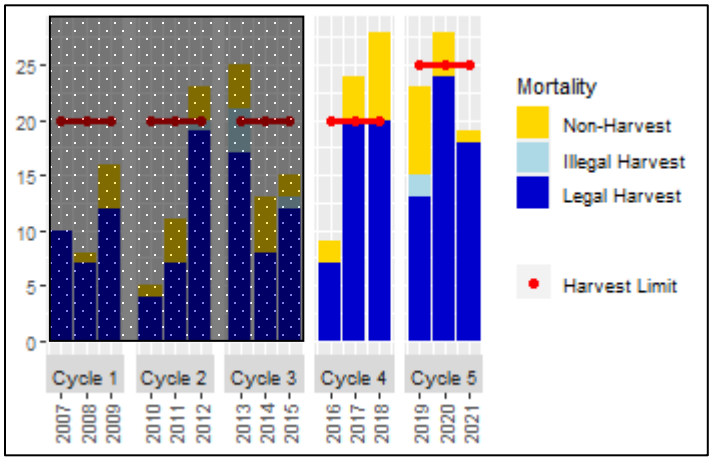
Hunt Area 19.

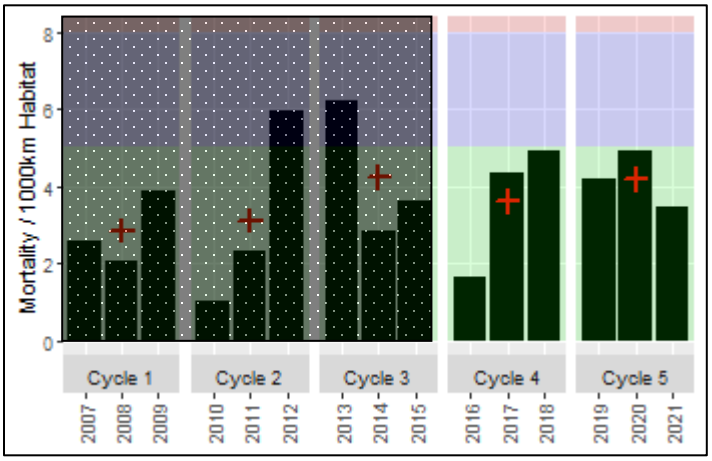
HY2016-HY2018 Regional Objective : Stable/Source management

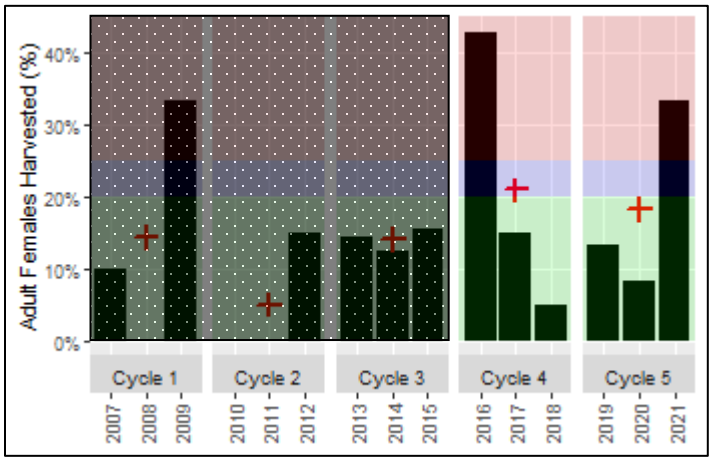
Assessment

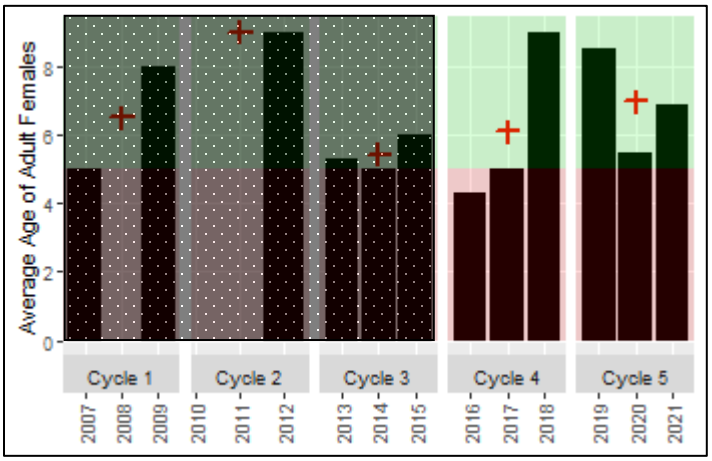
SOURCE: The current management cycle in HA 19 did not reach or exceed limits after increasing allowable harvest in HY2019. HA 19 holds the largest amount of suitable habitat of any hunt area in the state, and mortality densities indicate source status. Adult female harvest exceeded 30% only one year of the current cycle, and adult cohorts and overall age has remained stable. However, older-age males have not been as common as in previous cycles, potentially due to a decrease in selective hunters. HA 19 has trended toward more non-resident hunters and guided hunts, and harvest is well distributed. Less conflicts were reported during the current cycle.

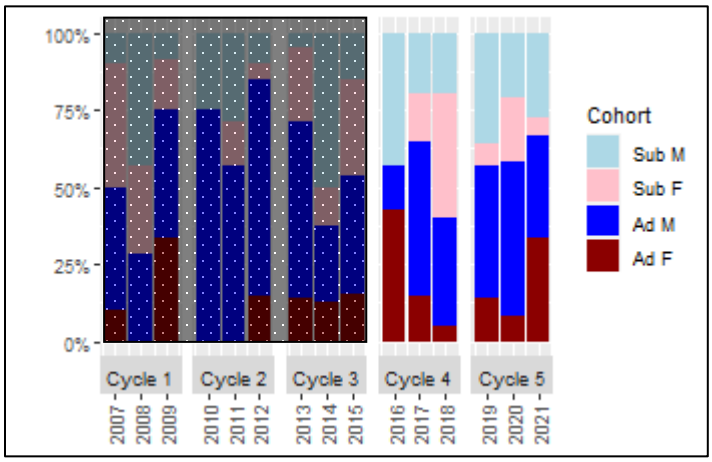
Hunt Area 19.

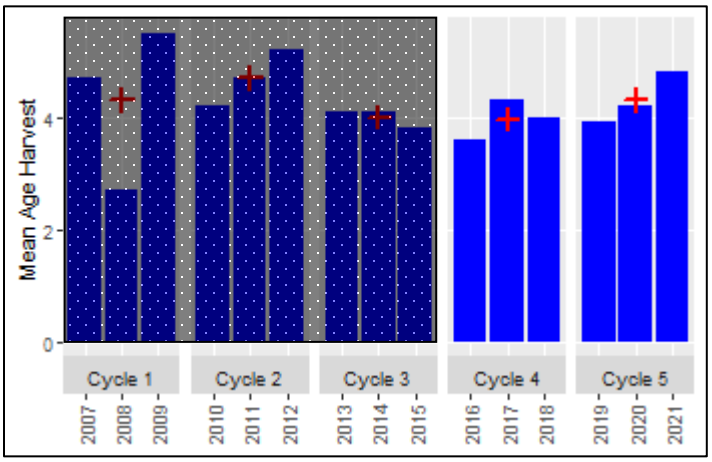

Mortality
Non-Harvest
Illegal Harvest
Legal Harvest
Harvest Limit
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

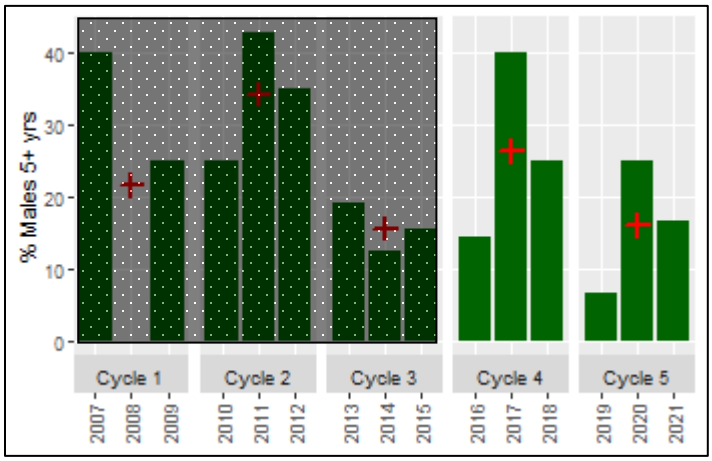

Mortality / 1000km Habitat
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

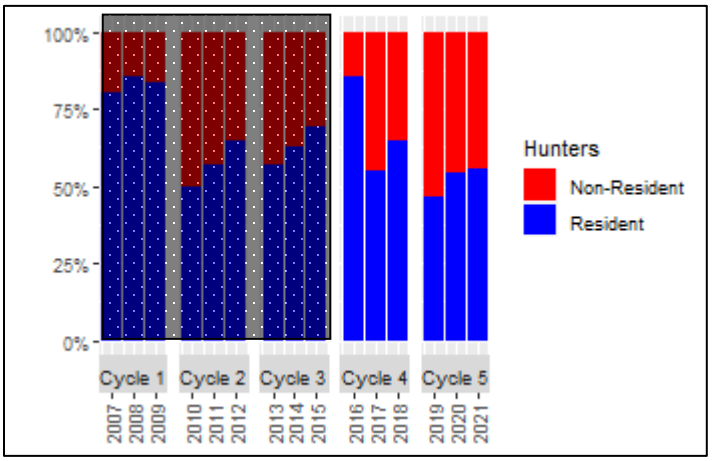

Adult Females Harvested (%)
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Average Age of Adult Females
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Cohort
Sub M
Sub F
Ad M
Ad F
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Mean Age Harvest
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


% Males 5+ yrs
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Hunters
Non-Resident
Resident
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

Absaroka DAU

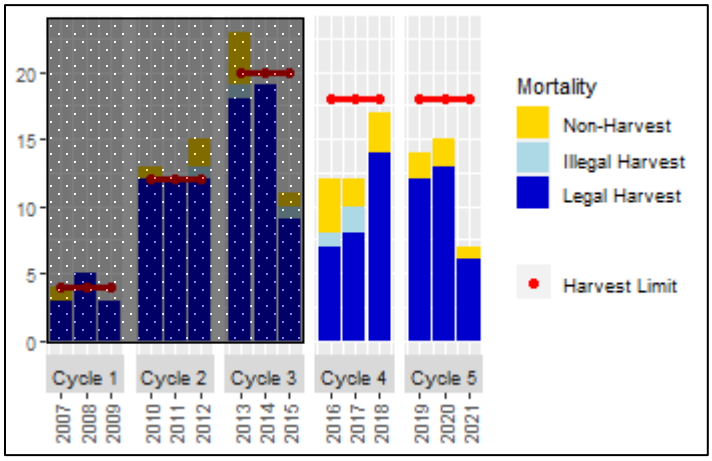
Hunt Area 20.

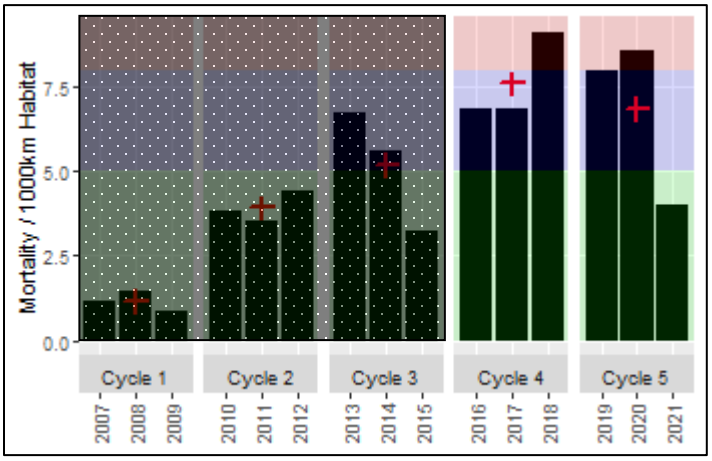
HY2019-HY2021 Regional Objective : Stable/Sink management

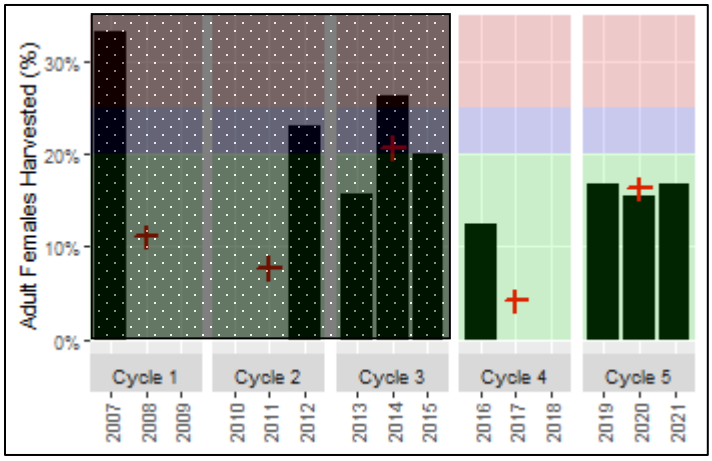
Assessment

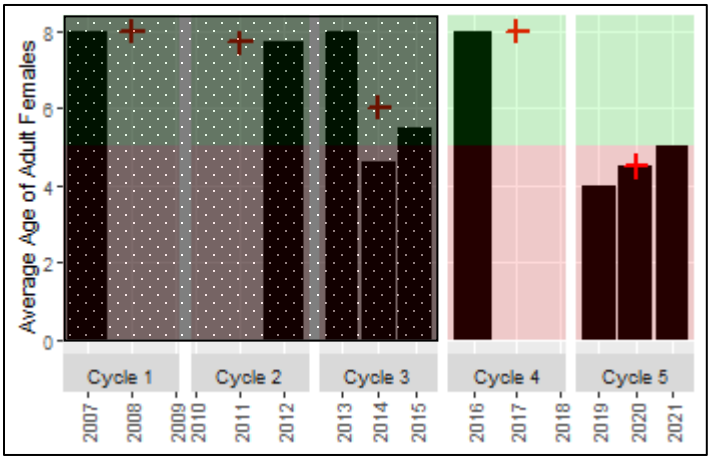
STABLE/SINK: Since HY2016, HA 20 encompasses areas to the east of HA 19 with a Regional objective for stable/sink management. Mortality limits have not been met and include mostly sub-adult animals. Average age of harvest is less than three years compared to a four year average for HA 19. This is unsurprising given the new hunt area distribution that encompasses mountain lion dispersal area across the Bighorn Basin and less core habitat on the eastern front of the Absaroka Range. Selective hunting has decreased in the hunt area, and more conflicts were reported than in the previous cycle, mostly related to sheep depredation at the southern end of the unit. HA 20 functions mostly as a sink where harvest occurs mostly along corridors across the basin with the exception of the southern portion that holds suitable habitat. Tracking conditions over the analysis period were moderate, with snow coming early in the seasons around October and additional snow not showing until February or later.

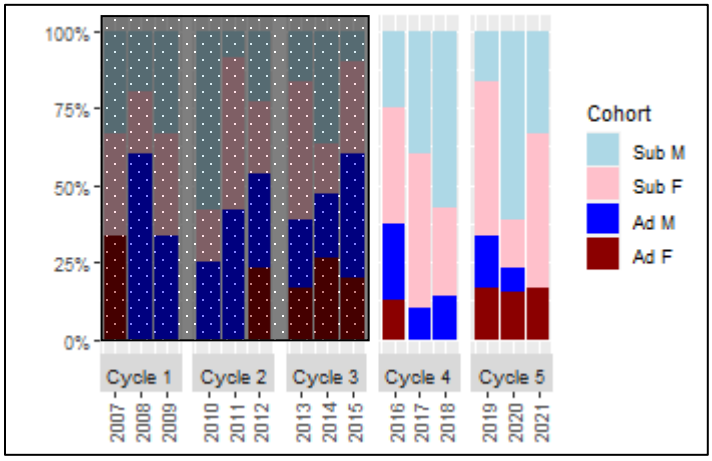
Hunt Area 20.

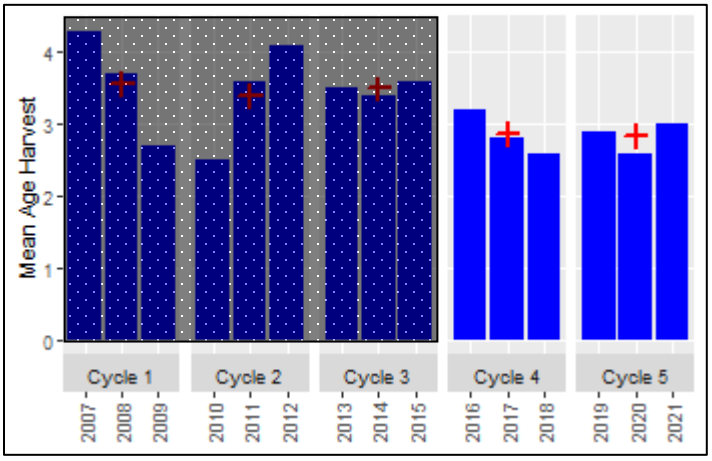

Mortality
Non-Harvest
Illegal Harvest
Legal Harvest
Harvest Limit
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

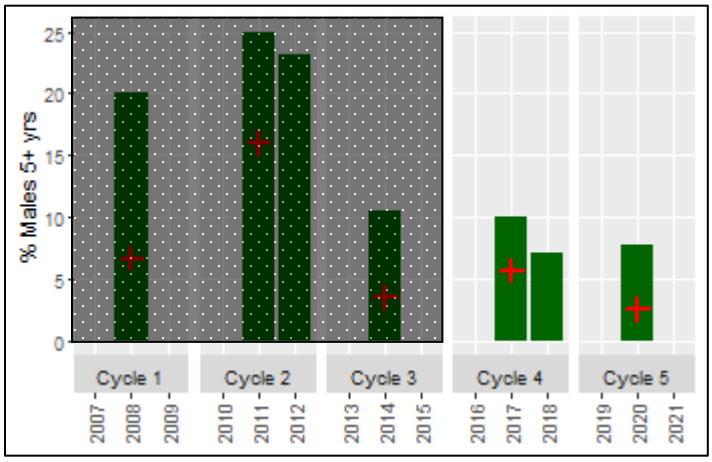

Mortality / 1000km Habitat
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

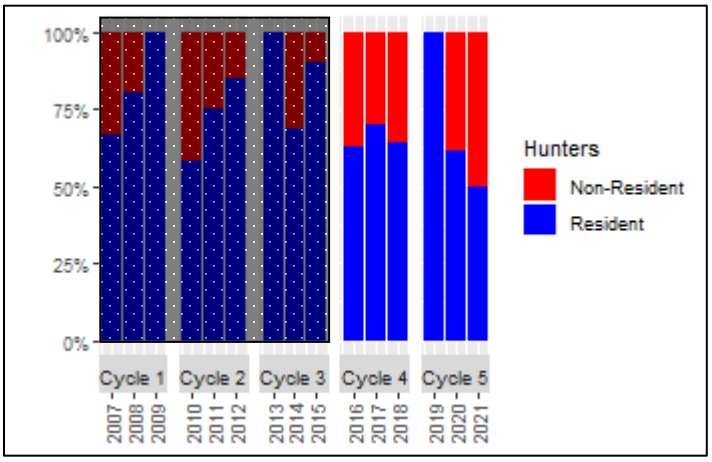

Adult Females Harvested (%)
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Average Age of Adult Females
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

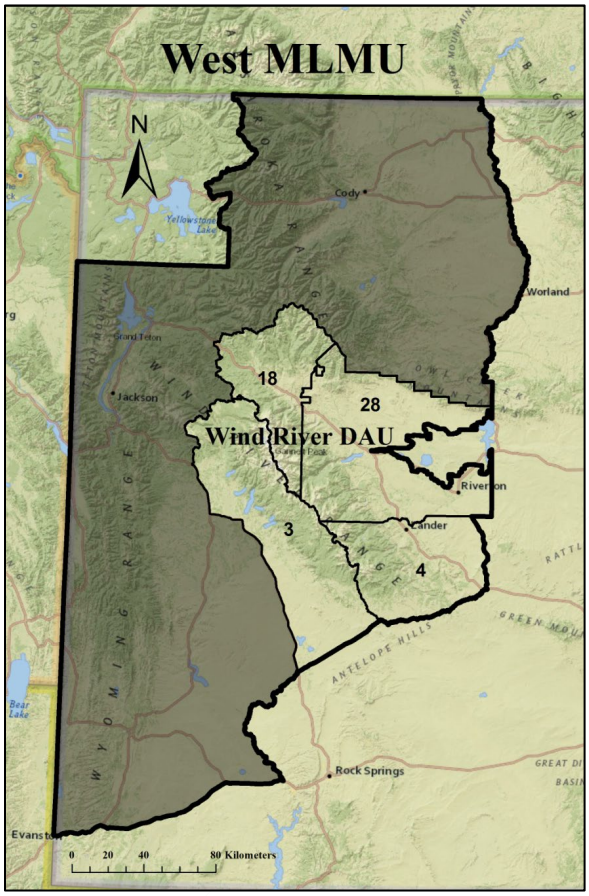

Cohort
Sub M
Sub F
Ad M
Ad F
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Mean Age Harvest
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


% Males 5+ yrs
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Hunters
Non-Resident
Resident
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

WIND RIVER DAU



Overview

The Wind River DAU includes four hunt areas encompassing the Wind River Range of the West MLMU. Harvest within hunt areas along the Wind River Mountains all generally reported lower harvest rates, although HA 28 (comprised almost entirely of reservation lands) met mortality limits during the past two seasons. Given low harvest and minimal take of adult females, data indicate all areas within this DAU likely functions toward source status.

Wind River DAU

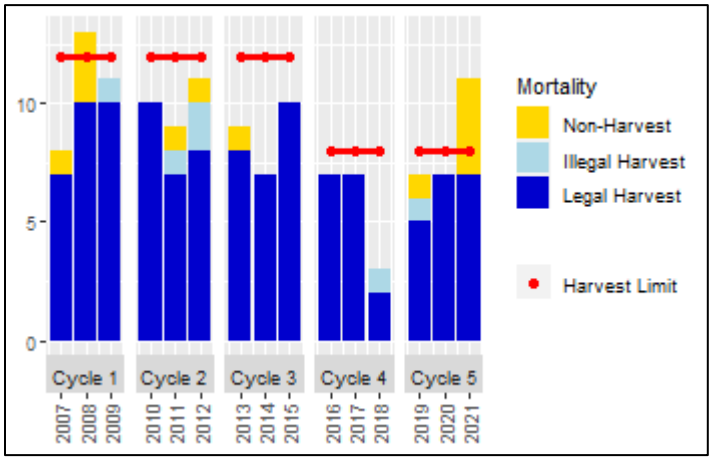
Hunt Area 3.

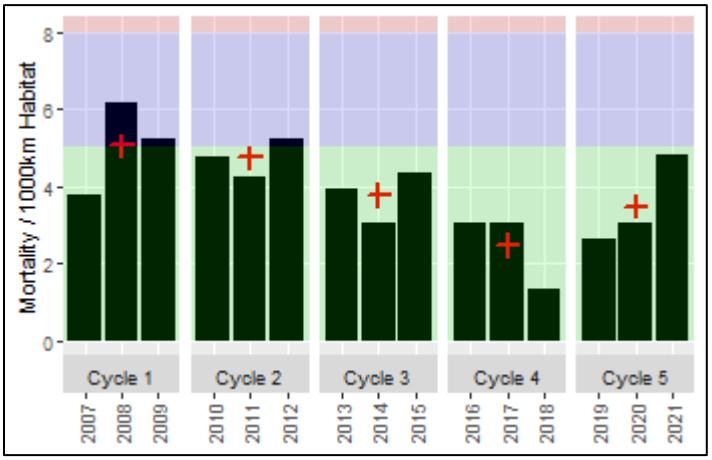
HY2019-HY2021 Regional Objective : Stable/Source management

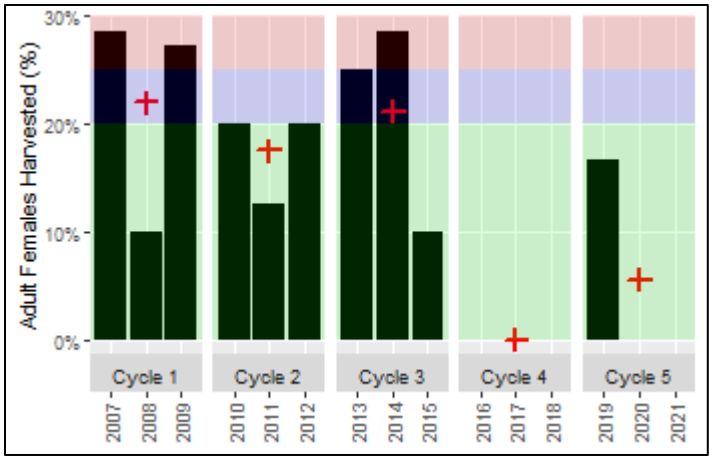
Assessment

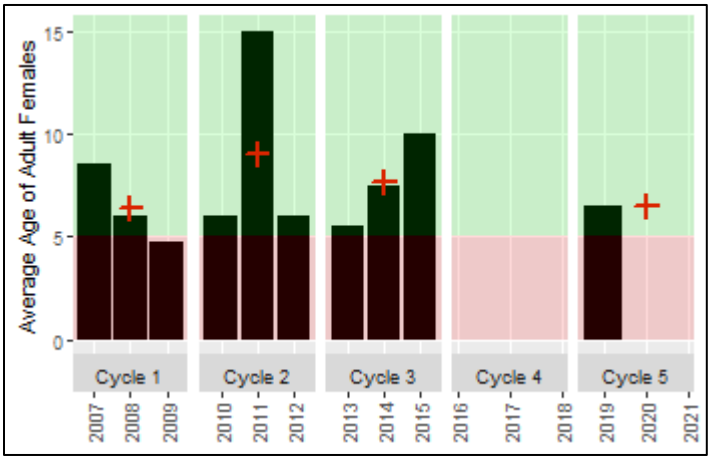
STABLE/SOURCE: This hunt area previously exhibited signs of population suppression (elevated adult female harvest) under stable/source level mortality densities, and HA 3 may naturally sustain lower mountain lion densities than used in population trend models. Harvest declined in HA 3 although opportunity was not limited by the harvest limit reduction in HY2016. Recently, source-level mortality was maintained below the mortality limit and little female harvest suggest a rebound in HA 3 densities. Although more adults were harvested during the current cycle, the overall age is lower than in previous cycles and no older-aged males were taken during the cycle. HA 3 has maintained a higher proportion of resident hunters than in the past where almost all hunts were guided non-resident hunters. Reported selectivity was higher than in previous cycles, which may account for less female harvest, but not older aged males. Conflicts have not been reported since HY2007.

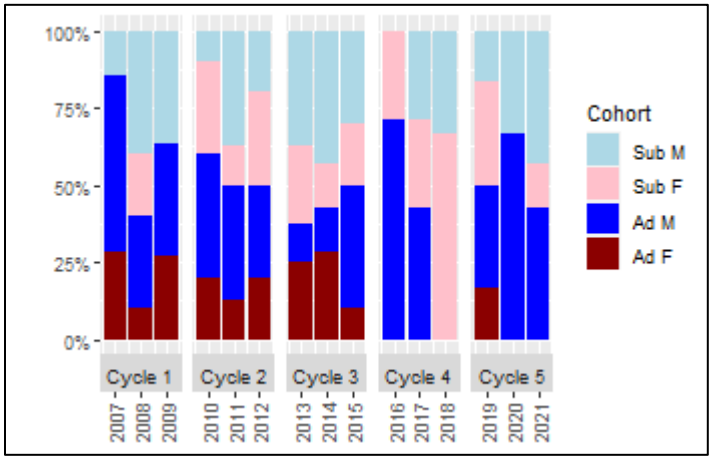
Hunt Area 3.

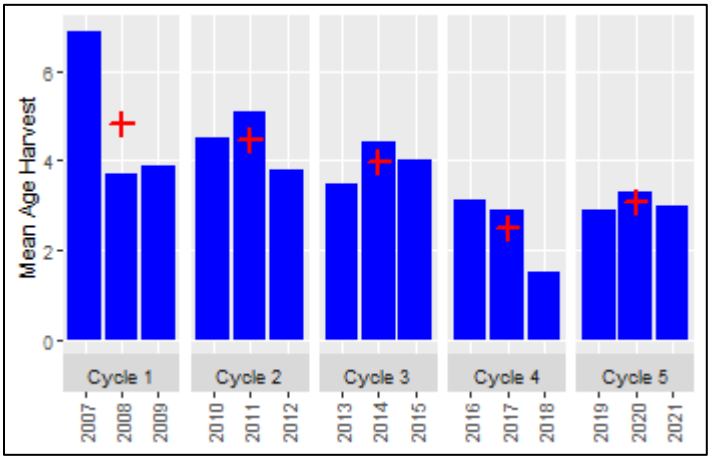

Mortality
Non-Harvest
Illegal Harvest
Legal Harvest
Harvest Limit
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

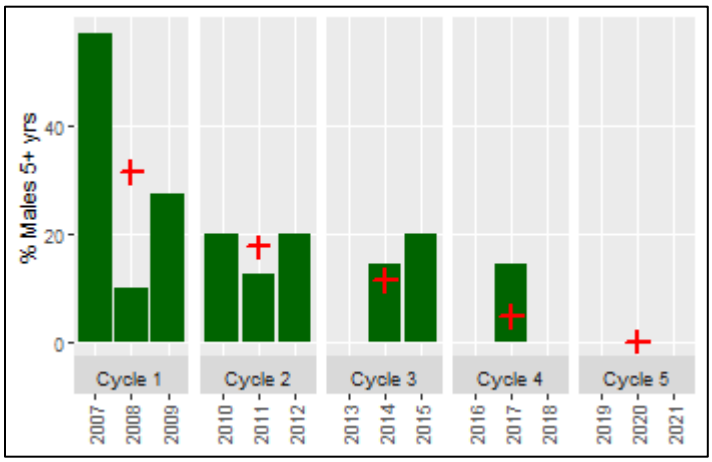

Mortality / 1000km Habitat
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

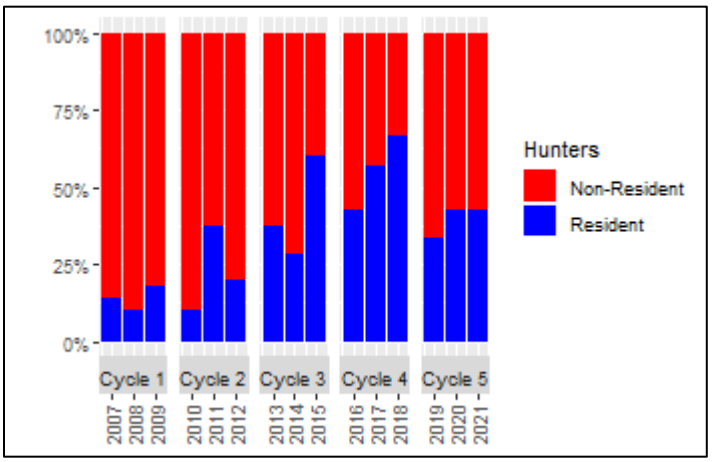

Adult Females Harvested (%)
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Average Age of Adult Females
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Cohort
Sub M
Sub F
Ad M
Ad F
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Mean Age Harvest
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


% Males 5+ yrs
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Hunters
Non-Resident
Resident
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

Wind River DAU

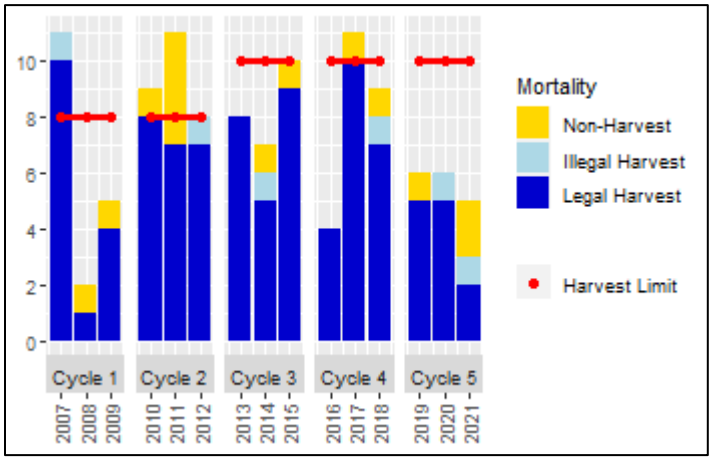
Hunt Area 4.

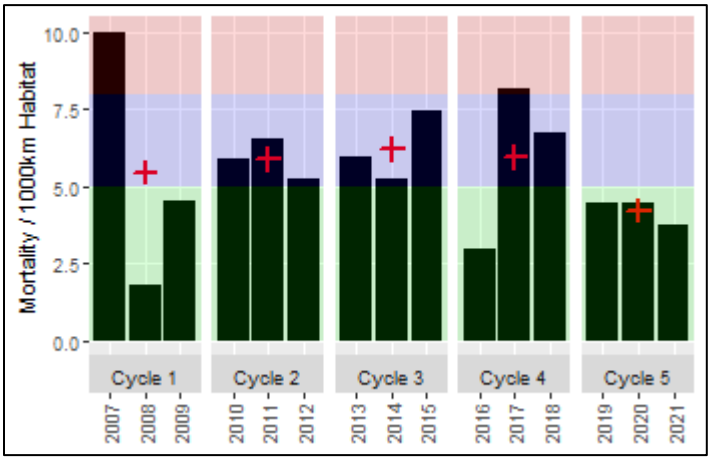
HY2019-HY2021 Regional Objective : Stable management

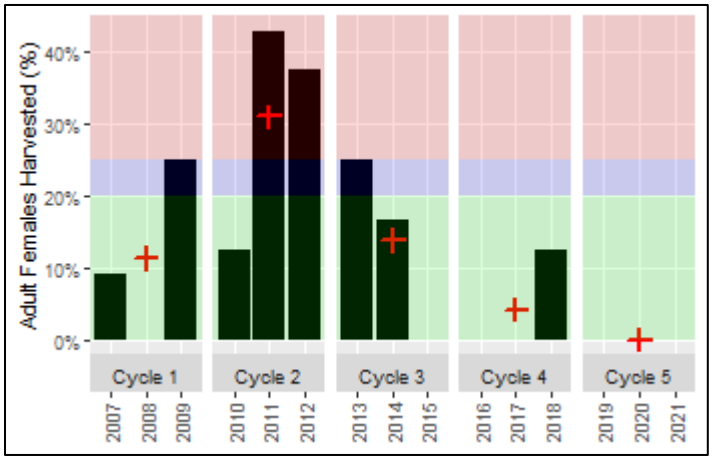
Assessment

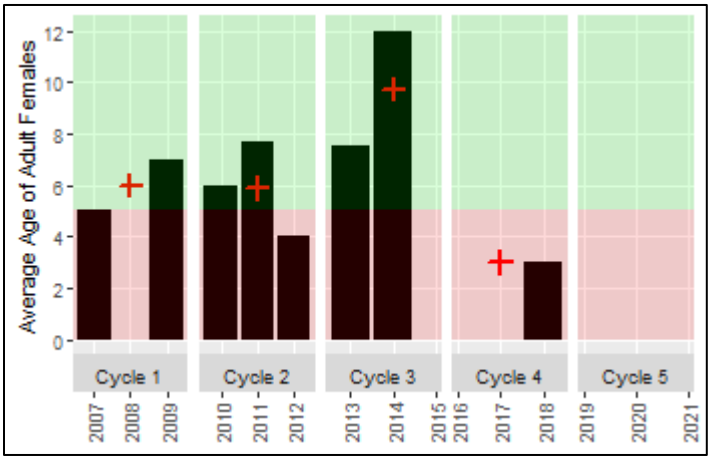
STABLE/SOURCE: HA 4 showed lower harvest during the current cycle indicating source level mortality densities. Little adult female harvest has occurred over the last 6 years. The majority of harvests were represented by sub-adult animals during the current cycle, reflected in a lower average age in the harvest. Selectivity has reduced in the hunt area which may account for some of the changes in ages of harvested animals. Besides reproduction within HA 4, dispersal from the adjacent source population in HA 28 to the north also compensates for harvest in the area. Winter conditions also recently played a role as limited and late arriving snowpack likely maintained mountain lion distribution across higher elevations, more inaccessible than typically hunted areas. Approximately 50% of hunts in the area are guided non-resident hunters. Three poultry conflicts were reported in HY2020.

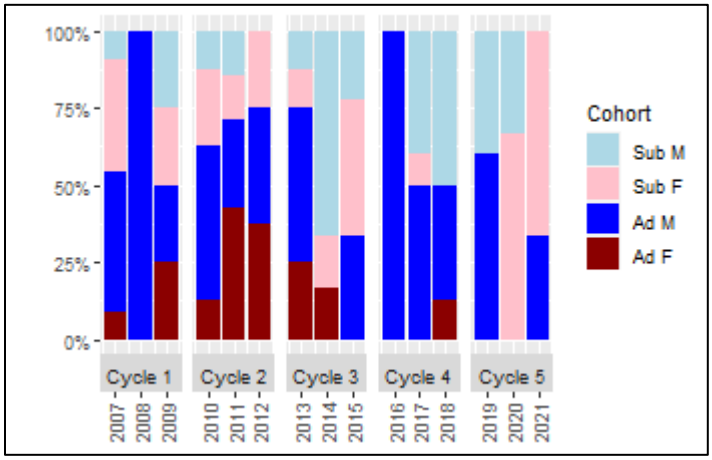
Hunt Area 4.

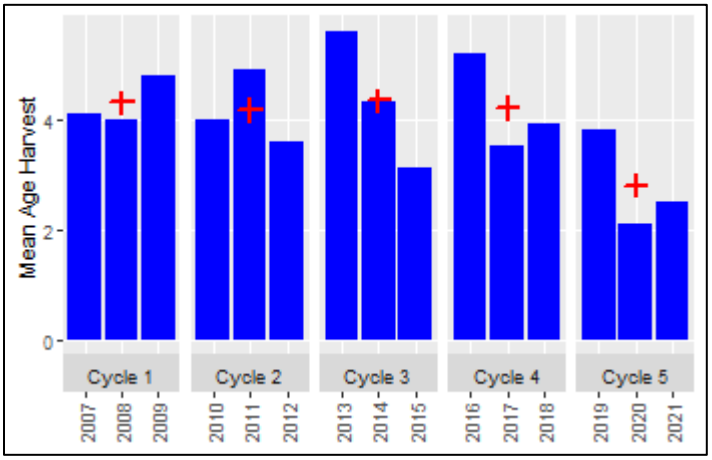

Mortality
Non-Harvest
Illegal Harvest
Legal Harvest
Harvest Limit
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

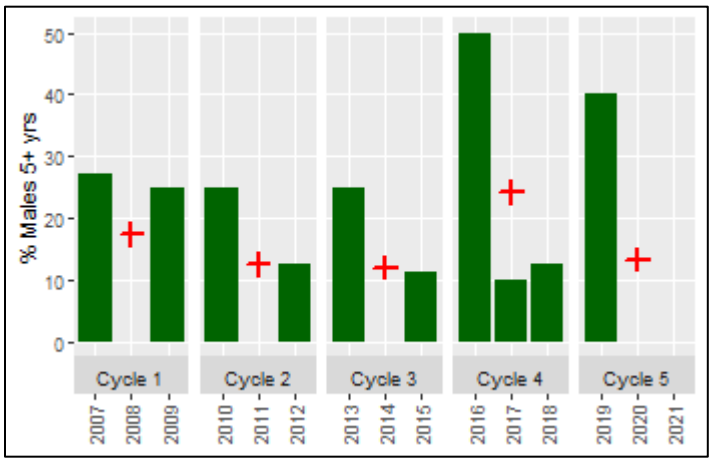

Mortality / 1000km Habitat
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

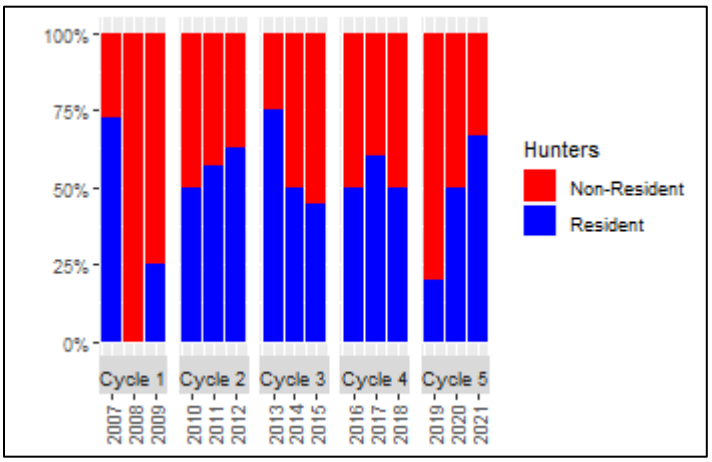

Adult Females Harvested (%)
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Average Age of Adult Females
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Cohort
Sub M
Sub F
Ad M
Ad F
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Mean Age Harvest
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


% Males 5+ yrs
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Hunters
Non-Resident
Resident
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

Wind River DAU

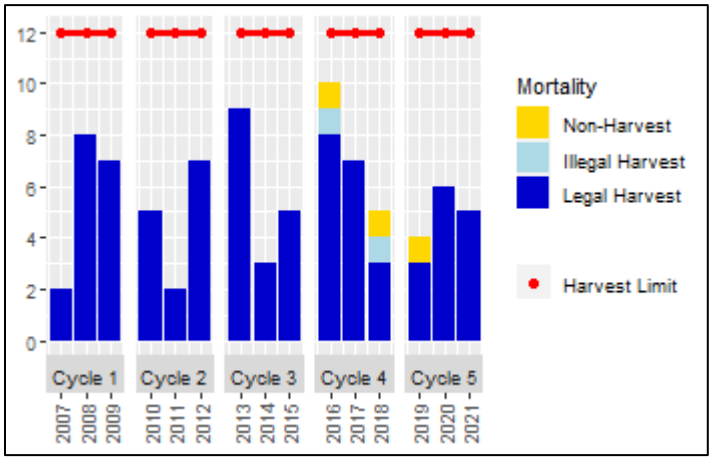
Hunt Area 18.

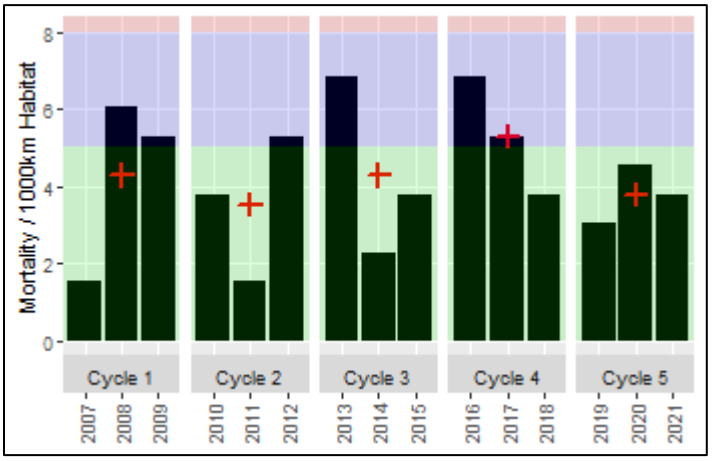
HY2019-HY2021 Regional Objective : Stable management

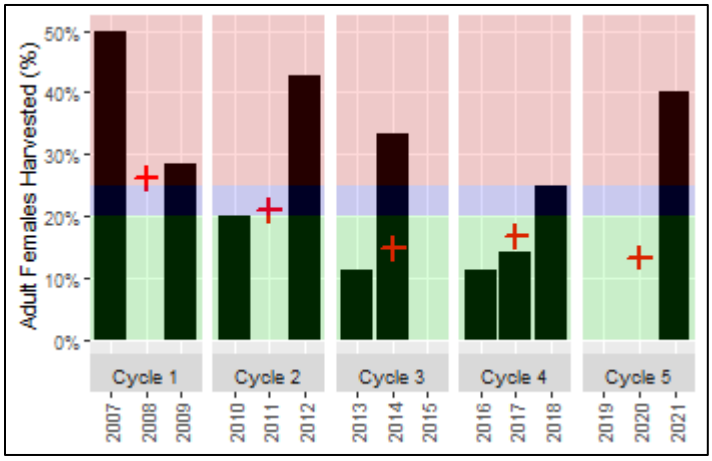
Assessment

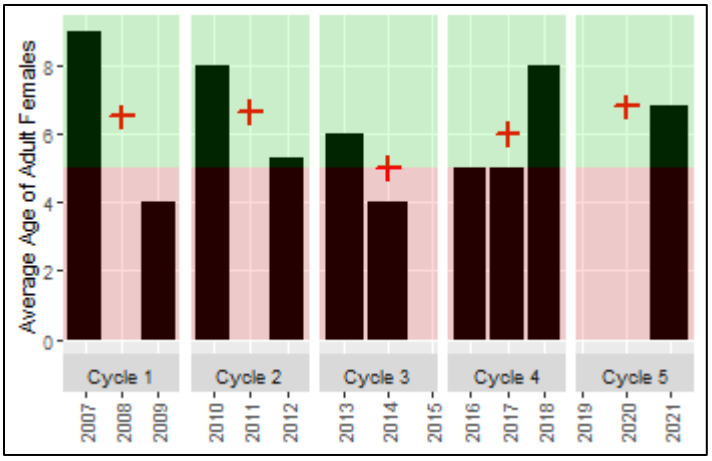
SOURCE: HA 18 maintained source function during the 5th management cycle. Mortality has not approached the harvest limit and current cycle harvest fell well within source-level mortality densities. Mostly adult cohorts were harvested with few adult females harvested indicating good potential for reproduction and dispersal. Overall age of harvest >4 indicates good opportunity for available mature male mountain lions. Oriented at the head of the Wind River Basin, HA 18 is surrounded by many source and stable/source functioning areas, and big game winter closures also contribute to the current status of the area. Hunter selectivity remains high. Two conflicts were reported in HY2019.

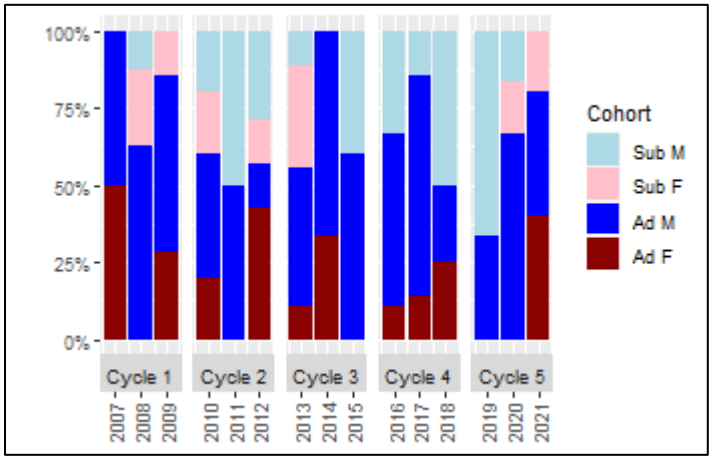
Hunt Area 18.

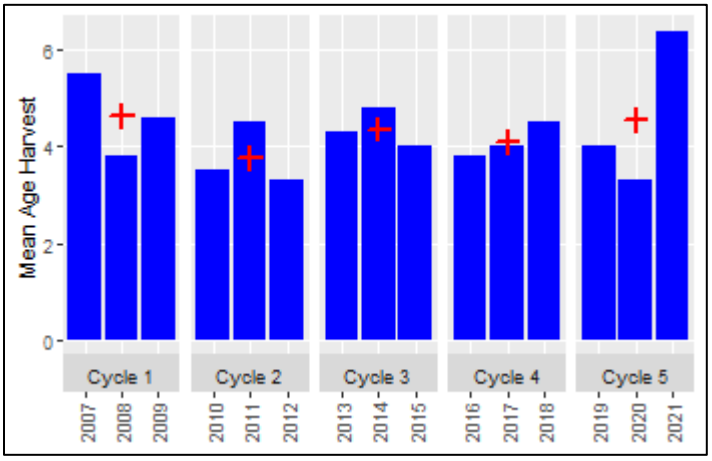

Mortality
Non-Harvest
Illegal Harvest
Legal Harvest
Harvest Limit
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

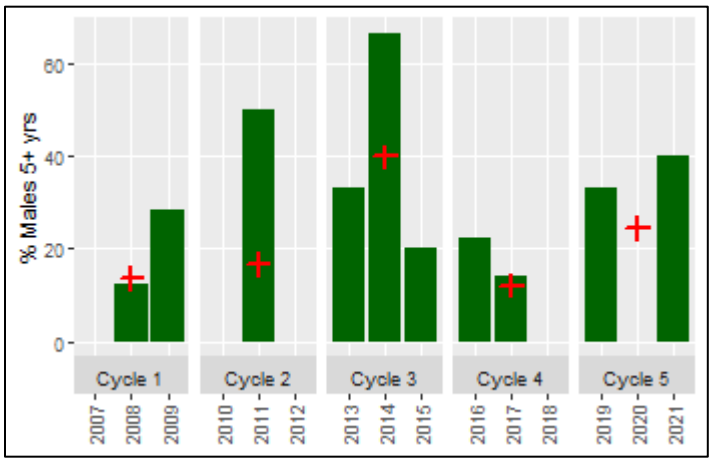

Mortality / 1000km Habitat
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

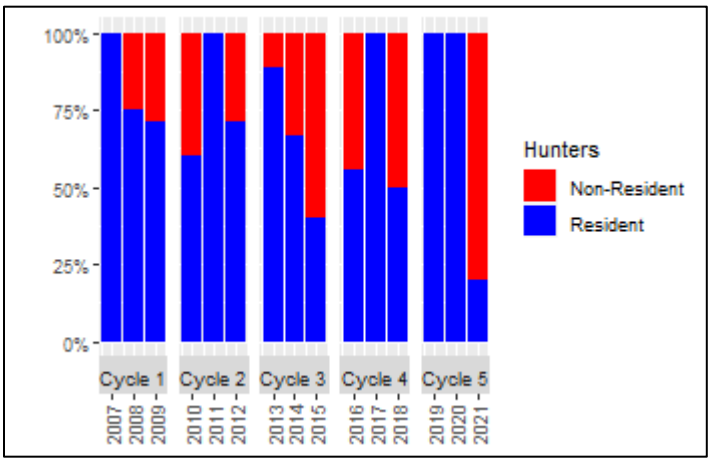

Adult Females Harvested (%)
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Average Age of Adult Females
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Cohort
Sub M
Sub F
Ad M
Ad F
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Mean Age Harvest
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


% Males 5+ yrs
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Hunters
Non-Resident
Resident
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

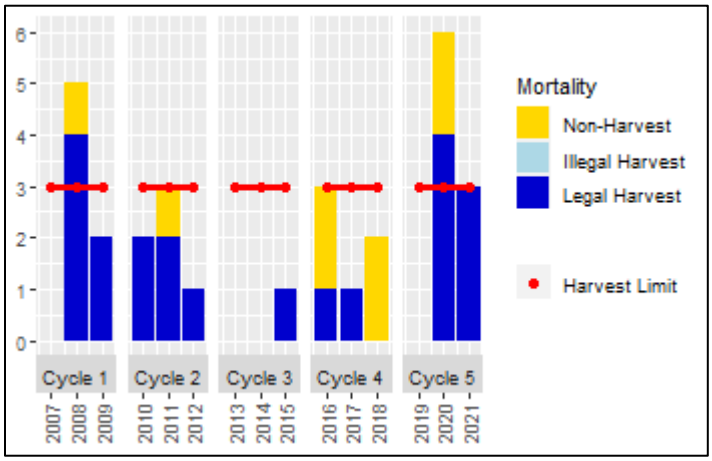
Wind River DAU

Hunt Area 28.

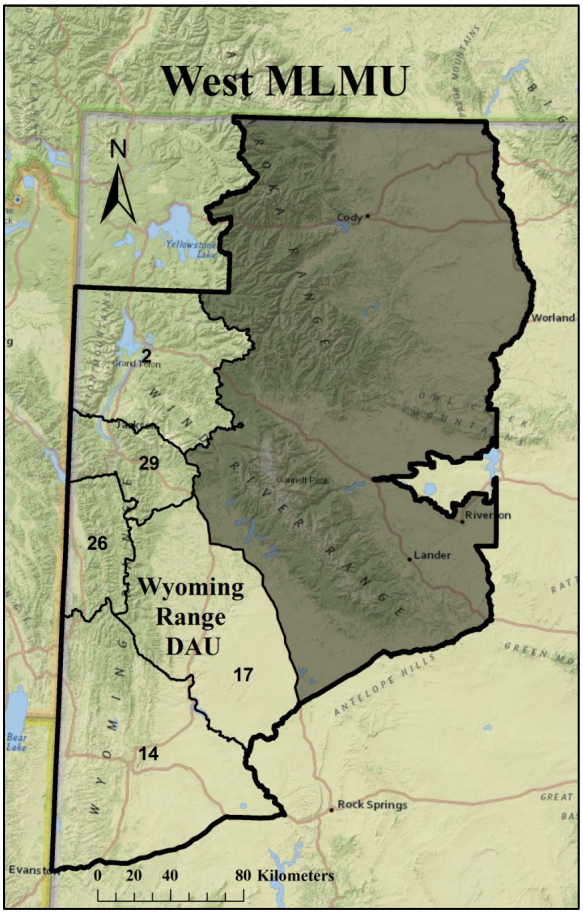
HY2019-HY2021 Regional Objective : Source management

Assessment

SOURCE: HA 28 is mostly Wind River Reservation land with a small amount of non-tribal private in-holdings (where Department regulations apply). Mortalities include shared reporting information from the Shoshone and Arapahoe Tribal Fish and Game. Mortality increased on private land along the Big Wind River during the current cycle, but habitat assessment shows this area as a functioning source population. No guided hunts, selective hunters, or conflicts were reported during the management cycle.



WYOMING RANGE DAU



Overview

Harvest in the Wyoming Range DAU was elevated in the first two years of the current cycle nearing mortality limits within the DAU, but harvest dropped during HY2021. Low harvest rates continue to persist in HA 2 that likely coincide with lower natural mountain lion densities. This DAU has steadily moved mortality limits in line with harvest and has generally maintained objectives. Most harvest occurs in HA 26 and HA 14, with less harvest pressure across the remaining areas. This provides good hunting opportunity and aligns with variable objectives and viable mountain lion populations across the Wyoming Range DAU.

Wyoming Range DAU

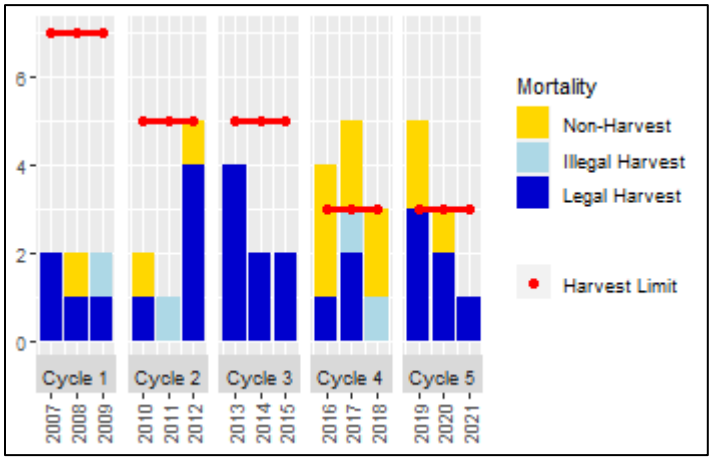
Hunt Area 2.

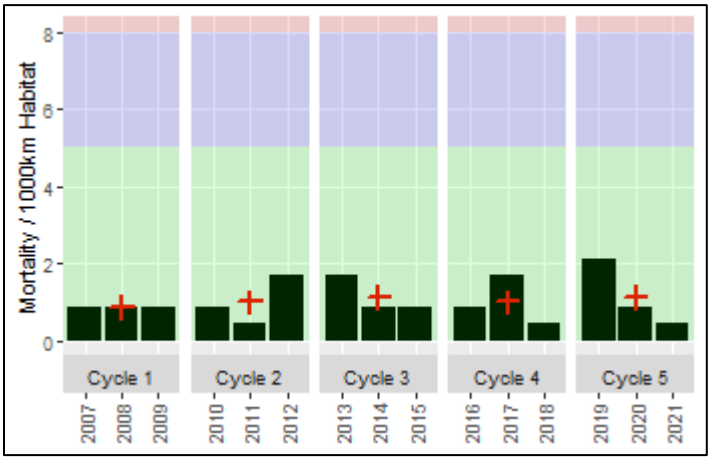
HY2019-HY2021 Regional Objective : Source management

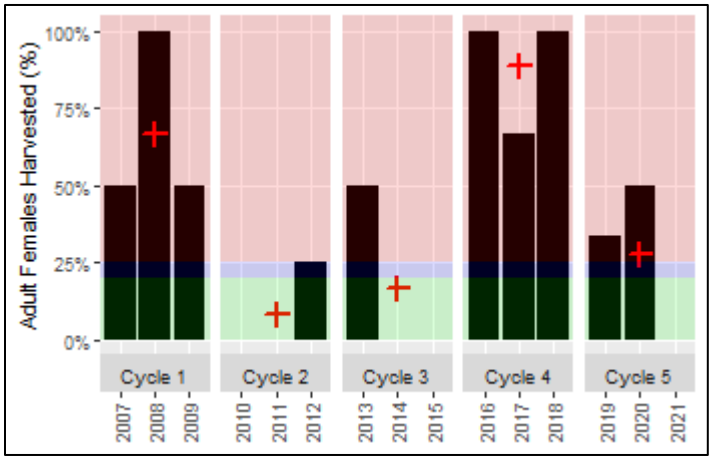
Assessment

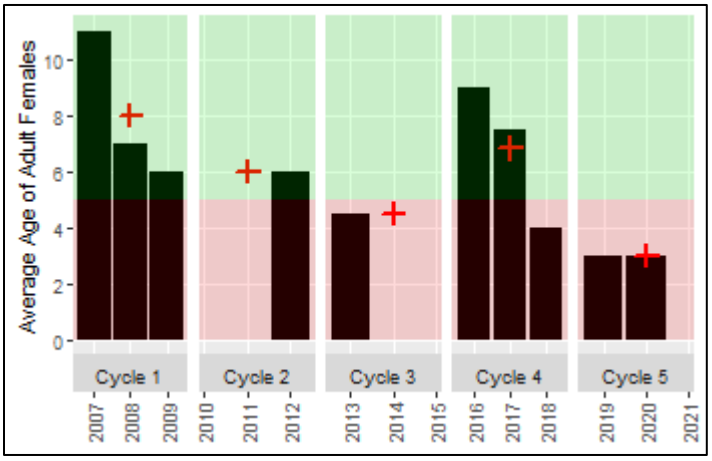
STABLE: HA 2 continues to demonstrate the lowest mortality densities in the state. Although harvest is low, mountain lion densities in certain portions of HA 2 are lower based on research conducted in the Jackson region, and allowable mortality has been reduced to coincide with predicted densities. No non-resident harvest was reported this cycle, and no guided hunts have been reported in the last eight seasons. Only one harvest reported using hounds to hunt during the cycle, and selectivity also decreased. These metrics indicate only occasional and opportunistic harvest in the area. Reported conflicts are low. Human caused mortality should not be considered a limiting factor to this particular area.

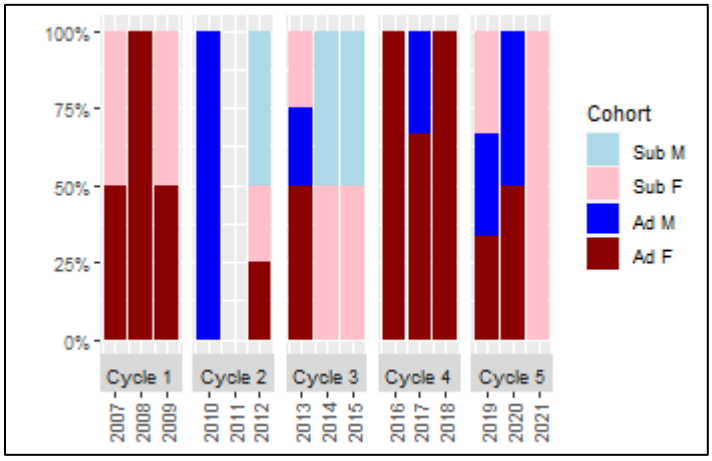
Hunt Area 2.

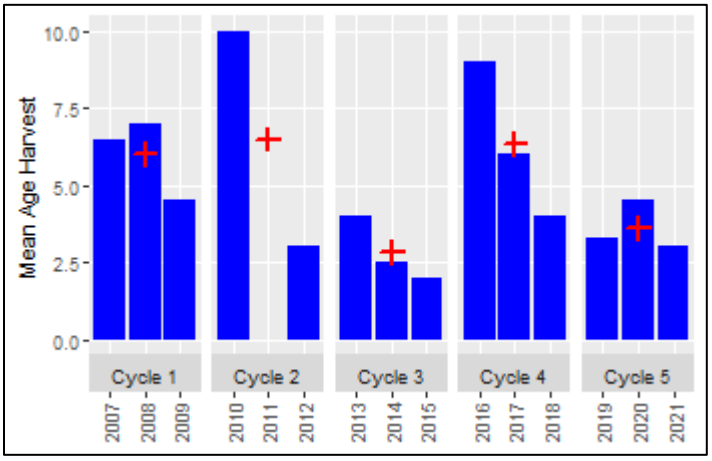

Mortality
Non-Harvest
Illegal Harvest
Legal Harvest
Harvest Limit
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

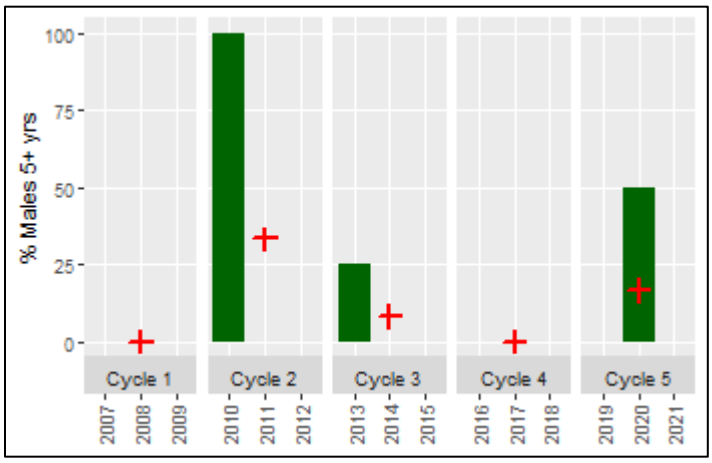

Mortality / 1000km Habitat
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

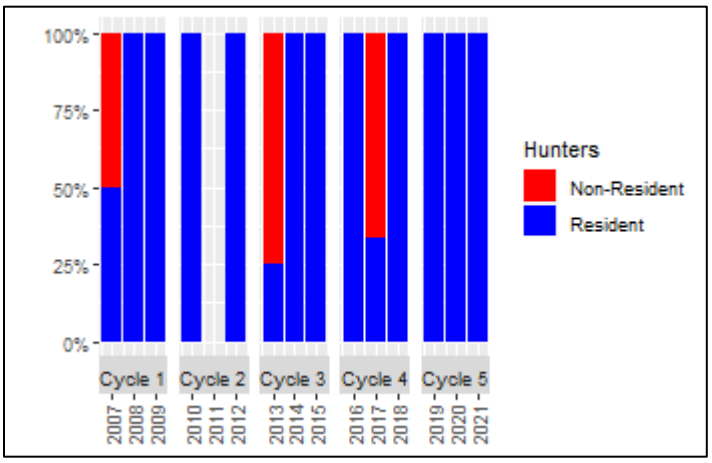

Adult Females Harvested (%)
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Average Age of Adult Females
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Cohort
Sub M
Sub F
Ad M
Ad F
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Mean Age Harvest
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


% Males 5+ yrs
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Hunters
Non-Resident
Resident
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

Wyoming Range DAU

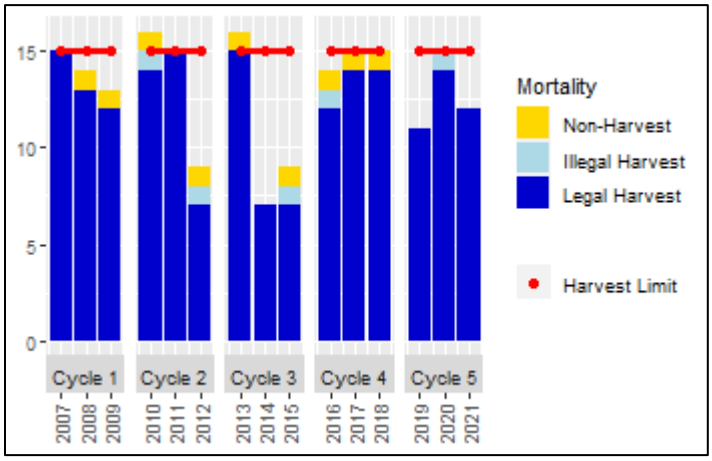
Hunt Area 14.

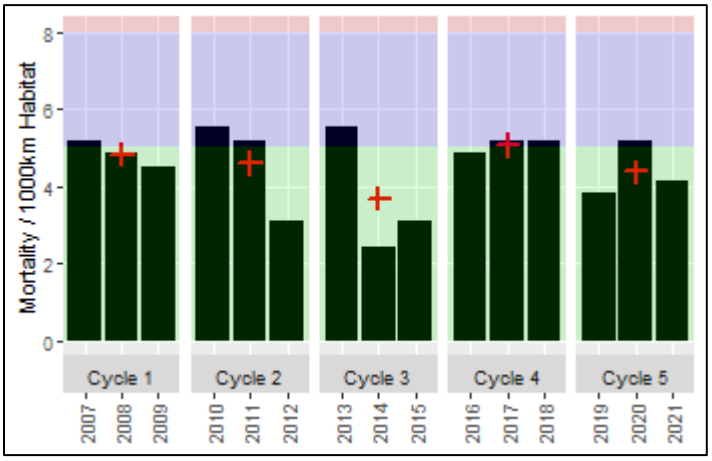
HY2019-HY2021 Regional Objective : Stable management

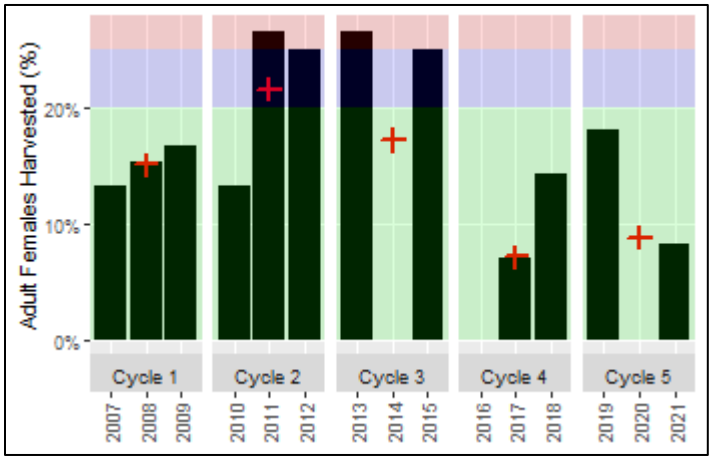
Assessment

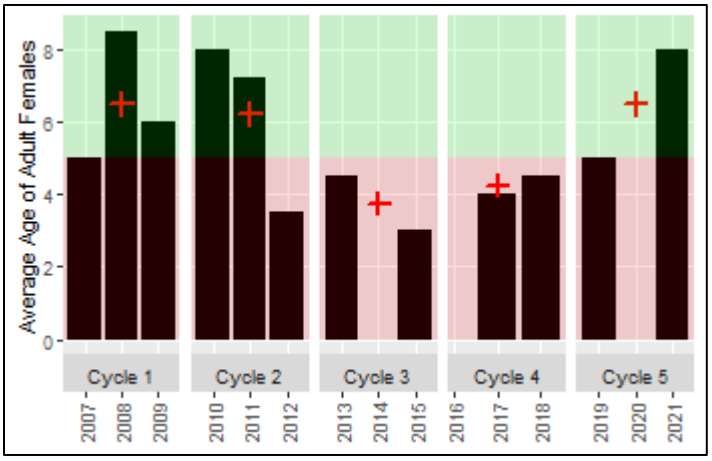
STABLE: Harvest was slightly lower in HA 14 than in the 4th cycle, and mortality densities continue to border on source/stable status. In addition, adult female harvest has been low for the past six seasons and the average age of adult females in the harvest has recently increased. No conflicts have been reported over the past four years. Selectivity remains over 50% which may account for reduced adult female harvest. More guided hunts occurred during the current cycle. The average age of harvest, proportion of older males in the harvest, and proportion of adults in the harvest are all lower than early cycles, but HA 14 likely shows stable population trends and good hunting opportunity in line with regional objectives. HA 14 also has areas with seasonal access limitations and likely holds mountain lion habitat beyond modelled estimates, which can bolster lion densities in HA 14.

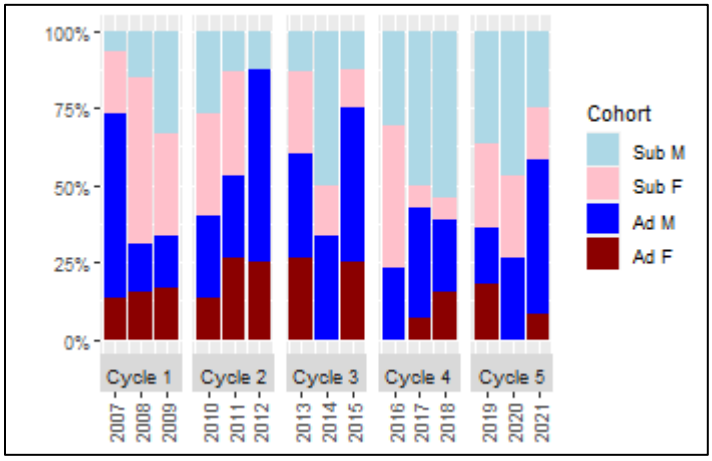
Hunt Area 14.

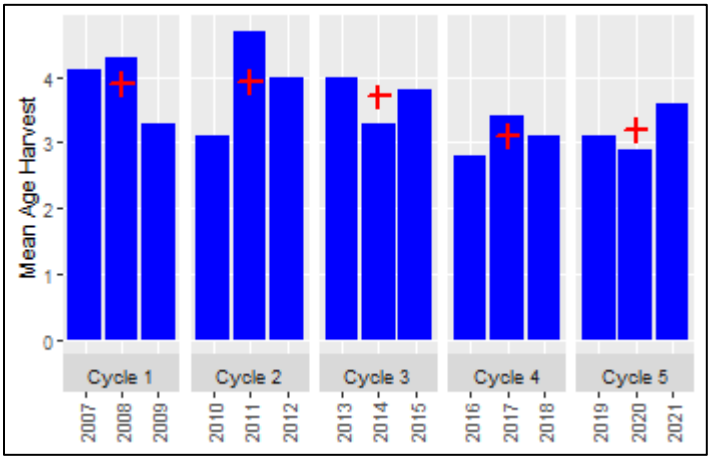

Mortality
Non-Harvest
Illegal Harvest
Legal Harvest
Harvest Limit
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

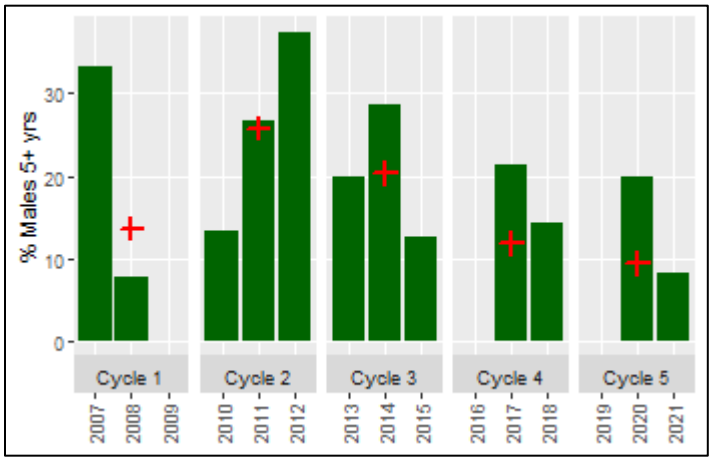

Mortality / 1000km Habitat
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

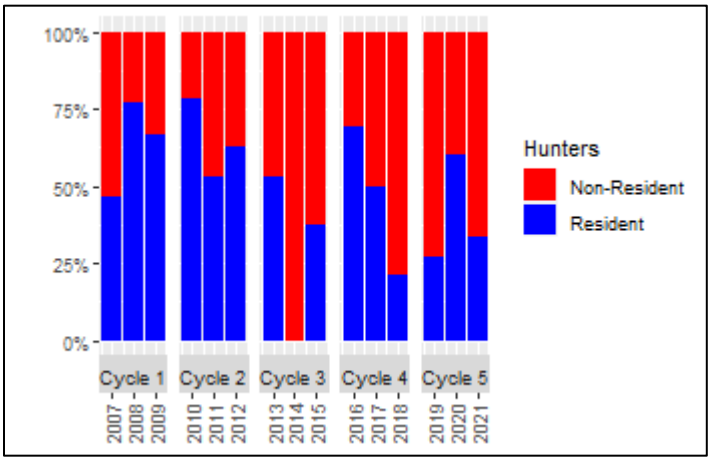

Adult Females Harvested (%)
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Average Age of Adult Females
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Cohort
Sub M
Sub F
Ad M
Ad F
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Mean Age Harvest
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


% Males 5+ yrs
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Hunters
Non-Resident
Resident
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

Wyoming Range DAU

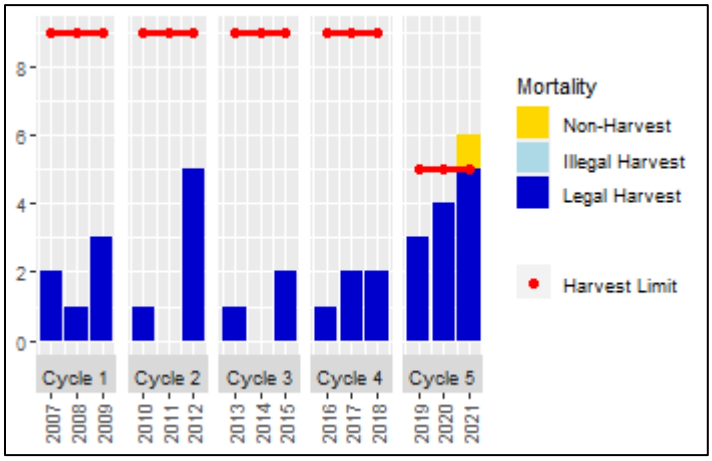
Hunt Area 17.

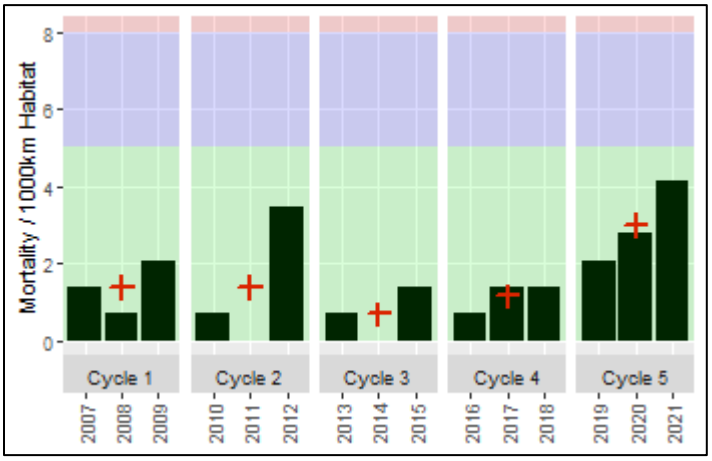
HY2019-HY2021 Regional Objective : Stable/Source management

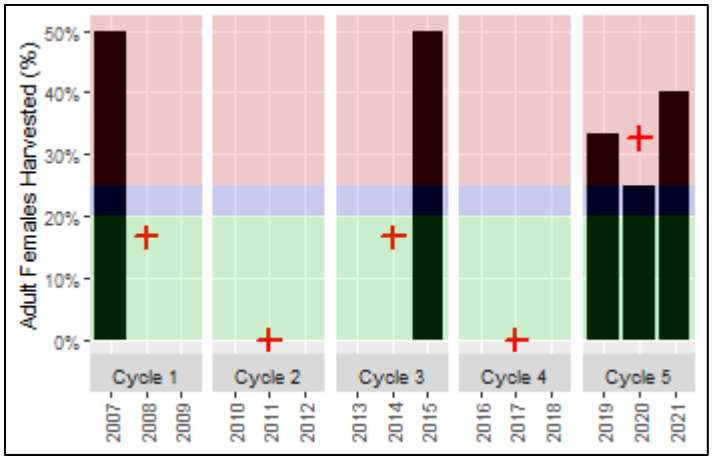
Assessment

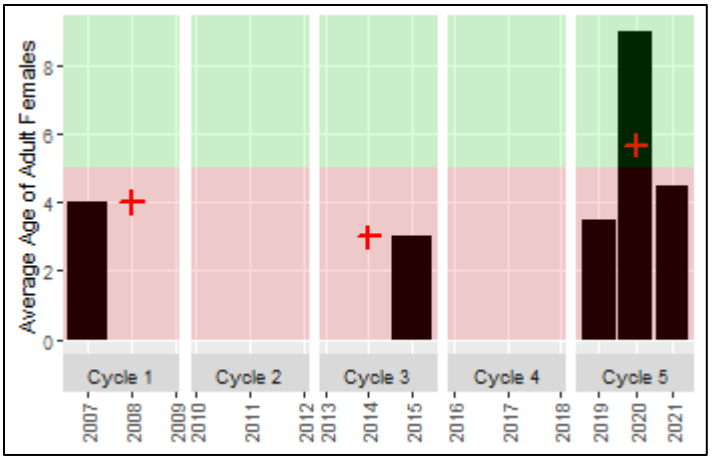
STABLE/SOURCE: HA 17 reported higher harvest than in previous cycles and met allowable mortality in HY2021. Estimated habitat resulted in low mortality densities for the area, but may be overestimated. Adult female harvest exceed 25% during all years this cycle, concentrated to the southwest edge of the unit. Non-resident hunters increased during the current cycle. Limited sample precludes precise projections on population trends, but HA 17 likely functions as a stable/source area, albeit at perhaps lower densities. No conflicts were reported.

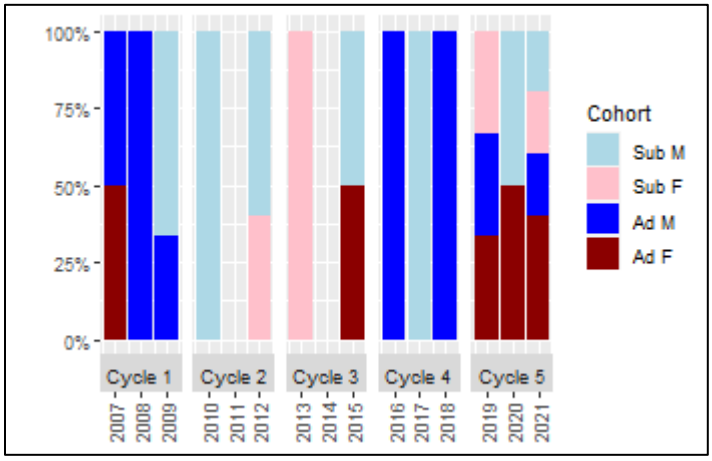
Hunt Area 17.

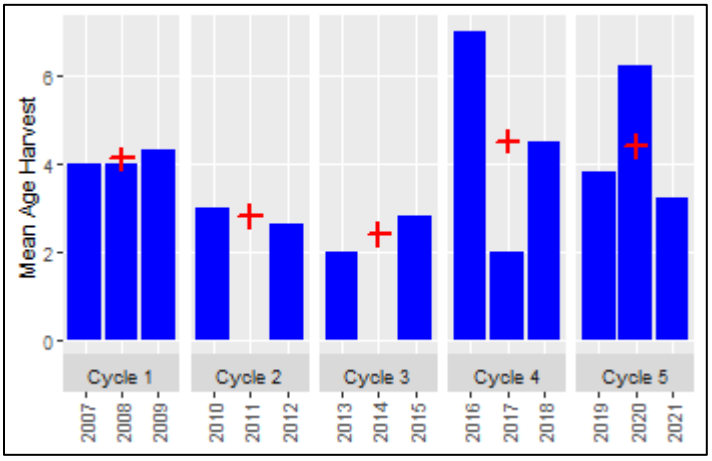

Mortality
Non-Harvest
Illegal Harvest
Legal Harvest
Harvest Limit
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

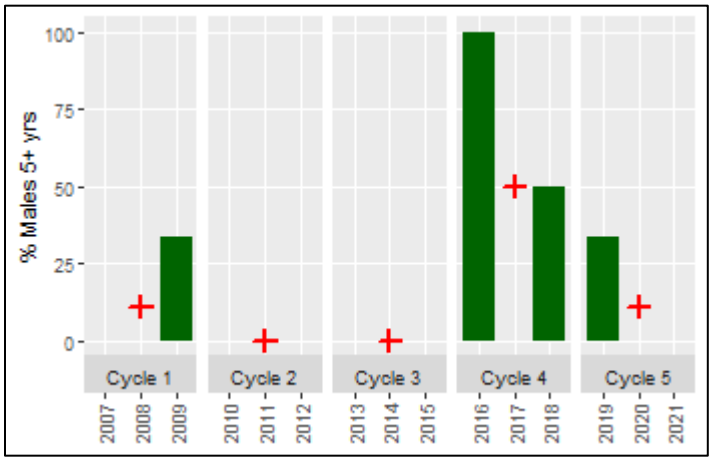

Mortality / 1000km Habitat
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

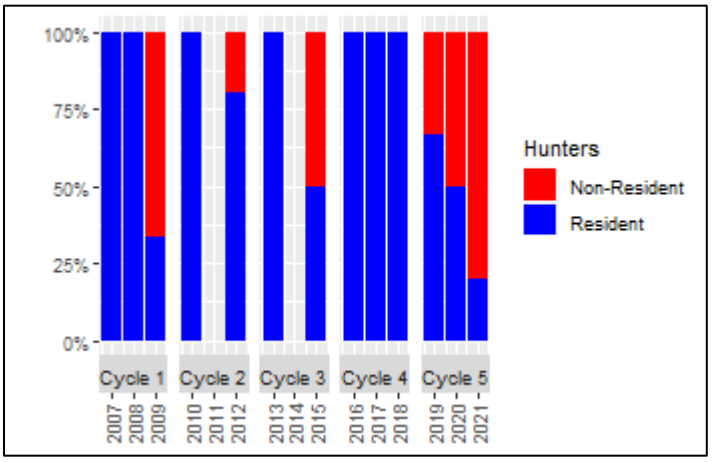

Adult Females Harvested (%)
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Average Age of Adult Females
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Cohort
Sub M
Sub F
Ad M
Ad F
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Mean Age Harvest
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


% Males 5+ yrs
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Hunters
Non-Resident
Resident
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

Wyoming Range DAU

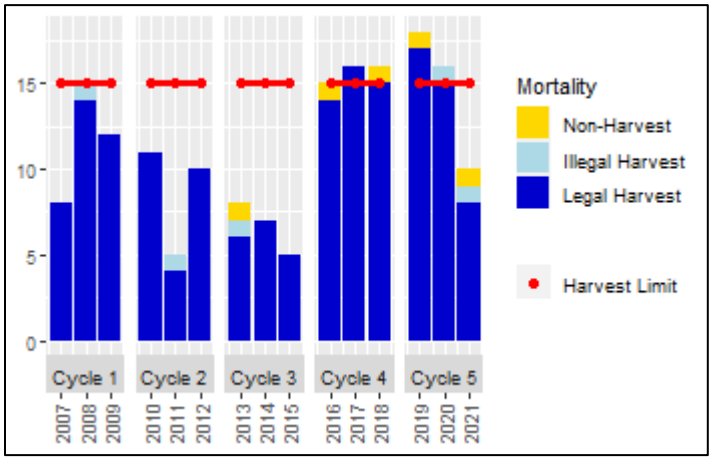
Hunt Area 26.

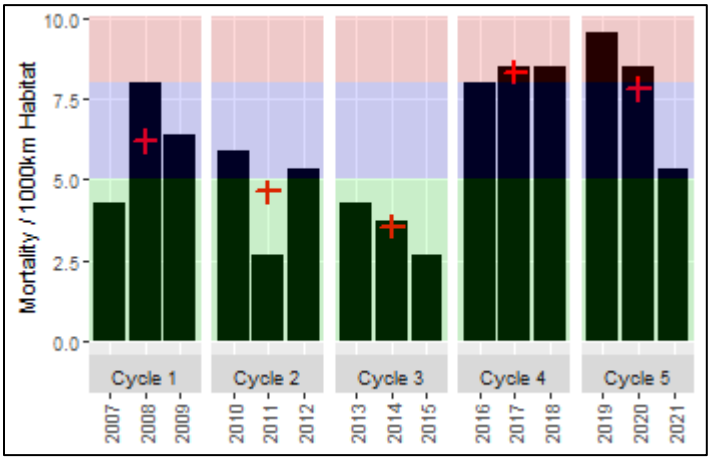
HY2019-HY2021 Regional Objective : Stable/Sink management

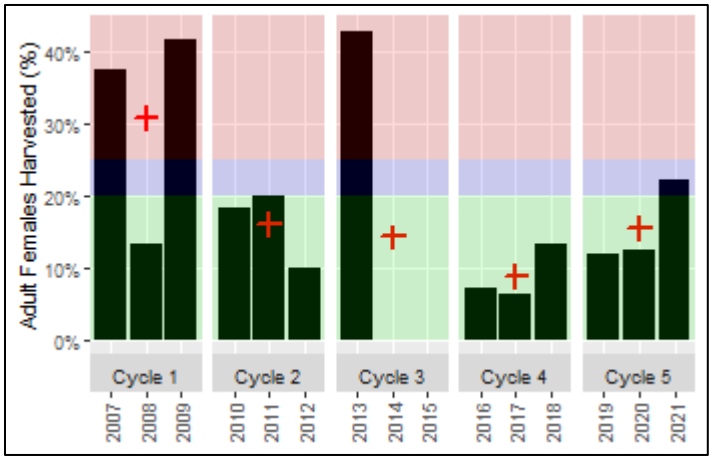
Assessment

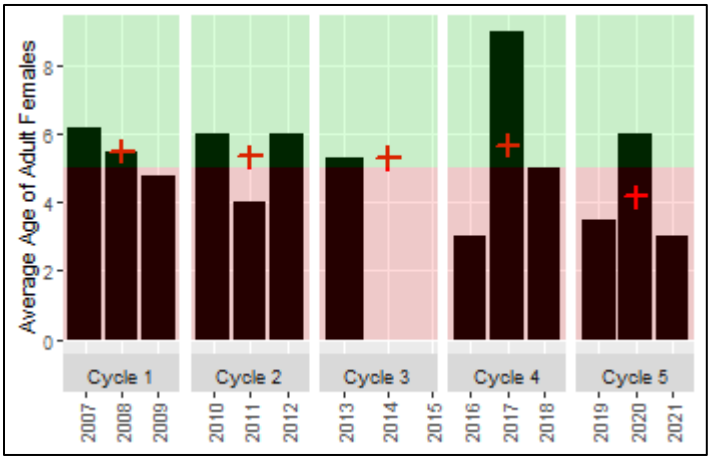
STABLE/SINK: HA 26 incurred sink level mortality densities during five previous seasons before dropping in HY2021. This correlated with little adult female harvest and a consistent decrease in the overall age of harvested animals. About half of hunts are guided, and selectivity remains high. This selectivity may account for limited adult female harvest, or less available adults in the harvest in general. Sub-adult mountain lions comprise most of the harvest, which occurs mostly in the Star Valley and Greys River drainages. Conflicts decreased compared to the 4th cycle. Data indicate regional objectives are being met.

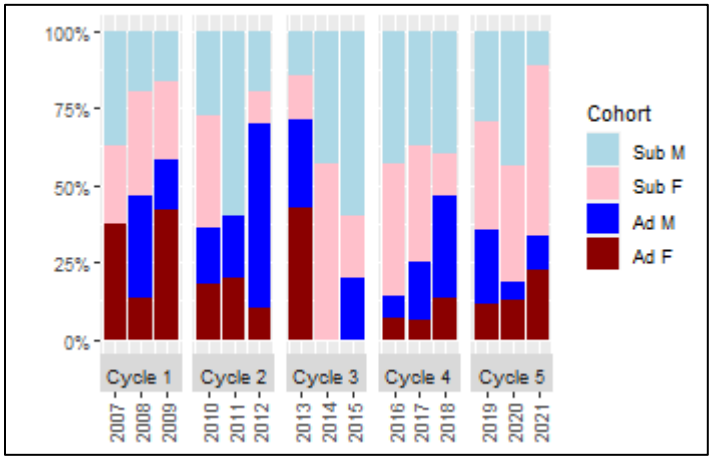
Hunt Area 26.

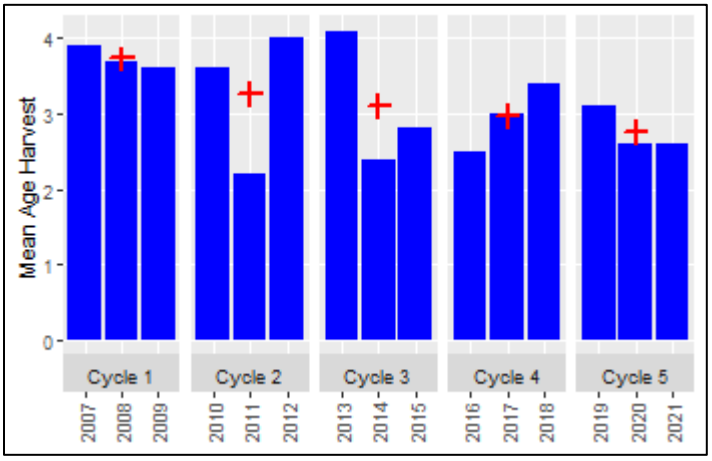

Mortality
Non-Harvest
Illegal Harvest
Legal Harvest
Harvest Limit
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

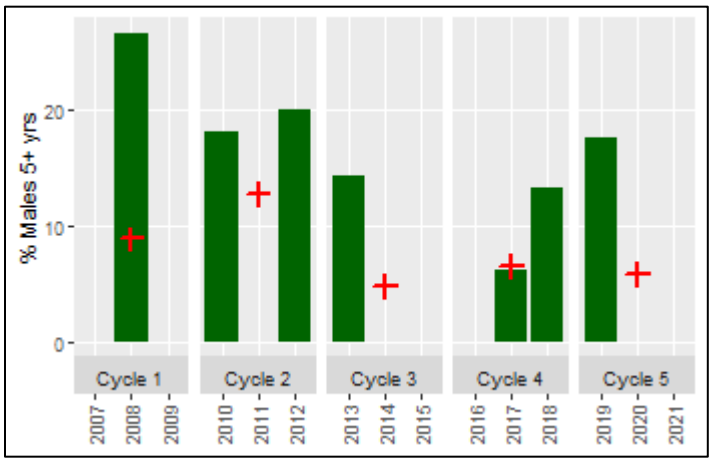

Mortality / 1000km Habitat
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

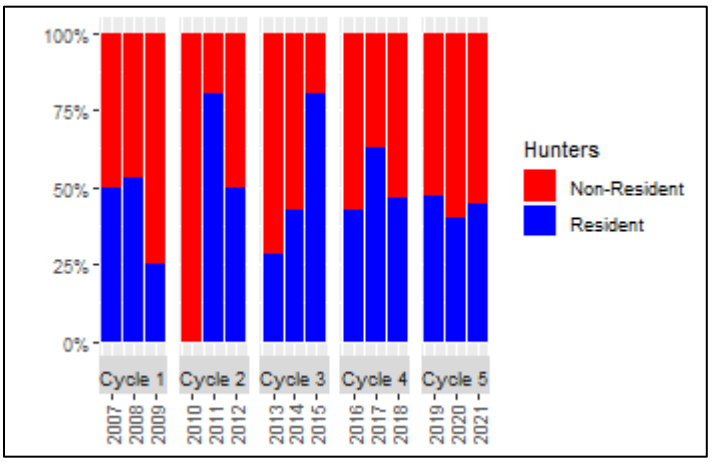

Adult Females Harvested (%)
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Average Age of Adult Females
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Cohort
Sub M
Sub F
Ad M
Ad F
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Mean Age Harvest
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


% Males 5+ yrs
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Hunters
Non-Resident
Resident
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

Wyoming Range DAU

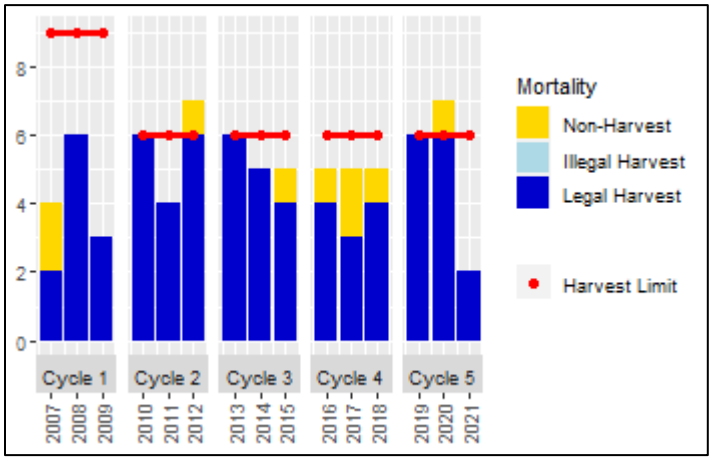
Hunt Area 29.

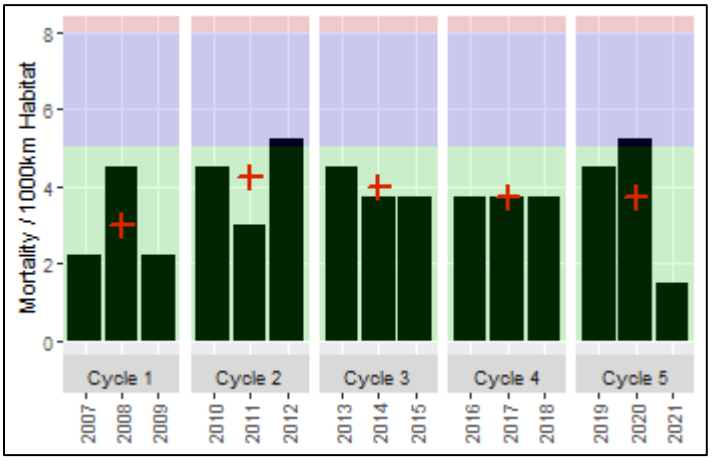
HY2019-HY2021 Regional Objective : Stable/Source management

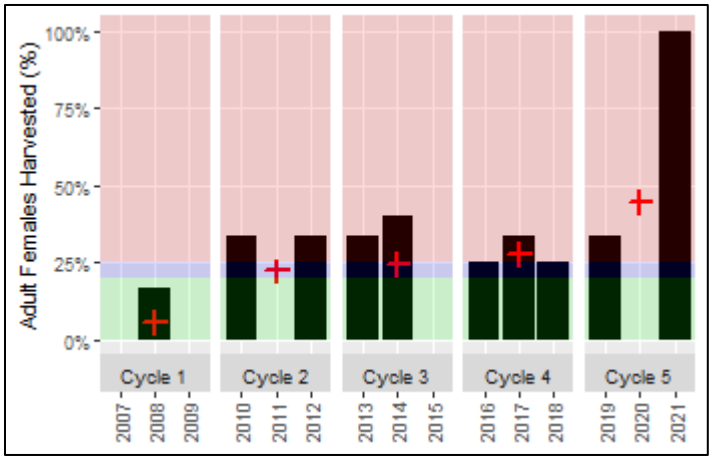
Assessment

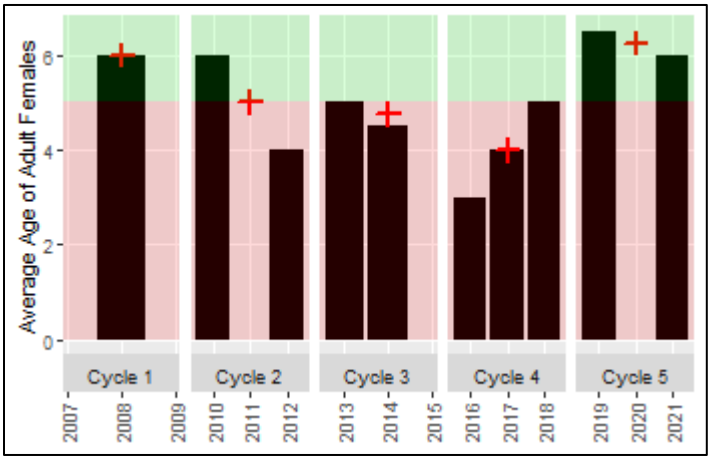
STABLE: Allowable mortality was reached in two seasons, and the proportion of adult females in the harvest exceeded 25% twice during the current cycle. Mortality densities fell mostly in source range and the overall age increased, albeit due to older aged females taken. Harvest is concentrated in the Hoback area, and most harvested animals were female. No guided hunts were reported during the current cycle, but selectivity remained at 50% or more. Resident hunting rebounded in the area. Three pet-related conflicts were also reported during the cycle.

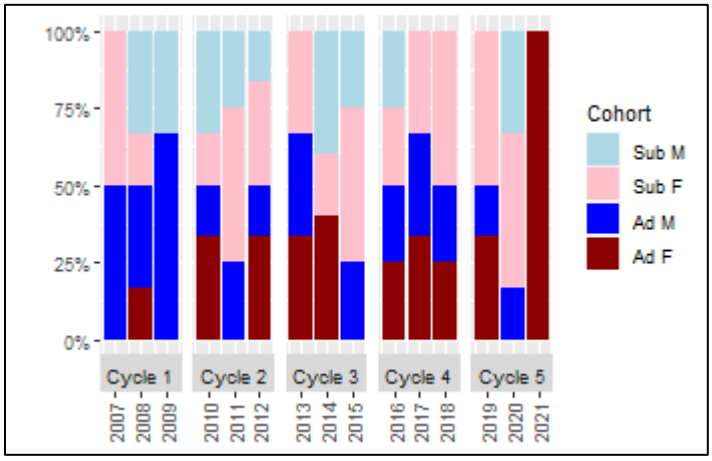
Hunt Area 29.

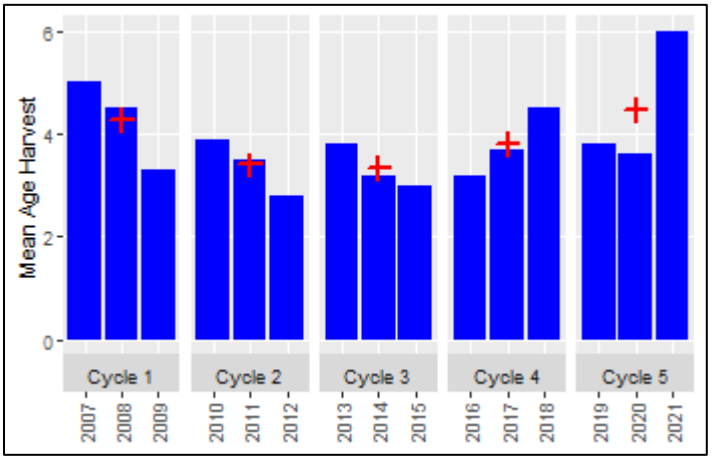

Mortality
Non-Harvest
Illegal Harvest
Legal Harvest
Harvest Limit
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

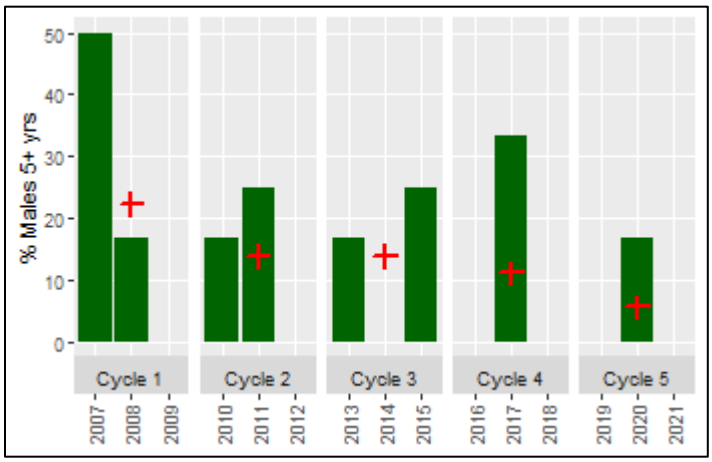

Mortality / 1000km Habitat
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

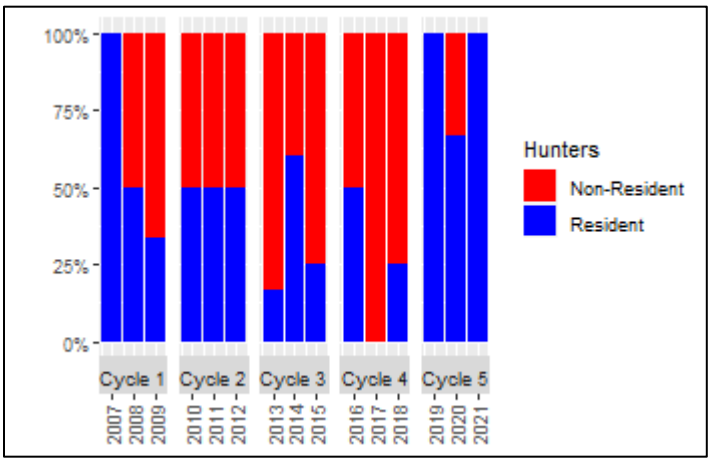

Adult Females Harvested (%)
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Average Age of Adult Females
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Cohort
Sub M
Sub F
Ad M
Ad F
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Mean Age Harvest
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


% Males 5+ yrs
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5


Hunters
Non-Resident
Resident
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5

STATEWIDE CONCLUSIONS

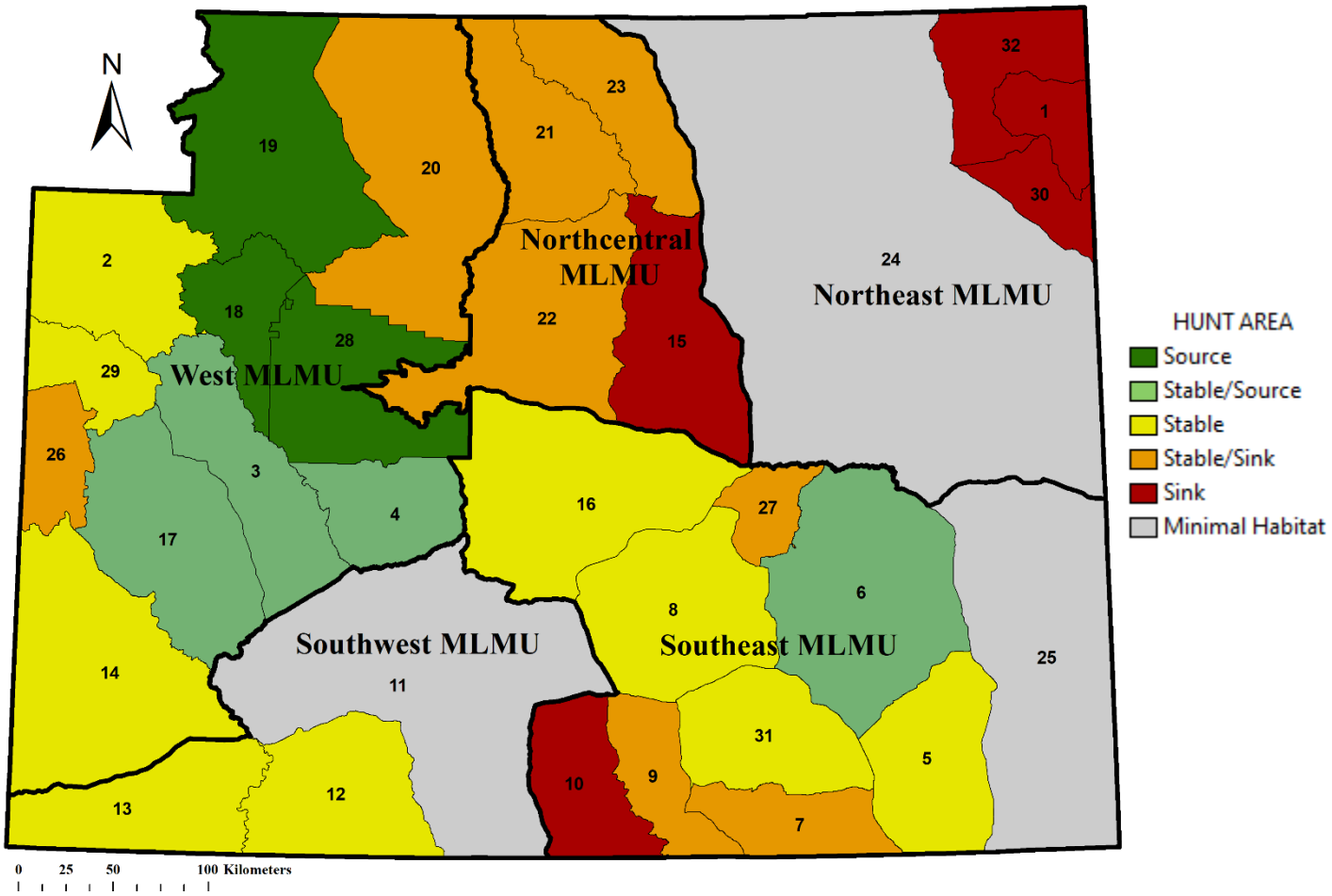


Figure 3. Map of population function for mountain lion hunt areas in Wyoming during the 5th management cycle, HYs 2019–2021.

The current management cycle assessment resulted in seven hunt areas exhibiting Source or Stable/Source trends, nine hunt areas showing Stable trends, and 13 hunt areas showing Stable/Sink or Sink trends (Figure 3). Overall, management objectives are being met across most of Wyoming. Increased mortality during the current cycle focused on the central and eastern portion of the state. This correlates with intended objectives, because only two hunt areas across Northcentral, Northeast, and Southeast MLMUs have objectives implemented toward Stable/Source, with no Source area management objectives (Appendix C). Many areas have stabilized with less mature animals available for harvest, and more sub-adult animals are now represented on the landscape than in early HYs. These shifts are reflected in statewide trends (Figures 4 & Figure 5).

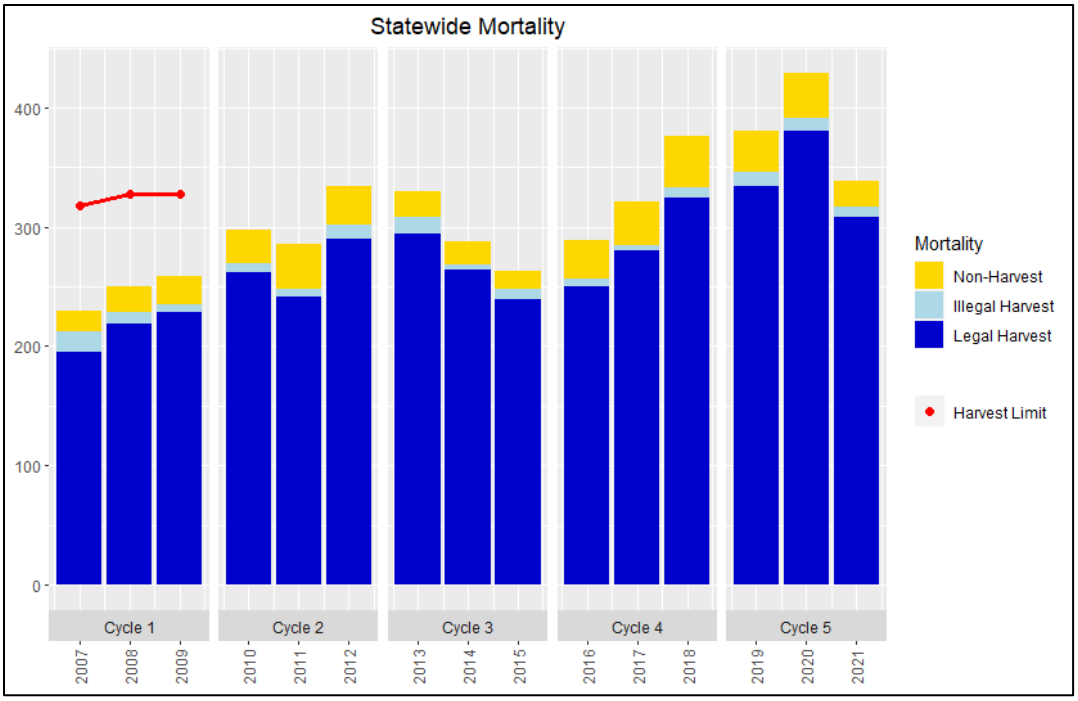


Figure 4. Statewide annual mountain lion harvest and mortality data for Wyoming, HYs 2007–2021. Some hunt areas allow unlimited harvest, therefore harvest limits are represented by the last applicable and numerical limit.

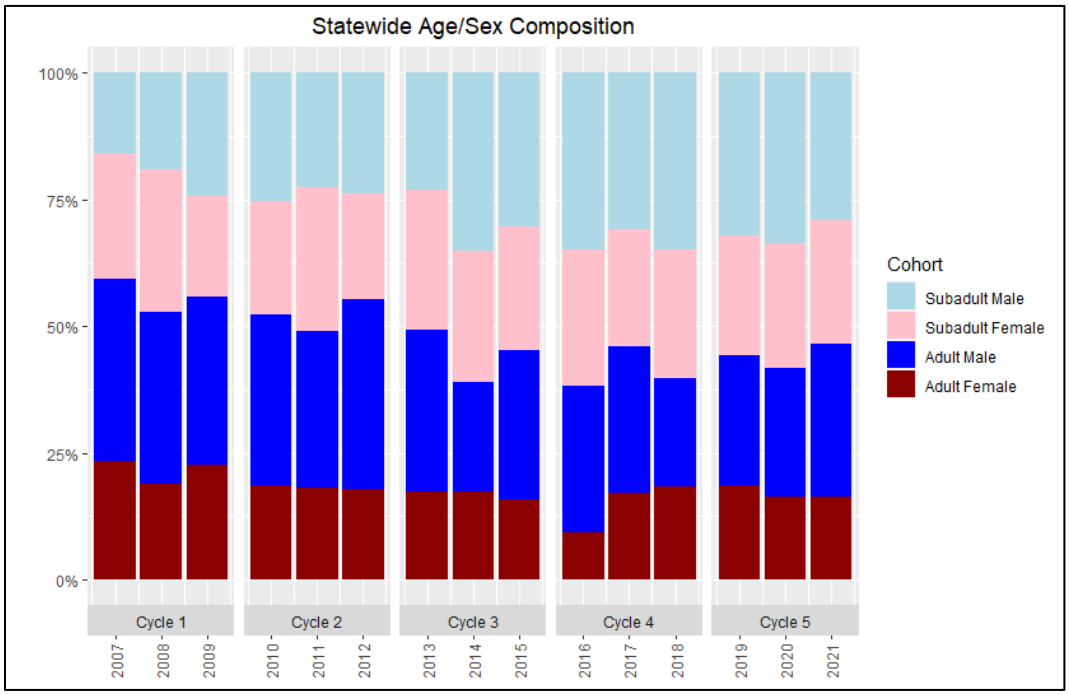


Figure 5. Statewide age and sex composition of mountain lions harvested in Wyoming, HYs 2007–2021.

As in previous cycles, the use of dogs to persue mountain lions continues to be the predominant hunting method in Wyoming. An average of 89.4% of harvests ocurred with the use of dogs during the 5th management cycle. In addition, as in previous cycles, the statewide harvest is highest during the months of December and January, with the month of December accumulating the most harvest with a typical decrease during the holiday season (Figure 6).

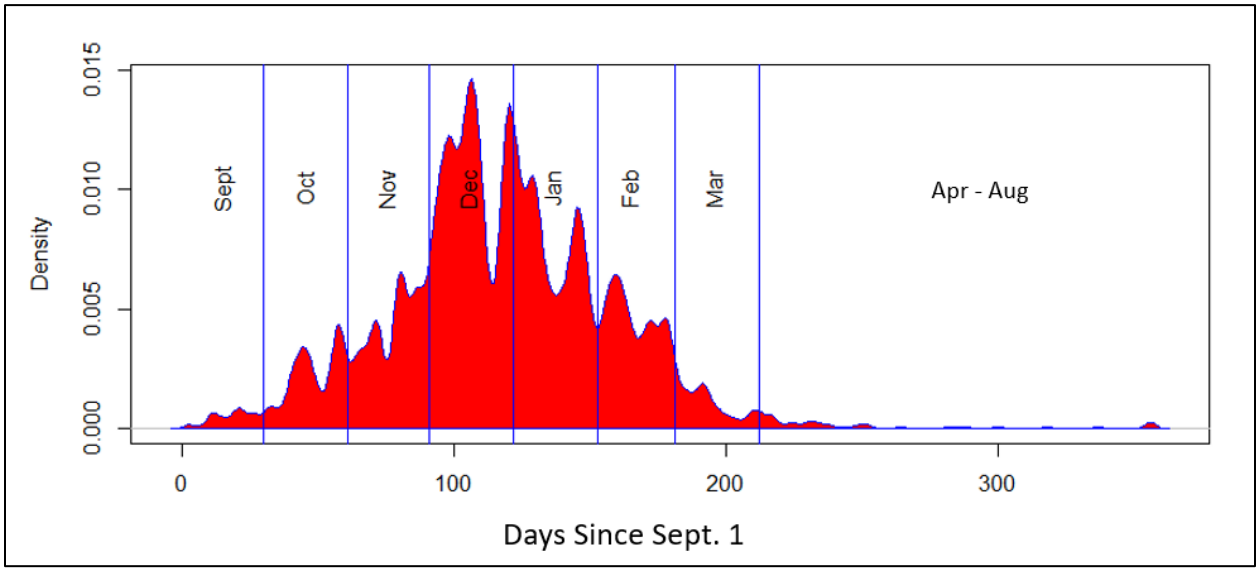


Figure 6. Timeline of statewide mountain lion harvest in Wyoming, HYs 2019-2021.

Statewide non-harvest and conflict

Non-harvest mortality typically follows the same trend as harvest numbers (Figure 7). Non-harvest mortality was comprised primarily of damage removals (34), incidental trap/snare mortalities (29), and vehicle collisions (18) during the 5th management cycle. Damage removals were higher than usual during HY2019, and HY2021 had generally lower non-harvest mortality documented with only 18 reported statewide.

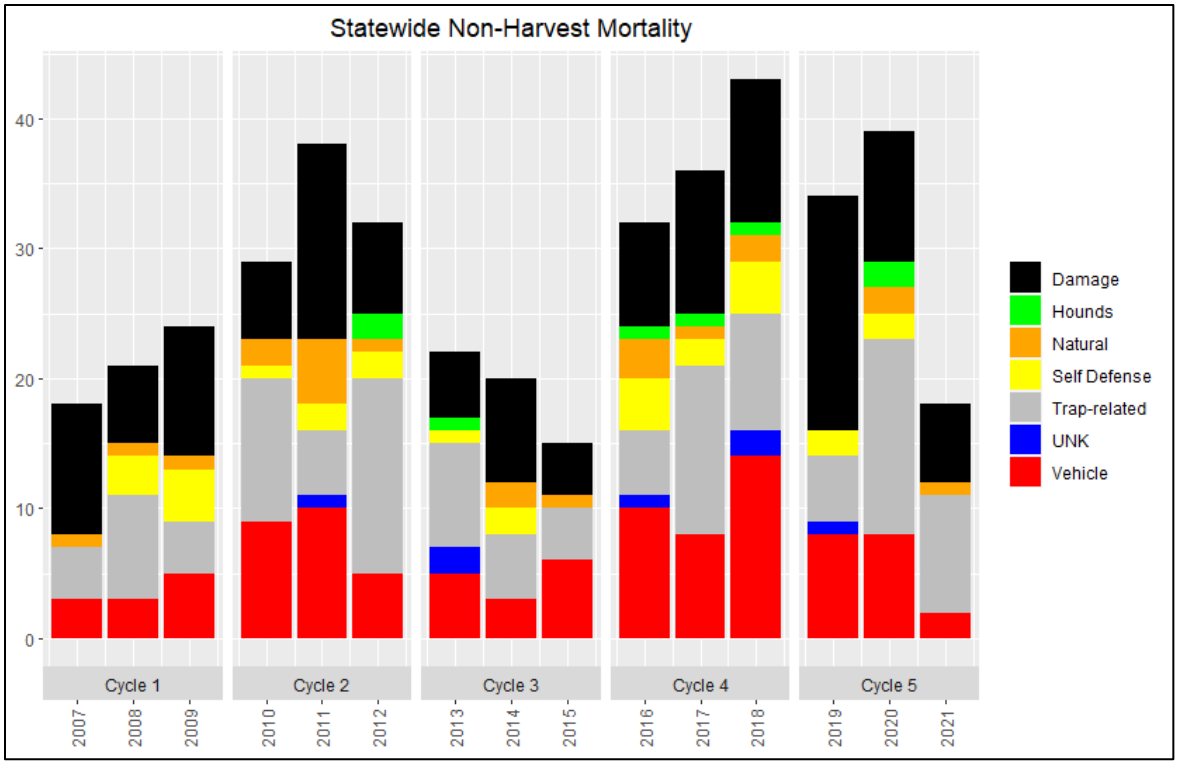


Figure 7. Statewide non-harvest mountain lion mortalities in Wyoming, HYs 2007-2021.

Mountain lion conflicts reported via the statewide Department conflict database were categorized into four main categories including natural encounters/observations, mountain lions reported in proximity to homes or urban areas, depredation or property damage caused by mountain lions, and behavioral conflicts with mountain lions (Figure 8). Typically, natural encounters or observations are not considered conflicts but are used to keep track of animal sightings if future conflicts occur in the area. Mountain lions reported in proximity to dwellings or other urban settings may or may not be considered a conflict but, as examples, may include reports of a mountain lion deer cache in a back yard, seen in a pasture, or treed by ranch dogs, but not causing immediate harm to people, livestock, or property. Depredation and property damage are conflicts where livestock or pets were injured or killed by mountain lions, or when property damage occurred. Finally, behavioral conflicts include instances where encounters occurred and the lion acted aggressively or was reluctant to leave. This includes self-defense actions. Statewide conflicts have consistently decreased over the last management cycle, and it is important to recognize that years of high conflict are largely represented from a few specific hunt areas, with most areas incurring little mountain lion conflicts.

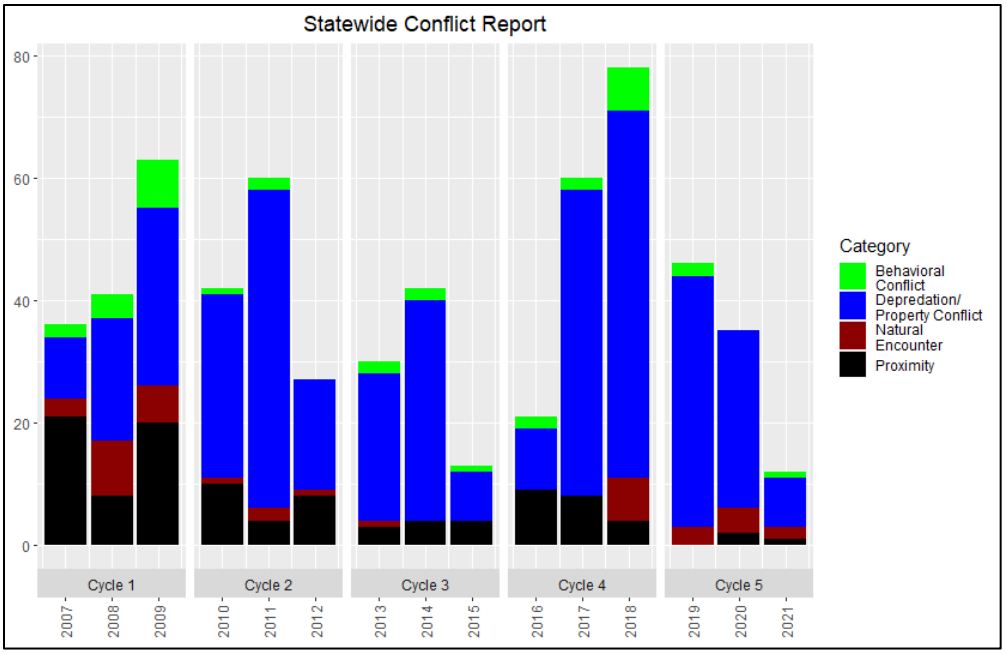


Figure 8. Statewide mountain lion conflicts reported in Wyoming, HYs 2007–2021.

Similar to previous years, sheep damage consistently dominates depredation events statewide, but has seen reductions during the current cycle (Figure 9). The Department maintains the most effective way to mitigate for conflict damage for any large carnivore is the immediate targeted removal of the offending animal(s). If offending animals are not targeted, conflict usually continues and public tolerance wanes.

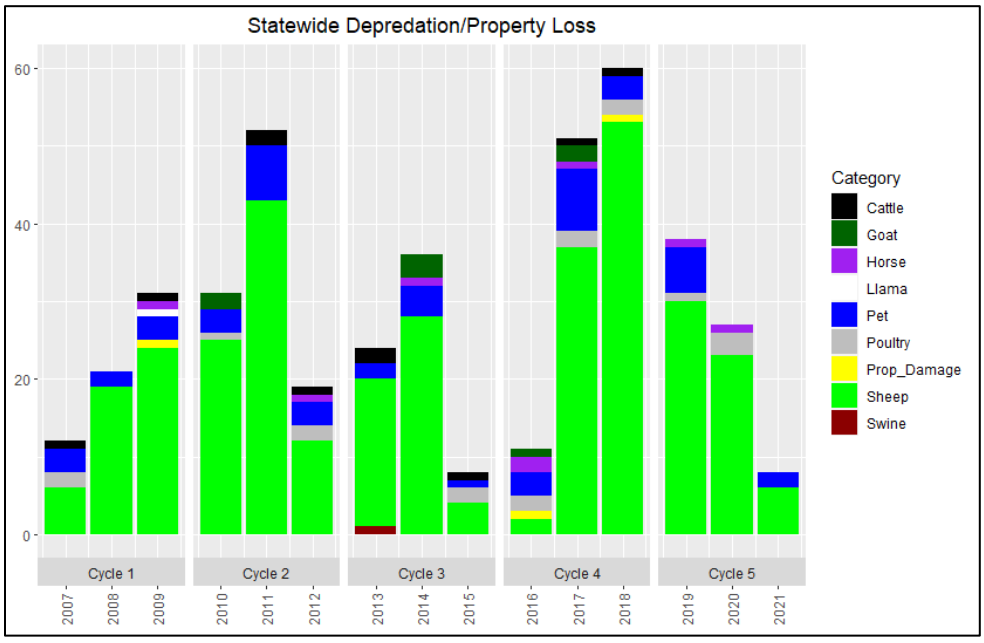


Figure 9. Statewide mountain lion depredation or property damage conflicts in Wyoming, HYs 2007-2021.

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ANDERSON, C.R., JR., AND F.G. LINDSEY. 2005. Experimental evaluation of population trend and harvest composition in a Wyoming cougar population. Wildlife Society Bulletin 33(1):179-188.

COUGAR MANAGEMENT GUIDELINES WORKING GROUP [CMWG]. 2005. Cougar management guidelines. Wild Features, Bainbridge Island, Washington, USA.

WYOMING GAME AND FISH DEPARTMENT. 2006. Mountain Lion Management Plan. Wyoming Game and Fish Department, Cheyenne, Wyoming, USA.

APPENDIX A. WGFD form documenting mountain lion mortality data in Wyoming in 2021.

MOUNTAIN LION MORTALITY FORM

Hunt Area _____ Region _____

Date of kill: _____ TYPE: Legal_____; Illegal_____; Damage Control_____; Other_____; Unknown_____

If "Other" or "Unknown", probable cause of mortality _____

PERSON WHO HARVESTED LION: Name: _____

Address: _____ City: _____

State: _____ Zip: _____ Phone: _____ Resident: _____ Nonresident: _____

METHODS/EFFORT: Days hunted: _____ Were dogs used? (Y/N) _____ If not, how was lion harvested? _____

Was a guide/outfitter used? (Y/N): _____ Name: _____ Dog owner: _____

Number of lions observed including harvest: _____ Weapon used: _____

Were you selective while hunting? (Y/N): _____ Number treed and released: _____

Number of lions that were marked: _____ (Ear tag / tattoo / radio collar frequency : _____)

Number of fresh tracks not pursued: _____ (How many were single adults?: _____ How many were adults with kittens?: _____)

LOCATION/DRAINAGE: Where was lion harvested? _____

Sec: _____ Twnshp: _____ Rng: _____ **UTM Zone:** _____

UTM Easting: _____ **UTM Northing**: _____

SEX AND AGE: Sex: _____ Est. Age: _____

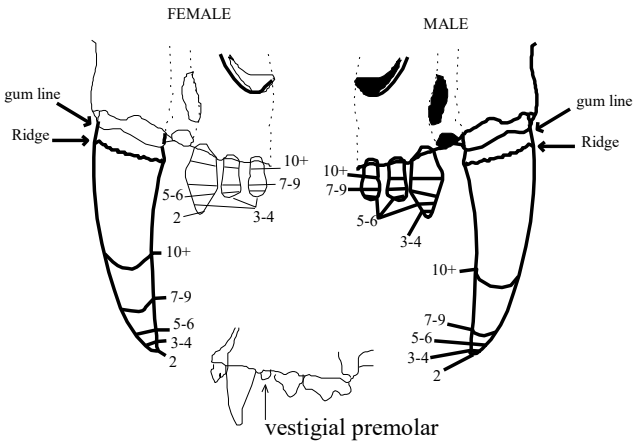
If female, presently lactating? (Y[≥2] / N) _____

Appear to have lactated in past? (Y / N) _____

Canine ridge below gumline? (Y[≥2.5] / N) _____

Any visible spotting on rear legs? (Y[≤3] / N / ?) _____

Visible bars on inside of front legs? (Y[<4] / N / ?) _____



REQUIRED SAMPLES:

Teeth collected (Y/N):_____ Pictures of teeth (Y/N): _____

Tissue sample (Y/N):_____

Remarks:

_____

_____

_____

Date Biological Services Called: _____

I, _____ of _____

being duly sworn, depose and say that I am the holder of Wyoming Mountain Lion license # _____,

and lawfully took the above lion on _____ - _____, 20_____ in Hunt Area # _____.

_____ _____ _____

Inspected by / GF Number Date Hunter's Signature

Any person who makes a false statement on the registration form regarding the date the mountain lion was taken or the hunt area in which it was taken shall be in violation of this regulation and, such violation shall be punishable as provided by Title 23, Wyoming statutes for violation of Commission regulations.

Note: The person that checked the lion should forward the completed form and all samples to the Regional Office of registration and call Biological Services to update the harvest database. The Regional Office of registration will keep a copy of the completed form and send the original, along with the tooth and hair samples to the Large Carnivore Section.

APPENDIX B. Statewide hunt areas, season dates, and limitations HY2021.

Hunt Area	Dates of Seasons	Mortality Limit	Limitations
1	Sep. 1 - Mar. 31	Resident Limit – 20 Nonresident Limit – 4	
2	Sep. 1 - Mar. 31	3	
3	Sep. 1 - Mar. 31	8	
4	Sep. 1 - Mar. 31	10	
5	Sep. 1 - Mar. 31	12	Additional license valid
	Apr. 1 - Apr. 30		Valid off national forest
6	Sep. 1 - Apr. 30	15	
7	Sep. 1 - Aug. 31	14	Additional license valid
8	Sep. 1 - Aug. 31	10	Additional license valid
9	Sep. 1 - Aug. 31	12	Additional license valid
10	Sep. 1 - Mar. 31	7	
11	Sep. 1 - Mar. 31	4	
12	Sep. 1 - Mar. 31	6	
13	Sep. 1 - Mar. 31	5	
14	Sep. 1 - Mar. 31	15	
15	Sep. 1 - Aug. 31	Unlimited	Additional license valid
16	Sep. 1 - Mar. 31	6	Additional license valid
17	Sep. 1 - Mar. 31	5	
18	Sep. 1 - Mar. 31	12	
19	Sep. 1 - Mar. 31	25	Additional license valid
20	Sep. 1 - Aug. 31	18	
21	Sep. 1 - Mar. 31	20	
22	Sep. 1 - Aug. 31	25	
23	Sep. 1 - Mar. 31	15	
24	Sep. 1 - May 31	Unlimited	Additional license valid
25	Sep. 1 - Mar. 31	12	Additional license valid
26	Sep. 1 - Mar. 31	15	
27	Sep. 1 - Aug. 31	Unlimited	Additional license valid
28	Sep. 1 - Mar. 31	3	
29	Sep. 1 - Mar. 31	6	
30	Sep. 1 - Mar. 31	12	
31	Sep. 1 - Aug. 31	11	Additional license valid
32	Sep. 1 - Mar. 31	25	

***Brown = year-round harvest *Orange = extended season dates**

APPENDIX C. Regional WGFD objectives set for local mountain lion sub-population trend, HY2019 – HY2021 season cycle.

MLMU	Hunt Area	Primary WGFD Region/s	Status Objective
Northeast	1	Casper	Sink
	30	Casper	Sink
	32	Sheridan/Casper	Sink
	24	Sheridan/Casper	*NA*
Northcentral	15	Sheridan/Casper	Sink
	21	Cody	Stable/Sink
	22	Cody/Lander	Sink
	23	Sheridan	Stable
Southeast	5	Laramie	Stable/Source
	6	Laramie/Casper	Stable/Source
	7	Laramie	Sink
	8	Lander/Laramie	Stable
	9	Laramie	Sink
	10	Green River	Sink
	16	Lander/Casper	Stable
	27	Casper	Sink
	31	Laramie	Sink
	25	Laramie	*NA*
Southwest	12	Green River	Stable
	13	Green River	Stable
	11	Green River	*NA*
Absaroka DAU	19	Cody	Stable/Source
	20	Cody	Stable/Sink
Wind River DAU	3	Pinedale	Stable/Source
	4	Lander	Stable
	18	Lander	Stable
	28	Lander	Source
Wyoming Range DAU	2	Jackson	Source
	14	Green River	Stable
	17	Pinedale	Stable/Source
	26	Jackson	Stable/Sink
	29	Jackson/Pinedale	Stable/Source

APPENDIX D. Table of mountain lion data relative to WGFD mountain lion management plan monitoring criteria for current management cycle (HY2019–HY2021).

		Mortalities/1,000 km^2			% Adult Female Harvest			Mean Age of Adult Females		
MLMU	**HA**	**2019**	**2020**	**2021**	**2019**	**2020**	**2021**	**2016**	**2017**	**2018**
Northeast	HA 1	16.62	16.02	14.24	25.0	24.0	36.4	7.5	3.8	5.2
	HA 30	9.13	6.09	7.61	10.0	33.3	0.0	4.0	5.5	NA
	HA 32	10.27	10.27	10.70	20.8	0.0	20.8	3.0	NA	4.6
	HA 24	*	*	*	0.0	11.1	18.2	NA	8.0	5.0
	TOTAL	13.31	12.93	13.68	19.0	14.3	23.1	5.3	4.7	5.0
Northcentral	HA 15	21.78	26.04	8.05	19.6	16.4	0.0	5.7	5.3	NA
	HA 21	14.19	11.95	15.68	16.7	20.0	9.5	6.3	5.3	5.5
	HA 22	5.97	9.38	7.67	36.8	33.3	15.4	5.5	5.4	6.9
	HA 23	12.36	11.74	9.27	36.8	31.2	6.7	3.6	6.4	5.0
	TOTAL	12.34	14.32	9.32	25.5	23.0	8.9	5.1	5.5	6.2
Southeast	HA 5	4.52	4.52	4.17	16.7	30.8	33.3	6.0	4.0	4.0
	HA 6	3.86	3.60	3.86	13.3	7.7	26.7	6.0	4.0	4.8
	HA 7	13.39	16.96	12.50	13.3	18.8	0.0	5.0	5.0	NA
	HA 8	5.78	8.67	8.67	12.5	12.5	9.1	3.0	4.0	7.0
	HA 9	17.80	5.93	7.42	8.3	0.0	0.0	3.0	NA	NA
	HA 10	15.12	18.90	15.12	0.0	0.0	14.3	NA	NA	4.5
	HA 16	2.54	5.07	3.38	0.0	33.3	0.0	NA	5.5	NA
	HA 25	*	*	*	0.0	33.3	20.0	NA	5.3	4.5
	HA 27	10.29	10.29	8.42	9.1	18.2	0.0	3.0	4.0	NA
	HA 31	8.75	9.62	9.62	11.1	9.1	9.1	2.0	7.0	4.0
	TOTAL	6.99	7.93	6.85	10.9	17.3	12.9	4.5	4.8	4.6
Southwest	HA 11	*	*	*	50.0	0.0	0.0	4.0	NA	NA
	HA 12	1.55	3.62	3.11	33.3	0.0	16.7	8.0	NA	6.0
	HA 13	6.08	4.56	4.56	0.0	66.7	33.3	NA	4.5	3.0
	TOTAL	3.47	5.41	3.47	25.0	14.3	22.2	6.0	4.5	4.5
Absaroka DAU	HA 19	4.18	4.90	3.45	13.3	8.3	33.3	8.5	5.5	6.9
	HA 20	7.98	8.55	3.99	16.7	15.4	16.7	4.0	4.5	5.0
	TOTAL	5.10	5.79	3.58	14.8	10.8	29.2	6.2	5.0	6.7
Wind River DAU	HA 3	2.61	3.05	4.79	16.7	0.0	0.0	6.5	NA	NA
	HA 4	4.47	4.47	3.73	0.0	0.0	0.0	NA	NA	NA
	HA 18	3.03	4.55	3.79	0.0	0.0	40.0	NA	NA	6.8
	HA 28	0.00	3.08	1.54	0.0	25.0	0.0	NA	3.0	NA
	TOTAL	2.32	3.62	3.48	7.1	4.3	11.1	6.5	3.0	6.8
Wyoming Range DAU	HA 2	2.13	0.85	0.43	33.3	50.0	0.0	3.0	3.0	NA
	HA 14	3.80	5.18	4.15	18.2	0.0	8.3	5.0	NA	8.0
	HA 17	2.08	2.77	4.16	33.3	25.0	40.0	3.5	9.0	4.5
	HA 26	9.60	8.53	5.33	11.8	12.5	22.2	3.5	6.0	3.0
	HA 29	4.48	5.22	1.49	33.3	0.0	100.0	6.5	NA	6.0
	TOTAL	4.35	4.45	3.13	20.0	9.3	24.1	4.5	6.0	5.0
STATEWIDE	TOTAL	6.96	7.84	6.21	18.2	16.1	16.4	5.1	5.1	5.3

*Represents a Hunt Area with minimal mountain lion habitat and not managed by WGFD for long term population viability.

APPENDIX E. Table of mountain lion mortality and harvest age/sex data for Wyoming for the current management cycle, HY2019–HY2021.

MLMU	HY	Adult Females	Adult Males	Subadult Females	Subadult Males	Non-Harvest Mortality	Total Mortality
Northeast	HY2019	12	8	15	27	8	71
	HY2020	9	9	17	28	6	69
	HY2021	15	11	16	23	8	73
	Total	36	28	48	78	22	213
Northcentral	HY2019	26	25	22	29	4	106
	HY2020	26	25	29	33	10	123
	HY2021	7	23	20	29	1	80
	Total	59	73	71	91	15	309
Southeast	HY2019	10	28	18	32	5	97
	HY2020	17	29	22	30	12	110
	HY2021	12	34	23	24	3	96
	Total	39	91	63	86	20	303
Southwest	HY2019	2	3	3	0	1	9
	HY2020	2	5	2	4	0	14
	HY2021	2	5	1	1	0	9
	Total	6	13	6	5	1	32
Absaroka DAU	HY2019	4	8	7	7	10	37
	HY2020	4	13	7	13	6	43
	HY2021	7	6	4	7	2	26
	Total	15	27	18	27	18	106
Wind River DAU	HY2019	1	6	2	5	3	17
	HY2020	1	10	6	5	2	25
	HY2021	2	8	5	3	6	24
	Total	4	24	13	13	11	66
Wyoming Range DAU	HY2019	8	9	14	9	3	43
	HY2020	4	7	13	17	2	45
	HY2021	7	8	9	5	2	31
	Total	19	24	36	31	7	119
STATEWIDE	HY2019	63	87	81	109	34	380
	HY2020	63	98	96	130	38	429
	HY2021	52	95	78	92	22	339
	Total	178	280	255	331	94	1148