

Unit(s): 1

Species: Mountain Lion

Year: 2012/13

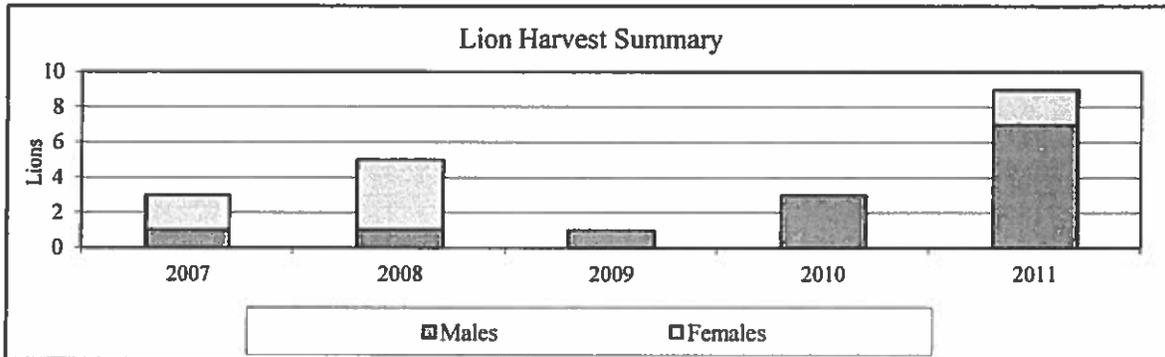
Harvest Summary:

Year	Male Harvest	Female Harvest	Total Harvest	Adult ♀ (≥3 yrs)	% Adult ♀ in Harvest	Adult ♀ Exceed 35% of Harvest?
2007	1	2	3	2	67%	YES
2008	1	4	5	1	20%	NO
2009	1	0	1	0	0%	NO
2010	3	0	3	0	0%	NO
2011	7	2	9			
2-Year Mean					0%	NO

Management Considerations:

*Continue Single Unit Management

*No Female Harvest Limit Indicated



Hunt Recommendation:

Season Type	Season Dates	Open Areas	MBL Target	Female Limit
Standard	July 1, 2012 - June 30, 2013	Unit 1 - Unitwide <i>Day Light Season</i>	None	None

Submitted by: T. Richins, J. Capps
Wildlife Manager(s)

Amendments & Notes:

Game Branch Approval:

[Handwritten Signature]

Date: 3/13/12

Unit(s): 1

Species: Mountain Lion

Year: 2012/13

Management Notes:

It is recommended, in Unit 1, to follow the standard hunt season structure for mountain lion without a female harvest limit. The 2-year mean of adult females harvested is less than 35%. This recommendation is within guidelines.

Unit(s): 2ABC

Species: Mountain Lion

Year: 2011/12

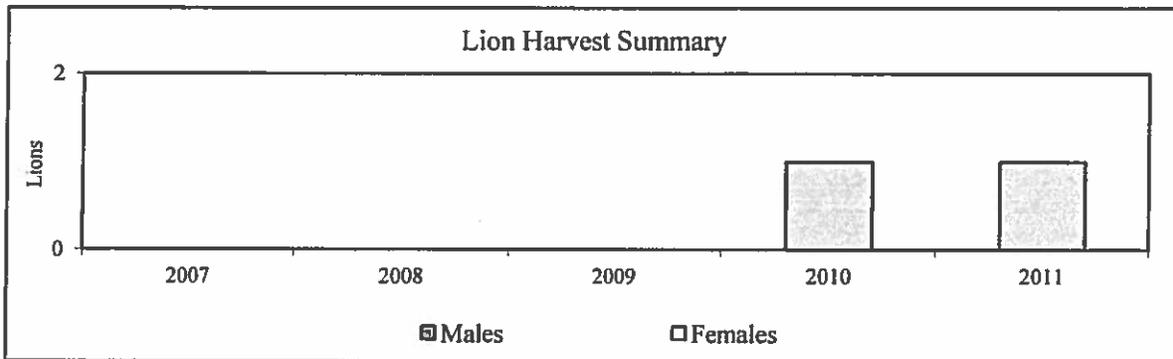
Harvest Summary:

Year	Male Harvest	Female Harvest	Total Harvest	Adult ♀ (≥3 yrs)	% Adult ♀ in Harvest	Adult ♀ Exceed 35% of Harvest?
2007			0		#DIV/0!	#DIV/0!
2008			0		#DIV/0!	#DIV/0!
2009			0		#DIV/0!	#DIV/0!
2010		1	1		0%	NO
2011		1	1			
2-Year Mean					0%	NO

Management Considerations:

*Continue Single Unit Management

*No Female Harvest Limit Indicated



Hunt Recommendation:

Season Type	Season Dates	Open Areas	MBL Target	Female Limit
Standard	July 1, 2012 - June 30, 2013	Unit 2ABC, unit wide <i>Daylight season</i>	None	None

Submitted by: Joel Weiss
Wildlife Manager(s)

Amendments & Notes:

Game Branch Approval:

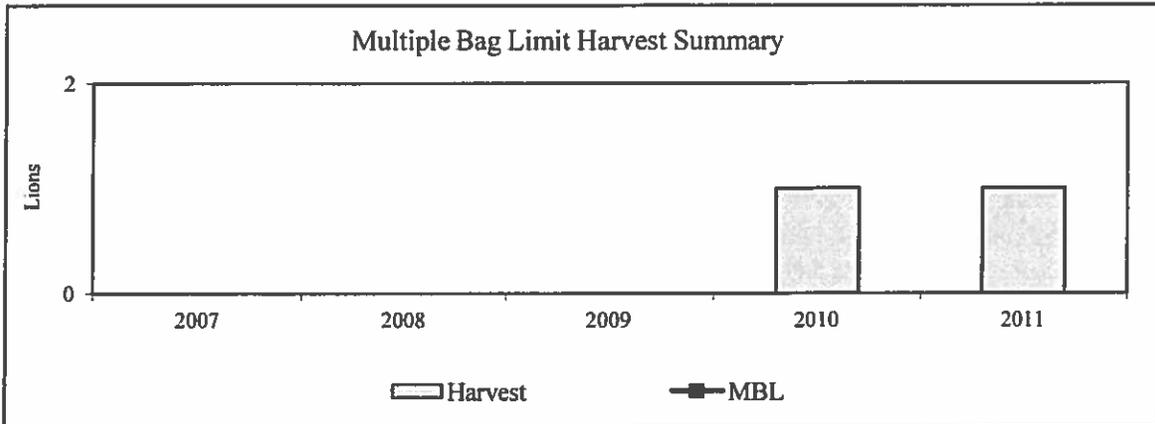
[Signature]

Date: 3/13/11

Unit(s): 2ABC

Species: Mountain Lion

Year: 2011/12



Maintain current hunt structure of July 1, 2012-June 30, 2013 season dates with bag limit of one mountain lion per year for the entire unit.

The current hunt structure in GMU 2ABC is an open season from July 1, 2012-June 30, 2013 with a bag limit of one lion per year. This season and bag limit is consistent with most of the state.

Unit(s): 4

Species: Mountain Lion

Year: 2012/13

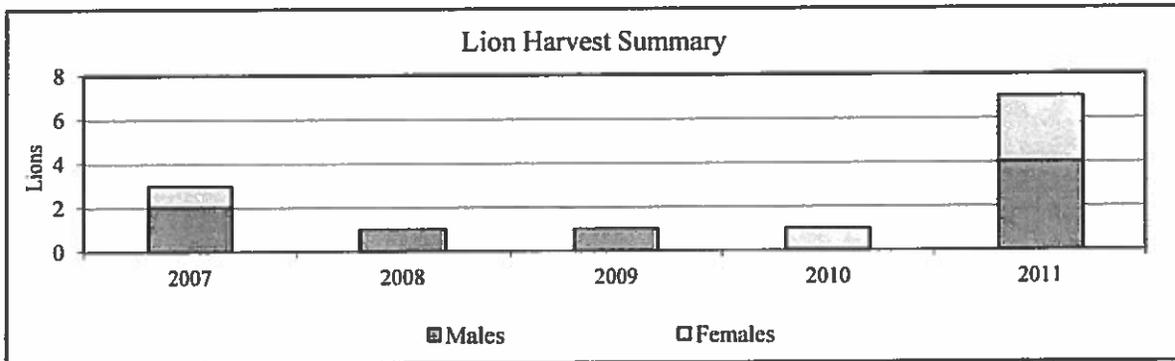
Harvest Summary:

Year	Male Harvest	Female Harvest	Total Harvest	Adult ♀ (≥3 yrs)	% Adult ♀ in Harvest	Adult ♀ Exceed 35% of Harvest?
2007	2	1	3	1	33%	NO
2008	1	0	1		0%	NO
2009	1	0	1		0%	NO
2010	0	1	1	1	100%	YES
2011	4	3	7			
2-Year Mean					50%	YES

Management Considerations:

*Evaluate Adjacent Unit Zone Management

*Consider Female Harvest Limit



Hunt Recommendation:

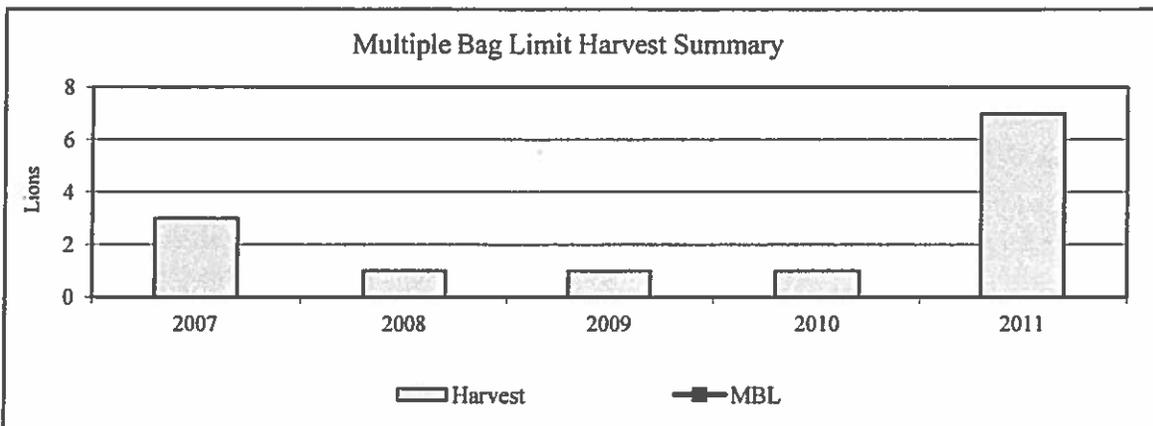
Season Type	Season Dates	Open Areas	MBL Target	Female Limit
Standard	July 1, 2012-June 30, 2013	Units 4A & 4B <i>Daylight season</i>	None	None

Submitted by: Ken Clay & Evan Lautzenheiser
Wildlife Manager(s)

Amendments & Notes:

Game Branch Approval:

Date: 3/13/12



Significant Management Issues, Opportunities or Challenges:

Regional Notes:

We combined Units 4A and 4B for Lion Management in 2011.

Age Data: 2009 - M ale - 4 years old (Unit 4B)

Unit(s): 27

Species: Mountain Lion

Year: 2012/13

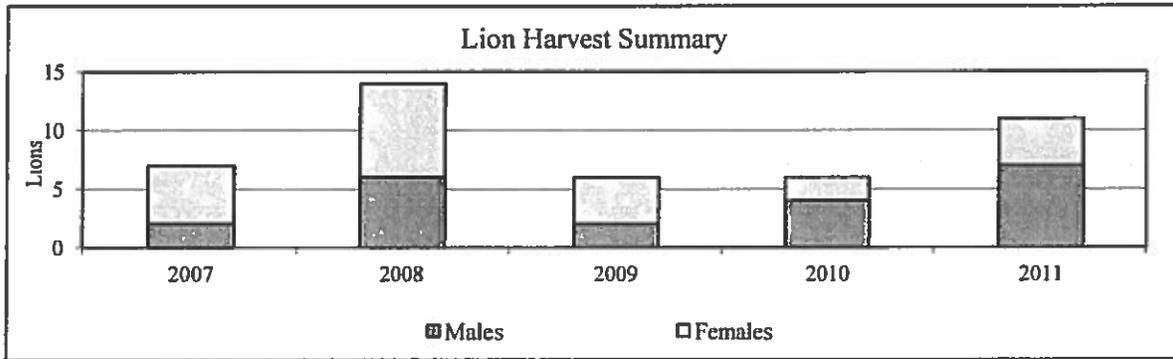
Harvest Summary:

Year	Male Harvest	Female Harvest	Total Harvest	Adult ♀ (≥3 yrs)	% Adult ♀ in Harvest	Adult ♀ Exceed 35% of Harvest?
2007	2	5	7	3	43%	YES
2008	6	8	14	3	21%	NO
2009	2	4	6	1	17%	NO
2010	4	2	6		0%	NO
2011	7	4	11			
2-Year Mean					8%	NO

Management Considerations:

*Continue Single Unit Management

*No Female Harvest Limit Indicated



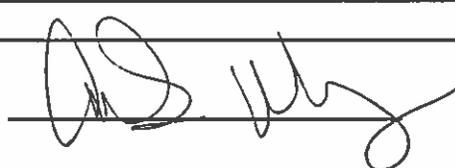
Hunt Recommendation:

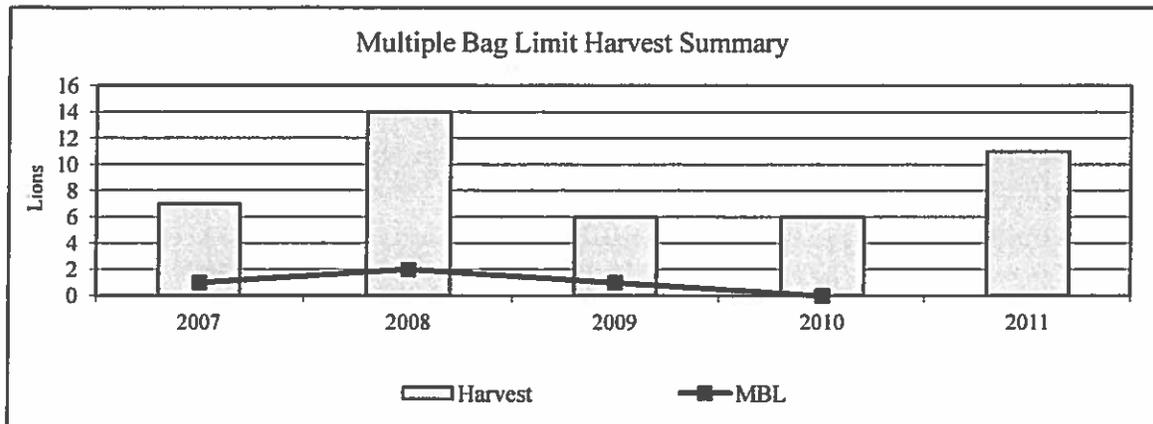
Season Type	Season Dates	Open Areas	MBL Target	Female Limit
Standard	July 1, 2012 - June 30, 2013	Unit 27, except multiple bag limit areas <i>Daylight season</i>	None	None
Multiple Bag Limit (MBL)	July 1, 2012 - June 30, 2013	Bear Canyon Hunt Area in Unit 27 at <i>Daylight season</i>	5	None
Multiple Bag Limit (MBL)	July 1, 2012 - June 30, 2013	Lower Blue River Hunt Area in Unit 27 <i>Daylight season</i>	10	None

Submitted by: H.S. Najar, A. Hartzell
Wildlife Manager(s)

Amendments & Notes:

Game Branch Approval:

 Date: 3/13/12



Significant Management Issues, Opportunities or Challenges:

*No data is currently available for depredation harvest.

Regional Notes:

Recommendation : **NO CHANGE** from current hunt structure.

The current hunt structure in GMU 27 is a recommended open season from July 1, 2012 through June 30th of 2013, with a bag limit of one lion per year. This season and bag limit is consistent with most of the state. Additionally there are two multiple bag limit areas in the Bear Canyon and Pipestem areas of Unit 27. The two areas allow for multiple bag limit lion hunting, addressing population needs of bighorn sheep.

The recommended triggers to initiate and/or stop the Bear Canyon multiple bag limit hunts are as follows:

Initiate and/or continue the multiple bag hunt as long as the estimated sheep population is below 40 or there are two or more consecutive years with lamb recruitment below 35% at time of survey in the October/November survey period. This hunt will cease when the estimated sheep population is above 40 and one of the last two years of survey data indicates lamb recruitment is above 35%.

It is recommended the expand the Bear Canyon Multiple Bag limit area to be consistent with the expansion of the Bear Canyon sheep hunt area. The Bear Canyon MBL area should read as follows:

That portion of Unit 27 beginning at the junction of US Highway 191 and Forest Trailhead 76 at Hannagan Meadow; east-northeast on Forest trail 76 to Forest trail 75; east on Forest trail 75 through Grant Creek Drainage to FR 281 (the Blue Road); north along FR 281 to Forest trail 52; east-southeast on Forest trail 52, in Lanphier Canyon, to Forest trail 55; southwest on Forest trail 55 to the Little Blue River in Bear Valley; south-southwest along the Little Blue River to the confluence

of the Blue River; north along the Blue River to Forest trail 14; west along Forest trail 14 to the junction of Highway 191; north along US Highway 191 to the junction of Forest trail 76.

It is recommended to rename the Pipestem Multiple Bag Limit area to the "Lower Blue River Hunt Area in Unit 27" to be consistent with the change in name and boundary with the Lower Blue River Hunt area in Unit 27 for the sheep hunt. The new boundary for this hunt area should be described as follows:

Beginning at the New Mexico State Line at the junction with US Highway 78; west along Highway 78 to Forest Road 212; northwest along FR 212 to the San Francisco River; southwest along the San Francisco River to Sardine Canyon; west along Sardine Canyon to US Highway 191; north along US Highway 191 to Forest trail 14 (AD Bar Trail); east along Forest trail 14 to the Blue River; south along the Blue River to the confluence of the Little Blue River; northeast along the Little Blue River to Forest trail #41; east along Forest trail 41 to the New Mexico State Line; south along the New Mexico State line to the junction with US Highway 78.

The recommended triggers to initiate and/or stop the Lower Blue River multiple bag limit hunts are as follows:

Initiate and/or continue the multiple bag hunt as long as the estimated sheep population is below 40 or there are two or more consecutive years with lamb recruitment below 35% at time of survey in the October/November survey period. This hunt will cease when the estimated sheep population is above 40 and one of the last two years of survey data indicates lamb recruitment is above 35%.

With these triggers in mind we are recommending to maintain the Bear Canyon and Lower Blue River multiple bag hunt for the 2012/2013 season.

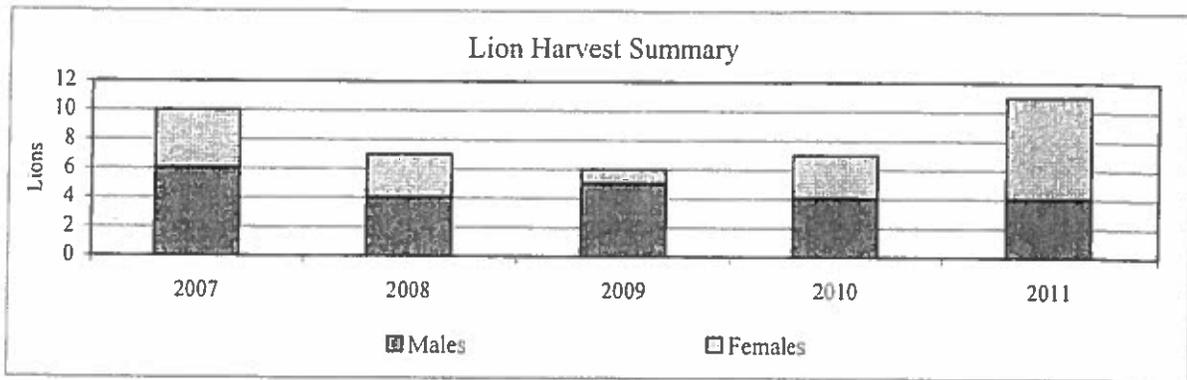
Harvest Summary:

Year	Male Harvest	Female Harvest	Total Harvest	Adult ♀ (≥3 yrs)	% Adult ♀ in Harvest	Adult ♀ Exceed 35% of Harvest?
2007	6	4	10	2	20%	NO
2008	4	3	7	1	14%	NO
2009	5	1	6	2	33%	NO
2010	4	3	7		0%	NO
2011	4	7	11			
2-Year Mean					15%	NO

Management Considerations:

*Continue Single Unit Management

*No Female Harvest Limit Indicated



Hunt Recommendation:

Season Type	Season Dates	Open Areas	MBL Target	Female Limit
Standard	July 1, 2012 - June 30, 2013	6A <i>Daylight</i>	None	None

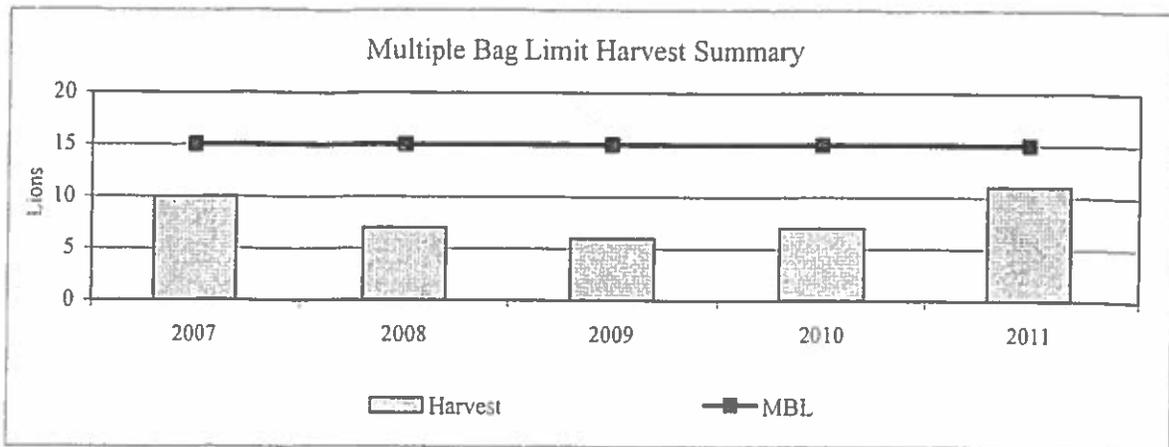
Submitted by: E. M. Brown
Wildlife Manager(s)

Amendments & Notes:

Game Branch Approval:

[Handwritten Signature]

Date: 3/12/12

**Hunt Results:**

See page 1

Hunt Recommendation:

Currently, a multiple bag limit for lions is in effect in GMU 6AS. Region II will discontinue the multiple harvest objective if:

- No lions are harvested in three consecutive years (lack of lion harvest may indicate a low population of lions), or
- The Region is no longer monitoring radio-collared sheep, or
- It is evident that predation is not impacting the reintroduced sheep population.

I recommend discontinuing the Multiple Bag Limit for 6A South and going to a standard hunt for the entire unit. I am making this recommendation for the following reasons:

- The region is no longer monitoring radio-collared sheep in the area.
- We have not found any evidence that suggests that lions are having a negative impact on the sheep population. The 6AS bighorn population has increased to an estimated 96 animals.
- Since the multiple bag limit has been in place, only one hunter has taken more than one lion out of the area in a single year.

Unit(s): 13B

Species: Mountain Lion

Year: 2011/12

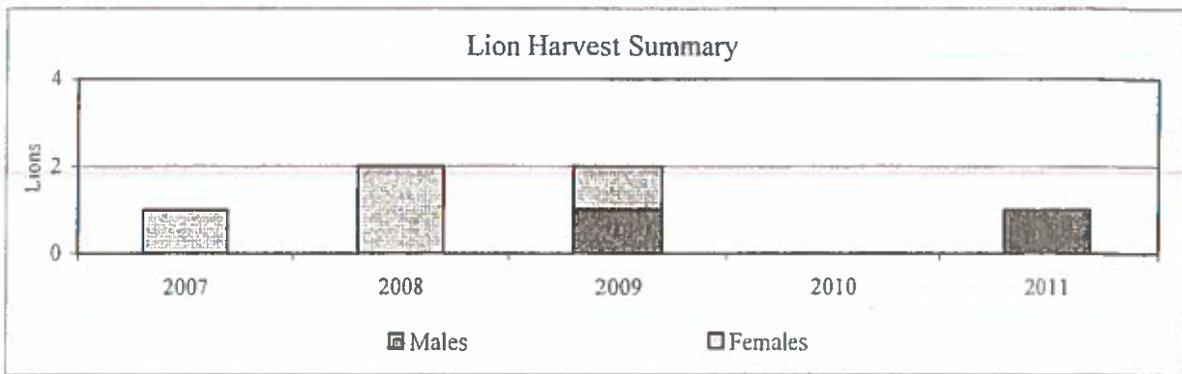
Harvest Summary:

Year	Male Harvest	Female Harvest	Total Harvest	Adult ♀ (≥3 yrs)	% Adult ♀ in Harvest	Adult ♀ Exceed 35% of Harvest?
2007	0	1	1	0	0%	NO
2008	0	2	2	1	50%	YES
2009	1	1	2	1	50%	YES
2010	0	0	0	0	#DIV/0!	#DIV/0!
2011	1	0	1			
2-Year Mean					50%	YES

Management Considerations:

*Evaluate Adjacent Unit Zone Management

*Consider Female Harvest Limit



Hunt Recommendation:

Season Type	Season Dates	Open Areas	MBL Target	Female Limit
Standard	July 1 ²⁰¹² - June 30, 2013	13B - Not Including the 13BS portion	None	None
Multiple Bag Limit (MBL)	July 1, 2012 - June 30, 2013	13BS	10	
		Daylight		
		Daylong		

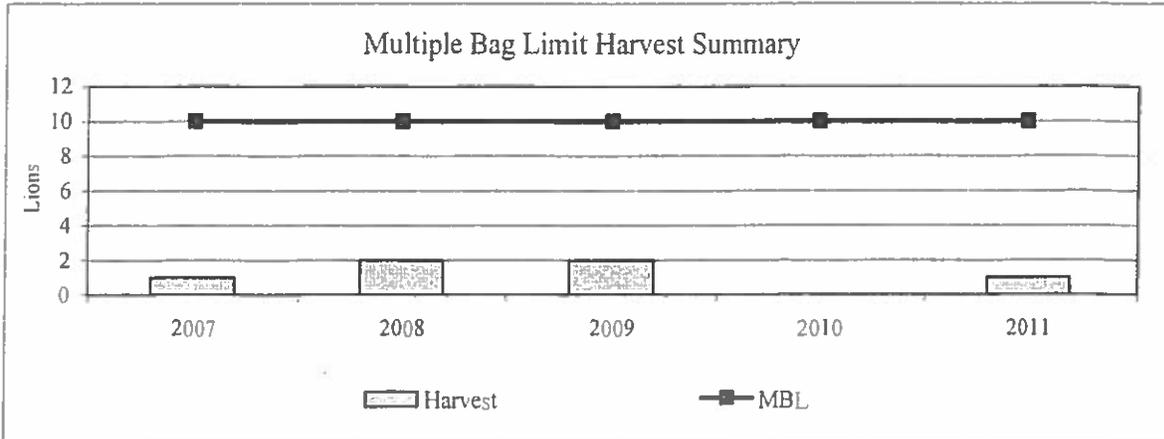
Submitted by: Luke Thompson
Wildlife Manager(s)

Amendments & Notes:

Game Branch Approval:

[Handwritten Signature]

Date: 3/12/12



Significant Management Issues, Opportunities or Challenges:

The 13BS hunt unit has a multiple bag limit that has been in effect since 2002. ~17 mountain lions have been harvested as part of this hunt. The objective in establishing this multiple bag limit hunt was to 1) remove predatory pressure on a struggling 13BS bighorn sheep population in hopes to improve survival and lamb production, and 2) provide an incentive to mountain lion hunters to travel to 13B and harvest when they would otherwise would not because of hunting areas in closer proximity to home.

In 2011/2012 licensed hunters can now hunt mountain lions during a "Daylong" / 24-hour season in 13BS.

In recent years triggers for the 13BS bighorn sheep population have been established that would determine the appropriateness of the multiple bag limit lion hunt. Those triggers have been clarified and are as follows:

To Continue the Hunt: The following stipulations apply:

1. A five-year average lamb:ewe ratio lower than what is recommended by Remington for a stable Arizona Bighorn Sheep Population (22:100);
2. A decline in the average number of class III and IV rams available for harvest within the population. The 15% threshold would be equal to 2 or fewer permits on the permit worksheet;

To End the Hunt: The following stipulations apply:

1. An average lamb:ewe ratio above what is recommended by Remington for a stable Arizona Bighorn Sheep Population (22:100), based on survey data for two consecutive survey periods;
2. An increase in class III and IV rams available for harvest. The 15% threshold would be equal to 3 or more permits on the permit worksheet;
3. No Lion Harvest for 3 consecutive years.

In general 1 stipulation has been met to continue the hunt, and 1 stipulation has been met to end the hunt. It is recommended to continue the multiple bag limit hunt with the discussion below.

The 13BS mountain lion population has historically relied on mule deer as a primary prey base. In 13B, the migratory nature of the mule deer population brings mountain lions into the habitat of bighorn sheep during the winter months and resident mule deer encourage mountain lions to remain in proximity to the bighorn sheep. For many years, the 13B mule deer population was struggling with growth and the logical tenet was that mountain lions would rely on alternative prey.

Mountain lion predation on bighorn has been documented in the Grand Wash Cliffs and is a potential control on a struggling bighorn sheep population. In fact the 13BS bighorn population, until recent years, has experienced low lamb production, and ram survival. Data and biological knowledge suggested that mountain lion predation may be one factor limiting the 13BS bighorn population.

Mountain lion hunters do not typically come to 13B to hunt. In general the area is very difficult to hunt, and there are areas more conducive closer to home. Out of state hunters don't hunt 13B because of the same reason and increased cost. Until various game management units close to mountain lion hunting from a true harvest objective approach, hunters will likely continue to hunt somewhere else.

The multiple bag limit hunt provides an incentive to mountain lion hunters to harvest in 13B when they normally would hunt elsewhere, while at the same time allowing the Department to use an effective predator management tool in management of the bighorn sheep population.

It should also be noted that the mule deer population throughout 13B has increased in recent years. Lion sightings and track sign are continually documented throughout the unit. In 2009, an archery deer hunter reported 4 mountain lions together on Black Rock Mountain. In 2010, several photographs at different time intervals showed 4 mountain lions together on Whitmore Point. 2 separate lions have been documented through track sign in the Mt. Dellenbaugh area for several years. In January 2012 the wildlife manager observed a mountain lion during deer surveys on the Grey Points.

These types of sightings were uncommon prior and is a direct indication that the mountain lion population is responding favorably to the prey base, despite the continued multiple bag limit hunt. In other words, the multiple bag limit hunt does not appear to be having an adverse impact on mountain lions.

Incidentally, mountain lion harvest in 13A has increased in 2010/2011 and is likely a direct result of the burgeoning mule deer population in 13A.

Female harvest, while indicated as 50% of the harvest over the past 2 years, is not a concern in this unit. The sample size to derive this estimate is based on very low harvest numbers for a very large unit. In addition, as indicated, sightings have been documented suggesting again that the multiple bag limit hunt is not impacting the mountain lion population.

Unit(s): 15BW, 15C, 15D Species: Mountain Lion

Year: 2011/12

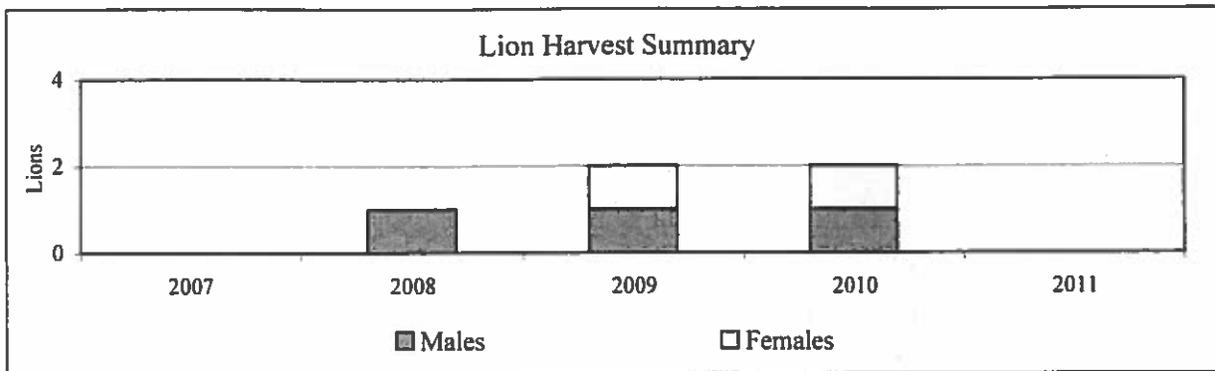
Harvest Summary:

Year	Male Harvest	Female Harvest	Total Harvest	Adult ♀ (≥3 yrs)	% Adult ♀ in Harvest	Adult ♀ Exceed 35% of Harvest?
2007			0		#DIV/0!	#DIV/0!
2008	1		1		0%	NO
2009	1	1	2	1	50%	YES
2010	1	1	2		0%	NO
2011			0			
2-Year Mean					25%	NO

Management Considerations:

*Continue Single Unit Management

*No Female Harvest Limit Indicated



Hunt Recommendation:

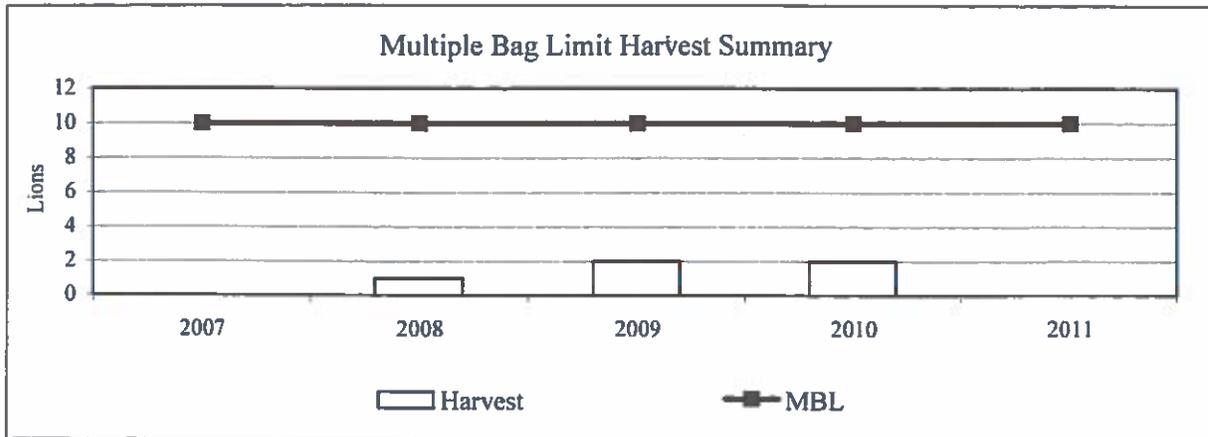
Season Type	Season Dates	Open Areas	MBL Target	Female Limit
Multiple Bag Limit (MBL)	July 1, 2012 - June 30, 2013	15B West, 15C, 15D	10	
	Daylong season			

Submitted by: Erickson, G. & Apfel, L.
Wildlife Manager(s)

Amendments & Notes:

Game Branch Approval:

Date: 3/13/12



Multiple Bag Limit Triggers are as follows:

- * Sheep/hour observed in Unit 15CS reaches the 20-year average of 18.1 sheep/hr. In 2011 it was 11.4, which is the best it's been since 2003.
- * Average sheep observed in Unit 15CS reaches the 20-year average of >108 sheep. In 2011 it was 75, which is the best it's been since 2003.

In the 2004-2005 hunt season, Units 15BW, 15C and 15D were added to the multiple bag limit hunt area, as outlined in the recently update Black Mountains Predation Adaptive Management Plan. The hunt is to encourage removal of mountain lions by sport hunters to reduce predation on a declining bighorn sheep population. The harvest objective was placed at 10 due to the high density of lions in the area. Mountain lions have been seen several of the last few years during the October sheep aerial survey.

Mountain lion predation was documented in Unit 15BW by the regional wildlife technician in 2010. The technician was tracking at least one lion which was preying on bighorn sheep. The current technician has not found fresh lion predation in Unit 15BW, however the technician has in Unit 15D (hunters also reported finding lion predations in Unit 15D in December). This predation in Unit 15BW could be a factor in the continued decrease in sheep observations during the sheep survey in 2010-2011. The region is currently hiring a new regional wildlife technician to continue monitoring mountain lions and bighorn sheep in the region.

Unit(s): 16AS, 18BS

Species: Mountain Lion

Year: 2011/12

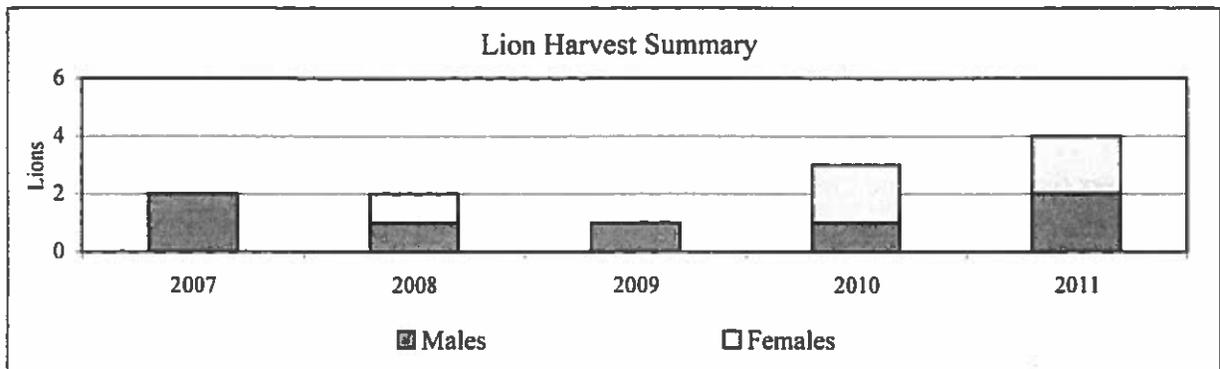
Harvest Summary:

Year	Male Harvest	Female Harvest	Total Harvest	Adult ♀ (≥3 yrs)	% Adult ♀ in Harvest	Adult ♀ Exceed 35% of Harvest?
2007	2	0	2		0%	NO
2008	1	1	2	1	50%	YES
2009	1	0	1		0%	NO
2010	1	2	3		0%	NO
2011	2	2	4			
2-Year Mean					0%	NO

Management Considerations:

*Continue Single Unit Management

*No Female Harvest Limit Indicated



Hunt Recommendation:

Season Type	Season Dates	Open Areas	MBL Target	Female Limit
Multiple Bag Limit (MBL)	July 1, 2012 - June 30, 2013	16AS, 18BS	15	
	Daylong Season			

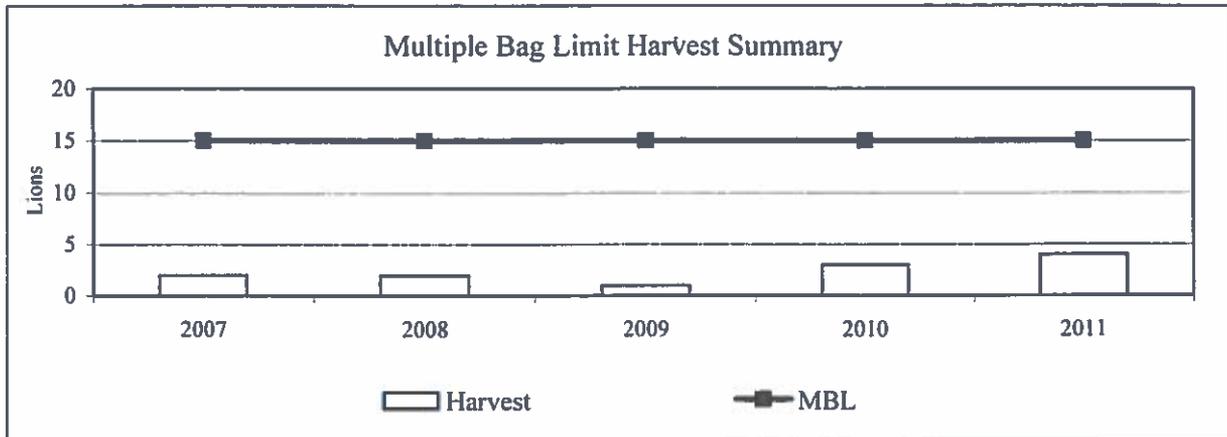
Submitted by: Antolik, L. & Shurtliff, T.
Wildlife Manager(s)

Amendments & Notes:

Game Branch Approval:

[Handwritten Signature]

Date: 3/13/12



Multiple Bag Limit Triggers are as follows:

* The bighorn sheep herd reaches a self sustaining level. In 2011, 65 sheep were observed (2009-13, 2010-37). An additional release was planned for November 2011, but was cancelled again. Twenty bighorn sheep, captured on the Navajo Nation by Mexican Hat, Utah, were released in Unit 16AS.

* Less than 10% of the bighorn mortalities can be attributed to mountain lion predation. Currently 22% of the bighorn mortalities which have occurred in Unit 16AS release area are attributed to mountain lion predation.

In November 2006, 28 bighorn sheep were released in Hell's Half Acre; then another 27 were released in 2007. The releases planned for 2008-2011 have been cancelled. In December 2011, 20 bighorn were released from Utah in People's Canyon. Units 18BS & 16AS were added as a multiple bag limit hunt area to allow the bighorn sheep transplanted to settle in the area. Lion track surveys indicated a high density of lions in the area, so the harvest objective was placed at 15 lions.

A portion of the bighorn sheep released in Unit 16AS traveled to Unit 44AE, which also has a multiple bag limit area. One of the two sheep mortalities attributed to mountain lion predation was in Unit 44AE.

Unit(s): 40A Species: Mountain Lion

Year: 2011/12

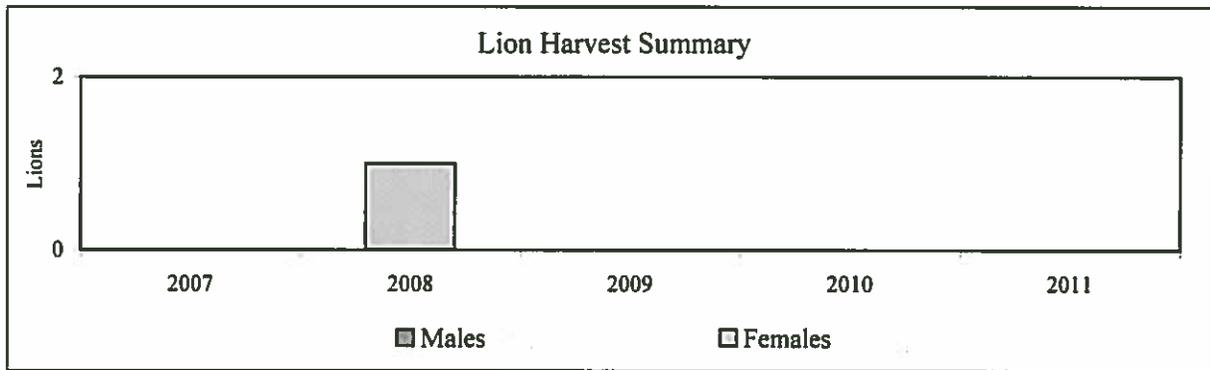
Harvest Summary:

Year	Male Harvest	Female Harvest	Total Harvest	Adult ♀ (≥3 yrs)	% Adult ♀ in Harvest	Adult ♀ Exceed 35% of Harvest?
2007	0	0	0	0	#DIV/0!	#DIV/0!
2008	0	1	1	0	0%	NO
2009	0	0	0	0	#DIV/0!	#DIV/0!
2010	0	0	0	0	#DIV/0!	#DIV/0!
2011	0	0	0			
2-Year Mean					#DIV/0!	#DIV/0!

Management Considerations:

#DIV/0!

#DIV/0!



Hunt Recommendation:

Season Type	Season Dates	Open Areas	MBL Target	Female Limit
Multiple Bag Limit (MBL)	July 1, 2012 - June 30, 2013	40A	4	None
Minimal Occurance		Day long	3 lion bag limit	

Submitted by:

T. Raspiller

Wildlife Manager(s)

Amendments & Notes:

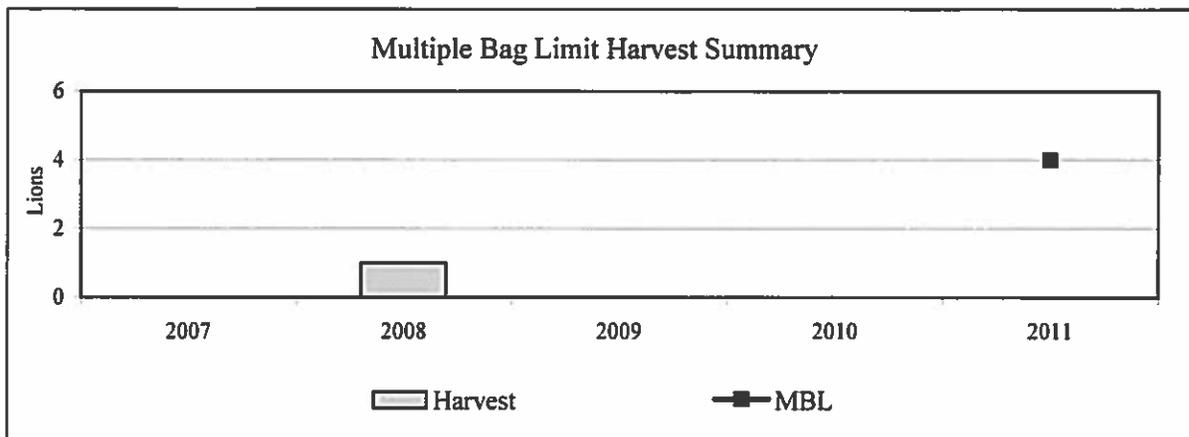
all Reg 4 units except 20C & 110B will be recommended as minimal occurance, day long season with an annual bag limit of 3

Game Branch Approval:

[Signature]

Date:

3/20/12



Significant Management Issues, Opportunities or Challenges:

Over the past four summers, trail cameras have photo-trapped several lions throughout Area B, BMGR. In 2009, two separate females were photo trapped with twin kittens each. In addition, in 2008 several lions were also photo-trapped throughout the Vekol Valley area. Over the past years, ADOT employees have reported four lion roadkills along Interstate 8.

Biologists within the research branch are interested in extending the current lion project on the SDNM into 40A south of Interstate 8. Due to the current border issues in the area all department personnel are required to have a Law Enforcement escort when working south of I8. Because of the large time commitment necessary for such a project it does not appear to be logistically possible at this time.

Regional Notes:

The multiple bag limit objective was set to temporarily reduce the number of lions to allow the existing bighorn sheep population to recover to sustainable numbers. The harvest objective has never been reached and was implemented in 2005. The dry terrain of the Sonoran Desert makes it very difficult to hunt lions with dogs. Since the multiple bag limit has been implemented the only lion harvested was taken by a predator hunter using calls. With the implementation of day long hunting hours in 40A it is believed that the harvest rate will increase. However, 40A currently has a high level of illegal activity as it pertains to drug trafficking and undocumented aliens and it is unclear how many hunters will take advantage of this new opportunity.

The bag-limit was derived from estimated lion populations based on preferred habitat and incidental observations. A best educated guess was used at the time because time, manpower, and resources were not available to complete track surveys or any other reliable survey method of the time.

In 1993, the department estimated lion densities for GMU 40A ranging from 0 to 16 in about 1030 sq. mi. In 2004, the average lion densities ranged from 7 to 26 in about 1082 sq. mi. Today, game trail cameras has allowed us to easily confirm more than seven lions exist throughout this unit. While photo trapping several solitary lions throughout the unit, two separate females with kittens were also photo trapped. Despite the removal of cattle from the northern half of GMU 40A and a

Unit(s): 42 Species: Mountain Lion

Year: 2011/12

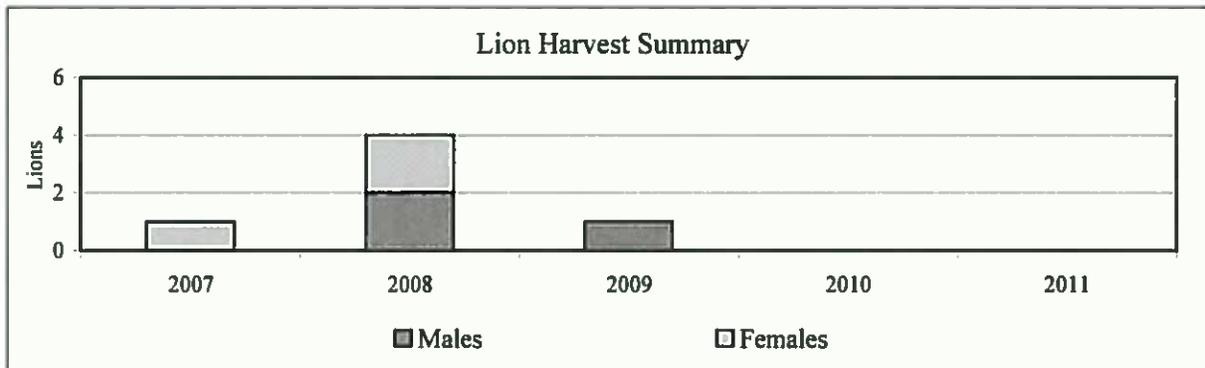
Harvest Summary:

Year	Male Harvest	Female Harvest	Total Harvest	Adult ♀ (≥3 yrs)	% Adult ♀ in Harvest	Adult ♀ Exceed 35% of Harvest?
2007	0	1	1	1	100%	YES
2008	2	2	4	2	50%	YES
2009	1	0	1		0%	NO
2010	0	0	0		#DIV/0!	#DIV/0!
2011	0	0	0			
2-Year Mean					0%	NO

Management Considerations:

*Continue Single Unit Management

*No Female Harvest Limit Indicated



Hunt Recommendation:

Season Type	Season Dates	Open Areas	MBL Target	Female Limit
Standard	July 1, 2012 - June 30, 2013	42 Unitwide	None	None
Multiple Bag Limit (MBL)	July 1, 2012 - June 30, 2013	42 South of Buckeye Aguila Rd. and west of 355 Ave.	2	Daylong
<i>Minimal Occurrence</i>				

Submitted by: Craig Heath
Wildlife Manager(s)

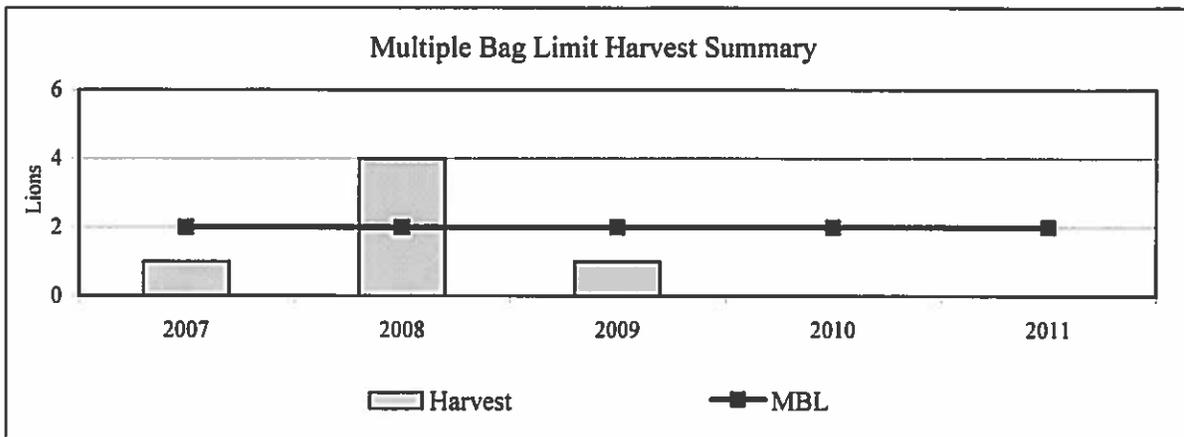
Amendments & Notes:

See UDB note

Game Branch Approval:

[Signature]

Date: 3/20/12



Significant Management Issues, Opportunities or Challenges:

*list items of management significance

*

*

Regional Notes:

The Mountain Lion hunting recommendation for GMU 42 is closely tied to the management of the bighorn sheep population within the southern portion of the unit (Big Horn/Belmont Mountains). Currently there is a Multiple Bag Limit mountain lion season for this southern part of the unit to assist with the Department's attempts to reestablish a thriving bighorn sheep population within this historic bighorn range. The resident population of bighorn sheep includes transplanted sheep from nearby ranges. To date, 41 collared bighorn sheep have been released into this range since 2005. Twenty two of these collared sheep have died over the years and over half of those mortalities were determined to be caused by mountain lion predation. This 50% mortality rate caused by mountain lions continued in 2011 when two of four collared bighorn sheep mortalities were attributed to lion predation.

No mountain lions have been taken from the multiple bag limit area of unit 42 since the inception of the hunt five years ago. Few lion hunters have been encountered in the area. Hunters using dogs have also demonstrated reluctance to bring their dogs into this hot, dry, cactus rich range.

It is recommended that the multiple bag limit of 2 lions be maintained in this portion of the unit until the objectives of the bighorn sheep population are met (self sustaining population of 100 bighorn sheep and less than 10% or radio collared sheep mortalities are lion caused).

Unit(s): 44AE Species: Mountain Lion

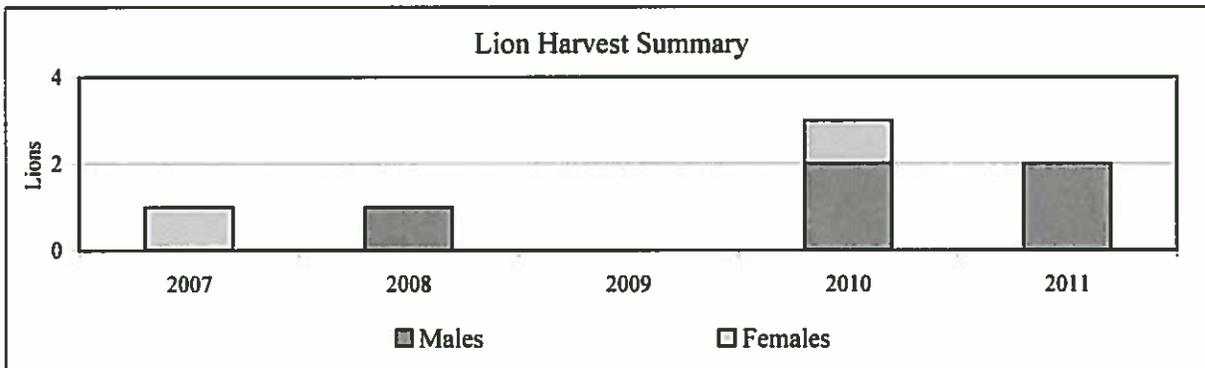
Year: 2011/12

Harvest Summary:

Year	Male Harvest	Female Harvest	Total Harvest	Adult ♀ (≥3 yrs)	% Adult ♀ in Harvest	Adult ♀ Exceed 35% of Harvest?
2007		1	1	1	100%	YES
2008	1		1		0%	NO
2009	0	0	0		#DIV/0!	#DIV/0!
2010	2	1	3		0%	NO
2011	2		2			
2-Year Mean					0%	NO

Management Considerations:

- *Continue Single Unit Management
- *No Female Harvest Limit Indicated



Hunt Recommendation:

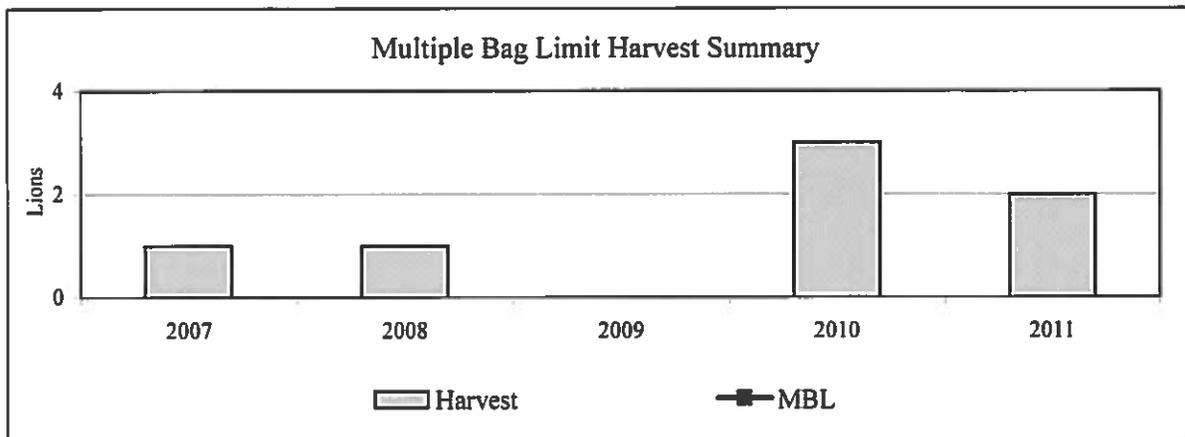
Season Type	Season Dates	Open Areas	MBL Target	Female Limit
Standard	July 1, 2012 - June 30, 2013	Unit 44A West of Cunningham Wash	None	None
Multiple Bag Limit (MBL)	July 1, 2012 - June 30, 2013	Unit 44A East of Cunningham Wash	Daylong	None
<i>Minimal Occurrence</i>				

Submitted by: S. Kohnke & C. Herbert
Wildlife Manager(s)

Amendments & Notes:

See 40B note

Game Branch Approval: *[Signature]* Date: 3/20/12



Significant Management Issues, Opportunities or Challenges:

Hunt Unit 44A is partitioned into two hunt areas. One is the multiple bag limit area and the rest of the unit is the Standard. The Boundaries for the multiple bag limit area are as follows: Beginning at Alamo Lake; southeasterly along the Wenden- Alamo Lake Road to Cunningham Wash, southwesterly along Cunningham Wash to McVay Road; south on McVay Road to AZ Hwy 72; southeasterly on AZ Hwy 72 to Vicksburg; south on the Vicksburg Road to I-10; easterly on I-10 to the Salome-Hassayampa road (Exit 81); northwesterly on this road to Eagle Eye road; northeasterly on Eagle Eye road to Aguila; east on U.S. Hwy 60 to AZ Hwy 71; northeasterly on AZ Hwy 71 to U.S. Hwy 93; northwesterly on U.S. Hwy 93 to the Santa Maria River; westerly along the Santa Maria and Bill Williams rivers to Alamo Lake. The multiple bag limit area is surrounding a major bighorn sheep transplant area.

From 1994 to 2001, one hundred and eleven desert bighorn sheep have been transplanted into 4 different locations in the Granite Wash and Harcuvar Mountains. Of these 111 total sheep 72 were fitted with VHF radio telemetry collars (Telonics, Inc., Mesa, AZ) and were monitored through January of 2006. Mortality signals were located as soon as possible after each telemetry flight. 49 mortalities were indicated but one was not recovered. Of the 48 documented mortalities, 23 were caused by mountain lion, 15 were undetermined but not obvious predation, five were capture related, four had evidence of bad sinusitis, one from falling and one drowned.

In 2000, twenty-five desert bighorn sheep were transplanted into the Harquahala Mountains. Of these 25 sheep, 13 were fitted with VHF radio telemetry collars and were monitored through January of 2006. Mortality signals were located as soon as possible after each telemetry flight. 9 mortalities were documented and 3 radio collars either malfunctioned or their battery went dead. Of the 9 documented mortalities, 8 were caused by mountain lion and the other one appeared to be malnutrition.

Of these 57 documented desert bighorn sheep mortalities investigated 31 or 54% were caused by mountain lion predation. These predations occurred throughout the habitat from low creosote-paloverde to chaparral-scrub type. Lion predations during the radio telemetry study occurred in the Harquahalas, Little Harquahalas, Granite Wash, and the Harcuvar Mountains

Adjacent bighorn sheep habitat includes the Bighorn and Belmont Mountains in unit 42. Research associated with construction of the Hayden/Rhodes aqueduct documented movement of radio collared bighorn sheep between the Little Harquahala and Harquahala Mts. and between the Harquahala and Bighorn/Belmont Mts. (Krausman, Etchberger 1993).

Regional Notes:

Mountain lion sign and/or lion predations have been documented at almost every developed waterhole around these mountains. In 2009, eight deer predations have been observed at water developments in the multiple bag limit area. In 2006, fifteen deer predations were observed at a single water development on top of the Harcuvar Mountains.

Recommendation:

This unit has been open for the harvest of mountain lion, but only rarely is any harvest recorded. In the last five years seven lions were reported as harvested in 44A. It is hoped that the setting of a multiple bag with a harvest objective greater than one will encourage an increase in the sport take of mountain lions in this area. A temporary reduction in mountain lion numbers in bighorn sheep habitat is expected to reduce predation on sheep and help them to recover to a self-sustaining population level.

The harvest objective should be discontinued when the bighorn sheep population in this portion of Unit 44A reaches a self-sustaining level of 332. The current population estimate is 108 animals.

Population information for lions in this habitat type is scarce and population estimating techniques are few. One mapping strategy from several years ago categorized lion habitat using designations of sparse, low and medium habitat. The densities developed for each category were ranges, but the low end of the range seems most realistic in Region 4:

sparse = .001 lions per square mile (lpsm) X ~200 square miles multiple bag area (mba) = .2

low = .005 lpsm X ~1000 square miles in the mba = 5

medium = .01 lpsm X ~380 square miles in the mba = 3.8

Total = 9 lions X 50% = 4.5 or 4 lions

GMU 44A is shown to contain a total of 2363 square miles of habitat; 400.4 sq mi of sparse lion range, 1482 sq mi of low lion range, and 480.3 sq mi of medium range.

A harvest objective of 50 % of the population estimate would be 4.

We would like to maintain the multiple bag structure in the eastern portion of Unit 44A with a harvest objective of 4 lions.

The rest of the unit would be designated with the Standard lion hunt.

Occurrence Records: Catchment 441- 4/13/11 Mountain Lion (ML) scrape, 6/17/11 adult ML trail camera pic, 8/17/11 ML scrape

Catchment 442- 5/8/11 Several ML scrapes, 6/17/11 ML print (51mm) and scrape, 7/19/11 scrape, 8/17/11 ML scrape

Catchment 957- ML print (42mm and 47mm), 4/15/11 ML scrape, 7/5/11 2 subadult MLs trail camera pic, 7/12/11 adult ML trail camera pic, 7/16/11 adult ML trail camera pic

Catchment Stealth- 7/19/11 fresh (ML predation) MD bones found at catchment
No Mountain lion sign was documented for the rest of the unit.

Unit(s): 31/32

Species: Mountain Lion

Year: 2011/12

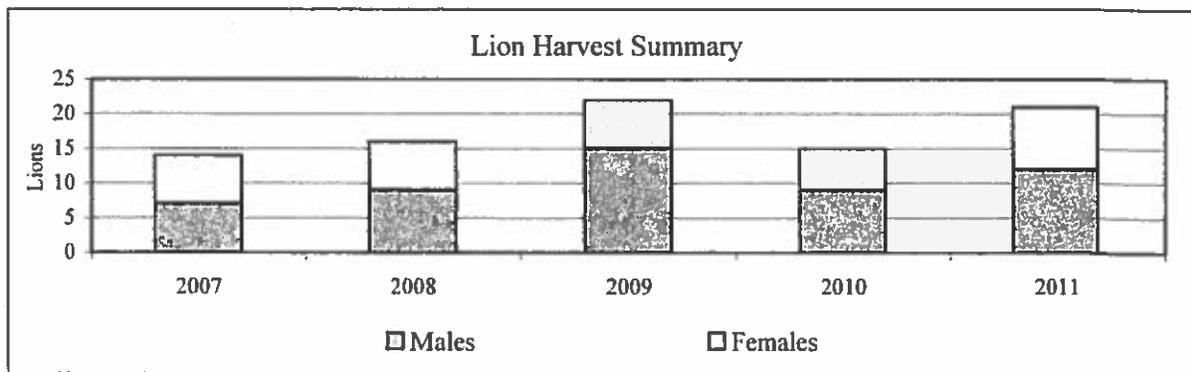
Harvest Summary:

Year	Male Harvest	Female Harvest	Total Harvest	Adult ♀ (≥3 yrs)	% Adult ♀ in Harvest	Adult ♀ Exceed 35% of Harvest?
2007	7	7	14	2	14%	NO
2008	9	7	16	6	38%	YES
2009	15	7	22	5	23%	NO
2010	9	6	15	3	20%	NO
2011	12	9	21			
2-Year Mean					22%	NO

Management Considerations:

*Continue Single Unit Management

*No Female Harvest Limit Indicated



Hunt Recommendation:

Season Type	Season Dates	Open Areas	MBL Target	Female Limit
Multiple Bag Limit (MBL)	July 1, 2012 - June 30, 2013	Aravaipa-Galiuro Mountains Management Area	20	None
		<i>Day long season</i>		

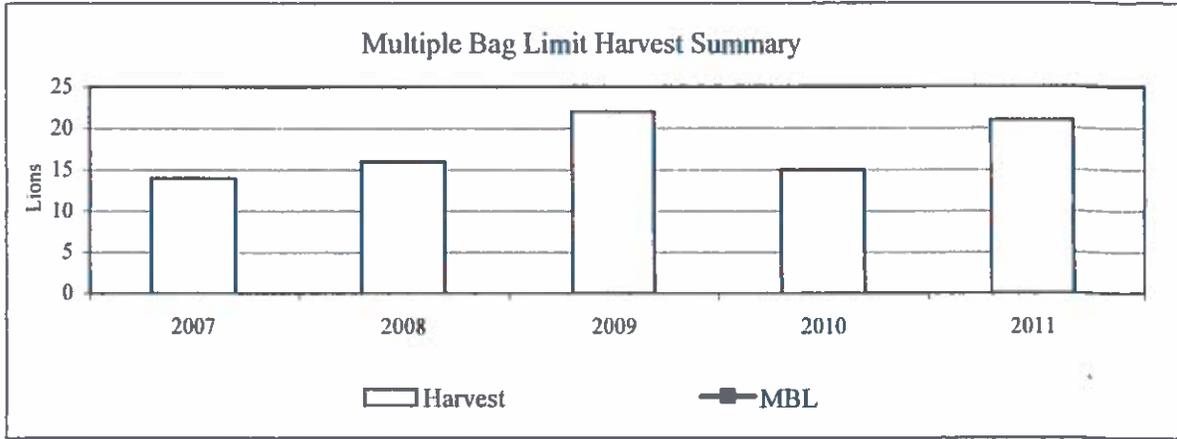
Submitted by: J. Bacorn
Wildlife Manager(s)

Amendments & Notes:

Game Branch Approval:

[Handwritten Signature]

Date: 3/13/12



Significant Management Issues, Opportunities or Challenges:

GMU 31-32 Mountain Lion-Significant Management Issues, Opportunities or Challenges: Mountain Lion Harvests

There were 21 lions recorded as sport harvests in GMU 31-32 in 2011, 6 from GMU 31 and 15 from GMU 32. The 5-year and 10-year average sport harvests are 18 and 16 lions, respectively (Table 1). Lions are also removed from GMU 31-32 under depredation laws authorized through ARS 17-302. From 2003-2007, 34% of the statewide depredation lions occurred in GMU 31-32 (Mountain Lion and Bear Conservation Strategies Report). In 2011, 14 depredation lions were removed from GMU 31-32. The 5-year and 10-year average number of depredation lions removed from GMU 31-32 were 16 and 17 lions (Table 1).

In 2011, a total of 35 lions were removed from GMU 31-32, the 5-year and 10-year averages are 34 and 33 (sport harvest and depredation). Total mountain lion removal, have been variable within GMU 31-32, with highs in 1988 and 2008 (Table 1 and Figure 1). Note the sport harvest and depredation removal appear to have an inverse relationship especially within the last 6 years (Figure 1).

Mountain Lion Densities

Based upon the Department's 2002 Statewide Mountain Lion habitat assessment, GMU 31-32 has approximately 2745 square miles of lion habitat (Table 2). Within that habitat there are low, medium and high lion densities associated with different habitat types. The estimated lion population for GMU 31-32 based upon the extremes of estimated density for lions ranges from 70-165 lions (average = 118).

Within GMU 31-32 there are two areas with concentrations of Desert Bighorn Sheep; those in the Aravaipa Canyon in the northern portion of GMU 32 and northwestern portion of GMU 31 and those in the Galiuro Mountain/Redfield area in the western portion of GMU 32. It is known that sheep in these two areas interchange to some degree but how often is not known. Surveys of both areas are currently conducted every 3 years and the average number of sheep observed during the last 3 surveys was 121 animals. The estimated population combining both areas based upon 2009 data is 138 animals. The relationship between bighorn sheep and mountain lions has received increased interest in the last few years. Studies have conclusively shown that mountain lion predation can be an important source of mortality in bighorn sheep herds and, in some cases, may have population-level impacts especially in small isolated populations. Studies have also suggested that predation on bighorn sheep is reliant on the behavior of individual mountain lions and not directly related to the total number of mountain lions. For example; in the Kofa Mountains, one male mountain lion (KM04) was documented to have killed 16 bighorn sheep and two mule deer in a six-month period. A female mountain lion (KF02) killed six lambs in six weeks and another male mountain lion (RM01) killed a minimum of 14 bighorn sheep and 52 mule deer during 20 months of monitoring.

Multiple Bag Limit Structures

Multiple bag limit (MBL) hunt structures for mountain lions were first established in AZ in 1999 and currently there are 12 MBL areas within the State. As listed in the AGFD Hunt Guidelines the MBL structure "may be offered in hunt units or a portion of a hunt unit to increase lion hunting opportunity. These should be designed to assist in achieving population objectives for another wildlife species. When targets have been achieved for which multiple bag limits were established, the multiple bag limit hunt structure should be removed from that unit". The MBL

Recommendation

The recommendation is to continue the GMU 31-32 MBL structure established by the Commission but to establish a MBL area that will include the Aravaipa Drainage and the Galiuro Mountains. This option will allow for continued removal of lions within bighorn sheep habitat to temporarily relax predation pressure in the months prior to lambing, but will avoid forcing all the harvest in the Aravaipa Canyon area. This recommendation will still allow us to accomplish the objective of the Commission when establishing this MBL. Further, it will be very important to monitor the bighorn sheep population in the next few years to determine if this MBL is providing any benefit to the sheep population. We will be surveying by helicopter in fall of 2012 and will write an HPC proposal to obtain additional funding to conduct helicopter surveys in 2013 and 2014 to document any population changes that might occur. We will also monitor lion harvest to track the distribution and amount of harvest within bighorn sheep habitat.

Recommend that the MBL area (Aravaipa-Galiuro Mountains) be established as those portions of GMU 31 and GMU 32 beginning at the San Carlos Reservation and Gila River; southwest along the Gila River to the San Pedro River; south along the San Pedro River to the Pima County line; east along the Pima County line to the Graham County line; south and then east along the Graham County line to Fort Grant Road; north on Fort Grant Road to the Bonita-Klondyke road; northwest on the Bonita-Klondyke road to the Klondyke-Hwy 70 road; east on the Klondyke-Hwy 70 road to Hwy 70; northwest on Hwy 70 to the San Carlos Indian Reservation.

As mentioned above, these GMUs are the source for a substantial portion of the state's depredation removal of lions. Because of these additional lions being removed independent of our management efforts, we recommend our MBL harvest objectives to harvest a lower percentage of the lion population than other MBL in other GMUs. Within the area defined above the population is estimated to be 30-68 lions and 50%-75% of that estimated population would be 25-36 lions (Table 4). For the GMU 31-32, Aravaipa-Galiuro Mountains, the MBL recommendation is for a harvest objective of 20 lions with a reevaluation each year for any modifications or adjustments.

The MBL will not be continued indefinitely, it is seen as a temporary management action to increase the bighorn sheep population. However, we do envision keeping the structure in place for a minimum of 3 years (including last year) to properly assess the effectiveness of the current MBL structure. The following management objectives will be evaluated after 2 survey cycles:

- 1) A measureable increase in observed total population numbers of Desert Bighorn Sheep, and/or
- 2) A measureable increase in observed lamb:ewe ratio, and/or
- 3) A measureable increase in lion removals occurring within Desert Bighorn Sheep occupied habitat.

If the above management objectives are not met after this MBL has been in place for a minimum of 3 years, then the MBL will be discontinued.

The Department will work with Sportsmen, other conservationists and landowners to accomplish the objectives listed above.

Table 1. Summary of mountain lion sport harvest and mountain lion depredation take from 1997-2011 in GMU 31-32.

Mountain Lion Sport Harvest and Depredation GMU 31-32							
YEAR	SPORT 31	DEPREDATION 31	SPORT 32	DEPREDATION 32	SPORT 31/32	DEPRED 31/32	Total 31/32
1997	6	11	15	10	21	21	42
1998	6	23	24	6	30	29	59
1999	9	20	13	4	22	24	46
2000	11	9	10	16	21	25	46
2001	4	13	12	8	16	21	37
2002	8	12	7	9	15	21	36
2003	5	18	5	10	10	28	38
2004	8	9	6	5	14	14	28
2005	8	11	6	4	14	15	29
2006	4	4	12	9	16	13	29
2007	4	7	11	4	15	11	26
2008	3	13	13	13	16	26	42
2009	7	6	15	8	22	14	36
2010	3	7	12	11	15	18	33
2011	6	5	15	9	21	14	35
5 yr Ave	5	8	13	9	18	16	34
10 yr Ave	6	9	10	8	16	17	33
Total	92	168	176	126	268	293	561

Figure 1. Summary of mountain lion sport harvest and mountain lion depredation take from 1976-2011 in GMU 31-32.

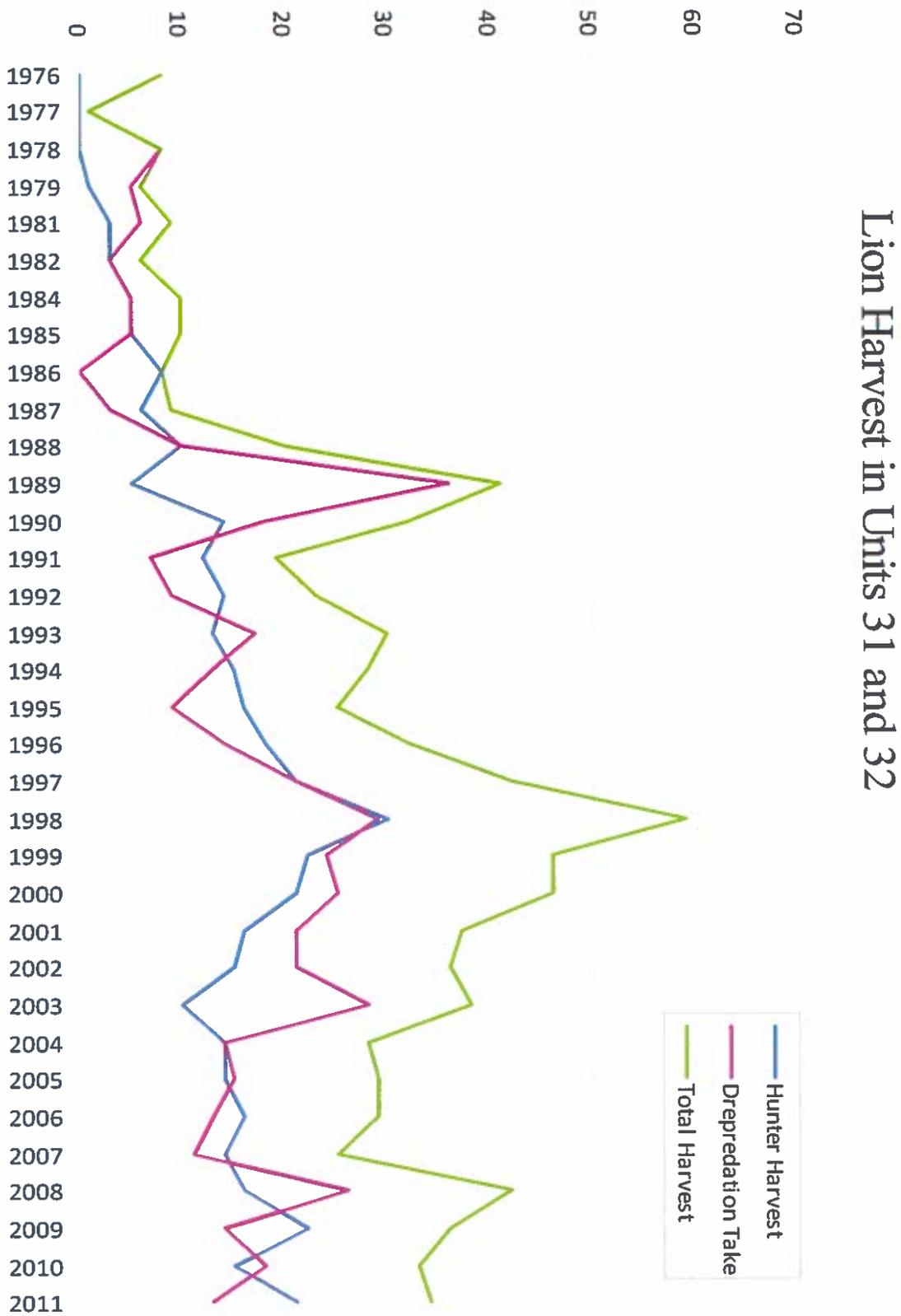


Table 2. Estimated mountain lion densities for GMU 31-32 based upon 2002 statewide mountain lion habitat assessment

Mountain Lion Density Calculations for GMU 31-32			
Habitat Quality	Area	Estimated Lions/mi2 - Range	
Habitat Classification	Square Miles	Low	High
Sparse	0	0	0.005
Low	774.1	0.005	0.01
Medium	798.3	0.01	0.05
High	1172.8	0.05	0.1
Total	2745.2		
Mountain Lion Population Estimate			
Sparse	0	0	0.0
Low	774.1	3.9	7.7
Medium	798.3	8.0	39.9
High	1172.8	58.6	117.3
Total		70.5	164.9
Mountain Lion Population Estimates Range Between 70 - 165 Midpoint = 118 MBL to remove 50%-75% of est. pop (120) = 60-90 lion MBL			

Table 3. Estimated mountain lion densities for alternative Aravaipa Mountain Lion MBL area within GMU 31-32 (North of Copper Creek, 4 Mile Canyon and Klondyke-HWY 70 Rd).

Mountain Lion Density Calculations for Aravaipa MBL Area			
Habitat Quality	Area	Estimated Lions/mi2 - Range	
Habitat Classification	Square Miles	Low	High
Sparse	0	0	0.005
Low	20	0.005	0.01
Medium	116	0.01	0.05
High	329	0.05	0.1
Total	465		
Mountain Lion Population Estimate			
Sparse	0	0	0
Low	20	0.1	0.20
Medium	116	1.16	5.80
High	329	16.45	32.90
Total	465	17.7	38.9
Mountain Lion Population Estimates Range Between 18-40 Midpoint = 29 MBL to remove 50%-75% of est. pop (29) = 15-22 lion MBL			

Table 4. Estimated mountain lion densities for alternative Aravaipa-Galiuro Mountains Lion MBL area within GMU31-32 (north of Pima and Graham County line).

Mountain Lion Density Calculations for Aravaipa-Galiuro Mts MBL Area			
Habitat Quality	Area	Estimated Lions/mi ² - Range	
Habitat Classification	Square Miles	Low	High
Sparse	0	0	0.005
Low	60	0.005	0.01
Medium	220	0.01	0.05
High	560	0.05	0.1
Total	840		
Mountain Lion Population Estimate			
Sparse	0	0	0
Low	60	0.3	0.60
Medium	220	2.2	11.00
High	560	28	56.00
Total	840	30.5	67.6
Mountain Lion Population Estimates Range Between 30-68			
Midpoint = 49			
MBL to remove 50%-75% of est pop (49) = 25-36 lion MBL			

Table 1. Summary of mountain lion sport harvest and mountain lion depredation take from 1997-2011 in GMU 31-32.

Mountain Lion Sport Harvest and Depredation GMU 31-32							
YEAR	SPORT 31	DEPREDATION 31	SPORT 32	DEPREDATION 32	SPORT 31/32	DEPRED 31/32	Total 31/32
1997	6	11	15	10	21	21	42
1998	6	23	24	6	30	29	59
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2000	11	9	10	16	21	25	46
2001	4	13	12	8	16	21	37
2002	8	12	7	9	15	21	36
2003	5	18	5	10	10	28	38
2004	8	9	6	5	14	14	28
2005	8	11	6	4	14	15	29
2006	4	4	12	9	16	13	29
2007	4	7	11	4	15	11	26
2008	3	13	13	13	16	26	42
2009	7	6	15	8	22	14	36
2010	3	7	12	11	15	18	33
2011	6	5	15	9	21	14	35
5 yr Ave	5	8	13	9	18	16	34
10 yr Ave	6	9	10	8	16	17	33
Total	92	168	176	126	268	293	561

Figure 1. Summary of mountain lion sport harvest and mountain lion depredation take from 1976-2011 in GMU 31-32.

Lion Harvest in Units 31 and 32

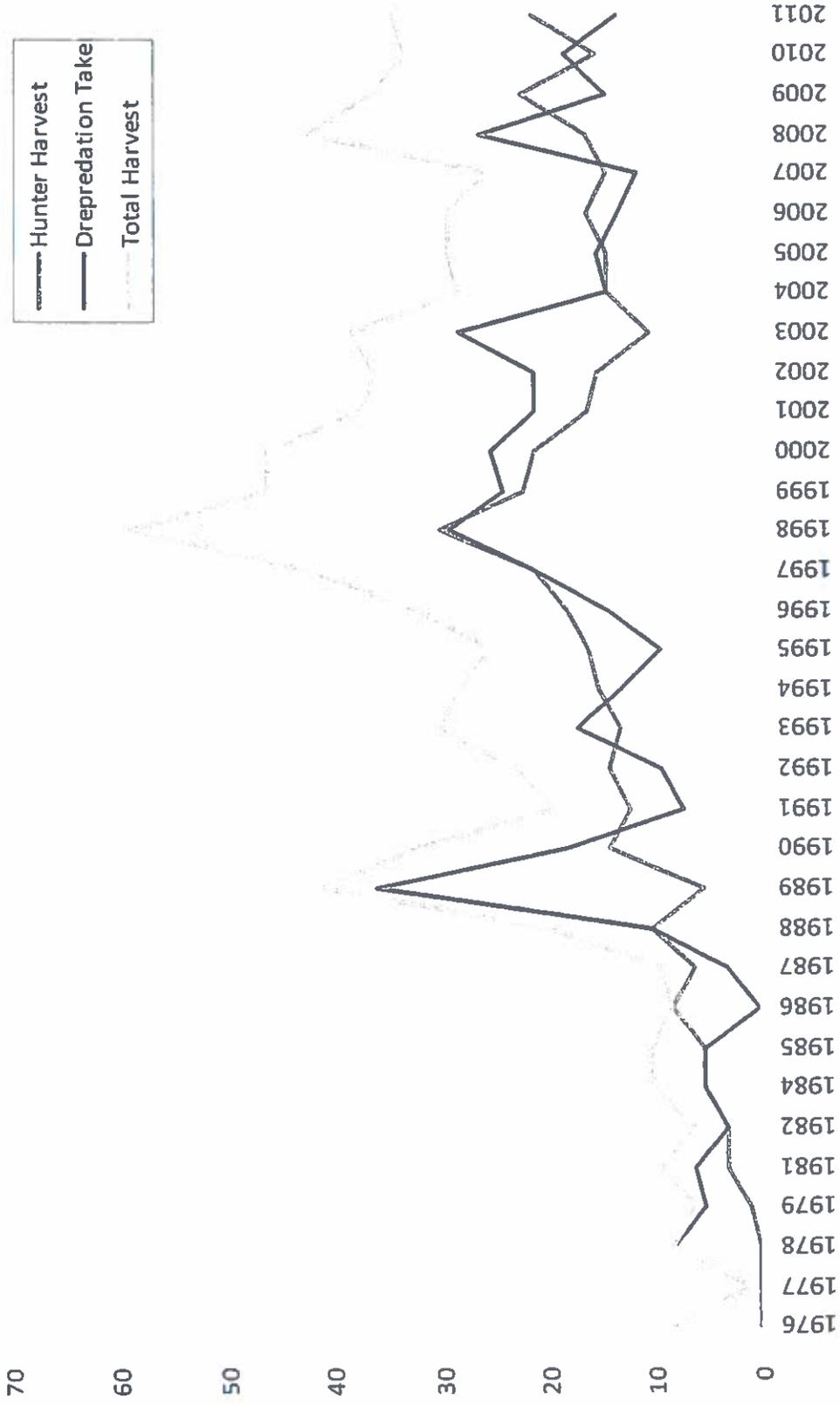


Table 2. Estimated mountain lion densities for GMU 31-32 based upon 2002 statewide mountain lion habitat assessment

Mountain Lion Density Calculations for GMU 31-32			
Habitat Quality	Area	Estimated Lions/mi² - Range	
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Sparse	0	0	0.005
Low	774.1	0.005	0.01
Medium	798.3	0.01	0.05
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Sparse	0	0	0.0
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High	1172.8	58.6	117.3
Total		70.5	164.9
Mountain Lion Population Estimates Range Between 70 - 165			
Midpoint = 118			
MBL to remove 50%-75% of est. pop (120) = 60-90 lion MBL			

Table 3. Estimated mountain lion densities for alternative Aravaipa Mountain Lion MBL area within GMU 31-32 (North of Copper Creek, 4 Mile Canyon and Klondyke-HWY 70 Rd).

Mountain Lion Density Calculations for Aravaipa MBL Area			
Habitat Quality	Area	Estimated Lions/mi² - Range	
Habitat Classification	Square Miles	Low	High
Sparse	0	0	0.005
Low	20	0.005	0.01
Medium	116	0.01	0.05
High	329	0.05	0.1
Total	465		
Mountain Lion Population Estimate			
Sparse	0	0	0
Low	20	0.1	0.20
Medium	116	1.16	5.80
High	329	16.45	32.90
Total	465	17.7	38.9
Mountain Lion Population Estimates Range Between 18-40			
Midpoint = 29			
MBL to remove 50%-75% of est. pop (29) = 15-22 lion MBL			

Table 4. Estimated mountain lion densities for alternative Aravaipa-Galiuro Mountains Lion MBL area within GMU31-32 (north of Pima and Graham County line).

Mountain Lion Density Calculations for Aravaipa-Galiuro Mnts MBL Area			
Habitat Quality	Area	Estimated Lions/mi² - Range	
Habitat Classification	Square Miles	Low	High
Sparse	0	0	0.005
Low	60	0.005	0.01
Medium	220	0.01	0.05
High	560	0.05	0.1
Total	840		
Mountain Lion Population Estimate			
Sparse	0	0	0
Low	60	0.3	0.60
Medium	220	2.2	11.00
High	560	28	56.00
Total	840	30.5	67.6
Mountain Lion Population Estimates Range Between 30-68 Midpoint = 49 MBL to remove 50%-75% of est pop (49) = 25-36 lion MBL			

Unit(s): 20B Species: Mountain Lion

Year: 2011/12

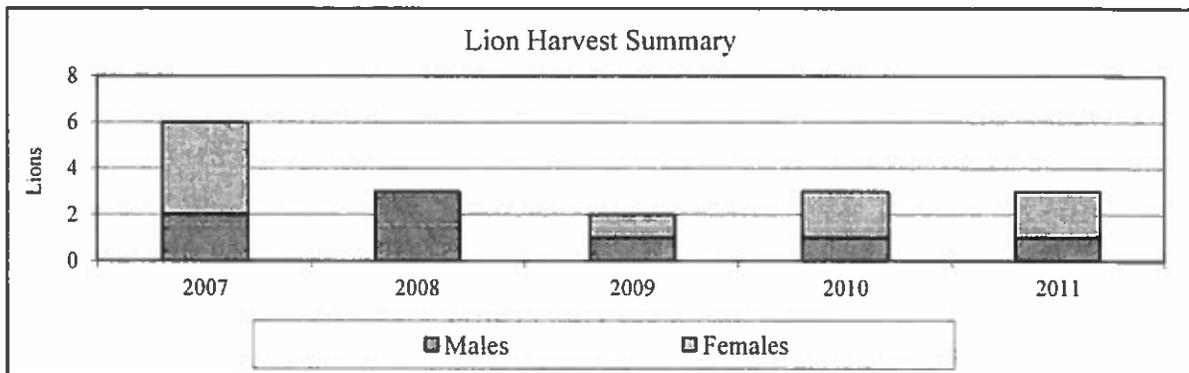
Harvest Summary:

Year	Male Harvest	Female Harvest	Total Harvest	Adult ♀ (>3 yrs)	% Adult ♀ in Harvest	Adult ♀ Exceed 35% of Harvest?
2007	2	4	6	2	33%	NO
2008	3	0	3	0	0%	NO
2009	1	1	2	0	0%	NO
2010	1	2	3	1	33%	NO
2011	1	2	3			
2-Year Mean					17%	NO

Management Considerations:

*Continue Single Unit Management

*No Female Harvest Limit Indicated



Hunt Recommendation:

Season Type	Season Dates	Open Areas	MBL Target	Female Limit
Standard	July 1 2012- June 30 2013	Unit 20B - Unitwide <i>Daylight Season</i>	None	None

Submitted by: R. BABEL
Wildlife Manager(s)

Amendments & Notes:

Game Branch Approval:

[Signature]

Date: 3/13/12

Unit(s): 20B

Species: Mountain Lion

Management Notes:

Mountain Lion Recommendation – Unit 20B

Submitted by: R. Babel

Open Season Dates: July 1, 2012 – June 30, 2013

Open Areas: Unit wide

Legal Animal: Any Mountain Lion except spotted kittens or females accompanied by spotted kittens.

Number of Permits: Unlimited

Change from last year: Season Dates

Three (3) mountain lions were reported by sport harvest in 2011. The harvest comprised of 1 male lion and 2 female lions.

Management Notes:

Year	Sex	Cementum Age	Estimated Age
2011	F	-	3
2011	M	-	-
2011	F	-	7
2010	M	3	4
2010	F	5	7
2010	F	-	3
2009	M	-	1
2009	M	-	1
2008	M	6	6
2008	M	-	-
2008	M	-	-
2007	F	8	8
2007	F	-	1
2007	M	4	-
2007	F	1	3
2007	M	-	1
2007	F	4	-

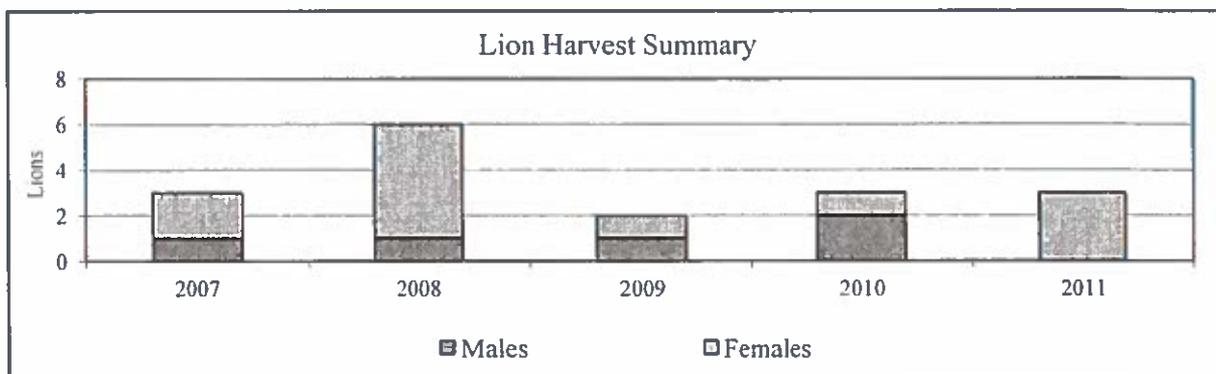
Unit(s): 21 Species: Mountain Lion

Year: 2011/12

Harvest Summary:

Year	Male Harvest	Female Harvest	Total Harvest	Adult ♀ (≥3 yrs)	% Adult ♀ in Harvest	Adult ♀ Exceed 35% of Harvest?
2007	1	2	3	1	33%	NO
2008	1	5	6	1	17%	NO
2009	1	1	2	1	50%	YES
2010	2	1	3	1	33%	NO
2011	0	3	3			
2-Year Mean					40%	YES

Management Considerations: *Evaluate Adjacent Unit Zone Management
*Consider Female Harvest Limit



Hunt Recommendation:

Season Type	Season Dates	Open Areas	MBL Target	Female Limit
Standard	July 1, 2012 - June 30, 2013	Unit 21 - Unitwide <i>Daylight Season</i>	None	None
Multiple Bag Limit (MBL)	July 1, 2012 - June 30, 2013	None	None	None

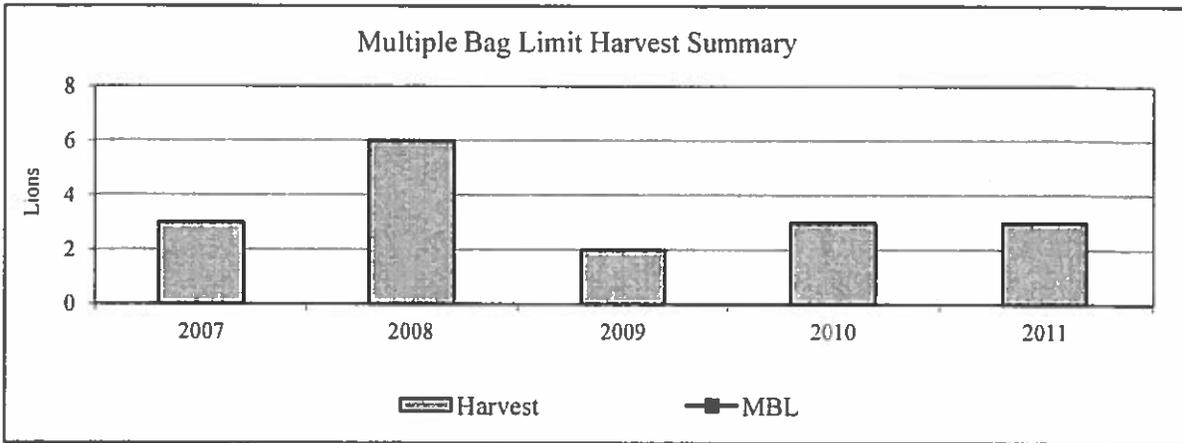
Submitted by: Kyle Cooper
Wildlife Manager(s)

Amendments & Notes:

Game Branch Approval:

[Handwritten Signature]

Date: 3/13/12



Significant Management Issues, Opportunities or Challenges:

Regional Notes:

Overall lion take in unit 21 is low. There is no reason to reduce the season at this time. I believe the lion population is healthy and support the current hunt season.

Unit(s): 22

Species: Mountain Lion

Year: 2011/12

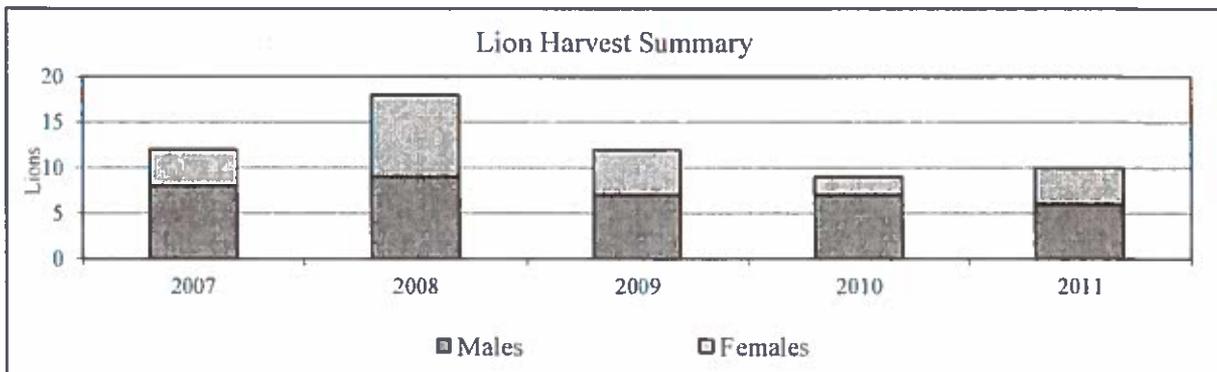
Harvest Summary:

Year	Male Harvest	Female Harvest	Total Harvest	Adult ♀ (≥3 yrs)	% Adult ♀ in Harvest	Adult ♀ Exceed 35% of Harvest?
2007	8	4	12	3	25%	NO
2008	9	9	18	3	17%	NO
2009	7	5	12	2	17%	NO
2010	7	2	9	1	11%	NO
2011	6	4	10			
				2-Year Mean	14%	NO

Management Considerations:

*Continue Single Unit Management

*No Female Harvest Limit Indicated



Hunt Recommendation:

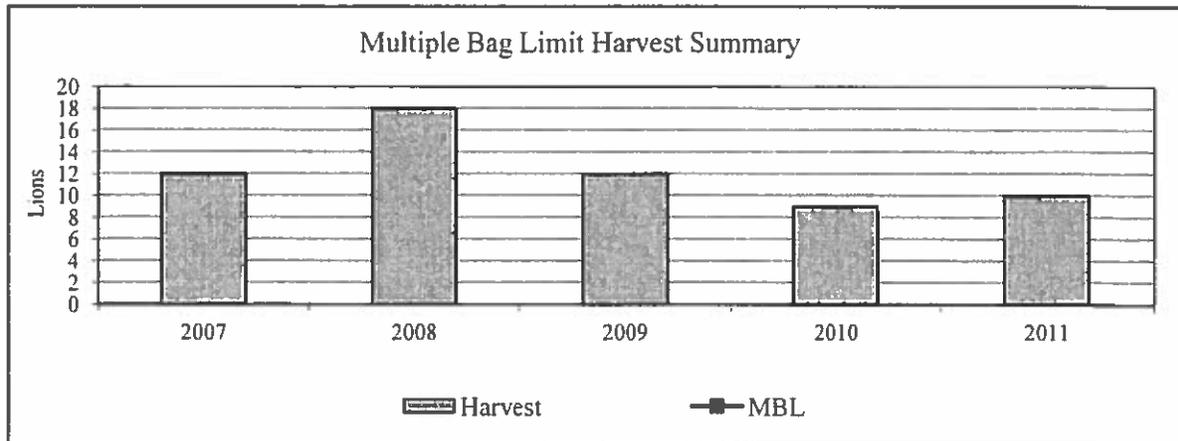
Season Type	Season Dates	Open Areas	MBL Target	Female Limit
Standard	July 1, 2012 - June 30, 2013	Unit 22 - Unitwide <i>Daylong season</i>	None	None
Multiple Bag Limit (MBL)	July 1, 2012 - June 30, 2013	22S (South of Hwy 87 and FR 143, West of Hwy 188)	12 <i>Daylong season</i>	None

Submitted by: John Dickson
Wildlife Manager(s)

Amendments & Notes:

Game Branch Approval:

Date: 3/13/12



Significant Management Issues, Opportunities or Challenges:

The portion of Unit 22 South of Hwy 87 and Forest Road 143, West of Hwy 188, will continue to be managed with the Multiple Bag Limit.

Regional Notes:

A total of 10 lions (6 male and 4 female) were harvested from unit 22. Calculated adult female harvest is less than 35% of total harvest and is within guidelines.

The mountain lion population in Unit 22 appears to be stable and healthy from the harvest information, therefore I recommend no change from the current standard hunt structure.

Unit(s): 23 Species: Mountain Lion

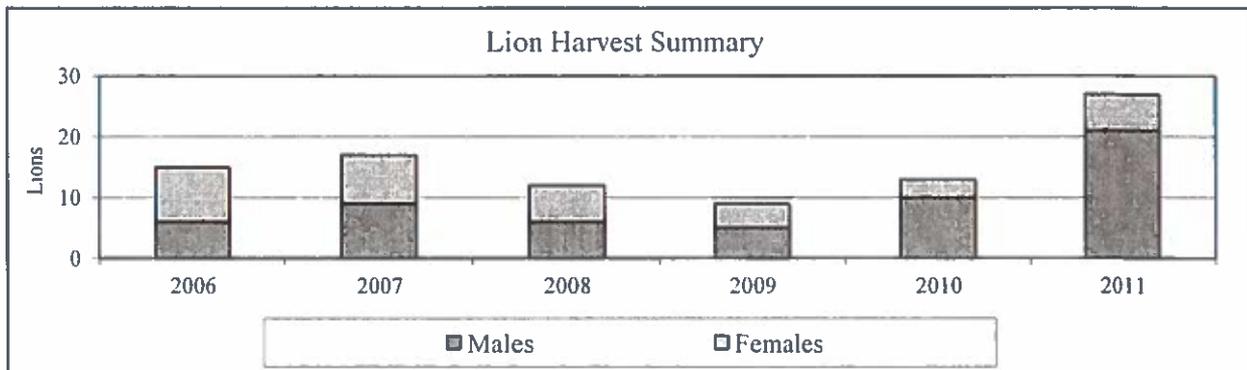
Year: 2011/12

Harvest Summary:

Year	Male Harvest	Female Harvest	Total Harvest	Adult ♀ (>3 yrs)	% Adult ♀ in Harvest	Adult ♀ Exceed 35% of Harvest?
2006	6	9	15	1	7%	NO
2007	9	8	17	3	18%	NO
2008	6	6	12	2	17%	NO
2009	5	4	9	3	33%	NO
2010	10	3	13	3	23%	NO
2011	21	6	27			
2-Year Mean					28%	NO

Management Considerations:

- *Continue Single Unit Management
- *No Female Harvest Limit Indicated



Hunt Recommendation:

Season Type	Season Dates	Open Areas	MBL Target	Female Limit
Standard	July, 1, 2012 - June 30, 2013	Unit 23 - Unitwide <i>Daylight Season</i>	None	None

Submitted by: Dave Daniels
Wildlife Manager(s)

Amendments & Notes:

Game Branch Approval:

[Signature]
Page 1

Date: 3/13/12

Management Notes:

Harvest Information: The three-year mean combined harvest of sport and depredation for Unit 23 is 16 mountain lions. Reported harvest last year was 27 mountain lions in Unit 23. Harvest in the past decade has fluctuated between 6 (1991) and 23 (1994), but is considered to be stable. Harvest the past five years was, 17 (2007), 12 (2008), 9 (2009), 13(2010) and 27(2011).

Track Counts: Track counts are no longer conducted to monitor the mountain lion population changes.

Conclusion: The mountain lion population in Unit 23 appears to be stable and healthy. The lion harvest appears to not need more restrictions on take at this time. This year's harvest included 6 female and 21 male lions. Field observations include recognition that more mountain lions are killed during periods of snow as hunters utilizing hounds are more predominant and successful. No change from the current hunt structure is recommended.

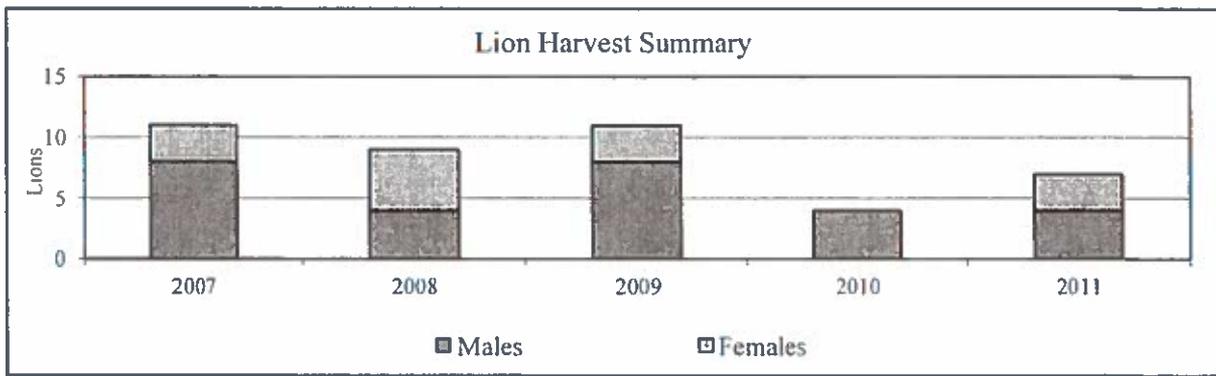
Harvest Summary:

Year	Male Harvest	Female Harvest	Total Harvest	Adult ♀ (≥3 yrs)	% Adult ♀ in Harvest	Adult ♀ Exceed 35% of Harvest?
2007	8	3	11	1	9%	NO
2008	4	5	9	3	33%	NO
2009	8	3	11	0	0%	NO
2010	4	0	4	0	0%	NO
2011	4	3	7			
2-Year Mean					0%	NO

Management Considerations:

*Continue Single Unit Management

*No Female Harvest Limit Indicated



Hunt Recommendation:

Season Type	Season Dates	Open Areas	MBL Target	Female Limit
Standard	July 1, 2012 - June 30, 2013	Unit 24A - Unitwide <i>Daylight season</i>	None	None
Multiple Bag Limit (MBL)	July 1, 2012 - June 30, 2013	None	None	None

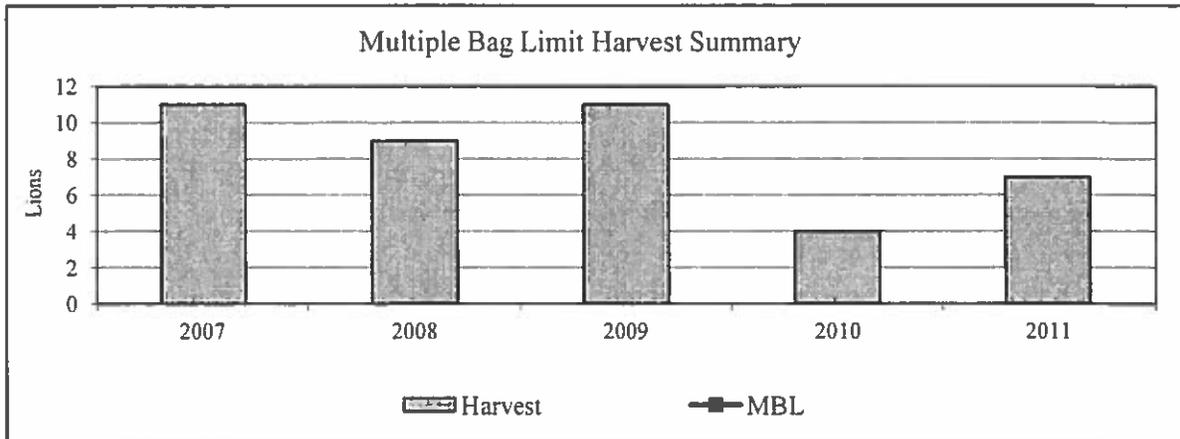
Submitted by: Danny Rodriguez
Wildlife Manager(s)

Amendments & Notes:

Game Branch Approval:

[Signature]

Date: 3/13/12



During 2011, a total of 7 lions were sport harvested of which 4 were males and 3 were females. There was also 1 roadkill male. For 2010, a total of 4 lions were harvested of which all were males.

During 2009, a total of 11 lions were reported as sport harvest of which 8 were males and 3 were females. In 2008, 4 males and 5 females were reported as sport harvest for a total of 9. In 2007, 8 males and 3 female lions were reported as sport harvest. In 2006, 13 lions were reported as sport harvested of which, 10 were males and 3 were females. In 2005, 10 lions were reported as sport harvested of which, 5 were males and 5 were females.

During 2010, the oldest male harvested was 10 and the youngest was 1 with an average age of 4. There was no tooth data available for females harvested in 2010. In 2009, the oldest male harvested was 4 and the youngest was 1 with an average age of 2.5. In 2009, the oldest female was 2 and the youngest was 1 with an average age of 1.5. Of the 9 lions harvested in 2008, tooth data was only available for 4 of them. The average age for lions harvested was 4 years old for males and 4.5 years old for females. The average age for lions harvested in 2007 is 2 years old for males and 3.5 years old for females. The average age for lions harvested in 2006 is 3 years old for males and 2 years old for females. In 2005, one lion was aged 3-4 years, one at 2-3 years, and two lions were 1-2 years old.

The unit is comprised of 810 square miles with 659 square miles classified as medium lion density and 162 miles as low mountain lion density. The population also fluctuates with the emigration-immigration of lions from San Carlos Reservation. Based on the age and harvest data, lion populations appear to be stable.

Unit(s): 24B

Species: Mountain Lion

Year: 2011/12

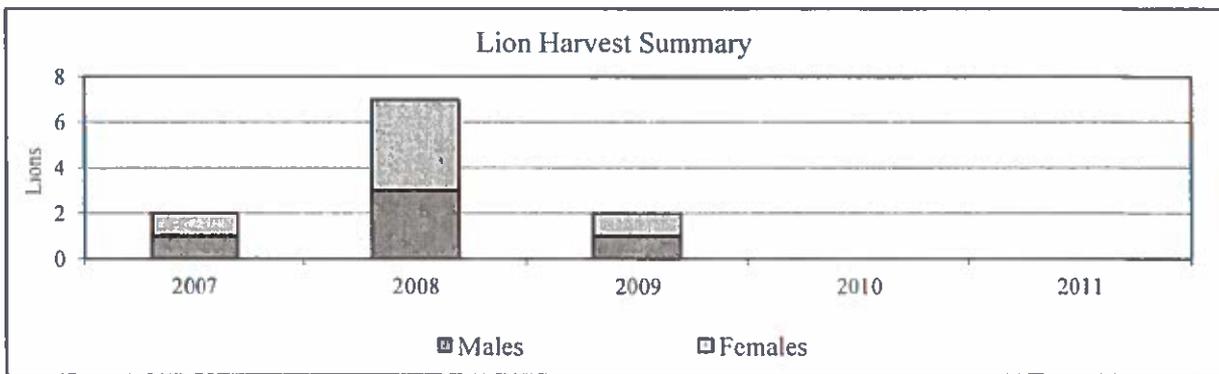
Harvest Summary:

Year	Male Harvest	Female Harvest	Total Harvest	Adult ♀ (≥3 yrs)	% Adult ♀ in Harvest	Adult ♀ Exceed 35% of Harvest?
2007	1	1	2	0	0%	NO
2008	3	4	7	2	29%	NO
2009	1	1	2	2	100%	YES
2010	0	0	0	0	0%	NO
2011	0	0	0			
2-Year Mean					100%	YES

Management Considerations:

*Evaluate Adjacent Unit Zone Management

*Consider Female Harvest Limit



Hunt Recommendation:

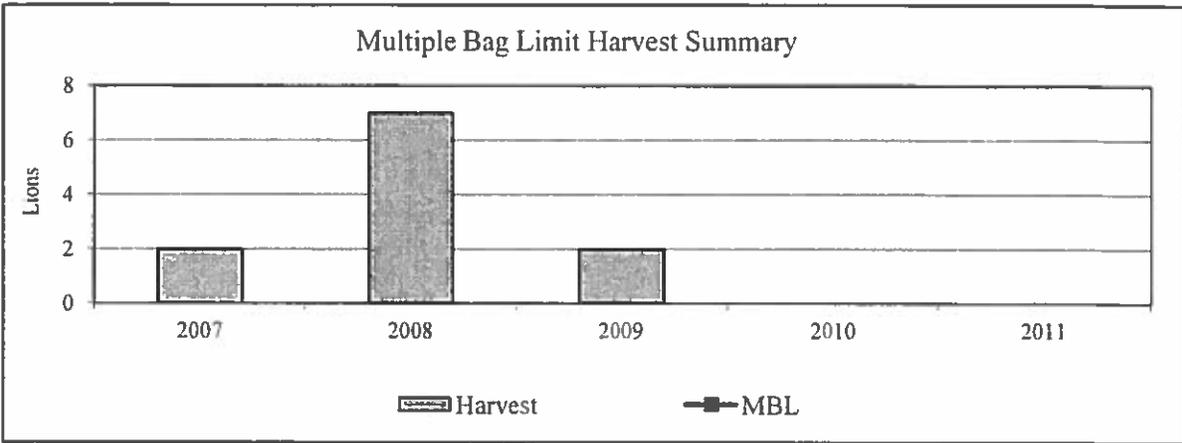
Season Type	Season Dates	Open Areas	MBL Target	Female Limit
Standard	July 1, 2012 - June 30, 2013	Unit 24B - Unitwide <i>Dusklight season</i>	None	None
Multiple Bag Limit (MBL)	July 1, 2012 - June 30, 2013	None		

Submitted by: Dana McGehee
Wildlife Manager(s)

Amendments & Notes:

Game Branch Approval:

Date: 3/13/12



Significant Management Issues, Opportunities or Challenges:

Regional Notes:

No lion were reported taken in 24B during 2011.

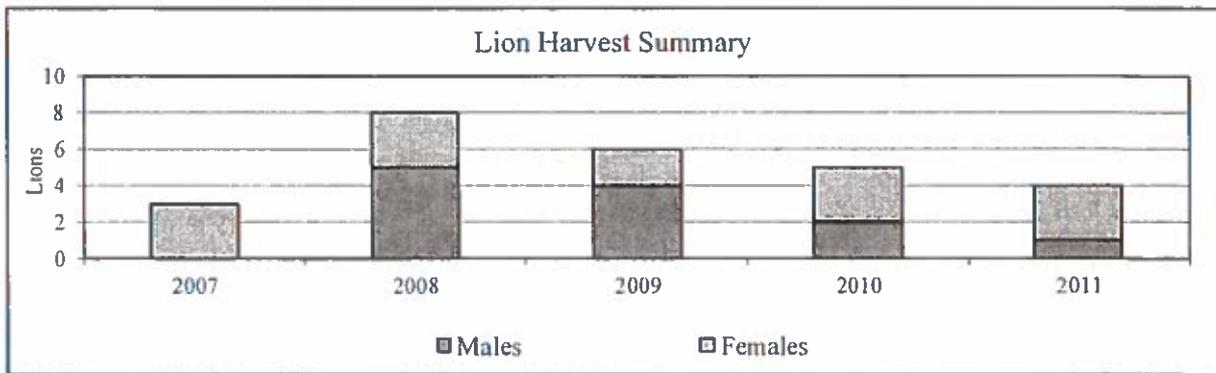
Harvest Summary:

Year	Male Harvest	Female Harvest	Total Harvest	Adult ♀ (≥3 yrs)	% Adult ♀ in Harvest	Adult ♀ Exceed 35% of Harvest?
2007	0	3	3	1	33%	NO
2008	5	3	8	2	25%	NO
2009	4	2	6	1	17%	NO
2010	2	3	5	0	0%	NO
2011	1	3	4			
2-Year Mean					9%	NO

Management Considerations:

*Continue Single Unit Management

*No Female Harvest Limit Indicated



Hunt Recommendation:

Season Type	Season Dates	Open Areas	MBL Target	Female Limit
Standard	July 1, 2012 - June 30, 2013	Unit 37B - Unitwide <i>Daylight Season</i>	None	None
Multiple Bag Limit (MBL)	July 1, 2012 - June 30, 2013	Unit 37B - North of the Gila River <i>Daylong Season</i>	4	None

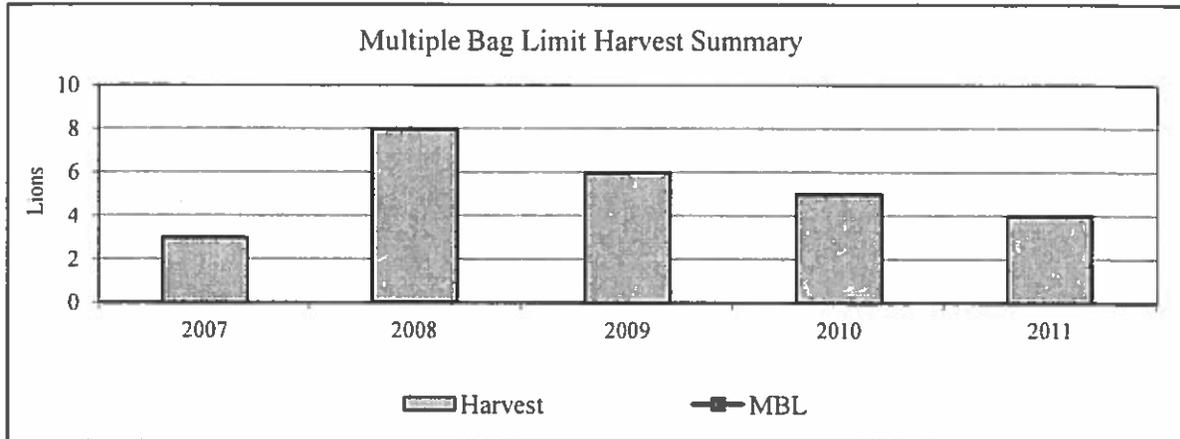
Submitted by: Kriselle Colvin
Wildlife Manager(s)

Amendments & Notes:

Game Branch Approval:

[Handwritten Signature]

Date: 3/13/12



Regional Notes:

A total of 4 Mountain lions (1 male and 3 female) were harvested from unit 37B in 2011. Calculated adult female harvest is less than 35% of total harvest and is within guidelines. The mountain lion population in Unit 37B appears to be stable and healthy from the harvest information, therefore I recommend no change from the current hunt structure.

Significant Management Issues, Opportunities or Challenges:

The portion of Unit 37B north of the Gila River will continue to be managed with the Multiple Bag Limit.

A multiple bag limit (MBL) for mountain lions was proposed in 2011 for Game Management Unit (GMU) 37B for 3 reasons with the first being the primary goal and the second two being ancillary benefits to the initiation of a MBL. They are: 1) to establish a viable population of bighorn sheep in suitable but mostly unoccupied bighorn habitat in the Mineral Mountains in northern GMU 37B, 2) to increase hunter opportunity, and 3) to reduce lion depredations on livestock.

The MBL will run in conjunction with the Statewide Comprehensive Game Management Plan currently being developed by the Game Branch as well as a Management Focus Area Plan and Predation Management Plan for GMU 37B. These plans are also currently being developed.

Goal 1: To establish a viable population of bighorn sheep in suitable but mostly unoccupied bighorn habitat in the Mineral Mountains in northern GMU 37B. Once targets have been achieved for which the MBL was established, the MBL hunt structure will be removed from GMU 37B.

MEASURABLE OBJECTIVES

- * The MBL will be discontinued in GMU 37B once a viable population of bighorn sheep has become established in suitable but mostly unoccupied bighorn habitat in the Mineral Mountains; or -
- * After a period of five years and the determination has been made that the continued use of a MBL is not beneficial or necessary for the establishment of a viable sheep population.
- * Once the MBL is discontinued and a viable population of sheep becomes established; it may be reinstated at a later date if sheep population levels fall to or below 30 individuals.

Background and Summary of efforts thus far in the Minerals - 2003 to Current

The Mineral Mountains have been identified in AGFD and BLM documents for the last two decades as a priority area to establish a robust population of desert bighorn sheep. In 2000, AGFD conducted a statewide bighorn sheep habitat analysis using the Cunningham/Hansen Habitat Evaluation Model (Lee et al. 2000), and the Mineral Mountains area rated as the highest currently unoccupied bighorn sheep habitat in southern Arizona.

Not much is known about the historical bighorn sheep population in the Mineral Mountains. There were anecdotal observations of sheep consistently for generations as well as sightings and photographs of sheep in the area. Most notably a group of sheep was photographed on Picketpost Mountain in July 2001. These observations coupled with the habitat assessment made it an ideal place to establish a robust population of desert bighorn sheep. In November of 2003 the first transplant of 30 sheep was done. These sheep were from several sources; 13 from Trigo Mountain, 11 from the Plomosas and 5 from the New Waters and 1 from the Chocolates. Eleven of these sheep were outfitted with radio telemetry collars. The collars were monitored at an intensive level for 2 years.

In 2007 10 more sheep were transplanted, these were from the Trigo Mountains. Four of these sheep were outfitted with radio collars. These collars were monitored at a standard intensity level (Figure 3) for one year at which point false mortality signal malfunctions made telemetry monitoring difficult. During the time these collars were monitored there were zero confirmed mortalities although several attempts were made to retrieve collars emitting mortality signals, it was determined that the sheep were still alive and moving which made retrieval impossible.

Most recently in November 2010 another 30 bighorn sheep were translocated from units 22 and 24B, 15 sheep from each unit. Ten of the sheep were outfitted with radio telemetry collars and 10 were outfitted with GPS collars (built by Telonics with Satellite service through Argos). The GPS collars also having a standard telemetry component. These collars have been and will continue to be monitored intensively for 2 years from the release. In addition the GPS collar data is uploaded from the collars once a week and checked by the wildlife manager weekly for mortalities and movement data. The GPS collars are programmed to come off in November of 2012. Since the release there have been 5 mortalities on collared bighorns 2 ewes and 3 young rams. It was confirmed that one of the young rams and one of the ewes were killed by mountain lions. These confirmed lion kills coupled with two of the other mortalities being of unknown cause has raised interest in a more proactive lion management plan. As we only have 15 remaining collared sheep in this population there is concern that other mortalities are not being accounted for and that mountain lions could be affecting this bighorn herd to a greater degree than realized.

To that end in April of 2011 the Arizona Desert Bighorn Sheep Society petitioned the Game and Fish Commission to have them reinstate the previous multiple bag limit for 37B to facilitate problem lion removal in the Mineral Mountain area. This multiple bag limit was previously in place from July 1, 2003 to June 30, 2006 during which time according to data gathered by the department zero lions were removed from northern 37B although there were 14 lions removed from southern 37B in that same time frame. Although zero lions were removed from the Mineral Mountain area during that time it is possible that the increase in lions taken out of the southern half of the unit could have affected the general population in the area.

Since 2010 release of 30 more sheep into the Mineral Mountains there has been growing interest in the health and longevity of this bighorn herd from within the department, the Arizona Desert Bighorn Sheep Society , the Bureau of Land Management and many recreational groups who enjoy seeing the sheep as they pass through Box Canyon.

