

NEVADA DEPARTMENT OF WILDLIFE

HARVEST MANAGEMENT GUIDELINES FOR HUNTING SEASONS

Revised Draft 2

Draft September 21, 2016

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SCHEDULE FOR FORMULATING HARVEST MANAGEMENT GUIDELINES

Estimated Date	Harvest Guidelines Schedule	Responsibility
August 8, 2015	Introduce Harvest Management Guidelines to Commission	Game Division
September 25, 2015	Gather existing guidelines into a single document	Game Division
October 9, 2015	Gather comparative data from neighboring states	Game Division
October 16, 2015	Provide draft guidelines generally followed where none exist	Game Division
November 2–6, 2015	Hold town hall meetings to share harvest management guidelines with the public and gather feedback	Game Division
November 14, 2015	Provide Commission with informational update on status of harvest management guidelines and preliminary feedback from public	Commission
December 5, 2015	Develop revision of harvest management guidelines based on biological data and public opinion	Guidelines Team
January 15, 2016	Second review draft to guidelines committee	Game Division
January 22, 2016	Second review draft to agency	Game Division
January 29, 2016	Draft public survey instrument to seek input on specific questions that may develop	Guidelines Team
April 8, 2016	Summarize feedback from public survey	Guidelines Team
August 13, 2016	Provide Commission with informational update on status of harvest management guidelines	Commission
August 24–26, September 6–7, 2016	Hold town hall meetings to share harvest management guidelines with the public and gather feedback	Guidelines Team
September 23–24, 2016	Provide Commission with informational update on status of harvest management guidelines and preliminary feedback from public	Commission
October 30, 2016	Final revision to harvest management guidelines	Guidelines Team
November 18–19, 2016	Present to Commission for adoption	Commission

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OBJECTIVE

Harvest management guidelines are designed to be used by Nevada Department of Wildlife (Department) Game Biologists when formulating hunt recommendations. Harvest management guidelines are intended to provide general guidance on the parameters for which hunted or trapped species are managed. Like hunt recommendations, harvest management guidelines are shared with the Nevada Board of Wildlife Commissioners (Commission) and County Advisory Boards to Manage Wildlife (CABs) before approval in public session following a regular review cycle described in the preceding pages.

The harvest management guidelines themselves are one piece of an overall planning approach used by the Commission and Department in managing wildlife. While harvest management guidelines describe the objectives to which the Department manages, other protocols describe how that data is collected. Management plans (e.g., species management plans and related sub-planning documents) describe landscape level objectives, opportunities for habitat enhancement, specific herd management objectives (e.g., increase population), and management challenges (e.g., persistent low fawn recruitment for pronghorn).

The Department also operates under a Commission-approved strategic plan that provides agency vision, an annual work plan developed under the Wildlife and Sport Fish Restoration (WSFR) Program, annual or biennial translocation plans approved by the Commission, and an annual implementation plan that ties together budgets, specific tasks, and work units for the upcoming year.

The Department manages Nevada's wildlife within the biological limits of each species. Management strategies are developed to address social perceptions, which are routinely more conservative than the limits at which wildlife may be biologically managed.

Ultimately, the Department manages wildlife in the public trust for all of Nevada's citizens. All game animals, from predators to big game, are managed as part of an important ecosystem to be sustained for future generations of Nevadans and our visitors to enjoy. These harvest management guidelines have been developed to meet a variety of hunting desires and strive to provide adequate opportunity for all, while maintaining a self-sustaining resource. The guidelines are based on the best available biological and social science. Nevada has a diverse wildlife resource, yet many of these resources are limited in supply. The following guidelines attempt to provide the diversity of experiences desired by the hunters of Nevada, while providing the necessary management so that everyone will benefit from diverse wildlife populations in the future.

HARVEST MANAGEMENT GUIDELINE APPROACHES

The Department and Commission will revisit the guideline package with the public every 4 years. The 4-year harvest guideline framework aligns with the following approaches:

- Obtain input from the Commission on hunt guideline concerns that were brought to their attention; use this input to guide public survey questions.
- Use CABs and public outreach avenues to ensure inclusion of affected and interested customers in guideline and hunt recommendation development.
- Commission Policy 24 provides direction to the Department in allocating quotas among weapon classes and between resident and nonresident hunters.
- Seasons are recommended biennially, with recommendations from the Department of Wildlife to CABs and the Nevada Board of Wildlife Commissioners.
- Maintain consistent wildlife survey protocol and interpretation to develop hunt recommendations across the state in accordance with other pertinent management plans (e.g., species management plans and annual work plans). Population management objectives (including male to female ratios, harvest rate, or other

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parameters by which we manage populations) for specific units may be described within these pertinent species management plans.

- Provide hunt structures across the state consistent with Commission policy and statewide species plans. Simplify hunt regulations and restrictions related to the hunt structure. Standardized and simplified hunt structures should not obstruct diversity of hunting opportunities.
- Provide for a diversity of hunter opportunity while maintaining wildlife population health. Guidelines for this approach are:
 - Limit hunting seasons when the legal animals are most vulnerable (e.g., breeding period) except to provide alternative or late hunting seasons in some management areas.
 - Allocate hunt tag quotas with respect to weapon type demand per Commission Policy 24.
 - Use innovative management hunts to address specific management objectives that are not being achieved through standard hunt structures.
 - Use split hunt structure to reduce user conflicts and hunter densities.
 - Use targeted harvest by hunters to address human-wildlife conflicts when appropriate.
 - Reserve about 10% hunting tag quotas for nonresident hunters in limited entry hunts.
- Emphasize youth and new big game hunter opportunities when possible. In doing so, provide diverse and dispersed hunt opportunities to allow equitable tag availability and limited conflict with other uses.
- Emphasize small game, predator-furbearer, and other wildlife hunt opportunities. Guidelines for this approach are:
 - Liberalize bag and possession limits as well as season lengths within sustainable biological means to encourage hunter participation.
 - Maintain consistent season opener and structure to reduce hunter confusion among years.
- Several specialty hunts are offered each year consistent with appropriate statute and rule, to include Silver State tags, Dream tags, and Partnership in Wildlife tags. These are important programs that have relatively little influence on harvest management for remainder of Nevada's wildlife. Their implementation is acknowledged but not described within these guidelines.

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BIG GAME

BIOLOGICAL FRAMEWORK

The Department conducts annual or biennial surveys to determine composition (i.e., sex and age) of ungulate populations. Data collected during those surveys are subsequently incorporated into deterministic population models to derive population estimates. These population estimates are used by the Department to assess male to female ratios, recruitment, population trends, and ultimately provide the starting point for determining the amount of harvestable surplus available from each population.

Harvest is an important tool for managing populations of wild ungulates. Although male to female ratios in wild ungulates bear little effect on population productivity, it is a substantial consideration for the Department when assessing tag quotas. Indeed, ratios in wild ungulates can vary from 10–50 males per 100 females without a noticeable effect on juvenile recruitment. The variation in male to female ratios can, however, have a noticeable effect on hunter satisfaction, hunt quality, and harvest success. Managing populations toward the lower end of the male to female ratio would allow more hunters to participate in a hunt (i.e., chance to draw a tag more frequently) and result in a fewer older age class males in the ungulate population, whereas managing at the upper end of the ratio provides fewer hunters with the ability to participate in a hunt (i.e., chance to draw a tag every 3–4 years) while yielding higher hunt success for those that draw a tag with an older age structure in the ungulate population. The Department has set management objectives at the mid-to-upper point of the biologically sustainable male to female ratio for all wild ungulates. The Department may recommend a quota reduction when the recorded male to female ratio is below objectives and may recommend a quota increase when the recorded male to female ratio is above objectives.

In contrast to male to female ratios, the juvenile to female ratio directly influences population productivity. The Department assesses current and historical juvenile to female ratios to determine population trends because of its correlation with recruitment of new individuals into the breeding population. In general, a ratio above 30–40 juveniles per 100 females suggests a stable or increasing population, while a ratio below 30–40 juveniles per 100 females suggests a declining population and is characteristic of a population at or near carrying capacity. In most cases, the Department manages for stable or increasing populations and may recommend an increase in the quota if the juvenile to female ratio is above the sustainability threshold. When the juvenile to female ratio is low, the Department may recommend a decrease in the male quota and the inclusion of a female hunt or an increase in the female quota.

PRONGHORN ANTELOPE

The Department's Pronghorn Antelope Management Goal is to protect, maintain, or increase the resources for the enjoyment and use by the people now and in the future.

Current harvest objectives for pronghorn antelope are set forth in the Department's pronghorn antelope management plan: *Nevada's Pronghorn Antelope, Ecology, Management, And Conservation (2003)* and subsequent Commission action: *Nevada Board of Wildlife Commissioners Policy for the Management of Pronghorn Antelope (2003)*.

Season prescriptions:

1. Pronghorn antelope hunts may be authorized for either "horns-longer-than-ears" (buck) or "horns-shorter-than-ears" (doe).
2. Hunts for horns-longer-than-ears pronghorn antelope involve the following weapon classes: "any legal weapon" and "archery" seasons. These seasons generally occur on standard opening dates within the state. In limited cases, seasons are split to reduce hunter densities or more effectively target harvest timing.
3. Where they occur, standard hunts for horns-shorter-than-ears pronghorn antelope are limited to "any legal weapon" seasons.

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Horns-longer-than-ears archery	
Standard Season	August 1– August 21
Horns-longer-than-ears any legal weapon	
Standard Season	August 22 –September 7
Late Season	September 25–October 4
Non-standard Split Season (Unit 033)	August 22–28 and August 29–September 7
Non-standard Season (202, 204)	October 15–30
Horns-shorter-than-ears any legal weapon	
Standard Season	September 8–20

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Harvest management and tag quota prescriptions:

- A. Annual composition survey data are used in computer population models to assist Game Biologists in estimating the pre-hunt adult population size. A representative sample of each herd is observed through aerial or ground surveys to determine age (young to adult) and sex (male to female) ratios. These pre-hunt adult population estimates and male to female ratios used are for determining quotas targeting desired post-hunt buck to doe ratio objectives, demand by weapon class, and hunter success rates.

Harvest levels for horns-longer-than-ears (buck) pronghorn are based on a desired post-season buck ratio objective of 20–30 adult (≥ 2 year old) bucks per 100 does. The target buck to doe ratio is based on adult bucks because many yearling bucks have horns lengths that would make them unlawful for harvest.

Standard units	
Buck to doe ratio objective (post-season)	25 bucks to 100 does
Applicable hunt units	All open units

- B. Harvest levels for horns-shorter-than-ears pronghorn are determined on a hunt unit basis to allow for herd population management and to provide additional and desired hunting opportunities to harvest pronghorn does. Doe harvest criteria are based on specific criteria to the individual herd.

Doe harvest is typically managed within the range of 0–20% of the total adult doe population. Harvest rates may fall outside this range in the case of catastrophic environmental events or other unique situations.

Pre-hunt adult doe estimate	Pre-hunt buck ratio estimate	Observed fawn ratio	Desired harvest rate
0–300	>30	3-year stable or increasing	0–10%
300–500	>30	3-year stable or increasing	0–20%
>500	>30	3-year stable or increasing	5–20%

In some instances, fawn to doe ratios may decline when the population approaches the capacity of the habitat, and in those instances doe harvest may be needed to maintain healthy populations.

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Private land issues

Issues involving private land depredation are managed in accordance with NAC 502.424. Emergency depredation hunts may be employed.

BLACK BEAR

The Department's Bear Management Goal is to manage black bear population numbers and distribution as an important part of Nevada's fauna, while providing hunting and other related recreational opportunities. The hunt recommendation goal is to allow bear hunting harvest, while managing for representation of older age cohorts of both sexes in the population.

Season prescriptions:

1. Black bear hunts may be authorized for "either sex" seasons, except that cubs or a sow accompanied by cubs may not be taken.
2. Hunts for either sex black bear "any legal weapon" seasons will occur on standard opening dates.

Any legal weapon seasons may begin on September 15 and run through December 31

Harvest management and tag quota prescriptions:

- A. Game Biologists will manage black bear harvest toward moderate harvest, while considering modeled population trends.
- B. Tags and harvest limits may be adjusted to maintain light or moderate harvests. The most recent 3-year mean or trend should receive greater emphasis when determining permit levels; emphasize last year's data when a clear trend exists or emphasize the most recent 3-year mean data when no clear trend exists.

Parameter	Light harvest	Moderate harvest	Heavy harvest
Percent females in harvest	<30%	30–40%	>40%
Percent adult females within female harvest	>55%	45–55%	<45%
Mean age of harvested males	>4 years	2–4 years	<2 years

BIGHORN SHEEP

As stated in the statewide Bighorn Sheep Management Plan, the Department's goals are to restore and maintain bighorn sheep herds at optimal population levels, provide diverse recreational opportunities, recognize hunting is a legitimate and desirable use of the bighorn sheep resource, strongly advocate habitats be maintained in good ecological condition, and reduce and manage risk of disease transmission.

Season prescriptions:

1. Units will be the primary geographic basis for managing bighorn harvest. Units may be subdivided to more optimally spread hunting pressure and harvest to all known areas of bighorn distribution during the hunting season.

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2. All hunts are "any legal weapon" seasons.

3. Bighorn sheep season will run according to the following table. Split or extended seasons may be implemented if hunter crowding and hunt efficacy becomes an issue. Standard season length will not be less than 21 days. Hunt on Department of Defense lands have special regulations and restrictions and seasons may need to be adjusted according to their schedules.

Deleted: Standard California and Rocky Mountain bighorn ram seasons will run September 1 through October 30, whereas most desert (Nelson) bighorn sheep seasons will run November 20 through December 20.

<u>Any Legal Weapon – Desert Bighorn (Nelson) Sheep Ram</u>		
		<u>Dates</u>
<u>Standard Seasons</u>		<u>November 20–December 20</u>

Deleted: For hunts involving Department of Defense lands, the north range season will start on the Saturday closest to Nov 20 and run for 23 days, and the south range season will begin on the third Saturday in December and run for 16 days.

<u>Non-standard Seasons</u>		<u>Dates</u>
<u>161 Early; 184; 202, 204</u>		<u>October 15–November 5</u>
<u>212 Early</u>		<u>November 15–December 5</u>
<u>212 Late</u>		<u>December 6–December 26</u>
<u>252</u>		<u>Saturday closest to November 20, running for 23 days</u>
<u>280; 281; 282</u>		<u>Third Saturday in December, running for 16 days</u>

<u>Any Legal Weapon – Desert Bighorn (Nelson) Sheep Ewe</u>		
<u>Standard Seasons</u>		<u>Dates</u>
		<u>October 5–25</u>

<u>Any Legal Weapon – California Bighorn Sheep Ram</u>		
		<u>Dates</u>
<u>Standard Seasons</u>		<u>September 1–October 30</u>

<u>Any Legal Weapon – California Bighorn Sheep Ewe</u>		
<u>Standard Seasons</u>		<u>Dates</u>
		<u>November 6–30</u>

<u>Any Legal Weapon – Rocky Mountain Bighorn Sheep Ram</u>		
<u>Management Areas</u>		<u>Dates</u>
<u>114 Early</u>		<u>September 1–October 30</u>
<u>114 Late; 115</u>		<u>December 20–February 20</u>

4. Bighorn ewe seasons will be no shorter than 21 days and will occur on dates that do not overlap with bighorn ram seasons in same unit. Other considerations are to reduce overlap with mule deer rifle seasons in same unit and to accommodate optimal timing of bighorn sheep captures for management and disease surveillance.

Harvest management and target quota prescriptions:

A. Ram tag numbers will recommended at 8% of total estimated rams, not to exceed 50% of the estimated Class III and IV rams (i.e., rams ≥6 years of age) derived from a reconstructive deterministic population model for each herd based on aerial survey data (primarily recruitment), best available survival rates, and estimated

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ingress-egress These criteria are expected to obtain a 3-year average age of harvested rams of 6 years or older within each unit.

- B. Criteria for establishing ewe hunts and tag numbers will be based on maintaining herd size at or below established population objectives for herds of concern with seasonal or yearlong habitat resource limitations, past cyclical declines associated with record high population size, or proximity to known disease risk. Opportunities for removal of source stock animals for low risk translocations will be considered prior to recommending ewe harvest.

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ELK

The Department's Elk Management Goal is to maintain elk populations to meet population objectives, while providing recreational opportunities and avoiding adverse impacts to the species, its habitat, and reducing land use conflicts. The Commission has adopted various local sub-plans, which provide broad and specific management goals for elk in Nevada and identify additional objectives specific to those areas.

Harvest objectives for elk are set forth in the Department's *Nevada Elk Species Management Plan (1997)* and 10 subordinate sub-plans: *Bruneau River Watershed Environmental Analysis (1994)*; *Wells Resource Management Plan, Elk Amendment and Decision Record (1995)*; *Environmental Assessment for the Release of Elk into the Jarbidge Mountains, Nevada (1997)*; *NDOW Decision For Lands Outside of Wells RMP Elk Amendment Subplan; Central Nevada Elk Plan (2004)*; *Conservation Agreement for the Spring Mountain National Recreation Area (1998)*; *the White Pine County Elk Plan (1999)*; *Lincoln County Elk Management Plan (2003)*; *the Western Elko County Elk Management Plan (2003)*, and *the Humboldt County Elk Management Sub-Plan (2016)*.

Season prescriptions:

Because of high population growth rates observed in most elk herds and conservative population objectives identified in elk sub-plans, the need to increase harvest on elk to reduce both population size and growth rates has required aggressive hunt structures to maximize the harvest of antlerless elk. These aggressive season structures and quotas are designed to meet the population objectives and minimize conflicts with other hunts. Standardized season dates are implemented when practical. Population objectives identified in local sub-plans, however, may supersede the implementation of a standardized season. Elk hunts are currently authorized for "antlered elk" (i.e., bull), "spike-only elk," or "antlerless elk" (i.e., cow).

- 1. Antlered elk hunts, which consist of "any legal weapon," "muzzleloader," and "archery" seasons, may have varied dates among units to reduce overlap with concurrent hunt seasons for other species. In some units a multiple any-legal-weapon split-season (i.e., early-late) structure has been employed to reduce hunter densities, increase hunt quality, and more effectively achieve desired harvest objectives.

Archery – Antlered Elk		
Standard Seasons		
061, 071; 062, 064, 066–068; 072, 073, 074; 075; 076, 077, 079, 081		August 16–31
111–115; 104, 108, 121; 108, 131, 132; 161–164, 171–173; 221–223; 231; 262		August 25–September 16
Non-standard Seasons		
078, 105–107, 109		September 1–20

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Muzzleloader – Antlered Elk		
<u>Standard Seasons</u>		Dates
061, 071; 062, 064, 066–068; 072, 073, 074; 075; 076, 077, 079, 081		September 1–16
111–115; 104, 108, 121; 108, 131, 132; 161–164, 171–173; 221–223; 231; 241, 242; 262		October 22–November 5
<u>Non-standard Seasons</u>		Dates
078, 105–107, and 109		October 5–21

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Any Legal Weapon – Antlered Elk		
<u>Standard Seasons</u>		Dates
061, 071; 062, 064, 066–068; 072, 073, 074; 075; 076, 077, 079, 081	Early	October 22–November 5
	Late	November 6–20

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<u>Standard Seasons</u>		Dates
111–115; 104, 108, 121; 131, 132; 161–164, 171–173; 221–223; 231; 241, 242; 262	Early	November 6–20
111–115; 161–164, 171–173; 221–223; 231	Late	November 21–December 4

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Any Legal Weapon – Antlered Elk		
<u>Non-standard Seasons</u>		Dates
078, 105–107, and 109	Early	October 22–November 5
	Late	November 6–28
051; 065; 241, 242		September 17–30
091		Beginning second Saturday in September and running for 3 weeks

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- Spike Elk Hunts are established in identified hunt units to reduce the hunting pressure and harvest of mature bulls, while still managing population and harvest objectives. Spike elk hunts will run concurrent with Antlerless Elk seasons since the majority of spike elk occur in cow-calf elk groups.
- Hunts for antlerless elk, which consist of "any legal weapon," "muzzleloader," and "archery" seasons, vary start and end dates in an attempt to reduce overlap with concurrent seasons. Antlerless elk hunts are used where the elk population requires reduction or stabilization (i.e., above population objective). Where populations are above local sub-plan population objectives, a more aggressive harvest strategy is implemented to bring populations closer to objective. In some units, a multiple any legal weapon split-season structure has been implemented to reduce hunter densities, increase hunt quality, and more effectively achieve harvest objectives.

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Archery – Antlerless Elk		
<u>Standard Seasons</u>		Dates
<u>061, 071; 062, 064, 066–068; 072, 073, 074; 075; 076, 077, 079, 081; 078, 105–107, and 109</u>		August 1–15
<u>104, 108, 121; 131, 132, 108; 111, 112; 113; 114, 115; 161–164; 221–223; 231; 241, 242</u>		August 1–24

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Muzzleloader – Antlerless Elk		
<u>Standard Seasons</u>		Dates
<u>072, 073, 074; 075; 076, 077, 079, 081</u>		September 1–16
<u>104, 108, 121; 131, 132, 108; 111, 112; 113; 114, 115; 161–164; 221–223; 231; 241, 242</u>		September 17–24

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<u>Non-standard Seasons</u>		Dates
078, 105–107, and 109		August 16–31

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Any Legal Weapon – Antlerless or Spike Elk		
<u>Standard Seasons</u>		Dates
<u>061, 071; 062, 064, 066–068; 072, 073, 074; 075; 076, 077, 079, 081</u>	Early	September 17–October 4
<u>061, 071; 062, 064, 066–068; 072–075; 076, 077, 079, 081</u>	Late	November 21–January 15
<u>111, 112; 113; 114, 115; 104, 108, 121; 108, 131, 132; 161–164, 171–173; 221; 222, 223; 231; 241, 242</u>	Early	September 25–October 4
<u>111, 112; 113; 114, 115; 221; 222, 223</u>	Late	December 5–January 15

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<u>Non-standard Seasons</u>		Dates
078, 105–107, and 109		September 21–October 5

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In areas where substantial antlerless harvest is desired and where hunter congestion may be an issue, "antlerless elk combination" hunts may be implemented by issuing an antlerless elk tag to tagholders who are successful in drawing for a mule deer tag for a given weapon class in a hunt unit or unit group where substantial overlap between elk and deer herds occur. This hunt strategy provides an additional option to meet cow elk harvest objectives while reducing the potential for hunter congestion.

Depredation hunts may be implemented in management areas and units with no existing sub-plan, in areas designated as "elk restricted" areas, or to address existing or potential private land conflicts. Depredation hunts are used to liberalize tag quotas and relax eligibility requirements to facilitate the most effective harvest possible. These seasons may be structured to begin and end at any time to best meet the management objectives of the local herd.

Antlerless elk landowner hunts may be implemented to specifically target offending elk on private lands where conflicts occur.

- Various specialty elk hunts exist which offer high quality hunting experiences, generate revenue for wildlife-habitat conservation and enhancement, and provide incentives for landowners whose private rangelands are used by elk.

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Harvest management and tag quota prescriptions:

A. Percentage of main beams ≥ 50 inches in the antlered harvest will be used to determine desired antlered elk tag quotas. Data collected from hunter return questionnaires and cementum annuli from tooth submissions indicates a strong relationship between main beam length and age. The length of the main beam of most antlered elk aged ≥ 8 years is reported to be ≥ 50 inches. If the reported percentage falls within the desired range, no change will be made to antlered elk tag quotas. If the reported percentage falls outside of the desired range, antlered elk tag quotas will be adjusted accordingly. Additionally, spike elk harvest is not to exceed 15% of the total antlered harvest.

Standard	
Main beam length ≥ 50 inches	25–35% of bull harvest
Optional spike harvest	$\leq 15\%$ of bull harvest
Hunt units	All units <u>except</u> : 051, 065, 075, 078, 091, 101–103, 111–115, 144–145, 241–242, and 262

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Alternative	
Main beam length ≥ 50 inches	35–45% of bull harvest
Optional Spike Harvest	$\leq 15\%$ of bull harvest
Hunt units (Not to exceed 4 unit groups)	Units: 078, 091, 111–115

Non-Standard	
Modeled bull to cow ratio	Supports harvestable surplus
Harvest success	Stable
Hunt units	Units: 051, 065, 075, 241, 242, and 262

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Depredation	
Hunt units	Units: 101–103, and 144–145

B. For antlerless elk in areas where sub-plans exist, quota recommendations are based on specific population management objectives. These objectives may be used to reduce, stabilize, or encourage growth of elk populations. In circumstances where populations are below objective, cow harvest may be designed to slow growth rates while still allowing herds to increase towards population objectives. In areas where no sub-plan currently exists, quota recommendations are based on providing hunting harvest, reducing conflicts (real or perceived) with other resource users, controlling population growth and expansion, or reducing private land depredation issues.

C. Various specialty elk hunts exist which offer high quality hunting experiences, generate revenue for wildlife conservation, and provide incentives for landowners whose private rangelands are used by elk. Quotas for PIW, Heritage, Silver State and Dream hunts are generally very limited due to the unique nature of the hunts. Quotas for elk incentive hunts are calculated by use days of elk on private lands, as identified in NAC 502.42279.

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MOUNTAIN GOATS

The Department's Mountain Goat Management Goal is to protect, maintain, or increase the resources for the enjoyment and use by the people now and in the future.

1. Units may be subdivided into smaller hunt units to prevent hunters concentrating in specific areas within mountain ranges or to encourage hunting within areas with available rams that may be avoided because of access difficulty.
2. All hunts will be "any legal weapon" seasons.
3. Mountain goat seasons for "any mountain goat" will begin and end on standard season dates, running September 1 through October 30.

Harvest management and tag quota prescriptions:

- A. Hunt recommendations should be developed using estimated populations based on survey protocols and sighting rates described in scientific literature. When a clear trend in population parameters exists, emphasize the most recent year's data. When no clear trend exists, emphasize 3-year mean data.
- B. Harvest will be managed to allow for the take of 2–5% of the total population. Game Biologists will manage mountain goats within the guideline range.

MOUNTAIN LION

The Department's Lion Management Goal is to manage the mountain lion population, its numbers, and distribution, as an important part of Nevada's fauna while providing mountain lion hunting and other recreational opportunities.

The Department will establish a statewide harvest objective and monitor harvest within 6 management zones. These zones correspond to the genetic subpopulations identified in recent research within Nevada. Five zones correspond with 5 unique genetic subpopulations identified by. Andreassen et al. (2012). Transient units are defined by NDOW.

Management zones:

1. Central units include 142,143, 144, 145, 155, 161, 162, 163, 171, 172, 183, 184, 251,
2. East units include 102, 103, 104, 105, 106, 108, 109, 111, 112, 113, 114, 115, 121, 231,
3. North units include 044, 045, 046, 051, 061, 062, 064, 065, 066, 067, 068, 071, 072, 073, 074, 075, 076, 077, 078, 079, 081, 091, 101, 107, 141, 151, 152, 153, 154, 156,
4. West units include 011, 012, 013, 014, 015, 021, 022, 032, 033, 034, 041, 192, 194, 195, 196, 201, 202, 203, 204, 206, 291,
5. South units include 131, 132, 133, 134, 164, 221, 222, 223, 241, 242, 243, 244, 245, 253, 254, 261, 262, 263, 264, 265, 266, 267, 268, 269, 271, 272, 280, 281, 282, 283, 284, 286,
6. Transient units include 031, 035, 042, 043, 181, 182, 205, 207, 208, 211, 212, 213, 252, and
7. Units closed to hunting include 033, 269, 280, 281, 282, 283, 284, 286. which are closed by other administrative regulations imposed by the Department of Defense, US Fish and Wildlife Service, or similar restriction.

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Season prescriptions:

1. Hunts for either sex mountain lion "any legal weapon" seasons will occur on March 1 and run until the last day of February of the subsequent year.
2. Mountain lion hunts may be authorized for "either sex" seasons, except that spotted kittens or females accompanied by spotted kittens may not be taken.
3. Unit 091 is managed as an interstate hunt with Utah and will retain a unique harvest objective as developed in conjunction with the interstate hunt.
4. The limit is one animal per tag, 2 tag maximum per person per year.
5. Hunting hours are any time of the day or night.

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Harvest management and objective prescriptions:

- A. The number of total and adult female mountain lions removed from each unit will be monitored annually. A premolar will be removed from each harvested mountain lion during the mandatory check procedures. Premolars will be sectioned and age will be determined using cementum aging techniques. If the 3-year mean percentage of adult (≥ 3 year old) female in the regulated hunting seasons within any specific management zone exceeds 35%, the Department will establish a separate harvest objective for that zone to limit harvest (Anderson and Lindzey 2005).
- B. Harvest objectives within a specific management zone may be increased or combined with the statewide harvest objective following 2 consecutive seasons in which the 3-year mean of adult females in the harvest is $\leq 35\%$ of the total harvest.

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MULE DEER

The Department's mule deer management goal is to maintain and enhance deer populations to levels that provide maximum and diverse recreational opportunities, while avoiding adverse effects to the species and its habitat. Harvest objectives for mule deer generally follow the *Nevada Management Plan for Mule Deer* which can be found on the state of Nevada website.

Season prescriptions:

Generally, hunting seasons are for "antlered mule deer" or "antlerless mule deer." "Either sex" tags are issued to junior hunters in accordance with NAC 502.063. "Antlerless mule deer" hunts are used when deer populations require reduction or stabilization and to provide hunter harvest. Antlered mule deer hunts are used to manage the ratio of males to females in the population while maintaining a healthy deer herd.

Hunts for antlered mule deer typically follow a progression from late summer (archery), mid-autumn (muzzleloader) to late autumn months (any legal weapon). Seasons may be split to reduce hunter crowding or more effectively target the timing of harvest. Any legal weapon hunts during the early seasons provide greater opportunity to draw a tag and are primarily designed to achieve management objectives, whereas late seasons provide more opportunities to harvest an older age class buck. Antlerless deer seasons are structured to meet the management objectives of the local herd while still considering antlered hunting seasons and timing of annual surveys as the top priorities.

Junior "either sex" seasons generally coincide with the any legal weapon season for standard mule deer hunts, the muzzleloader season, and the archery season dates for the unit or unit groups in which the hunt is adopted. Junior hunts that coincide with standard and early-late split seasons for the any legal weapon class will begin on October 5 and end on the Sunday following Nevada Day.

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(adult bucks), hunter success rate, and percentage of 4 point or greater when setting appropriate quotas for alternative management areas. The Department will make quota recommendations based on a 3-year trend in management criteria to account for annual environmental variation. When a clear trend does not exist or if two of the four criteria are not met, then the Department will recommend no change to the quota allocation from the previous year.

Harvest objectives and criteria for management of antlered mule deer include:

Standard Hunts	
Buck ratio objective (post season)	30 bucks to 100 does
<u>Unit Groups</u>	Western Region: 011-013; 022; 031; 032; 033; 034; 035; 043-046; 051; 181-184
	Eastern Region: 061; 062; 064; 066 -068; 071-079; 091; 101-109; 111-113; 121; 141-145; 151-156
	Southern Region: 161-164; 171-173; 231

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Alternative hunts (no more than 8 unit groups statewide)	
Buck ratio objective (post season)	35 bucks to 100 does
Hunter success objective	40-55% Success
Percent of harvested bucks with ≥ 4 points	50-75%
Mean age of harvested bucks ≥ 5 years old	50-75%
<u>Unit Groups</u>	Western Region: 014; 194, 196
	Eastern Region: 065; 081; 114-115; 131-134
	Southern Region: 221-223; 241-245

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Non-standard Hunts	
Management Strategy A	
Hunter success objective:	$\geq 45\%$ success
<u>Unit Groups</u>	192; 201; 204; 202, 205-208 ; 291; 041-042; 261-268; 271-272
Management Strategy B	
Hunter success objective	35-45% success
<u>Unit Groups</u>	015; 021; 195; 203 ; 211-213; 251-254

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Antlerless mule deer harvest objectives

Antlerless mule deer harvests are used to manage mule deer population size, growth, and to provide hunter harvest in some instances. Recommendations on when to implement an antlerless harvest are based on an overall assessment of the carrying capacity, trends in fawn to doe ratios, body condition of deer either captured or harvested, or a combination of the above factors. Antlerless mule deer hunts would not be recommended in units that have total adult populations $< 2,000$ individuals. In units $\geq 2,000$ individuals, fawn to doe ratios obtained during spring surveys

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or modeled or measured survival of fawns and does will be used to guide Game Biologists to a range of harvest strategy options. Catastrophic environmental events will be considered when recommending doe quotas and could initiate harvests beyond those described in guidelines.

Harvest rate objectives for mule deer populations greater than 2,000 individuals, relative to population trend.

Fawn to 100 does ^a	<30	30-39	>40
Population Trend	Decreasing	Stable	Increasing
Harvest Rate ^b	0-10%	2-6%	2-10%

^a Where possible, a 3-year mean of observed spring fawn to doe ratios would be used, a modeled spring fawn ratio may be considered when 3 years of observed data are not available

^b Harvest rate will be determined as the percentage of the modeled adult female population

Restricted nonresident deer hunts

"Restricted nonresident deer hunts" are designed to provide nonresident hunters an opportunity to hunt with a licensed Nevada guide for mule deer. These tags are drawn in a separate drawing before the main draw for big game and nonresidents must be accompanied by licensed master guide at all times. Any legal weapons may be used during these hunts. Seasons for restricted nonresident deer tags coincide with any legal weapon deer hunts and are issued according to NRS 502.147. Nonresident applicants who apply in the restricted nonresident guided deer hunt are not eligible to apply for deer tags in the big game main draw in the same year.

Landowner compensation tags for mule deer

An owner, lessee, or manager of private land in this state may apply to the Department for the issuance of deer tags for compensation of these animals using their private lands. These tags can be used by the owner, lessee, or manager if he holds a valid Nevada hunting license or the tags can be sold to any holder of a valid Nevada hunting license at any price mutually agreed upon. Landowners, lessees, or managers of private land will be awarded 1 tag for every 50 mule deer present on the property as compensation for damage to private land as per regulation NRS 502.145 and NAC 502.424.

SMALL GAME AND FUR-BEARERS

The Department's Upland Game Management goal is to provide as much upland game hunting as possible. Seasons will be designed to allow standardization and simplification of hunt regulations, better distribution of hunters, and the opportunity to hunt more than 1 species at the same time.

GREATER SAGE-GROUSE

1. Hunting seasons for sage-grouse should be based on careful assessments of population size and trends.
2. If populations occur over relatively large geographic areas and are stable to increasing, seasons and bag limits can be relatively liberal (2- to 4-bird daily bag limit and a 2- to 5-week season) for hunting seasons allowing firearms.
3. If populations are declining (for 3 or more consecutive years) or trends are unknown, seasons and bag limits should be generally conservative (1- or 2-bird daily bag limit and a 1-to 4-week season) for hunting seasons allowing firearms, or suspended (for all types of hunting, including falconry and Native American subsistence hunting) because of this species' population characteristics.
4. Where populations are hunted, harvest rates should be ≤10% of the estimated fall population to reduce negative effects on the subsequent year's breeding population.
5. Populations should not be hunted where <300 birds comprise the breeding population (i.e., <100 males are counted on leks).

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WILD TURKEY

1. Wild turkey spring seasons will be for "bearded turkey" only.
2. Wild turkey fall season may be for "any" turkey.
3. Spring seasons will be established to begin on the fourth Saturday in March and extend through the first Sunday in May. Season dates may be adjusted or split to avoid hunter crowding or conflicting land uses.
4. Hunting hours will be from 1/2 hour before sunrise to sunset daily for both spring and proposed fall turkey seasons.
5. Fall seasons may be established if population size, access, and hunter densities may be adequately addressed.

OTHER SMALL GAME

1. Upland game seasons will be open statewide when feasible.
 - California, Gambel's, and mountain quail, and chukar and Hungarian partridge season will open on the second Saturday in October and run through the first Sunday in February unless population size and distribution dictates otherwise.
 - Blue (dusky and sooty) and ruffed grouse season will open on September 1 and run through December 31 unless population size and distribution dictates otherwise.
 - Cottontail and pygmy rabbits and white-tailed jackrabbit seasons will open on the second Saturday in October and run through February 28
 - Pheasant season will open on November 1 and run through November 30; seasons will allow for the harvest of "cocks" only
 - Snowcock seasons will open on September 1 and run through November 30
 - A two-day youth season for chuck and Hungarian partridge, California and Gambel's quail, cottontail and pygmy rabbits, and white-tailed jackrabbits will be held annually on the fourth Saturday and Sunday in September.
2. Migratory game bird seasons and bag limits will be set by the Commission annually according to Migratory Bird Treaty Act and Pacific Flyway guidelines.

FUR-BEARERS

The Department's fur-bearing mammal management objectives are to maintain present range, distribution, and population levels in Nevada; and to allow for the maximum recreational, economic and aesthetic uses commensurate with existing populations statewide. Fur-bearer seasons will be set for a 2-year time period. The Department will recommend gray fox seasons that coincide with bobcat season dates. Seasons and season dates will be reviewed by the Commission.

Season prescriptions:

Population estimates for some of the more common furbearer species (beaver, kit fox, gray fox) harvested in Nevada have been generated by using USGS GAP analysis data. GAP data uses maps that delineate topographical, biological, and geological features to identify various habitats. GAP data for each species is paired with habitat suitability models that specify known habitat requirements. This process provided the Department with maps indicating available statewide habitat for each of the species. The GAP data is then used in conjunction with biological density and home range data for each species to generate population estimates. Density and home range data were derived from research data either in Nevada, or in the absence of Nevada research, from nearby states

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(Utah and California) with similar habitat types. Population estimates and estimated harvest rates based on expanded trapper harvest data will be compared annually. If harvest of any of those species is estimated to be in excess of 10% of the estimated population, the Department will recommend restricting harvest or restrictive seasons.

BOBCAT

Bobcat seasons will be set for a 2-year time period. If warranted, the Department may amend seasons in the interim year. Seasons and season dates and sealing dates will be reviewed with the Commission.

The Department's bobcat management objectives are to sustain a healthy bobcat population within existing suitable habitat and provide quality recreational opportunities for bobcat harvest. Bobcat populations in Nevada are monitored by using various performance targets. Those targets include production (reported as kittens/ 100 females), Adult male to adult female ratios, harvest effort (average number of trap nights required to harvest one bobcat) and total harvest.

The 3-year average for each performance target will be compared to the historical mean confidence interval for the same target. A value will be assigned to each performance target based on the chart below

Historical statewide 95% confidence limits

Performance Target	Mean	95% Confidence Interval	Using 3-year average for value		
			< 95% C. I. Score	Within 95% C.I. Score	> 95% C.I. Score
Production (kittens/100 females)	66	57-75	-1	0	1
Adult male to adult female ratio (males/ 100 females)	141	137-146	-1	0	1
Effort (trap nights/bobcat harvested)	171	159-183	0.5	0	-0.5
Harvest (total bobcat harvest)	2269	1989 - 2548	0.5	0	-0.5

Season prescriptions (in order of application):

- Maintain or return to the standard season strategy if at net score of variables (3-year average) are < 2 but > -2.
Standard season ≈ 105 days (Must close no more than 10 days before last weekend in February).
- Initiate a restrictive season if net score of variables is < -2.
Restrictive season ≈ 70 days (Must close no more than 10 days before last weekend in February).
- Initiate a liberal season if net score of variables is ≥ 2.
Liberal season ≈ 120 days (November 1 running through the last day in February).
- During any period if the 3-year average of harvest falls below the low historical range (1,989) AND the 3-year average of individuals reporting bobcat harvest drops below the low historical range (209), the season will remain liberal until either of these two variables increases to within the historical range. Then, the regular season prescriptions will be followed.

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Season prescriptions:¶

¶ 1. Maintain or return to the standard season strategy if at least 2 variables (3-year average) are within the historical 95% confidence interval, or if 1 variable is above, 1 below, and 1 within the historical 95% confidence interval. Emphasize last year's data when a clear trend exists or emphasize the most recent 3-year mean data when no clear trend exists.¶

¶ Standard season ≈ 94 days (Last Saturday in November and running through last day in February).¶

¶ 2. Initiate a restrictive season if 2 or more variables fall below the historic 95% confidence interval. Emphasize last year's data when a clear trend exists or emphasize the most recent 3-year mean data when no clear trend exists.¶

¶ Restrictive season ≈ 64 days (December 15 running through the third Saturday in February).¶

¶ 3. Initiate a liberal season if ≥ 2 variables are above the historical 95% confidence interval. Emphasize last year's data when a clear trend exists or emphasize the most recent 3-year mean data when no clear trend exists.¶

¶ Liberal season ≈ 120 days (November 1 running through the last day in February).¶

¶ 4. During any period if the 3-year average of harvest falls below the low historical range (1989) AND the 3-year average of individuals reporting bobcat harvest drops below the low historical range (209), the season will default to the liberal season until either of these 2 variables increases to within the historical range. Then, the standard season prescriptions will be followed.¶

Historical 95% confidence limits¶

¶ Variable

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