Draft San Andres National Wildlife Refuge Desert Bighorn Sheep Hunt Plan

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U.S. Department of the Interior
Region 2, Fish & Wildlife Service
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1. Introduction

San Andres National Wildlife Refuge (NWR or Refuge) was established by the Federal Property and Administrative Service Act of 1949 (40 U.S.C. 471-535), as amended; Fish and Wildlife Coordination Act of 1934 (16 U.S.C. 661-666c) as amended; Fish and Wildlife Act of 1956 (16 U.S.C. 742a-742j Stat. 1119) as amended; the Act of May 19, 1948, Public Law 80-537 (16 U.S.C. 667b-667d; 62 Stat. 240) as amended; and The National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd-668ee), as amended.

OTHER APPLICABLE LAWS, REGULATIONS AND POLICIES:

- Refuge Trespass Act of June 25, 1948(18 U.S.C. 41; 62 Stat.686)
- Antiquities Act of 1906(34 Stat. 225)
- Migratory Bird Treaty Act of 1918(16 U.S.C. 703-711; 40 Stat. 755)
- Migratory Bird Conservation Act of 1929(16 U.S.C. 715-715r; 45 Stat. 1222)
- Migratory Bird Hunting Stamp Act of 1934(16 U.S.C. 718-718h; 48 Stat 451)
- Criminal Code Provisions of 1940(18 U.S.C. 41)
- Bald and Golden Eagles Protection Act of 1940(16 U.S.C. 668-668d; 54 Stat. 250)
- Refuge Recreation Act of 1962(16 U.S.C. 460k-4; 76 Stat. 653)
- Land and Water Conservation Fund Act (LWCFA) of 1965(16 U.S.C. 460L-4 to460L-11)
- National Historic Preservation Act of 1966(16 U.S.C. 470, et seq.; 80 Stat. 915
- National Environmental Policy Act of 1969(NEPA) (42 U.S.C. 4321, et seq.; 83 Stat.915)
- Refuge Rights-of-Way General Regulations (50CFR 29.21)
- Use of Off Road Vehicles on Public Lands (Executive Order 11644, as amended by Executive Order 11989)
- Refuge Revenue Sharing Act of 1935, as amended 1978(16 U.S.C. 715s; 92 Stat.1319)
- National Wildlife Refuge Regulations for the most recent Fiscal Year (50 CFR Subchapter C; 43 CFR 3101.3-3.
- Management and General Public Use of the National Wildlife Refuge System (Executive Order 12996)
- Invasive Species (Executive Order 13112)

In order to meet specific Refuge and other broader United States Fish and Wildlife Service (Service) directives, the San Andres NWR was established in 1941 by Executive Order 8646 for the "conservation and development of natural wildlife resources." In addition to the stated purpose of the refuge, further goals of establishment were to protect desert bighorn sheep *(Ovis canadensis mexicana)* habitat.

The Refuge is located approximately 20 miles northeast of Las Cruces, New Mexico, in Dona Ana County, and encompasses 57,215 acres of the southern portion of the San Andres mountain range (Figure 1).

Figure 1. Locator map for White Sands Missile Range and the San Andres National Wildlife Refuge.

The San Andres mountain range is approximately 75 miles long, forming an arc six to 12 miles wide that concaves to the east. The mountain range is bordered by the Jornada del Muerto plains to the west and the Tularosa Basin to the east. The Organ Mountains, located directly south of and virtually contiguous with the San Andres Mountains, rise nearly a mile above the floor of the Tularosa Basin (Seager 1981).

The southern San Andres and Organ Mountains represent a west-tilted fault block, uplifted vertically along an east bounding fault zone. The mountain range has a relatively gentle slope on the west side, breaking into a series of precipitous cliffs and benches on the east side. Elevation of the Refuge ranges from 4,200 to 8,235 feet. Major east-west canyons delineate five mountain subunits within the Refuge, which are known (from south to north) as: Bennett, Black Brushy, San Andres, Onate, and Block. Major east-west canyons (from south to north) are known as: Bear, Little San Nicholas, Ash-Salt, San Andres and Mayberry. Five general plant communities are found on the Refuge. These include desert shrub (14,305 acres), desert riparian (2,860 acres), grass-shrub (28,610 acres), mountain shrub (5,720 acres), and pinyon-juniper (5,720 acres).

The Refuge headquarters are located at 5686 Santa Gertrudis Drive, Las Cruces, New Mexico, approximately 11.0 miles southeast of the Refuge proper. The Refuge has limited access for public opportunities which are hunting and special tours upon request. White Sands Missile Range (WSMR or Range) surrounded Refuge lands in 1952 when Public Land Order 833 permanently established WSMR after World War II. White Sands National Monument, established in 1933, lies within the Tularosa Basin

on the east side of the Refuge. The Jornada Experimental Range (JER) Station, established in 1912, retains certain research rights over the western portion of the Refuge. This land was transferred from the JER to the Service for establishment of the Refuge in 1942. The White Sands Test Facility, a part of the National Aeronautics and Space Administration (NASA) borders the Refuge in the southwest corner. Refuge staff must pass through NASA or WSMR lands to enter the Refuge's main access points.

2. 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 Andres NWR was established. This determination is based upon the completion of a Compatibility Determination.

With the exception of hunting, public access is limited to very specific activities and times. In cooperation with WSMR and the New Mexico Department of Game and Fish (NMDGF), population reduction hunts for oryx (*Oryx gazella*) are conducted on the Refuge. An estimate of annual hunter visits for oryx hunting is no more than 35 oryx hunters per year; oryx hunters are permitted to bring up to three visitors in their hunting party. Hunters are responsible for their guests and all hunt party members would remain together within reasonable hunting and stalking techniques. Additionally, communication would be maintained by all persons in the hunt party for safety reasons. There are only limited oryx hunts currently managed on the Refuge and tour groups are escorted by request on a limited basis, averaging 1-2 times per year. We estimate numbers of visitors for the first desert bighorn sheep hunt to be no more than 12 individuals to include up to four hunters and one to three visitors per

hunter. The hunt area would include bighorn habitat throughout the San Andres Mountains on both Refuge and WSMR lands. Initial start up funding for the Service is estimated to be $50,000 for planning and operating the bighorn ram hunt program. It is estimated that the hunt program's annual cost would be approximately $5,000.

Annual staff time:	Administration & Biological Review		$2,000.00
	Facilities Maintenance		$2,000.00
	Law Enforcement		$1,000.00
		Total	$5,000.00

3. Statement of Objectives

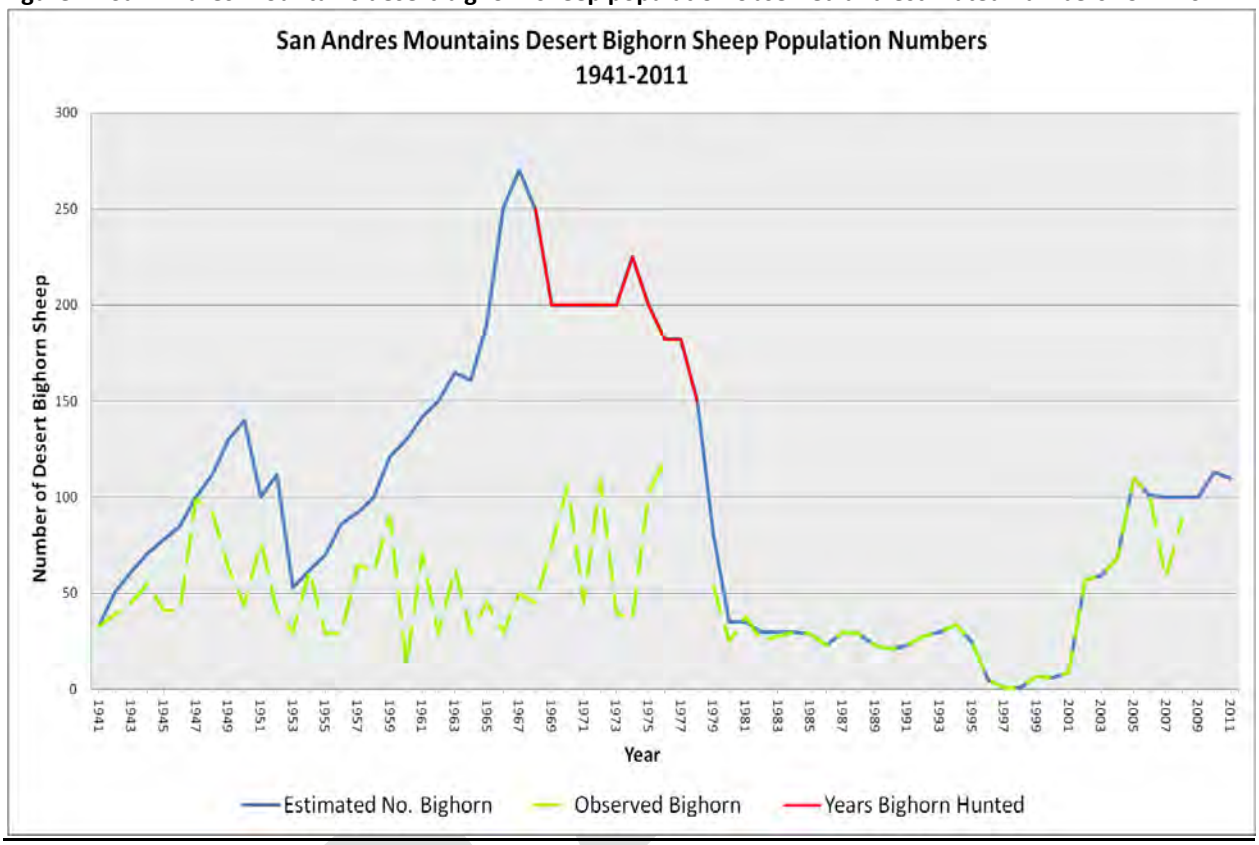
The purpose of the proposed action is to provide increased hunting opportunities on the San Andres NWR and provide visitors with a high-quality wildlife-dependent recreational experience on the Refuge. A desert bighorn ram hunt conforms to this objective by offering an uncrowded, highly individualistic experience.

The 1998 Comprehensive Conservation Plan (CCP) for the San Andres NWR identifies a goal "To protect and enhance wildlife, plant and habitat resources within the San Andres Mountains Ecosystem including strategies that benefit native flora and fauna, the status of desert bighorn sheep, neotropical migratory birds and other species of concern" (USFWS 1998). At the time the CCP was finalized, desert bighorn sheep were listed as State-endangered, but this species was delisted by NMDGF in 2011 making available the option for hunting. Desert bighorn sheep were previously hunted on the Refuge from 1968 to 1978 (Table 1 and Figure 2). Estimated and observed numbers of bighorn sheep in the San Andres Mountains bighorn population since establishment of the Refuge in 1941 are described in Figure 2 (Hoban 1990, NMDGF 2011, NMDGF 2012a, Refuge files). The estimated San Andres bighorn population is derived from the number of observed animals during ground and aerial surveys. Note should be taken with the San Andres Mountains bighorn sheep population estimated values that were derived using various survey methodologies over time; ground surveys were conducted from 1941 – 1968, and a combination of ground and aerial surveys have been performed inconsistently from 1969 to the present.

Table 1. Summary of San Andres Mountains desert bighorn sheep ram hunts 1968-1978.

Year	No. Hunters	Rams Harvested	Season (days)	Bighorn Population Estimate
1968	4	4	9	250
1969	5	4	8	200
1970	5	5	9	200
1971	6	6	8	200
1972	6	6	9	200
1973	6	6	8	200
1974	5	5	8	225
1975	6	5	9	200
1976	6	6	7	182
1977	5	5	?	182
1978	6	5	9	150

Figure 2. San Andres Mountains desert bighorn sheep population observed and estimated numbers 1941-2011.



Scabies mites (*Psoroptes* spp.) were documented on five rams harvested by hunters in 1978 and all animals had scabies mites in their ears and/or their bodies (IWVS 1990, Sparrow et al. 1992). Following a reduction of bighorn in the San Andres bighorn population in 1979 attributed to the scabies outbreak, it was decided by WSMR, NMDGF, and the Service to salvage and treat the remaining 80 bighorn sheep in the population. In November 1979, 49 bighorn were transplanted from the San Andres Mountains to Red Rock Wildlife Area (RRWA) and to New Mexico State University for disease research as part of the salvage operation. Red Rock Wildlife Area is a captive breeding facility for desert bighorn sheep located north of Lordsburg, New Mexico and managed by NMDGF (NMDGF 2003). Of the 49 animals treated or removed from the San Andres Mountains, 35 survived, and 12 were returned to the San Andres Mountains in 1981 (IWVS 1990, Sparrowe et al. 1992). The only other transplants into the San Andres Mountains to augment the extant bighorn population occurred in 2002 and 2005; 81 bighorn were transplanted from two sources with the cooperation of Kofa National Wildlife Refuge, Arizona Game and Fish Department, Arizona Desert Bighorn Sheep Society, WSMR, New Mexico Chapter of the Wild Sheep Federation, and NMDGF (Table 2). The original bighorn population was indigenous to the San Andres Mountains; bighorn from subsequent augmentations and their progeny have continued to inhabit similar portions of the San Andres Mountains as the indigenous herd.

Table 2. Desert bighorn sheep transplanted to the San Andres National Wildlife Refuge in 2002 and 2005.

Source Stock	2002		2005	
	Ewes	Rams	Ewes	Rams
Kofa NWR, AZ	18	2	25	5
Red Rock Wildlife Area, NM	13	18	0	0

Radiocollars were first deployed on bighorn sheep in 1980 and have been used continually since that year. Tracking desert bighorn sheep with the use of radiotelemetry has enabled more intensive monitoring of the San Andres Mountains bighorn population. Determining the number of animals in a population is one of the most challenging responsibilities for wildlife managers (Douglas and Leslie Jr. 1999) because populations such as bighorn sheep are difficult and costly to survey, only a portion of the population would be observed during surveys, and population trends must be evaluated from population composition (age and sex ratios) derived from the surveys. Thus, long-term trend data is essential to address variability in populations and the methodology used to survey them.

4. Assessment

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

Primary emphasis since establishment of the Refuge has been the restoration and management of desert bighorn sheep. The San Andres Mountains desert bighorn sheep population has been considered paramount to the recovery and delisting of desert bighorn in New Mexico because it has the largest and most contiguous desert bighorn habitat in New Mexico (NMDGF 2003). Initially listed in 1980, this species was removed from NMDGF's State Threatened and Endangered Species list in 2011 with an estimated state population of 610-705 animals (Table 3, NMDGF 2012a) and once again providing a hunting opportunity for desert bighorn sheep in the San Andres Mountains. Established optimum population levels for desert bighorn sheep in the San Andres Mountains varies between the agencies. There are currently an estimated 110 – 130 bighorn in the San Andres Mountains (NMDGF 2012a, Table 3); the most recent complete survey of the bighorn population was conducted by helicopter in 2008.

When the Refuge was established in 1941, there were approximately 31-33 desert bighorn sheep inhabiting the San Andres Mountains (Kennedy 1957). The bighorn population increased to an estimated 140 animals by 1950, but declined to 70 bighorn by 1955 due to significant drought and competition for forage by domestic livestock and mule deer (*Odocoileus hemionus*) (NMDGF 2003). During most of the 1970s there were an estimated ≥ 200 desert bighorn sheep distributed throughout the San Andres and Organ Mountains, however in 1978, scabies was discovered on all bighorn rams harvested prompting additional aerial and ground surveys.

Table 3. Population trends for desert bighorn sheep herds in New Mexico, 2000-2011 (taken from http://www.wildlife.state.nm.us/conservation/bighorn/documents/PopulationTrends.htm) (NMDGF 2012a).

Herd	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Ladrones	21	26	27	30	25-30	25-35	25-35	25-40	25-40	30-45	30-45	35-45
Peloncillos	48	30	25	55	65-75	60-70	70-75	75-85	75-85	80-90	70-75	95-110
Hatchets	43	40	50	35	38-47	60-75	100-110	120-130	125-135	130-140	130-140	135-155
Fra Cristobal	55	66	75	58	55-65	55-80	70-80	80-90	95-105	120-130	150-160	180-200
Caballos	0	0	0	?	?	?	12-20	20-30	25-30	47-50	55-60	55-65
San Andres	5	4	60	60	65-70	105-115	85-105	80-90	80-90	90-100	110-115	110-130
TOTAL	172	166	237	238	248-287	305-375	362-425	400-465	425-485	497-555	535-595	610-705

The subsequent bighorn population decline was attributed primarily to the direct and/or indirect effects of a virulent scabies mite infestation. This disease event and efforts to treat this bighorn population have been reported in numerous publications (Lange et al. 1980, Sandoval 1980, Kinzer et al. 1983, Hoban 1990, IWVS 1990). Additionally, a thorough review of the San Andres Mountains bighorn sheep management issues was produced by the Wildlife Management Institute with all members of the review team independent of the three principal agencies (Sparrowe et al. 1992). In addition to disease issues, the bighorn population was impacted by drought, poor reproduction and predation by mountain lions (*Puma concolor*) (USFWS 1998).

Between 1980 and the early 1990s, the minimum San Andres Mountains desert bighorn sheep population estimate remained less than 40 individuals (Sandoval 1980, Hoban 1990). The population slightly increased during the early 1990s however, in 1995 the minimum count declined to 25 and in 1996 the minimum count declined sharply to 3 individuals. In 1997, the minimum count declined further to a single radiocollared ewe, the last indigenous bighorn in New Mexico (Boyce and Weisenberger 2005). Nine of 10 radiocollared bighorn sheep died during a 15-month period during 1996-1997. Factors associated with this high mortality rate were drought, predation by mountain lions, accidents, and continued scabies infestation (USFWS 1998). It is probable that a similar mortality rate also occurred on the uncollared portion of the population because no noncollared bighorn were observed during extensive aerial surveys in 1996 or 1997. Other factors that contributed to the overall population decline were an aging population, poor reproduction and the lack of recruitment into the bighorn population from 1995-1997 (USFWS 1998). The known population remained at one ewe from 1997-1999. In 1999 NMDGF transplanted six sheep from RRWA to the San Andres Mountains for a two-year disease study, bringing the population to one ewe and six rams (USFWS 1998). During the disease study including, no scabies were detected in the San Andres bighorn sheep population (Boyce and Weisenberger 2005).

New Mexico Department of Game and Fish receives funding annually from the Service's Division of Wildlife and Sport Fish Restoration Program for the purpose of implementing wildlife conservation programs. Over the past three decades Federal Aid resources have been used extensively toward desert bighorn sheep recovery in New Mexico. White Sands Missile Range has also contributed significant

initiatives for habitat conservation and species management for the recovery of desert bighorn sheep in the San Andres Mountains.

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

High mule deer densities in the San Andres Mountains were previously considered detrimental to desert bighorn sheep resulting in desert mule deer buck and doe hunts from 1942–1977 (Halloran 1944, Leopold et al. 1947, Halloran and Kennedy 1949). Habitat competition between the target species and other wildlife is primarily limited to mule deer and oryx. Mule deer and bighorn diets have some overlap, though mule deer are primarily browsers. According to Krausman et al. (1999) bighorn prefer browse to other available forage, however, bighorn will opportunistically browse and graze forage species depending on range condition and time of year (Halloran and Kennedy 1949, Boeker et al. 1972, Sandoval 1979, Miller and Gaud 1989, Krausman et al. 1997, Hoenes and Bender 2010). Oryx diet studies on WSMR have found that oryx are primarily grazers, but will also browse depending on forage availability (Saiz 1975, Smith 1994, Dye 1998, Burkett 1999). Competition between species targeted by the hunting program and other wildlife or their habitats is not considered a limiting factor.

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

Desert bighorn sheep are herbivores and do not predate on other wildlife species.

5. Description of Hunting Program

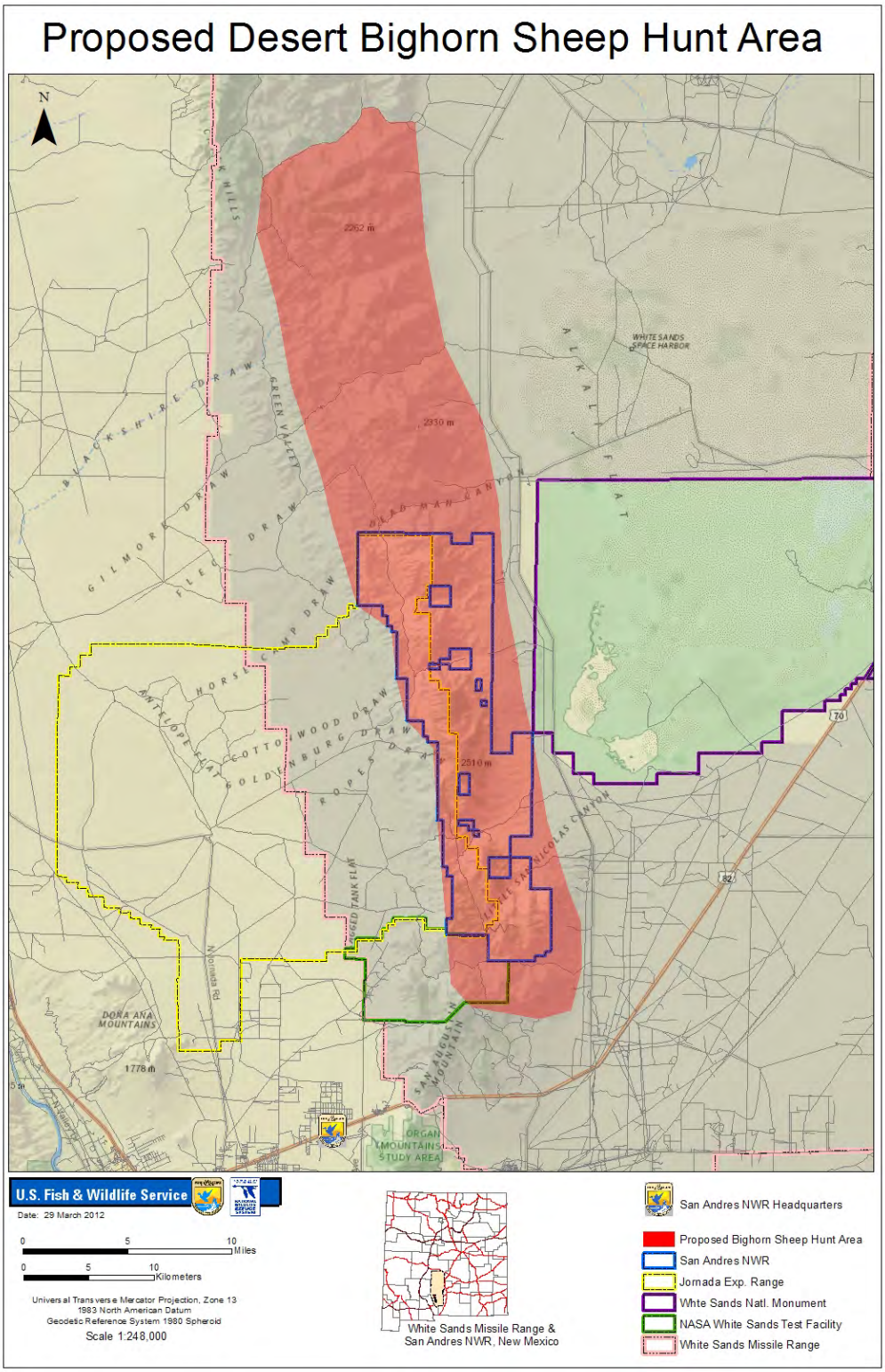
5.1. Areas of the Refuge that support populations of the target species

Desert bighorn sheep occur in the San Andres, Fra Cristobal, Caballo, Sierra Ladrones, Peloncillo, and Hatchet Mountains in New Mexico. They are distributed throughout the southern half of the San Andres Mountains, including the Refuge and south toward Highway 70. Necessary elements of bighorn habitat include food, water, escape terrain, and open space (Krausman et al. 1999). All components are critical as sites with open habitat and high-quality forage, but deficient of escape terrain, are rarely used by bighorn. Escape terrain is described as having a slope ≥ 60% (Holl 1982, McCarty and Bailey 1994). The entire Refuge, with the exception of the headquarters site location which is separated from the Refuge proper by approximately 11.0 straight-line miles, is desert bighorn sheep habitat because it provides all the necessary elements required for sustaining bighorn populations.

5.2. Areas to be opened to hunting

The hunt area (approximately 186,000 acres to include 57,215 on the San Andres NWR) would include bighorn habitat in the San Andres Mountains (part of NMDGF Unit 19) on both Refuge and WSMR lands (Figure 3). Hunt officials would provide detailed hunt area maps to all hunters prior to or on the day of their assigned hunt. The Refuge is completely surrounded by WSMR operated by the Department of Defense and is therefore closed to all public access. Access to the Refuge for hunting would depend on

Figure 3. Proposed hunt area (in red) for desert bighorn sheep in the San Andres Mountains, New Mexico which included the entire San Andres NWR and most of the San Andres Mountains Range. The San Andres Mountains lie within White Sands Missile Range boundaries (NMDGF Unit 19). Also see Section 1 – *Introduction*.



annual evaluations of the hunt program by the Refuge, WSMR, and NMDGF. Those evaluations would include assessment of fall aerial survey results, access logistics related to testing and training on WSMR, and any other issues that arise. Bighorn ram hunts would occur in the entire Refuge and portions of WSMR as defined by mutual agreement, addressed annually, between WSMR and Refuge. The hunt area may change depending on bighorn sheep distribution throughout the San Andres Mountains and/or WSMR testing and training activities. WSMR will begin a desert bighorn sheep hunt in fall 2012 on Range lands within the San Andres Mountains in NMDGF Unit 19. Additional fall desert bighorn sheep hunts in southern New Mexico that do not have access restrictions can be found in NMDGF Units 13, 20, 26, and 27 on public lands and in NMDGF Unit 20 on private land.

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

Desert bighorn sheep would be taken by hunters in accordance with WSMR, NMDGF, and Refuge specific regulations. The number of licenses and authorizations issued for the entire San Andres Mountains (NMDGF Unit 19) would be dependent on the bighorn sheep population size and demographics as determined by annual or biennial fall aerial surveys conducted by the Refuge, WSMR, and/or NMDGF (also see Section 5.5 – *Consultation and Coordination with the State and Other Partners*). Bighorn sheep populations are susceptible to over-exploitation because of their low population growth rate and low population size, thus, determining the status of the San Andres Mountains bighorn population through systematic bi-annual aerial surveys is necessary to ensure sustainability. Adjustments to the number of hunt tags issued may occur to reflect surveys and in cooperation with WSMR and NMDGF. For example, the first hunt season (2013-2014) may include three NMDGF lottery draw general public hunters; two adult and a possible Auction or Raffle hunter. If NMDGF Unit 19 is not selected by an Auction or Raffle hunter during any year then we would be below potential harvest level for that year. Radiocollared and unmarked rams would be permitted for take per NMDGF regulations. If fall aerial survey data report a sufficient number of rams in the San Andres bighorn population, then a fourth tag for a youth-only hunt may be considered. Adjustments to the number of hunt tags issued may occur to reflect changes in the San Andres Mountains bighorn population demographics based on annual or biennial fall aerial surveys in cooperation with WSMR and NMDGF.

Funding for fall aerial surveys would be provided by one or more of the cooperating agencies and/or proceeds from Auction or Raffle hunters who choose to hunt in NMDGF Unit 19. Proceeds from the auction and raffle are used for bighorn sheep research, management, and propagation in New Mexico. Should auction or raffle hunters choose to hunt in the San Andres Mountain Range, 25-50% of the proceeds from those tags would be used for fall aerial surveys of the San Andres desert bighorn sheep population.

Bighorn hunts would be scheduled according to Range access availability from WSMR and NMDGF hunt seasons; the permitted hunt dates each year shall occur during late December and early January based on mutual agreement between the Refuge, WSMR, and NMDGF. Scouting prior to the hunt shall occur only after coordination with WSMR and the Refuge. Bighorn sheep hunting on San Andres NWR would have important differences from hunting on other public lands in New Mexico due to security and safety restrictions associated with WSMR testing and training activities. Some of the major contrasts from other New Mexico bighorn hunts would include some limitations of camping and use of all-terrain

vehicles, except to retrieve harvested game on WSMR lands. Initially overnight camping on the Refuge and WSMR would not be permitted, but may change in the future depending on mutual agreement by the Refuge and WSMR. Should camping be permitted on the Refuge, it would be restricted to Little San Nicholas Camp which is already used by Service staff and researchers conducting studies on the Refuge. An exception may be where hunters wish to "lay out" overnight on the mountain after locating a trophy ram near dark and hiking back out to a vehicle and driving to a camp may be unfavorable for a high-quality, successful hunt experience. This exception would only be permitted with permission from WSMR, NMDGF, or Refuge escorts due to multiple safety and security issues for this area. White Sands Missile Range, NMDGF, or Refuge staff or their agent(s) may require hunters be escorted; hunters may be required to report to a check station depending on the number of hunters and escort availability. The need for escorts is determined on the number of hunters and escort availability. Depending on the number of hunters and available escort personnel, check stations located on WSMR may be established in lieu of the escort requisite. Federal and State laws and regulations are enforced by Refuge and WSMR law enforcement personnel and NMDGF game wardens, respectively (i.e., hunters must possess a valid hunting license and tags, etc). Also see Section 7 – *Conduct of the Hunting Program*.

Access to WSMR and the Refuge for desert bighorn sheep hunts would only be through the Small Missile Range gate. Due to safety and security requirements specific to the areas targeted for these hunts, bighorn sheep hunters may be escorted while on the Refuge or WSMR. Official escorts can only be on-duty WSMR hunt program personnel, and include Department of the Army Civilian Police, identified Range civilian and contractor personnel, Refuge staff, and NMDGF employees with authorized WSMR security access. Prior to each hunt, WSMR, Refuge, or NMDGF staff (or their agents) would provide hunters and guests with a Range safety and security briefing, and would conduct a vehicle, licensing, and registration inspection. If available, escorts would lead hunters to the hunt area, assist with locating sheep, and ensure location and shot safety. The need for escorts is determined on the number of hunters and escort availability. Depending on the number of hunters and available escort personnel, check stations located on WSMR may be established in lieu of the escort requisite.

The hunting program would be reviewed by the cooperating agencies on an annual basis and necessary changes would be incorporated accordingly. See additional regulations regarding this proposed hunt listed below under Section 7.1 - *Refuge-Specific Big Game Hunting Regulations*. Seasons, licenses, safety courses, species, and bag limits are within the guidelines established by NMDGF, but hunting on the Refuge would be more restrictive to assure compatibility with other Refuge purposes. Law enforcement would consist of random hunting license and bag limit checks by Refuge Officers, WSMR Game Wardens, and NMDGF Game Wardens. To obtain data on hunter success and biological data on species harvested, all hunters would be required to check harvested rams to the Refuge headquarters or with Refuge or WSMR staff.

5.4. Justification for the permit, if one is required

No Refuge-specific permit would be required for hunters. Any hunter who kills a bighorn sheep on Refuge lands must notify the Refuge Office in person, or by phone, and make the animal available for inspection by Refuge or WSMR personnel.

5.5. Consultation and Coordination with the State and other Partners

The desert bighorn sheep hunting program would be reviewed on an annual basis by Refuge staff in consultation with WSMR and NMDGF. If population demographics, habitat, or hunter success rates considerably change or affect other wildlife populations, necessary modifications to the hunt would be incorporated accordingly**.** State biologists with NMDGF have reported that desert bighorn sheep populations in New Mexico are stable to slightly increasing (NMDGF 2012a).

Sex ratios are the proportion of male to females in a population where ram:ewe ratios in bighorn sheep populations indicate reproduction potential. The age structure of a population is a distribution of numbers of individuals of various ages where lamb:ewe ratios produced from fall surveys provide an index of recruitment into the population and can evaluate population growth rates. Recruitment is defined as lamb survival past weaning. During bouts of drought, lamb survival can decrease, subsequently reducing the lamb:ewe ratios, whereas, lamb survival and recruitment into the population often increases with favorable weather and forage conditions. These ratios are meaningful as long-term trend data; therefore one year's data is not a good indicator of population status alone. The last complete survey of the San Andres bighorn sheep herd was conducted in 2008. An attempt was made in fall 2010 to conduct another aerial survey, but both days were cut short by high winds and another was not rescheduled due to funding. The change in the ratio since 2008 is not known; population estimates for 2009-2011 were derived from ground observations by NMDGF.

The population structure of the San Andres Mountains desert bighorn sheep herd between 2002-2011 has increased from a minimum estimate of 57 total animals to 110, with an average of ram:ewe:lamb ratio of 91:100:44 (Table 4). Population composition data described in Table 4 are derived from ground counts, with the exception of 2007 and 2008 whereby aerial surveys were conducted; all survey data was reported from the late breeding season. Sandoval (1979) reported an average ram:ewe:lamb ratio of 41:100:19 during breeding season aerial surveys in the San Andres Mountains between 1975-1976. Between 1941-1976, Sandoval (1979) also reported a long-term average ram:ewe:lamb ratio of 72:100:51 and Hoban (1990) reported an average ram:ewe:lamb ratio of 64:100:47 between 1985-1989. A viable bighorn sheep population is dependent on the number of adult ewes; therefore only ram tags would be issued on the Refuge. Bighorn ewe tags are sometimes issued in populations as a management tool to reduce a herd that has become too large for an area.

Age classes of rams are described by Geist (1971) whereby yearlings are 1-2 years old, Class I (CI) rams are 2-3 years old, Class II (CII) rams are 3-6 years old, Class III (CIII) rams are 5-8 years old, and Class IVC (CIV) rams are 8+ years old. Lambs are classified as 12 months old and younger.

The criteria to determine the number of available ram tags in western states varies ranging between 15% - 30% of mature rams identified as Class III and IV rams which are 6+ years of age (Utah Division of Wildlife Resources 2008, Washington Department of Fish and Wildlife 2008, Arizona Game and Fish Department 2011), 4% - 12% of the total ram numbers in the bighorn population (Nevada Division of Wildlife 2001, Utah Division of Wildlife Resources 2008, Colorado Division of Wildlife 2009), or a percentage of the statewide hunter success (Colorado Division of Wildlife 2009). Although the NMDGF Long-range Management Plan for Desert Bighorn Sheep (NMDGF 2003) does not specify a formula for the number of bighorn sheep ram tags issued, an action plan published in 2010 (NMDGF 2010) states that "none of the proposed herds have ever been hunted, therefore we should not have to err on the

conservative side for several years." That document also suggests 12% of the ram population is an acceptable number of permits to be issued initially (NMDGF 2010). Desert National Wildlife Refuge, Nevada, issues desert bighorn sheep ram permits each season equal to 8% of the total ram population estimate (Nevada Division of Wildlife 2001, USFWS 2009) and Kofa National Wildlife Refuge, Arizona, issues permits equal to 15-25% of the Class III and IV rams (Arizona Game and Fish Department 2011). If we consider the most recent year of complete data available for the San Andres Mountains in 2008, 20% of the Class III and IV rams equates to three tags and 25% equates to four tags (Table 5). Conversely, 8% of all rams documented in 2008 equates to two tags and 12% equates to 4 tags.

Table 4. San Andres desert bighorn sheep population structure of animals observed during surveys 2002-2011.

					Ewes				Rams					
Year	**Obs.**	**Est.**	**Ram:Ewe**	**Lamb:Ewe**	**Adults**	**Yearlings**	**unk**	**lambs**	**CI**	**CII**	**CIII**	**CIV**	**unk**	**UNK**
2002	57	57	79:100	.03:100	31	2	0	1	10	8	4	3	1	0
2003	59	59	83:100	63:100	24	0	0	15	0	0	0	0	0	20
2004	68	68	127:100	82:100	22	0	0	18	0	0	0	0	0	28
2005	110	110												
2006	101	101												
2007	58	100	77:100	46:100	26	0	0	12	4	4	8	4	0	0
2008	89	100	91:100	30:100	33	5	0	10	6	9	12	3	0	11
2009		100												
2010		113												
2011		110												
Ave.			**91:100**	**44:100**										

Table 5. Ram numbers and age classes from 2008 survey related to potential ram harvest 2013-2014.

CI Rams	CII Rams	CIII Rams	CIV Rams	Unk. Rams	Total
6	**9**	**12**	**3**	**0**	**30**
8% of all rams (n=30) = 2.4 ~ 2 tags			15% of CIII & CIV rams (n=15) = 2.25 ~2 tags		
10% of all rams (n=30) = 3.0 tags			20% of CIII & CIV rams (n=15) = 3.00 ~3 tags		
12% of all rams (n=30) = 3.6 ~4 tags			25% of CIII & CIV rams (n=15) = 3.75 ~4 tags		
			30% of CIII & CIV rams (n=15) = 4.50 ~5 tags		

To be consistent with the proposed issuance of ram tags by NMDGF (NMDGF 2010) and WSMR, we would begin the first combined Refuge and WSMR bighorn hunt with up to three tags available as there are considerable security, access, and safety issues related to hunting on the Refuge and Range (most of NMDGF Unit 19). Based on these population statistics a ram hunt should not adversely impact the San Andres Mountains bighorn sheep population by providing a hunt for up to one Auction or Raffle hunter and two lottery draw public hunters. If fall aerial surveys are conducted in 2012 and 2013 whereby sufficient rams are documented, the Refuge may consider adding a fourth tag for a youth-only hunter. Issuance of this additional ram tag would be based on composition of the bighorn sheep population and age structure of the ram segment in the entire herd to meet the formula of 12% of all rams in a population proposed by NMDGF (NMDGF 2010). Ultimately, desert bighorn sheep management issues

(i.e., level of ram harvest, amount of lion control, etc.) would be decided on collaboratively between WSMR, NMDGF and the Service based on 1) minimum counts and the estimated size of the desert bighorn sheep herd, 2) demographics of the bighorn sheep herd, and 3) management issues related to access.

Hunters tend to target the oldest rams with the biggest horns in a given population. This can have a variety of indirect effects on the remaining sheep population. Singer and Zeigenfuss (2002) found that that young rams in trophy-hunted populations of mountain sheep were more involved in breeding activities and harassed ewes more frequently. However, the same study found no compelling evidence for any deleterious effects on ewe energetics or ewe reproductive success. Singer and Zeigenfuss (2002) also found that trophy hunting decreased competition between rams for obtaining copulations because rut groups in hunted populations had fewer rams than groups in unhunted populations. Additionally, they found compelling evidence for depressed survivorship of young rams in heavily hunted populations, but not in lightly trophy-hunted populations (<3 percent of the total population or <10 percent of standing ram population). By this standard, San Andres NWR's sheep population would be considered lightly hunted if the number of tags issued is based on 10 percent of the total ram population or 20% of the mature rams.

5.6. Law Enforcement

The Refuge currently has one collateral duty law enforcement officer on staff. New Mexico Department of Game and Fish conservation officers are also available for enforcement of State wildlife laws. The following methods would be used to control and enforce hunting regulations:

a. Refuge and hunt area boundaries would be clearly posted;

b. The Refuge or WSMR would provide a map with hunt areas clearly marked;

c. Service law enforcement staff would randomly check hunters for compliance with Federal and State Laws as well as refuge-specific regulations pertinent to the hunt, including compatibility stipulations;

d. Service law enforcement staff would coordinate with NMDGF and other law enforcement agencies; and

e. Information would be made available at the Refuge Headquarters.

5.7. Funding and Staffing Requirements

Administering the desert bighorn sheep hunt would require staff time to coordinate with WSMR, NMDGF and other cooperators, produce brochures and news releases, respond to hunter inquiries, conduct hunter and visitor outreach, minimize conflicts among users, conduct law enforcement, maintain boundary posting and visitor information sites, monitor impacts to wildlife, habitat and visitor use, and ensure public safety.

Start up bighorn sheep hunt administration costs including salary, sign and boundary maintenance, road

maintenance, printing of brochures and permits, fuel, etc. would total approximately $25,000. Funds are available to meet the conditions set forth in the Refuge Recreation Act.

Approximately 130-170 hunt visits are expected if the Refuge is opened to bighorn sheep hunting; this estimate includes 5 days of scouting prior to the hunt and 10 days of hunting. Hunt parties would consist of a hunter and up to three companions and we estimate three or four ram tags would be available initially per hunt season. As mentioned previously, the specific number of days to access the San Andres Mountains for scouting and hunting would depend on WSMR testing and training schedules and the number of ram tags would be determined based on bighorn sheep population numbers and demographics derived from fall aerial surveys. Annual costs for the bighorn sheep hunt program are estimated to be $5,000.00. Current budget expectations are sufficient to manage a hunting program, and it is anticipated that funding would continue to be sufficient to continue the hunting program in the future. As this hunt program evolves, additional staff may be needed. The refuge staff currently consists of a Refuge Manager, Wildlife Refuge Biologist, Maintenance Mechanic, and Office Assistant.

White Sands Missile Range would administer bighorn hunts in the San Andres Mountains similar to oryx hunts on the Refuge; therefore, WSMR would receive all access fees.

6. Measures Taken to Avoid Conflicts with Other Management Objectives

6.1. Biological Conflicts

None of the current or projected future lands within the acquisition boundary of the Refuge have been designated critical habitat for any species listed as endangered under the Endangered Species Act of 1973, as amended. New Mexico Department of Game and Fish surveys propose a harvestable and sustainable population of desert bighorn sheep found in the San Andres Mountains. The limited number of hunters and short season length of this proposed hunt should not cause major or long term conflicts with any other species of animals found on the Refuge. If it is determined that there are excessive disturbances to non-target species, changes would be made by restricting some uses to include: reducing hunters, reducing days allowed to hunt, or restricting open hunting areas. Refuge Officers would make every effort to maximize protection of threatened, endangered, or sensitive species and other non-target species.

6.2. Public Use Conflicts

The San Andres National Wildlife Refuge has restricted public access as it is surrounded by WSMR lands. The Refuge currently provides limited opportunities for the public to participate in some of the six wildlife-dependent priority public uses, identified in the National Wildlife Refuge System Improvement Act of 1997: hunting, fishing, wildlife observation, photography, environmental education and interpretation. Despite security access limitations imposed by WSMR, the Refuge provides oryx hunts, several presentations each year (at off-Refuge sites) describing management activities and wildlife found on the Refuge, and special tours on the Refuge proper for wildlife or habitat special interest groups (i.e., Audubon society, Wilderness Society, Native Plant Society, etc.). Total visitation to the Refuge in FY12 was 96 visitors. Continuation of requested tours would be scheduled to not conflict with hunting

seasons.

The desert bighorn ram hunts would be tentatively planned to occur during a 15-day period at the end of December when uninterrupted access to WSMR and the Refuge is anticipated. Security Badge hunts issued by NMDGF for oryx are currently permitted during several months throughout the year. For the 2013-2014 hunt season, there are a total of 688 tags (i.e., Youth-only, broken-horn, security badge, and returning Iraq/Afghanistan Resident Veterans-only hunts) available for oryx hunting on WSMR, 780 oryx tags available Off-Range, 100 oryx tags available on McGregor Range, and additional private land hunts in New Mexico. Only security badge oryx hunts occur on the Refuge to include less than 35 oryx hunters annually. For example, oryx hunters are permitted to bring up to three guests, including their professional guide(s) to compose oryx hunt parties of up to four individuals per hunter; in FY12, 8 oryx hunters visited the Refuge providing for a total of 38 hunt visits for oryx hunting. Total visitation to the Refuge in FY12 was 96 visitors, to include the 38 hunt visits. No conflict with oryx hunters is expected in the proposed bighorn sheep hunt area because oryx hunt seasons on WSMR and the Refuge would not occur at the same time as bighorn sheep hunts; oryx hunting would continue during the bighorn sheep hunt season in WSMR locations not included in the bighorn sheep hunt area. Additionally, oryx hunters generally hunt habitat in the foothills and lower elevations, where bighorn sheep hunters generally hunt in rocky, steep terrain uninhabited by oryx, and oryx hunters are not permitted to camp on WSMR or the Refuge. Considering the very limited and controlled public uses at San Andres NWR, no foreseeable public use conflicts are expected.

6.3. Administrative Conflicts

At this time, no administrative conflicts are anticipated by opening the Refuge to desert bighorn sheep hunting. As the Refuge establishes and provides opportunities for priority public use activities, the Refuge Manager would set station priorities to assure that administrative staff time required to administer the hunting program is adequate. As this hunt program evolves over the years, refuge-specific regulations and fee costs may change at the Refuge Manager's discretion. Assistance may be sought from other refuges and from the state if serious conflicts do arise.

7. Conduct of the Hunting Program

Listed below are refuge-specific regulations that pertain to San Andres NWR as of the date of this plan. These regulations may be modified as conditions change.

7.1. Refuge-Specific Desert Bighorn Ram Hunting Regulations

Desert bighorn ram hunting would be permitted throughout the Refuge and identified portions of WSMR (Figure 3) in accordance with State regulations; NMDGF would advise licensees of the following restrictions:

a. The hunter may be accompanied by no more than three (3) guests including their guide(s);

b. Approved WMSR Outfitters can be used;

c. All hunters would enter and exit through the Small Missile Range gate on Range Road 7;

d. Camping would be allowed at Little San Nicholas Camp on the Refuge only if camping is permitted on WSMR lands; An exception may be where hunters wish to "lay out" overnight on the mountain after locating a trophy ram near dark and hiking back out to a vehicle and driving to a camp may be unfavorable tor a high-quality, successful hunt experience. This exception would only be allowed with permission from WSMR personnel (or their agents) due to multiple safety and security issues for this hunt area;

e. All members of the hunting party are required to wear solid or camouflage style florescent orange (hunter's orange) clothing while away from the vehicle and in the field hunting. A minimum of 144 square inches must appear on both the chest and back (a typical blaze orange hunting vest);

f. Hunters may be escorted, not guided, by WSMR, NMDGF or Refuge personnel or their agent (s). Check stations may be used in lieu of hunt escorts;

g. Hunters would follow photo and video policy as described by WSMR regulations;

h. Youth hunters, 16 years-old and younger, must be under the direct supervision of an adult, 18 years of age or older;

i. 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);

j. Four-wheeled all-terrain vehicle (A TV) use by hunters or members of their hunting party is not permitted on the Refuge;

k. Hunters using livestock (i.e., horses or mules) would need to provide weed-free feed to their animals while on the Refuge;

l. Hunters or other members of the hunting party would not be permitted to hunt small game or other species during desert bighorn ram hunts. Only bighorn sheep would be permitted to be hunted for individuals with ram tags; and

m. Hunter must abide by all rules established by the Refuge, WSMR, and NMDGF regulations.

7.2. Anticipated Public Reaction to the Hunting Program

It is anticipated that opening the Refuge for desert bighorn ram hunts would meet with approval of most of the general public. During the 30-day scoping period (28 August – 20 September 2012) three comments were received in support of the proposed bighorn hunt on San Andres NWR and two comments were received in opposition to the hunt. There was no public opposition to the San Andres National Wildlife Refuge Final Comprehensive Conservation Plan and Environmental Assessment published in 1998 which discussed the hunting and removal of oryx from the Refuge. Bighorn ram hunts would provide an additional recreational opportunity for youth and the general public on the San Andres NWR.

A second press release for the public comment period (7 November – 5 December 2012) will be made available at the Branigan Public Library, including a DRAFT copy of the San Andres NWR Desert Bighorn Sheep Hunt Plan and associated Environmental Assessments for public review and comment.

It is likely that some members of the public would object to a bighorn ram hunt on the Refuge. There has been no bighorn hunting on the Refuge since 1978 and some people would want to continue to have no hunting. Others may be opposed to any kind of hunting.

7.3. Hunter Application and Registration Procedures

Hunters would be selected by public lottery draw or recipients of auctions or raffles per NMDGF regulations. Any public draw license issued shall be once-in-a-lifetime. Any person drawing a public bighorn license to hunt on the Refuge or WSMR shall be ineligible to hunt bighorn in any other unit in New Mexico during the current license period. They would be ineligible to apply for a desert bighorn sheep in subsequent years. They may apply to hunt Rocky Mountain bighorn in New Mexico in subsequent years unless they have previously held a license to hunt Rocky Mountain bighorn in New Mexico. Youth-only hunters are eligible for a Youth-Only hunt once as a youth and may apply for other bighorn hunts thereafter if they qualify.

In addition to public lottery draw permits, NMDGF offers bighorn sheep enhancement licenses through the Wild Sheep Foundation (WSF) and the New Mexico Wild Sheep Foundation (NMWSF). The WSF assists NMDGF with an auction of one bighorn sheep permit and the NMWSF offers one raffle permit. In 1989 the New Mexico Legislature authorized the auction of one Rocky Mountain bighorn sheep hunting tag to the highest bidder, and in 1995 this permit included the option of hunting a Rocky Mountain or desert bighorn ram (NMDGF 2003). New Mexico Department of Game and Fish receives 75% reimbursement from Federal Wildlife and Sport Fish Restoration Program in Wildlife Restoration (derived from federal excise taxes on sporting arms and ammunition) for most of its programs. As of 2003, five of nine WSF auction hunters chose to hunt desert bighorn, with the 5 tags generating a total of $461,000 (NMDGF 2003). In 2000 the New Mexico Legislature created a raffle license for the opportunity to hunt one Rocky Mountain or desert bighorn ram. A proposed amendment to the bighorn sheep rule was issued in April 2012 where the number of permits available in the license year be doubled to four tags from the current two tags; two tags are proposed for auction and two tags are

proposed for raffle. Between 1990-2011, NMDGF netted more than $2.2 million in auction funds and more than $400,000 in raffle funds for bighorn sheep management in New Mexico (NMDGF 2012b); as NMDGF conducts bighorn sheep management projects, those funds are eligible for 75% reimbursement from Wildlife and Sport Fish Restoration Program in Wildlife Restoration. The prices received for these auction permits, combined with the high number of applicants for the annual public draw, indicate the high value placed on hunting bighorn.

Selection of hunt areas by auction and raffle recipients would follow NMDGF policy and procedures. Proceeds from the auction and raffle are used for bighorn sheep research, management, and propagation in New Mexico. Should auction or raffle hunters choose to hunt in the San Andres Mountain Range, 25-50% of the proceeds from those tags would be used for fall aerial surveys of the San Andres desert bighorn sheep population. Systematic annual or biennial fall surveys in cooperation with WSMR and NMDGF would determine the number of available tags available for recreational desert bighorn hunting in the San Andres Mountain Range.

Administration of the San Andres Mountains bighorn sheep hunts would be conducted by WSMR. White Sands Missile Range charges a $150 access fee per hunter for all hunts taking place on the Refuge or the Range. Successful applicants would receive a letter from WSMR detailing payment of the fee, including deadline dates. All hunters successfully drawn for a WSMR hunt and their guests would have to complete a security background check by WSMR prior to being allowed access to the WSMR. All vehicles entering WSMR are subject to a security search by WSMR officers. No additional security background check would be required by the Refuge. Only Outfitters registered with WSMR in advance of the hunt would be allowed.

Hunting during the week would be done based upon range scheduling and escort availability and military authorities may delay or cancel hunts if they have concerns for public safety.

7.4. Description of hunter selection process.

See Section C. Hunter Application and Registration Procedures.

7.5. Media Selection for Announcing and Publicizing the Hunting Program

Newspapers in the Alamogordo, Albuquerque, Santa Fe, and Las Cruces areas would be provided news releases regarding hunt information and application processes. This information would also be made available in the New Mexico Big Game and Trapper Rules and Information Proclamation distributed each year by the New Mexico Department of Game and Fish. In addition, information about the hunt would be available at the Refuge headquarters and, in the future, information about all of the hunting opportunities offered at the San Andres NWR would be available on the Refuge web-site.

7.6. General Requirements

General information regarding desert bighorn sheep hunting and other public uses can be obtained at the Refuge Headquarters at 5686 Santa Gertrudis Dr., Las Cruces, New Mexico or by calling (575) 382-5047, or email at fw2_rw_san_andres@fws.gov.

7.7. Hunter Requirements

a. Equipment - Legal weapons for hunting on the Refuge and WSMR would correspond to legal weapon types identified in the New Mexico Rules and Information Proclamations;

b. Fires on the Refuge – open fires are not permitted on the Refuge;

c. License and Permits – Drawn hunters would receive an official WSMR letter stating that they have been drawn to participate in this hunt. This letter would serve as their Refuge permit. All youth hunters must possess a certificate of completion for a State-approved hunter education course;

d. Reporting Harvest – Hunters would be required to check in and out of the hunt area and have their harvest inspected by Refuge or WSMR personnel;

e. Hunter Safety Training – All hunters under the age of 18 must have passed New Mexico's or another state's hunter education course prior to hunting on the Range. All youth hunters must carry their hunter identification card on them while hunting;

f. Hold Harmless Agreement – All hunters and guests must read and sign a Hold Harmless Agreement which releases WSMR from any and all claims and liabilities;

g. Unexploded Ordnance Orientation – All hunters and guests must read and sign an unexploded ordnance Range Hazards Orientation Letter that summarizes the potential dangers to visitors on the Range. Ordnance from many decades ago remains scattered on the Refuge, some buried and some on the surface. If visitors encounter ordnance, they should mark the area, not touch it, and immediately report suspected unexploded ordnance and its location to hunt officials or the WSMR Emergency Services Dispatch Center at 575-678-1234;

h. Hunt Safety and Security – For all hunting activities on the Range, participants must follow hunt safety and security procedures established by this guidance or other applicable Range policy. Hunters must be aware that all areas of the Range potentially contain hazardous items and adherence to existing safety and unexploded ordnance procedures is critical. Hunt areas and units are specifically established to avoid known unexploded ordnance hazards, although unknown hazards potentially exist in all areas of the Range. Areas identified as hazardous on hunt maps or in the field are always closed to hunting. These closed areas, along with the hunt areas and units, would be patrolled by Refuge, WSMR, and NMDGF officials to ensure

compliance with hunting laws and safety and security procedures;

i. Vehicle Registration – Vehicles entering the Range for Restricted Access Hunts must be permanently or temporarily registered with Emergency Services. Vehicles entering the Range for General Public Big Game Hunts must have proof of valid state registration and current insurance, and drivers must have a valid driver's license. Proof of registration and insurance must be available at all times for all vehicles entering the Range;

j. Personnel Identification – All persons entering the Range must carry appropriate personal identification such as a driver's license or other government personnel identification card. Children under the age of 16 are not required to have identification as long as they are accompanied by a parent or legal guardian;

k. Cell Phones – All hunting parties entering the Range to hunt are required to carry and monitor a personal cellular telephone; and

l. Vehicle Searches – Prior to entering the Range, owners and/or operators of motor vehicles would consent to a motor vehicle search.

8. Compatibility Determination

Hunting and all associated program activities proposed in this plan are expected to be found compatible with purposes of the Refuge.

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