

**San Bernardino National Wildlife Refuge
Hunt Plan**

05/14/2015

U.S. Fish and Wildlife Service

**San Bernardino National Wildlife Refuge
Douglas, Arizona**

Submitted By:
Project Leader

Signature

Date

Concurrence:

Refuge
Supervisor

Signature

Date

Approved:

Regional Chief,
National Wildlife
Refuge System

Signature

Date

Table of Contents

I.	Introduction.....	3
II.	Conformance with Statutory Authorities	4
III.	Statement of Objectives	5
IV.	Assessment.....	5
	A. Are wildlife populations present in numbers sufficient to sustain optimum population levels for priority refuge objectives other than hunting?	5
	B. Is there competition for habitat between target species and other wildlife?	7
	C. Are there unacceptable levels of predation by target species on other wildlife?	7
V.	Description of Hunting Program.....	8
	A. Areas of the Refuge that support populations of the target species.	8
	B. Areas to be opened to hunting.....	8
	C. Species to be taken, hunting periods, hunting access.....	9
	D. Justification for the permit, if one is required.....	10
	E. Consultation and Coordination with the State.	10
	F. Law Enforcement.....	10
	G. Funding and Staffing Requirements	10
VI.	Measures Taken to Avoid Conflicts with Other Management Objectives.....	10
	A. Biological Conflicts	10
	B. Public Use Conflicts	11
	C. Administrative Conflicts	11
VII.	Conduct of the Hunting Program	12
	C. Hunter Application and Registration Procedures (if applicable)	12
	D. Media Selection for Announcing and Publicizing the Hunting Program.....	13
	E. General Requirements.....	13
	F. Hunter Requirements	13
VIII.	Compatibility Determination	14
	Literature Cited	14

SAN BERNARDINO NATIONAL WILDLIFE REFUGE HUNTING PLAN

I. Introduction

San Bernardino National Wildlife Refuge was established in 1982 under the authority of the Fish and Wildlife Act of 1956 and the Endangered Species Act of 1973 in order ". . . to conserve fish or wildlife which are listed as endangered species or threatened species. . . or plants."

More precisely, in 1982, 2,309 acres of land in southeastern Arizona (later an additional 60 acres were added to bring the total area to 2,369 acres), along the International border with Mexico, were purchased from The Nature Conservancy and designated as the San Bernardino National Wildlife Refuge. The underlying reason for establishing SBNWR was to protect Yaqui Catfish, Yaqui Topminnow, Yaqui Chub, and Beautiful Shiner habitat.

The 2,369-acre San Bernardino Ranch was acquired by the U.S. Fish & Wildlife Service specifically to preserve the habitat of endangered native fish species and protect the water resources that feed those habitats. The property is adjacent to the US-Mexican border and contains some of the headwaters of the Yaqui River.

The property is in a north-south valley with flat-to-rolling uplands that drop into the flat bottomlands that bisect the refuge. The uplands are dominated by Chihuahuan desert grassland and desert scrub while the bottomlands are covered with fallow fields, a mesquite bosque, and giant sacaton grasslands. A series of natural seeps and man-made artesian wells have been used in this landscape to create cattail marshlands and other aquatic habitats.



Hunting unit of San Bernardino National Wildlife Refuge

While there are many species of birds (more than 330 species), reptiles (approximately 55 species) and mammals (approximately 62 species) at San Bernardino NWR, the property is managed primarily for the benefit of federally listed threatened and endangered fish species including the Yaqui topminnow, Yaqui catfish, Yaqui beautiful shiner, and Yaqui chub.

The purpose of this plan is to provide public hunting opportunities for white-winged dove (*Zenaida asiatica*) and mourning dove (*Z. macroura*), Gambel's quail (*Callipepla gambelii*) and scaled quail (*C. squamata*) and desert cottontail rabbit (*Sylvilagus audubonii*) on San Bernardino National Wildlife Refuge. This Hunting Plan precedes the overall Visitor Services Plan for San Bernardino NWR.

San Bernardino NWR is open every day during daylight hours for hiking, photography, bird watching, and hunting (white-winged and mourning dove, quail, and desert cottontail rabbit, in season). Fishing, camping, and off-road vehicular traffic are not allowed.

Public hunts on the San Bernardino NWR began in 1982, with the introduction of shotgun for white-winged and mourning dove, Gambel's and scaled quail, and desert cottontail rabbits. This provides the visitor with an additional recreational opportunity where hunting opportunities on public lands are limited. We will be maintaining current hunting programs on the refuge.

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 provided a mission for the System and clear standards for its management, use, planning, and growth. The National Wildlife Refuge System Improvement Act of 1997 recognized 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 should not interfere with the primary purpose for which San Bernardino NWR was established. The completion of a Compatibility Determination was the basis for this determination.

III. Statement of Objectives

The objectives of upland game bird and desert cottontail rabbit hunting program on San Bernardino NWR are to provide:

1. The public with a high quality recreational experience on more refuge lands and increase opportunities for hunters, especially for youth;
2. Biological diversity by preserving the natural diversity and variety of biotic communities occurring on Refuge lands;
3. Wildlife-dependent public recreation as mandated by and according to Service policy;
4. To foster support of Refuge goals and objectives by working in close association with the general public, Arizona Game and Fish Department (AZGFD), 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-winged and Mourning Dove:

Regional Analysis:

White-winged dove populations in Arizona have been stable since 2001, but remain at their lowest relative abundance estimates since surveys were initiated in the 1960's. The survey method provides an annual index to relative abundance and is calculated as a simple mean of the counts conducted during the year (Rabe and Sanders, 2010). Using call count surveys conducted throughout the state in 2010 (the most recent data available), there was a mean of 23.6 birds per survey route. The average for the years 2001-2010 is 24.7. The breakdown of survey routes by habitat type was seventeen in Sonoran Desert, three in chaparral, and four in Chihuahuan Desert (Rabe and Sanders, 2010). The San Bernardino NWR is predominantly Chihuahuan Desert Habitat. Harvest numbers are in correlation to these estimates with an average of 4.8 birds harvested per hunter in 2010 with an average of 5.2 between the years 2001 through 2010 (Rabe and Sanders, 2010; Arizona Game and Fish Department, 2013).

Mourning dove populations have declined similar to the white-winged dove population over the last 40-plus years. Using Seamans' (2013) annual abundance indices of mourning doves

based on call-count survey data from heard observances, Arizona had an index of 14 for 2012 and an average of 17.41 for 2004-2012 (data for 2013 is available; but to insure indices are relatable to harvest numbers, the years of 2004-2012 were used). As with white-winged dove, harvest numbers are in correlation with the population indices. 2012 had a harvest rate (birds/hunter) of 18.72, while the average rate during the years 2004-2012 was 23.34.

Local Analysis:

Using call count surveys done on the refuge from 2006-2013, the same declining trend is seen in white-winged and mourning dove as with the rest of the state. In addition to this downward trend seen in white-winged dove, white-winged doves have never been numerous and are difficult to locate on the refuge even by the best observer. The most likely time to find white-winged doves is during the spring migration period, March to May. Because of the low numbers of white-winged doves and the perceived number of hunters that utilize the refuge for hunting during the September 1-15 dove season, which is approximately five hunters (derived from staff observation and sign-in sheet at refuge hunter access point), white-winged dove populations on San Bernardino NWR are not likely to be impacted due to lack of opportunity.

Mourning doves, much like white-winged doves, are showing a downward trend on the refuge as well. However, mourning dove numbers, based on refuge call counts, are still high, especially during the hunt periods, with typically 200 birds observed during each survey period. Based on the observed numbers of mourning doves and the limited use of the refuge by hunters, an average of ten per year for both the early and late seasons, hunting should not pose a threat to the sustainability of the mourning dove population.

Gambel's and Scaled Quail:

Regional Analysis:

There is no available population data available for Gambel's or scaled quail in Arizona, only harvest numbers for 2006-2010 and the Small Game Outlook, provided by the Arizona Game and Fish Department on their website (http://www.azgfd.gov/h_f/small_game.shtml) are available. The small game outlook only provides information for the current hunt year based on that year's spring surveys.

Local Analysis:

Using call counts from 2006-2013 on SBNWR, numbers of Gambel's quail encountered have decreased on the refuge similarly to the mourning dove population. Gambel's quail encountered during 2006-2007 call counts generally numbered in the 40-50 bird range, while encounters during 2012 and 2013 averaged 20-30 individuals. Scaled quail are rarely observed at any location on the refuge or in the immediate vicinity of the refuge. However, using anecdotal data (contact with hunters by refuge staff) and the sign-in sheet located at the Hunter's Access point, there is minimal use of the refuge for hunting either species of quail, and there is no recent known success of quail taken during the hunt season. Based on this information Gambel's quail populations should remain at sustainable levels and scaled quail population, because of lack of opportunity, is likely sustainable as well.

Desert Cottontail Rabbit:

Regional Analysis:

There are no population numbers for desert cottontail available for the state of Arizona. The only information available is harvest numbers for the years 2006-2010 and the small game outlook provided by AZGFD each year.

Local Analysis:

Rabbit populations will not be impacted on the refuge due to their prolific breeding capabilities and the more than adequate refuge habitat. Desert cottontails have litter sizes ranging from 2.6-3.6 young per litter (Sowls, 1957; Chapman and Ceballos, 1990) and because of the length of the breeding season, seven to eight months, four litters per year are likely (Sowls, 1957). There are no recent known instances of desert cottontail rabbits being taken on the refuge and if the number of hunters that utilize the refuge for white-winged and mourning dove and quail are any indication, the refuge receives very little use by rabbit hunters. In addition, the limited five month hunting season on the refuge is less than half the length of the statewide season of a year.

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

Due to the great diversity of avifauna in Southeastern Arizona, there is limited competition between the refuge's hunting program target avian species and other avian species, but because of the habitat conditions on the refuge and adjacent lands, and the continued improvement of those lands by refuge management and neighboring partners, habitat is sufficient to minimize negative impacts from competition. Examples of this competition would be Gambel's quail preference of higher canopy cover of woody vegetation, such as the refuge's mesquite bosque habitat, for foraging (Guthery et al, 2001) that is also used by the northern cardinal, or the use of deciduous trees for nesting by mourning dove and the multiple species of passerines that share this preference (Stauffer and Best, 1980).

There is also inter-class competition between the refuge's avian target species and rodent species for the use of seeds, grass, herbs, and woody plants, for foraging (Hungerford, 1962; Medina, 1988).

Competition exists between desert cottontails and the other lagomorph species that is found in the region, the black-tailed jackrabbit (*Lepus californicus*). Both prefer forbs for foraging, but during dry periods will consume woody vegetation and dry grasses (Turkowski, 1975). Competition between these species for shelter also exists, but populations of either species are at low enough numbers that this competition is assumed minimal.

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

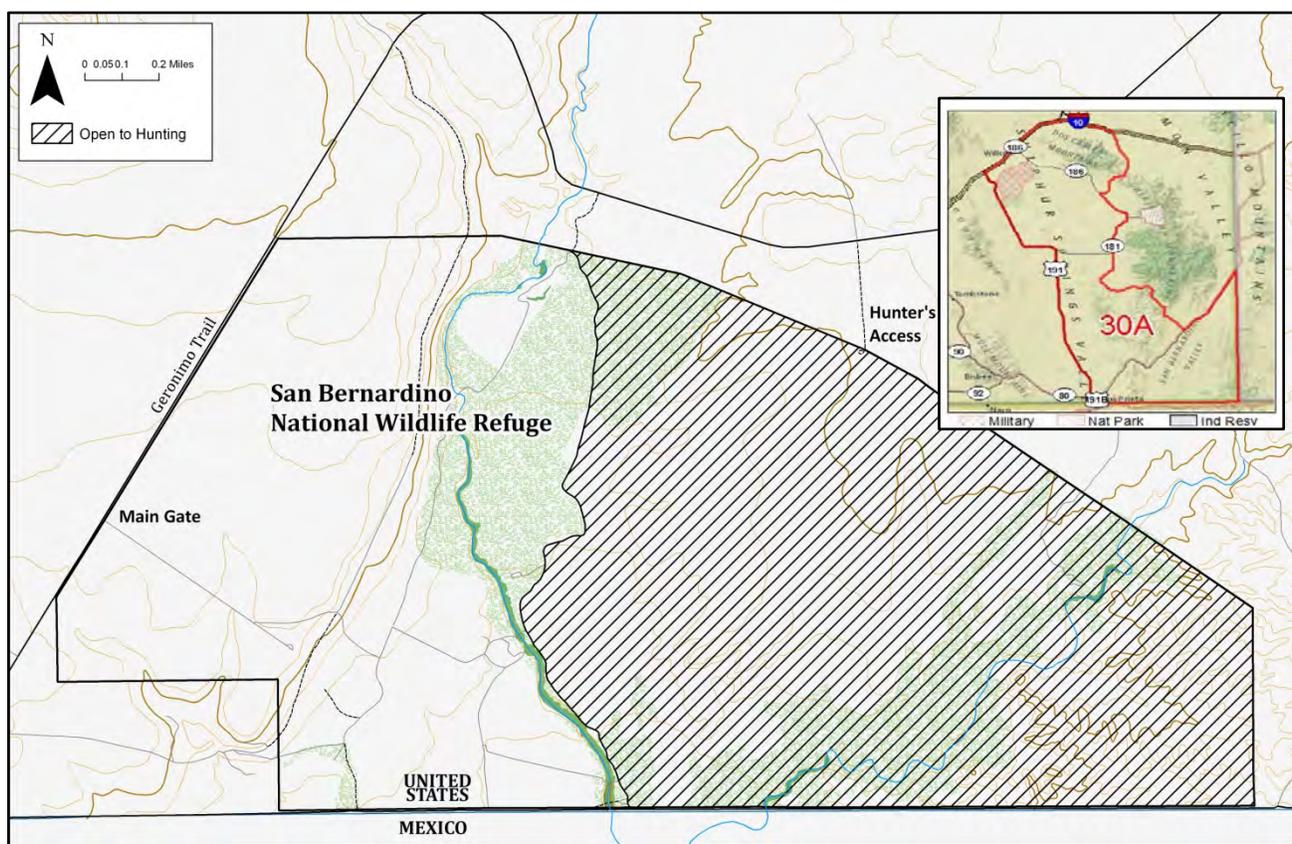
Dove, quail, and cottontail rabbits are herbivores and do not predate on other wildlife species.

V. Description of Hunting Program

A. Areas of the Refuge that support populations of the target species.

Unit Boundaries:

The refuge hunt area is approximately 1,300 acres and lies within state unit 30A – and is the area of the refuge east of Black Draw. The area is composed of Chihuahuan desert scrub; mesquite, creosote, and grasses, on the upland portions of the hunt area; and a mix of mesquite bosque and sacaton grasslands on the lower flood plain portion of the hunt area. Target species can be found in all the different habitat types mentioned. However, some species show a preference to specific habitat types. Mourning dove and Gambel’s quail are more likely to occupy areas that have a mosaic of grass and mesquite, while white-winged dove, scaled quail, and cottontail rabbits show no habitat preference between dense mesquite/shrub stands, mesquite/grassland mosaic, and grassland habitats types (Germano et al, 1983).



B. Areas to be opened to hunting.

San Bernardino NWR is located in Hunt Unit 30A – in the Southeast corner of unit; that portion of the San Bernardino National Wildlife Refuge north of the United States / Mexico International Border which includes approximately 1,300 acres. These lands include all lands east of the refuge road that lies to the east of and runs parallel to Black Draw except for small

posted closures around sensitive springs and water developments. This area is open to hunting of all the above listed species.

Figure 1. San Bernardino NWR Hunt Area

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

1. Mourning dove (*Zenaidura macroura*), white-winged dove (*Zenaida asiatica*), desert cottontail rabbit (*Sylvilagus audubonii*), Gambel's quail (*Lophortyx gambelii*) and scaled quail (*Callipepla squamata*).
2. The refuge is open for hunting during all designated state seasons for quail, dove and cottontail. Cottontail is restricted to approximately five months on the refuge, September 1 through the first full weekend in February.
3. Geronimo Trail Road and Guadalupe Canyon Road, both maintained by Cochise County, are the main routes for vehicular access through the San Bernardino Valley, which contains no formal visitor services other than those provided on SBNWR and Slaughter Ranch. Basic services include public restrooms, parking areas, regulatory signs, and educational signs.
4. That portion of the refuge open to hunting is also open to other public uses such as hiking, photography, and wildlife observation during the hunting seasons. However, use of this area by non-hunters is limited due to the location of the refuge hiking trail being west of the designated hunt area. Also, since the hunts permitted on the refuge are limited to shotgun only, there is a reduced risk of injury due to overshoots.
5. All hunting is walk-in only and parking areas are designated. The refuge does not allow the use of feeders, campsites, fires, horses, or bicycles.
6. For those hunters needing assistance accessing the refuge due to a physical disability, they may contact the Refuge Manager and special arrangements will be made.
7. Through staff observation, sign-in sheet at the Hunter's Access point and limited hunter contacts since the inception of the hunt program (1982), use of the refuge for hunting is very limited, which has made the control of hunter access to the refuge unnecessary, so no mechanisms are in place to limit the number of hunters. If in the future, the number of hunters increase to a level that requires more control over access, the issue will then be addressed.
8. Hunters can access any portion of the refuge designated as open to hunting as shown in Figure 1 and as posted on the refuge.
9. No recommendations have been made by AZGFD as to numbers of hunter per acre based on habitat type, type of weapon, or species being hunted, due to the limited use of the refuge for hunting any of the target species.
10. There are no designated youth hunts, but youth hunters are permitted to use the refuge for hunting as long as they have all applicable State and Federal licenses, tags, and stamps.

D. Justification for the permit, if one is required

No hunting permit is required by the refuge. Hunters must have all applicable State and Federal licenses, tags, and stamps.

E. Consultation and Coordination with the State.

The refuge does not formally consult or coordinate with Arizona Game and Fish Department concerning hunting on the refuge. Refuge Wildlife Officers are cross-designated to enforce state laws, so no coordination is necessary. However, Refuge Wildlife Officers will notify State Game Managers of contact made with hunters using the SBNWR.

F. Law Enforcement

The following methods would be used to control and enforce hunting regulations.

1. Refuge and hunt area boundaries will be clearly posted;
2. The refuge and Arizona Game and Fish Department will provide a brochure that shows hunt areas;
3. Refuge wildlife Officers and Arizona Game and Fish Law Enforcement Officers will randomly check hunters for compliance with Federal and State Laws as well as refuge-specific regulations pertinent to the hunt;
4. Refuge wildlife Officers will coordinate with Arizona Game and Fish Department, Border Patrol, Cochise County Sheriff's Office and other law enforcement agencies; and
5. Information will be made available, such as brochures and maps, at the Refuge Headquarters, and hunt area.

G. Funding and Staffing Requirements

Adequate funding and staff are available. Administering the refuge hunt program does not require any developed facilities on the refuge. It has been estimated that it will take approximately twenty (25) staff days each year to operate and manage the annual program, provide brochures and hunting regulations, respond to public inquiries, post signage, and enforcement and bag limit checks. The cost to the refuge to annually manage its hunting program is estimated at approximately three thousand six hundred, (\$3,600) dollars.

VI. Measures Taken to Avoid Conflicts with Other Management Objectives

A. Biological Conflicts

Hunting rabbits and small game birds is considered an acceptable and desirable form of

consumptive wildlife-oriented recreation. It will have little impact on dove, quail, and cottontail populations, while allowing for the harvest of individual animals that would otherwise succumb to natural mortality.

Hunting activities will create little to no biological conflict. Because the refuge is not used heavily for hunting, fifteen to twenty hunters per year, there have been no issues with the refuge's biological program affecting the hunt program to date. But as a precaution certain steps have been put in place. During the hunt dates, September 1 through Mid- February, the only biological program that the refuge has regularly scheduled is its annual monitoring of the Fish of the Río Yaqui, which takes place in October and early November, but the monitoring is done within the wetlands and Black draw, with the exception of two impoundments, all lie outside of the designated hunt area. For those times when there are visiting researchers or special surveys are conducted that overlap the hunt period, they are given a briefing on the refuge's hunt program and shown where the open and closed areas are.

B. Public Use Conflicts

The refuge currently has opportunities for the public to participate in five of the six wildlife-dependent priority public uses, identified in the National Wildlife Refuge System Improvement Act of 1997: hunting, wildlife observation, photography, environmental education, and interpretation. All of these public uses, with the exception of hunting, are available to visitors year round. Hunting takes place from September 1 to mid-February with mourning dove, white-winged dove, Gambel's quail, scaled quail, and desert cottontail rabbit seasons overlapping during this period.

Visitation on the refuge averages 6,000 visitors per year, with close to 1,000 of those visitors participating in environmental education programs or interpretation programs. The remainder of the visitors uses the refuge's Black Draw Trail to visit several wetland impoundments and Black Draw or they visit the overlook. All of these refuge directed activities take place well outside of the designated hunt area, however visitors while on their own, are permitted to freely explore the refuge, and are not limited by trails. The hunt area is posted both for the benefit of the hunters and for the other non-hunter visitors to the refuge. Because of this separation of areas and the minimal use of the refuge by hunters, little, if any, public use conflict is expected.

C. Administrative Conflicts

At this time, no administrative conflicts are anticipated by continuing the hunt program. Adequate funding and staff are available. Administering the refuge hunt program does not require any developed facilities on the refuge. As the refuge establishes and provides opportunities for priority public use activities, the Refuge Manager will set station priorities to assure that staff time required to administer the hunting program is adequate.

In addition, with the nature of the refuge's hunt program, no direct staff involvement with hunters is generally necessary outside of the Refuge's Wildlife Officers occasionally checking

for compliance. This leaves the remainder of the staff to conduct inventory and monitoring surveys, general maintenance, prescribed burns, and other refuge needs. Prescribed burns generally occur in the spring outside of the hunt seasons so there is no conflict with the need for Wildlife Officers checking hunters and providing security for burns. In those instances where a prescribed burn takes place during the hunt season it is typically the burning of an impoundment or brush piles, so there is no need for more than one officer to assist with security.

VII. Conduct of the Hunting Program

Listed below are refuge-specific regulations that pertain to San Bernardino NWR as of the date of this plan. These regulations may be modified as conditions change or if refuge expansion continues/occurs.

A. Refuge-Specific Hunting Regulations

Public access within the San Bernardino NWR, is by foot traffic only, vehicle travel is prohibited.

San Bernardino National Wildlife Refuge

1. Migratory Game Bird Hunting. We allow hunting of mourning and white-winged dove on designated areas of the refuge in accordance with State regulations subject to the following conditions:
 - a. We allow only shotguns.
 - b. You may possess only approved nontoxic shot while in the field (see § 32.2(k)).
2. Upland Game Hunting. We allow hunting of quail and cottontail rabbit on designated areas of the refuge in accordance with State regulations subject to the following conditions:
 - c. Conditions A1 and A2 apply.
 - d. Cottontail rabbit season shall open on September 1 and close on the last day of the State quail season.
3. Big Game Hunting. [Reserved]
4. Sport Fishing. [Reserved]

B. Anticipated Public Reaction to the Hunting Program

The public reaction to the availability of hunting opportunities on San Bernardino National Wildlife Refuge has been mostly favorable. Some reviewers were opposed to the hunting program, while others requested additional hunts and fewer restrictions on access for hunts.

C. Hunter Application and Registration Procedures (if applicable)

Every hunter needs a license to hunt wildlife in Arizona. All hunters need to possess a valid hunt or combination hunt and fish license, plus any required hunt permit-tags, non-permit-tags, or stamps. Consult the Arizona Game and Fish Department for fees, additional regulations and application forms that may apply.

Contact the San Bernardino National Wildlife Refuge at P.O. Box 3509 Douglas, Arizona 85607. Phone: 520/364-2104, Fax: 520/364-2130. Getting to the refuge headquarters from Douglas, Arizona, take Highway 191 north to mile marker 11, about 1/4 mile past milepost take paved road to the west for 1 mile to refuge office complex. The Refuge will provide applicable brochures, maps and a copy of the most recent State, Federal and refuge rules and regulations. This information is also available at the hunter's access point.

UDA (undocumented aliens) and drug trafficking is a reality; hunters should use discretion and good judgment while hunting

D. Media Selection for Announcing and Publicizing the Hunting Program

This information will also be made available in the Arizona Hunting and Trapping Rules and Regulations Information Proclamation distributed each year by the Arizona Game and Fish Department. In addition, information about the hunt will be available at the refuge headquarters and, in the future, information about all of the hunting opportunities offered at the San Bernardino NWR will be available on the refuge web-site.

E. General Requirements

General information regarding the hunting program and other public use can be obtained by Contacting the San Bernardino NWR, at P.O. Box 3509 Douglas, Arizona 85607. Phone: 520/364-2104, Fax: 520/364-2130.

Getting there: From Douglas, Arizona, take Highway 191 north to mile marker 11, about 1/4 mile north of the milepost take paved road to the west for 1 mile to Refuge office. The refuge can provide brochures, maps and a copy of the most recent State, Federal and refuge rules and regulations.

F. Hunter Requirements

- 1. Age** – Hunters under the age of 14 must either have a valid hunting or combination license or be accompanied by an adult (18 years or older) who possesses a valid hunting or combination license. .
- 2. Equipment** - The refuge permits only the use of a shotgun with non-toxic shot only.
- 3. Fires on the refuge** – Open fires are not permitted on refuge.
- 4. License and Permits** – License required any valid hunting or combination license (Class H) (See state regulation tables for Resident and Non-resident license fees in the Arizona Hunting and Trapping regulations booklet).

5. **Reporting Harvest** – If need arises to collect specific management information in relation to harvest rates, amount of public use, or impact of hunting on resident wildlife population, special regulations may require that a refuge permit be obtained to participate in the activity. This will be determined on an annual basis.
6. **Dogs** – The uses of retrieving and pointing dogs will be allowed.
7. **Access** - Foot traffic only, no vehicle use is allowed.
8. **Firearm use** - Any discharge of a firearm except to take legal game is not permitted. Target practice or shooting at random is not permitted
9. **Blinds, Stands, etc.** - Pits, permanent blinds and stands; trail or scouting cameras; and baiting are prohibited.
10. **Alcohol** - The use or possession of alcoholic beverages while hunting is prohibited.
11. **Camping** - Overnight camping is prohibited.
12. **Littering** is prohibited.
13. **Bag Limit, Dove** - Ten (10) mourning and white-winged doves per day in the aggregate. POSSESSION LIMIT: Twenty (20). Mourning and white-winged doves in the aggregate after opening day, of which no more than ten (10) doves may be taken in any one day.
14. **Bag Limit, Quail** - Fifteen (15) quail per day in the aggregate. General Possession Limit Thirty (30) quail in the aggregate after opening day of which no more than fifteen (15) Gambel's or scaled quail in the aggregate may be taken in one day.
15. **Bag Limit, cottontail rabbit** - Ten (10) cottontail rabbits per day. Possession Limit Twenty (20) cottontail rabbits of which no more than ten (10) may be taken in any one day.

VIII. Compatibility Determination

Hunting and all associated program activities in this plan have been found compatible with purposes of the refuge, as documented in the Draft Compatibility Determination, which is currently out for review.

Literature Cited

- Arizona Game and Fish Department — www.azgfd.gov
- Chapman, Joseph A. and Gerado Ceballos. 1990. The Cottontails. Pp. 95-110. Gland, Switzerland: IUCN
- David J. Germano, Roger Hungerford, and S. Clark Martin. 1983. Responses of Selected Wildlife Species to the Removal of Mesquite from Desert Grassland. *Journal of Range Management*, Vol. 36, No. 3, pp. 309-311
- Guthery, Fred S., Nina M King, William P. Kuvlesky, Jr., Stephen DeStefano, Sally A. Gall, and Nova J. Silvy. 2001. Comparative habitat use by three quails in desert grassland. *Journal of Wildlife Management*. Vol. 65, No. 4, pp. 850-860
- Hungerford, Charles R. 1962. Adaptations shown in selection of food by Gambel Quail. *The Condor*. Vol. 64, No. 3, pp. 213-219
- Medina, Alvin L. 1988. Diets of scaled quail in southern Arizona. *Journal of Wildlife*

- Management, Vol. 52, no. 4, pp.753-757
- Rabe, M. J., and T. A. Sanders. 2010. White-winged dove population status, 2010. U.S. Department of the Interior, Fish and Wildlife Service, Division of Migratory Bird Management, Washington D.C.
- Seamans, M. E., R. D. Rau, and T. A. Sanders. 2013. Mourning dove population status, 2013. U.S. Department of the Interior, Fish and Wildlife Service, Division of Migratory Bird Management, Washington, D.C.
- Sowls, Lyle K. 1957. Reproduction in the Audubon cottontail in Arizona, *Journal of Mammalogy*. Vol. 38, No. 2, pp. 234-243
- Stauffer, F., Louis B. Best. 1980. Habitat selection of riparian communities: evaluating effects of habitat alterations. *The Journal of Wildlife Management*. Vol. 44, No. 1, pp1-15
- Turkowski, Frank J. 1975. Adaptability of the desert cottontail. *The Journal of Wildlife Management*. Vol. 39, No. 4, pp. 748-756