

**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. The plan will provide overall direction and guidance to Utah's pronghorn management activities. Included 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 programs. The statewide plan will provide direction for establishment of individual pronghorn unit management plans throughout the state.

B. Dates Covered

The pronghorn plan was approved on January 8, 2009 and will be in effect for a period of eight years from that date.

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 and may have numbered over 40 million during the early nineteenth century (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 short horns, but are seldom pronged. Mature pronghorn bucks weigh 100–130 pounds and adult does weigh 75–100 pounds.

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

Historically, the pronghorn ranged throughout much of the United States west of the Mississippi River. Pronghorn were also found in the 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

indicate only 3 taken west of the Continental Divide. It is estimated that by 1900 pronghorn numbers declined by more than 99% because of 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. Introductions of pronghorn outside their historic ranges, including into eastern Washington and the Hawaiian Islands, have been largely unsuccessful (Yoakum 2004a). Total population numbers have increased from an estimated 30,500 in 1924 to more than a million pronghorn in 1983 (Yoakum 1986). Currently pronghorn numbers across their range are estimated at 1.1 million.

Pronghorn populations in Utah during the early 1900’s were located 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 in most of Utah’s suitable desert habitats (Figure 1) and have increased the statewide population to an estimated 12,000–14,000 animals.

## 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 programs for pronghorn in Utah have included transplants, fixed-wing aerial surveys, population classification, harvest management, and limited research. The first established hunting season in the state was in 1945 in Daggett County, where 50 either sex permits were made available to hunters. The total number of pronghorn harvested in Utah has remained relatively small over the years, but has generally been increasing (Table 1). Currently 20 of Utah’s 30 big game management units have pronghorn populations (Figure 1). The current statewide pronghorn population is estimated at 12,000–14,000 animals and is distributed over 29 subpopulations within the 20 management units.

Trend counts of pronghorn populations are conducted annually with fixed-wing aircraft between February and April. Those are supplemented with pre-season classification counts from the ground in August and September to determine fawn production and buck:doe ratios. Hunter surveys are conducted after fall hunting seasons to determine harvest success.

Limited research has been conducted on pronghorn populations in Utah. This research has principally 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 predation on pronghorn fawns.

### C. Habitat

Throughout the pronghorn's range, an estimated 53% of populations occur in grasslands, 47% in shrub steppes, and < 1% in deserts (Yoakum 2004b). In Utah, nearly all pronghorn populations occur in shrubsteppe habitat. Large expanses of open, low rolling or flat terrain characterize the topography of most of those habitats. Of particular importance in sustaining pronghorn populations is a strong forb component in the vegetative mix (Yoakum 2004b). The presence of succulent forbs is essential to lactating does 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, is especially critical to winter survival of pronghorn (Yoakum 2004b).

The abundance of free water sources is important to long-term pronghorn population viability. Beale and Smith (1970) reported that pronghorn were not observed drinking although water was readily available when forbs were abundant and their moisture content was 75% or greater. However, during extremely dry periods, water consumption was 3 liters per day per animal. In Wyoming's Red Desert, 95% of 12,465 pronghorn counted from the air were within 4 miles of a water source (Sundstrom 1968). Much of Utah's pronghorn habitat shows a scarcity of naturally available water and artificial water developments will be important in order to expand the useable range within the state.

### D. Population Status

Pronghorn populations are currently established in most suitable habitats throughout Utah. The current statewide population estimate is 12,000–14,000 distributed over about 29 separate subunit areas. Efforts to reintroduce pronghorn into suitable historic habitats, as well as augment existing populations, are ongoing. Some subunits are at population objective levels and doe/fawn permits, trapping efforts, or a combination of both are used to maintain population levels.

## III. ISSUES AND CONCERNS

### A. Habitat Degradation or Loss

A critical limiting factor in much of Utah's pronghorn habitat is the lack of succulent forbs and grasses on spring/summer ranges. This is the result of xeric, low annual

precipitation conditions on many of Utah's pronghorn units, combined with persistent early spring grazing practices. As sagebrush ranges and other desert browse habitats mature and lose forb and grass understory, there is a need for range enhancement and modified spring grazing practices to improve or even maintain carrying capacity for pronghorn. Utah's Watershed Restoration Initiative program could play an important role in maintaining quality pronghorn habitat in the state.

## B. Water Development

Continued water development is a critical component of maintaining and expanding pronghorn ranges in Utah. Additionally, regular maintenance of existing artificial water catchments 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 species are short-term and a waste of the initial investment. Although water developments can benefit pronghorn, they can have negative impacts on other species (e.g., kit fox). It is essential that managers take the possible negative impacts to other species into consideration before proceeding with water development projects.

## C. Fences

Fences can be a major problem on pronghorn ranges. Certain types of fences are total barriers to movement of pronghorn between seasonal ranges and water and feeding areas. Fencing of water holes can prevent access by pronghorn. Woven wire fences constructed to control movements of domestic sheep are of special concern. Although no specific fence design can be applied specifically to allow pronghorn access, the specifications most compatible with pronghorn movements consist of three strands of wire, a smooth bottom wire 16–18 inches above ground, and a total height of no more than 36 inches (Autenrieth et al. 2006).

## D. Livestock

Cattle, sheep, and horses are the primary domestic livestock species sharing rangelands with pronghorn, and about 99% 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 shrubsteppe habitats can result in reduced carrying capacity for pronghorns. On rangelands in good ecological condition, competition for forage is not generally a significant factor. In areas dominated by grasses, cattle can have a positive affect on pronghorn by removing the grasses and increasing the availability of forbs and shrubs preferred by pronghorn. Several researchers have observed competition between sheep and pronghorn for forbs and shrubs (Yoakum and O'Gara 1990). The presence of domestic livestock on pronghorn fawning areas has been shown to displace does to less suitable habitat during this critical time (McNay and O'Gara 1982). There is

minimal dietary overlap between horses and pronghorn although horses can severely deplete limited water sources during dry years.

#### E. 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. 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 no-see-um gnats of the genus *Culicoides*, and die-offs can be expected to terminate shortly after temperatures drop below freezing. Bluetongue caused the loss of 3200 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 the disease were suspected in several western states and Canadian provinces (O’Gara 2004). EHD outbreaks and losses have been documented in mule deer from southern Utah and are suspected to occur in other species. Although losses to these diseases can be significant, consecutive year mass die-offs are seldom seen and populations generally recover quickly.

#### F. Predation

The role of predation in limiting pronghorn recruitment is likely dependent on many other factors. On units where habitat quality is marginal and water availability and distribution is limited, predation can play a significant role in keeping populations from expanding. In those situations, predator control can be used to increase fawn survival. Smith, et al. (1986) showed that predator control was most effective immediately prior to fawning and must be conducted for at least every three years to be effective. Although Menzel (1994) showed increased fawn survival from two years of coyote control, later surveys showed no increase in overall populations. Beale and Smith (1973) documented bobcats as significant predators on pronghorn fawns in a population in western Utah.

#### G. Human Interaction

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

#### H. Energy Development Impacts

The recent expansion of energy development in the West has the potential to have serious impacts to pronghorn and their habitat. Although few final studies exist on the effects of energy development on pronghorn exist, some preliminary results are available. Berger

et. al. (2007) showed that some pronghorn continued to use areas that were heavily developed, whereas others other animals showed strong avoidance to such areas. Sawyer et. al. (2002) suggest that energy development could sever migrations corridors for pronghorn and could influence the winter distribution of pronghorn on winter ranges. The changes in distribution could change the capacity of those ranges to support pronghorn.

In Utah, intensive energy development is occurring within the Myton Bench, East Bench, Bonanza, and Halfway Hollow areas in northeastern Utah. In all of those units, development is occurring at 1 well per 40-acres, or up to 16 wells per section. The direct loss of habitat in those areas is approximately 4 acres per well, or about 10% of each section. In addition to the direct habitat loss, there are indirect impacts from increased traffic, increased human presence, spread of invasive weed species, poaching, and other disturbances that could lead to pronghorn avoiding areas with intense development and a reduction in pronghorn carrying capacity. Those impacts, both direct and indirect, will likely be compounded during times of drought.

#### I. Transplants/Reintroductions

Most of Utah's current pronghorn populations are a result of transplants (Table 2). Since 1975, the Parker Mountain pronghorn population (Plateau Unit) has provided over 4,500 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 augment existing populations during times of very low production.

#### J. Hunting

The first established hunting season in Utah occurred in 1945 in Daggett County, where 50 either sex permits were made available to hunters. Since 1945, harvest levels generally increased until 1993 when a total of 1949 pronghorn (602 bucks, 947 does) were harvested by 1873 hunters (Table 1). Following 1993, permits were decreased due to the droughts of the mid 1990s and early 2000s, but have been increasing since 2003. In 2007, 939 total buck pronghorn permits were allocated to hunters with a harvest success of 90%. In addition to those buck permits, 513 doe/fawn permits were sold with a success rate of 76%.

### 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 (Table 3). Since Utah's big game drawing was initiated in 1998, the number of applicants for buck pronghorn hunting permits has more than doubled from a total of 3007 applicants in 1998 to 6462 applicants in 2007. In 2008, the number of total applicants decreased slightly to 5786, likely due to the new license requirements implemented by the DWR. Although the demand for these permits has increased, the odds of drawing a permit have decreased in recent years. The major

factor contributing to the decreasing odds is the productivity of the Parker Mountain herd, which has allowed the DWR to increase permits over the past 6 years. The odds of drawing a buck pronghorn hunting permit were 1 in 6.1 in 2008 with the worst odds of drawing a permit occurring in 2003 when the odds of drawing were 1 in 13.2.

Pronghorn are also a high-interest watchable wildlife species. Pronghorn are native to Utah, and, due to the openness of the terrain they occupy, pronghorn are more apt to be visible to recreationists than many big game species. The relative closeness 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 an important part of Utah's wildlife heritage. As occupants of the state's more xeric habitats, they are very dependent on limited resources, especially water. The Division has spent considerable time and resources to reintroduce pronghorn to most of the suitable habitat 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: Increase current population or establish new populations of pronghorn in all suitable habitat within the state.**

*Objective 1: Increase pronghorn populations within the state as conditions allow. Once unit objectives are established, bring all populations to objective by 2017.*

Strategies:

- a. By 2010, complete individual unit pronghorn management plans including population goals and objectives for all units identified in this plan (Table 4). Plans will include discussions on needs related to habitat and water development, fences, livestock use, predation, and other factors that may influence pronghorn viability.
- b. Conduct annual aerial surveys on all pronghorn management units to monitor population trends and herd composition.
- c. Conduct annual late summer herd classifications on each unit.
- d. Use population modeling and sightability to estimate population trends.

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

Strategies:

- a. Augment pronghorn populations as needed to meet population objectives, where habitat conditions allow (Table 5).
- b. Complete necessary coordination and environmental assessments to accomplish population augmentations or reintroductions.
- c. Monitor pronghorn in reintroduction areas to determine whether additional augmentations are needed.

### **B. Habitat Management Goal: Assure sufficient habitat is available to sustain healthy and productive pronghorn populations.**

*Objective 1: Maintain or enhance the quantity and quality of pronghorn habitat to allow populations to increase.*

Strategies:

- a. Identify crucial pronghorn habitats and work with public and private land managers 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. Identify additional habitat that has potential for pronghorn reintroduction following habitat enhancement. Identify the limiting factors in those habitats that currently preclude reintroduction of pronghorn and, where deemed feasible, work to minimize or eliminate those limiting factors.

- e. Under the Utah Watershed Restoration Initiative, design, implement, and monitor the effectiveness of habitat improvement projects to benefit pronghorn.
- f. Identify fences which impede pronghorn travel or migration and either modify the fences or remove fences that no longer serve installation objectives.
- g. 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 the BLM Fencing Manual 1741.
- h. Encourage public land managers and permittees to reduce spring livestock grazing in crucial pronghorn fawning areas to support forb growth for lactating female pronghorn.
- i. 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.
- j. In conjunction with other land management agencies, develop and implement a maintenance schedule for existing water developments and develop new water sources as needed, taking into consideration potential negative impacts on other species.

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

*Objective 1: Increase pronghorn hunting opportunities as populations allow using a variety of harvest strategies, while maintaining a high quality hunting experience and the potential to harvest a mature buck.*

Strategies:

- a. Manage all units/subunits for a 3-year average postseason buck:doe ratio between 25–40 bucks / 100 does.
- b. Maintain buck hunting success during the any weapon season at a minimum of 80%.

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

Strategies:

- a. Install interpretive signs in selected areas where the public can readily view pronghorn.
- b. Produce brochures and a species account highlighting pronghorn and their uniqueness as part of Utah's fauna and make them available at viewing sites and Division offices.
- c. Highlight the value and importance of the Parker Mountain population as a source population for augmentation of pronghorn herds impacted by drought, and for establishment of new herds in Utah and other western states.
- d. Work with media to inform and educate the public about pronghorn and pronghorn management in Utah.

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Figure 1. Statewide pronghorn habitat by big game management unit, Utah 2008.

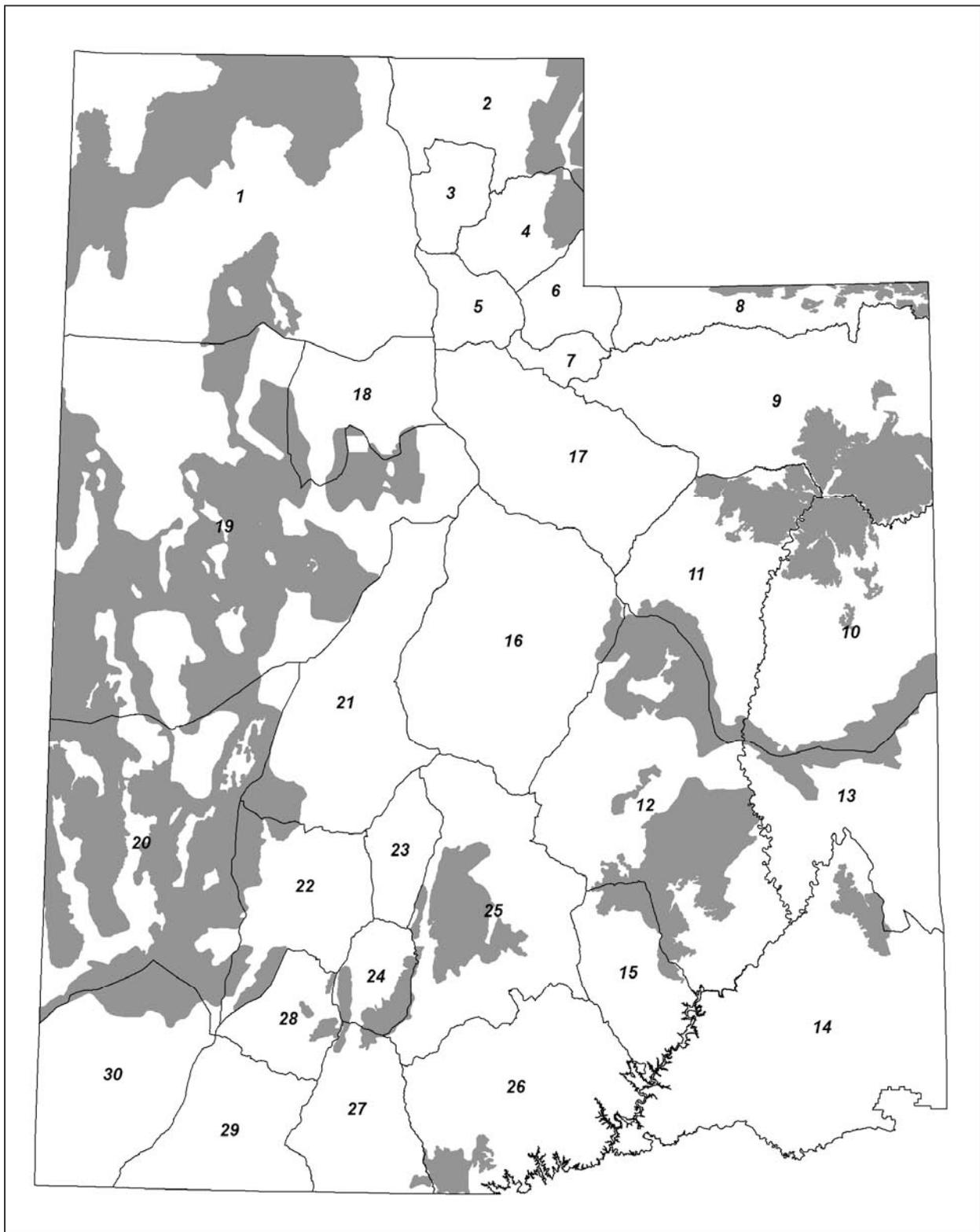


Table 1. Statewide pronghorn harvest statistics, Utah 1945–2007.

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 1. Statewide pronghorn harvest statistics, Utah 1945–2007 (cont.).

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

Table 2. History of pronghorn transplants, Utah 1945–2007.

Year	Capture source	# captured		Unit released	# 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 2. History of pronghorn transplants, Utah 1945–2007 (cont.).

Year	Capture source	# captured		Unit released	# 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
			9	South Slope, Vernal	80
1987	Parker Mountain, Utah	291	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
			X	Antelope Island	100
2004	Parker Mountain, Utah	463	26	Kaiparowits	85
			28	Panguitch Lake	26
			X	Arizona	39
			X	Idaho	205
			X	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
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. Limited Entry drawing odds of obtaining a buck pronghorn permit, Utah 1998–2008.

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

Table 4. Pronghorn population estimates and trends by management unit, Utah 2008.

	Unit	Region	Population estimate	5-year trend	10-year trend
1	Box Elder, Pilot Mountain	NRO	175	Up	Up
1	Box Elder, Promontory	NRO	200	Up	Up
1	Box Elder, Puddle Valley	CRO	100	Down	Down
1	Box Elder, Snowville	NRO	350	Up	Up
2	Cache, North Rich	NRO	475	Up	Up
4	Morgn-South Rich	NRO	600	Stable	Stable
8	North Slope, Summit	NRO	–	Stable	Stable
8	North Slope, West Daggett / Three Corners	NERO	800	Up	Up
9	South Slope, Vernal	NERO	300	Up	Down
9	South Slope, Bonanza / Diamond Mountain	NERO	775	Down	Down
10	Book Cliffs, Bitter Creek	NERO	175	Down	Down
10	Book Cliffs, South (Cisco)	SERO	625	Up	Down
11	Nine Mile, Anthro	NERO	325	Down	Down
11	Nine Mile, Range Creek	SERO	300	Stable	Stable
12	San Rafael, North	SERO	1025	Up	Up
12	San Rafael, Desert	SERO	275	Up	Up
13	La Sal, South Cisco	SERO	125	Up	Up
14	San Juan, Hatch Point	SERO	175	Stable	Down
19	West Desert, Riverbed	CRO	600	Stable	Stable
19	West Desert, Rush Valley	CRO	350	Up	Up
19	West Desert, Snake Valley	CRO	350	Down	Down
20	Southwest Desert	SRO	1675	Up	Up
21	Filmore, Black Rock Desert	SRO	125	Up	NA
22	Beaver	SRO	200	Up	Up
24 / 27	Mt. Dutton / Paunsaugunt	SRO	600	Stable	Stable
25	Plateau, Parker Mountain	SRO	2400	Down	Up
26	Kaiparowits	SRO	100	Stable	Stable
28	Panguitch	SRO	175	Up	Stable
30	Pine Valley	SRO	325	Up	Up
Statewide total			13700	Up	Up

Table 5. Potential augmentation and reintroduction sites for future pronghorn releases, Utah 2009–2016.<sup>1</sup>

Region	Type of Transplant		Unit	Location
Northern	—	—	—	—
Northeastern	Augmentation	9	South Slope, Vernal	—
	Augmentation	9	South Slope, Bonanza	—
	Augmentation	10	Book Cliffs, Bitter Creek	East Bench
	Augmentation	11	Nine Mile, Anthro	Myton Bench
Central	Augmentation	1	Box Elder, Puddle Valley	Marblehead
	Augmentation	1	Box Elder, Puddle Valley	North Grassy Mountain
	Augmentation	19	West Desert, Riverbed	—
	Augmentation	19	West Desert, Snake Valley	Conger Mountain
	Augmentation	19	West Desert, Snake Valley	Confusion Mountain
	Augmentation	19	West Desert, Snake Valley	Honey Comb Hills
Southeastern	Augmentation	10	Book Cliffs, Cisco	Floy Canyon
	Augmentation	11	Nine Mile, Range Creek	Woodside
	Augmentation	11	Nine Mile, Range Creek	Soldier Creek
	Augmentation	13	La Sal, South Cisco	West of Floy Canyon
	Augmentation	13	La Sal, South Cisco	South of Thompson
	Augmentation	13	La Sal, South Cisco	Big Flat by Dead Horse Point
	Augmentation	14	San Juan, Hatch Point	Hatch Point
	Reintroduction	11	Nine Mile, Range Creek	West Tavaputs Plateau
	Reintroduction	16	Central Mountains, Manti	West of SR 10
Southern	Augmentation	24	Mt. Dutton	East Bench of Panguitch
	Augmentation	26	Kaiparowits	—
	Augmentation	28	Panguitch Lake	Sage Hen Hollow
	Augmentation	28	Panguitch Lake	Tebbs Hollow

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