

**UTAH PRONGHORN  
STATEWIDE MANAGEMENT PLAN**



**UTAH DIVISION OF WILDLIFE RESOURCES  
DEPARTMENT OF NATURAL RESOURCES**

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STATEWIDE MANAGEMENT PLAN FOR PRONGHORN

I. PURPOSE OF THE PLAN

A. General

This document is the statewide management plan for pronghorn in Utah. This plan will provide overall direction and guidance to Utah's pronghorn management activities. Included in the plan is an assessment of current life history and management information, identification of issues and concerns relating to pronghorn management in the state, and the establishment of goals, objectives and strategies for future management. The statewide plan will provide direction for establishment of individual pronghorn unit management plans throughout the state.

B. Dates Covered

This pronghorn plan will be in effect upon approval of the Wildlife Board (approved on November 30, 2017, amended November 29, 2018, amended November 28, 2023) and subject to review within 10 years.

II. SPECIES ASSESSMENT

A. Natural History

The pronghorn (*Antilocapra americana*) is the sole member of the family Antilocapridae and is native only to North America. Fossil records indicate that the present-day form may go back at least a million years (Kimball and Johnson 1978). The name pronghorn is descriptive of the adult male's large, black-colored horns with anterior prongs that are shed each year in late fall or early winter. Females also have horns, but they are shorter and seldom pronged. Mature pronghorn bucks weigh 45–60 kilograms (100–130 pounds) and adult does weigh 35–45 kilograms (75–100 pounds).

Pronghorn are North America's fastest land mammal and can attain speeds of approximately 72 kilometers (45 miles) per hour (O'Gara 2004a). They have a large capacity respiratory system and slender, strong legs that lack the dew claws found in the deer family. Pronghorn have large eyes that protrude from the side of the head and provide wide-angle vision thought to be equivalent to an 8-power binocular (O'Gara 2004a). The pelage is darker brown on the back and sides with light colored hair on the belly, throat, and rump. Bucks exhibit prominent black cheek patches with additional black coloring on the face.

Historically, pronghorn ranged throughout much of the United States west of the Mississippi River. Pronghorn were also found in desert habitats in northern Mexico and prairie habitats of southern Canada (Einarsen 1948). Journal entries of the Lewis and

Clark expedition indicated that pronghorn numbers were highest in the Great Plains, where 62 were recorded as harvested for food (Thwaites 1905). The same journals indicated only 3 pronghorn were taken west of the Continental Divide (Thwaites 1905).

Some evidence suggests pronghorn may have numbered over 40 million in North America during the early 1800s (Kimball and Johnson 1978). By 1900, however, pronghorn populations had declined by more than 99 percent due to fencing, habitat loss, and unregulated hunting (Yoakum 1968, Yoakum and O’Gara 2000). Although most ancestral habitats are currently occupied, individual herds are much smaller and many are isolated compared to historical populations. Total population size increased from an estimated 30,500 in 1924 to more than a million pronghorn in 1983 (Yoakum 1986). Current estimates suggest more than 800,000 pronghorn occur across their range in North America (Vore 2016).

Early Utah records (1900s) suggest pronghorn were present throughout Utah, and populations were most abundant in the west desert from Beaver County north to the Idaho state line and in Daggett County in northeastern Utah adjacent to the Wyoming state line (Smith and Beale 1980). Beginning in 1945 and continuing to the present, transplants of pronghorn to other areas in the state have resulted in a wider distribution with pronghorn now occurring in most of Utah’s suitable desert habitats (Figure 1). Transplants and effective management have increased the statewide population to an estimated 15,695 animals (Table 1).

## B. Management

### 1. UDWR Regulatory Authority

The Utah Division of Wildlife Resources operates under the authority granted by the Utah Legislature in Title 23 of the Utah Code. The Division was created and established as the wildlife authority for the state under section 23-14-1 of the Code. This Code also vests the Division with necessary functions, powers, duties, rights, and responsibilities associated with wildlife management within the state. Division duties are to protect, propagate, manage, conserve, and distribute protected wildlife throughout the state.

### 2. Past and Current Management

Management activities for pronghorn in Utah have included transplants, fixed-wing aerial surveys, population classification, harvest, and some research. The first established hunting season in Utah occurred in 1945 in Daggett County, where 50 either sex permits were available to hunters. The total number of pronghorn harvested in Utah each year has generally increased over time to more than 1,200 in recent years (Table 2). The distribution of pronghorn has also increased throughout the state (Figure 1), and herds that support harvest now occur in 28 units or subunits (Table 1).

Counts of pronghorn populations to establish trends in abundance are conducted at least once every two years with fixed-wing aircraft between February and April. Those counts are supplemented with pre-season classification surveys from the ground in August and September to determine fawn production and buck:doe ratios. Hunter surveys occur after fall hunting seasons to determine harvest success.

### C. Habitat

Throughout pronghorn range, an estimated 53 percent of populations occur in grassland, 47 percent in shrub steppe, and < 1 percent in desert (Yoakum 2004a). In Utah, the majority of pronghorn populations occur in shrub-steppe habitat. Large expanses of open, rolling or flat terrain characterize the topography of most occupied habitats. Of particular importance in sustaining pronghorn populations is a forb component in the vegetative mix (Yoakum 2004a). The presence of succulent forbs is essential to lactating females and thus fawn survival during the spring and early summer (Ellis and Travis 1975, Howard et al. 1990). High quality browse, protruding above snow level, can be important for overwinter survival in some pronghorn populations (Yoakum 2004a).

The availability and distribution of free (drinking) water is also important for pronghorn populations and their long-term conservation. Beale and Smith (1970) reported that pronghorn were not observed drinking (although water was readily available) when forbs were abundant with high (> 75%) moisture content. However, during dry periods, pronghorn consumed up to 3 liters of water per animal per day. In Wyoming's Red Desert, 95 percent of 12,465 pronghorn counted from the air occurred within 4 miles of a water source (Sundstrom 1968). Much of Utah's pronghorn habitat lacks naturally available water and water developments (e.g., guzzlers or wells) will be important for persistence and expansion of pronghorn populations within the state.

### D. Population Status

Pronghorn populations occur in much of the suitable habitat found in Utah, but often at relatively low densities. Efforts to reintroduce pronghorn into suitable habitats and to augment existing populations are ongoing. Unit management plans define population objectives, goals, and strategies for each herd unit, and the current statewide population estimate is 15,695 animals (Table 1). Antlerless permits, trapping efforts, or a combination of both are needed to manage some populations at accepted levels.

### E. Research

Only limited research has been conducted on pronghorn in Utah. This research has centered on studies of forage use, water requirements, and productivity of pronghorn populations in western Utah (Smith et al. 1965, Beale and Smith 1970, Smith 1974, Beale and Holmgren 1975). Also included were studies of collaring devices and

immobilization with selected drugs (Beale 1966, Beale and Smith 1967). Udy (1953) studied the effects of predator control on pronghorn populations, and Beale and Smith (1973) looked at bobcat (*Lynx rufus*) predation on pronghorn fawns. More recently, research has focused on use of water sources by pronghorn and interactions between pronghorn and feral horses (Larsen et al. 2011, Larsen et al. 2012, Hall et al. 2016).

### III. ISSUES AND CONCERNS

#### A. Habitat Degradation and Loss

The size and productivity of pronghorn populations are primarily determined by the quantity and quality of habitats available to meet nutritional needs throughout the year. Pronghorn habitat has been and will continue to be lost in parts of Utah as our human population grows due to urbanization, construction of roads, off-highway vehicle (OHV) use, energy development, etc. Degradation of pronghorn habitats is also of concern due to changes in vegetation associated with drought, invasive plants, persistent spring grazing, wildfire, and other disturbances.

A critical limiting factor in some of Utah's pronghorn habitat is the lack of succulent forbs on spring/summer ranges. In other areas, loss of shrubs on winter ranges is of primary concern. Increased fire frequency due to invasive plants such as cheatgrass (*Bromus tectorum*) is a risk for much of Utah's pronghorn habitat. In other areas, encroachment of shrublands by pinyon pine (*Pinus edulis*) or Juniper (*Juniperus* sp.) have reduced availability of forbs and shrubs. As sagebrush ranges and other desert browse habitats mature and lose forb understory, there is a need for range enhancement to improve or even maintain carrying capacity for pronghorn. Utah's Watershed Restoration Initiative can play an important role in maintaining quality pronghorn habitat in the state.

#### B. Water Development

On average, pronghorn require over 3 liters of water each day in the summer (Lee et al. 1998). Continued development of water sources is a critical component of maintaining and expanding pronghorn in Utah. Additionally, regular maintenance of existing water catchments (e.g., guzzlers) continues to be a serious problem shared by UDWR, the public land management agencies, and private landowners. Without a commitment to regular maintenance, benefits from water development to pronghorn and other wildlife are short lived. Although water developments can benefit pronghorn, they must be planned, designed, and spaced appropriately to maximize their effectiveness (Larsen et al. 2012).

#### C. Fences

Fences can be a major problem on pronghorn ranges. Certain types of fences create barriers to movement of pronghorn between seasonal ranges and water or feeding areas.

Fencing of water sources can also prevent access by pronghorn. Woven wire fences constructed to control movements of domestic sheep are of special concern. Fencing specifications most compatible with pronghorn movement consist of a smooth bottom wire 40 – 46 cm (16–18 inches) above the ground (Autenrieth et al. 2006).

#### D. Livestock

Cattle, sheep, and horses are the primary domestic livestock species sharing rangelands with pronghorn, and about 99 percent of pronghorn roam rangelands with livestock at some time during the year (Yoakum and O’Gara 1990). Although those animals have coexisted with pronghorn for centuries, there can be specific situations that are cause for concern. The abundance of forbs and grasses during late gestation and early lactation is a major factor in pronghorn fawn survival. Reduced availability of that forage component due to consumption by livestock in shrub-steppe habitats can result in reduced carrying capacity of rangelands for pronghorn.

On rangelands in good ecological condition, competition for forage is not considered a significant factor. Pronghorn are opportunistic foragers and have strong preference for forbs and shrubs. Grasses are not a major forage component for pronghorn and make up less than 10 percent of the annual diet (Yoakum and O’Gara 2000). Yoakum (2004c) summarized 16 studies and found that cattle and pronghorn experienced limited competition, with an average dietary overlap of less than 25 percent. In areas dominated by grasses, cattle may have a positive influence on pronghorn by removing grasses and increasing availability of forbs and shrubs preferred by this species. Several researchers have observed competition between sheep and pronghorn for forbs and shrubs (Yoakum and O’Gara 1990). Dietary overlap with domestic sheep can be as high as 67 percent (Yoakum 2004b). The presence of domestic livestock on pronghorn fawning areas has also been shown to displace females to less suitable habitat during this critical time (McNay and O’Gara 1982). There is minimal dietary overlap between domestic horses and pronghorn.

#### E. Feral Horses

The horse (*Equus caballus*) is a feral ungulate introduced to North America during the 16th century (Mills and McDonnell 2005). Feral horses have become widespread in Utah where they now occur in wild, free-roaming herds in many areas of Utah currently occupied by pronghorn. Numbers of horses exceed population objectives by almost 30,000 animals in western North America and many populations continue to grow (National Research Council 2013). Feral horses can have negative impacts to vegetation and soil on rangelands, particularly when densities are high (Davies et al. 2014). Moreover, recent research identifies competition between pronghorn and feral horses at water sources as a concern. Horses can limit access to water sources for pronghorn, and pronghorn demonstrated increased vigilance and decreased time foraging or drinking when horses were present (Hall et al. 2016, Gooch et al. 2017).

## F. Disease

The most common diseases that affect pronghorn in Utah are bluetongue and epizootic hemorrhagic disease (EHD). Both diseases are caused by viruses, and cattle are thought to be the primary reservoir for each. Epizootic outbreaks of bluetongue and EHD generally occur during late summer and early autumn, and all sex and age classes may be affected. The most important vectors for bluetongue and EHD are gnats of the genus *Culicoides*, and die-offs can be expected to terminate shortly after temperatures drop below freezing in the fall. Bluetongue caused the loss of 3,200 pronghorn in eastern Wyoming during 1976 and an additional 300 in 1984 (Thorne et al. 1988). Die-offs due to EHD are not well documented, largely due to the difficulty in distinguishing it from bluetongue, but losses to this disease were suspected in several western states and Canadian provinces (O’Gara 2004b). EHD outbreaks and losses have been identified in mule deer (*Odocoileus hemionus*) from southern Utah and are suspected to occur in other species. Although losses to these diseases can be significant, consecutive year die-offs are seldom observed and populations generally recover quickly.

## G. Predation

In Utah, pronghorn are preyed upon by several predators including bobcats, coyotes (*Canis latrans*), golden eagles (*Aquila chrysaetos*), mountain lions (*Puma concolor*), and others. Predation occurs throughout the year, however, fawns are particularly vulnerable during the initial weeks following birth and survival rates can be low. Beale and Smith (1973) documented bobcats as significant predators on pronghorn fawns in a population in western Utah where they accounted for nearly half (27/55) of all mortalities.

The role of predation in limiting pronghorn recruitment, however, is dependent on many factors, including where populations are relative to carrying capacity and habitat quality. Newly established populations of pronghorn may benefit from predator control until an adequate number of does and fawns are available to outpace losses associated with predation. During drought years, fawns may be more susceptible to predation due to a lack of vegetative hiding cover and fewer rodents and other small mammals for coyotes to eat (Shannon et al. 2009). Menzel (1994) demonstrated increased fawn survival from two years of coyote control, however later surveys showed no increase in overall population size. Smith, et al. (1986) showed that predator control was most effective immediately prior to fawning and should be conducted for at least three years to be effective.

## H. Human Interaction

Human interaction with pronghorn in Utah is related mostly to hunting, viewing, and photographing. The visibility of pronghorn in open terrain, especially near roads and highways, makes them popular subjects for non-consumptive users. Recreational use of Utah’s desert and shrub-steppe habitats is increasing each year and has the potential to negatively impact pronghorn habitat if not carefully managed.

## I. Energy Development

The recent expansion of energy development in the West has the potential to impact pronghorn and their habitat. Berger et al. (2007) showed that some pronghorn continued to use areas that were heavily developed, whereas other animals showed strong avoidance to such areas. Sawyer et al. (2002) suggested that energy development could sever migrations corridors for pronghorn and influence the distribution of pronghorn on winter ranges. These changes in distribution could alter the capacity of those ranges to support pronghorn.

In Utah, intensive energy development has occurred within the Myton Bench, East Bench, Bonanza, and Halfway Hollow areas in northeastern Utah. In all of those units, development has occurred or is planned at 1 well per 40-acres (up to 16 wells per section). The direct loss of habitat in these developed areas is approximately 4 acres per well, or about 10 percent of each section. In addition to direct habitat loss, indirect impacts from increased traffic, increased human presence, spread of invasive plants, and other disturbances could lead to avoidance by pronghorn and reduced carrying capacity. Those impacts, both direct and indirect, will likely be compounded during periods of drought.

## J. Transplants/Reintroductions

Most of Utah's current pronghorn populations are a result of transplants (Table 3). Since 1975, the Plateau, Parker Mountain pronghorn population has provided over 5,400 pronghorn for release into areas throughout Utah, as well as other western states. Although few areas of unoccupied pronghorn habitat remain in the state, it is important to continue to use surplus animals from selected units to start new populations or augment existing populations during times of low production. A list of potential translocation sites is provided in Table 4.

## K. Depredation

Pronghorn depredation on croplands is an ongoing challenge and, in some cases, can be a significant issue for private landowners. UDWR has committed substantial resources to identify and address depredation concerns. The Landowner Association and Cooperative Wildlife Management Unit programs are designed to help private landowners benefit from having pronghorn on their property. Additionally, mitigation permits and vouchers are provided to landowners to alleviate damages to agricultural crops and decrease pronghorn densities. Depredation problems should be addressed within the sideboards of state code, rule, and policy, and in a timely and efficient manner to help private landowners have more tolerance of pronghorn on their property.

## L. Movements and Migration

Pronghorn exhibit variation in movements and migration patterns across populations in



relation to differences in habitat and weather conditions. Historically, many pronghorn likely migrated long distances to meet seasonal needs, particularly in northern climates where deep snow forced animals from summer ranges. Fencing and reduction of pronghorn populations by 99 percent during settlement likely eliminated the cultural knowledge associated with many of these movement patterns for individual herds of pronghorn.

Nonetheless, some existing pronghorn populations maintain long-distance movement patterns. Some members of the Sublette herd in Wyoming, for example, migrate more than 240 kilometers (150 miles) from Jackson Hole to the Red Desert (Sawyer et al. 2005). Similarly, marked animals on the prairies in Canada moved more than 225 kilometers (140 miles) south during winter (Hnatiuk 1972). Other populations move much less. In Idaho, average distance between summer and winter ranges varied from 33 to 54 km (20-33 miles), but some individuals moved less than 5 km (3 miles) annually. Little is known about movements or migration of pronghorn in Utah. Average home range size for 6 adult females in Utah's west desert was 126 square kilometers (49 square miles) during the late 1990s (Bates 2000). Utah's Migration Initiative can play an important role in filling this information gap by identifying movement corridors, timing of migrations, and distances traveled. This information will help managers more effectively work with public and private landowners to preserve and restore movement corridors and other critical habitats.

#### IV. USE AND DEMAND

Although the demand for buck pronghorn hunting permits does not approach that of other big game species in Utah, there is considerable interest in hunting pronghorn. Since Utah's big game drawing was initiated in 1998, the number of applicants for buck pronghorn hunting permits has increased from a total of 3,007 applicants in 1998 to 11,187 applicants in 2017 (Table 5). Commensurate with increased demand for these permits, the odds of drawing have decreased since 1998. The odds of drawing a hunting permit for buck pronghorn were 1 in 8.7 for residents in 2017 (1 in 53.0 for nonresidents) compared to 1 in 6.1 for residents (1 in 5.0 for nonresidents) in 1998. Over the past 10 years, more archery and muzzleloader hunting permits have been provided, resulting in lower hunter success rates and increased draw odds.

Unlike antlered cervids such as elk (*Cervus canadensis*) or mule deer, pronghorn achieve maximum horn size at an early age. Maximum horn size was attained at 2–3 years of age for pronghorn in Montana (Mitchell and Maher 2001) and age did not predict Boone and Crockett score beyond 3 years in Alberta (Morton et al. 2008). Similarly, most pronghorn reached maximum horn size by 4 years of age in New Mexico (Brown et al. 2002). Data from Utah show the same pattern with no increase in average horn length after 3 years of age (UDWR, unpublished data). Moreover, annual mortality of male pronghorn in populations that are not hunted has been estimated as high as 24 percent (Keller et al. 2013). Thus, additional hunting opportunities can be provided while still maintaining quality hunting opportunities by managing for relatively young age classes in the harvest.

Pronghorn are also of high interest to the public as a watchable wildlife species. Due to their behavior (active in the daytime) and the habitat they occupy, pronghorn are often visible to recreationists. The proximity of some of Utah's pronghorn populations to the Wasatch Front also contributes to the interest of wildlife viewers in watching pronghorn.

## V. CONCLUSION

Pronghorn are the only surviving member of the family Antilocapridae and occur only in North America. Consequently, pronghorn are an important part of Utah's wildlife heritage. As occupants of some of the state's more xeric habitats, they are dependent on limited resources, especially forbs and water. UDWR has spent considerable time and resources to reintroduce pronghorn to most of the suitable habitats in the state. Management needs will be addressed as necessary on individual herd units in order to maintain viable and well-distributed pronghorn populations for the benefit of all Utah residents. As a unique and impressive part of the state's desert and shrubland fauna, pronghorn are important to the state's wildlife heritage and should be managed for their intrinsic, scientific, educational, and recreational values.

## VI. STATEWIDE MANAGEMENT GOALS AND OBJECTIVES

### **A. Population Management Goal: Manage pronghorn to their population objectives and within the carrying capacity of available habitats.**

**Note:** The statewide population objective is the sum of objectives contained in unit plans.

*Objective 1: Increase pronghorn populations within the state as conditions allow, and manage pronghorn populations to their unit objectives.*

Strategies:

- a. By the end of 2018, complete or update individual unit pronghorn management plans including population goals and objectives for all herd units in the state (unit plans must be consistent with this statewide management plan).
- b. Conduct aerial surveys on all pronghorn management units at least every other year to monitor population trends and herd composition.
- c. Conduct late summer (pre-season) herd classifications on each unit annually.
- d. Use population models and sightability estimates to estimate populations and establish trends.
- e. Use antlerless harvest to manage herds to population objectives and to address habitat issues or depredation concerns.
- f. Implement research or increased monitoring of pronghorn in Utah including herd units used for translocation (e.g., Parker Mountain) and those that are chronically below population objectives to improve understanding, identify problems and recommend solutions.
- g. Investigate and manage diseases that threaten pronghorn populations.

*Objective 2: Augment or reintroduce pronghorn populations as needed and as source populations allow.*

Strategies:

- a. Augment pronghorn populations as needed to meet population objectives (Table 4).
- b. Establish new pronghorn populations in vacant habitat (Table 4).
- c. Coordinate with stakeholders to augment or reintroduce populations.
- d. Monitor the population response of pronghorn in augmentation areas.

### **B. Habitat Management Goal: Conserve and improve pronghorn habitat throughout the state.**

*Objective 1: Maintain or enhance the quantity and quality of pronghorn habitat.*

Strategies:

- a. Identify crucial pronghorn habitats and work with public land managers and private landowners to protect and enhance those areas.
- b. Assist public land management agencies in monitoring the condition and trend

- of pronghorn habitats.
- c. Work with public land management agencies to minimize, and where necessary, mitigate loss or degradation of pronghorn habitat.
  - d. Under the Utah Watershed Restoration Initiative, design, implement, and monitor the effectiveness of habitat improvement projects to benefit pronghorn.
  - e. As part of the Utah Migration Initiative, identify migration routes and corridors along with any barriers (e.g., fences) that impede pronghorn. Modify or mitigate any barriers that impede movement of pronghorn.
  - f. Work with public land management agencies to ensure that any new fence construction within pronghorn habitat follows specifications published in the 2006 Pronghorn Management Guides (Autenrieth et al. 2006) or BLM Fencing Manual (1741). Remove or modify any fences that no longer meet installation objectives.
  - g. Encourage public land managers, permittees, and wildlife biologists to identify areas of potential conflict between livestock and pronghorn and work together to manage conflicts for the benefit of livestock and pronghorn.
  - h. Work with agency and industry representatives to design mitigation or habitat treatments that will offset the impacts of energy development or other surface disturbing actions in pronghorn habitat.
  - i. In conjunction with other land management agencies, develop and implement a maintenance schedule for existing water developments and develop new water sources as needed.

**C. Recreation Goal: Provide opportunities for hunting and viewing of pronghorn**

*Objective 1: Increase hunting opportunities for pronghorn using a variety of harvest strategies.*

Strategies:

- a. Manage all units/subunits for a 3-year average age of harvested animals between 2.0 to 3.0 years of age, while taking trends into account.
- b. Use archery and muzzleloader hunts to distribute hunters and provide additional hunting opportunities.

*Objective 2: Increase opportunities for viewing pronghorn, while educating the public concerning needs of pronghorn.*

Strategies:

- a. Coordinate with UDWR's Outreach Section and use social media to highlight pronghorn and their uniqueness as part of Utah's natural heritage.
- b. Highlight the value and importance of the Parker Mountain population as a source for augmentation of pronghorn herds and for establishment of new herds in Utah and other western states.
- c. Coordinate with UDWR's Outreach Section and work with media organizations to inform and educate the public about pronghorn and pronghorn management in Utah.

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Figure 1. Pronghorn habitat in Utah by big game management unit, Utah 2017.

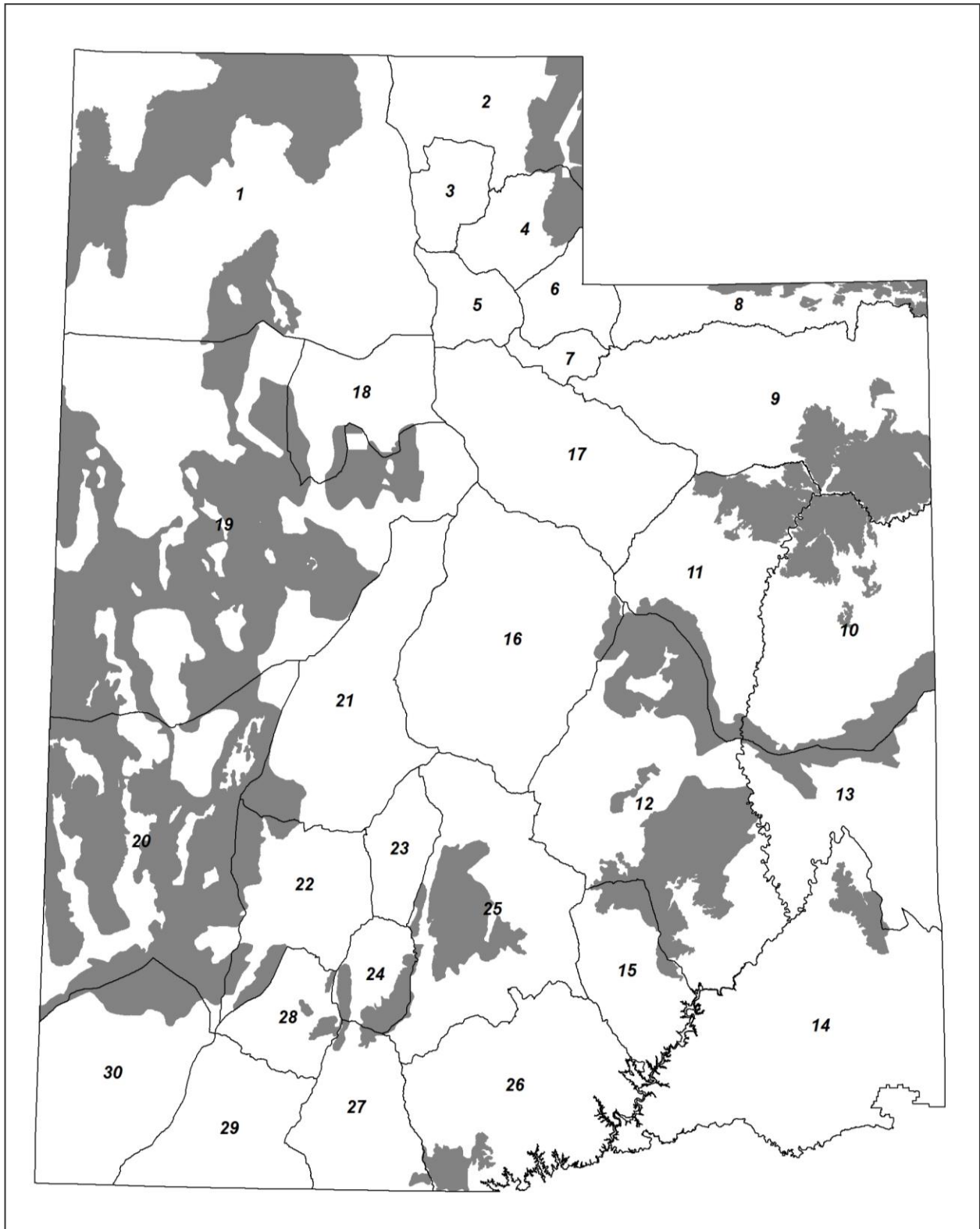


Table 1. Pronghorn population estimates in Utah by management unit for 2008 and 2017.

|                 | Unit                                    | Region | 2008<br>Population<br>Estimate | 2017<br>Population<br>Estimate |
|-----------------|---|--------|--------------------------------|--------------------------------|
| 1               | Box Elder, Promontory                   | NRO    | 200                            | 180                            |
| 1               | Box Elder, Puddle Valley                | CRO    | 100                            | 150                            |
| 1               | Box Elder, Snowville                    | NRO    | 350                            | 450                            |
| 1               | Box Elder, West                         | NRO    | 175                            | 175                            |
| 2,3,4           | Cache/Morgan-South Rich/Ogden           | NRO    | 1,075                          | 800                            |
| 8               | North Slope, Summit                     | NRO    | –                              | –                              |
| 8               | North Slope, Three Corners/West Daggett | NERO   | 800                            | 740                            |
| 9               | South Slope, Bonanza/Diamond Mtn        | NERO   | 775                            | 700                            |
| 9               | South Slope, Vernal                     | NERO   | 300                            | 380                            |
| 10              | Book Cliffs, Bitter Creek               | NERO   | 175                            | 290                            |
| 10              | Book Cliffs, South                      | SERO   | 625                            | 750                            |
| 11              | Nine Mile, Anthro-Myton Bench           | NERO   | 325                            | 750                            |
| 11              | Nine Mile, Range Creek                  | SERO   | 300                            | 220                            |
| 12              | San Rafael, Desert                      | SERO   | 275                            | 240                            |
| 12              | San Rafael, North                       | SERO   | 1,025                          | 1,040                          |
| 13              | La Sal, Potash/South Cisco              | SERO   | 125                            | 530                            |
| 14              | San Juan, Hatch Point                   | SERO   | 175                            | 240                            |
| 19              | West Desert, Riverbed                   | CRO    | 600                            | 450                            |
| 19              | West Desert, Rush Valley                | CRO    | 350                            | 300                            |
| 19              | West Desert, Snake Valley               | CRO    | 350                            | 250                            |
| 20              | Southwest Desert                        | SRO    | 1,675                          | 2,700                          |
| 21              | Fillmore, Oak Creek                     | SRO    | 125                            | 800                            |
| 22              | Beaver                                  | SRO    | 200                            | 550                            |
| 24,27           | Mt. Dutton/Paunsaugunt, Johns Valley    | SRO    | 600                            | 800                            |
| 25              | Plateau, Parker Mtn                     | SRO    | 2,400                          | 1,500                          |
| 26              | Kaiparowits                             | SRO    | 100                            | 60                             |
| 28              | Panguitch Lake/Zion, North              | SRO    | 175                            | 250                            |
| 30              | Pine Valley                             | SRO    | 325                            | 400                            |
| Statewide Total |   |        | 13,700                         | 15,695                         |

Table 2. Statewide pronghorn harvest statistics, Utah 1945–2016.

| Year | Buck harvest | Doe harvest | Total harvest | Hunters afield |
|------|--------------|-------------|---------------|----------------|
| 1945 | 45           | 0           | 45            | 47             |
| 1946 | 62           | 0           | 62            | 66             |
| 1947 | 85           | 0           | 85            | 96             |
| 1948 | —            | —           | —             | —              |
| 1949 | 43           | 0           | 43            | 45             |
| 1950 | 26           | 0           | 26            | 35             |
| 1951 | —            | —           | —             | —              |
| 1952 | —            | —           | —             | —              |
| 1953 | —            | —           | —             | —              |
| 1954 | 39           | 25          | 64            | 75             |
| 1955 | 41           | 15          | 56            | 96             |
| 1956 | 47           | 0           | 47            | 102            |
| 1957 | 34           | 0           | 34            | 93             |
| 1958 | 33           | 0           | 33            | 84             |
| 1959 | 74           | 0           | 74            | 142            |
| 1960 | 99           | 0           | 99            | 161            |
| 1961 | 92           | 0           | 92            | 153            |
| 1962 | 74           | 0           | 74            | 122            |
| 1963 | 50           | 0           | 50            | 190            |
| 1964 | 56           | 0           | 56            | 96             |
| 1965 | 51           | 0           | 51            | 81             |
| 1966 | 73           | 0           | 73            | 105            |
| 1967 | 93           | 0           | 93            | 122            |
| 1968 | 114          | 0           | 114           | 151            |
| 1969 | 139          | 0           | 139           | 169            |
| 1970 | 158          | 0           | 158           | 181            |
| 1971 | 174          | 0           | 174           | 218            |
| 1972 | 198          | 0           | 198           | 251            |
| 1973 | 169          | 0           | 169           | 253            |
| 1974 | 183          | 0           | 183           | 254            |
| 1975 | 190          | 0           | 190           | 232            |
| 1976 | 180          | 0           | 180           | 224            |
| 1977 | 208          | 0           | 208           | 242            |
| 1978 | 276          | 0           | 276           | 314            |
| 1979 | 270          | 0           | 270           | 310            |
| 1980 | 280          | 2           | 282           | 310            |
| 1981 | 323          | 0           | 323           | 339            |
| 1982 | 365          | 35          | 400           | 445            |
| 1983 | 425          | 38          | 463           | 515            |
| 1984 | 500          | 169         | 669           | 733            |
| 1985 | 514          | 151         | 665           | 730            |

Table 2. Statewide pronghorn harvest statistics, Utah 1945–2016 (continued).

| Year | Buck harvest | Doe harvest | Total harvest | Hunters afield |
|------|--------------|-------------|---------------|----------------|
| 1986 | 491          | 288         | 779           | 859            |
| 1987 | 534          | 446         | 980           | 1054           |
| 1988 | 584          | 205         | 789           | 883            |
| 1989 | 617          | 373         | 990           | 1092           |
| 1990 | 605          | 647         | 1252          | 1347           |
| 1991 | 634          | 773         | 1407          | 1577           |
| 1992 | 720          | 821         | 1541          | 1730           |
| 1993 | 602          | 947         | 1549          | 1873           |
| 1994 | 632          | 470         | 1102          | 1301           |
| 1995 | 605          | 195         | 800           | 1310           |
| 1996 | 535          | 92          | 627           | 704            |
| 1997 | 514          | 294         | 808           | 928            |
| 1998 | 522          | 581         | 1103          | 1195           |
| 1999 | 504          | 564         | 1068          | 1195           |
| 2000 | 503          | 128         | 631           | 791            |
| 2001 | 493          | 235         | 728           | 826            |
| 2002 | 512          | 166         | 678           | 840            |
| 2003 | 345          | 272         | 617           | 717            |
| 2004 | 431          | 420         | 851           | 848            |
| 2005 | 603          | 518         | 1121          | 1129           |
| 2006 | 820          | 535         | 1355          | 1672           |
| 2007 | 813          | 514         | 1327          | 1596           |
| 2008 | 849          | 845         | 1694          | 2077           |
| 2009 | 963          | 1053        | 2019          | 2226           |
| 2010 | 840          | 573         | 1413          | 1850           |
| 2011 | 679          | 566         | 1245          | 1449           |
| 2012 | 686          | 715         | 1401          | 1617           |
| 2013 | 817          | 798         | 1615          | 2150           |
| 2014 | 769          | 690         | 1459          | 2014           |
| 2015 | 775          | 733         | 1508          | 2153           |
| 2016 | 737          | 480         | 1217          | 1574           |

Table 3. History of pronghorn transplants in Utah 1945–2016.

| Year | Capture Source         | No. Captured | Unit Number | Unit Name (Release)                     | No. Released |
|------|------------------------|--------------|-------------|---|--------------|
| 1945 | Daggett County, Utah   | 6            | 9           | South Slope, Vernal                     | 6            |
| 1948 | Wyoming                | 34           | 1           | Box Elder, Promontory                   | 13           |
|      |                        |              | 1           | Box Elder, Snowville                    | 21           |
| 1948 | Daggett County, Utah   | 145          | 20          | Southwest Desert                        | 145          |
| 1949 | Wyoming                | 138          | 9           | South Slope, Vernal                     | 138          |
| 1949 | Daggett County, Utah   | 67           | 9           | South Slope, Diamond Mountain / Bonanza | 32           |
|      |                        |              | 12          | San Rafael, Desert                      | 35           |
| 1964 | Gardner, Montana       | 20           | 25          | Plateau, Parker Mountain                | 20           |
| 1965 | Chinook, Montana       | 109          | 25          | Plateau, Parker Mountain                | 109          |
| 1967 | Bison Range, Montana   | 45           | 20          | Southwest Desert                        | 17           |
|      |                        |              | —           | North Logan Pens                        | 28           |
| 1970 | Sybillie, Wyoming      | 22           | 26          | Kaiparowits                             | 22           |
| 1971 | Lusk, Wyoming          | 155          | 11          | Nine Mile, Anthro                       | 71           |
|      |                        |              | 14          | San Juan, Hatch Point                   | 84           |
| 1971 | Daggett County, Utah   | 229          | 11          | Nine Mile, Anthro                       | 30           |
|      |                        |              | 14          | San Juan, Hatch Point                   | 88           |
|      |                        |              | 26          | Kaiparowits                             | 105          |
|      |                        |              | —           | North Logan Pens                        | 6            |
| 1972 | North Logan Pens, Utah | 8            | 1           | Box Elder, Snowville                    | 8            |
| 1972 | Daggett County, Utah   | 150          | 12          | San Rafael, North                       | 150          |
| 1972 | North Logan Pens, Utah | 7            | 12          | San Rafael, North                       | 7            |
| 1973 | North Logan Pens, Utah | 7            | 1           | Box Elder, Snowville                    | 7            |
| 1975 | Parker Mountain, Utah  | 145          | 1           | Box Elder, Puddle Valley                | 70           |
|      |                        |              | 24          | Mt. Dutton                              | 75           |
| 1979 | Parker Mountain, Utah  | 77           | 24          | Mt. Dutton                              | 77           |
| 1979 | Parker Mountain, Utah  | 72           | 1           | Box Elder, Puddle Valley                | 72           |
| 1981 | Snowville, Utah        | 31           | 1           | Box Elder, Pilot Mountain               | 31           |
| 1982 | Parker Mountain, Utah  | 95           | 1           | Box Elder, Pilot Mountain               | 55           |
|      |                        |              | 11          | Nine Mile, Range Creek                  | 40           |
| 1982 | Parker Mountain, Utah  | 222          | 1           | Box Elder, Pilot Mountain               | 145          |
|      |                        |              | 10          | Book Cliffs, Bitter Creek               | 22           |
|      |                        |              | —           | Hogle Zoo, Utah                         | 6            |
|      |                        |              | —           | Arizona                                 | 49           |
| 1982 | Snowville, Utah        | 149          | 1           | Box Elder, Pilot Mountain               | 24           |
|      |                        |              | 11          | Nine Mile, Range Creek                  | 125          |
| 1983 | Maybell, Colorado      | 340          | 10          | Book Cliffs, Bitter Creek               | 114          |
|      |                        |              | 11          | Nine Mile, Anthro                       | 136          |
| 1983 | Summitt County, Utah   | 277          | —           | Antelope Island                         | 27           |
| 1983 | Parker Mountain, Utah  | 237          | 9           | South Slope, Vernal                     | 42           |
|      |                        |              | 10          | Book Cliffs, South (Cisco)              | 150          |
|      |                        |              | 20          | Southwest Desert                        | 45           |
| 1984 | Snowville, Utah        | 149          | —           | Nevada                                  | 149          |
| 1984 | Parker Mountain, Utah  | 320          | 1           | Box Elder, Puddle Valley                | 74           |
|      |                        |              | 9           | South Slope, Vernal                     | 45           |
|      |                        |              | 10          | Book Cliffs, Bitter Creek               | 49           |
|      |                        |              | 12          | San Rafael, Desert                      | 151          |

Table 3. History of pronghorn transplants in Utah, 1945–2016 (continued).

| Year | Capture Source        | No. Captured | Unit Number | Unit Name (Release)         | No. Released |
|------|-----------------------|--------------|-------------|-----------------------------|--------------|
| 1985 | Parker Mountain, Utah | 301          | 10          | Book Cliffs, Bitter Creek   | 144          |
|      |                       |              | 12          | San Rafael, Desert          | 157          |
| 1986 | Parker Mountain, Utah | 319          | 14          | San Juan, Hatch Point       | 150          |
|      |                       |              | 19          | West Desert, Rush Valley    | 75           |
|      |                       |              | 28          | Panguitch Lake              | 94           |
| 1987 | Parker Mountain, Utah | 291          | 9           | South Slope, Vernal         | 80           |
|      |                       |              | 19          | West Desert, Rush Valley    | 68           |
|      |                       |              | 20          | Southwest Desert            | 74           |
|      |                       |              | 28          | Panguitch Lake              | 57           |
|      |                       |              | —           | North Logan Pens            | 12           |
| 1990 | Parker Mountain, Utah | 244          | —           | Nevada                      | 244          |
| 1997 | Parker Mountain, Utah | 187          | —           | —————                       | 187          |
| 1998 | Parker Mountain, Utah | 336          | —           | —————                       | 336          |
| 2000 | Parker Mountain, Utah | 104          | 21          | Fillmore, Black Rock Desert | 102          |
| 2001 | Parker Mountain, Utah | 160          | 21          | Fillmore, Black Rock Desert | 23           |
|      |                       |              | —           | —————                       | 137          |
| 2003 | Parker Mountain, Utah | 339          | 26          | Kaiparowits                 | 200          |
|      |                       |              | 21          | Fillmore, Black Rock Desert | 39           |
|      |                       |              | —           | Antelope Island             | 100          |
| 2004 | Parker Mountain, Utah | 463          | 26          | Kaiparowits                 | 85           |
|      |                       |              | 28          | Panguitch Lake              | 26           |
|      |                       |              | —           | Arizona                     | 39           |
|      |                       |              | —           | Idaho                       | 205          |
|      |                       |              | —           | Nevada                      | 98           |
| 2005 | Parker Mountain, Utah | 369          | 10          | Book Cliffs, Bitter Creek   | 43           |
|      |                       |              | 11          | Nine Mile, Anthro           | 53           |
|      |                       |              | 11          | Nine Mile, Range Creek      | 44           |
|      |                       |              | 12          | San Rafael, North           | 24           |
|      |                       |              | 12          | San Rafael, Desert          | 24           |
|      |                       |              | 26          | Kaiparowits                 | 75           |
|      |                       |              | 28          | Panguitch Lake              | 31           |
|      |                       |              | —           | Ute Tribe                   | 33           |
|      |                       |              | —           | Arizona                     | 38           |
| 2006 | Parker Mountain, Utah | 179          | 10          | Book Cliffs, Bitter Creek   | 39           |
|      |                       |              | 11          | Nine Mile, Anthro           | 35           |
|      |                       |              | 11          | Nine Mile, Range Creek      | 25           |
|      |                       |              | 12          | San Rafael, Desert          | 26           |
|      |                       |              | 12          | San Rafael, North           | 48           |
| 2007 | Parker Mountain, Utah | 197          | 1           | Box Elder, Puddle Valley    | 50           |
|      |                       |              | 10          | Book Cliffs, Bitter Creek   | 20           |
|      |                       |              | 11          | Nine Mile, Anthro           | 27           |
|      |                       |              | 19          | West Desert, Snake Valley   | 100          |

Table 3. History of pronghorn transplants, Utah 1945–2016 (continued).

| Year | Capture Source        | No. Captured | Unit Number | Unit Name (Release)       | No. Released |
|------|-----------------------|--------------|-------------|---------------------------|--------------|
| 2008 | Parker Mountain, Utah | 278          | 10          | Book Cliffs, Bitter Creek | 49           |
|      |                       |              | 11          | Nine Mile, Anthro         | 50           |
|      |                       |              | 11          | Nine Mile, Range Creek    | 23           |
|      |                       |              | 28          | Panguitch Lake            | 50           |
|      |                       |              | —           | Arizona                   | 104          |
| 2009 | Parker Mountain, Utah | 296          | 19          | West Desert, Snake Valley | 173          |
|      |                       |              | 26          | Kaiparowits               | 23           |
|      |                       |              | 10          | Book Cliffs, Bitter Creek | 50           |
|      |                       |              | 11          | Nine Mile, Anthro         | 50           |
| 2014 | Parker Mountain, Utah | 237          | 10          | Book Cliffs, Bitter Creek | 51           |
|      |                       |              | 11          | Nine Mile, Anthro         | 50           |
|      |                       |              | 14          | San Juan                  | 74           |
|      |                       |              | 19          | West Desert, Snake Valley | 62           |

Table 4. Potential augmentation or reintroduction sites for future pronghorn releases in Utah, 2017–2027 (Amended 11/28/2023).<sup>1</sup>

| Region       | Type of Transplant |       | Unit                                    | Location(s)   |
|--------------|--------------------|-------|---|---|
| Northern     | Augmentation       | 1     | Antelope Island                         | Beacon Knob, Frary Homesite, Garden Creek, South of Fielding Garr Ranch   |
|              | Augmentation       | 1     | Box Elder                               | Promontory (E. side Locomotive Springs Rd., Monument Point), Snowville (Matlin Mtn, Peplin Mtn), West (Pilot Mtn)   |
|              | Augmentation       | 2     | Cache, North Rich                       | Crawford Mtn, Rabbit Creek, S. Fork Six Mile Creek, Upper Otter Creek, Woodfuff Co-op   |
| Northeastern | Augmentation       | 8     | North Slope, West Daggett/Three Corners | Antelope Flat, Bare Top, Clay Basin, Conner Basin, Death Valley, Goslin Mtn   |
|              | Augmentation       | 9     | South Slope, Vernal                     | Asphalt Ridge, Halfway Hollow and Brennan Bottoms   |
|              | Augmentation       | 9     | South Slope, Bonanza/Diamond Mtn        | Coyote Basin, Snake John, and Kennedy Wash  |
|              | Augmentation       | 10    | Book Cliffs, Bitter Creek               | Agency Draw, East Bench, Middle Ridge, and Winter Ridge   |
|              | Augmentation       | 11    | Nine Mile, Anthro-Myton Bench           | Nutter’s Ridge, Chokecherry, Little Desert, and Wire Fence  |
| Central      | Augmentation       | 1     | Box Elder, Puddle Valley                | Marblehead and North Grassy Mtn   |
|              | Augmentation       | 19    | West Desert, Riverbed                   | Simpson Springs South to Table Mtn  |
|              | Augmentation       | 19    | West Desert, Snake Valley               | Confusion Range and Honeycomb Hills   |
| Southeastern | Augmentation       | 11    | Nine Mile, Range Creek                  | West Tavaputs Plateau   |
|              | Augmentation       | 12    | San Rafael, North                       | Furniture Draw, South Sand Beach  |
|              | Reintroduction     | 12    | San Rafael, North                       | Sage Bench/Sinkhole Flat/Jackass Flat   |
|              | Augmentation       | 12    | San Rafael, Desert                      | Indian Flat, Greasewood Draw, Cottonwood Ridge, Goblin Valley, Antelope Valley (Emery County), Antelope Valley (Wayne County), Flat Tops area, Robbers Roost, Twin Corral Flats |
|              | Augmentation       | 13    | La Sal, South Cisco                     | Big Flat by Dead Horse Point  |
|              | Augmentation       | 14    | San Juan, Hatch Point                   | Hatch Point   |
| Southern     | Augmentation       | 20    | Southwest Desert                        | Antelope Valley, Cricket Mtn, Escalante Desert, Hamlin Valley, Pine Valley, Wah Wah Valley  |
|              | Augmentation       | 24/27 | Mt. Dutton/Paunsaugunt                  | East Bench, Hatch Bench, Johns Valley   |
|              | Augmentation       | 25    | Parker Mountain                         | Smooth Knoll  |
|              | Augmentation       | 26    | Kaiparowits                             | Hole in the Rock, Clark Bench/Big Water   |
|              | Augmentation       | 28    | Panguitch Lake                          | Bower Flat, Little Sandy Flats, Little Valleys, Sage Hen Hollow   |

<sup>1</sup> In accordance with Utah Code 23-14-21.



Table 5. Drawing odds for limited entry permits to hunt pronghorn in Utah, 1998–2017.

| Year | Residents  |         |           | Nonresidents |         |           |
|------|------------|---------|-----------|--------------|---------|-----------|
|      | Applicants | Permits | Odds      | Applicants   | Permits | Odds      |
| 1998 | 2832       | 468     | 1 in 6.1  | 175          | 35      | 1 in 5.0  |
| 1999 | 3083       | 508     | 1 in 6.1  | 222          | 42      | 1 in 5.3  |
| 2000 | 3180       | 496     | 1 in 6.4  | 254          | 40      | 1 in 6.4  |
| 2001 | 4057       | 493     | 1 in 8.2  | 356          | 41      | 1 in 8.7  |
| 2002 | 4479       | 471     | 1 in 9.5  | 369          | 40      | 1 in 9.2  |
| 2003 | 4974       | 377     | 1 in 13.2 | 426          | 33      | 1 in 12.9 |
| 2004 | 5000       | 402     | 1 in 12.4 | 431          | 29      | 1 in 14.9 |
| 2005 | 5697       | 566     | 1 in 10.1 | 489          | 47      | 1 in 10.4 |
| 2006 | 5737       | 806     | 1 in 7.1  | 537          | 74      | 1 in 7.3  |
| 2007 | 5856       | 790     | 1 in 7.4  | 606          | 61      | 1 in 9.9  |
| 2008 | 5315       | 879     | 1 in 6.0  | 471          | 75      | 1 in 6.3  |
| 2009 | 5546       | 962     | 1 in 5.8  | 2230         | 81      | 1 in 27.5 |
| 2010 | 5854       | 930     | 1 in 6.3  | 2343         | 83      | 1 in 28.2 |
| 2011 | 5450       | 633     | 1 in 8.6  | 2280         | 47      | 1 in 48.5 |
| 2012 | 5650       | 630     | 1 in 9.0  | 2419         | 63      | 1 in 38.4 |
| 2013 | 5965       | 792     | 1 in 7.5  | 2678         | 82      | 1 in 32.7 |
| 2014 | 6217       | 736     | 1 in 8.4  | 2905         | 72      | 1 in 40.3 |
| 2015 | 6274       | 758     | 1 in 8.3  | 3152         | 76      | 1 in 41.5 |
| 2016 | 6486       | 731     | 1 in 8.9  | 3387         | 71      | 1 in 47.7 |
| 2017 | 7148       | 819     | 1 in 8.7  | 4039         | 75      | 1 in 53.9 |