

U.S. FISH AND WILDLIFE SERVICE

2012 Hunting Plan for Big Game, Upland Game, and Migratory Game

Balcones Canyonlands National Wildlife Refuge

12/1/2012

Table of Contents

I. Introduction.....	1
II. Conformance with Statutory Authorities.....	3
III. Statement of Objectives.....	4
IV. Assessment.....	4
A. Are wildlife populations present in numbers sufficient to sustain optimum population levels for priority refuge objectives other than hunting?.....	4
B. Is there competition for habitat between target species and other wildlife?.....	10
C. Are there unacceptable levels of predation by target species on other wildlife?.....	10
V. Description of Hunting Program.....	11
A. Areas of Refuge that support targeted species.....	11
B. Areas to be opened to hunting.....	12
C. Species to be taken, hunting periods, hunting access, fees....	15
D. Justification for the permit, if one is required.....	17
E. Consultation and coordination with the State.....	17
F. Law enforcement.....	17
G. Funding and staffing requirements.....	18
VI. Measures Taken to Avoid Conflicts with Other Management Objectives..	18
A. Biological Conflicts.....	18
B. Public Use Conflicts.....	19
C. Administrative Use Conflicts.....	20

VII. Conduct of the Hunt Program.....	20
A. Refuge-Specific Big Game and Upland Game Hunting Regulations.....	20
B. Anticipated Public Reaction to the Hunting Program.....	22
C. Hunter Application, Registration Procedures, and Selection Process	22
D. Media Selection for Announcing and Publicizing the Hunt Program	24
E. General Requirements.....	24
F. Hunter Requirements.....	24
VIII. Compatibility Determination.....	25
Literature Cited.....	26

BALCONES CANYONLANDS NATIONAL WILDLIFE REFUGE

Big Game (White-tailed Deer & Feral Hog), Upland Game (Turkey), and Migratory Birds (Dove)

HUNTING PLAN

I. Introduction

Balcones Canyonlands National Wildlife Refuge (NWR or Refuge) was established under the authority of the Endangered Species Act of 1973 (16 U.S.C. 1534); the Fish and Wildlife Act of 1956 (16 U.S.C. 742a-742j Stat. 1119), as amended; and the Land and Water Conservation Fund Act of 1965 (16 U.S.C. 4601 – 4601-11).

In order to meet specific Refuge and other broader U.S. Fish and Wildlife Service (Service) directives, the following purpose established the Balcones Canyonlands NWR:

“... to conserve (A) fish or wildlife which are listed as endangered species or threatened species or (B) plants ...” 16 U.S.C. § 1534 (Endangered Species Act of 1973) *“... for the development, advancement, management, conservation, and protection of fish and wildlife resources ...”* 16 U.S.C. § 742f(a)(4) *“... for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude ...”* 16 U.S.C. § 742f(b)(1) (Fish and Wildlife Act of 1956).

Balcones Canyonlands National Wildlife Refuge (NWR) was established by the Endangered Species Act (ESA) of 1973, as part of a larger conservation strategy in the Austin, Texas area in February, 1992, becoming one of over 550 Refuges under the National Wildlife Refuge System. The Service initially proposed purchasing 41,000 acres in the Edwards Plateau of central Texas. The Secretary of Interior approved the addition of 5,000 acres in 1996, bringing the total proposed acquisition to 46,000 acres. The total current acreage of the Refuge is approximately 19,842 acres in fee title, and another 4,599 acres under conservation easement protection. The objectives of the Refuge are: “to ensure that (1) A sufficient representation of Golden-cheeked Warbler and Black-capped Vireo habitat is included; (2) Watersheds and water quality will be protected; (3) Destroyed or fragmented nesting habitats acquired have high potential for ecological restoration; (4) A protective buffer zone for nesting habitat and nesting populations is in place within the Refuge boundary.” This Refuge is approximately 35 miles from Austin (population 790,390) and within 120 miles of San Antonio (population 1,327,407 - 2010 census). Other local towns and cities including Cedar Park, Leander, Georgetown, and Round Rock contribute to a total Austin metropolitan population of over 1.7 million, and an Austin/San Antonio corridor population of about 4 million people (Texas Department of State Health

Services 2012).

The forests, woodlands, and shrublands of the Refuge are of several different types, and include juniper-oak forests, usually associated with canyons, valleys, and drainages; shin oak woodlands usually associated with upland areas; juniper encroachment woodlands, where juniper has begun to mature in former grasslands due to fire suppression and improper livestock management; and oak-elm-juniper savannahs, found on both upland sites and broad floodplains. Golden-cheeked warblers are found in the juniper/oak woodlands, while Black-capped vireos prefer the shin oak upland plateaus.

Interspersed with the forests and woodlands of the Refuge are grasslands and savannahs. Historically the grasslands were comprised of a variety of native grass species, but overgrazing by livestock and the introduction of an exotic grass (King Ranch bluestem) have led to a loss of diversity and a degraded condition. Mottes of tree and shrub species are scattered throughout the grasslands and provide some habitat diversity.

Past agricultural practices - including heavy grazing by livestock, crop cultivation, and commercial harvest of juniper for fence posts and charcoal production - have produced some variety to species composition and vegetation structure in the mid-slope and upland areas. Current management practices by Refuge employees (use of prescribed fire and mechanical manipulation with a chain saw or other equipment) also have altered vegetation to benefit habitat for endangered species. Small portions of the Refuge that are associated with creeks or springs contain vegetation more suited to wetter areas such as escarpment black cherry, pecan, Texas ash, hackberry, and gum bumelia.

Each of the units where hunting takes place contain a mix of oak/juniper woodlands, shrublands, savannahs, and grasslands. The percentage of each vegetation type varies widely ranging from approximately 60% grassland and 40% forested in the Johnson tract (Hunt Unit 12) to 75% forested and 25% grassland savannah in the Webster tract (Hunt Unit 8).

The woodlands, shrublands, savannahs, and grasslands of the Refuge support abundant populations of white-tailed deer, feral hog, and turkeys – in addition to numerous other mammals, birds, amphibians, reptiles and invertebrates. It has been documented that the Refuge contains over 739 plant species. In addition to the federally listed birds, more than 270 other avian species have been documented on the Refuge, and the site has been designated as a Globally Important Bird Area by the Audubon Society and the American Bird Conservancy. The Refuge also features a number of karst features - an underground honeycomb of caves, sinkholes, and springs that provides habitat for unique species of invertebrates, amphibians and others. The Refuge is also located on the migration corridor of Monarch butterflies and serves as an important stopover point on their annual multi-generational journey. Over 175 other moth and butterfly species have also been noted. Residential and commercial developments are imminent threats to the stability of this system.

The Refuge was opened to hunting activities starting in 1997 (for white-tailed deer, turkeys, and feral hogs) and 2001 (for dove). Environmental Assessments (EAs), Hunt Plans, Finding of No

Significant Impacts (FONSI), Section 7 Consultations and Compatibility Determinations (CDs) were completed as part of the opening packages. The Fund for Animals/Humane Society lawsuit of 2003 listed Balcones NWR as one of 38 national wildlife refuges which had not provided a cumulative impact analysis when writing the environmental assessments for the waterfowl, big game and upland game hunting program. An updated Environmental Assessment provided a cumulative impact analysis for each of the alternatives.

Since the Refuge began the hunting program, 31 additional tracts of land totaling 6,027 acres have been purchased. The Refuge will likely continue to add acreage and tracts, and some of them may be added into the hunting program via future revisions to the Refuge Hunting Plan.

The Balcones Canyonlands proposes to include 11 new tracts in the hunting program. Of the new units, 7 are adjacent to existing hunting units and represent an expansion of the hunt unit boundaries, and 4 are new units that are geographically separated from the others. The 11 additional tracts proposed for opening total approximately 827 acres.

The refuge also proposes to administratively manage the number of Big Game and Upland Game permits issued annually based upon deer and turkey population fluctuations (as determined by annual wildlife surveys and staff observations), changes in land use, and safety considerations.

II. Conformance with Statutory Authorities

The Refuge Recreation Act of 1962 (16 U.S.C. 460K) authorizes the Secretary of the Interior to administer refuges, hatcheries, and other conservation areas for recreational use. The Refuge Recreation Act requires 1) that any recreational use permitted will not interfere with the primary purpose for which the area was established; and 2) that funds are available for the development, operation, and maintenance of the permitted forms of recreation.

Fundamental to the management of lands within the National Wildlife Refuge System (System) is the National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57), an amendment to the National Wildlife Refuge System Administration Act of 1966. The National Wildlife Refuge System Improvement Act of 1997 provides a mission for the System and clear standards for its management, use, planning, and growth. The National Wildlife Refuge System Improvement Act of 1997 recognizes that wildlife-dependent recreational uses involving hunting, fishing, wildlife observation and photography, and environmental education and interpretation, when determined to be compatible with the mission of the System and purposes of the Refuge, are legitimate and appropriate public uses of the System. Compatible wildlife-dependent recreational uses are the priority general public uses of the System and shall receive priority consideration in planning and management. Hunting as specified in this plan is a wildlife-dependent recreational use and the law states that as such, it “shall receive priority consideration in national wildlife refuge planning and management.” The Secretary of Interior may permit hunting on a refuge if it is determined that the use is compatible. The hunting program would not materially interfere with or detract from the fulfillment of the purposes of the refuge or the mission of the National Wildlife Refuge System.

Recreational hunting authorized by the regulations will not interfere with the primary purpose for which Balcones Canyonlands NWR was established. This determination is based upon the completion of a Section 7 Intra-Service Endangered Species Evaluation and a Compatibility Determination.

III. Statement of Objectives

The objectives of big game (deer and feral hog), upland game (turkey), and migratory bird (dove) hunting program on Balcones Canyonlands NWR are:

1. To manage white-tailed deer population levels in order to sustain quality habitat of endangered species and other native wildlife (flora and fauna);
2. To provide the public with a high quality recreational experience and increase opportunities for hunters;
3. To reduce or eliminate feral hogs, thereby reducing the negative impacts to habitat and other native wildlife species (flora and fauna); and
4. To foster support of Refuge goals and objectives by working in close association with the general public, Texas Parks and Wildlife Department (TPWD), and other agencies and land managers to manage wildlife and its supporting habitat on the Refuge.

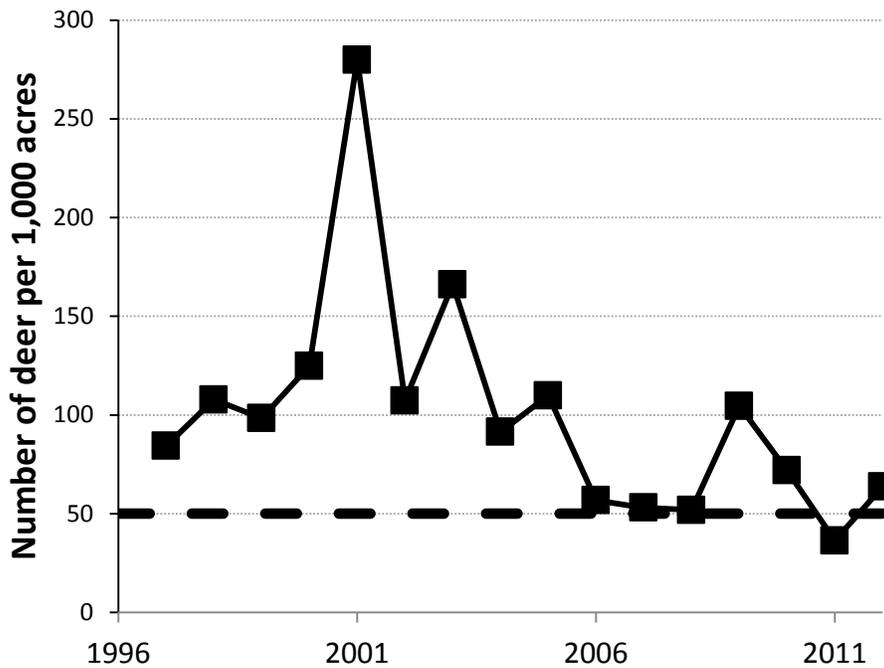
IV. Assessment

A. Are wildlife populations present in numbers sufficient to sustain optimum population levels for priority refuge objectives other than hunting?

White-tailed deer on the Refuge are not necessarily managed to meet “traditional” objectives (maximizing the number of deer, antler development, balanced sex ratios, or recreational opportunities) – as the needs of the endangered species trump other management concerns here. Our management objective is to deliberately maintain deer densities at a rate lower than twenty deer per acre in order to protect oak recruitment and structure. Golden-cheeked Warblers and Black-capped Vireos require very specific habitat conditions for successful nesting and fledging young. The habitat includes an oak component – necessary as a feeding or nesting substrate. Deer consume acorns and browse seedling and sapling oaks, impacting recruitment or replacement of trees necessary for warbler survival - or height structure important for vireo nesting. This impact was demonstrated when a deer enclosure was constructed on the refuge in 1993 – highlighting the changes to the vegetation resulting from deer by comparing the vegetation inside to the vegetation outside the fenced area.

Population density data from annual spotlight counts conducted since 1996 range from a high of 1 deer per 3.6 acres (2001) to a low of 1 deer per 27.5 acres in 2011. As shown in the graph below (Figure 1), since 2006 the deer population is trending much closer to our desired target of 1 deer per 20 acres or less. Information on deer densities and hunter success is presented to participants of the Big Game Hunt at the Hunter Orientation.

Figure 1. Deer densities (number of deer per 1,000 acres) at Balcones Canyonlands NWR based on spotlight surveys, 1997-2012. The dashed line at 50 deer per 1,000 acres (equivalent to 1 deer per 20 acres) indicates the maximum density for the management goal.



Hunter success roughly follows the deer population trends on the Refuge. As shown in Figure 2 below, the number of deer harvested dropped precipitously between 2006 and 2007, and has leveled off to an average of slightly above 23 deer per year since then.

Figure 2. Number of deer harvested at Balcones Canyonlands NWR, 1997-2011. Harvest for 2012 was not available at time of writing.

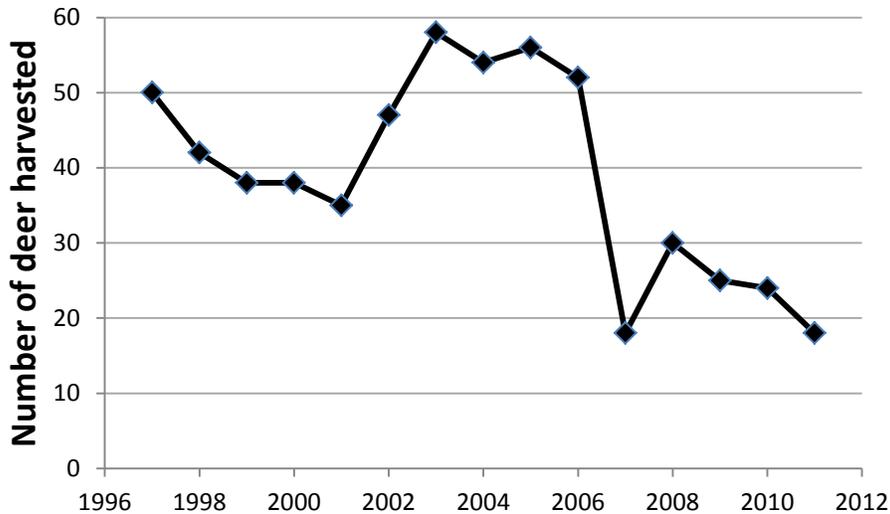


Table 1. 2010-11 Deer Harvest

Area	# of Participants	# Deer Harvested
Balcones Canyonlands NWR	155	24
Edwards Plateau	177,838*	196,949*
State of Texas	692,142*	647,975*

*(Purvis 2012a)

In addition to managing the deer herd on the refuge for the benefit of endangered birds, it is incumbent upon us to maintain the deer population at a healthy level. Deer need a nutritious year-round food supply to survive, and the availability of food limits the number of deer the habitat will support in a healthy condition. When a white-tailed deer population exceeds the “carrying capacity” [*defined as the population size of the species that the environment can sustain indefinitely, given the food, habitat, water and other necessities available in the environment (wiki.answers.com 2012)*] they over browse and destroy the available desirable food supply (Miller and Wentworth, 2000). Carrying capacity varies from year to year and without some population control and management, deer numbers can exceed the carrying capacity. While limited deer hunting will only marginally help accomplish the goal of decreasing numbers of deer, hunting is a management tool currently available to the Refuge that can affect the deer population.

Spotlight surveys have been conducted on the Refuge since 1996. Fluctuations in deer

numbers are readily apparent data – and are likely correlated to annual rainfall amounts and the resulting habitat conditions. Death, malnutrition, low body weights, poor fawn survival and losses from parasites and diseases can occur during periods of low rainfall causing a decline in the population. Deer populations in the Edwards Plateau have historically responded favorably as range conditions improve.

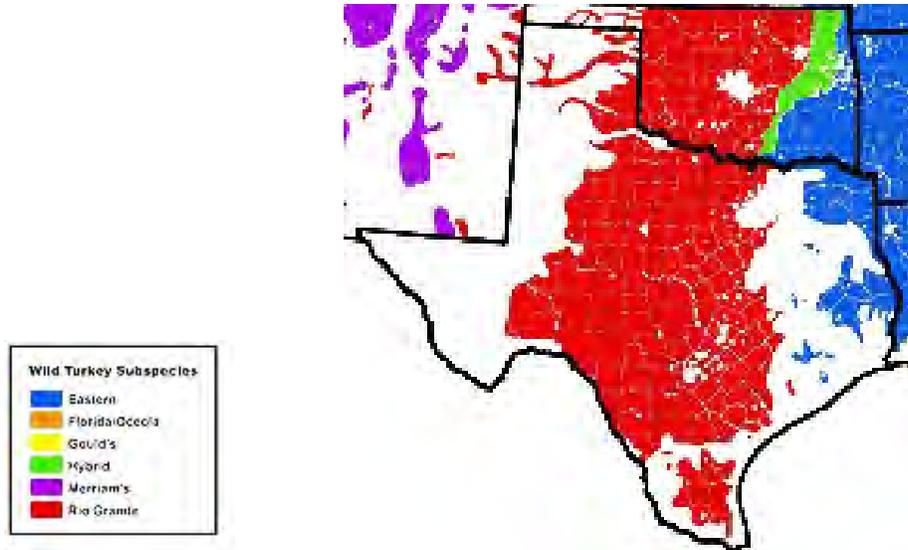
Hunting on the Balcones Canyonlands National Wildlife Refuge is an existing use and currently consists of hunts for big game (deer and feral hogs) and upland game (turkeys) on 12,818 acres. The migratory bird (dove) hunting area is also included in the big game hunt acreage, and encompasses 274 acres. The twelve units currently open for big game and upland game hunting have had poor to fair harvest results. All indications from current surveys by Refuge staff indicate there are populations sufficient for the Refuge's limited public hunt program, including in the additional units proposed to be opened. If populations, habitat, or hunter success rates significantly change or affect wildlife populations, modifications to the hunt program will be addressed.

Feral hogs are highly adaptable, have high reproductive capabilities and can be found in a wide range of habitat types. They compete with native wildlife for food, cover, water and space. Feral hogs are opportunistic omnivores and compete with deer, turkey, squirrels, waterfowl and other wildlife species for food resources. Feral hogs can impact ground-nesting species through nest destruction and predation (Taylor 2003). Feral hogs are an extremely invasive, non-native species and are not considered a game species by the State of Texas. They are considered to be a non-climate change stressor to other more sensitive species. There is an estimated population in excess of 1.5 million feral hogs in Texas (Taylor 2003). This is due in part to intentional releases, improved habitat, increased wildlife management, disease eradication, limited natural predators, and high reproductive potential. There seem to be very few inhibiting factors to curtail this population growth (Taylor 2003). No bag limits or set seasons are established for feral hogs. The Refuge currently has an aggressive trapping program for hogs, and during 2011 removed 143 animals. Hunting of feral hogs provides the Refuge with another management tool in reducing this detrimental species, and at the same time, is widely enjoyed by hunters. They are a priority species for Refuge management only in terms of their negative impacts on Refuge biota and need for eradication. The public interest would best be served by allowing this activity on the Refuge. However, even with hunting, feral hogs are likely to always be present because they are prolific breeders. The State of Texas allows for year-round hunting (day and night) of feral hogs.

Wild turkey habitat continues to improve on the Refuge due to habitat management practices. State harvest regulations were recently liberalized to include taking female turkeys during the fall hunting season. According to state biologists, males or females can be taken during the fall without adversely affecting turkey production. No spring hunting is allowed on the Refuge due to potential disturbance to nesting Golden-cheeked Warblers and Black-capped Vireos. Only the Rio Grande subspecies occurs in the Edwards Plateau region of Texas. Eastern subspecies occur in a limited area of eastern Texas with the closest population

approximately 130 miles from the refuge.

Figure 3. Range of wild turkey subspecies in Texas and adjacent areas (National Wild Turkey Federation, 2012).



Surveys for turkeys conducted on the Refuge in 2012 by Service employees and researchers detected the birds at 26% of the points sampled (65 of the 250 points). The TPWD collects and analyzes data from winter roost counts, hen-poult counts, and harvest surveys to estimate populations of Rio Grande turkeys in different ecoregions of the state. We rely on the State to determine the annual bag limit for each county for these species and set the Refuge bag limit more restrictive than what is allowed by the State. Turkey hunting on the Refuge is limited to a fall hunt with a maximum take of one turkey per hunter. The State bag limit is 4 birds per year. Only 9 turkeys have been harvested by hunters since hunting began on the Refuge. No more than one bird was harvested in any year but 2009, when two toms were taken. Impact to Refuge habitats or to other species by turkeys, either positive or negative, is considered negligible. Hunting for turkeys on the Refuge takes place on twelve days during the State's fifty-seven day season.

Table 2. 2010 Turkey Harvest (Fall Season only)

Area	# of Participants	# Turkeys Harvested
Balcones Canyonlands NWR	155	1
Edwards Plateau region	20,590*	8,887*
State of Texas	70,406*	34,202*

* (Purvis 2012b)

Mourning doves, white-winged doves, rock doves, and Eurasian collared doves may all be taken during the Refuge hunt. Rock doves (pigeons) and Eurasian collared doves are introduced species, and are not protected by federal or state law. They are usually found in cities and surrounding farm lands – and few are present on or adjacent to the Refuge. Mourning doves are migratory birds and are found across much of the United States, and into Canada and Mexico. White-winged doves are also migratory, but their range does not extend much farther north than the refuge and reaches as far south as South America. White-wings are seen regularly through the summer months, but are rarely included in the hunters’ bag in September. Mourning doves are highly productive – typically producing several young per year (Baskett et al. 1993). Hunting success on the Refuge has fluctuated over the years the hunt has been conducted – with total harvest numbers ranging from 0 (2009) to 119 (2010).

Because doves are a migratory bird, and local numbers can fluctuate widely from one day to the next due to their movements, surveys conducted on the Refuge would provide little data that would be useful in determining how many doves are present during the Refuge hunt. We rely on the information collected and synthesized by the State game agency to determine whether the dove population can sustain hunting mortality. The Balcones Canyonlands biological staff assists in a cooperative effort with the TPWD and the U.S. Fish and Wildlife Service to trap and band doves in a regional, statewide, and national effort to determine populations. TPWD also conducts a variety of other surveys to estimate the state’s dove population. Call counts, urban dove surveys, and harvest surveys are also used to collect data. Data from these different sources serve as an index for population trends are used to set the State bag limits. We adopt the State bag limits on the Refuge.

Hunting is not likely to impact mourning dove populations as the dove hunting area comprises less than 1.5% of the area of the refuge, and the Refuge’s four-day hunt is much more restrictive than the State’s seventy-day season.

Because hunting is limited to areas of the refuge not open to non-hunters, during a limited season, and physically separated from other refuge tracts, there are no anticipated impacts to other non-consumptive recreational activities.

Table 3. 2010 Dove Harvest

Area	# of Participants	# Doves Harvested
Balcones Canyonlands NWR	21	119
State of Texas	316,178*	7,923,377*

* (Purvis 2012b)

B. Is there competition for habitat between target species and other wildlife?

As described in section VII A above, there is evidence of indirect competition between three of the hunted wildlife species (deer, hogs, and turkey) and the Refuge's two endangered bird species (Golden-cheeked warblers and Black-capped vireos) for key habitat components. Deer, hogs and turkeys all consume acorns and oak seedlings – which results in fewer mature oak trees, a necessary component of nesting or foraging habitat by the birds. This competition is one-sided, as the endangered birds merely occupy or feed on insects and arthropods in oak trees and do not have an observable negative impact on the target species.

Aside from the situation described above, habitat competition between hunted wildlife species (deer, hogs, turkey and dove) and other wildlife has not been studied on the Refuge. However, reducing the total number of deer and hogs in an area, even on a temporary basis, could reduce interspecies competition for some resources within available habitat (*e.g.* acorn availability for squirrels).

Feral hogs are opportunistic omnivores and compete with game and non-game wildlife species for available food resources. Numerous researchers (Taylor 2003, West et al. 2009, and Stevens 2010) note that feral hogs compete with deer, turkey, squirrels, waterfowl and other wildlife species for food resources.

Doves may compete for food (*e.g.* annual seeds) with other bird or small mammal species, but the refuge staff's management actions (discing and planting) for doves increases the overall amount and availability of early successional seed-producing plants such as croton and sunflowers – mitigating the effects of any competition. Managing for doves probably improves food availability for a variety of other birds and small mammals.

C. Are there unacceptable levels of predation by target species on other wildlife?

Predation levels by feral hogs on other wildlife on the Refuge have not been measured. However, feral hogs are opportunistic omnivores which have the ability to impact ground-nesting species, particularly quail and turkey, through nest destruction and predation. Numerous researchers (Beach 1993, Taylor 2003, West et al. 2009, and Stevens 2010) note that hogs eat deer fawns, ground nesting birds and numerous other vertebrates and invertebrates.

White-tailed deer have been reported to consume the eggs and nestlings of birds (U.S. Geological Survey 2006), but the incidence is considered rare and likely does not have a significant impact on resident or migratory birds. There have been no reported cases of Golden-cheeked warblers or Black-capped vireos eaten by deer on the Refuge.

V. Description of Hunting Program

A. Areas of the Refuge that support targeted species.

Although vegetation and topography vary within and between Refuge tracts, spotlight counts and casual observations (deer, deer tracks, and/or deer scat) by refuge staff show that white-tailed deer, almost certainly occur in every refuge unit. They are found across the Refuge in varying densities depending on vegetation types and available water. They exploit different food types throughout the year, which may result in temporary concentrations as a certain food type (i.e. acorns) becomes available. Staff have observed deer foraging in grassland areas in search of forbs, in live oak mottes and in shin oak patches feeding on acorns, and in shrublands feeding on persimmons – all of which demonstrate a predilection for exploiting a variety of foodstuffs that ripen at different times of the year. Because adjacent landowners may provide supplemental food (i.e. corn or protein pellets) at certain times of the year, deer presence and densities on Refuge tracts may not correspond to naturally occurring foodstuffs. Regardless of the presence of preferred food sources, deer are routinely found in all of the units currently hunted or proposed for inclusion during the fall hunting season.

Feral hogs are also distributed across the Refuge and have been observed in most, if not all of the Refuge tracts by staff. They are influenced by seasonal abundance of different food types, and additionally, are influenced by the availability of water sources for drinking and wallowing. Hogs are also influenced by the presence of feeders on land adjacent to the Refuge.

Turkeys are found on Refuge tracts that offer a combination of food and/or roost trees in fairly close proximity. Tall roost trees that serve as roosting sites are more likely to be found in riparian areas. During the spring and early summer, hens may also utilize grasslands, shrublands, or savannahs for nesting, and lead their poults to forage for insects such as grasshoppers in more open habitats. As food sources change with seasonal availability (*e.g.*, grasshoppers decline in winter, while acorns become abundant in fall), turkeys may shift feeding areas and/or habitat types. Behavior also influences turkey numbers and density, as small family groups sometimes coalesce into wintering flocks numbering 50 to 100 individuals. Like deer, turkeys are also influenced by supplemental feeding by adjacent landowners – particularly in the winter months when natural food may be less abundant.

Doves are found in all Refuge tracts, though they prefer more open areas for feeding and wooded areas for roosting at night. They are routinely observed by refuge staff in grasslands or more open shrublands exploiting seed-producing plants that result from soil disturbance or fire, such as the various croton species and wild sunflowers. They exploit a variety of water sources - from small puddles to ponds. The birds have been observed roosting in juniper thickets and in live oak mottes – vegetation types which are widespread across the refuge. Doves are capable of flying many miles each day to seek food, water or roosting habitat (Otis et al. 2008). Because they travel great distances between roosting, feeding, and watering sites, and because these different requirements may be geographically separated, they may be

within, or flying over several Refuge tracts during a single day. Refuge employees currently manage approximately 13 acres in the Johnson tract by discing, burning, and planting native sunflowers to increase available food for doves, and improve hunter success.

B. Areas to be opened to hunting.

The Balcones Canyonlands National NWR currently has hunting on 12 different Refuge tracts encompassing 12, 818 acres. We propose to incorporate 7 additional tracts (D. Damrow, D. Damrow, N. Damrow, Wier, Owen, Heine, and Kennedy) into existing adjacent hunting units, and open 4 new units [Arnold, Russell, Tater Hill, and McKeever 1 (dove only)]. This will increase the number of acres for deer, turkey and feral hog hunting by 730 (to 13,548 total), and increase the dove hunting acreage by 97 acres (to 371 total) (Johnson tract included in both categories) – with 13,645 total hunting acres included in the program. Under this proposal, there would be 16 hunting units total.

There are several different habitat types included in these tracts. The Damrow and Wier tracts are dense juniper/oak woodlands with few openings in the vegetation. The Heine, Arnold, Russell, and Tater Hill tracts contain a mix of grasslands, shrublands and juniper/oak woodlands. The McKeever tract is predominantly grassland with relatively flat topography adjacent to Cow Creek with a few mottes of live oak and juniper, and vegetation associated with the riparian area. See Table 4 for tract details and see Figure 4 below for locations of hunt units.

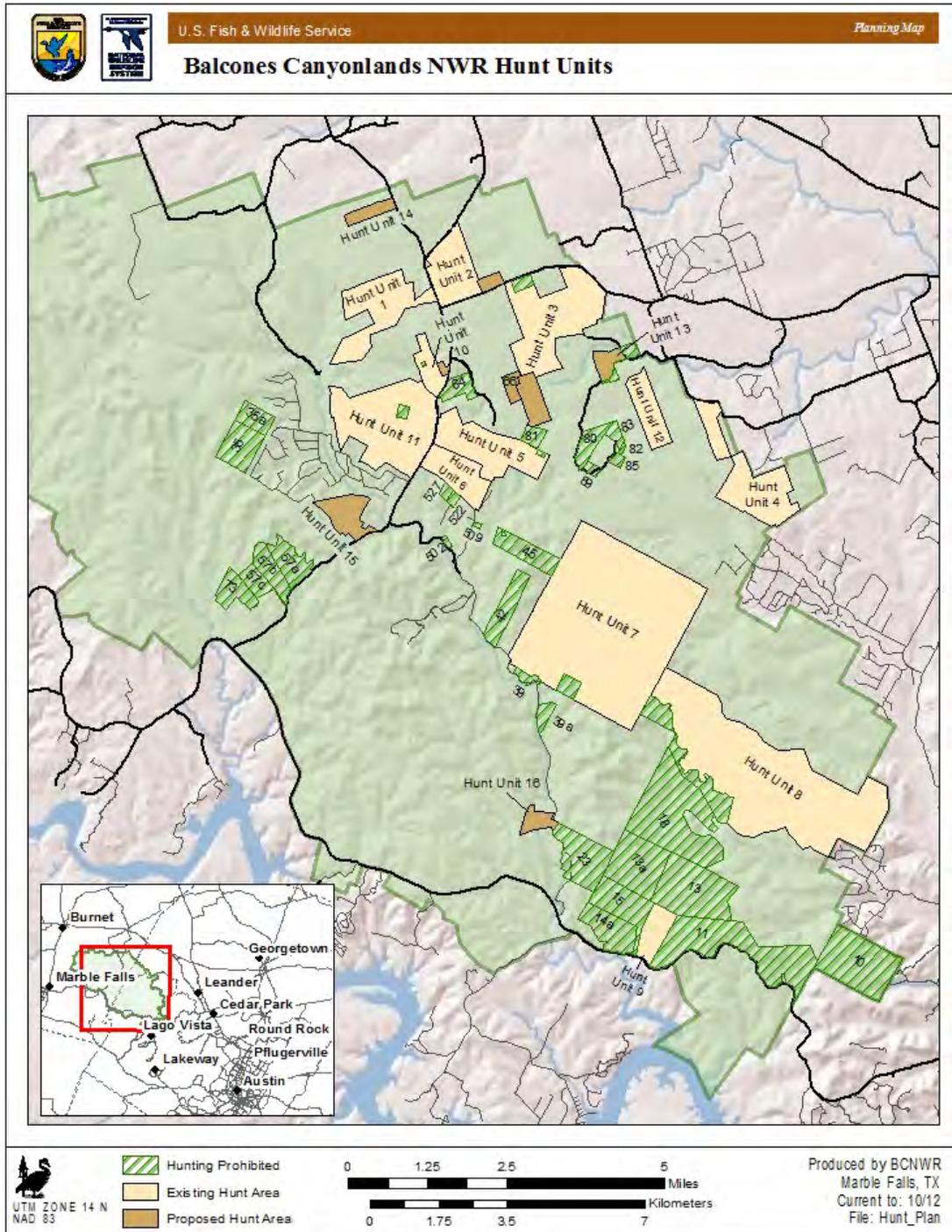
We plan to open all of these new areas at the same time and are not considering any kind of rotational system. Even though hunter success is important, as mentioned in section IV. A above, our primary objective of the hunting program on the Refuge is to reduce the number and density of deer and feral hogs in order to reduce impacts to endangered species habitat. Even with low hunter success rates, our objective is being furthered.

We plan to periodically examine activities in and around our future hunt units, and may administratively modify or temporarily close areas due to factors such as staffing, safety issues, hunting demand, impacts to other Refuge programs, adjacent landowner use, fire danger, climate change, wildlife disease, mission change, or endangered species concerns. As an example, we will consider closure of the Nagel and Doeskin units in order to allow wildlife observation, photography, education, and interpretation programs to safely continue at the Doeskin Ranch Public Use Area during the time refuge hunts occur. If the density of deer and/or hogs in those units increases in the future to a point of concern for habitat or other resources, the units may be reopened.

Table 4: Hunt Units (current units in black, new units in red)

TRACT	Tract #	ACRES	HUNT UNIT #	SPECIES HUNTED	Max. # of PERMITS
Simons	99	631	1	Deer, Feral Hog, Turkey	3
Mullen	97	441	2	Deer, Feral Hog, Turkey	3
D.Damrow	20	34	(2)	Deer, Feral Hog, Turkey	0
D.Damrow	20a	1.5			
N.Damrow	21	2.7			
Wier (combined w/ Mullen)	22	1.7			
Eckhardt	10a	1020	3	Deer, Feral Hog, Turkey	6
Kennedy	92	173	(3)	Deer, Feral Hog, Turkey	2
Heine (combined w/ Eckhardt)	66	60			
Gainer/Kindred	62, 63	707	4	Deer, Feral Hog, Turkey	4
Nagel	58	630	5	Deer, Feral Hog, Turkey	3
Doeskin	54	357	6	Deer, Feral Hog, Turkey	2
Rodgers	40	3703	7	Deer, Feral Hog, Turkey	10
Webster	30	3527	8	Deer, Feral Hog, Turkey	6
Old Salem	14	207	9	Deer, Feral Hog, Turkey	1
Beard	61	164	10	Deer, Feral Hog, Turkey	1
Owens (combined with Beard)	65	18	(10)	Deer, Feral Hog, Turkey	0
Flying X/Hoyer	60, 70	1157	11	Deer, Feral Hog, Turkey	6
Johnson	120	274	12	Deer, Feral Hog, Turkey, Dove	2 (Big Game)
Arnold (SW of road) (NEW Unit)	121	100	13	Deer, Feral Hog, Turkey	1
Russell (NEW Unit)	93	98	14	Deer, Feral Hog, Turkey	1
Tater Hill (NEW Unit)	57	241	15	Deer, Feral Hog, Turkey	1
McKeever (NEW Unit)	23a	97	16	Dove	0 (Big Game)

Figure 4. Current and Proposed Hunt Areas



C. Species to be taken, hunting periods, hunting access, fees.

1) Big Game

The Refuge will conduct four 3-day hunts for deer within the 72-day State firearms season. Deer, hogs, and turkeys can all be hunted at the same time on the Refuge during November and December hunts by permitted hunters.

Permitted hunters may scout their hunt area during daylight hours on the weekend prior to the first hunt, and on the day before each of the other 3 hunts. On scouting days, hunters do not have to check in and out with the Refuge.

Each permitted hunter may bring one non-hunting guest during scouting and hunt days. The guest must be within normal voice contact and sight of the hunter.

The hunters may access their assigned area by vehicle access roads and trails. In large areas to which several hunters are assigned, required parking areas are designated on permits. Hunters in those units are provided maps, and parking areas are conspicuously marked on the ground. The Refuge does not allow hunters to use dogs, feeders, baiting, campsites, fires, or horses.

The number of hunters allowed in a unit is based on size, topography, and vegetation. The Refuge Manager also considers safety considerations due to unit configuration and proximity to dwellings (on- or off-refuge). Hunters are selected by a lottery-type drawing (see VII.C(a) below for addition information). Applicants are able to designate a priority choice of where they would like to hunt, and which hunt segment they would prefer. The drawn participant must be in possession of a validated Refuge permit while hunting. Permits are transferable for a fee. There are procedures to fill vacant slots via a Standby Hunt program.

If a public hunt participant informs Refuge staff in advance that he/she has special needs or limitations, every reasonable effort will be made to address those concerns so the person may fully participate and have an enjoyable experience. Adults or youth possessing a valid proof of disability as defined by TPWD hunting regulations may contact the refuge to be included in a separate drawing for permits. At the present time, one area (Beard) is set aside for hunters with disabilities during the Big Game/Upland Game hunts. An accessible hunting blind is available in that area. Refuge employees work with mobility-impaired hunters to arrange feasible hunting access tailored to the needs of the individual. Examples of special provisions include the opening/closure of gated roads to allow the hunter to drive a vehicle closer to the hunt area, or the use of an off-road motor vehicle. Disabled hunters may be accompanied by a non-hunting assistant.

Some or all hunt days may be cancelled if safety conditions dictate (*e.g.* wildfire).

Refuge staff will attempt to notify the permittees concerning cancellation prior to their scheduled hunt. Depending on weather and site conditions, make up days may or may not be rescheduled later during the hunt season at Refuge Manager's discretion.

2) Upland Game – Turkey

Participants in the Refuge Big Game hunt may also harvest one Rio Grande turkey (see VII. C(1) above). We do not hold a hunt specifically and exclusively for turkeys. Participants in the Big Game Hunt may hunt turkeys at the same time as they are hunting deer and/or feral hogs (all on the same day in the same unit).

Currently the State regulations allow the harvest of either sex during the fall hunt.

3) Migratory Birds – Dove

The Refuge will allow hunting for mourning dove, white-winged dove, Eurasian collared dove, and rock dove (feral pigeon) on two Refuge tracts. The hunt will take place during the first four days of the State season, from noon until the end of legal shooting hours. If inclement weather or safety conditions necessitate cancellation, make-up days may be rescheduled later during the State hunting season at Refuge Manager's discretion. Hunting areas will be accessible by vehicle, and parking areas will be designated.

Fees - Fee rates (currently: \$15 Application and \$50 Permit for General Big Game/Upland Game hunting; and \$15 for Adult Dove hunter) were determined through factors related to hunting. Hunt permits are transferable for \$25. All fees are non-refundable. General hunt application fees are collected via credit card or bank account transfer on-line during the application process. Paper applications must include payment by certified check, cashier's check, or money order made out to Kinsail Corporation and mailed to Kinsail Corporation, P.O. Box 7087, Arlington, Virginia 22207. There are no application or permit fees for participation in Youth Big Game hunts or for Dove hunt participants under the age of 17 years. The Refuge receives 80 % of the total fees collected via the Recreation Fee Program. Factors that were used to determine fees on the Refuge are: comparable public land hunting areas on State and other Federal lands; private hunting costs; similar experiences on those lands; and what the local economy will bear. The State of Texas offers limited hunting on Wildlife Management Areas (WMA) with a \$48.00 Annual Public Hunt Permit. The only WMA offering big game or upland game hunting opportunity in the local area is Granger WMA (56 miles away) in Williamson County, which offers hunting for waterfowl, dove and small game with shotgun, and deer with archery tackle (by drawing). Big Thicket National Preserve (271.5 miles away) is the closest National Park with hunting available. There is no charge for participation in their hunts. Hunters are allowed to take white-tailed deer, squirrel, rabbit, wild/feral hog, and waterfowl from specific areas within the Preserve. Sam Houston National Forest (186 miles away) requires the State issued Annual Public Hunt permit for

their fee (\$48.00). Most comparable local private lease areas (costing up to \$2,200 per person) allow camping, all terrain vehicle use, horses, dogs, feeders, permanent blinds, and entire season hunting. This Refuge severely limits those activities commonly offered on private property.

According to the 2010 Census Bureau statistics, the mean average income for Burnet County is \$48,187, Travis County is \$54,074, and Williamson County is \$68,780. These figures compare to the Texas state household average income of \$49,646 per year (<http://quickfacts.census.gov/qfd/states/48/48291.html>). Based on all these factors, the fees listed above were established for hunts on the Refuge (not including a Texas hunting license which is required to hunt on any land in the state). Refuge fees are used to pay for some costs caused by conducting the hunts such as: maintaining parking areas; purchase and maintenance of blinds; overtime, travel and salary costs for Law Enforcement support; costs associated with conducting the lottery drawing; printing maps and brochures; and manufacture and installation of signs. Because we are a government agency we don't recoup all our costs as would a private business.

D. Justification for the permit, if one is required

Permits and payment of a fee are required to control and manage the number of participants in Refuge hunts, and to defray the cost of conducting the hunts. Due to the scarcity of public hunting land in Texas, and the common practice of private landowners charging for hunting access, there are many residents and non-residents looking for an inexpensive place to hunt. If we didn't require a permit, we would be over-run by hunters. Requiring permits also provides a mechanism to insure that hunt participants are familiar with hunting areas and rules and regulations pertaining to Refuge use.

E. Consultation and Coordination with the State.

A letter was written to the Executive Director of the TPWD on November 8, 2012 about the proposal to expand hunting opportunities. Clayton Wolf, Director of the Wildlife Division responded by saying "TPWD appreciates the opportunity to review the Hunt Plan, and applauds your efforts to expand public hunting opportunity in this populated area of Texas."

F. Law Enforcement

The following methods are used to control and enforce hunting regulations:

- Refuge and hunt area boundaries are posted and fenced;
- The Refuge provides a map and brochure that shows hunt areas and lists rules;
- The Refuge requires completion of a Hunter Orientation before a Big Game Hunt permit is issued;
- Service law enforcement staff checks hunters for compliance with Federal and

State Laws as well as refuge-specific regulations pertinent to the hunt, including compatibility stipulations;

- Service law enforcement staff coordinates with TPWD and other law enforcement agencies; and
- Information is available at the Refuge Headquarters and on the Refuge web site.

G. Funding and Staffing Requirements

- The Refuge has a full-time staff of 18 and has a number of active volunteers (or interns) who are available to support the administration of fee collection, lottery drawings, staffing the check station, and hunt data entry;
- Preparation of Units - parking lot development, posting and painting boundaries, and recurring road and parking lot maintenance (also used outside of hunt seasons) - \$ 6,000;
- Administrative Time - NEPA compliance, hunter inquiries, completing hunting & fee report, etc - \$ 2,000;
- Biological Review - consultation with State, wildlife surveys, pre- and post-hunt data review - \$ 2,000;
- Law Enforcement - includes overtime or hiring temporary staff (~17 % of total cost) - \$ 2,000; and
- Offsetting Revenues - return of 80 % of application fee collection which averages around \$9,000 per year (\$5,200 net).

VI. Measures Taken to Avoid Conflicts with Other Management Objectives

A. Biological Conflicts

The dove hunt takes place in September, and the hunts for deer, hogs, and turkeys take place in November and December. Golden-cheeked Warblers and Black-capped Vireos normally depart for their wintering range in Central and South America by mid-August. A Section 7 Intra-Service Endangered Species Consultation determined that there are no effects to endangered species resulting from conducting hunts on the Refuge.

In order that hunters are not impacted by major changes in vegetation immediately before their hunt, prescribed fire operations are conducted only in tracts other than hunting units during the fall. This may require burning to be scheduled earlier or later in the year, but has little effect on the fire management program.

Because habitat restoration activities are generally focused on the spring and summer months when vegetation is actively growing, there are no anticipated conflicts due to hunting. Dormant season activities can be scheduled earlier or later than hunts to avoid conflicts.

The hunting of feral hogs is considered beneficial to the biological integrity of the Refuge, is

not likely to create conflict with other biological management programs. The removal of these destructive, exotic, feral animals would have a positive benefit the Refuge (and neighboring) habitat (Executive Order 13112).

Due to the configuration of the Refuge (blocks of Refuge lands interspersed with, or surrounded by, private lands) and the lack of any impervious boundary fence to restrict the movement of wildlife, it is likely that there will continue to be routine immigration and emigration across the Refuge boundaries. If hunting pressure is higher on the Refuge, animals may temporarily relocate to private lands. If Refuge hunting results in reducing the number and density of animals, no doubt replacements from our neighbor's properties will fill the available habitat.

B. Public Use Conflicts

Hunting, photography, wildlife observation, environmental education, and interpretation are current Public Use activities at the Refuge. Due to the Refuge's establishing Purpose, only certain limited areas are open to the public. The Shin Oak Observation Deck, the Headquarters area, and the Warbler Vista and Doeskin Ranch areas are the only areas open for non-consumptive Public Use at this time.

While big game, upland game, or migratory bird hunting is occurring, the Refuge Manager temporarily limits or restricts other public uses on specific units to ensure public safety. The most recent breakdown of Refuge visitation statistics (2010) shows 17,941 visitor use days distributed as follows: hunting 337 (1.8%), photography 64 (0.35%), wildlife observation 13,753 (76.6%), environmental education 972 (5.4%), and interpretation 2292 (12.8%). Special events visitation made up the balance 737 (4%) of the visitation total. It is estimated that total hunting participation will increase over the next 5 years, as will all recreational visits.

Currently during Refuge hunts, the Doeskin Ranch Public Use area is closed for safety reasons for 12 days each year. Inclusion of additional hunting units will enable us to keep that area open during hunts, resulting in no impacts to non-consumptive recreation by the hunt program, and no reduction in hunting opportunity.

In the interest of safety, entry will not be allowed into hunting units during hunts by anyone not participating in the hunt or accompanying a permitted hunter. The Shin Oak Observation Deck in the Eckhardt tract, the Headquarters Area in the New Salem tract, and the Warbler vista Public Use Area in the Rodgers Front Range tract are open to non-consumptive activities during hunting periods.

C. Administrative Use Conflicts

No administrative conflicts are anticipated. As the Refuge acquires additional areas for conservation and wildlife-dependent public uses, the Refuge Manager will set priorities to assure that the appropriate staff time required to administer all Refuge programs is adequate. As this hunt program evolves over the years, the selection and permitting process, Refuge-specific regulations, and fee structure may change at the Refuge Manager's discretion. The public will be notified of these changes. Assistance may be sought from other Refuges and from the State if serious conflicts do arise.

VII. Conduct of the Hunting Program

Listed below are Refuge-specific regulations that pertain to Balcones Canyonlands NWR as of the date of this plan. These regulations may be modified as conditions change or as Refuge expansion continues. In addition to the regulations listed below, all appropriate licenses and tags required by the State of Texas to legally hunt must be acquired and possessed.

A. Refuge-Specific Migratory Game Bird (dove), Big Game (deer & hog), Upland Game (turkey) Hunting Regulations:

Migratory Game Bird Hunting. We allow hunting of mourning, white-winged, rock, and Eurasian-collared doves on designated areas of the refuge at designated times subject to the following conditions:

1. Hunting season will be consistent with the State season.
2. Hunting allowed in designated area(s) from noon to sunset.
3. Refuge will set the bag limits.
4. You may possess only approved nontoxic shot while in the field.
5. Refuge permits are required with payment of a hunt fee.
6. Dogs are allowed to retrieve game birds during the hunt, but the dogs must be under control of the handler at all times and not allowed to roam free.
7. Hunters must be at least 12 years of age. An adult 21 years of age or older must accompany hunters between the ages of 12 and 17 (inclusive) as per State regulations.
8. Use or possession of alcohol on refuge hunts is prohibited.
9. The entire refuge or any portion thereof may be closed to hunting for the protection of resources or public safety as determined by the Refuge Manager.
10. Persons possessing, transporting, or carrying firearms on National Wildlife Refuges must comply with all provisions of state and local law. Persons may only use (discharge) firearms in accordance with refuge regulations (50 CFR 27.42 and specific refuge regulations in 50 CFR Part 32).
11. One non-hunting guest is allowed to accompany a permitted hunter.

Big Game Hunting. We allow hunting of white-tailed deer at designated times on designated areas of the refuge subject to the following conditions:

1. Hunting is permitted consistent with the State Season.
2. Hunters are required to check in and out daily at designated check station(s).
3. Weapons will be consistent with State Regulations.
4. The entire refuge or any portion thereof may be closed to hunting for the protection of resources or public safety as determined by the refuge manager.
5. Hunters must be at least 12 years of age. An adult 21 years of age or older must accompany hunters between the ages of 12 and 17 (inclusive) as per State regulations. This adult may supervise no more than 2 hunters.
6. The refuge will set the bag limits.
7. Hunters must visibly wear 400 square inches (2,600 cm²) of hunter orange on the outermost layer of the head, chest and back, which must include a hunter orange hat or cap.
8. Refuge permits and the payment of a hunt fee are required.
9. Dogs are not allowed for hunting.
10. Camping is prohibited.
11. You may only use vehicles on designated roads and parking areas.
12. No off road use of ATV's permitted except to retrieve bagged game.
13. Possession or use of alcohol is prohibited.
14. Standby hunting permits are permitted only if openings are available on the day of each hunt on a first come first serve basis. Contact Refuge Manager for details.
15. The use or possession of bait is prohibited during scouting or hunting. Bait is considered anything that may be eaten or ingested by wildlife. Scent attractants are allowed.
16. One non-hunting guest is allowed to accompany a permitted hunter.

Upland Game Hunting.

We allow hunting of wild turkey at designated times on designated areas of the refuge subject to the following conditions:

1. Hunting is permitted consistent with the State Season.
2. Hunters are required to check in and out daily at designated check station(s).
3. Weapons will be consistent with State Regulations.
4. The entire refuge or any portion thereof may be closed to hunting for the protection of resources or public safety as determined by the refuge manager.
5. Hunters must be at least 12 years of age. An adult 21 years of age or older must accompany hunters between the ages of 12 and 17 (inclusive) as per State regulations. This adult may supervise no more than 2 hunters.
6. The refuge will set the bag limits.
7. Hunters must visibly wear 400 square inches (2,600 cm²) of hunter orange on the outermost layer of the head, chest and back, which must include a hunter orange hat or cap.
8. Refuge permits and the payment of a hunt fee are required.
9. Dogs are not allowed for hunting.
10. Camping is prohibited.
11. You may only use vehicles on designated roads and parking areas.

12. No off road use of ATV's permitted except to retrieve bagged game.
13. Possession or use of alcohol is prohibited.
14. Standby hunting permits are permitted only if openings are available on the day of each hunt on a first come first serve basis. Contract Refuge Manager for details.
15. The use or possession of bait is prohibited during scouting or hunting. Bait is considered anything that may be eaten or ingested by wildlife. Scent attractants are allowed.
16. One non-hunting guest is allowed to accompany a permitted hunter.

B. Anticipated Public Reaction to the Hunting Program

The public reaction to the availability of hunting opportunities on Balcones Canyonlands NWR has been mostly favorable. The Refuge received comments prior to the initial opening of hunting in 1997 and again in 2000 when the plan was amended to include dove hunting. Public meetings were held for the preparation of the Refuge Comprehensive Conservation Plan (CCP) in 1996 and 1997 and the public provided written comments until March 2001. A public meeting was held on January 17, 2001 to accept public comments. The hunting program is addressed in the CCP and we received several comments regarding hunting during the Public Scoping process. Though there were several comments on opposition to hunting in general during the course of the scoping process, hunting is accepted as an important economic and recreational use of Texas' natural resources.

C. Hunter Application, Registration Procedures, and Selection Process

The hunt application, selection, and permitting process for deer, feral hogs, and turkeys is, at the present time, handled via a private vendor (Kinsail, Inc.). Dove hunting permits are provided to all interested hunters on a first-come-first-served basis. At present, there has been no need to limit the number of dove hunt participants, but should the hunter numbers increase to a point that compromises safety or the quality of the hunt, only a limited number of permits will be issued. Maps and information on the application process are provided in printed form at the Refuge Headquarters, and can be found on the Refuge web site at http://www.fws.gov/refuge/Balcones_Canyonlands/visit/visitor_activities/hunting.html . Below are generic versions of the hunter application processes for General Big Game (including turkey), Youth Big Game (including turkey), and Upland Game (dove) hunts for the Refuge. The versions below will on have "XX" for dates as they change slightly year to year.

a) General Big Game and Upland Game Hunt (deer, feral hog, and turkey):

Hunters may apply for a General Hunt permit by completing a Big Game and Upland Game Hunt Application. Permit applications can be submitted on-line by September 10 at <http://www.balconespermits.com/>, can be obtained at the Refuge Office at 24518 FM 1431, Marble Falls, TX 78654, or requested by phone 512/339-9432, x 70 or by mail. Paper hunt applications must be postmarked by September 1, XXXX.

Incomplete paper applications or applications without payment will be discarded. The drawing for hunt permits will be conducted in September. Successful applicants will be notified by e-mail (or by U.S. postal service if requested) by immediately after the drawing. Payment of the permit fee must be received by September 30. A permit will be provided via e-mail (or by U.S. postal service if requested) upon receipt of the permit fee.

Hunters with Disabilities may call the Refuge for information regarding options available for youth and adults possessing a pertinent and valid proof of disability as defined by TPWD hunting regulations.

b) Youth Big Game and Upland Game Hunt (deer, feral hog, and turkey):

Youth ages 12 - 16 may apply for a Youth Hunt permit by completing a Youth Big Game Hunt Application. The application and permit are free. Each youth must be supervised during the hunt by a licensed hunter age 21 or older.

Permit applications can be submitted on-line at: www.balconespermits.com/ or can be obtained at the Refuge Office at 24518 FM 1431, Marble Falls, TX 78654, or requested by phone 512/339-9432, x 70 or by mail. Paper applications must be mailed to Kinsail Corporation, P.O. Box 7087, Arlington, Virginia 22207, and must be postmarked by September 1, XXXX. Incomplete paper applications or applications without payment will be discarded. The drawing for hunt permits will be conducted in September.

Hunters with Disabilities may call the Refuge for information regarding options available for youths possessing a pertinent and valid proof of disability as defined by TPWD hunting regulations.

c) Migratory Game Bird (dove) Hunt:

Balcones Canyonlands National Wildlife Refuge issues permits on a first-come-first-served basis for the Refuge Migratory Bird (dove) hunt. Permits are required for hunters over 17 years of age, and are available on-site at the hunting unit(s) during hunting days beginning ½ hour before each day's hunt begins and extending through legal shooting hours. The permit is valid for the entire Refuge hunt.

We may daily limit daily participation if safety or the quality of the hunt is impacted by hunter numbers.

d) Upland Game (turkey):

See General Big Game Hunt and Youth Big Game Hunt above.

D. Media Selection for Announcing and Publicizing the Hunting Program

The Refuge maintains a mailing list for news release purposes for local media outlets and web-sites. Hunt brochures are also provided at area sporting goods vendors within a 30 mile radius of the Refuge. Special announcements and articles may be released in conjunction with hunting seasons. In addition, information about the hunt will be available on the Refuge web-site.

E. General Requirements

General information regarding hunting and other wildlife-dependent public uses can be obtained at the Refuge office at 24518 FM 1431, Marble Falls, TX 78654, by calling (512) 339-9432 ext. 70, or email at <Rob_Iski@fws.gov>. General information on Refuge hunts, applications, and permit requirements – as well as hunting unit directions, maps, and seasons can be obtained through our website at http://www.fws.gov/refuge/Balcones_Canyonlands/visit/visitor_activities/hunting.html.

F. Hunter Requirements

Below are some additional hunter requirements that were not included under the above sections VII. C, a, b, c, & d but are common to all hunts and units on the Refuge:

- ***Weapons*** - All legal hunting weapons in accordance with the State may be used except pistols. Persons possessing, transporting, or carrying firearms on national wildlife refuges must comply with all provisions of state and local law. Persons may only use (discharge) firearms in accordance with refuge regulations (50 CFR 27.42 and specific refuge regulations in 50 CFR). Target practice is prohibited.
- ***Licenses & Permits*** - Hunters will receive a Refuge permit stating that they are permitted to participate in a specific hunt with season and dates listed. They must carry the permit at all times while hunting. All youth hunters and hunters born on or after Sept 2, 1971 must possess a certificate of completion for a State-approved hunter education course;
- ***Hunt Areas*** - Hunters are assigned tracts to hunt. In some cases (specified on permits or in annual brochure), hunters must park at a specific location but are allowed to walk around within their assigned tracts. Areas closed to hunting will be designated on maps and marked with signs and/or barricades. Hunting is not allowed within 50 yards of a road open to vehicular travel or 200 yards of a building.

- ***Check-In and Check-Out*** - Hunters must check-in each day before hunting and check-out when finished for the day. Dove hunters must check-in and out in person on-site. Participants in the Big Game Hunts may check-in by calling 512/339-9432 and giving the check station attendant their hunt unit number, names of all members in their party, and a contact phone number the party can be reached at if needed. The check station phone will be staffed beginning at 5:30 am. During all hunts, hunters must leave the Refuge and have checked out within 90 minutes of sunset.
- ***Stands*** - Portable hunting stands are allowed. They may be set up no earlier than the day before your hunt and must be removed on the final day of your hunt. The Refuge is not responsible for theft of hunting stands. Driving nails, spikes, or other metal objects into trees or hunting from trees in which any objects have been driven into a tree is prohibited.
- ***Bait*** - The use or possession of all bait (commercial food pellets, mineral blocks, etc.) is prohibited during scouting and hunting.
- ***Dogs*** - Dogs may not be used for scouting or hunting during the Big Game Hunts. Dogs are allowed during the Refuge dove hunt.
- ***Hunter Orange*** - All hunters participating in Big Game Hunts (including turkey hunters) must visibly wear 400 square inches of hunter orange above the waist, which must include a hunter orange hat or cap, while hunting or scouting.
- ***Unit Access*** - Access to designated hunt units will be on improved roads only. Close the gates after entering. Do not block gates or roads.
- ***Alcoholic beverages*** - Possession or use of alcoholic beverages while on the Refuge is prohibited.
- ***Camping*** - Camping is prohibited on the Refuge
- ***Fires*** - Open fires are not permitted on the Refuge.

VIII. Compatibility Determination

Hunting and all associated program activities proposed in this plan have been found compatible with purposes of the Refuge. An updated version of the compatibility determination is currently under Regional Office review for hunting on Balcones Canyonlands NWR.

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