

THE RAM'S HORN

OFFICIAL PUBLICATION OF THE ARIZONA DESERT BIGHORN SHEEP SOCIETY, INC.
A NON-PROFIT, TAX EXEMPT CORPORATION

Volume 24

SUMMER '90

#2

SATURDAY, MAY 12, 1990

HYATT REGENCY HOTEL



7th ANNUAL FUND RAISING BANQUET



HOSTED WATERHOLE — 6 PM - 7 PM
BANQUET — 7 PM

DOOR PRIZES • RAFFLE • SILENT AUCTION • AUCTION

THE RAM'S HORN

P.O. Drawer 7545, Phoenix, Arizona 85011 is the official publication of the Arizona Desert Bighorn Sheep Society, Inc., and is published for the Society's membership.

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Arizona Area Code 602

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CALENDAR OF EVENTS

MAY 12

Fund Raising Banquet

JUNE 9

Steak Fry

OCTOBER 6

Hunters Clinic and
Ram Recognition Banquet

Administrative Office of ADBSS (602) 957-0773
3602 E. Campbell, Phoenix, AZ 85018

Water Development Project

GRAY TANK

January 19, 20, 21 found more than 50 members of the Sheep Society in the Eagletail Mountains. The reason was to construct a permanent water source for desert bighorn sheep and other wildlife.

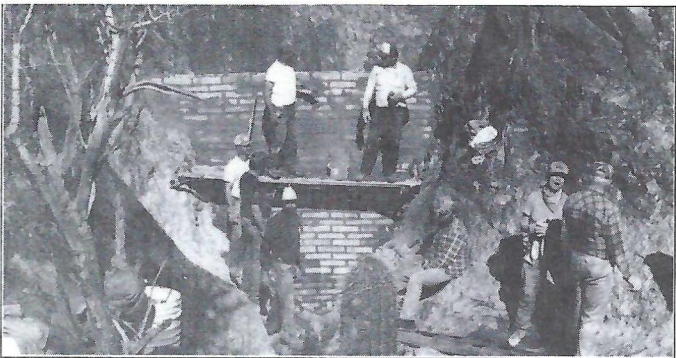
This project site is located in the southeast end of the Eagletail Mountains, approximately 1½ miles southeast of Eagletail Peak. The location is ideal for sheep, and is in a hidden basin high on the mountain. It should prove to be very beneficial to wildlife.



Completed Gabion

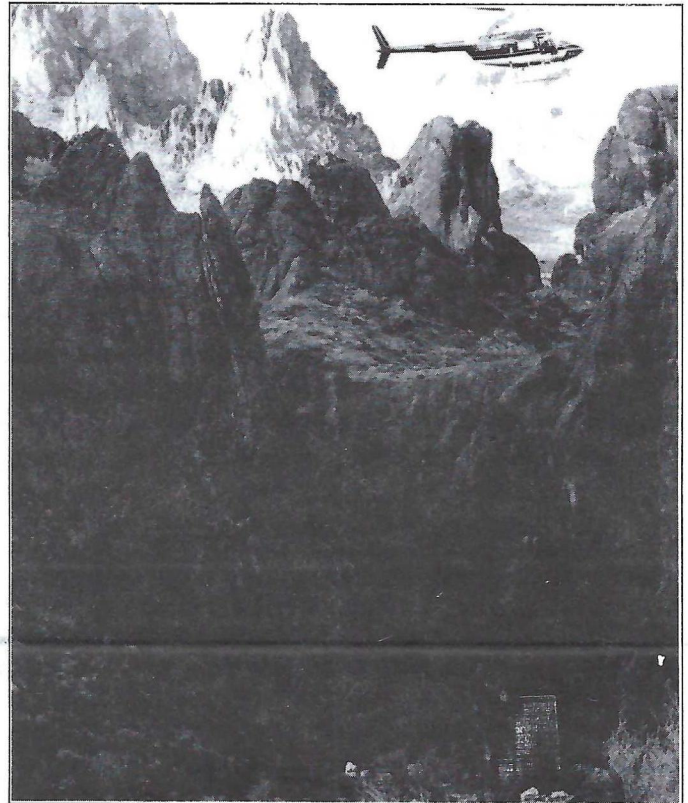
The project was dedicated to the memory of Bob Gray. Bob was a former president of ADBSS, and an avid supporter of bighorn sheep. He worked on many projects, and was responsible for many of the masonry techniques we employ today. The Sheep Society appreciates all that Bob Gray contributed. We miss him!

Project materials were air-lifted to site on Thursday. Most of the day it was raining. However, the helicopter was able to fly, so people worked in rain gear. Friday was devoted mostly to doing preliminary work, such as drilling holes for re-bar and establishing a base for the dam.



Dam Under Construction

On Saturday, the dam was constructed. This particular dam is more than 11 feet tall. Special scaffolding had to be rigged. The dam was completed, and necessary sealing accomplished by Saturday afternoon. A silt-control gabion was also constructed upstream and was completed on Saturday.



Helicoptering Materials to Site

The project should furnish in excess of 20,000 gallons of water, and should be permanent.

Saturday evening's meal was furnished by the Sheep Society. Afterwards, there was a memorable, and very enjoyable campfire.

Funding for this project came from the Bob Gray Memorial fund and the Foundation for North American Wild Sheep.

We thank all of those who participated to make this a very special project. Sincere appreciation goes to the Game & Fish Department for all their hard work and planning.



Completed Dam

DESERT BIGHORN STATUS REPORT

By: John Hervert, Game Specialist, Region 4

Management Units: 16B, 39, 40, 41, 43, 44, 45, 46

The Region continues to pursue an aggressive management program for desert bighorn sheep. In addition to the annual capture and transplant program, the region has initiated several innovative programs relative to bighorn management. The following is a synopsis of these efforts.

Population Estimates

In anticipation of eventual reductions in available helicopter survey time for bighorn management, the Region initiated several studies relative to survey efficiency, the first of which was the Kofa double count. Observation rates were determined for helicopter survey methods, considering variables such as group size, habitat type, survey speed and time of day. The method was developed cooperatively with the Kofa National Wildlife Refuge and has been producing reliable population estimates the last four years. These estimates are used not only for setting permits, but also for evaluating the approximate number of sheep that can be removed for transplant purposes.

The Kofa method was applied to the Barry M. Goldwater Gunnery Range to determine if the method is applicable to low density populations of bighorn sheep. After three years of study, population estimates were derived for the game management units within the gunnery range. The gunnery range west of Highway 85 is home to approximately 588 bighorn sheep.

The Region tested the Kofa method again in the Little Harquahala Mountains (Unit 41), which is home to 32 bighorn sheep. Almost half of the adult bighorn have been captured, fitted with radio collars and released in this area. Comparisons were made using this intensively studied herd with the Kofa method. The Kofa method accurately estimated the population believed to inhabit this area.

Application of the Kofa method to all management units was completed this fall. Regional personnel will be making permit recommendations based on a combination of population estimates and harvest information (i.e. trends in average age and horn size), rather than using the number of Class 3 and 4 rams observed during a survey.

In general, the population trends within the Region can be described as upward. This can be attributed to many

factors, such as favorable rainfall patterns, an aggressive water development and maintenance program, cooperative land use practices with the BLM and the successful transplant of bighorn within the Region. However, populations in the Harquahala, Bighorn, Crater and Saucedo Mountains have continued to decline and will be the focus of future management efforts.

Currently estimates indicate there are 2432 bighorn sheep in the Region. During the 1989 season, 41 permits were issued in the Region, accounting for over one half the available permits in the State.

Transplants

A total of forty-five bighorn sheep will be captured this fall for two transplants. The first release will be in the Gila Bend Mountains. Fifteen bighorn will be released in the Signal Peak area. The second release will be in the Superstition Mountains.

The bighorn will be captured from the Plomosa Mountains and from the Kofa National Wildlife Refuge. These populations are closely studied, so we can understand how the transplant program influences the population dynamics (recruitment, mortality rates) of these herds. In general, it is believed that the removal of bighorn from these areas has actually stimulated recruitment.

Recent transplants to the Buckskin, Eagletail and Gila Bend Mountains appear to be successful. Surveys indicate good survival and recruitment in these herds.

Waterhole Development

During this past summer, a new approach to water development planning was applied in the Gila Mountains of Unit 40B. A helicopter was used to survey each drainage in the mountain range in search of potential water development sites. A plan was then drafted with a "complete" overview of available sites. These sites were prioritized based on the distance to available free standing water, the potential of the site for successful development and with consideration of the herd distribution within the mountain range. The same method will be applied in Units 43 and 40A this winter.

Nine Years of Aerial Bighorn Sheep Surveys on Kofa National Wildlife Refuge

Kofa National Wildlife Refuge (KNWR), encompassing 660,000 acres of Sonoran Desert habitat, was established in 1939 for the protection of a small band of bighorn sheep. This race of desert bighorn (*Ovis canadensis mexicana*) has been expanding within the southwestern Arizona refuge from a 1939 estimate of 100 to the present estimate of 800-1000. The expansion of KNWR's bighorn population is attributed to the cooperative efforts of federal, state, and private non-governmental conservation organizations. The U.S. Fish & Wildlife Service (FWS) has worked closely with Arizona Game and Fish Department (AGFD) to monitor bighorn population trends on KNWR and improve survey techniques vital to the successful management of this majestic species. The members of the Arizona Desert Bighorn Sheep Society (ADBSS) have provided additional funding for surveys and have unselfishly volunteered their time and materials for water developments/improvements on Kofa.

Nine years of comprehensive aerial surveys on the refuge reflect a stable population. This stability prevails in spite of an active transplant program (262 sheep in 10 years) and the fact that the refuge provides approximately 20% of Arizona's annual bighorn hunting permits (112 rams in 10 years). A combined total of 374 sheep have been removed over the last decade, averaging 37.4 sheep per year. Under such intensive management practices of removing 4% of the current total estimated population annually, it is essential for wildlife managers to have the best survey techniques available. The 4% managed removal is in addition to natural mortality of an estimated 13% for adult sheep up to nine years of age. This does not include lamb mortalities which are often high, and sheep over 10 years whose mortality rate exceeds 50%. Conservatively then, a combined loss of 17% or 150 sheep annually could occur. A possible yearly reduction of this magnitude requires a reliable population estimate in order to determine the number of hunt permits and transplants.

For forty years (1939-1979) summer waterhole counts, spring lamb surveys, and random sightings were the only inventory tools available to Kofa managers. These techniques provide valuable information on health, births, and behavioral characteristics of bighorns and may be useful as part of a data base for possible simulation modeling of bighorn population dynamics. However, the traditional counts do not provide sufficient data for population estimates.

Preceding the first comprehensive aerial helicopter survey of bighorns on KNWR in 1980, a paint ball mark and recapture study was completed in the Castle Dome Mountains. This was an initial attempt to determine observation rates from helicopters on the refuge. (An observation rate is how many sheep are seen by this method out of a total number present in a given area at a given time.) The rates determined were 19-21%. Other reported rates for bighorn helicopter surveys averaged 43% in Nevada in 1978. The Castle Dome expansion factor seemed low by these standards. Intuitively, the rate for the Kofa and Castle Dome Mountains was assumed to be 50% by refuge staff.

If the 19-21% expansion factor was used refuge-wide a population estimate average over seven years of surveys would equal over 2200 sheep. Using a 50% rate the average would be 893 sheep. The need for more accurate observation rates seemed obvious.

In 1985 a "double count" census was conducted to derive more precise visibility rates and to determine if reducing the number of actual survey hours (more cost effective) would still provide accurate estimates. The survey involved one helicopter flying all mountainous terrain and another flying only the perceived best sheep habitat. A formula devised by AGFD statisticians from this survey has been used since 1987 to derive current population estimates from surveys covering less than a total count (abbreviated survey). After some refinements by refuge and AGFD staff, two sighting rates (high and low visibility) were determined. These rates are 77% and 36% respectively. Fifty-eight percent of the survey area in the Kofa Mountains is included in the high rate where sheep are easier to see (77% of the total seen) while ninety-one percent of the Castle Domes are in the low rate where sheep are harder to see (only 36% of the total seen). From two independent methods of determining rates (1980 paint ball and 1985 double-count) the Castle Domes (hunt Unit 45 C) have shown a lower sighting rate than the Kofas (Units 45A and 45B). This is probably due to the lower relief of 45C and presence of numerous wind caves. Bighorns are apparently more able to avoid a survey crew because of easier movement in the lower, less steep relief. When movement is restricted by rugged relief there are many caves that afford complete concealment of sheep from the helicopter. A disparity between two similar adjacent mountain ranges illustrates the need for refined surveys. However, understanding this difference in sightability enables us to make accurate estimates of the population.

This information has also enabled us to reduce the number of costly helicopter survey hours, by only surveying half the sheep habitat each year. We began these abbreviated surveys in 1987. Two years of abbreviated surveys (1987-88) have produced population estimates of 874 and 881 sheep. The refuge is estimated to have 435 square miles of sheep habitat, 47% of this habitat was surveyed by helicopter in 1987 and 54% in 1988.

We believe these estimates are reliable enough to use for projections of sheep hunt permits and transplants under the present management program. Abbreviated surveys of this type should accurately provide a valid representation of the total population, and eliminate the need for completely surveying all the known occupied sheep habitat on KNWR each year. However, in order to assure that management of these animals is based on the most reliable information available, complete surveys will continue to be used periodically to provide reference frameworks for the more abbreviated methodologies.

7th ANNUAL — FUND RAISING BANQUET —

SATURDAY, MAY 12th, 1990

Chairman - JIM FIEDLER - O: 981-9401 H: 832-8489

Tickets - DON JOHNSON - O: 278-3010 H: 943-9587

Tickets - \$45.00 PER PERSON —

The Sheep Management Program in Arizona is not completed. There still remains much to accomplish. Without the financial aid from the Society it would be impossible for the Arizona Game and Fish Dept. to maintain the pace of the program.

The success of this program is unparalleled. Desert Sheep population are the highest they have been in 100 years. We have seen a 175% increase in permits since 1982. The Rocky Mountain Sheep population are increasing rapidly. Last year we had 4 permits. This success has not been

easy. It has required hard work and a tremendous amount of money.

The fund raising banquet is the Society's only source of income. The sheep need our support. Plan to attend the banquet. Tickets are \$45.00 per person. A hosted waterhole starts at 6 PM followed by a prime rib dinner at 7 PM. There will be door prizes, raffle items, silent auction items and auction items. You will be glad you participated.

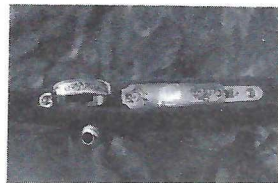
WANT TO SERVE AS A DIRECTOR OF THE SOCIETY?

The nominations committee is seeking applicants

Contact **DAVID HUSSEY** at **942-8104**

R A F F L E

**MASTER
GUNSMITH
JOE
MACHAC**



**MASTER
ENGRAVER
RUDOLPH
BOCHENSKI**

CUSTOM RIFLE

MAGNIFICENT 270 With Douglas Barrel
— Built on a 1950 Swedish Husquavarna Action —

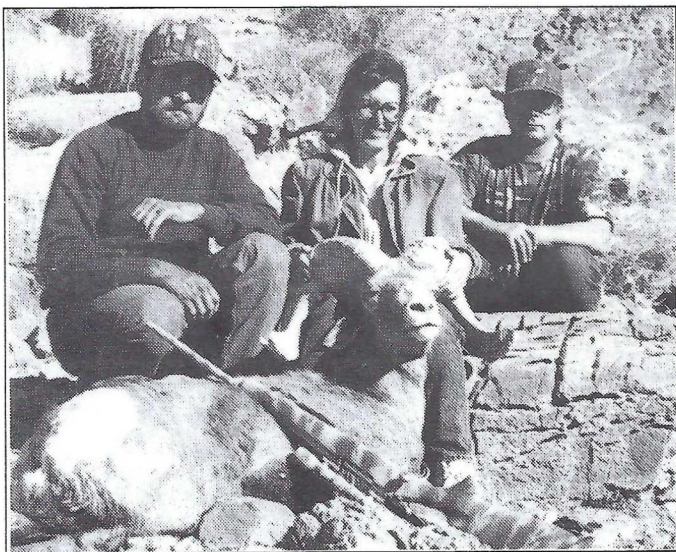
HAND RUBBED CLARO WALNUT STOCK

Over 1,200 Man Hours Will Be Required To Complete This Rifle

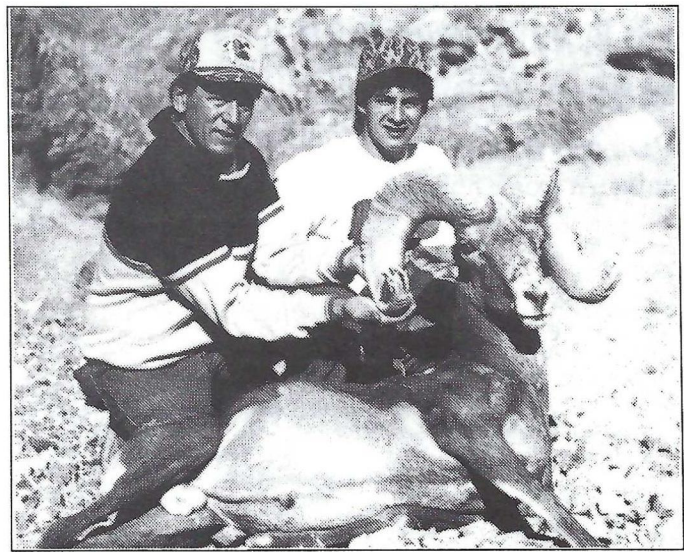
TICKETS ARE \$10.00 EACH

And will be available at all Society Functions, through the mail or by calling
JIM MARQUARDT O: (602) 992-7220 H: (602) 996-1997

Drawing **OCTOBER 6th** at the **ANNUAL RAM RECOGNITION BANQUET**



Sindy De Spain with her 8 yr. old ram taken in unit 13B. The ram scored 161 B/C Points. Sindy had help from Joe Nielson, Randy Hensley and Dick Hensley.



Tod Flores (right), his dad and Todd's ram taken in unit 15C. Todds' ram scored 172 ⁷/₈ B/C Points.

DESERT ROCKY MOUNTAIN BIGHORN SHEEP PERMITS AUTHORISED FOR 1990 HUNT SEASON

DESERT BIGHORN SHEEP

SEASON DATES	UNITS	PERMITS
Dec. 7 - 23, 1990	13B	1
Dec. 7 - 23, 1990	15A and 15B - East of Temple Bar Road	1
Dec. 7 - 23, 1990	15B - West of Temple Bar Road	5
Dec. 7 - 23, 1990	15C - North of Cottonwood Road	7
Dec. 7 - 23, 1990	15C - South of Cottonwood Road	4
Dec. 7 - 23, 1990	15D	8
Dec. 7 - 23, 1990	22 - East of State Highway 87	2
Dec. 7 - 23, 1990	31 and the portion of 32 within the Aravaipa Canyon Wilderness Area	0
Dec. 7 - 23, 1990	33	1
Dec. 7 - 23, 1990	37A and 37C (Silverbell and West Silverbell Mountains only)	1
Dec. 7 - 23, 1990	39 - East of Old Highway 80	1
Dec. 7 - 23, 1990	40A - North of Saucedo Wash	1
Dec. 7 - 23, 1990	40A - South of Saucedo Wash	1
Dec. 7 - 23, 1990	40B - Mohawk and Copper Mtns.	1
Dec. 7 - 23, 1990	40B - Gila Mtns., north of Cipriano Pass	1
Dec. 7 - 23, 1990	40B - Tinajas Altas Mtns., south of Cipriano Pass	1
Dec. 7 - 23, 1990	41E	1
Dec. 7 - 23, 1990	41W	2
Dec. 7 - 23, 1990	43A and 43B	3
Dec. 7 - 23, 1990	44B - North of Interstate Hwy. 10	4
Dec. 7 - 23, 1990	44B - South of Interstate Hwy. 10 and that portion of 45A north of the El Paso Natural Gas Pipeline (Kofa National Wildlife Refuge)	3
Dec. 7 - 23, 1990	45A - South of the El Paso Natural Gas Pipeline (Kofa National Wildlife Refuge)	6
Dec. 7 - 23, 1990	45B (Kofa National Wildlife Refuge)	4
Dec. 7 - 23, 1990	45C (Kofa National Wildlife Refuge)	6
Dec. 7 - 23, 1990	46A (Cabeza Prieta National Wildlife Refuge)	2
Dec. 7 - 23, 1990	46B (Cabeza Prieta National Wildlife Refuge)	3

ROCKY MOUNTAIN BIGHORN SHEEP

Dec. 7 - 23, 1990	27	2
Dec. 7 - 23, 1990	27	2

THE RAM'S HORN

P.O. Drawer 7545
Phoenix, Arizona 85011



001444 12-90
Matthew Dominy
2244 N. Hunt Circle
Mesa, AZ 85203

ADDRESS CORRECTION REQUESTED

MEMBERSHIP APPLICATION

I hereby make application for membership in the Arizona Desert Bighorn Sheep Society, Inc., and enclose my membership donation. DONATIONS ARE TAX DEDUCTIBLE.

New membership prices are as follow:

Regular membership.....	\$25.00/yr.	Senior membership.....	\$15.00/yr.
Youth membership.....	\$15.00/yr.	Lifetime membership.....	\$500.00
Sustaining membership.....	\$100.00/yr.		

RENEWAL NEW MEMBERS DATE _____

NAME _____

ADDRESS _____

CITY _____

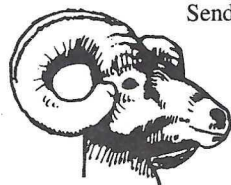
STATE _____ ZIP _____

TELEPHONE NO. _____

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Had a successful hunt???



Send us an article, along with pictures, and we will print them in the Rams Horn.

★ REWARD ★ REPORT WILDLIFE VIOLATIONS

The ADBSS offers a \$1,000 Reward for information leading to the arrest and conviction of anyone poaching bighorn sheep in Arizona, or vandalizing an ADBSS waterhole.

CALL
1-800-352-0700

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* BELT BUCKLES JACKETS *
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* Home: 602-833-7361 *
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