STATE OF NEVADA

DEPARTMENT OF WILDLIFE

Game Division

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#10

MEMORANDUM

January 22, 2017

To: Nevada Board of Wildlife Commissioners, County Advisory Boards to Manage Wildlife, and Interested Publics

From: Brian Wakeling, Administrator, Game Division BFW

Title: **Nevada Department of Wildlife Update of Guidelines for Harvest Management in Nevada – For Possible Action**

Description: The Department will provide an update on the status and process of refining the draft harvest guidelines for consideration by the Commission. The Department will provide a briefing on revisions since the first reading of the current draft presented at the November 2016 Commission Meeting. This draft for possible adoption includes only the segment addressing big game management; the segment addressing upland game will be addressed at a subsequent Commission meeting. The Commission may vote to amend or adopt this draft of the harvest guidelines.

Presenter: Game Division Administrator Brian F. Wakeling

Summary:

The development of the DRAFT *Harvest Management Guidelines for Hunting Seasons* in Nevada was initiated in August 2015. The goals of this effort were to capture relevant harvest management objectives in a single document, compare those guidelines to how the Commission was actually authorizing seasons and with existing management plans, review scientific literature for improvements in management strategies, and have the Commission adopt these goals to improve simplicity, consistency, and transparency. Because the big game seasons are adopted biannually, the harvest guidelines are planned for review and revision every 4 years.

The harvest guidelines are not statutory in nature, nor are they Commission General Regulation or Commission Regulation. The harvest guidelines are designed to provide the agency with

guidance, and they may be amended or deviated from at any time the Commission deems prudent. Should the Department believe a recommendation should be made that is inconsistent with the harvest guidelines, the Department will point out the deviation and explain why the deviation is believed to be in the best interests of the Department, wildlife resource, or interested publics. The harvest guidelines are not binding.

In developing these harvest guidelines, the Department has made an effort to define management objectives to achieve the goals currently being managed toward. In some instances, this differs from objectives identified within existing management plans. For instance, the plan that is specific to managing elk identifies that the Department will manage for 15–40 bulls per 100 cows, whereas most management units have bull to cow ratios that often approach 90:100. The guidelines have been drafted to meet our current management, not reiterate the initial planned objectives for which the Department and Commission are not currently managing. As such, the Commission asked the Department provide an overview of aspects for which these draft guidelines are inconsistent with existing management plans. The primary differences include:

- *Policy for Management of Pronghorn Antelope (2003)* contains an objective of 20–30 total bucks per 100 doe;
    - The draft guidelines state that buck ratio will be based on modeled pronghorn bucks ≥2 years of age.
- *Bighorn Sheep Management Plan (2001)* does not identify specific ram harvest criteria;
    - The draft guidelines state a minimum of 8% of the total estimated rams and not to exceed 50% of rams ≥6 years of age.
- *Black Bear Management Plan (2012)* requests analysis of a 10-year population trend;
    - The draft guidelines do not use the 10-year population trend in season or quota setting, although it uses the other components in the plan. This does not mean that the Department will not conduct the analysis of the population trend, this simply indicates that it is not used in season or quota setting. The analysis remains important.
- *Three-year Comprehensive Review of Black Bear Harvest Through Regulated Hunting in Nevada* identifies 7 recommendations to the Commission by the Bear Committee;
    - The review recommendations include retaining season structure that does not reduce bear populations, maintaining current special regulations, and maintaining a similar fall bear hunting structure, yet none of these speak specifically to how seasons and quotas should be developed. Further, the review anticipated that a review and revision would occur and amendments should be adopted as relevant. The harvest guidelines are designed to move management in a scientifically sound direction.
- *Elk Species Management Plan (1997)* identified a bull to cow ratio of 15–40;
    - The draft guidelines uses hunter reported main beam length to evaluate age structure of harvest, which is not contained in the plan.
    - The draft guidelines provide harvest criteria for "spike" and "antlerless" hunts, which are not addressed by the plan.
    - The draft guidelines identify elk incentive hunts, which are not described in the plan.
- No plan exists for mountain goats.

- *Comprehensive Mountain Lion Management Plan (1995)* identifies that harvest objectives will be established by administrative region;
    - The draft guidelines combine harvest objectives into a statewide objective until such time as the need for a specific area-specific objective is needed.
    - Area-specific management zones are identified in accordance with research published following adoption of the plan.
    - The draft guidelines use harvest criteria published following adoption of the plan.
- No inconsistencies exist between guidelines and any draft mule deer plans.

Using the harvest guidelines:

As the Department and Commission engaged in dialogue since August 2015 with County Advisory Boards and the public on harvest guidelines, perhaps the most obvious collective observation has been that season and quota setting is far from simple and includes many complex considerations. Nevertheless, the basic concept is generally fairly simple. A broad generalization for each of the species follows.

General: A suite of seasons are identified in the harvest guidelines for most species from which appropriate selections may be made biannually to meet harvest objectives and regional desires. A survey of licensed hunters indicates that a vast majority of those that hunt in Nevada prefer to see standardized start and end dates for deer and elk seasons. The Department recognizes that all deer and elk seasons cannot begin and end simultaneously, so the suite of seasons provided in the harvest guidelines identify regional preferences that also allow harvest objectives to be achieved. These season structures also reduce the amount of overlap among species and weapon types to the extent possible. Season structures may vary among years within the range identified in the harvest guidelines.

Female harvest quota recommendations are based on the population trajectory, relative habitat conditions, recruitment, and relationship to estimated population size. General criteria were developed for each species.

Pronghorn antelope: The primary variable that influences buck quotas for pronghorn is the availability of bucks 2 years of age and older. If the buck:doe ratio for ≥2 year old bucks increases above 30:100, this indicates that more are available for harvest. If the population of pronghorn is trending upwards, this also indicates that more bucks are available for harvest. Under these scenarios, tag quotas may be recommended for increase. Indicators used include surveys and modeled age structure.

Conversely, if the buck:doe ratio for ≥2 year old bucks decreases below 20:100 or if population trend is downward, then a tag quota reduction may be recommended.

Factors that can be indicative of population trend include hunt success, survey observations per unit effort (often called catch per unit effort or CPUE), or recruitment. Additionally, observations in the field of habitat conditions, disease, or other related items could influence the Department's recommendation.

Bighorn sheep: The primary variable that influences ram quotas for bighorn sheep is the availability of rams ≥6 years of age. Indicators of their availability are surveyed observations.

As with other species, habitat, disease, and recruitment may influence the recommendation.

Black bear: Primary variables used to influence season, quota, and harvest limit recommendations include harvest demographics. Should a combination of variables including females composing <40% of the harvest, mean age of harvested females dropping below 5 years of age, or mean age of males harvested dropping below 2 years of age, the Department would interpret the harvest as being excessively exploitative and reduce quotas, harvest limits, or season length.

Conversely, if a combination of females composing <30% of the harvest, mean age of harvested females exceeding 6 years of age, or mean age of males exceeding 4 years of age, the Department would interpret the harvest as being light and might explore recommendations that would increase the quota or harvest limits.

Modeled population trends, habitat conditions, disease, or other related factors could influence recommended quotas, harvest limits, and season lengths as well.

Elk: Primary variable used to influence bull quota recommendations is a harvest demographic. The proportion of elk harvested with reported main beam lengths that exceed 50 inches currently ranges from 25–35%. If harvest composition exceeds 35% bulls with main beam length in excess of 50 inches, tag quotas would be adjusted upward. Conversely, if the proportion of bulls harvested with a main beam length of 50 inches is below 25%, tag quotas would be reduced. Spike quotas would not exceed 15% of the bull quotas. Elk antlerless quotas would be primarily adjusted to meet population objectives.

Modeled population trends, habitat conditions, disease, or other related factors could influence recommended quotas as well.

Mountain goat: Primary variable used to influence tag quotas is population size. Quotas will be recommended to be between 2–5% of the estimated population size.

Modeled population trends, habitat conditions, disease, or other related factors could influence recommended quotas as well.

Mountain lion: Two primary variables will be used to influence harvest limits and season structures. Females should not comprise >50% of the overall take and adult (≥3 year old) females should not comprise >35% of the total take, based on 3 year mean values. When these thresholds are exceeded within defined subpopulations, the Department will interpret this to mean that harvest levels are reducing the abundance of mountain lions in the population. If this is inconsistent with the management objectives for the subpopulation, the subpopulation will be identified with a reduced harvest limit in future years.

Modeled population trends, habitat conditions, disease, or other related factors could influence recommended quotas as well.

Mule deer: The primary variable that influences buck quotas for mule deer is the availability of bucks. The buck:doe ratio targets 30:100. If the buck:doe ratio increases above 35:100 or confidence intervals on surveys indicates the ratio exceeds 30:100, this indicates that more are available for harvest. If the population of mule deer is trending upwards, this also indicates that more bucks are available for harvest. Under these scenarios, tag quotas may be recommended for increase. Indicators used include surveys and modeled age structure.

Conversely, if the buck:doe ratio decreases below 25:100, confidence intervals on surveys indicates the ratio is below 30:100, or if population trend is downward, then a tag quota reduction may be recommended.

Factors that can be indicative of population trend include hunt success, survey CPUE, or recruitment. Additionally, observations in the field of habitat conditions, disease, or other related items could influence the Department's recommendation.

Recommendation:

The Department recommends that the Commission **VOTE TO ADOPT THE *HARVEST MANAGEMENT GUIDELINES FOR HUNTING SEASONS* IN NEVADA AS PRESENTED.**

NEVADA DEPARTMENT OF WILDLIFE

HARVEST MANAGEMENT GUIDELINES FOR HUNTING SEASONS

Revised Draft 4

Draft January 22, 2017

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SCHEDULE FOR FORMULATING HARVEST MANAGEMENT GUIDELINES

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	Revise harvest management guidelines	Guidelines Team
November 18–19, 2016	Present to Commission for consideration and direction	Commission
December 31, 2016	Prepare final revisions as directed by Commission	Guidelines Team
February 10–11, 2017	Present to Commission for adoption of big game section	Commission
March 24–25, 2017	Present to Commission for adoption of upland game section	Commission
June 2020	Reinitiate review of harvest guidelines	Game Division

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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 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, including predators, big game, and upland game, are managed as part of an important ecosystem of at least 893 species 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 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 or to facilitate meeting management objectives.
  - Allocate hunt tag quotas with respect to weapon type demand and residency status 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.

- 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 Heritage, Silver State, Dream, and Partnership in Wildlife tags. These are important programs that have relatively little influence on harvest management for the remainder of Nevada's wildlife. Their implementation is acknowledged but not described within these guidelines.

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BIG GAME

BIOLOGICAL FRAMEWORK

Information about herd composition from survey data is 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 used for determining quotas targeting desired post-hunt ratio objectives, demand by weapon class, and hunter success rates.

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 less frequently) 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.

Some game species are monitored using harvest characteristics. Harvest characteristics (e.g., proportion of antlered elk with 50 inch main beams, age distribution of harvested males, proportion of adult females in the harvest, ratios of adults to young in the harvest, or proportion of successful hunters) allow biologists to infer the level of harvest on the population based on research that has demonstrated relationships between harvest and populations. In essence, this approach is used to measure variations of catch per unit effort, which is a common technique to index abundance of populations. This approach is often used for populations that are cryptic and difficult to survey using other more common techniques. Even small game, which can be relatively abundant, are generally more easily monitored using this approach.

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)*.

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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," "muzzleloader," 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. No more than 15 muzzleloader hunts will be established statewide annually.

4. Where they occur, standard hunts for horns-shorter-than-ears pronghorn antelope are limited to "any legal weapon" seasons.

Horns-longer-than-ears archery	
Standard Season	August 1–August 21
Standard Season with Muzzleloader	August 1–August 14

Horns-longer-than-ears muzzleloader	
Standard Season	August 15–August 21
Late Season	September 25–October 4

Horns-longer-than-ears any legal weapon	
Standard Season	August 22–September 7
Late Season	September 25–October 4
Non-standard Split Season	August 22–28 and August 29–September 7
Non-standard Season	October 15–30

Horns-shorter-than-ears any legal weapon	
Standard Season	September 8–24

Harvest management and tag quota prescriptions:

A. 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. The ratio of adult bucks per 100 does is derived from the computer population models.

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.

Landowner compensation tags for pronghorn antelope

An owner, lessee, or manager of private land in this state may apply to the Department for the issuance of pronghorn tags for compensation for damage to 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 pronghorn present on the property as compensation for damage to private land as per regulation NRS 502.145 and NAC 502.424. NRS 502.145 limits the number of compensation tags to ≤1.5% of the total number of mule deer and pronghorn tags authorized by the Commission. Emergency depredation hunts may be employed.

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.

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. Hunts on Department of Defense lands have special regulations and restrictions and seasons may need to be adjusted according to their schedules.

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Any Legal Weapon – Desert Bighorn (Nelson) Sheep Ram		
Standard Seasons		November 20–December 20

Non-standard Seasons		October 15–November 5
		November 15–December 5
		December 6–December 26
		Saturday closest to November 20, running for 23 days
		Third Saturday in December, running for 16 days

Any Legal Weapon – Desert Bighorn (Nelson) Sheep Ewe		
Standard Seasons		October 5–25

Any Legal Weapon – California Bighorn Sheep Ram		
Standard Seasons		September 1–October 30

Any Legal Weapon – California Bighorn Sheep Ewe		
Standard Seasons		November 6–30

Any Legal Weapon – Rocky Mountain Bighorn Sheep Ram		
Standard Seasons		September 1–October 30
		December 20–February 20

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 the same unit. Other considerations are to reduce overlap with mule deer rifle seasons in the same unit and to accommodate optimal timing of bighorn sheep captures for management and disease surveillance.

<u>Harvest management and target quota prescriptions</u>:

A. Tag quota for rams for each unit group will be based on the following criteria: a minimum of 8% of the total estimated rams and not to exceed 50% of rams ≥6 years of age, derived from a population model. These criteria are expected to maintain a mean age of harvested rams ≥6 years of age within each unit.

B. Criteria for establishing ewe hunts and tag numbers will be based on evaluating 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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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 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 1

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 tag quota levels and harvest limits; emphasize last year's data when a clear trend exists or emphasize the most recent 3-year mean data when no clear trend exists.

C. Harvest limits may be placed on the entire hunt area or specific units within the hunt area.

D. Gauge harvest effect and make tag quota recommendations using the criteria below based on the previous 3-year mean. If 2 or more parameters indicate heavy harvest, then tag quotas or harvest limits should be reduced. If 2 or more parameters indicate harvest is light, then tag quotas or harvest limits may be increased.

Parameter	Light harvest	Moderate harvest	Heavy harvest
Percent females in harvest	<30%	30–40%	>40%
Mean age of harvested females	>6 years	5–6 years	<5 years
Mean age of harvested males	>4 years	2–4 years	<2 years

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*

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(1998); the White Pine County Elk Plan (1999); Lincoln County Elk Management Plan (2008); the Western Elko County Elk Management Plan (2003), and *the Humboldt County Elk Management Sub-Plan (2016).* Specific population objectives described in each plan are appended to these guidelines (Appendix 1).

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		August 16–31
		August 25–September 16

Non-standard Seasons		September 1–20

Muzzleloader – Antlered Elk		
Standard Seasons		September 1–16
		October 22–November 5

Non-standard Seasons		October 5–21

Any Legal Weapon – Antlered Elk		
Standard Seasons		October 22–November 5
		November 6–20

Standard Seasons		November 6–20
		November 21–December 4

Any Legal Weapon – Antlered Elk		
Non-standard Seasons		October 22–November 5
		November 6–28
		September 17–30
		Beginning second Saturday in September and running for 3 weeks

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2. 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 generally run concurrent with Antlerless Elk seasons since the majority of spike elk occur in cow-calf elk groups.

3. 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.

Archery – Antlerless Elk		
Standard Seasons		August 1–15
		August 1–24

Muzzleloader – Antlerless Elk		
Standard Seasons		September 1–16
		September 17–24

Muzzleloader – Antlerless Elk		
Non-standard Seasons		August 16–31

Any Legal Weapon – Antlerless or Spike Elk		
Standard Seasons		September 17–October 4
		September 17–25 and September 26–October 4
		November 21–January 31
		September 25–October 4
		December 5–January 31

Non-standard Seasons		September 21–October 4
		October 1–20

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 antlerless 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.

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

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.

B. Spike elk harvest, when implemented, should not to exceed 15% of the total antlered harvest.

Standard	
Main beam length ≥50 inches	25–35% of bull harvest
Optional spike harvest	≤15% of bull harvest

Alternative	
Main beam length ≥50 inches	35-45% of bull harvest
Optional spike harvest	≤15% of bull harvest
Hunt units (Not to exceed 4 unit groups statewide)	Units: 078, 105–107, and 109; 091; and 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

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

C. 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.

D. Quotas for elk incentive hunts are calculated as identified in NAC 502.42279.

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.

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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 mountain goats 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 will 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 limit 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 and an additional zone comprising transient use units.

Management zones:

1. Central units include 142,143, 144, 145, 155, 161, 162, 163, 171, 172, 173, 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, 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, and 286, which are closed by other administrative regulations imposed by the Department of Defense, US Fish and Wildlife Service, or similar restriction.

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.

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2. 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.

3. Hunting hours are any time of the day or night.

Harvest management and limit prescriptions:

A. Mountain lion hunts may be authorized for "either sex" seasons, except that spotted kittens or females accompanied by spotted kittens may not be taken. The harvest limit is 1 animal per tag, 2 tag maximum per person per year.

B. 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 may establish a separate harvest objective for that zone to limit harvest if a similar trend is observed in total female take (see C).

C. Female mountain lions should comprise <50% of the overall take within a specific management zone. If the 3-year mean percentage of female in the regulated hunting seasons within any specific manage zone exceeds 50%, the Department may establish a separate harvest objective for that zone to limit harvest if a similar trend is observed in adult female take (see B).

B. Harvest limits 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 ≤35% of the total harvest and the 3-year mean of total females in the harvest is <50%.

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 draft *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 opportunity. 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 through mid-autumn (archery, muzzleloader, 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 following Nevada Day weekend, targeting November 2.

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Archery – Antlered Mule Deer	
Standard early seasons	August 10–September 9
Standard late seasons	November 10–20
	December 1–10
	December 16–January 1
	December 1–January 1

Muzzleloader – Antlered Mule Deer	
	September 10– October 4
	November 10–30
	December 1–15
	December 11–20
	November 21–December 10

Any Legal Weapon – Antlered Mule Deer	
Standard (Single Seasons)	October 5–November 2
Early–Late Split Season	October 5–20; October 21–November 5
Early-Mid-Late Split Season	October 5-October 16; October 17-October 30; October 31-November 5
Non-standard Seasons	December 21–January 1
	December 11–January 1
	November 5–30
	December 1–15

Any Legal Weapon – Antlerless	
Standard Early Season	October 10–31
Standard Late Season	November 6–20
Non-standard Seasons	October 5–20
	October 15–30

Antlered mule deer objectives

For standard hunt units, the Department manages toward 25 to 35 bucks per 100 does (targeting center of range) to provide a good experience for hunters that are drawn. The Department also manages some units as "alternative" management areas with higher buck ratios, lower hunter density, and older-age-class animals in the harvest. Alternative management areas are managed 30 to 40 bucks per 100 does (targeting center of range) in no more than 8 hunt units throughout the state. In addition to buck ratio objectives, the Department will consider mean age (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 2 of the 4 criteria are not met, then the Department will recommend no change to the quota allocation from the previous year.

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

Standard Hunts	
Buck ratio objective (post season)	30 bucks to 100 does

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 percentage of harvested bucks ≥5 years old	50–75%
Unit Groups	Western Region: 014; 194, 196
	Eastern Region: 065; 081; 114–115; 131–134
	Southern Region: 221–223; 241–245

Non-standard hunts	
Hunter success objective:	≥45% success
Unit Groups	192; 201, 204; 202, 205–208; 291; 041–042; 261–268; 271–272
Hunter success objective	35–45% success
Unit Groups	015; 021; 195; 203; 211–213; 251–254

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 ≥2,000 individuals, fawn to doe ratios obtained during spring surveys 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

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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 a 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 to compensate for damage to 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. NRS 502.145 limits the number of compensation tags to ≤1.5% of the total number of mule deer and pronghorn tags authorized by the Commission.

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APPENDIX 1

NEVADA ELK POPULATION OBJECTIVES

Plan name and lead agency	Year of publication or revision	Units	Population objective
Bruneau River Watershed Environmental Analysis USFS.	1994	061, 071	Numbers adjusted according to forage monitoring
Western Elko County Elk Management Plan	2003	062, 064, 066–068 065 101, 102, 103	500 200 0
Plan for Elk Management in the Jarbidge Mountains	2000	072 (USFS)	1000
Wells Resource Management Plan, Elk Amendment and Decision Record **Elko County BLM.***	1996	072 (BLM), 073, 074 075 076, 077, 079, 081 078, 105, 106 091 104, 108, 121	420 100 1195 340 125 220
Central Nevada Elk Plan	2004	161, 162, 163, 164 171, 172, 173	850 225
Conservation Agreement for the Spring Mountain National Recreation Area USFS	1998	261	246
Lincoln County Elk Management Plan	2006	231	350
Draft White Pine County Elk Management Plan BLM	2007	111 112 113 114 115 121 131–132 221 222	1200 100 250 500 200 550 300 850 750
Humboldt County Elk Management Plan (2016)	2016	031 032 033 034 035 051	100 100 400 0 0 200

*Target populations are ±10% of stated objective

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