

ELK HERD UNIT MANAGEMENT PLAN
Elk Herd Unit #20
Southwest Desert
May 2012

BOUNDARY DESCRIPTION

Beaver, Iron, and Millard counties - Boundary begins at US-50&6 and the Utah-Nevada state line; east on US-50&6 to SR-257; south on SR-257 to SR-21; south on SR-21 to SR-130; south on SR-130 to I-15; south on I-15 to SR-56; west on SR-56 to the Lund Highway; northwest on the Lund Highway to the Union Pacific railroad tracks at Lund; southwest on the Union Pacific railroad tracks to the Utah-Nevada state line; north on this state line to US-50&6.

LAND OWNERSHIP

Ownership	Yearlong range		Summer Range		Winter Range	
	Area (acres)	%	Area (acres)	%	Area (acres)	%
Forest Service	0	0	0	0	0	0
Bureau of Land Management	631,774	84	0	0	0	0
Utah State Institutional Trust Lands	67,646	9	0	0	0	0
Native American Trust Lands	0	0	0	0	0	0
Private	42,265	6	0	0	0	0
Department of Defense	0	0	0	0	0	0
USFWS Refuge	0	0	0	0	0	0
National Parks	0	0	0	0	0	0
Utah State Parks	0	0	0	0	0	0
Utah Division of Wildlife Resources	10,260	1	0	0	0	0
TOTAL	751,945	0	0	0	0	0

UNIT MANAGEMENT GOALS

Work with BLM, state, and private landowners to achieve a wide variety of healthy vegetative communities within the herd unit. Manage to provide diversity in age and sex structure within the elk population, while maintaining overall numbers in balance with available habitat. Manage to provide a quality hunting experience as well as non-consumptive recreational opportunities.

Continue to work with BLM, state agencies, and private landowners to complete a variety of habitat improvement projects throughout the unit to improve and increase elk and other wildlife species habitat and ranges.

UNIT MANAGEMENT OBJECTIVES

Habitat

The Division of Wildlife Resources is a leading partner in an effort to complete large-scale habitat improvement projects throughout the state. All seasonal ranges will benefit from these projects.

When these projects are completed, the DWR will work with BLM, state agencies, Private landowners and sportsmen to increase elk herd numbers to an acceptable number that will not be detrimental to the habitat or any of the partners.

- Maintain and/or enhance forage production through direct range improvements throughout the unit on winter and summer range to achieve population management objectives.
- Identify with BLM areas suitable for seasonal access management to encourage elk use in areas of low potential conflict.
- The Southwest Desert Elk Committee would like the DWR, BLM, and private landowners to have a goal of 5000 acres minimum of habitat work be done annually on the unit to improve elk and other wildlife habitat.
- The Southwest Desert Elk Committee would also like to acknowledge the negative impact by wild horses on elk habitat on this unit and ask that BLM continue to work on reducing herd numbers and mitigating the damages.

Population

Target Winter Herd Size - Achieve a population size of 975 wintering elk (computer modeled).

The DWR would like to recognize that there maybe ample habitat to increase herd numbers at this time but in agreement with a DWR assembled public committee, the DWR has decided that it is best to wait and implement increases gradually as the habitat is rehabilitated and increased. Reasons that the committee has decided to not increase the elk management objective at this time are as follows.

Habitat projects that were completed since the fall of 2006 have not had time to recover. Range conditions monitored by the BLM indicate that allotments in the unit are not meeting the Standards and Guidelines for Healthy Rangelands.

Livestock permit holders have been asked to reduce their stocking numbers in past years due to drought and range condition. When livestock numbers can be increased then elk numbers could possibly be increased too.

DWR will look for opportunity to increase population objective in the future when the following objectives have been reached.

As planned habitat work is completed and recovered resulting in increased forage for wildlife and livestock.

When range trends demonstrate rangelands are meeting the Standards for Rangeland Health.

When monitoring data demonstrate the availability of additional forage has been balanced with other resource needs.

When livestock permits stocking rates are increased back to levels they were prior to 2002.

Bull Harvest Objective - Maintain an average age of Limited Entry bull harvest of 6.5 – 7.0.

CURRENT STATUS OF ELK MANAGEMENT

Habitat

The current BLM assessment is that habitat is stable on this unit although it maybe declining on a few allotments. Actual forage use by elk on BLM lands is estimated to be less than 10 percent that of livestock. It is recognized that the carrying capacity for elk on this unit may be more than the current objective; however, the partners have agreed that increases will not be made until planned projects have been completed and had a chance to recover.

The land ownership of the elk habitat on this unit is largely public land with some of the key areas still being on private lands. There is currently a Landowners Association working with the DWR to address the benefits that elk receive from being allowed on private lands. Tolerance of elk on

these and other private rangelands on this unit are one of the factors affecting the elk population on this unit.

Since 2006 several different treatments have taken place to benefit elk and other wildlife habitat. These projects were done on private, state and BLM lands. The projects included chaining, Dixie harrow, water distribution, and Spike treatments.

Population

Population Size – Aerial trend counts completed in January of 2010 show that the population is stable. The survey resulted in the 915 counted elk (710 antlerless and 205 bulls), giving a population estimate of 1150 elk. Preseason classification in 2011 showed 50 calves per hundred cows. Through increased antlerless harvest in the past 3 years, the current elk population estimate is at objective of 975 elk.

Bull Age Structure – Aerial counts showed 36 yearlings, 50 branch antlered and 120 mature bulls in the population. This is a significant increase in the number of mature bulls being sighted from the previous survey done in 2007 which only counted 72 mature bulls.

Harvest – In 2009-2011, 177, 139, and 119 antlerless elk were harvested, respectively. Bull harvest has increased significantly since 2008 (78 mature bulls). Bull harvest in 2009 was 71 mature bulls and 60 spikes. Bull harvest in 2010 was 108 mature bulls and 108 spikes. In 2011 bull harvest was 102 mature bulls and 88 spikes. The 2011 harvest information shows that the Limited Entry average age of harvest was at 7.5. The three-year average age for bulls harvested is 7.6 years old, 0.85 years above objective.

BARRIERS TO ACHIEVING UNIT MANAGEMENT OBJECTIVES

Population - There has been some public resistance to increasing the number of bull permits on this unit to reduce the mean age of the bull population and the bull to cow ratio in the population.

Migration - It is suspected that some migration from Nevada into Utah that has artificially increased the wintering populations.

Crop Depredation - Crop depredation on this unit has been minimal and has not been a limiting factor. In recent years crop depredation in the Burbank and Garrison area of the unit has increased. Public hunts and mitigation permits have been initiated to address the situation.

Habitat - Available habitat is abundant on both summer and winter ranges.

Illegal Harvest - Should illegal kill become an identified and significant source of mortality DWR will develop specific preventive measures within the context of an "Action Plan" developed in cooperation with the Law Enforcement Section.

Predation - Predation is not a limiting factor on this elk unit.

Highway Mortality – Highway mortality is minimal and is currently not a factor on this unit.

STRATEGIES FOR REMOVING BARRIERS AND REACHING UNIT MANAGEMENT OBJECTIVES

Habitat

Monitoring

Continue to monitor permanent range trend studies located throughout the unit. Establish new monitoring sights as improvement projects are completed. Excessive habitat utilization will be addressed.

Actions to Remove Habitat Barriers

Continue working with BLM, landowners and livestock permit holders to develop a variety of range restoration and water distribution projects that will increase forage production and improve range conditions for livestock and wildlife. .

Completed Projects since 2006:

Bowler Chaining - 854 acres

Salt Cabin Chaining - 733 acres

Blawn Wash Harrow - 1067 acres

Mtn. Home/Loper's Seeding Harrow – 746 acres

Halls Spike Treatment - 400 acres

Paradise Burn seeding - 5800 acres

Atchison Creek lop and scatter – total acres unknown at this time

Mustang Spring bull hog treatment and seeding - 1000 acres

Greens Lop and Scatter - 424 acres

Butcher MW green stripping – 37 acres

Chokecherry green stripping – 33 acres

Paradise TS green stripping – 3 acres

Indian Peaks WMA Summer Range Lop and Scatter – 298 acres

Hamlin Valley/Flinspach Dixie Harrow – 561 acres

Broken Ridge Fire Rehab – 3958 acres

Keel Spring SITLA chaining – 918 acres

Indian Peaks WMA Lop and Scatter – 930 acres

South Hamlin Chaining – 521 acres

Chokecherry Chaining – 731 acres

Halls Well drilling – provides year round water to elk, sage grouse and helps distribute livestock in season of use.

Sewing Machine Pass Big Game Guzzler

South Wah wah Valley Big Game Guzzler

Grey Hills Big Game Guzzler

Woods Reservoir Big Game Guzzler

Approximately 20,000 acres treated and 5 new water sources installed.

Planned projects for the future:

Hamlin Valley EA – covers 78,000 acres – various projects proposed within its boundaries

Blawn Wash SITLA chaining – acres to be determined

Pearson Cove Big Game Guzzler - rebuild to increase capacity

South Antelope Valley Big Game Guzzler - rebuild to increase capacity

Others

Manage the Indian Peak WMA and the Mountain Home allotment to encourage elk use by maintaining high quality habitat. Continue enforcing and monitoring seasonal access restrictions that were implemented on Division of Wildlife Resources property during 1997 to encourage elk

to utilize the WMA.

Utilize seasonal access management where appropriate and necessary to improve habitat effectiveness.

Continue cooperative monitoring with BLM on areas concern to determine if there are elk/livestock/horse forage conflicts.

Population

Monitoring

Population Size - The population is monitored using harvest data, aerial trend counts and classification, preseason classification, and survival estimates. Intensive helicopter surveys are conducted every three years or more often if budget permits to monitor elk numbers and distribution; supplement with ground and fixed-wing aircraft surveys to identify and monitor areas of concern, and to provide additional herd composition data.

Bull Age Structure - Limited entry bull hunting will continue in order to maintain the quality of the area. Bull age structure is determined by tooth collection. Data is also collected through questionnaires to determine antler measurements for correlation with tooth data.

Harvest - The bull harvest will be determined through the statewide uniform harvest survey as well as regional efforts to collect data. Population size will be achieved through utilizing a variety of harvest methods and seasons. Antlerless permits will be issued to address elk numbers in excess of population goals; or to limit or reduce numbers in areas of demonstrated habitat deterioration with elk as a demonstrated significant factor. Maintain quality bull hunting by separating antlerless and bull seasons. Utilize depredation hunts to control localized problems on private lands. Continue limited entry bull hunting with permit numbers appropriate to achieve bull quality and population diversity objectives.

Management Actions to Remove Population Barriers

Continue to work with land management agency, private landowners and grazing permit holders to implement habitat improvement projects that will increase available forage for and better distribute increased elk populations.

Work with the land management agencies, grazers, private landowners and sportsmen to determine if population increases are reasonable and attainable.

Work with private landowners to make sure depredation is maintained within tolerable levels, and will not become a limiting factor.

Comments/notes from the Southwest Desert unit elk committee that was assembled in October of 2012

- Livestock rep – if elk get an increase the livestock men should be able to increase too.
- BLM – Wild horse handout – at objective – doesn't look positive for future removals in the next few years
- Goal of 5000 acres of habitat treatment is good and we should work hard to make it. Everyone should contribute to the funding.
- 4 mile burning/chaining looks great!
- We need to be responsible about where we do our projects so that they disperse elk.
- Hamlin Valley EA should create room for more opportunities to do habitat projects.
- Livestock rep doesn't want to increase elk population over the current 975.
- Discussion about possible up future projects
 - o Mark Winch property
 - o Dean Eyre has 2 sections in Cottonwood and Sheep Creek he would like to work on.
 - o More on Bill Hall property
 - o Merton Spring area of the Shauntie Hills
- Water pipeline in the Lawson Cove area
- Discussion initiated by DWR about the possibilities of splitting the unit at Highway 21 and keeping the area south of highway 21 a limited entry unit with an objective of 1000 elk and making the area north of highway 21 open bull with an objective of 200 elk.
 - o Livestock men – no increase of elk
 - o Landowner – leave as is, no increase
 - o SFW – would like to increase objective. If we split the unit both sides should be Limited entry.
 - o Sportsmen's Rep – Like the idea of splitting the unit to increase elk numbers, but would prefer both be Limited Entry. BLM needs to manage the horses better. Water is very limited north of highway 21.
 - o Sportsmen's Rep – It would be nice to see more elk, but we need to remember this is a desert and every year is going to be different. Ok with increasing but we need more water.
 - o RAC - same sentiments as the sportsmen reps
 - o MDF - not opposed to an open bull unit, but how would you maintain it?
 - o BLM – concerned that the habitat is still recovering from drought and high horse numbers. Could do a small increase, but would need to be able to control numbers in specific areas to protect habitat. Submitted handout.
 - o Livestock men – concerned that we are already over objective of 975. We need to manage for the range. No need for an increase. Concerned about the water sources north of Highway 21 – since he is the water source. No increase now. If unit is split then the south portion should lose 150 elk off its objective.

ELK HERD UNIT MANAGEMENT PLAN
Elk Herd Unit #21
Fillmore
May 2012

BOUNDARY DESCRIPTION

Millard, Sevier, Sanpete, and Juab counties: Boundary begins at I-70 and I-15; north on I-15 to the Black Rock road; west on the Black Rock road to SR-257; north on SR-257 to US-50 and 6; east on US-50 and 6 to US-6; north on US-6 to SR-132; east on SR-132 to SR-28; south on SR-28 to US-89; south on US-89 to I-70; west on I-70 to I-15.

LAND OWNERSHIP

(Total Unit Area: 1,851,873 acres; Elk Habitat: 505,048)

Ownership	Yearlong range		Summer Range		Winter Range	
	Area (acres)	%	Area (acres)	%	Area (acres)	%
Forest Service	59	0.5%	176,007	90%	103,928	52%
Bureau of Land Management	45,910	41%	1,136	1%	15,262	8%
Utah State Institutional Trust Lands	3,204	3%	3,342	2%	5,019	3%
Native American Trust Lands	0	0%	0	0%	748	<1%
Private	63,012	55%	13,459	7%	66,944	34%
Department of Defense	0	0%	0	0%	0	0%
USFWS Refuge	0	0%	0	0%	0	0%
National Parks	0	0%	0	0%	0	0%
Utah State Parks	0	0%	0	0%	0	0%
Utah Division of Wildlife Resources	82	0.5%	0	0%	6,936	3%
TOTAL	112,267	100%	193,944	100%	198,837	100%

UNIT MANAGEMENT GOALS

Manage for a population of healthy animals capable of providing a broad range of recreational opportunities including hunting and viewing. Consider impacts of the elk herd on other land uses and public interests including private property rights, agricultural crops, private development rights, and local economies. Maintain the population at a level that is within the long-term capability of the available habitat to support.

POPULATION MANAGEMENT OBJECTIVES

Target Winter Herd Size: Achieve a target population objective of 1600 elk (modeled estimate) on the unit, with a maximum of 150 elk on the Oak Creek portion of the unit.

Bull Age Structure: Maintain a 3-year average bull harvest age of 7.5-8.0 years for all hunt types on the Pahvant Unit and general any-bull hunt strategy on the Oak Creek Unit.

Recruitment: Determine annual recruitment and population status of the herd.

Harvest: Maintain antlerless, general season spike-only, limited entry any-bull, and general any-bull hunt formats. Propose the Oak Creek Unit be general season any-bull hunt format in 2013

POPULATION MANAGEMENT STRATEGIES

Monitoring: Utilize harvest data, aerial trend counts, and preseason classification data to estimate wintering elk population on the unit.

Bull Age Structure: Monitor age class structure of the bull population through the use of check stations, uniform harvest surveys, field bag checks, preseason classification, tooth age data, and aerial classification.

Recruitment: Aerial and/or ground classification will be conducted annually to determine population status, calf recruitment, calf/cow ratios, and range distribution.

Harvest: The primary means of monitoring harvest will be through the statewide uniform harvest survey, check stations, and field bag checks. The target population size will be achieved through antlerless harvest using a variety of harvest methods and seasons.

HABITAT MANAGEMENT OBJECTIVES

Range Improvements: Maintain and/or enhance forage production through direct range improvements throughout the unit on winter and summer range to achieve population management objectives.

Winter Range: Work with private and federal agencies to maintain and protect critical and existing winter range from future losses.

Corridors: Provide improved habitat security and escapement opportunities for elk. Provide as much opportunity as possible for elk to navigate roadways safely.

HABITAT MANAGEMENT STRATEGIES

Range Improvements: Maintain and/or enhance forage production on elk summer and winter range throughout the Fillmore Unit. Coordinate with the Fillmore Ranger District and BLM to complete projects designed to improve forage production for both elk and cattle and to improve elk distribution across the unit. Support federal land management agencies in managing vehicle access in order to provide and maintain refuge areas for elk.

Winter Range: Continue to monitor the permanent range trend studies located throughout the winter range. Conduct annual spring range rides to assess winter habitat with the land management agencies and the public.

Corridors: Cooperate with land management agencies and private landowners to identify crucial areas of elk habitat and work together to maintain and enhance elk habitat corridors. Work with UDOT to maintain and enhance signing, wildlife ramps, over/underpasses, and other wildlife crossing structures.

HABITAT IMPROVEMENT PROJECT FOCUS AREAS

The Fillmore Elk Plan Committee designated two areas of focus for habitat improvement projects on the unit. The northern area (Wild Goose) includes Pioneer, Wild Goose, and Ebbs canyons; the south area (South Mountain) includes South Mountain, Dry Wash, and Dog Valley. Both areas include important summer and winter range that can be improved to benefit elk. Another habitat goal that came from the Fillmore Elk Plan Committee was to develop and protect water sources for elk on the unit. This includes placing troughs at existing springs to reduce elk spring damage and placing guzzlers in remote sites to distribute elk across the unit.

LIMITING FACTORS TO MEETING OBJECTIVES

Crop Depredation: Crop depredation near Fillmore, Holden, Scipio, and Kanosh present barriers to increasing elk numbers in these areas. Steps to minimize depredation as prescribed by state law and DWR policy will be implemented as needed.

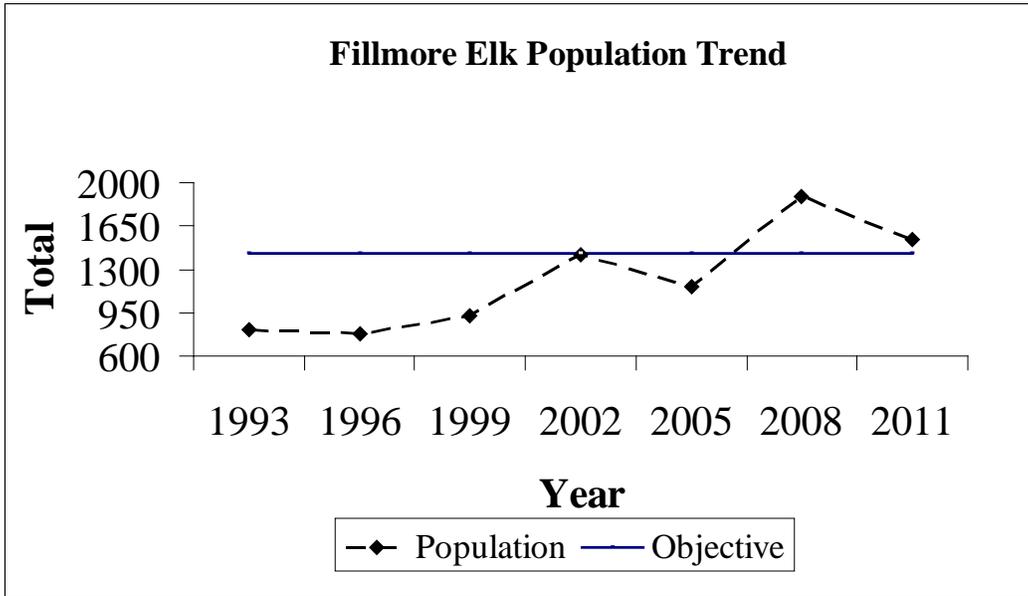
Highway mortality: I-70 and I-15 have been a heavy source of highway mortality for elk. North and South lane fencing on I-70 and portions of I-15 have been completed which significantly decreased ungulate mortality. Additional fencing of I-15 between Cove Fort and Kanosh is being discussed and would reduce highway mortality in that area. Highway 50 has also been a source of mortality for elk.

Habitat: Invasion by spruce-fir and pinyon-juniper has reduced the productivity of much of the summer and winter ranges for elk. Heavy human activity along the Piute ATV trail may also be responsible for reducing elk use of traditional calving areas and increasing use of posted private land and roadless areas on the forest.

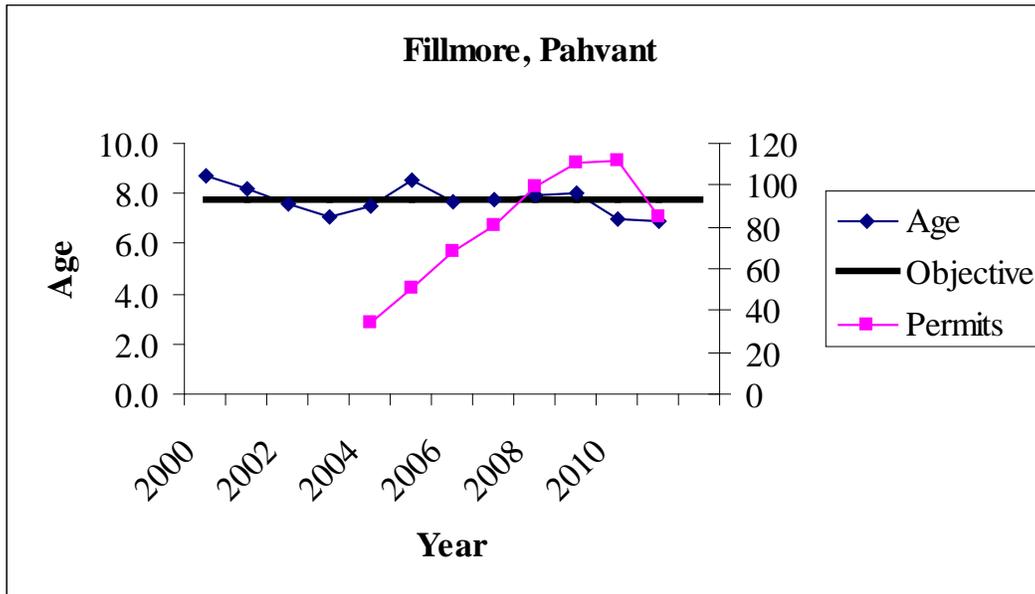
Travel Corridors: The fencing of I-15 and I-70 has limited elk migration to important winter habitat in the Church Hills and Cove Fort areas. Additional fencing of I-15 between Cove Fort and Kanosh will restrict elk access to wintering areas west of I-15. Winter range damage on the east side of I-15 could become a potential problem if elk populations become too large.

Elk Densities: Elk nursery herds in the Chalk Creek Drainage and areas near Skinner Hollow have become quite large during the summer and some damage is occurring in aspen and riparian communities. Cow hunts focusing on reducing the size of these herds should be considered when necessary.

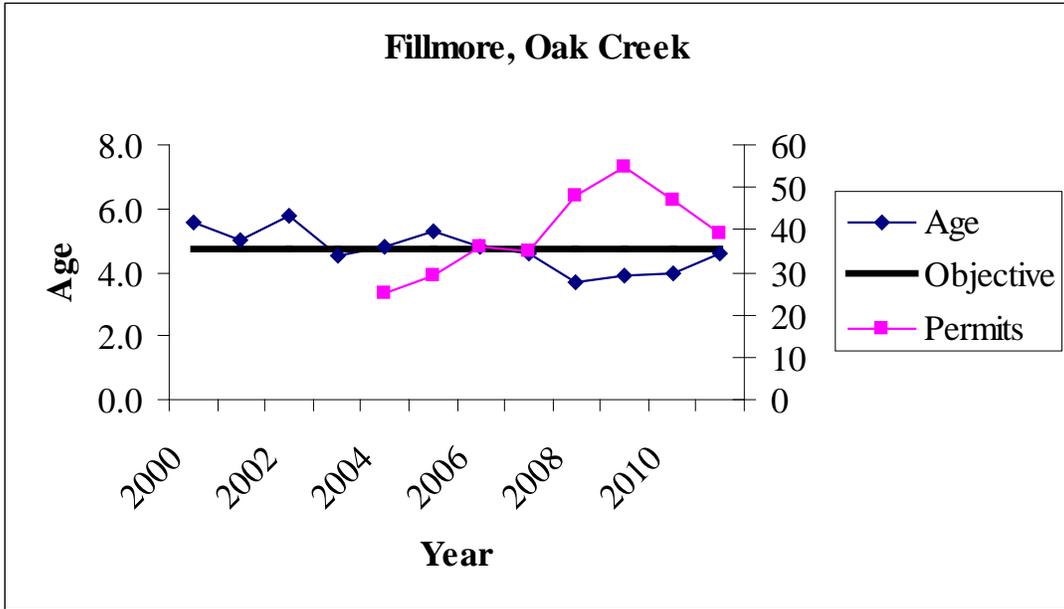
APPENDIX



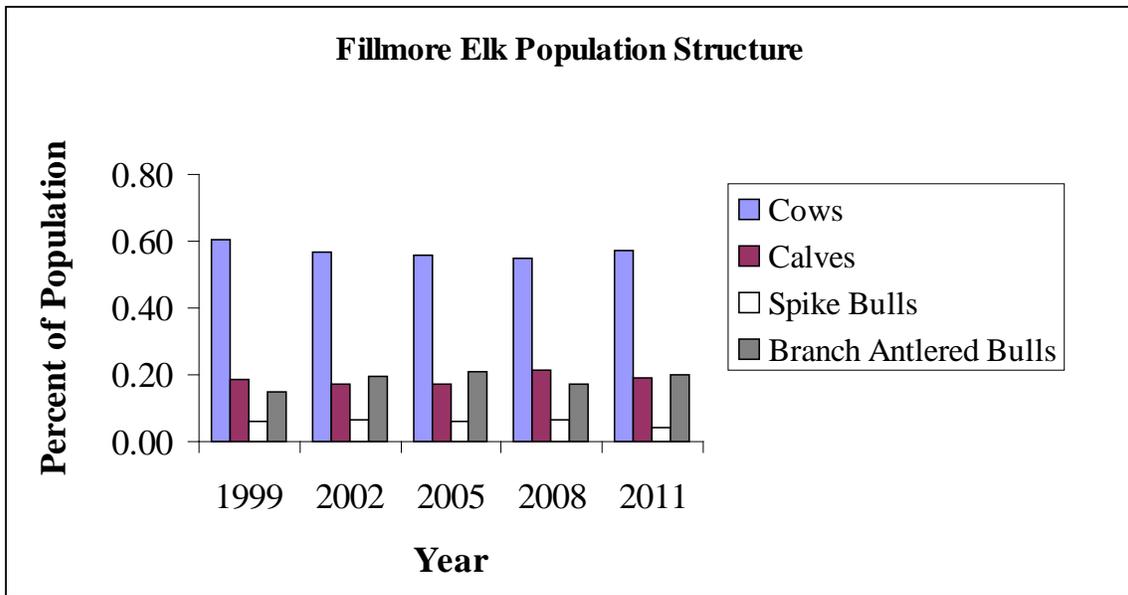
Fillmore Unit elk population trends, Utah 1993-2011.



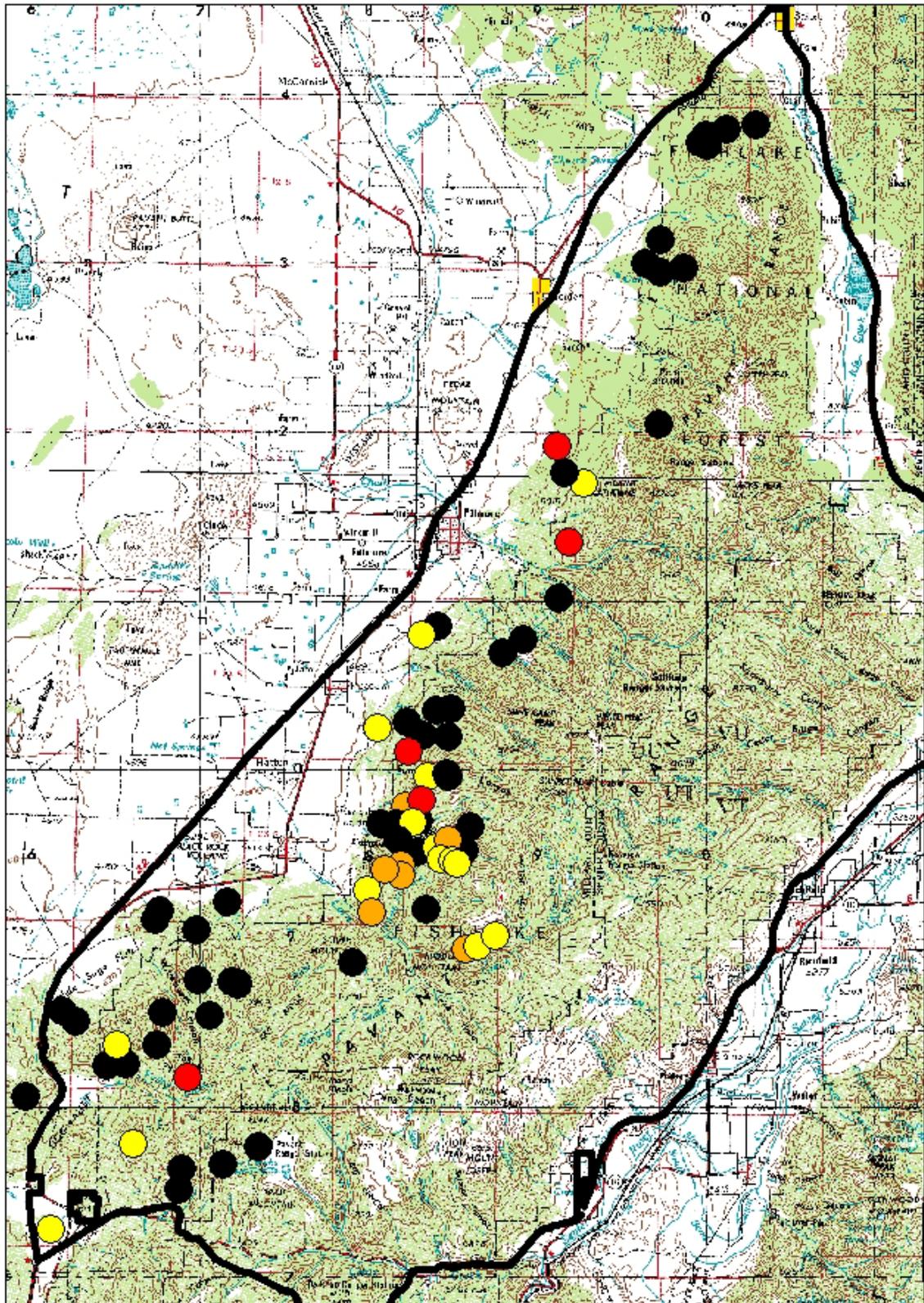
Average Ages of harvested bulls and permit numbers for the Fillmore, Pahvant Unit



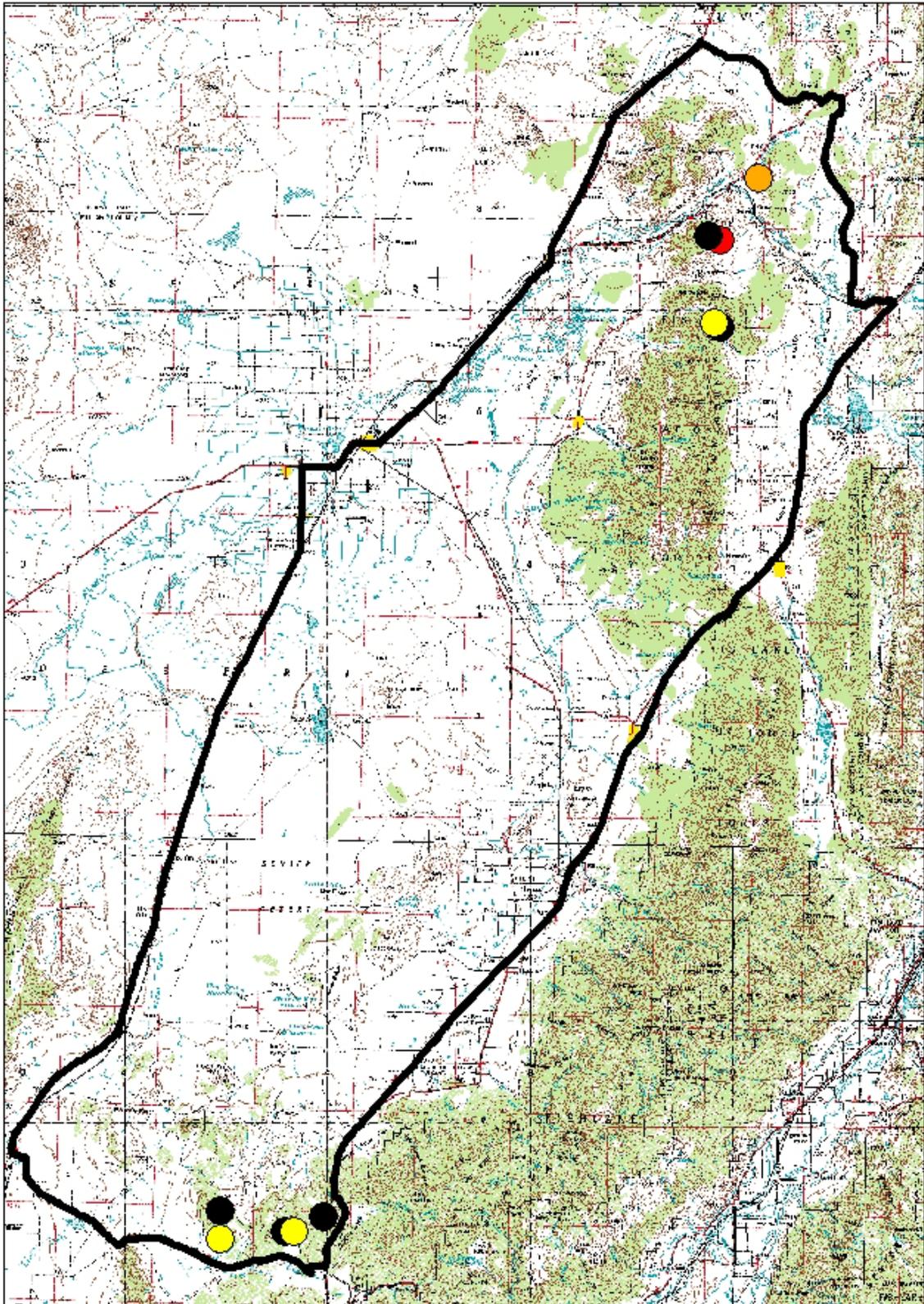
Average age of harvested bulls and permit numbers for the Fillmore, Oak Creek Unit



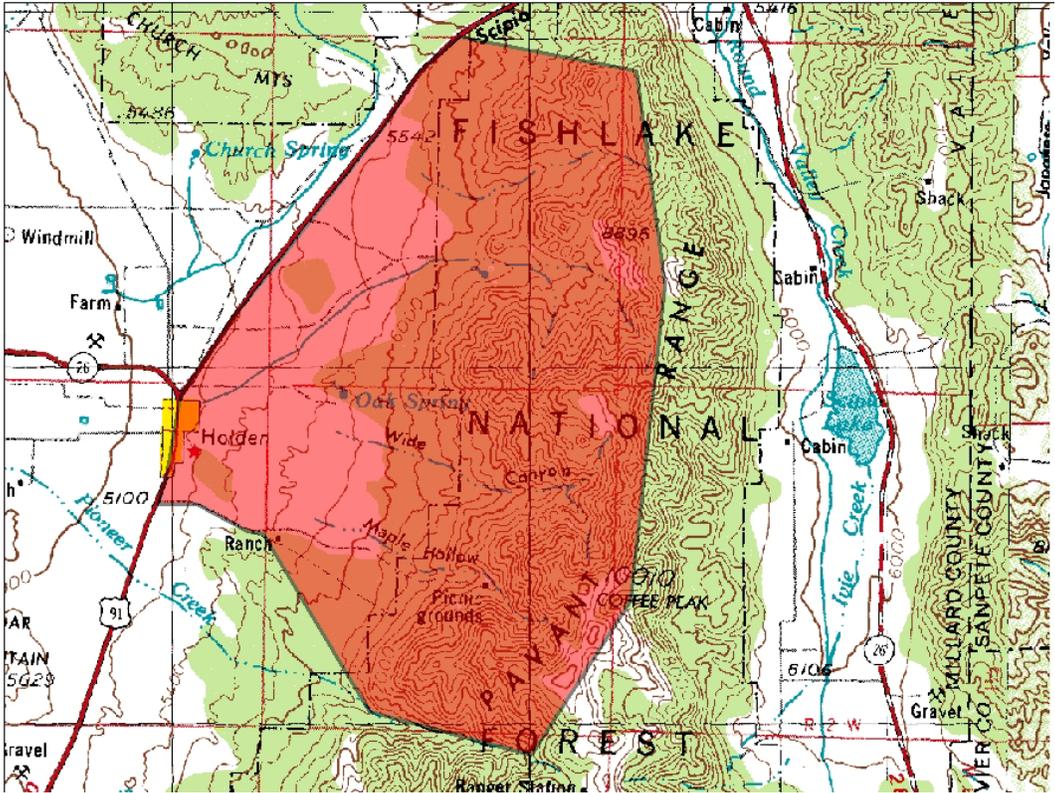
Fillmore Unit elk population age and sex structure



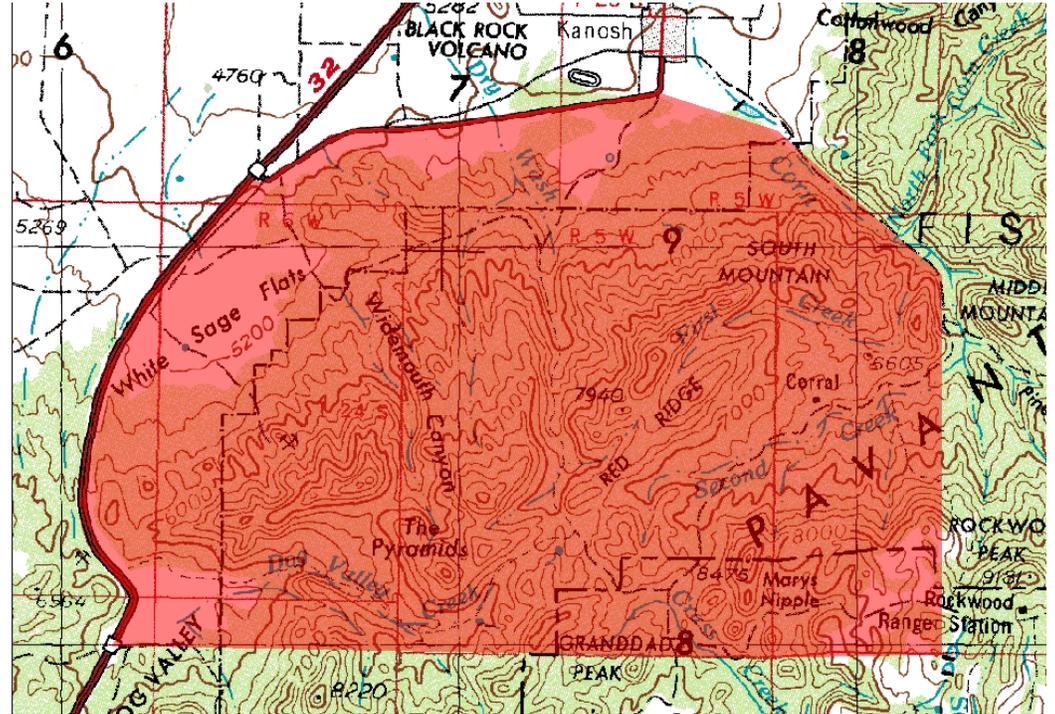
January 2011 Pahvant wintering elk locations (Black = 0-10, Yellow = 11-25, Orange = 26-50, Red = 50+)



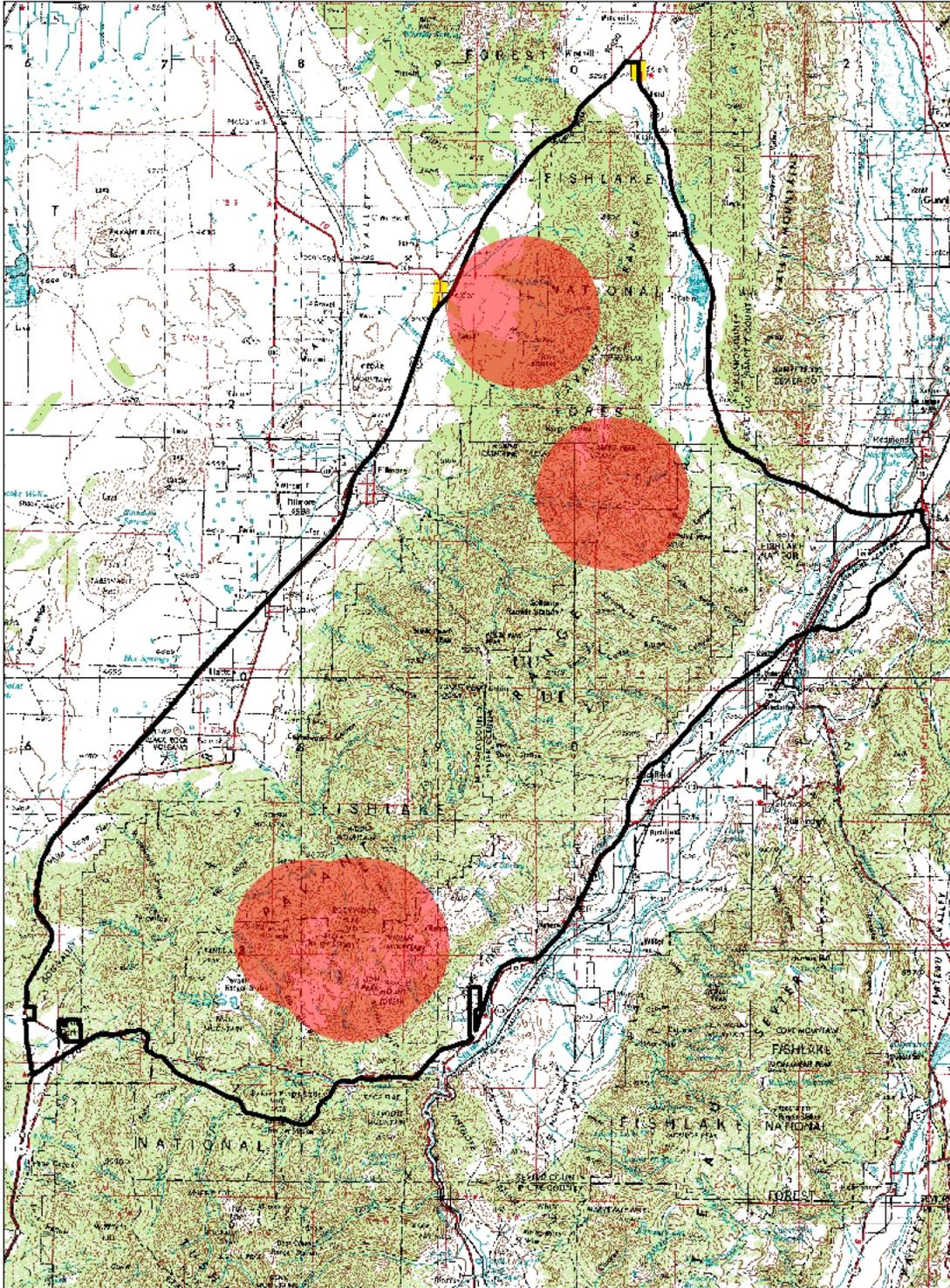
January 2011 Oak Creek wintering elk locations (Black = 0-10, Yellow = 11-25, Orange = 26-50, Red = 50+).



Wild Goose area that the Fillmore Elk Plan Committee designated for habitat work to improve elk and cattle range distribution.



South Mountain area that the Fillmore Elk Plan Committee designated for habitat work to improve elk and cattle range distribution.



Important elk calving habitat on the Fillmore Unit

ELK HERD UNIT MANAGEMENT PLAN
Elk Herd Unit #22
Beaver
May 2012

BOUNDARY DESCRIPTION

Iron, Garfield, Piute, Beaver and Millard Counties – Boundary begins at SR-130 and I-15; north on SR-130 to SR-21; north on SR-21 to SR-257; north on SR-257 to the Black Rock road; east of the Black Rock road to I-15; south of I-15 to I-70; east on I-70 to US-89; south on US-89 to SR-20; west on SR-20 to I-15; south on I-15 to SR-130.

LAND OWNERSHIP

(Total Unit Area: 885,765 acres; Elk Habitat: 505,878)

Ownership	Summer Range		Winter Range	
	Area (acres)	%	Area (acres)	%
Forest Service	229,645	82%	77,049	34%
Bureau of Land Management	18,308	7%	110,056	48%
Utah State Institutional Trust Lands	12,730	4%	14,464	6%
Native American Trust Lands	0	0%	2	<1%
Private	19,817	7%	23,658	10%
Department of Defense	0	0%	0	0%
USFWS Refuge	0	0%	0	0%
National Parks	0	0%	0	0%
Utah State Parks	0	0%	0	0%
Utah Division of Wildlife Resources	0	0%	2,149	2%
Total	280,500	100%	227,378	100%

UNIT MANAGEMENT GOALS

Manage for a population of healthy animals capable of providing a broad range of recreational opportunities including hunting and viewing. Consider impacts of the elk herd on other land uses and public interests including private property rights, agricultural crops, private development rights, and local economies. Maintain the population at a level that is within the long-term capability of the available habitat to support.

POPULATION MANAGEMENT OBJECTIVES

Target Winter Herd Size: Achieve a target population objective of 1050 elk (modeled estimate) on the unit, with elk numbers on the portion of the unit west of I-15 kept as low as possible.

Bull Age Structure: Maintain a 3-year average bull harvest age of 7.5-8.0 years for all hunt types.

Recruitment: Determine annual recruitment and population status of the herd.

Harvest: Provide antlerless, general season spike-only, and limited entry any-bull hunt formats. Propose the portion of the unit west side of I-15 be general season any-bull hunt format in 2013.

POPULATION MANAGEMENT STRATEGIES

Monitoring: Utilize harvest data, aerial trend counts, and pre-season classification data to estimate wintering elk population.

Bull Age Structure: Monitor age class structure of the bull population through the use of check stations, uniform harvest surveys, field bag checks, preseason classification, tooth age data, and aerial classification.

Recruitment: Aerial and/or ground classification will be conducted annually to determine population status, calf recruitment, calf/cow ratios, and range distribution.

Harvest: The primary means of monitoring harvest will be through the statewide uniform harvest survey, check stations, and field bag checks. The target population size will be achieved through antlerless harvest using a variety of harvest methods and seasons.

HABITAT MANAGEMENT OBJECTIVES

Range Improvements: Maintain and/or enhance forage production through direct range improvements throughout the unit on winter range to achieve population management objectives. By 2018, improve a minimum of 15,000 acres of elk habitat, with a minimum of 10,000 acres of this total completed in the mountain brush or aspen communities.

Winter Range: Work with private and federal agencies to maintain and protect crucial and existing winter range from future losses.

Corridors: Provide improved habitat security and escapement opportunities for elk. Provide as much opportunity as possible for elk to navigate roadways safely.

HABITAT MANAGEMENT STRATEGIES

Range Improvements: Maintain and/or enhance forage production on elk summer and winter range throughout the Beaver Unit. Coordinate with the Beaver Ranger District and BLM to complete projects designed to improve forage production for both elk and cattle and to improve elk distribution across the unit. Support federal land management agencies in managing vehicle access in order to provide and maintain refuge areas for elk.

Winter Range: Continue to monitor the permanent range trend studies located throughout the winter range. Conduct annual spring range rides to assess winter habitat with the land management agencies and the public.

Corridors: Cooperate with land management agencies and private landowners to identify crucial areas of elk habitat and work together to maintain and enhance elk habitat corridors. Work with UDOT to maintain and enhance signing, wildlife ramps, over/underpasses, and other wildlife crossing structures.

HABITAT IMPROVEMENT PROJECT FOCUS AREAS

The Beaver Elk Plan Committee designated three areas of focus for habitat improvement projects for elk on the unit: Pine Creek, Jimmy Reed, and South Creek. These areas include important summer and winter range that can be improved to better benefit elk

LIMITING FACTORS TO REACHING OBJECTIVES

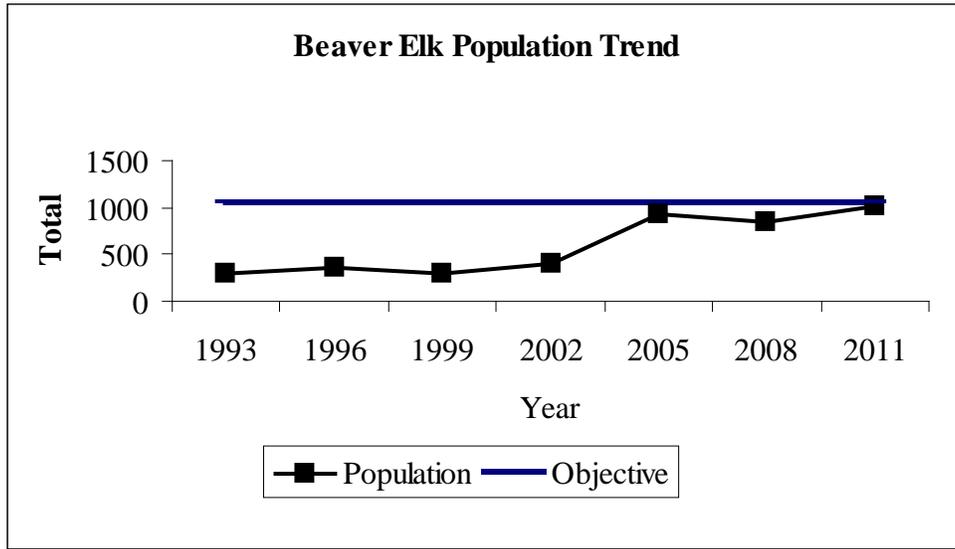
Crop Depredation: Crop depredation near Marysville, Circleville, Beaver, Sulfurdale, and Manderfield present barriers to increasing elk numbers in these areas. Steps to minimize depredation as prescribed by state law and DWR policy will be implemented as needed.

Highway mortality: I-15 and I-70 has been a source of heavy highway mortality for elk. North and south lane fencing of these interstates has been completed since the fall of 2010 and has significantly decreased ungulate mortality along these roadways. Highway 20 and 89 are currently not a source of significant mortality.

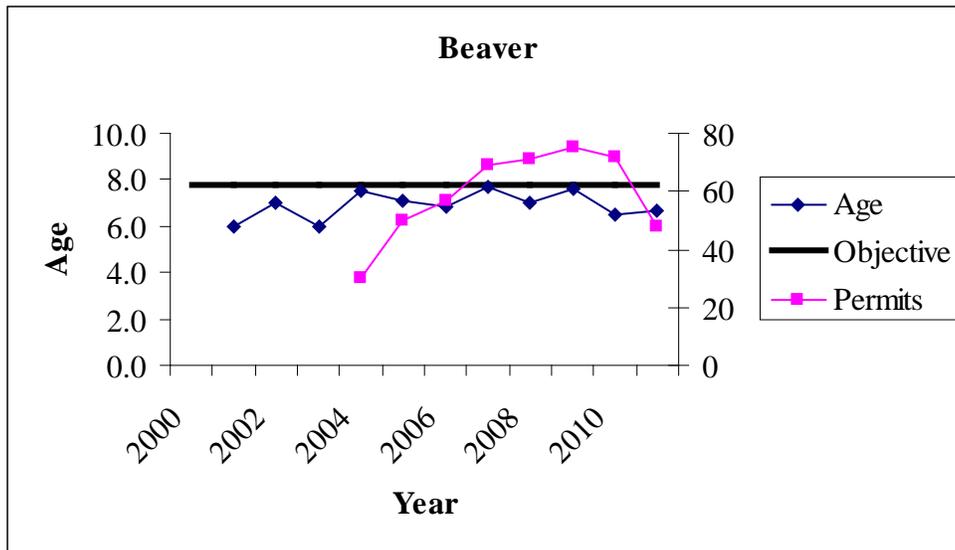
Development: Development of the east bench of Beaver and LaBaron and Puffer lake areas has the potential to increase disturbance, disrupt movements of elk, increase vehicle collisions, and damage habitat.

Habitat: Invasion by spruce-fir and pinyon-juniper has reduced the productivity of much of the summer and winter ranges for elk. Heavy human activity along the Piute ATV trail may also be responsible for reducing elk use of traditional calving areas and increasing use of posted private land and roadless areas on the Forest. The fencing of I-15 and I-70 has limited elk migration to important winter habitat in the areas west of Manderfield and Sulphurdale and east of Cove Fort. Winter range damage in these areas could become a potential problem if elk populations become too large.

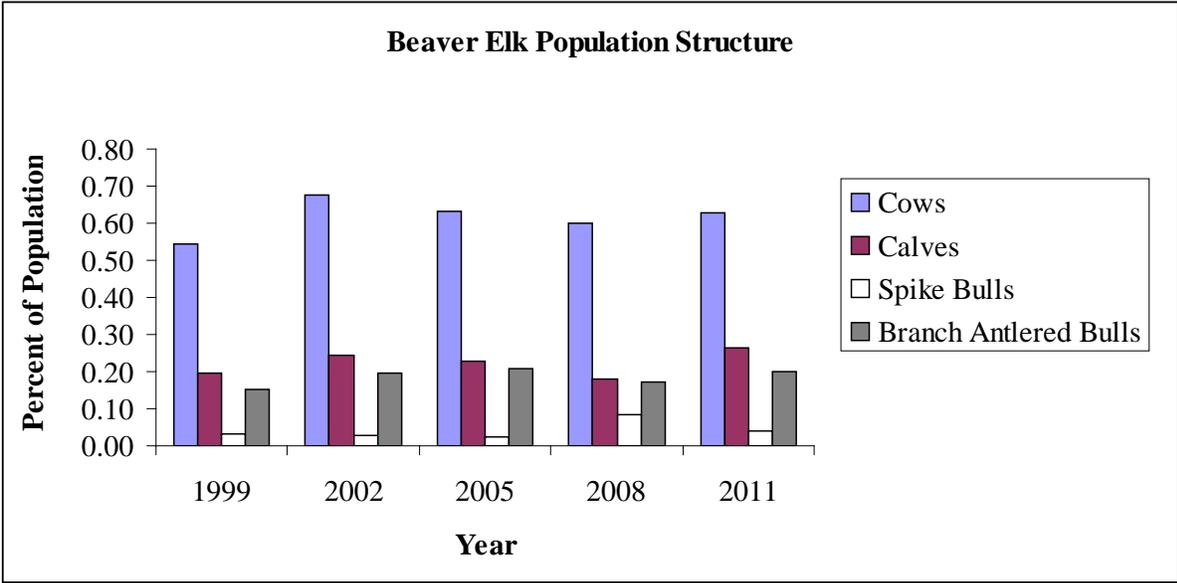
APPENDIX



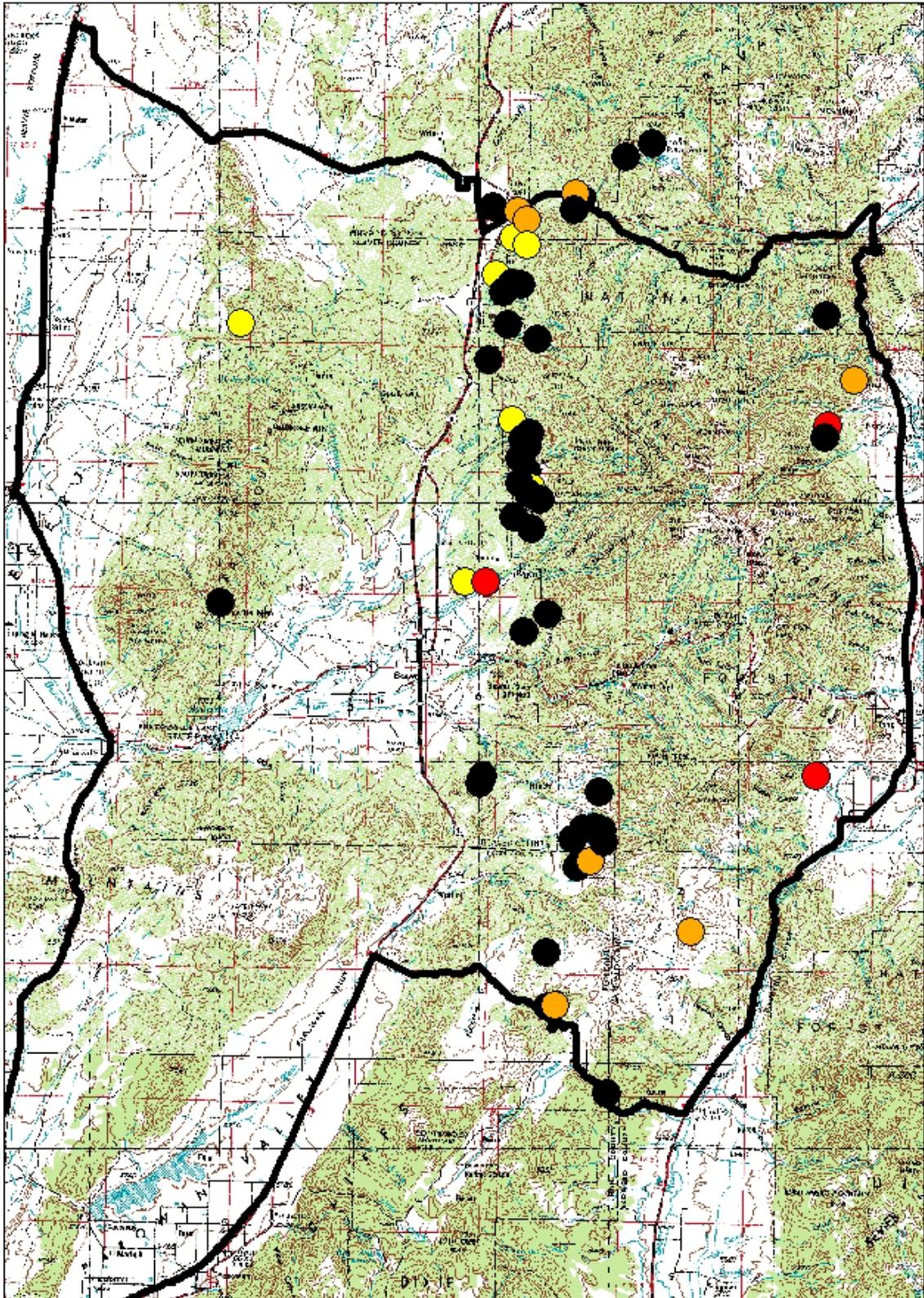
Beaver Unit elk population trends, Utah 1993-2011.



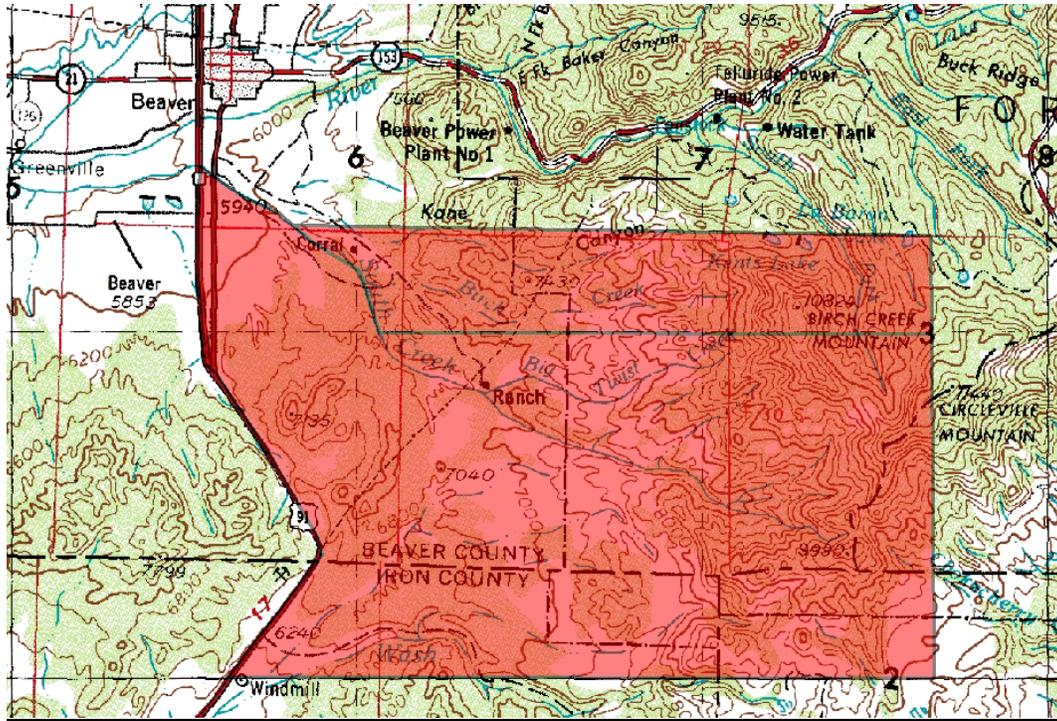
Average age of harvested bulls and permit numbers for the Beaver Unit



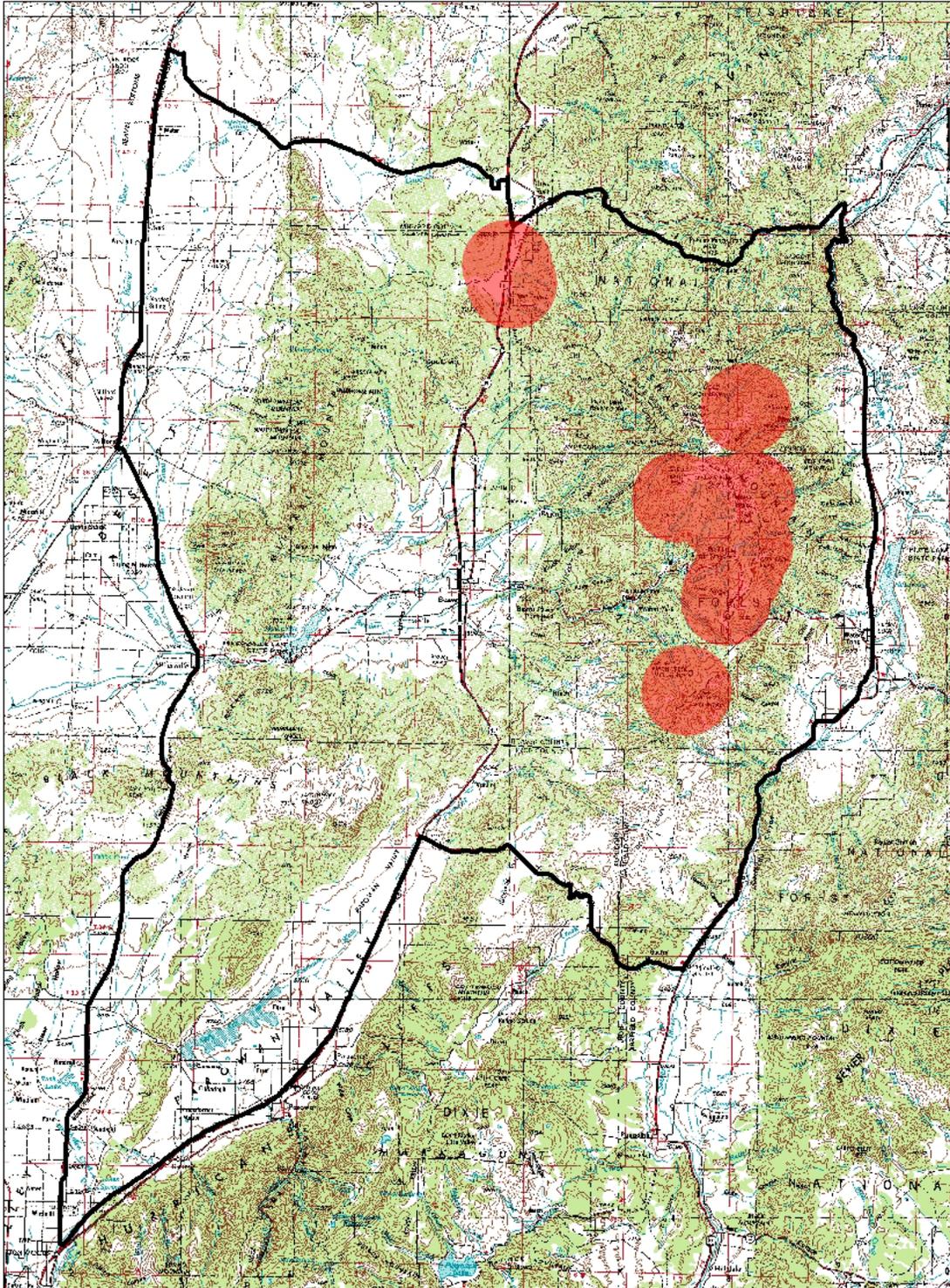
Beaver Unit elk population age and sex structure



January 2011 Beaver wintering elk locations (Black = 0-10, Yellow = 11-25, Orange = 26-50, Red = 50+).



South Creek Treatment Area



Important elk calving habitat on the Beaver Unit

ELK HERD UNIT MANAGEMENT PLAN
Elk Herd Unit #23
Monroe
May 2012

BOUNDARY DESCRIPTION

Piute and Sevier counties—Boundary begins at US-89 and I-70 near Sevier; south on US-89 to SR-62; east and north on SR-62 to SR-24; north on SR-24 to I-70; south on I-70 to US-89 near Sevier.

LAND OWNERSHIP

Ownership	Yearlong range		Summer Range		Winter Range	
	Area (acres)	%	Area (acres)	%	Area (acres)	%
Forest Service	5637	22	98909	79	35254	64
Bureau of Land Management	15400	62	2966	2	12644	23
Utah State Institutional Trust Lands	2292	9	7106	6	3097	6
Native American Trust Lands	0	0	0	0	0	0
Private	15	1	16435	13	3604	6
Department of Defense	0	0	0	0	0	0
USFWS Refuge	0	0	0	0	0	0
National Parks	0	0	0	0	0	0
Utah State Parks	0	0	0	0	0	0
Utah Division of Wildlife Resources	1482	6	0	0	230	1
TOTAL	24826	100	125416	100	54829	100

UNIT MANAGEMENT GOALS

Manage for a population of healthy animals capable of providing a broad range of recreational opportunities including hunting and viewing. Consider impacts of the elk herd on other land uses and public interests including private property rights, agricultural crops, private development rights, and local economies. Maintain the population at a level that is within the long-term capability of the available habitat to support.

POPULATION MANAGEMENT OBJECTIVES

Target Winter Herd Size: Achieve a target population objective of 1800 elk (modeled estimate) on the unit.

Bull Age Structure: Maintain a 3-year average bull harvest age of 7.5-8.0 years.

Recruitment: Determine annual recruitment and population status of the herd.

Harvest: Maintain antlerless, general season spike, and limited entry bull hunt formats.

POPULATION STATUS

The elk population on this unit is currently under the objective of 1800. The population is increasing. A total of 846 elk were counted during a helicopter survey completed in February of 2008. . Using an 80% sightability index this survey estimates 1050 elk on this unit. Through modeling the 2011 population is currently estimated at 1400 elk. The next helicopter survey is scheduled for January 2013 if conditions permit.

The average age of harvested bulls in 2011 was 6.0, which is down from the five-year average of 7.0. The cow:calf ratio in 2011 was 47 calves per 100 cows. Permit numbers for bulls were increased significantly in recent years in order to bring the average age of bulls harvested down to the previous age objective of 5.0-6.0 yrs. In 2010 the age objective was raised to 7.5-8.0. A limited entry permit reduction was implemented in 2011 and another permit reduction is recommended for 2012. Further reduction may be necessary in order to move toward the increased age objective.

In 2009 a general season spike only hunt strategy was implemented on Monroe. Spike harvest has averaged 127 per year over the past 3 years.

Antlerless elk harvest is minimal on Monroe because the population is under objective. In 2011, 29 antlerless elk were harvested. In 2011, only one antlerless hunt was instituted to reduce depredation problems near Greenwich.

POPULATION MANAGEMENT STRATEGIES

Monitoring: Utilize harvest data, aerial trend counts, and preseason classification data to estimate wintering elk population on the unit.

Bull Age Structure: Monitor age class structure of the bull population through the use of check stations, uniform harvest surveys, field bag checks, preseason classification, tooth age data, and aerial classification.

Recruitment: Aerial and/or ground classification will be conducted annually to determine population status, calf:cow ratios, and range distribution.

Harvest: The primary means of monitoring harvest will be through the statewide uniform harvest survey, check stations, and field bag checks. The target population size will be achieved through antlerless harvest using a variety of harvest methods and seasons.

HABITAT MANAGEMENT OBJECTIVES

Range Improvements: Maintain and/or enhance forage production and habitat quality (including aspen systems) through direct range improvements throughout the unit on winter and summer range to achieve population management objectives.

Winter Range: Work with private and federal agencies to maintain and protect crucial and existing winter range from future losses.

Water Development: Work with land management agencies and livestock producers to enhance water sources and contribute to elk habitat and gain optimum distribution.

Corridors: Cooperate with land management agencies and private landowners to identify crucial areas of elk habitat and work together to maintain and enhance elk habitat corridors. Work with UDOT to maintain and enhance signing, wildlife ramps, over/underpasses, and other wildlife crossing structures.

HABITAT MANAGEMENT STRATEGIES

Range Improvements: Maintain and/or enhance forage production on elk summer and winter range throughout the Monroe Unit. Coordinate with the USFS, SITLA, BLM and private land owners to complete projects designed to improve forage production for both elk and livestock and to improve elk distribution across the unit.

Encourage and support projects and management actions that will maintain and restore aspen ecosystems on the unit.

Support federal land management agencies in managing vehicle access in order to provide and maintain refuge areas for elk.

Monroe Mountain Aspen Working Group- This group was established in 2011 by the USFS. It is charged with finding solutions to address declining aspen stands due to conifer encroachment, aging stands, ungulate use, and other causes. The DWR will support this group's objectives by using all tools available to ensure success of "on the ground" aspen projects while maintaining the current elk population on the unit. This may include special, low number of permits, antlerless hunts on the summer range to discourage elk from using recently treated aspen stands. Any habitat projects instituted by this group will not likely take place until 2014 or later.

Winter Range: Continue to monitor the permanent range trend studies located throughout the winter range. Conduct annual spring range rides to assess winter habitat with the land management agencies and the public.

Water Development: Identify potential water development projects that will benefit elk and seek funds/methods to implement them.

Corridors: Cooperate with land management agencies and private landowners to identify crucial areas of elk habitat and work together to maintain and enhance elk habitat corridors. Work with UDOT to maintain and enhance signing, wildlife ramps, over/underpasses, and other wildlife crossing structures.

HABITAT IMPROVEMENT PROJECTS

Since 2007 there have been 12,750 acres treated through habitat improvement projects.

The following is a list of projects implemented in the last 5 years that have benefited elk:

Twin Peaks Burn/Harrow (USFS) This 2,000 acre treatment was on summer, transition, and high elevation winter range. Completed in 2011.

Box Creek Burn/Treatment (USFS) This 1,600 treatment began in 2011 and should finish in 2012. Summer range project designed for aspen regeneration.

Burrville Dixie Harrow, (BLM): This 4000 acre project is to benefit elk and deer winter range. Completed in 2011.

Thompson Basin p/j Maintenance (USFS): This 450 acre project is to retreat an area that was treated many years ago to remove advancing stands of pinyon/juniper. Completed in 2008.

Bear Ridge chaining/harrow (BLM) This 1,500 acre project designed to benefit deer and elk summer/transition/and winter range. Completed in 2010.

South Greenwich Fuels Reduction (Bull Hog) This 500 acre project designed to remove encroaching pinyon/juniper on winter range. Completed in 2011

Dry Lake Dixie Harrow, (BLM) This 3000 acre project is to benefit elk and deer winter range and was implemented in 2009.

Glenwood chaining/harrow This 700 acre project was designed to remove pinyon/juniper and increase winter range forage for deer and elk. Completed in 2011

Burnt Flat Harrow (USFS) This 600 acre summer range project designed to increase forage for wildlife. Completed in 2010.

The Following is a list of proposed projects that will benefit elk habitat on this unit:

Box Creek Burn/Treatment (USFS) This 1,600 acre treatment began in 2011 should be finished in 2012. Summer range project designed for aspen regeneration.

Monument Peak fire/mechanical harvest (USFS) This 2,000 acre treatment is designed as a summer range aspen treatment. Project will begin in 2012/13.

Pine Canyon-Koosharem Dixie Harrow (USFS): This 13,000 acre project is to retreat an area that was treated many years ago to remove piñon/juniper. This project will begin in 2012.

Glenwood cheat grass treatment (SITLA) This 300 acre project is designed to reduce cheat grass and establish shrub species on winter range. This project is scheduled to begin in 2012.

Blue Peak P/J thinning (USFS/BLM) This 1,000 acre project is designed to reduce encroaching P/J on deer and elk winter range.

LIMITING FACTORS TO MEETING OBJECTIVES

Crop Depredation: The DWR will maintain programs to reduce the burden of crop depredation on private land. Private agricultural land near Greenwich and Koosharem is subject to crop depredation by elk. Antlerless hunts have been and will likely continue to be implemented in this area.

Habitat: The overall range condition is good for elk on both summer and winter range. However much of the winter range is being effected by an advancing pinyon/juniper forest. Current proposed projects as well as future projects must be implemented in order to reverse this trend. The summer range is producing more than adequate feed for elk; however, there is concern with aspen decline. Possible over use by elk is a concern in portions of the unit. Large scale aspen projects are needed in order to maintain the current population of elk and sustain healthy aspen stands.

Age Objective: In 2010 the age objective was raised to 7.5-8.0 yrs. The average age in 2011 was 6.0 yrs. Significant bull permit reductions and several years will likely be needed to reach the age objective.

Illegal Harvest: As fewer bulls are being recruited into the mature age classes, illegal poaching of bulls is becoming more important. The DWR's law enforcement section will address any reports of illegal harvest and strive to reduce illegal take.

Predation: The DWR recognizes the need to efficiently and effectively manage predators. The DWR promotes a predator management philosophy and recognizes predator management to be a viable and legitimate wildlife management tool that must be available to wildlife managers when needed. Predator management must include the need for control by species, geographic area and season of year. The DWR will recommend cougar harvest if needed to benefit elk while maintaining the cougar as a valued resource to assure their future ecological, intrinsic, scientific, educational and recreational values.

2011 Monroe Elk Committee

In October 2011 the Monroe Elk Committee met to discuss the elk management plan and the possibility of increasing the population objective.

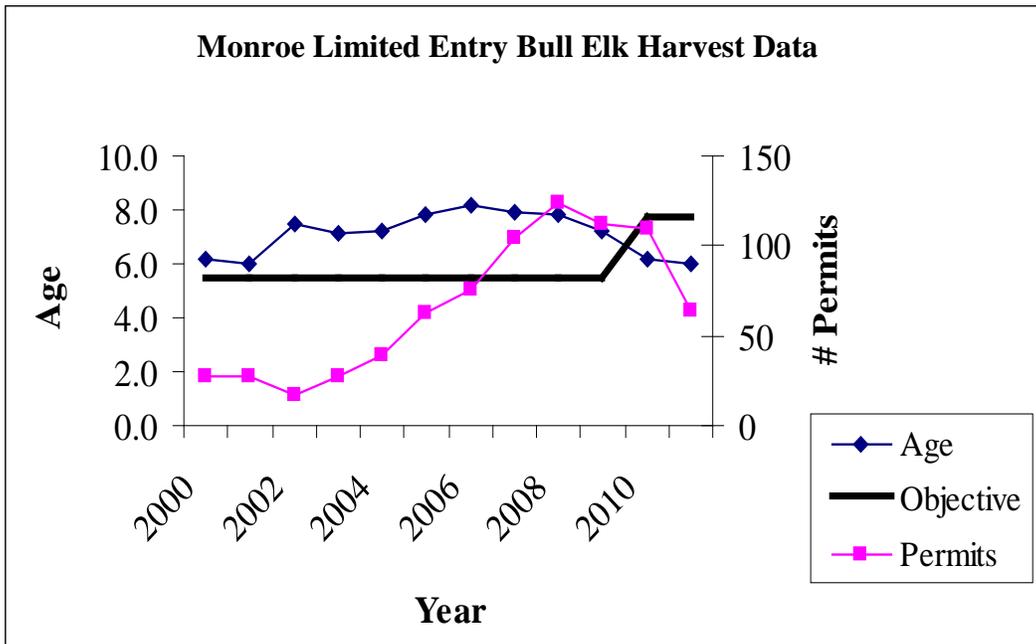
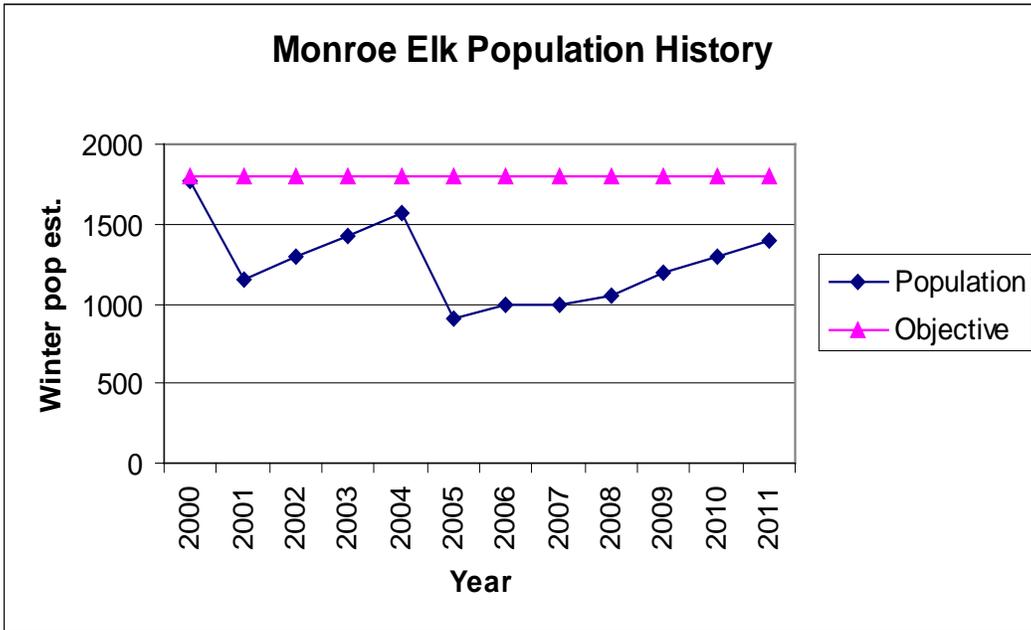
None of the members voted to increase the population above 1800 objective with most citing the fact that we have not reached the objective in the past. They voted to keep the current population objective and work toward reaching it.

Two topics were of top importance to the majority of the committee members:

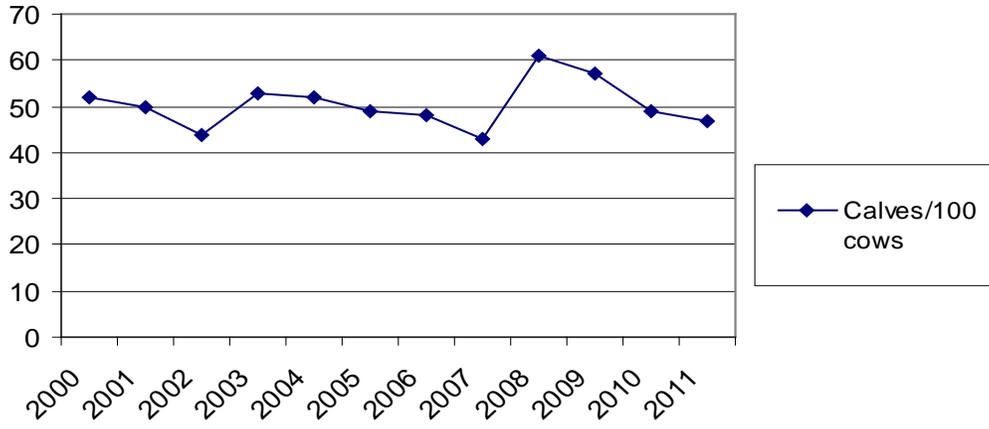
1. They had noticed the number of mature bulls being seen on the unit had declined in recent years and were concerned with the high number of permits being issued.
2. A resounding topic was that of the spike hunt that is just in its 3rd year. Members were concerned with the high spike harvest on the unit (average 127). Many of the members asked if the spike hunt could be eliminated on the Monroe.

In addition to the above topics, Both the USFS and a Sevier County Commissioner expressed concern with aspen regeneration on the unit.

APPENDIX



Monroe calves/100 cows



**ELK UNIT MANAGEMENT PLAN
MT DUTTON WMU #24
MAY 2012**

A. OVERALL ELK UNIT MANAGEMENT GOALS

- a. Manage for a population of healthy animals capable of providing a broad range of recreational opportunities including hunting and viewing.
- b. Balance elk herd impacts on human needs such as private property rights, agricultural crops and local economies.
- c. Maintain the population at a level that is within the long-term capability of the available habitat to support.
- d. Continue with the limited entry bull harvest strategy.

B. UNIT HABITAT OBJECTIVES

- a. Continue to be committed to the statewide goal of supporting habitat projects that increase forage for both big game and livestock.
- b. Maintain and/or enhance forage production through direct range improvements throughout the unit to achieve population management objectives.
- c. Work with private, state and federal agencies to maintain and protect crucial and existing range from future losses. Continue projects with USFS, BLM, state and private entities to enhance overall elk habitat.
- d. Provide improved habitat security and escapement opportunities for elk through support and cooperation of approved Dixie National Forest Travel Plan.
- e. Encourage the maintenance and development of water sources throughout the unit. Focus on providing water sources in remote areas or on abandoned / sources such as old water troughs, ponds, and tanks that can benefit both livestock and wildlife.
- f. Discourage the encroachment of pinyon and juniper (PJ) trees into sagebrush and other habitats. Seek opportunities to improve habitat through grazing practices, prescribed burning, and mechanical treatments to improve habitat where PJ encroachment is occurring.
- g. Work with land management agencies to improve calving habitat and minimize disturbance in these areas. Seek opportunities to improve aspen communities and some sagebrush ranges where calving and foraging are occurring.

i. CURRENT STATUS OF ELK HABITAT MANAGEMENT

- 1. Habitat conditions on the unit are good, with range conditions stable to improving on most of the unit. Some challenges facing elk habitat include; 1) conifer encroachment of aspen stands, 2) degradation of rangelands by increased woody vegetation, 3) damaged riparian areas, and 4) water availability.

2. Since 1995, several significant habitat projects were completed or are in progress. These projects have greatly improved wildlife habitat and livestock range. Improving and increasing wildlife habitat has been the impetus for many of these projects. Funds were made available through the Utah DWR Habitat Fund, Rocky Mountain Elk Foundation, U.S. Forest Service, and BLM.
3. The most significant habitat improvement during that last 10 years came as a result of the Sanford fire in 2002. This fire burned over 70,000 acres across the management unit, primarily on USFS administered lands. The fire has affected a variety of habitats including both winter range and calving areas and has greatly improved forage productivity in many of these areas. Unfortunately, some of the riparian areas have not fully been restored from the effects of the fire.
4. Several projects that improve elk habitat on the unit have recently been completed. A list of completed projects and currently proposed projects are listed in Appendix 2.
 - a. Kanab and Richfield BLM have plans to treat a combined 7000 acres, which was highly supported. USFS was also highly supportive of habitat restoration efforts.

ii. **BARRIERS TO ACHIEVING UNIT HABITAT MANAGEMENT OBJECTIVES**

1. Water distribution, development and maintenance.
2. Degradation of rangelands by woody vegetation.
3. Conifer encroachment of aspen stands.

iii. **STRATEGIES FOR REMOVING BARRIERS AND REACHING UNIT MANAGEMENT OBJECTIVES**

1. Use range trend and habitat improvement data to make appropriate decisions regarding population objectives. Antlerless harvest may be recommended if there is excessive habitat utilization.
2. Encourage USFS and BLM to control uses that negatively impact bottomlands and riparian areas.
3. Focus on maintaining investments in habitat projects such as seedings, chainings, and water developments.

4. Promote opportunities to restore riparian areas, including translocation of beaver, as allowed in the statewide beaver management plan, and riparian fencing as recommended by the 2011 committee.

C. UNIT POPULATION MANAGEMENT OBJECTIVES

- a. Target Winter Herd Size – 1500 total elk wintering across the unit.

i. CURRENT STATUS OF ELK POPULATION MANAGEMENT

1. During the January 2010 aerial survey, 1612 elk were counted resulting in a winter population estimate of approximately 2000 (Figure 1). Several changes were made to the antlerless harvest strategy, including modifying the Deep Creek roadless boundary to address possible refuges and immigrating elk and increasing the length of the late season. These changes appear to be more successful than previous strategies.
2. Preliminary results of the current ratio telemetry study suggest that a high percentage of collared elk migrate off Mt Dutton and summer on an adjacent WMU. The implications of this behavior suggest a lower summer population and therefore substantially less range utilization than originally suspected from winter population estimates.
3. The unit elk committee met in October 2011 and was divided on a wintering population objective. It is recommended to maintain the 1500 wintering elk objective and base any population increases on migration data, habitat acres treated, and range trend data. The 2011 elk committee's comments are attached in Appendix 3.

ii. POPULATION MANAGEMENT STRATEGIES

1. Population Size – Aerial counts and annual preseason classification surveys will be used to monitor the population. Population modeling will also be used to generate annual postseason (winter) population estimates. Antlerless harvest using a variety of harvest methods and seasons will be the primary means to achieving the wintering population objective.
2. Harvest - Harvest data is acquired through hunter harvest surveys.

iii. **BARRIERS TO ACHIEVING UNIT POPULATION MANAGEMENT OBJECTIVES**

1. **Depredation** – Many of the local landowners and livestock owners on the unit worry that an increase in the elk population would increase damages due to elk depredation.
2. **Illegal Harvest** - Illegal harvest can be a significant source of mortality.

iv. **ACTIONS TO REMOVE POPULATION BARRIERS**

1. **Crop Depredation** -Take all steps necessary to minimize depredation as prescribed by state law and DWR policy. Explore opportunities to create a Mt Dutton Landowners Association for private property owners impacted from elk use.
2. **Illegal Harvest** - If illegal harvest is identified as a significant source of mortality, attempt to develop specific preventive measures within the context of an “Action Plan” developed in cooperation with the Law Enforcement Section.
3. **Plan for population objective increase** –
 - a. Continue the implementation and completion of habitat projects on the unit including private, state, USFS, and BLM lands.
 - b. Range condition will be monitored by state and federal agencies. Telemetry data and annual range trend data from state and federal agencies will be used to develop a three-year trend. If the range trend is improving over a three-year period, an increase in elk numbers will be considered.
 - c. Continue to manage depredation on private property as per state law and policy.

D. UNIT RECREATION OBJECTIVES

- a. **Bull Harvest Objective** - Manage for a 5.5–6.0 year average age of harvested bulls as outlined in the Statewide Elk Management Plan.

i. **UNIT RECREATION MANAGEMENT STRATEGIES**

1. **Bull Age Structure** - Monitor age class structure of the bull population through the use of harvest surveys and tooth aging.

Additionally, data will be analyzed from preseason classification surveys, aerial surveys conducted every 3 years, check stations, and field hunter checks.

2. Harvest - Bull harvest strategies will be developed to achieve management objectives (Figure 2). Comments concerning bull harvest from the 2011 elk committee are available in Appendix 3. Currently, the Mt Dutton unit is achieving the bull harvest age objective (Figure 3).
 - a. There has been some conflict in balancing opportunity and quality in bull harvest strategies. A goal of this plan is to continue a public relations effort to promote the importance of maintaining the specified average age of harvested bulls.

Figure 1. Population estimates and antlerless harvest of elk on Mt Dutton WMU #24.

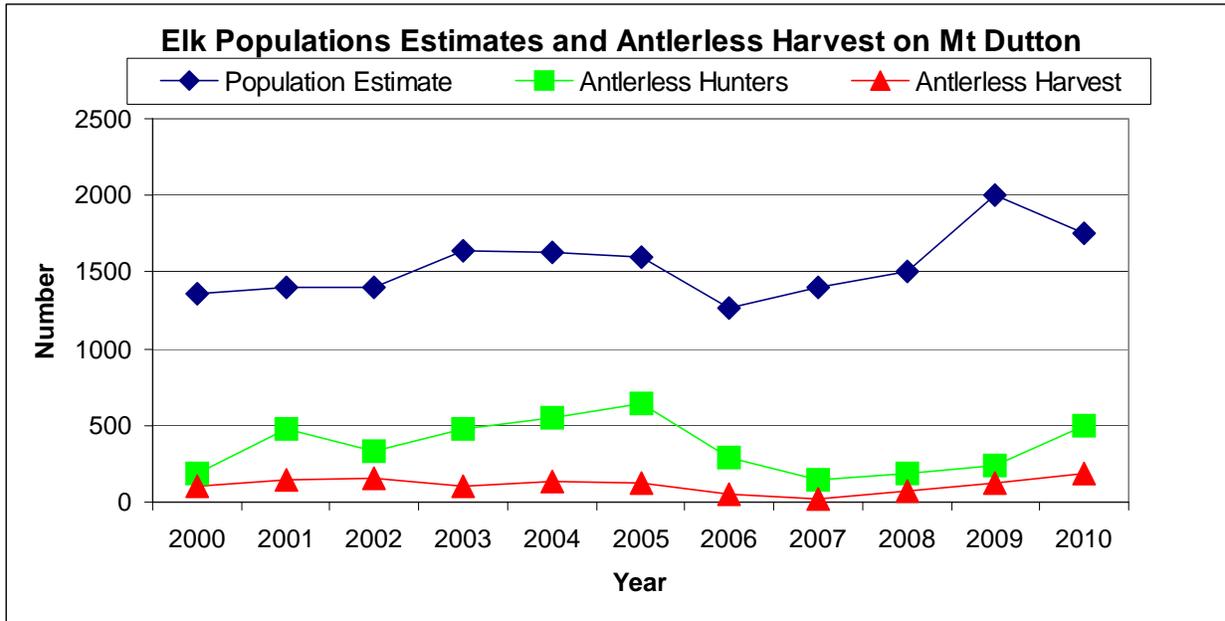


Figure 2. Trend of limited entry bull elk permits and harvest on Mt Dutton WMU #24.

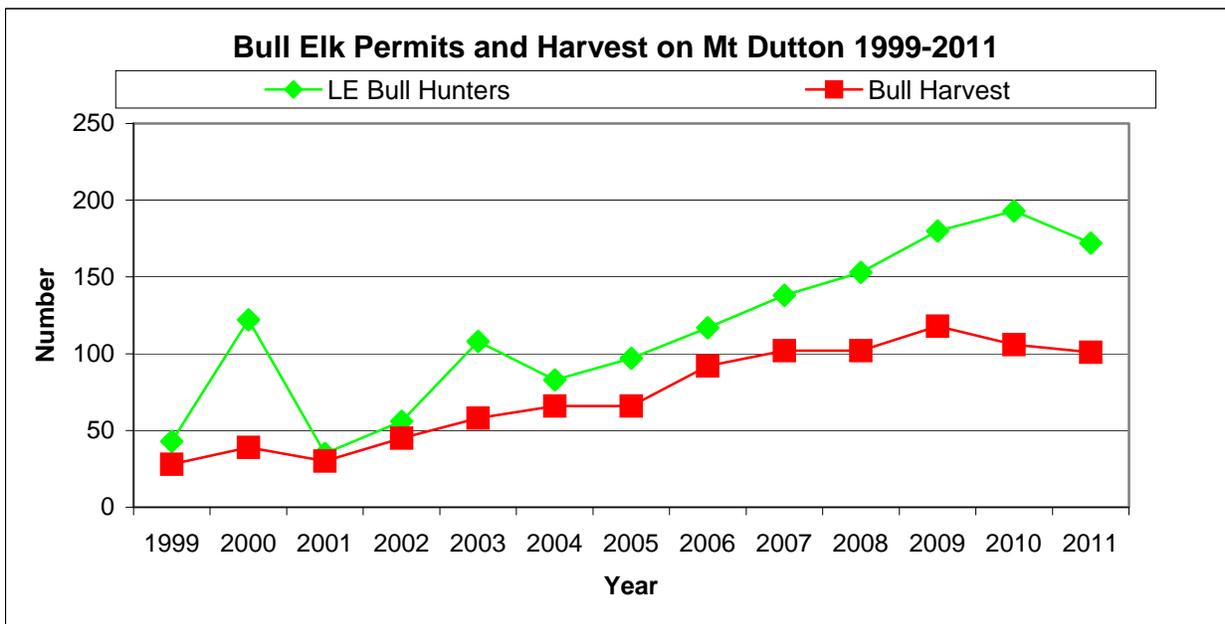
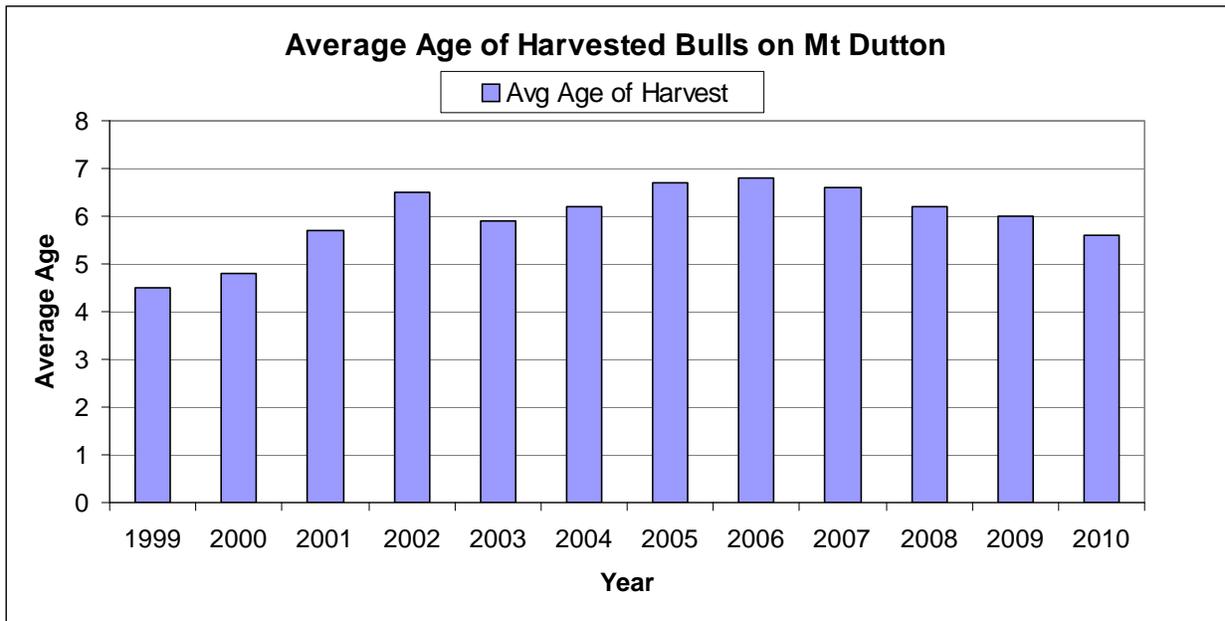


Figure 3. Average age of harvested bull elk on Mt Dutton WMU #24.



Appendix 1. Approximate landownership on the Mt Dutton WMU #24.

RANGE AREA AND APPROXIMATE OWNERSHIP*

Ownership	Yearlong range		Summer Range		Winter Range	
	Area (acres)	%	Area (acres)	%	Area (acres)	%
Forest Service	143,766	92	114,279	99	50,615	70
Bureau of Land Management	8455	5	0	0	7368	10
Utah State Institutional Trust Lands	2527	2	30	.5	10,468	15
Native American Trust Lands	0	0	0	0	0	0
Private	119	1	583	.5	3414	4
Department of Defense	0	0	0	0	0	0
USFWS Refuge	0	0	0	0	0	0
National Parks	0	0	0	0	0	0
Utah State Parks	0	0	0	0	0	0
Utah Division of Wildlife Resources	0	0	0	0	86	1
TOTAL	154,867	100	114,892	100	71,951	100

Mt. Dutton Elk Habitat Summary

SEASON	VALUE	Acres	% of available Habitat	% of WMU
Summer	substantial	51127	17	12
Winter	crucial	84562	28	20
Year-Long	substantial	165491	55	39
Total Elk Habitat		301180	100	72
Total WMU Area		420798		100

Appendix 2. Recent habitat projects in elk habitat on the Mt Dutton WMU #24.

USFS / RMEF, Rebuilt guzzler - Bear Flat, Corral Flat (2003)
 USFS / RMEF / SFH, New guzzler – Showalter, Sanford Ridge (2005/2006)
 USFS/DWR, Jones Corral Prescribed Burn (1998) & Sanford (2003)
 USFS/DWR, Johnson Bench Prescribed Burn and Reseed
 USFS/DWR, Hoodle Creek Water Line (2001)
 USFS/RMEF, Mud springs Chaining maintenance 3000 acres, (2006)
 USFS/UDWR/RMEF, Showalter sagebrush maintenance 500 acres, (2006)
 BLM/DWR, Deer Creek Prescribed Burn and Reseed
 BLM, Horse Valley Prescribed Burn
 USFS, New Guzzlers – (Up to 10) at Table Mtn, Dry hollow, Spring creek, Deep Cr., etc.
 USFS/UDWR/RMEF, Pond cleaning at Table mountain.
 USFS/UDWR/RMEF, Marshall canyon chaining maintenance (900) acres.
 BLM, Circleville cove sagebrush treatment (800) acres.
 BLM, Limekiln and Smith Creek guzzlers, construction and maintenance.
 East Bench Panguitch Valley Water Catchment

Mt Dutton WMU #24 habitat projects listed in WRI database 2005-2011.

Mt. Dutton WRI Elk Habitat Project Table 2005 - Present			
PROJECT/MAP ID	TITLE	Year Complete	Acres
1697	South Dutton Wildlife water	Planned/In Progress	0.04
2018	Kingston Canyon/Black Canyon WMA Habitat Improvement Phase I	Planned/In Progress	37
461	Sevier Plateau Dixie Harrow	2007	516
1513	Kingston Canyon Property Acquisition	2010	219
1420	Circleville Cove	2010	1305
1441	Antimony Seeding	2010	3891
1901	Pine Creek Chaining	2011	367
1794	Cow and Cottonwood Creek Lop and Scatter	2011	2100
			Total = 8435

Appendix 3. Summary and comments from the 2011 Mt Dutton elk committee.

Meeting was well attended and lasted approximately 4 hours. The agenda involved discussing all portions in the existing plans under the following topics: habitat, population, and recreation. A powerpoint was used to assist in presentation of the data as well as a tool to maintain a focused discussion. The powerpoint provided opportunity to view habitat project maps and current status of elk population management on the unit.

HABITAT

Kanab BLM has plans to treat 2000 acres.

Richfield BLM has plans to treat 5000+ acres north of the deer creek bullhog.

Letters of support from sportsmen are useful in the NEPA process.

SFW – important to fence riparian areas. Local landowner does not support fencing. Cattlemen Assoc asked if riparian fencing is really needed? UDWR habitat biologist suggested to work on individual issues.

RAC suggested sportsmen work directly with landowners to identify priority projects.

Richfield BLM – usually lacking seed money.

SFW – important to spend money on both private and public lands.

Sportsmen – impressed with habitat work that has been done.

POPULATION

After presentation of the data, the following comments/discussion were made:

Sportsmen – are we at carrying capacity?

USFS – possibility of summer objectives? Discussion on how to calculate use only available to wildlife based on accessibility.

Cattlemen Assoc – discussion on depredation issues.

RAC – increase as a partnership (wildlife and livestock) – if range is good, why can't we get more of both?

Landowner – decrease in cattle permits has been steady

Cattlemen Assoc – discussed an agreement from 1950's that no more than 500 elk will be on the unit.

Landowner – road closures are not working

Cattlemen Assoc – road closures are reducing antlerless success.

Sportsmen – most accessible elk are being harvested. Antlerless hunt structure should be 3-4 short hunts. Suggested the removal of the late bull hunt because of migration from other units. Overall numbers during the hunt are the lowest in recent memory.

Sportsmen – feels there are lower elk numbers in the summer. Need to lighten up on the spike hunt.

USU Ext – migration study is immature – still not enough to make decisions

RMEF – migration study shows the exact same thing past studies have shown – Dutton is a winter area for all adjacent units.

Sportsmen – increase numbers if we are not at capacity.

MDF – deer herd is decimated – need to protect lower range habitat – hard to support drastic increase in elk numbers

Sportsmen – increase in moderation – remove cow harvest for spike archers and maintain resident cows.

SFW – hunts have been going down every year

Landowner – concerned about elk use on public permits

Cattlemen Assoc – agrees elk are not there in summer – depredation problems are in the spring

All members were asked to state their opinion on winter objectives and the potential for a population increase.

RMEF – migration is difficult to predict and is a large factor. You never know what elk you are killing from each unit. An increase on Dutton would result in increase in summer Monroe numbers. Need to increase incrementally, and monitor cow hunts. Raise to 1650 and will volunteer to purchase crackershells and haze elk in the spring. We need to be working hand in hand with landowners.

Richfield BLM – 1500 is a good number. BLM continues to bullhog, elk habitat will increase.

USFS – migration research needs more data before we make decisions. Need to work hard to get to objectives. Need to stay at 1500 until further range and migration analysis.

USU Ext – 1500 – limit cow harvest for spike archers and maintain resident cow numbers.

Sportsmen – 1650 - Get rid of spike cow harvest. Early cow hunts are counterproductive. Increase based on current research as we get more data. Remove late bull hunt. Increase slightly and monitor.

Sportsmen – 1500 - Need a big increase on resident elk. Spike hunt is hurting limited entry bull hunts.

RAC – 5% increase – 1500 does not address what we want. Need to help landowners where we can. Get all groups together more to see where help can happen. Increase should be equal to livestock increase.

SFW – 1600 – hunting strategies need to change and build summering elk. Need to help landowners in the spring. Sportsmen have put out a lot of money to have elk and no increase may result in loss of their support. We need to work together.

Landowner – 900 – Appreciate working with landowners and elk are great, but they are hard on landowners livelihood. Opposed to an increase.

Cattlemen Assoc – 1200 - appreciate cooperation and enjoys recreation from elk. Cannot support an increase. Damage has increased since 2004 when the jump from 900 to 1500 took place.

Farm Bureau – 1200 - likes elk but wants to know what happened to the 1950s agreement of 500 elk. Whats the use if there are already 1800 elk.

MDF – 1500 – winter and spring habitat being affected by elk the most. Does not support an increase but would if USFS improved more habitat.

RECREATION

RAC – this year's average age will be between 4-5

Sportsmen – it's a tough hunt and best bulls are harvested on the late hunt.

USU Ext – quality has decreased due to the spike hunt

Landowner – wants bull permits for landowners. Would increase tolerance of elk.

ELK HERD UNIT MANAGEMENT PLAN
Elk Herd Unit #25 A&B
Fish Lake/Thousand Lakes
May 2012

BOUNDARY DESCRIPTION

Emery, Piute, Sevier and Wayne counties—Boundary begins at I-70 and SR-24 north of Sigurd; south and east on SR-24 to the Caineville Wash road; north on this road to the Cathedral Valley road; west on this road to Rock Springs Bench and the Last Chance Desert road; north on this road to the Blue Flats road; north and east on this road to the Willow Springs road; north on this road towards Windy Peak and the Windy Peak road; west on this road to SR-72; north on SR-72 to I-70; west on I-70 to SR-24 north of Sigurd.

LAND OWNERSHIP

Fish Lake Subunit (25A)	Yearlong range		Summer Range		Winter Range	
Ownership	Area (acres)	%	Area (acres)	%	Area (acres)	%
Forest Service	0		137,016	84	147,908	57
Bureau of Land Management	0		15	%	60,397	23
Utah State Institutional Trust Lands	0		316	%	14,867	6
Native American Trust Lands	0		0		0	
Private	0		25,131	15	36,606	14
Department of Defense	0		0		0	
USFWS Refuge	0		0		0	
National Parks	0		0		0	
Utah State Parks	0		0		0	
Utah Division of Wildlife Resources	0		0		20	%
TOTAL			162,478	100	259,798	100

Thousand Lakes subunit (25B)	Yearlong range		Summer Range		Winter Range	
Ownership	Area (acres)	%	Area (acres)	%	Area (acres)	%
Forest Service	0		32,088	100	61,842	42
Bureau of Land Management	0		0		47,683	33
Utah State Institutional Trust Lands	0		0		6115	4
Native American Trust Lands	0		0		0	
Private	0		0		4575	3
Department of Defense	0		0		0	
USFWS Refuge	0		0		0	
National Parks	0		0		25,511	18
Utah State Parks	0		0		0	
Utah Division of Wildlife Resources	0		0		0	
TOTAL	0		32,088	100	145,726	100

UNIT MANAGEMENT GOALS

Manage for a population of healthy animals capable of providing a broad range of recreational opportunities including hunting and viewing. Consider impacts of the elk herd on other land uses and public interests including private property rights, agricultural crops, private development rights, and local economies. Maintain the population at a level that is within the long-term capability of the available habitat to support.

POPULATION MANAGEMENT OBJECTIVES

Target Winter Herd Size: Achieve and maintain the current target population objective of 5,600 elk (modeled estimate) on the unit.

The Division recommends increasing the population objective by 800 wintering animals from 4800 to 5600. The Division recognizes that increasing elk populations is controversial and has the possibility of creating challenges with habitat use and livestock operations; however, the Division believes that the habitat on the unit can support this increase. By adhering to the strategies outlined in this plan, by practicing adaptive management, and by working closely with land management agencies and livestock operators, any negative effects of the increased population can be negated.

Bull Age Structure: Maintain a 3-year average age of bull harvest of 5.5-6.0 years.

Note: The Statewide Elk Management Plan calls for an increase in the age objective from 5.5-6.0 to 6.5-7.0 on the Fish Lake/Thousand Lakes unit, if the population objective is raised to 6,500 animals.

Recruitment: Determine annual recruitment and population status of the herd.

Harvest: Maintain antlerless, general season spike-only, and limited entry bull hunting formats.

POPULATION STATUS

The elk population on this unit is estimated to be at or near its current objective of 4,800. An aerial survey was conducted on this unit on January 30-31, 2012. During this flight 2,808 elk were counted. Using a 70% sightability index, the population based on the flight data only, was estimated at 4,011 animals. A warm winter with little snowpack made for less than ideal survey conditions and allowed elk to winter in non-traditional areas. Nearby units were unable to be surveyed due to poor snow conditions. Due to the lower than expected count, few antlerless permits will be issued in 2012.

The average age of harvested bulls in 2011 was 6.1, which is down from the five-year average of 7.1. The cow:calf ratio in 2011 was 50 calves per 100 cows. Permit numbers for bulls have been increased significantly in recent years to bring the average age of bulls harvested down to the objective of 5.5-6.0 yrs.

POPULATION MANAGEMENT STRATEGIES

Monitoring: Utilize harvest data, aerial trend counts, and preseason classification data to estimate wintering elk population on the unit.

Bull Age Structure: Monitor age class structure of the bull population through the use of check stations, uniform harvest surveys, field bag checks, preseason classification, tooth age data, and aerial classification.

Recruitment: Aerial and/or ground classification will be conducted annually to determine population status, calve recruitment, calve/cow ratios, and range distribution.

Harvest: The primary means of monitoring harvest will be through the statewide uniform harvest survey, check stations, and field bag checks. The target population size will be achieved through antlerless harvest using a variety of harvest methods and seasons.

HABITAT MANAGEMENT OBJECTIVES

Range Improvements: Maintain and/or enhance forage production and habitat quality (including aspen systems) through direct range improvements throughout the unit on winter and summer range to achieve population management objectives. Focus will be on high use areas especially

where we can entice animals away from agricultural areas and crucial range areas receiving higher than desired use.

Winter Range and Monitoring: Work with private and federal agencies to maintain and protect crucial winter range from future losses. Elk habitat will be monitored by current long-term vegetative trend studies and range tours in cooperation with public and private land managers.

Water Development: Work with land management agencies and livestock producers to enhance water sources, contribute to elk habitat, and gain optimum distribution.

Corridors: Cooperate with land management agencies and private landowners to identify critical areas of elk habitat and work together to maintain and enhance elk habitat corridors. Work with UDOT to maintain and enhance signing, wildlife ramps, over/underpasses, and other wildlife crossing structures.

HABITAT MANAGEMENT STRATEGIES

The overall range condition and total production for elk is good on both winter and summer range. However, much of the winter range is covered with an advancing pinyon-juniper forest. There are also concerns over decadent stands/monocultures of sage species. On the summer range above 9000 feet, the trend is toward a climax Engleman spruce forest that is eliminating aspen habitat and open meadows. Decadent aspen also need to be treated to regenerate stands. Due to many successful treatments on winter ranges the condition of those treated ranges is showing an upward trend.

Range Improvements: Maintain and/or enhance forage production on elk summer and winter range throughout the unit. Coordinate with the USFS, SITLA, BLM and private land owners to complete projects designed to improve forage production for both elk and livestock and to improve elk distribution across the unit. Identify higher elevation habitat projects that would encourage elk to winter higher and potentially away from traditional deer wintering areas. Encourage and support projects and management actions that will maintain and restore aspen ecosystems on the unit. Support federal land management agencies in managing vehicle access in order to provide and maintain refuge areas for elk.

Winter Range and Monitoring: Continue to monitor the permanent range trend studies located throughout the winter range. Conduct annual spring range rides to assess winter habitat with the land management agencies and the public.

Water Development: Identify potential water development projects that will benefit elk and seek funds/methods to implement them.

Corridors: Cooperate with land management agencies and private landowners to identify crucial areas of elk habitat and work together to maintain and enhance elk habitat corridors. Work with UDOT to maintain and enhance signing, wildlife ramps, over/underpasses, and other wildlife crossing structures.

HABITAT IMPROVEMENT PROJECTS

Between 2002-2007 there were 28,700 acres of elk habitat treated through habitat improvement projects on the Fish Lake/Thousand Lakes units. There was also approximately 10,000 acres of winter range treated on the Parker rim and the east side of Grass Valley from the Fish Lake summit to the Narrows. This is on the Boulder unit but winters many elk from the Fish Lake herd.

Between 2007-2011 there have been roughly 9,750 acres treated through the following projects:

Cedar Creek: (USFS) 400 acres of pinyon/juniper treated through fire, harrow, and hand thinning, and reseeding. Work began in 2007.

Solomon Basin Fuels: (USFS) 2,000 acres of pinyon/juniper thinning, 2009

Geyser Peak: (USFS) An 800 acre spruce/fir project in former aspen habitat, 2010.

Fish Lake Basin Fuels: (USFS) A 1,500 acre Dixie harrow and mowing treatment to remove decadent sagebrush.

Clay Flats: (USFS) A 900 acre project to remove decadent sagebrush and encroaching pinyon/juniper, 2011.

Flat Tops Dixie Harrow: (USFS) 200 acre treatment to remove decadent sagebrush and encroaching pinyon/juniper, 2007.

Rex Reservoir Pinyon/Juniper Maintenance: (USFS) A 600 acre treatment to remove decadent sagebrush, oak, and encroaching pinyon/juniper, 2008.

7 mile and Mt Terrill Dixie Harrow: (USFS) A 1,500 acre treatment to remove decadent sagebrush, 2008.

Sand Ledges: (SITLA) A 900 acre chaining and harrow to regenerate sage and oak brush and reduce encroaching pinyon/juniper, 2009.

Johnson Mountain Ranch: (CWMU) A 950 acre treatment to remove encroaching pinyon/juniper, 2009.

The following are habitat projects planned to take place in the next 3 years:

Sand Ledges 2nd phase: (SITLA) a 2,000 acre project designed to reduce encroaching pinyon juniper and remove decadent sagebrush

Johnson Mtn Ranch 2nd phase: (CWMU) A 700 acre project to encourage elk forage and reduce encroaching pinyon/juniper.

LIMITING FACTORS TO MEETING OBJECTIVES

Crop Depredation: The DWR will maintain programs to reduce the burden of crop depredation on private land. Currently Elk from the Fish lake herd cause depredation to fields near Lyman and fields in the Gooseberry area. Antlerless control hunts have been held and will be held to reduce this problem. As per Division policy, qualifying landowners may receive antlers elk permits to help encourage tolerance of elk and also to reduce numbers of elk using private lands.

Habitat: The overall range condition is good for elk on both summer and winter range. However much of the winter range is being effected by an advancing pinyon/juniper forest. Current proposed projects as well as future projects must be implemented in order to reverse this trend. Winter range, especially on the east portions of the Fish Lake Unit (Fremont district of the USFS) can receive heavy elk use during the winter. This habitat must me monitored closely for signs of over use. Localized antlerless hunts may be used to reduce pressure on specific areas.

Summer range projects to stimulate aspen recruitment and reduce conifer encroachment must be identified and implemented.

Comments from the USFS and livestock operators regarding the eastern half of the management unit, expressed in the Fish Lake elk committee meeting the following concerns regarding habitat:

1. Spring range is already being utilized and cannot sustain more elk.
2. Environmental groups are scrutinizing grazing levels.
3. Livestock AUM's have not been increased.

If the elk objective is increased special attention must be paid to the above areas and issues. To assist with these issues, the addition of smaller scale antlerless hunts could be used to try and encourage elk to utilize spring/winter ranges on the western side of the unit, where habitat projects have produced exceptional forage conditions and the resource is being under utilized. If late season antlerless elk permits are issued at higher levels in the eastern side of the unit, compared to the western side, then much of the population increase should come from the western side. In addition, livestock operators could work with land management agencies to explore shifting AUMs and /or season of use on some ranges in a way that could benefit operators.

Predation: The DWR recognizes the need to efficiently and effectively manage predators. The DWR promotes a predator management philosophy and recognizes predator management to be a viable and legitimate wildlife management tool that must be available to wildlife managers when needed. Predator management must include the need for control by species, geographic area and season of year. The DWR will recommend cougar harvest if needed to benefit elk while maintaining the cougar as a valued resource to assure their future ecological, intrinsic, scientific, educational and recreational values.

Deer/Elk Competition: Concern has been expressed by some sportsmen and others that elk populations are responsible for declines in deer herds; however, there is currently little evidence to support that idea. Deer herd declines have occurred in areas where there are few or no elk, and deer herd increases have occurred in areas where there are large elk populations. There is also

concern that elk and livestock compete for the same forage on shared ranges. Ranges where elk coexist with mule deer and livestock should be closely monitored to prevent over use and competition. Additionally, habitat improvement projects should be focused in those areas to reduce competition and improve range conditions for all species.

2011 Fish Lake Elk Committee

In October 2011 the Fish Lake Elk Committee met to discuss the elk management plan and the possibility of increasing the population objective. This diverse committee consisted of public and private stakeholders that have a keen interest in the elk herd.

The representatives of the following interest groups were in favor of a population increase:

BLM

Sportsman rep #1

Sportsman rep #2

CWMU rep

Mule Deer Foundation

Sportsman for Fish and Wildlife

Rocky Mountain Elk Foundation

The representatives of the following interest groups were not in favor of a population increase:

USFS

RAC

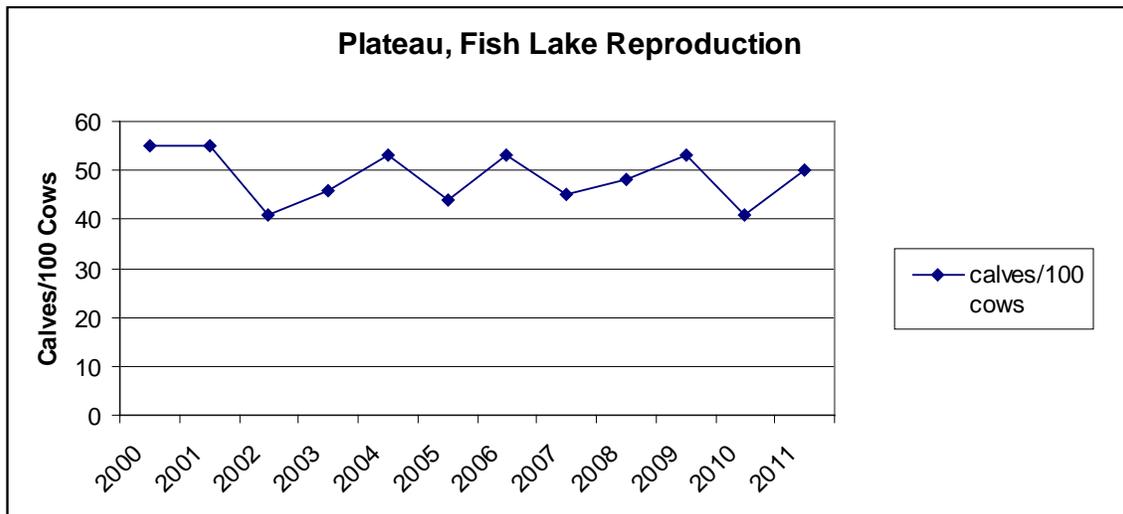
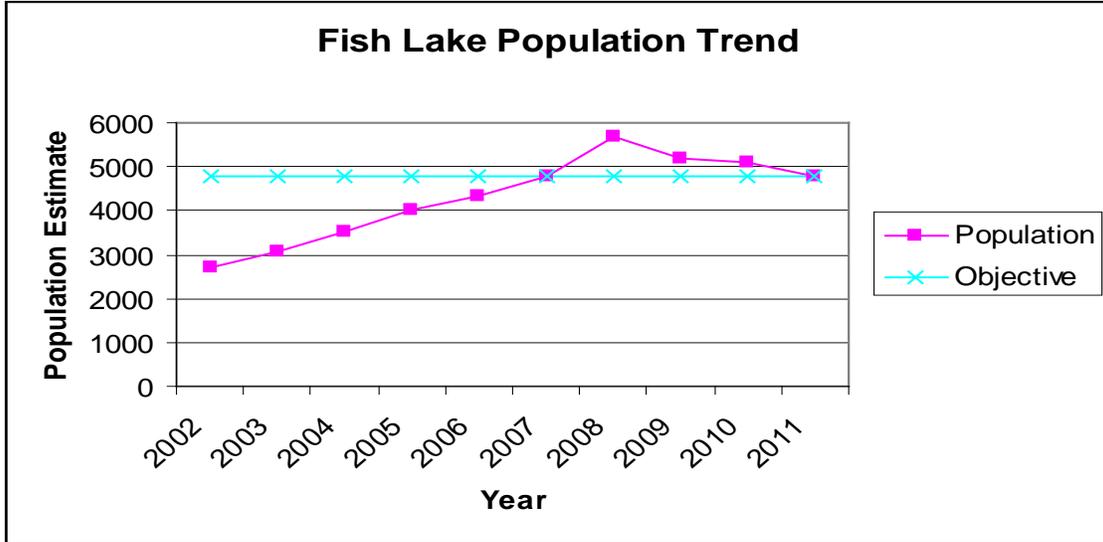
Utah Farm Bureau

Cattleman's Association

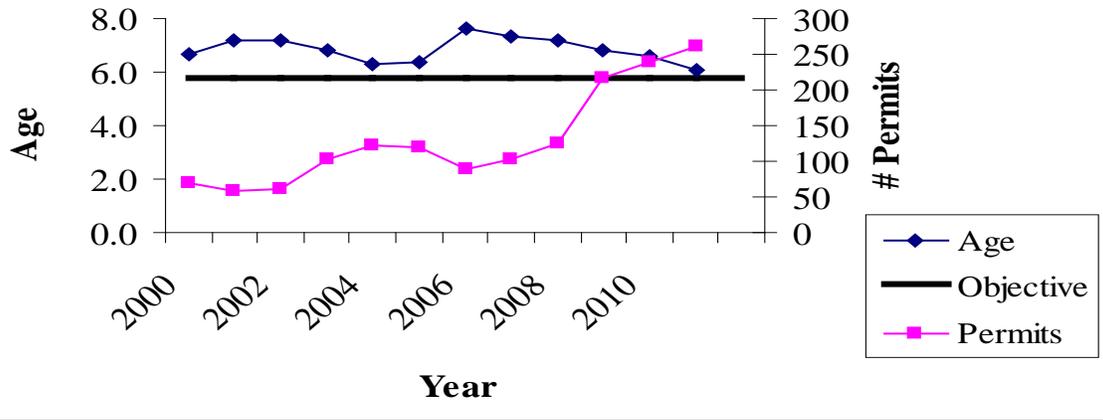
Wayne County Commissioner

Landowner/permittee

APPENDIX



Plateau, Fish Lake Bull Harvest



ELK HERD UNIT MANAGEMENT PLAN
Elk Herd Unit #25C/26
Plateau, Boulder/Kaiparowits
May 2012

BOUNDARY DESCRIPTION

Garfield, Piute, Kane and Wayne counties - Boundary begins at SR-24 and SR-62; south on SR-62 to SR-22; south on SR-22 to the Antimony- Widtsoe road; south on this road to SR-12; east on SR-12 to the Paria River; south along the Paria River to the Utah-Arizona state line; east along this state line to the shore of Lake Powell; northeast along the shore of Lake Powell to the Burr Trail; northwest on the Burr Trail Road to the Notom Road; north on the Notom Road to SR-24; west on SR-24 to SR-62.

LAND OWNERSHIP BOULDER

Boulder Sub-unit	Yearlong range		Summer Range		Winter Range	
	Area (acres)	%	Area (acres)	%	Area (acres)	%
Forest Service	7129	94	380439	89	223550	37
Bureau of Land Management	0		5614	1	257084	42
Utah State Institutional Trust Lands	186	2	39792	9	85131	14
Native American Trust Lands	0		0		0	
Private	234	3	1535	%	14977	2
Department of Defense	0		0		0	
USFWS Refuge	0		0		0	
National Parks	0		0		26028	4
Utah State Parks	0		0		0	
Utah Division of Wildlife Resources	0		0		281	%
TOTAL	7549	100	427380	100	607051	100

LAND OWNERSHIP KAIPAROWITS

Ownership	Yearlong range		Summer Range		Winter Range	
	Area (acres)	%	Area (acres)	%	Area (acres)	%
Forest Service	0	0	2033	38	8662	4
Bureau of Land Management	0	0	1544	29	184,072	85
Utah State Institutional Trust Lands	0	0	637	13	19,382	8
Native American Trust Lands	0	0	0	0	0	0
Private	0	0	1074	20	5461	2
Department of Defense	0	0	0	0	0	0
USFWS Refuge	0	0	0	0	0	0
National Parks	0	0	0	0	96	1
Utah State Parks	0	0	0	0	0	0
Utah Division of Wildlife Resources	0	0	0	0	0	0
TOTAL	0	0	5288	100	217,673	100

UNIT MANAGEMENT GOALS

Manage for a population of healthy animals capable of providing a broad range of recreational opportunities including hunting and viewing. Consider impacts of the elk herd on other land uses and public interests including private property rights, livestock grazing, agricultural crops and local economies. Maintain the population at a level that is within the long-term capability of the available habitat to support.

Conduct habitat projects to curb the invasion of pinyon-juniper on winter range areas and spruce-fir invasion in historic aspen communities. Sagebrush steppe ecosystems need to be assessed to determine productivity. Return these areas to productive plant communities by using all available management tools to create and maintain healthy and productive wildlife/elk habitat and plant communities.

UNIT MANAGEMENT OBJECTIVES

Habitat

Develop cooperative programs that encourage public and private land managers to maintain a stable or upward trend in desirable vegetative composition for wildlife species, with emphasis on high use areas, especially where we can entice animals away from agricultural depredation problem areas.

Water development - Work with land management agencies and livestock producers to enhance water sources, contribute to elk habitat and gain optimum animal distribution.

Encourage vegetation manipulation projects and seeding to increase the availability, abundance and nutritional content of browse, grass, and forb species.

Elk habitat will be monitored by current long-term vegetative trend studies, pellet group, and seasonal monitoring range tours.

Discourage the encroachment of pinyon-juniper (p/j) trees and spruce-fir (s/f) trees into sagebrush and other habitats. Seek opportunities to improve habitat through grazing practices, prescribed burning and mechanical treatments to improve habitat where p/j or s/f encroachment is occurring.

Population

Target Winter Herd Size - Achieve a winter population size of 1,525 wintering elk for the combined unit. (Computer modeled population).

At this time there will be no recommendation to increase the herd objective for the following reasons:

- 1) Habitat loss is occurring faster than habitat is being treated and restored, especially encroachment of pinyon-juniper and spruce-fir.
- 2) The deer herd is currently under objective and there is concern that more elk may further reduce deer numbers.
- 3) If an increase in the elk population objective is considered it must be based on range improvements and those improvements must be completed and producing results.

CURRENT STATUS OF ELK MANAGEMENT

Habitat

The overall range condition and total production for elk is good on summer range but limiting on winter range. Much of the winter range is covered with an advancing pinon-juniper forest. There are also concerns over decadent stands/monocultures of sagebrush species. Projects need to be identified and implemented that will restore and maintain these communities to a healthy and productive condition. On the summer range above 9000 feet the trend is toward a climax Engelman spruce forest that is eliminating aspen habitat and open meadows. Decadent aspen also need to be treated to regenerate stands. Due to successful habitat treatments, winter ranges on this unit are showing an upward trend.

Since 2006 there have been 26,204 acres treated through habitat improvement projects.

Project Title	Year Completed	Acres
Durfey Creek	2006	642
South Narrows Dixie Harrow	2006	22
Circle Cliffs	2006	932
Pretty Tree Bench Rx Burn	2006	541
North Narrows Dixie Harrow	2009	1369
North Slope Rehabilitation	2009	781
Rock Bench P-J	2010	900
North Narrows #2	2010	1049
Home Bench P-J		300
Mud Springs North	2010	400
Black Hills P-J		250
Coal Bench P-J		2000/ 800 completed
Antimony Creek S-F	2008	40
Whites/Pine Creek P-J	2010	1700
Oak Creek Rx Fire	1998 forward	1600
Sunflower Flat Rx Fire	2009	1337
Lower Bowns Chaining Maintenance	2006	572
Bear Creek Fire	2008	1464
Corn Creek Fire	2008	2200
Sawmill Point Aspen	In Progress	940
Dipping Vat	2011	800
South Creek P-J Removal	2010	125
South Creek Sagebrush Restoration	2010	500
Stump Springs Sagebrush	2011	260
Stump Springs Pine Underburn	In Progress	4053
Stump Springs P-J Burn	In Progress	568
Park Ridge	2008	732
Pollywog Rx Burn	2011	585
North Slope Chaining Maintenance	2010	742

The following are projects in the planning stage.

Project Title	Planned to begin	Acres
Boulder Foothills Fuels	2012	3601
Wide Hollow P-J		4000
Mitchell S-F	NFMA	75
Cowpuncher	2014	2000
Pockets, Aspen	2013	783
Clayton Springs S-F	2013	15
North Creek		300
Hungry Creek	2014	100
Stump Springs Pine Underburn	In Progress	4053

Stump Springs P-J Burn	In Progress	568
East Boulder Slope Rx Burn	NFMA	4000
Barney Top Aspen	2013	111
Iron Springs Asepn	2013	352
Jacobs S-F	2014	1000

Population

The elk population trend on this unit is currently near the objective of 1500 and slowly increasing. A total of 1186 elk were counted during a helicopter survey completed in February 2009. Using 75% sightability, the population on this unit is estimated to be 1500 elk. Over the last five years the bull harvest has been maintained at a stable level, while Limited Entry bull permits have decreased slightly. The average age of harvested bulls is currently 7.4, with a three year average of 7.6 years.

BARRIERS TO ACHIEVING UNIT MANAGEMENT OBJECTIVES

Habitat

The overall range condition and total production for elk is good on summer range but limiting on winter range. Much of the winter range is covered with an advancing pinyon-juniper forest. There are also concerns over decadent stands/monocultures of sage-brush species. Projects need to be identified and implemented that will restore and maintain these vegetative communities to a healthy and productive condition. On summer range above 9000 feet, the trend is toward a climax Engleman spruce forest that is eliminating aspen habitat and open meadows. Decadent aspen also need to be treated to regenerate the stand. Excessive habitat utilization will be addressed.

Population

This unit is in the oldest age category for average age of harvest of Limited Entry bull elk. The three year average age of harvest is 7.6 years, within the objective of 7.5-8.0.

Other Barriers

Crop Depredation - The Division of Wildlife Resources will maintain programs to reduce the burden of elk depredation on private cultivated and stored agricultural crops. When depredation problems occur, the DWR will follow the legislative laws, policies, and procedures of the Utah's Landowner Assistance Program for big game. The DWR will recommend antlerless hunts where needed. If emergency situations arise, local biologists may call depredation hunts and/or issue mitigation permits to reduce elk damage on cultivated and stored agricultural crops. These hunts will be specified in areas to target offending animals. Legislative laws, polices, and procedures will also be followed to lessen the burden of big game on private rangelands.

Predation - The DWR recognizes the need to efficiently and effectively manage

predators. The DWR promotes a predator management philosophy and recognizes predator management to be a viable and legitimate wildlife management tool that must be available to wildlife managers when needed. The DWR will recommend cougar harvest if needed to benefit elk while maintaining the cougar as a valued resource to assure their future ecological, intrinsic, scientific, educational and recreational values.

Highway Mortality - Cooperate with the Utah Department of Transportation in construction of highway fences, passage structures and warning signs, etc.

Illegal Harvest - Should illegal harvest become an identified and significant source of mortality develop specific preventive measures within the context of an Action Plan in cooperation with the Law Enforcement Section.

Drought- When a drought event occurs and the elk population is at objective an emergency hunt should be instituted immediately to reduce elk numbers and relieve pressure on the habitat resource.

STRATEGIES FOR REMOVING BARRIERS AND REACHING UNIT MANAGEMENT OBJECTIVES

Habitat

Monitoring

Continue to monitor permanent range trend studies located throughout the winter range.

Develop cooperative programs that encourage public and private land managers to maintain a stable or upward trend in vegetative composition with emphasis on high use areas, especially where we can entice animals away from critical agricultural depredation problem areas.

Encourage vegetation manipulation projects and seeding to increase the availability, abundance and nutritional content of browse, grass, and forb species.

Elk habitat will also be monitored by pellet trend studies and seasonal monitoring range tours.

Actions to Remove Habitat Barriers

Maintain and/or enhance forage production through habitat improvement projects throughout the unit on winter range to achieve population management objectives.

Work with private and federal agencies to maintain and protect crucial and existing winter range from future deterioration or habitat loss.

Provide improved habitat security and escapement opportunities for elk.

Population

Monitoring

Population Size - The population is monitored using harvest data, aerial trend counts and classification, preseason classification, and survival estimates. The wintering population on this unit varies because of the influx and outflow of animals from the Dutton, Monroe and Fishlake/Thousand Lakes units. Movement data obtained from telemetry studies indicate that significant numbers of elk from those units at times winter on the Boulder/Kaiparowits Unit.

Sub-Unit #25C - The north-west portion of the subunit (Parker Mountain rim area) will be counted and modeled as part of subunits 25A & B (Fishlake/Thousand Lakes).

Bull Age Structure - Monitor age class structure of the bull population through the use of checking stations, uniform harvest surveys, tooth aging, field bag checks, preseason classification and aerial classification.

Harvest - The primary means of monitoring harvest will be through the statewide uniform harvest survey. Target population size will be maintained through the use of antlerless harvest using a variety of harvest methods and seasons. Ages will be obtained from harvested bulls through tooth age data.

Actions to Remove Population Barriers

Work to improve habitat to a point where an increase in elk objective could be considered through the management plan process.

Implement habitat projects for the purposes of healthy range for healthier herds.

Work with private landowners to ensure depredation is maintained within tolerable levels, and will not become a limiting factor.

**ELK UNIT MANAGEMENT PLAN
PAUNSAUGUNT WMU #27
MAY 2012**

A. OVERALL ELK UNIT MANAGEMENT GOALS

- a. Manage for a population of healthy animals capable of providing a broad range of recreational opportunities including hunting and viewing.
- b. Balance elk herd impacts on human needs such as private property rights, agricultural crops, other big game species and local economies.
- c. Maintain the population at a level that is within the long-term capability of the available habitat and that does not negatively impact the mule deer population.
- d. Continue with limited entry unit and cooperative programs with landowners association and Alton Cooperative Wildlife Management Unit.

B. UNIT HABITAT MANAGEMENT OBJECTIVES

- a. Continue to be committed to the statewide goal of supporting habitat projects that increase forage for both big game and livestock.
- b. Work with private, state and federal agencies to maintain and protect crucial and existing range from future losses. Continue projects with USFS, BLM, state and private entities to enhance wildlife habitat.
- c. Provide improved habitat security and escapement opportunities for elk through support and cooperation of approved Dixie National Forest Travel Plan.
- d. Encourage the maintenance and development of water sources throughout the unit. Focus on providing water sources in remote areas or on abandoned sources such as old water trough's, ponds, and tanks that can benefit both livestock and wildlife.
- e. Discourage the encroachment of pinyon and juniper (PJ) trees into sagebrush and other habitats. Seek opportunities to improve habitat through grazing practices, prescribed burning, and mechanical treatments to improve habitat where PJ encroachment is occurring.

i. HABITAT MANAGEMENT STRATEGIES

- 1. Provide for habitat projects in focus areas including Hatch Bench – winter range (SITLA/USFS), East Fork Sevier River – calving/summer range (USFS), and Skutumpah Terrace and Glendale Bench – year long range (BLM).
 - a. Focus on the three priority improvements identified by the 2011 elk committee including water development and maintenance, winter range enhancement, and summer range enhancement.

- i. Work with USFS to continue projects with guzzlers,

riparian improvement, and timber harvest in key calving habitat on the East Fork.

1. Timber harvest on USFS lands was highly supported by the 2011 elk committee.
- ii. Work with the BLM and Grand Staircase Escalante National Monument to continue projects on vegetation enhancement, PJ encroachment, guzzlers, ponds and water distribution.
 1. Habitat restoration in the Kanab Creek drainage was highly supported by the 2011 elk committee.
2. Continue to monitor the permanent range trend studies located throughout the winter range. Work with state range trend monitoring crew to establish new trend studies in areas where elk use or trend is a concern.
3. Encourage and provide support to other land management agencies, private landowners, and stakeholders when developing habitat projects that will enhance or improve elk habitat throughout the management unit.
4. Encourage habitat restoration project funding proposals through a diversity of sources including UPCD and Alton Coal.

ii. **CURRENT STATUS OF ELK HABITAT MANAGEMENT**

1. Overall, elk habitat on the Paunsaugunt WMU is good with stable range conditions throughout most of their range. Some challenges facing elk habitat include conifer encroachment of aspen stands, degradation of rangelands by increased woody vegetation, and water availability.
2. Many habitat restoration projects have been completed in the past 5-10 years that have improved elk habitat. There are also several thousand acres across the unit currently proposed for treatment. Many of these projects are listed in Appendix 2.

iii. **BARRIERS TO ACHIEVING UNIT HABITAT MANAGEMENT OBJECTIVES**

1. Water distribution, development and maintenance.

2. Degradation of summer and winter rangelands.
3. Conifer encroachment of aspen stands.

iv. **STRATEGIES FOR REMOVING BARRIERS AND REACHING UNIT HABITAT MANAGEMENT OBJECTIVES**

1. Use range trend and habitat improvement data to make appropriate decisions regarding population objectives. Antlerless harvest may be recommended if there is excessive habitat utilization.
2. Support habitat improvement projects in the Skutumpah Terrace and Glendale Bench areas that could attract elk and other wildlife away from private land at lower elevations. Focus on public lands in pinyon and juniper or sagebrush areas.
3. Continue to focus on improving habitat in upper elevation calving habitat on the East Fork of the Sevier River. Projects that provide for aspen and water at higher elevations would be beneficial.
4. Conduct large-scale habitat projects to help prevent elk and other wildlife from concentrating on isolated patches of improved habitat.
5. Encourage projects on private land that maintain habitat for elk over the long-term.
6. Work closely with State Trust Lands (SITLA) to conserve crucial/key winter habitat along the Hatch Bench.
7. Continue projects with USFS, BLM, state and private landowners to enhance overall elk habitat.
8. To reduce potential negative impacts on the mule deer population, habitat projects will be needed to improve range conditions on both summer and winter ranges.

C. UNIT POPULATION MANAGEMENT OBJECTIVES

- a. Target Winter Herd Size – 140 total elk wintering across the unit. This is a reduction from the previous plan as a result of the 2011 elk committee recommendation. This recommendation was made largely to provide antlerless harvest opportunities and reduce potential negative impacts to mule deer on a premium mule deer unit. Comments from the 2011 elk committee are listed in Appendix 3.

i. **CURRENT STATUS OF ELK POPULATION MANAGEMENT**

1. In recent years, wintering elk numbers have increased in the Skutumpah area. Prior to winter 2009-10, very few elk were counted during aerial surveys since the Paunsaugunt was mainly used by elk in the summer months (Figure 1). With the recent expansion, there are currently 2 different wintering herds on the Paunsaugunt; Hatch Bench and Skutumpah Terrace/Glendale Bench. The Mt Dutton telemetry research suggests the Hatch Bench segment may also utilize areas on Mt Dutton during the winter months.
2. Population modeling is extremely difficult since the Paunsaugunt winters few elk in comparison to adjacent units and experiences higher numbers during summer months (Figure 2) when aerial surveys are impractical.

ii. **POPULATION MANAGEMENT STRATEGIES**

1. Population Size – Aerial counts and annual preseason classification surveys will be used to monitor the population. Opportunistic ground surveys in the winter months appear to also provide some useful trend data due to low overall numbers.
2. Antlerless harvest using a variety of harvest methods and seasons will be the primary means to achieving the wintering population objectives and reducing potential negative impacts to mule deer. The Skutumpah area should be a focus for any antlerless harvest since this wintering herd is the closest to mule deer winter range. Antlerless harvest may be used if there is evidence of negative impacts to mule deer on additional ranges.
3. Harvest - Harvest data is acquired through hunter harvest surveys.

iii. **BARRIERS TO ACHIEVING UNIT POPULATION MANAGEMENT OBJECTIVES**

1. Depredation – Many of the local landowners and livestock owners on the unit worry that an increase in the elk population would increase damages due to elk depredation.
2. Political - Many people in the area are opposed to an increase in elk numbers on the unit. Many of these people feel that an increase in the elk population may negatively impact mule deer, which are managed as a premium unit.

3. Illegal Harvest - Illegal harvest can be a significant source of mortality.

iv. **MANAGEMENT ACTIONS TO REMOVE POPULATION BARRIERS**

1. Depredation -Take all steps necessary to minimize depredation as prescribed by state law and DWR policy. Maintain the Alton CWMU and Paunsaugunt Elk Landowners Association to compensate for elk use of private lands.
2. Political – Effectively address situations where elk negatively impact mule deer habitat or populations. Closely monitor for signs of negative competition between the two species. Look for and take advantage of opportunities to convey these efforts to the public. Also, look for and take advantage of opportunities to convey to the public DWR efforts to handle depredation issues.
3. Illegal Harvest - If illegal harvest is identified as a significant source of mortality, attempt to develop specific preventive measures within the context of an “Action Plan” developed in cooperation with the Law Enforcement Section.

D. UNIT RECREATION MANAGEMENT OBJECTIVES

- a. Bull Harvest Objective - Manage for a 4.5-5.0 year average age of harvested bulls.

i. **RECREATION MANAGEMENT STRATEGIES**

1. Bull Age Structure - Monitor age class structure of the bull population through the use of uniform harvest surveys, field bag checks, preseason classification and aerial classification. Comments concerning bull harvest from the 2011 elk committee are available in Appendix 3.
2. Harvest - Bull harvest strategies will be developed to achieve management objectives (Figure 3). Currently, the Paunsaugunt unit is above the harvest age objective (Figure 4.)
 - a. There has been some conflict in balancing opportunity and quality in bull harvest strategies. A goal of this plan is to continue a public relations effort to promote the importance of maintaining the specified average age of harvested bulls.

Figure 1. Population estimates and antlerless harvest of elk on Paunsaugunt WMU #27.

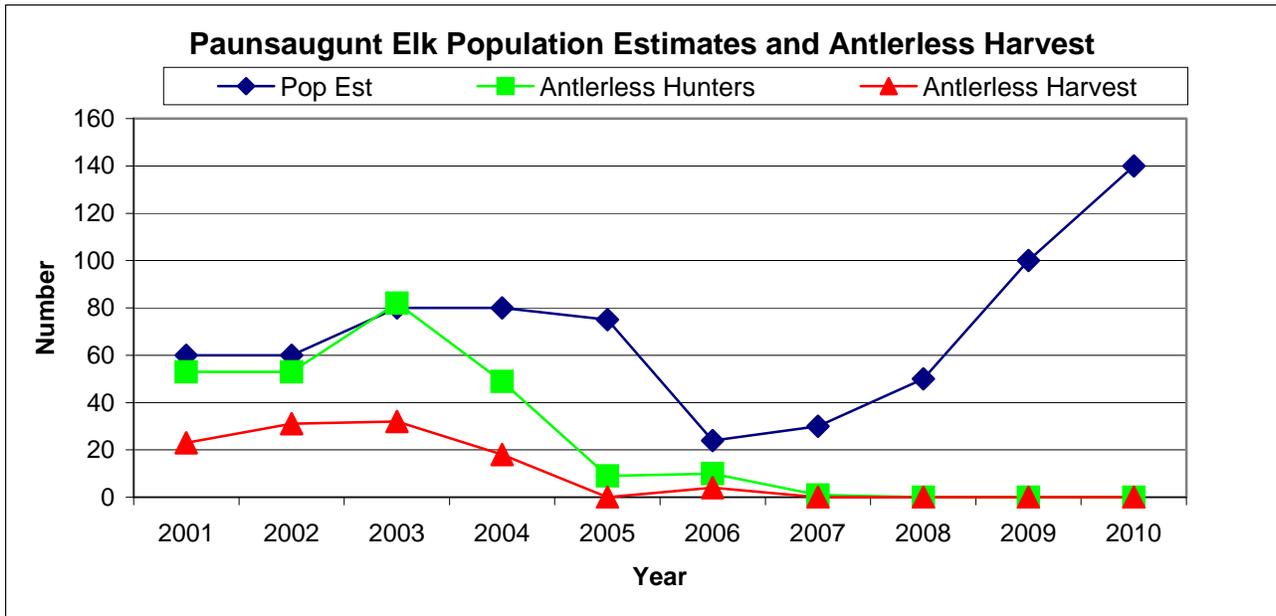


Figure 2. Trend of preseason classification surveys (July-August) on Paunsaugunt WMU #27.

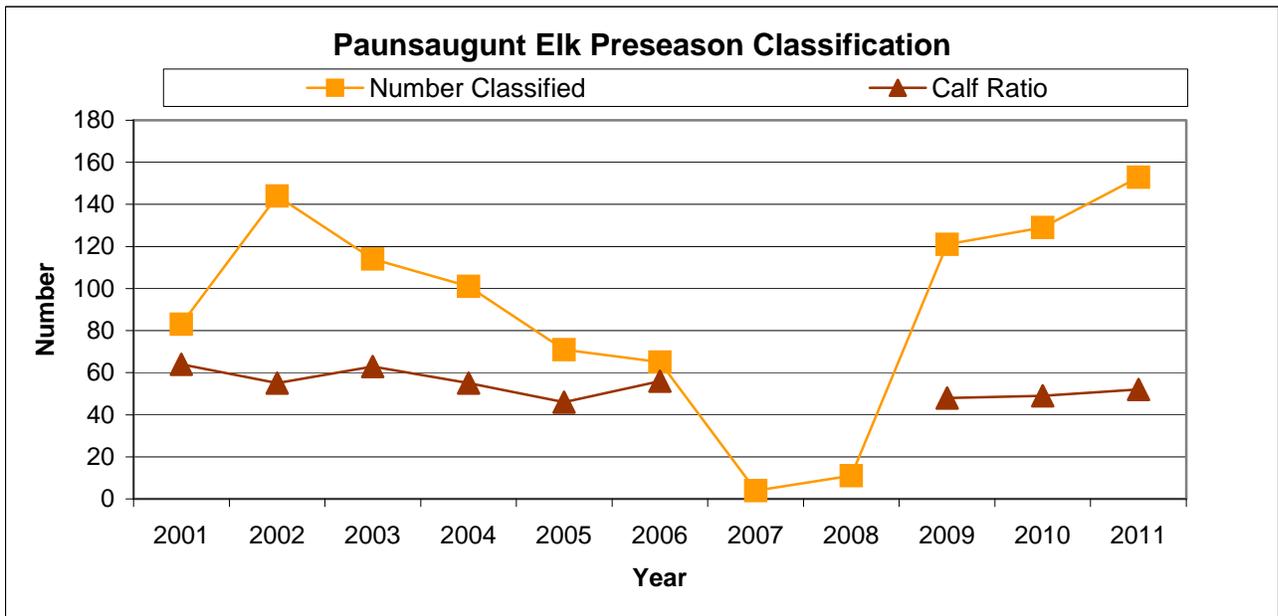


Figure 3. Trend of limited entry bull elk permits and harvest on Paunsaugunt WMU #27.

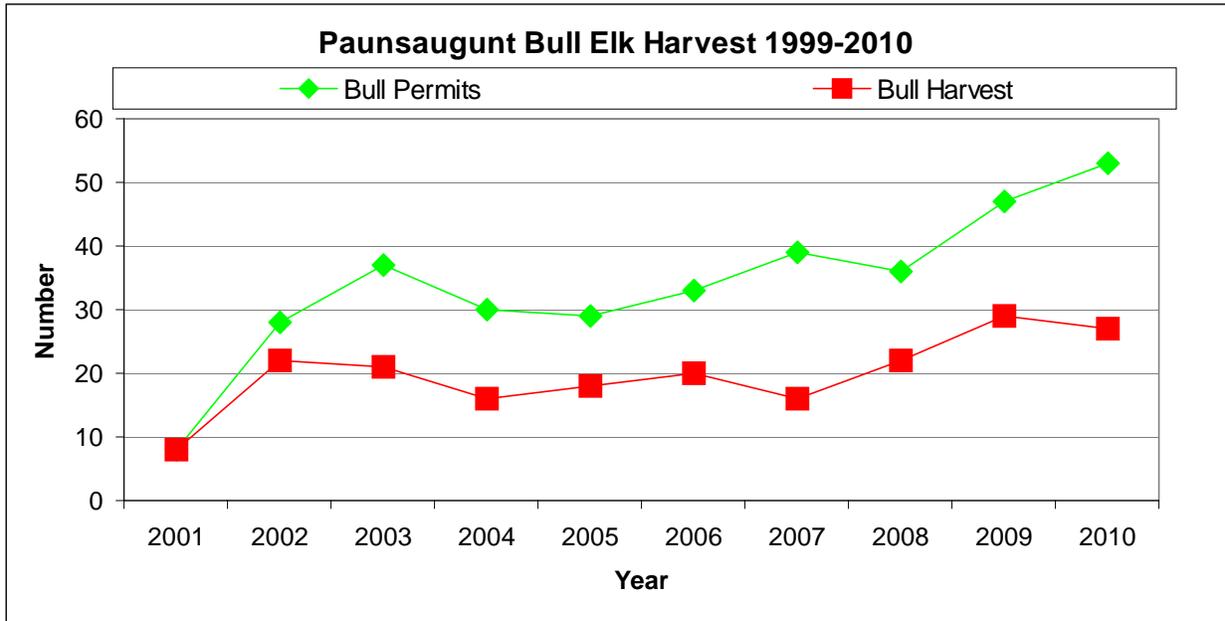
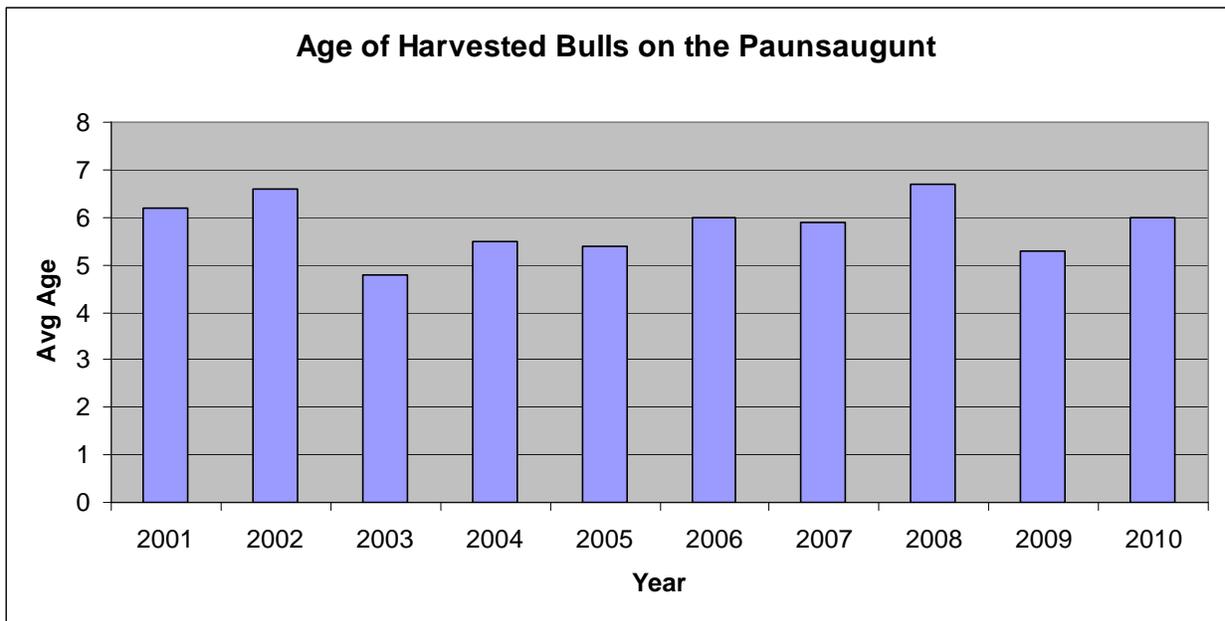


Figure 4. Average age of harvested bull elk on Paunsaugunt WMU #27.



Appendix 1. Approximate landownership on the Paunsaugunt WMU #27.

RANGE AREA AND APPROXIMATE OWNERSHIP*

Ownership	Yearlong range		Summer Range		Winter Range	
	Area (acres)	%	Area (acres)	%	Area (acres)	%
Forest Service	0	0	94,519	64	0	0
Bureau of Land Management	0	0	7862	5	40,673	73
Utah State Institutional Trust Lands	0	0	2779	2	3925	7
Native American Trust Lands	0	0	0	0	0	0
Private	0	0	41,358	28	11,058	20
Department of Defense	0	0	0	0	0	0
USFWS Wildlife Refuge	0	0	0	0	0	0
ONational Parks	0	0	618	1	0	0
Utah State Parks	0	0	0	0	0	0
Utah Division of Wildlife Resources	0	0	0	0	0	0
TOTAL	0	0	147,136	100	55,656	100

Paunsaugunt Elk Habitat	Sum_Acres	% of available habitat	% of WMU
Summer Crucial	60615	17	6
Summer Substantial	83854	23	9
Winter Crucial	17489	5	2
Winter Substantial	20991	6	2
Year Long Substantial	175970	49	18
TOTAL ELK HABITAT	358919	100	37
Wildlife MGMT Unit Total Area	957122		100

Appendix 2. Recent habitat projects in elk habitat on the Paunsaugunt WMU #27.

BLM-Alton Sink Valley Bullhog/Seeding (800 ac) (2005/2006)
 BLM Alton Sink Valley Lop and Scatter 200 ac 2005/2006
 BLM (GSENM)Ford Pasture Bull Hog-XXX acres
 BLM Mill Creek/Alton Sagebrush Restoration-1700 acres lop and scatter
 BLM Mill Creek Sagebrush Restoration 1700 acres (2007)
 BLM Ford Fire Rehab300 acres (2007)
 Upper Kanab Creek Restoration (Fire and Fuels) 500 ac (2007)

Paunsaugunt WMU #27 habitat projects listed in WRI database 2006-2011.

APPROVE D DATE	PROJECT_ID/ MAP LABEL	TITLE	YEAR COMPLETED	Acres
2011	1696	Black Mountain Clearing	Planned/In	324
2009	1410	Ahlstrom Hollow	Planned/In	4727
2012	2064	2012 North Paunsaugunt habitat	Planned/In	482
2011	1657	Upper Kanab Creek Seeding Maintenance	Planned/In	2702
2011	2069	Hatch Bench Habitat Improvement	Planned/In	5907
2006	301	Merlin Esplin Discretionary Seeding	2006	111
2006	305	Bruce Bunting Discretionary Seeding	2006	122
2006	340	John Bramall Seed Contribution	2006	114
2006	120	Alton Sink Valley	2006	821
2006	302	Jim Guthrie Discretionary Seeding	2006	84
2007	653	Karl Heaton Seed Contribution FY07	2007	127
2007	655	Merlin Esplin Seed Contribution FY07	2007	455
2007	654	Kurt Brinkerhoff Seed Contribution FY07	2007	50
2007	656	Roger Holland Seed Contribution FY07	2007	211
2008	985	J.G. Seed Donation	2008	245
2008	1052	Ma. Spencer Seed Donation	2008	442
2008	990	K.B. Seed Donation	2008	17
2008	1044	Da. Johnson Discretionary Seed	2008	43
2009	1169	Five Mile Mountain Habitat Restoration	2009	267
2009	1169	Five Mile Mountain Habitat Restoration	2009	1043
2009	1313	Mill Creek Aerial Seeding	2009	912
2009	1308	Heaton Discretionary Seed	2009	36
2008	900	Alton/Mill Creek Sagebrush Restoration -	2009	912
2010	1170	Buckskin Mountain Phase III	2010	1867

**Total = 22,022
acres**

Appendix 3. Summary from the 2011 elk committee for Paunsaugunt WMU #27.

Meeting was well attended and lasted approximately 4 hours. The agenda involved discussing all portions in the existing plans under the following topics: habitat, population, and recreation. A powerpoint was used to assist in presentation of the data as well as a tool to maintain a focused discussion. The powerpoint provided opportunity to view habitat project maps and current status of elk population management on the unit.

HABITAT

Discussion included a range of topics that included current and proposed work on both BLM and USFS. USFS is currently working on large scale EA's to improve aspen and riparian areas, and also had a discussion on their travel plan. BLM gave an update on the Kanab Creek EA and the Alton Coal federal lease.

Farm Bureau expressed concern about private lands projects improving grass (and elk habitat) on the Glendale bench and a protest by UDWR based on sage grouse. Improved communication was discussed.

RAC member discussed competition between elk and deer was discussed and how the Paunsaugunt deer population has been cut due to habitat concerns.

Comments

- Need to encourage more projects on federal lands (CATTLEMEN)
- Concerns about GSENM bailing out of projects (Kanab Creek EA) (LANDOWNER)
- Include broad encouragement statement of support on Pauns timber sale (USFS)
- Include broad statement to involve Alton Coal in off-site mitigation (ALL)
- Monitoring projects (and range trend) should include private lands (FARM BUREAU)
- Look into adding range trend transect in Mill Creek Area (ALL)

POPULATION

Discussion about the language about an agreement to manage for 300 summering population. The USFS and BLM is not aware of this "agreement" but did agree to research this before we remove it from the plan. The CWMU felt there should be a summer objective. Tolerance of elk is very low below the white cliffs, and the Cattlemen Assoc. believed the antlerless boundary for "Skutumpah" should be extended south to the state line. Discussion about "blue-light special" antlerless permits was discussed for the lower portion of the Paunsaugunt.

All agreed to remove the language that talked about conducting spring flights since it is not feasible. All agreed to look into extending the Dutton elk research to better estimate elk numbers summering on the pauns.

Discussed spike archery cow harvest opportunity. Look into allowing this regardless of winter population status and base it on at least 2 of 3 adjacent WMU's population status.

CWMU felt that the system is backwards in that the unit plan has to conform to the statewide plan. They should listen to the local people on the ground and go from there. County Commission agreed and stated the people on top will just do what they want anyway. Also feels that the federal agencies are taking away the rights of private citizens.

We went around the table and had everyone discuss how many wintering elk should be on the Pauns in their opinion and why.

Comments

- CWMU – 100 – feels this would mean there would be 200 summering, which private landowners can handle. Just wants dead elk.
- Sportsmen – 125 – need to reduce but not that drastically and would like to see it more of a deer unit.
- Landowner – 100 – worried about elk not migrating and increased depredation. Also very concerned that GSENM are going behind our backs.

- County Commission – no comment
- USFS – 175 - no increase since there is no data to support it. Does not want to decrease due to possible implications about reductions in hoofed animals
- Farm Bureau – 100 – depredation concerns and competition with deer
- BLM – 175 – no increase but don't decrease. Elk are another reason to get habitat work done
- RAC – 100 – competition with deer. Deer numbers have been cut back and want elk down until deer are back up.
- SFW – 100-125 – need cow hunting opportunity, lower tolerance on the south end
- Sportsmen – 140 – concerned about feds getting funding to get projects done if we cut too much at once. This would also allow for cow hunting opportunity.
- Cattlemen – 140 – worried about dropping too much too fast in terms of getting habitat projects done. 99% of the projects are being done by the private landowner. Give the antlerless permits to the youth.

RECREATION

Discussion was based on the idea of open bull unit. It was realized that increased bull hunting opportunities would increase hunters on the unit and not decrease population size. Also was realized that the LOA and CWMU would no longer get permits. It was unanimous that we leave the unit limited entry bull hunting.

Everyone also agreed on the prospect of a late bull hunt to increase opportunity and reach age objectives.

Comments

USFS – as a hunter, appreciated not being overrun with elk hunters during his deer hunt

RAC – leave it the way it is if landowners won't get their permits. Recognized how many hunters open bull would mean

CWMU – leave it despite wanting less elk.

**ELK UNIT MANAGEMENT PLAN
PANGUITCH LAKE WMU #28
MAY 2012**

A. OVERALL ELK UNIT MANAGEMENT GOALS

- a. Manage for a population of healthy animals capable of providing a broad range of recreational opportunities including hunting and viewing.
- b. Balance elk herd impacts on human needs such as private property rights, agricultural crops and local economies.
- c. Maintain the population at a level that is within the long-term capability of the available habitat to support.
- d. Continue with the limited entry bull harvest strategy.

B. UNIT HABITAT OBJECTIVES

- a. Continue to be committed to the statewide goal of supporting habitat projects that increase forage for both big game and livestock.
- b. Maintain and/or enhance forage production through direct range improvements throughout the unit to achieve population management objectives.
- c. Work with private, state and federal agencies to maintain and protect crucial and existing range from future losses. Continue projects with USFS, BLM, state and private entities to enhance overall elk habitat.
- d. Provide improved habitat security and escapement opportunities for elk through support and cooperation of approved Dixie National Forest Travel Plan.
- e. Encourage the maintenance and development of water sources throughout the unit. Focus on providing water sources in remote areas or on abandoned/sources such as old water troughs, ponds, and tanks that can benefit both livestock and wildlife.
- f. Discourage the encroachment of pinyon and juniper (PJ) trees into sagebrush and other habitats. Seek opportunities to improve habitat through grazing practices, prescribed burning, and mechanical treatments to improve habitat where PJ encroachment is occurring.
- g. Work with land management agencies to improve calving habitat and minimize disturbance in these areas. Seek opportunities to improve aspen communities, and some sagebrush ranges where calving and foraging are occurring.

i. CURRENT STATUS OF ELK HABITAT MANAGEMENT

- 1. Overall, elk habitat on the Panguitch Lake WMU is good with stable range conditions on most of the unit. Some challenges facing elk habitat include; 1) conifer encroachment of aspen stands, 2) degradation of rangelands by increased woody vegetation, and 3) water availability.

2. Many habitat restoration projects have been completed in the past 5-10 years that have improved elk habitat. There are also several thousand acres across the unit currently proposed for treatment. Many of these projects are listed in Appendix 2.

ii. **BARRIERS TO ACHIEVING UNIT HABITAT MANAGEMENT OBJECTIVES**

1. Rangelands are degraded by increased woody vegetation. Canopy closure is a landscape wide problem across the unit with pinion/juniper and mountain mahogany stands. Pinion/juniper has encroached beyond its historical range due to fire suppression. Many mountain mahogany south facing slopes are old, overgrown, decadent stands. Private landowners, livestock permittees, federal and state land management agencies and the Utah Division of Wildlife Resources are encouraged to work together to conduct landscape wide treatments.
2. Conifer encroachment into aspen stands reduces important habitat function in important calving areas including reduced forage productivity and watershed performance. In an effort to regenerate aspen communities, land managers are encouraged to use fire, mechanical or chemical treatments on landscape level projects.
3. New water developments and maintenance of existing water sources continues to be a priority across the unit. Wide scale habitat restoration projects are preferred to rehabilitate many watersheds. Livestock permittees have historically created structures to collect and store water; however, these ponds and earthen dams have filled with sediments or been damaged by flooding and need regular maintenance. Private landowners, livestock permittees, federal and state land management agencies and the Utah Division of Wildlife Resources are encouraged to cooperate to complete landscape habitat restoration projects, develop new water sources and maintain historic developments, which will improve distribution of both big game and livestock.

iii. **STRATEGIES FOR REMOVING BARRIERS AND REACHING UNIT HABITAT MANAGEMENT OBJECTIVES**

1. Use range trend and habitat improvement data to make appropriate decisions regarding population objectives. Antlerless harvest may be recommended if there is excessive habitat utilization.
2. Encourage USFS and BLM to control uses that negatively impact bottomlands and riparian areas.

- a. Areas identified by the 2011 committee include Deer Creek, Little Valleys, and adjacent to the Cedar Breaks National Monument.
- 3. Focus on maintaining investments in habitat projects such as seedings, chainings, and water developments.
 - a. The 2011 committee was very supportive of cooperative water developments and encourages funding proposals beyond UPCD.
 - b. A goal from the 2011 committee was to encourage at least 10,000 acres of treatment in elk habitat during this plan.

C. UNIT POPULATION OBJECTIVES

- a. Target Winter Herd Size – 1100 total elk wintering across the unit.

- i. **CURRENT STATUS OF ELK POPULATION MANAGEMENT**

- 1. The unit elk committee met in October 2011 to discuss population objectives. It was recommended to maintain the 1100 wintering elk objective for the duration of this plan. The objective may increase in the next plan revision if habitat projects continue and range trends continue to improve. The 2011 elk committee’s comments are attached in Appendix 3.
- 2. During the January 2010 aerial survey, 628 elk were counted resulting in a winter population estimate of 785. Since the unit was below the population objective, antlerless harvest was suspended (Figure 1). Preseason classification surveys have shown in good calf production, which should result in stable to increasing overall elk numbers (Figure 2).

- ii. **POPULATION MANAGEMENT STRATEGIES**

- 1. Population Size – Aerial surveys and annual preseason classification surveys (July – August) will be used to monitor the population. Population modeling will also be used to generate annual postseason (winter) population estimates. Antlerless harvest using a variety of harvest methods and seasons will be the primary means to achieving the wintering population objective.
- 2. Harvest - Harvest data is acquired through hunter harvest surveys.

iii. **BARRIERS TO REACHING POPULATION OBJECTIVES**

1. Crop Depredation – Many of the local landowners and livestock permittees on the unit are concerned that an increase in the elk population would increase damages due to elk depredation.
2. Illegal Harvest - Illegal harvest can be a significant source of mortality.

iv. **ACTIONS TO REMOVE POPULATION BARRIERS**

1. Crop Depredation -Take all steps necessary to minimize depredation as prescribed by state law and DWR policy. Continue the cooperative program with Panguitch Lake Landowners Association.
2. Illegal Harvest - If illegal harvest is identified as a significant source of mortality, attempt to develop specific preventive measures within the context of an “Action Plan” developed in cooperation with the Law Enforcement Section.

D. UNIT RECREATION OBJECTIVES

- a. Bull Harvest Objective - Manage for 5.5–6.0 year average age of harvested bulls as outlined in the Statewide Elk Management Plan.

i. **UNIT RECREATION MANAGEMENT STRATEGIES**

1. Bull Age Structure - Monitor age class structure of the bull population through the use of harvest surveys and tooth analysis. Additionally, data will be analyzed from preseason classification surveys, aerial census surveys, check stations, and field hunter checks.
2. Harvest - Bull harvest strategies will be developed to achieve management objectives (Figure 3). Comments concerning bull harvest from the 2011 elk committee are available in Appendix 3. Currently, the Panguitch Lake unit is achieving the bull harvest age objective (Figure 4).
 - a. There has been some conflict in balancing opportunity and quality in bull harvest strategies. A goal of this plan is to continue a public relations effort to promote the importance of maintaining the specified average age of harvested bulls.

Figure 1. Population estimates and antlerless harvest of elk on Panguitch Lake WMU #28.

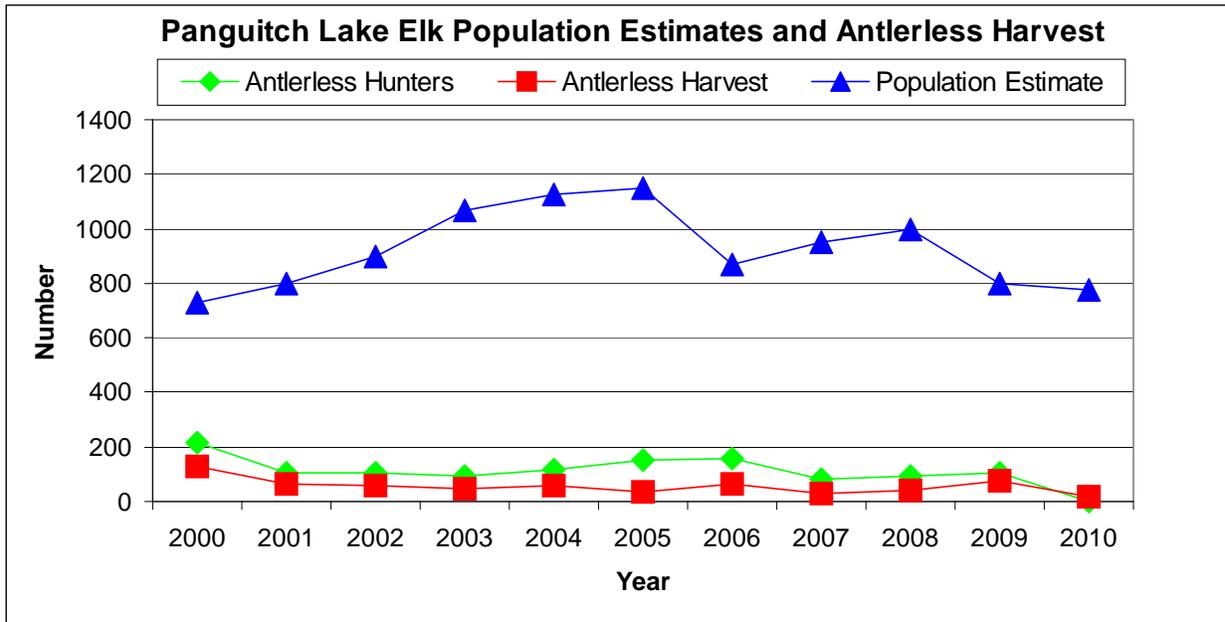


Figure 2. Preseason classification surveys of elk on Panguitch Lake WMU #28.

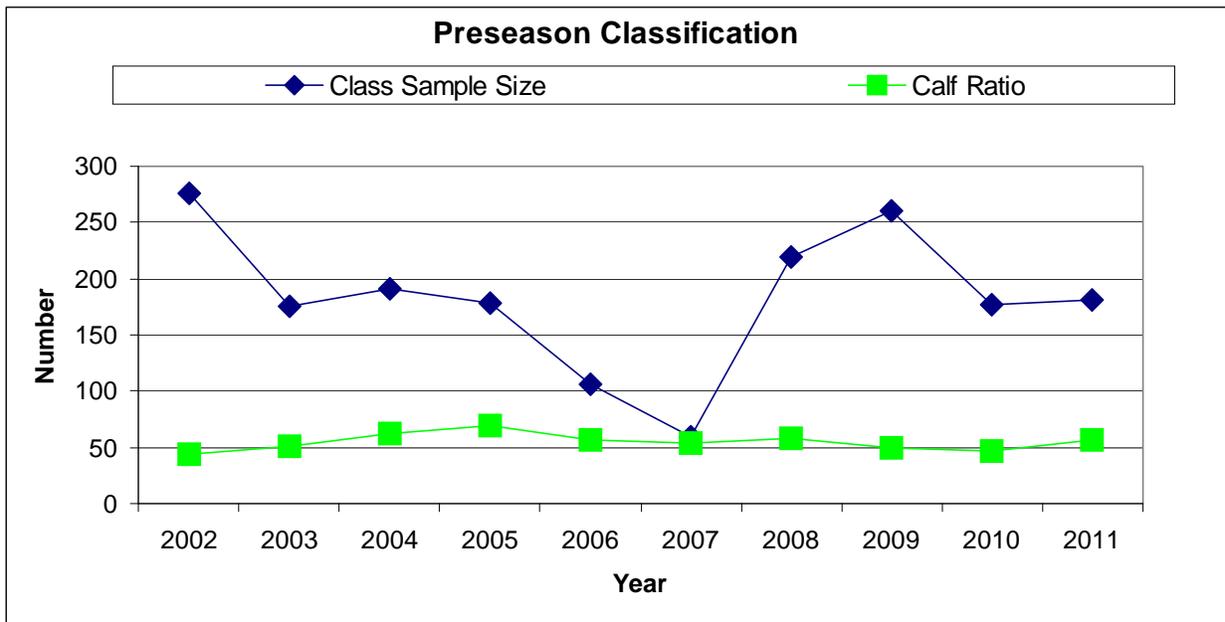


Figure 3. Trend of limited entry bull elk permits and harvest on Panguitch Lake WMU #28.

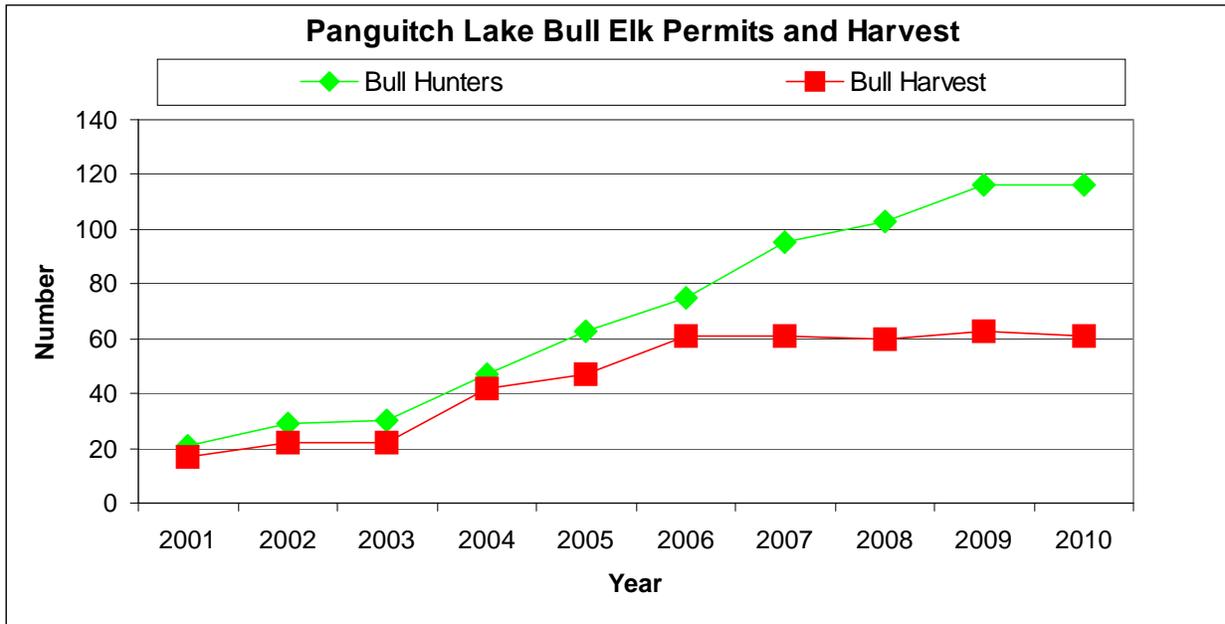
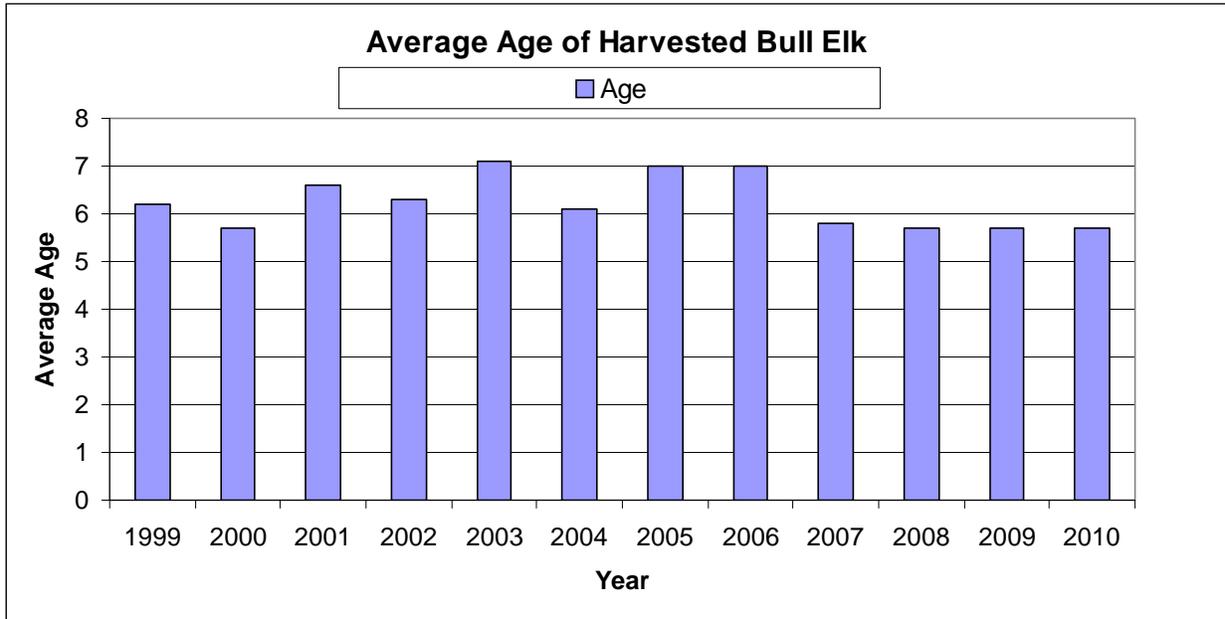


Figure 4. Average age of harvested bull elk on Panguitch Lake WMU #28.



Appendix 1. Approximate landownership on the Panguitch Lake WMU #28.

RANGE AREA AND APPROXIMATE OWNERSHIP*

Ownership	Yearlong range		Summer Range		Winter Range	
	Area (acres)	%	Area (acres)	%	Area (acres)	%
Forest Service	0	0	238,300	75	47,560	53
Bureau of Land Management	0	0	14,578	5	29,845	33
Utah State Institutional Trust Lands	0	0	3498	2	3544	8
Native American Trust Lands	0	0	0	0	0	0
Private	0	0	49,000	15	8828	5
Department of Defense	0	0	0	0	0	0
USFWS Refuge	0	0	0	0	0	0
National Parks	0	0	6005	2	0	0
Utah State Parks	0	0	0	0	0	0
Utah Division of Wildlife Resources	0	0	1289	1	27	1
TOTAL	0	0	312,670	100	89,804	100

Panguitch Lake WMU Elk Habitat Summary Table

SEASON	VALUE	ACRES	% of available habitat	% of WMU
SUMMER	All	311272	74	55
summer	crucial	42181	10	7
summer	substantial	269091	64	48
WINTER	All	86302	21	15
Winter	Crucial	0	0	0
winter	substantial	86302	21	15
year-long	substantial	21164	5	4
TOTAL ELK HABITAT		418738	100	74
WMU TOTAL AREA		565071		100

Appendix 2. Recent habitat projects in elk habitat on the Panguitch Lake WMU #28.

- BLM-Sage Hen Hollow PJ thinning (500 ac) (1996-2002)
- BLM /UDWR Western Town Bull hog and seeding(900 ac)2003/2006
- BLM/Upper Sevier Watershed dollars-Dickinson Hill/Fuels (800 ac) Bullhog, 200ac hydro ax-2005/2006
- BLM-Sheep Hollow Catchment 2006
- BLM--Five Mile Hollow Thinning-Lop and Scatter 1700 ac 2006
- BLM South Canyon Water Haul 2006
- FS—Five Mile Burn and Reseed
- FS – Cottonwood PJ Encroachment Project, 1200 ac
- FS – Shumake Hollow Dixie Harrow
- FS – Ashdown, Pine Hollow and Coal Pit Dixie Harrow, 420 acres
- FS –Haycock Mountain Trick Tank Guzzler Improvement
- FS –Henrie Knolls Guzzler Improvement
- FS –Asay Bench Guzzler Improvement
- FS –Mud Springs PJ Encroachment Project, 960 acres
- FS –Tebbs Hollow Harrow Overseed Project, 400 acres
- FS –Tebbs Hollow PJ Encroachment Project, 350 acre completed, 500 remaining
- FS –Sheep Hollow, Duck Creek Sinks, and Mammoth Cave Guzzler Improvement Projects
- FS –Swains Creek Access Management Plan
- BLM-Five Mile Hollow 2 Lop and Scatter 1700 ac
- FS – Cottonwood Burn
- FS –Tebbs Hollow PJ Encroachment Project, 500 acre

Panguitch Lake WMU #28 habitat projects listed in WRI database 2006-2011.

Panguitch Lake WMU WRI ELK Projects 2006-Present				
APPROVED	PROJECT/MAP ID #	TITLE	Year Complete	Acres
2010	1482	Edward Springs Rx Fire	Planned/In Progress	3528
2009	1481	Duck Creek Aspen Regeneration	Planned/In Progress	48
2012	2027	South Canyon Year 2	Planned/In Progress	2549
2006	189	Five Mile Hollow Sagebrush Restoration - Year 1	2006	1542
2006	242	Buckskin Valley Hwy 20	2006	270
2006	212	Tebbs Hollow Sagebrush Restoration PJ Removal	2006	456
2007	458	Tebbs Hollow/Mud Springs Sagebrush and PJ Treatment	2007	456
2007	467	Fivemile Hollow Sagebrush Restoration - Year 2	2008	1369
2008	1056	D. Burton Discretionary Seed	2008	1
2006	239	Mud Springs Sagebrush and PJ Encroachment Project	2008	985
2009	1206	Panguitch Creek WMA PJ Thinning	2009	22
2009	1206	Panguitch Creek WMA PJ Thinning	2009	332
2009	1206	Panguitch Creek WMA PJ Thinning	2009	29
2009	1199	North Cottonwood Canyon Lop and Scatter/Bullhog Treatment	2009	688
2009	1199	North Cottonwood Canyon Lop and Scatter/Bullhog Treatment	2009	128
2008	862	Tebbs Hollow Pinyon/Juniper Encroachment Project	2009	1477
2010	1579	Horse Valley Fire Rehab	2010	301
2010	1591	B.D. Discretionary Seed	2010	21
2009	1443	Castle Valley Aspen Regeneration	2010	68
2010	1615	Horse Valley Fire Area Seeding	2010	506
2011	1716	South Canyon	2011	1749

Appendix 3. Summary from the 2011 elk committee for Panguitch Lake WMU #28.

Meeting was well attended and lasted approximately 3.5 hours. The agenda involved discussing all portions in the existing plans under the following topics: habitat, population, and recreation. A powerpoint was used to assist in presentation of the data as well as a tool to maintain a focused discussion. The powerpoint provided opportunity to view habitat project maps and current status of elk population management on the unit.

HABITAT

Discussion included a range of topics that included current and proposed work on both BLM and USFS. USFS is currently working on EA's to improve forest health and implementing their travel plan.

Predators were discussed by elected official and local landowner. LOA also expressed concern about growing bear population.

USFS discussed water projects that were not funded because of UPCD ranking them low priority. Need to improve communication and seek funding through private sources beyond UPCD. RMEF and RAC support water projects to help disperse utilization. LOA discussed good cooperation between BLM in the Sage Hen Hollow area. Local landowner expressed concern about dispersing animals away from riparian areas.

Discussion was held about changing the wording under "strategies for removing habitat barriers" on the bottomlands impact statement. Change to "encourage USFS and BLM to control uses that negatively impact bottomlands and riparian areas."

POPULATION

RMEF: Panguitch Lake is 3rd highest unit for money spent, but we still have a pretty low population objective. We have done more on this unit, and have a lower population and it seems like we could raise it up a little bit- gradually as all of these projects have been implemented. Then we can keep track of trends and be responsible in how we are raising it. We could gradually raise this up.

LOA: Looking at the migration patterns and count those that have migrated and take those into consideration.

Landowner: why are we below objective?

Farm Bureau: concerned that we are killing too many bulls- spikes and trophy bulls.

SFW- to the federal agencies- are we where we need to be?

USFS- is still at reduced permittee grazing levels.

Landowner Assoc - if we keep livestock where they are, we can keep the elk where we are. But we should always consider where the permittees are in relation to the elk population.

USFS- lets get to the 1100 and then consider an increase. Let's just maintain, because of our permittees.

Landowner- if we set that 1100 are we locked in at 5 years? We shouldn't be locked in. Lets get more of these habitat projects implemented on the ground, then let's talk about an increase.

Landowner Assoc. - what about the 2 year growing season placed on livestock? To get livestock back to full allocation.....cows are sitting on riparian areas. Treatments are helping, but the water is also crucial. The drought situation has also made it difficult to sustain livestock numbers, but the elk have maintained....now we are seeing the elk decline.

Landowner - livestock is easy to manage compared to elk. We go get our cows.....but there is no way to harvest the

elk or get them off there if needed. We should probably manage both cows and elk on worst case scenario. This summer has been a spectacular summer....so we can't base it on this.

BLM- what about putting some incremental increases into the plan depending on vegetative conditions. Staged increases over time bases on vegetation.

USFS reads transects annually. BLM reads them now and then based on renewals.

Landowner- 1947 they introduced elk onto Dutton. Livestock operators took a 50% cut. We are now supporting 68,000 elk now. The elk are there year round, the livestock are there 4 months. These ranges are supporting a LOT more than we were back in the day. I think the sheep affecting it more than the cows since they eat grass shorter. Bottom line, a lot more animal units on the ground these days.

Commissioner- a lot of PJ encroachment.

SFW- we are dumping a lot of money into projects. We want to do what is best for both livestock and wildlife. We need to ramp up the habitat projects. Lets increase our projects and then consider getting there. Deer/elk competition: what is going on? Is there a conflict. The Parowan Front is different than the east side of this unit.

The following comments where made from everyone when asked how many wintering elk should be on Panguitch Lake in their opinion and why:

- MDF- 1100 – too much spike harvest and we need to alternate years for spike hunting.
- RMEF – 1250 - Get to the target first and then increase the target responsibly. End goal should be to increase.
- RAC – 1300 – increase should be tied to permittee and AUM's
- SFW – 1250-1300 – increase due to dollars invested in the unit. Need fewer bulls permits, no spike hunting, implement a management bull hunt. If we lose sportsmen money, we're in trouble. Work together to get the increase.
- Local Sportsmen – 1100 – decrease the bull permits to get back to trophy level. Trophy level could be better. Get the cow permits back.
- USFS (Veronica) – 1100 – Balance all the interests.
- USFS (Nate) – 1250 – agree with a phased-in approach. Increase to 1250 in 5 years as long as grazing permits are back up and range trend data is supportive.
- Landowner – 1100 – need to give landowners a bull permit that could be sold and would go back unto improving habitat. Comfortable with 1100 until cattle permits are back.
- County Commission – 1100 – Get rid of spike hunt and get back to trophy unit. Cooperation – take care of livestockmen and sportsmen – need to stick together. Need to get the habitat where it needs to be first. Be aggressive in a predator control program and focus on lions.
- Cattlemen Association – 1100 – agrees with local sportsmen. Need to get trophy unit back and balance bull cow ratios.
- Farm Bureau – 1100 – Work together and maybe we can get an increase.
- BLM – 1100 – we have made progress over time but there is still work to do. Long term goal should be to increase.

RECREATION

RMEF – people are not harvesting because they are not finding trophy class bulls.

SFW – Cannot use most effective weapon during the most susceptible time – need to balance quality and opportunity. Move the rifle hunt out of the rut.

Local Sportsmen – Very few trophy bulls left on the unit. Would like to see it better.

ELK HERD UNIT MANAGEMENT PLAN
Elk Herd Unit # 29
Zion
May 2012

BOUNDARY DESCRIPTION

Iron, Washington and Kane counties - Boundary begins at I-15 and the Utah-Arizona state line; north on I-15 to SR-14; east on SR-14 to US-89; south on US-89 to US-89A; south on US-89A to the Utah-Arizona state line; west on the Utah-Arizona state line to I-15.

LAND OWNERSHIP

Ownership	Yearlong range		Summer Range		Winter Range	
	Area (acres)	%	Area (acres)	%	Area (acres)	%
Forest Service	0	0	12,512	7	0	0
Bureau of Land Management	21,861	35	13,014	8	14,550	47
Utah State Institutional Trust Lands	7,318	12	2,184	1	2,389	8
Native American Trust Lands	0	0	0	0	2,088	7
Private	33,446	53	133,459	79	5,978	20
Water Resources	0	0	43	>1	0	0
USFWS Refuge	0	0	0	0	0	0
National Parks	184	<1	8,765	5	5,611	18
Utah State Parks	0	0	0	0	0	0
Utah Division of Wildlife Resources	0	0	0	0	0	11
TOTAL	62,809	100	169,979	100	30,616	100

UNIT MANAGEMENT GOALS

Manage for a population of healthy animals capable of providing a broad range of recreational opportunities including hunting and viewing. Consider impacts of the elk herd on other land uses and public interests including private property rights, agricultural crops and local economies. Maintain the population at a level that is within the long-term capability of the available habitat to support.

A major portion of the Zion Elk Herd is located on private land. Consequently, the herd objective will be determined and maintained by working with the private landowners in the area. Most key landowners contact the DWR annually between August and October for issuance of mitigation elk permits. At that time there is an opportunity for dialogue to exchange ideas and information about the population status, age structure, and productivity of the herd. Habitat concerns and access problems/solutions can be discussed at this time.

UNIT MANAGEMENT OBJECTIVES

Habitat

Maintain and/or enhance forage production through direct range improvements throughout the unit on winter range to achieve population management objectives.

Work with federal agencies, Utah State Division of Lands and private landowners on habitat improvement projects to maximize hunting opportunities on this unit.

Work with federal and local agencies on road management plans to minimize the density of roads on the public portions of this unit to provide better security for elk.

Population

Target Winter Herd Size - Achieve and maintain wintering population of 300 elk.

CURRENT STATUS OF ELK MANAGEMENT

Habitat

Habitat on this unit is currently stable at this point. The elk population on this unit is currently limited by the tolerance of the private landowners. Because this is a private rangeland unit, it is perceived that the elk are competing for livestock forage at this time. Reported fence damages are also an issue.

Population

An aerial survey was conducted on this population in January 2008. At that time the population was estimated to be near 500 elk. UDWR implemented increased hunting seasons and permit numbers to address the overpopulation of elk in the 2009 and 2010 seasons with 300+ permits being issued to both public and private landowners. For 2011 the two hunt structure was maintained and permits were reduced to around 150. Another survey was completed in January 2011. The wintering population at that time was estimated to be 275 elk. The population has been reduced and will be stabilized at 300.

Age structure has not been monitored through specific cementum annuli studies. A general idea of yearlings as compared to mature bulls in the harvest can be obtained through the statewide uniform harvest survey. Since a large portion of the unit consists of private land, no classification or age information is being collected.

Harvest of this unit is low because of the lack of public access to the private lands. In 2011 bull hunting success was 9% success with over 700 hunters. Hunter success for antlerless elk is much higher. In 2011, DWR had 2 public hunts, with 25% success on 50 permits in October and 41% success on 50 permits in November/December.

BARRIERS TO ACHIEVING UNIT MANAGEMENT OBJECTIVES

Crop Depredation - Depredation may be a limiting factor in localized segments of the unit. The DWR will take all steps necessary to minimize depredation as prescribed by state law and DWR policy.

Habitat - (winter/summer range conditions) Competition between elk and livestock on private rangelands may be a limiting factor. Excessive habitat utilization will be addressed.

Illegal Harvest - Illegal harvest does not seem to be a significant problem from a population standpoint.

Predation - Predators seem to have little impact on the Zion elk herd although it is thought that a few are kill by mountain lions on the winter ranges.

Highway Mortality - Although there is some highway mortality, it is not a limiting factor for the Zion elk herd.

STRATEGIES FOR REMOVING BARRIERS AND REACHING UNIT MANAGEMENT OBJECTIVES

Habitat

With a major portion of the Cedar Mountain area under private ownership, very few range-trend studies have been conducted on the unit. Vegetative monitoring will be the responsibility of the Cedar City District of the Dixie National Forest and the Dixie Resource and Kanab Resource Areas of the Cedar City District of the BLM. Results of the vegetative monitoring will indicate areas where some herd reduction may be necessary.

DWR will cooperate with land management agencies and private landowners to identify critical areas and work together to maintain and enhance elk habitat. DWR will promote, encourage, and participate, where possible with the USFS, BLM, and private landowners in vegetative manipulation projects that enhance elk habitat. The Zion Elk Committee has suggested that the DWR be a participating partner in the Cedar Mountain Initiative and work with landowners on large-scale aspen regeneration projects.

Population

Population Size -The population will be monitored by doing an aerial helicopter survey during the winter months. If funds are available, helicopter counts would be used every third year. As a data base is established for the unit, population models will be used to fine tune management objectives for the unit. Work with key landowners in the core area to establish antlerless permit numbers that will maintain elk numbers at acceptable levels for the area. Major portions of the population occur in the Deep Creek, Crystal Creek, Kolob Reservoir and Virgin Flats area. Smaller populations of elk are located on scattered areas from Kolob Reservoir along the western portions of the range to the head of Shurtz Canyon. The summer elk population is most likely more than 300 due to interchange from the Panguitch Unit to the north of highway 14.

Bull Age Structure -Age structure will not be monitored through specific cementum annuli studies. A general idea of yearlings as compared to mature bulls in the harvest can be obtained through the statewide uniform harvest survey. Since a large portion of the unit consists of private land, no classification or age information is being collected.

Harvest -The primary means of monitoring harvest will be through the statewide uniform harvest survey. The target population size will be achieved by use of antlerless harvest, using a variety of methods including mitigation permits. DWR will devise a program to monitor the harvest on mitigation landowner permits issued. A general season open bull hunt is the preferred hunt strategy because this unit consists of a major portion of private land with limited access. Managing for open bull hunting appears to be the only way to assure that people with permits can obtain permission to hunt these private lands.

Actions to Remove Other Barriers

Work with the land management agencies, public land grazers and private landowners to determine if the objective is reasonable and attainable. Work with private landowners to ensure depredation is held within tolerable levels, and will not become a limiting factor.

Comments/notes from the Zion Unit Elk Committee that was assembled in October of 2012

- Are there youth opportunities for mitigation vouchers?
- Need to work with landowners to allow access to keep population in check. This is crucial.
- Illegal trespass is a huge deal. In a lot of instances landowners ignore trespass so they don't have any backlash.
- We need to do more habitat projects to better spread and disperse elk.
- BLM and Forest Service need to do more projects for aspen regeneration and pinion and juniper removal.
- Can NRCS or conservation permit money help private landowners with fence damage issues.
- Need to fly adjacent unit in same years to make sure we are keeping track of all the elk that are affecting the Zion Unit.
- Work with grazers to protect their interests.
- No groups supported an increase in the herd unit objective.

ELK HERD UNIT MANAGEMENT PLAN
Elk Herd Unit # 30
Pine Valley
May 2012

BOUNDARY DESCRIPTION

Iron and Washington counties - Boundary begins at I-15 and the Utah-Arizona state line; north on I-15 to SR-56; west on SR-56 to the Lund Highway; northwest along the Lund Highway to the Union Pacific railroad tracks at Lund; southwest on the Union Pacific railroad tracks to the Utah-Nevada state line; south on this state line to the Utah-Arizona state line; west on this state line to I-15.

LAND OWNERSHIP

Ownership	Yearlong range		Summer Range		Winter Range	
	Area (acres)	%	Area (acres)	%	Area (acres)	%
Forest Service	0	0	0	0	0	0
Bureau of Land Management	0	0	0	0	0	0
Utah State Institutional Trust Lands	0	0	0	0	0	0
Native American Trust Lands	0	0	0	0	0	0
Private	0	0	0	0	0	0
Department of Defense	0	0	0	0	0	0
USFWS Refuge	0	0	0	0	0	0
National Parks	0	0	0	0	0	0
Utah State Parks	0	0	0	0	0	0
Utah Division of Wildlife Resources	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0

UNIT MANAGEMENT GOALS

The Division will not actively manage for increased elk numbers on this unit. If depredation occurs in agricultural areas, those cases will be handled aggressively.

UNIT MANAGEMENT OBJECTIVES

Habitat

A public committee including sportsmen, landowners, grazers and public land managers assembled by the DWR agreed that the habitat on this unit should not be actively managed for increased elk populations.

Population

Target Winter Herd Size - Manage for no more than 50 elk.

CURRENT STATUS OF ELK MANAGEMENT

Habitat

Habitat in the northern portion on this unit is currently stable at this time. It is desired that it not be managed for elk at this time.

Large areas in the southern portion of this unit have been affected by wildfires in the past 10 years and several thousand acres of mule deer winter range has been negatively impacted.

Population

The elk population on this unit is currently estimated at 50 animals. Small populations have been reported to exist in the Horse Valley/Mt. Meadow and Studhorse/Crestline areas of this unit. Sightings of a few elk in the New Harmony area have been reported. Depredation permits were issued to large tract/agricultural landowners and the sighted animals were removed.

POPULATION MANAGEMENT STRATEGIES

Monitoring

Population Size -The population will be monitored by conducting an aerial helicopter survey during the winter months every 3 years if funds are available. As a database is established for the unit, population models will be used to fine tune management objectives for the unit. Due to the small size of the herd and priority of other units no helicopter surveys have been done.

Bull Age Structure -Age structure will not be monitored through specific cementum annuli studies. A general idea of yearlings as compared to mature bulls in the harvest can be obtained through the statewide uniform harvest survey. Since the population is so small and therefore difficult to locate, no classification or age information is being collected.

Harvest -The primary means of monitoring harvest will be through the statewide uniform harvest survey. The target population size will be achieved by use of antlerless harvest using a variety of methods including mitigation permits. DWR will devise a program to monitor the harvest on mitigation landowner permits issued. A general season open bull hunt is the preferred hunt strategy to make sure that the population is kept down to the objective and to maximize hunter opportunity.

Depredation problems will be handled under the rules set down in Utah Code and Rules.

Limiting Factors (May prevent achieving management objectives)

Crop Depredation - Depredation may be a limiting factor in localized segments of the unit. The DWR will take all steps necessary to minimize depredation as prescribed by state law and DWR policy.

Habitat - (winter/summer range conditions) Competition between elk and livestock on private rangelands may be a limiting factor. Excessive habitat utilization will be addressed.

Illegal Harvest - Illegal harvest does not seem to be a significant problem from a population stand point.

Predation - Predators seem to have little impact on the Pine Valley elk herd.

Highway Mortality - Although there is some highway mortality, it is not a limiting factor for the Pine Valley elk herd.

Comments from the Pine Valley unit elk committee that was assembled in October of 2012

Sportsman for Fish and Wildlife – group would prefer management of this unit be focused on mule deer.

Sportsman for Fish and Wildlife – consider using antlerless control permits on this unit to stay at objective.

Sportsman for Fish and Wildlife – Youth any-bull hunt has been really positive. Possibly offer a cow permit along with their bull permit.

Mule Deer Foundation – wouldn't bother MDF if unit was managed for a population objective of zero elk.

BLM - support keeping elk populations on the northern end of the unit at low numbers

BLM – priority is to manage BLM lands between New Harmony and Enterprise (and south of highway 56) as mule deer habitat.