

# THE RAM'S HORN

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

VOLUME 20

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#2



World Record Desert Bighorn Sheep - 205 1/8 B.C.. This sheep was taken in 1941 by a Mexican farmer. The head was brought to the U.S. by Carl Scrivens and remains his today.

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P.O. Box 5241, Phoenix, Arizona 85010 is the official publication of the Arizona Desert Bighorn Sheep Society, Inc., and is published quarterly for the Society's membership. Current Membership: 800.

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### 1985 CALENDAR OF EVENTS

#### PROJECTS

January 12-13	Hidden Valley Hills, Kofa Mtns. with the U.S. Fish & Wildlife
January 26-27	Little Harquahala Mtns. Minnesota Foundation Project
February 16-17	Little Horn Mtns. Foundation Project
March 9-10	Rawhide Mtns.
March 23-24	Nugget Tank in New Water Mtns.
April 20-21	Dripping Springs - Gila Mtns.
May 4-5	Hidden Valley Hills, Kofa Mtns.
Hunters Awards Banquet	May 18, 1985
Educational Meeting	April 1985
Annual Steak Fry & Hunters Clinic	Fall 1985
Educational Meeting	Fall 1985
Annual Membership Meeting	Winter 1985
Sheep Hunt	Winter 1985

### Board Meetings

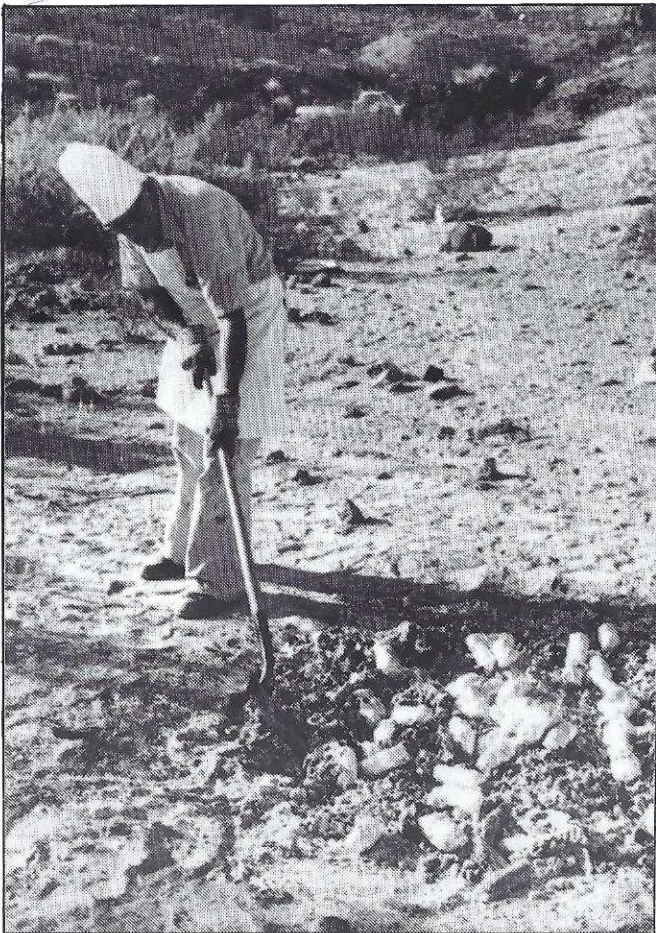
The ADBSS Board Meetings are held on the 2nd Wednesday of each month. The meetings are open to all concerned members. Location of the meetings is: Scottsdale Towers, Shoeman Lane, Scottsdale (one block south of Camelback Road, on the East side.) Time of meeting: 7:30 p.m. to 9:30 or 10 p.m.

# McHeffey Spring and Columbine

April 27-28, 1984



Must be a mistake! It appears Past President Don Johnson has a shovel in his hand.



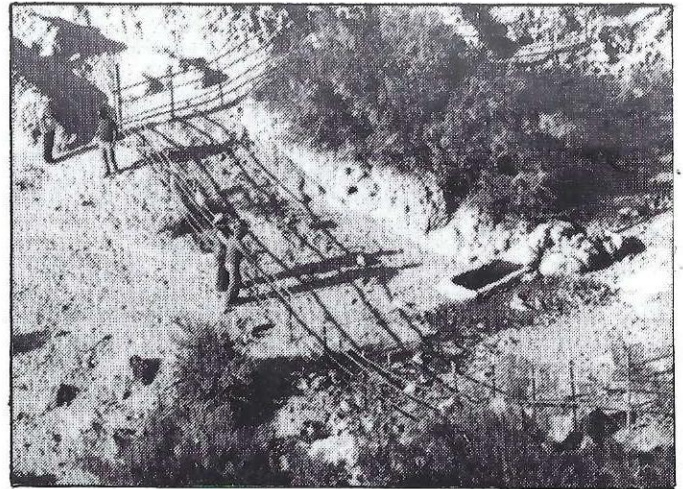
The troops had to eat! McHeffey Spring and Columbine.

Columbine is a beautiful spring located in the Black Mountains southeast of Oatman. This project was originally done by the Society in 1976. Upon our return, we cleaned out the silt from behind the dam and rebuilt the long-eared ferral creature barrier that had been damaged by the long-eared ferral creatures.

Previous to our return, eight long-eared ferral creature had broken into Columbine and were unable to get out; henceforth, they succumbed and their bleached bones serves as a grim reminder to other long-eared ferral creatures, to stay away from Sheep Society projects!

McHeffey Spring had originally been developed by the Game & Fish Department. On this trip we constructed a L.E.F.C. fence. The BLM has since used our fence as a burro trap, amal.

Pete Cimellaro



Burro fence and catchment at McHeffey Springs.



Col. Robbie Robertson and McHeffey Spring catchment.

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# Big Horn Sheep Research Plan

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## Editor's note

*Ever wonder how the department directs their research and management efforts? Sometimes, to us on the outside, it appears they don't have the proper direction but, in fact, they do have a strategic plan and it does all come together in a goal-directed effort. Following is their 10 Year Research Plan. After reading it, I am sure you will arrive at the conclusion that what is being accomplished is all controlled and directed by this strategic plan.*

All races of bighorn sheep have been heavily researched over the past 10-20 years. Due to their relatively easy observability, the basic behavioral characteristics of the species are known better than those of most wild ungulates (Geist 1971). At present, information on distribution, disease, movements, and population characteristics is accumulating at a rapid rate. Selection of a research program on bighorn sheep in Arizona must be done with care to avoid unnecessary repetition.

Much of the early work on desert bighorns has been summarized in Monson and Summer (1980), Russo (1956), McQuivey (1978), Leslie and Douglas (1979). Characteristics of the bighorn of importance to research planning, apparent in these works, include:

1. Desert sheep, due to their habitat, are relatively easy to survey via helicopter. Although total counts are seldom possible, trends in desert bighorn races can be more easily and accurately monitored than most big game species. (McQuivey 1978)
2. Declines in sheep populations appear to be triggered by stress-inducing situations. These may be heavy concentrations of sheep caused by increasing populations or there may be changes in environment created by mining, grazing of domestic stock, and other human developments. Douglas and Leslie (1982), have demonstrated recently that fall rainfall and population density combine to regulate lamb survival in the River Mountains of Nevada.
3. Sheep are relatively poor colonizers. They traditionally use limited areas; knowledge of traditional areas of use is passed from one generation to the next.

## Description of Problems

The strategic plan for bighorn sheep management in Arizona addressed several areas of needed research. These included:

1. Determining causes of decline of sheep in much of its historical range.
2. Identifying causes of lamb mortality.
3. Determining the magnitude of illegal hunting on sheep and its impact on populations.
4. Evaluating the effects of water developments on sheep

populations.

5. Evaluating transplanting techniques.
6. Investigating the effects on sheep of seasonal and year-round closures to human activity.

In reviewing the current literature on bighorns, as well as assessing existing projects, most of these objectives appear to have already been addressed or are being addressed at present. Objective 1 is neither practical nor likely to be productive. Too many factors, including overgrazing, presence of domestic sheep and their diseases, poaching, and other forms of human encroachment have been functioning concurrently for us to ever sort them out in retrospect. Results would probably be inconclusive and factors affecting sheep in the future may well be different anyway.

For Objective 2, more and more evidence points to fall and winter moisture, hence condition of ewes through gestation, as the principal factor in lamb survival. Douglas and Leslie (1982) have been able to account for 80 percent of the variation in lamb survival in the River Mountains of Nevada with regressions on fall rainfall and an index considering the long term apparent carrying capacity of the range. Further refining and testing of these relationships in other sheep populations, via long term monitoring, is a valid area for research. Such monitoring, however, should be done as only a part of a broader-based study discussed below.

Objective 3, dealing with illegal hunting, could be combined with Objective 6, concerned with overall human encroachment. These are already being viewed, to some extent, by studies funded under the Central Arizona Project (CAP) (Krausman, pers. comm., Smith and Witham, pers. comm.). Continued monitoring of these factors as a part of a long term population study might be feasible; specific experimental-level studies dealing with these factors are probably not feasible. It should be noted that the work funded by U.S. Forest Service on Pusch Ridge in the Catalina Mountains is also considering problems of human encroachment.

Objective 4, evaluation of water developments, appears to be a viable area of research. Solid documentation of changes of sheep distribution, movements, numbers, and mortality as a result of water improvements is certainly needed. At least one high density sheep population has been created in recent times as a result of a stable water source (Leslie and Douglas 1979). Conversely, some concern exists that improper development of water in the Sand Tank Mountains has actually increased sheep mortality via increased vulnerability to predation and/or exposure to disease (Gunther and Remington, pers. comm.).

Objective 5, transplant evaluations, is now being addressed at a variety of points in the state. Early results suggest that this study will be short-lived due to apparent

excellent success of free-release transplants. Some evaluation of refinements, as suggested by Dodd (pers. comm.), will be suggested below, but sheep transplants appear to be operational as they now exist.

The need for sheep research seems greatest in the areas of disease, small population genetics, and energetics. These areas of research require expertise outside the realm of field biologists. We know little of how these factors are functioning in our populations and should be prepared to provide field support in gathering materials for studies in these areas. Actual design of such studies, however, should be done in close cooperation with experts in these disciplines. They can best be done via cooperative projects involving several states, with state agencies mainly providing needed materials and project coordination.

One area of continuing concern, not specifically addressed as research in the strategic plan, is that of competition with burros and domestic livestock. Most authorities agree that bighorns do not succeed well where domestic sheep occur. Various studies (Wells and Wells 1961, McMichael 1964, Ohmart and Seegmiller 1981) have demonstrated overlap of foods, conflicts for water, and overlap of ranges between bighorns and burros. Recent work at Aravaipa Canyon is addressing interactions of an artificially established sheep population and cattle (Dodd, pers. comm.). None of these studies have actually viewed the long-term effects of competition of sheep with burros or cattle. Unless a reasonably controlled study can be established to evaluate competition at this level, additional work will add little to our present knowledge. This type of study should be established in areas, however, where research is the prim goal, and where stocking rates and distribution of livestock can be controlled within the needs of the study. Purpose should be to study the long term impact of presence of cattle on sheep numbers via either disease or competition for food, water and space. Solid experimental design, using grazed and non-grazed areas, with appropriate reversals, are a must. Unless this degree of control and commitment can be attained, the study should not be attempted. Ultimate purpose should be to view cattle management options that will minimize impact on sheep.

#### Research Priorities

Job 1. *Determine movements, distribution, habitat use, and causes of mortality in a declining or near extinct population of desert bighorns.*

Job 2. *Evaluate the response of a remnant bighorn sheep population to the introduction of new bighorns into that population.* Job 1 would attempt to identify specific factors associated with a declining population. The Sand Tanks and Saucedo Mountains are recommended as study areas. Job 2 would evaluate the success of a later reintroduction into this remnant population by studying movements, reproduction, and mortality of both original and introduced sheep and by documenting changes that have occurred in the dynamics of the population relative to what was occurring prior to the infusion of new animals into the population. The behavioral interactions of new and old sheep would also be recorded. Jobs 1 and 2 should be conducted primarily by the Research Branch in cooperation with Region 4. Graduate student re-

search on phases of this work would be appropriate.

Job 3. *Determine the characteristics and dynamics of selected populations of the two races of desert bighorns in Arizona *O.c. nelsoni* and *O.c. mexicana*.* Work in these areas should be continuous, maintaining long-term records of sheep densities and population composition, along with climatic records and detailed habitat classifications. Development of such study areas, would provide background information that would be essential for detailed evaluation of specific factors affecting sheep populations in the future. Black Mountains (for *nelsoni*) and Kofas (for *mexicana*) are recommended as study areas.

Job 4. *Evaluate whether the dispersion of reintroduced bighorn sheep into available habitat is significantly accelerated by transplanting ewes during late gestation.* Results of past transplants suggest that dispersion of sheep into available suitable habitat is extremely slow because of the fidelity the ewes appear to have for their first lambing sites in their transplanted location (Dodd, pers. comm.). This is in keeping with Geist's (1971) ideas regarding dispersion behavior of bighorns. Under the assumption that this is true, this job would test the success of a procedure for accelerating population expansion by forcing ewes to lamb insitu by leaving them insufficient time prior to lambing to wander and perhaps locate other existing sheep bands and lamb in proximity to them. This job would be appropriate for graduate student research but would have to be closely coordinated with the transplanting operation.

Job 5. *Continue the evaluation of population dynamics and distribution of the Aravaipa bighorn population.* This sheep population is increasing rapidly without significant range expansion. If the population density continues to increase at current rates, density dependent factors such as disease or poor lamb survival may begin to be evident. Dodd (pers. comm.) has suggested that the apparent minimal expansion of the distribution of this herd may be a consequence of the fidelity of ewes to traditional lambing sites many of which are in proximity to the original holding pasture. This job would be suitable for a university graduate program and would verify whether or not the internal pressures of an increasing population size will be sufficient to cause range expansion and the establishment of new lambing areas in available habitat. Such a study would also allow us to monitor this population and alert managers to the need for remedial strategies should stress induced by population density become evident. This job should be conducted by a graduate student.

Job 6. *Determine whether homozygosity or genetic isolation as a consequence of inbreeding exists in isolated and declining populations of bighorn sheep in Arizona and, if so, if this genetic condition could be a factor in population decline.* A similar study is being conducted by David Jessop, DVM of the California Department of Fish and Game. This job would create a link to that study and serve to coordinate the collection of tissues, conduct of surveys, and other cooperative procedures of the study that are within the expertise of the AGF research biologist.



**Big hunt in British Columbia**

## Arizona Hunters Score Big in British Columbia

Steve Weisser, Dean Bowdoin, and Mike Mell participated in a hunt of a lifetime recently in British Columbia. All three gathered trophy Stone Sheep measuring 39", 40" and 45" respectively. Mike Mell's 45" Ram scored approximately 177 B & C and will be one of the largest Stone Sheep taken in 1984.

The hunt was booked with Kirby and Jane Funnell, Caisser Mountain Outfitters, Burnt Rose Lake, Yukon. The guide for all three Rams was Chris Widrig. Chris is an outstanding, dedicated sheep hunter and is full of enthusiasm. His dedication to getting good rams makes the hunt extremely enjoyable and assures success.

The three Rams were the best collection taken by three hunters in a long time!

The hunt took place in British Columbia near the Yukon border in some of the most beautiful country in the world.

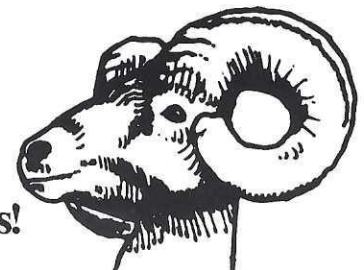
It was one of the most physically demanding sheep hunts the guys have ever been on. Anyone anticipating hunting in this country should get into the best shape they can. Running up and down San Francisco Peaks would help.

As a sideline, the fishing was great. 20 lb. plus pike were

caught with almost every cast. We also caught Arctic grayling and Dolly Varden trout.

It took days of air travel from Phoenix to Vancouver to Watson Lake and then by float plane to Burnt Rose.

We highly recommend Caisser Mt. Outfitters, Kirby Funnell and Chris Widrig. Kirby's wife Jane puts on a good feed when you are at base lodge.



**Send Pictures!**

Had a successful hunt???? Send us an article, along with pictures, and we will print them in the Rams Horn.

# 1984 Bar-B-Que and Sheep Hunter's Clinic

The 1984 Bar-B-Que was held on October 12, 1984, at Squaw Peak Park and again we were blessed with lovely weather for the annual outdoor steak fry. There was plenty of fresh air, food and good conversation to go around. We were honored by many members of the AG&F Department and some members of the Commission.

Steve Weisser did the honor of being the auctioneer of the pre-owned items that were auctioned off. Enough money was raised to *almost* pay for the beer and soft drinks.

The 1984 Sheep Hunter's Clinic was held the following day, Saturday, October 13th, at the Paradise Valley Park Community Building. A very good turnout of 1984 hunters were in attendance and the Society received some very nice letters from the hunters who were glad they passed up the opening day of the small game season to attend the Clinic as they found it very worthwhile. Lunch was served by the Varmettes again and since we had such a large turnout, the

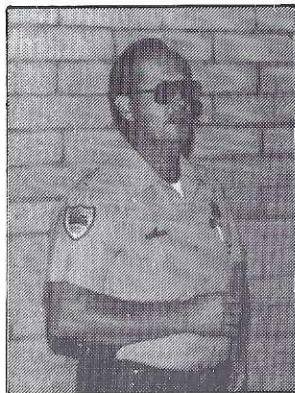
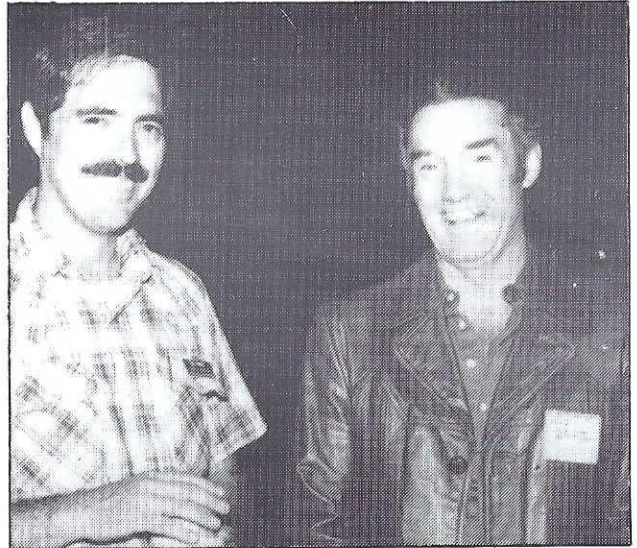
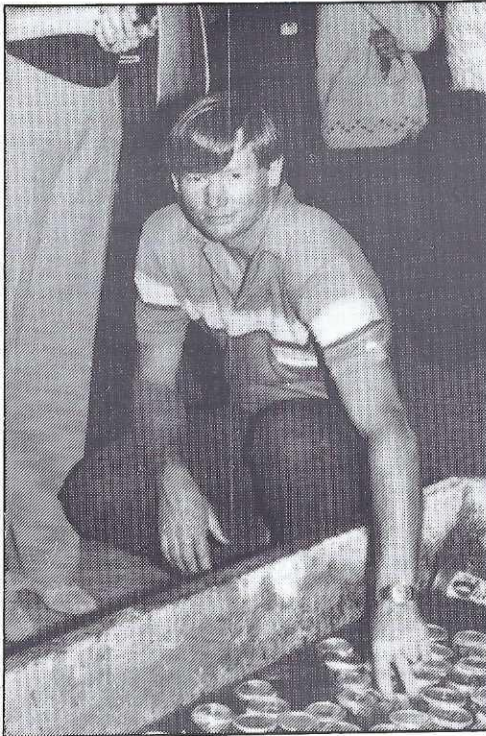
portions got a little light if you were on the tail end of the line.

Congratulations to Mr. Ridgeway, the winner of the Spotting Scope. Special thanks goes to the AG&F Department for their help in putting on the Clinic, and to David Hussey who was in charge of the Clinic, ably helped by Harry Hussey.

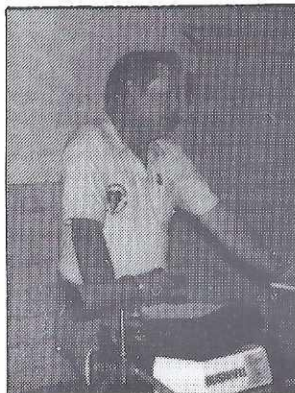
The Society wants also to thank all of the members who helped with putting on the Bar-B-Que and the Clinic — which are too numerous to mention, except for the master chefs of Dean Bowdoin and Tom Boggess who headed up the Steak Fry.



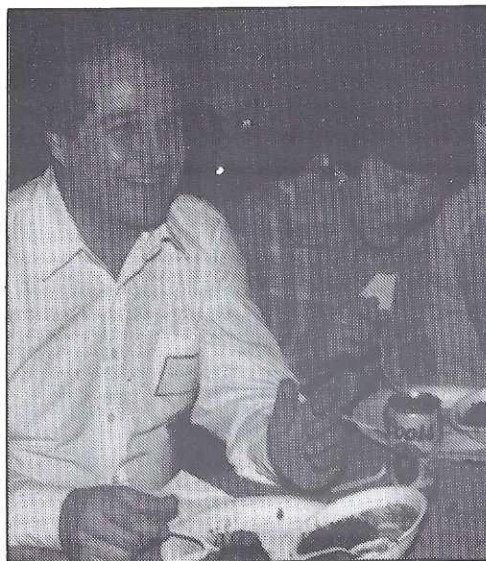
Pete Cimellaro



Jim Fiedler



Dean Bowdoin



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# FROM FIRST TO LAST

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4 o'clock, December 7th, 1984, found me crouched over in a wash with Steve Williams and my wife's son in law Larry Heathington, trying to approach a ram that was bedded in a granite boulder pile 400 yards east of us. With one more hill to climb I thought to myself "Sheep hunting isn't hard, here I am on opening day of the season and in a few minutes this hunt will be over." About that time the ram jumped out of his bed and headed for Safford, as an ATC drove up the wash just below him.

That night in camp my spirits were high. Here it was opening day in Unit 39 of the Maricopa Mountains and I'd almost made my kill. Except for a little bad luck we'd of been home by now. We'll just find another one tomorrow!!

As the days passed, that opening day ram looked better and better. It had begun to rain, the wind blew daily and my help Bill Carney, Duane Barclay and Steve Williams all had to go back to work. Leaving me stuck with my wife's son in law - who couldn't go home or my daughter would divorce him. We were seeing sheep every day but they were either old and broomed back or young and immature. 15 days and 45 sheep later we had not seen another legal ram anywhere in the unit.

Reinforcements arrived later that day in the form of Pete Cimellaro, Joe Bill Pickrell and Ronnie Clark. I couldn't believe that they would come from other sheep hunts around the state to help me with just two days left. But if they were willing, so was I!!

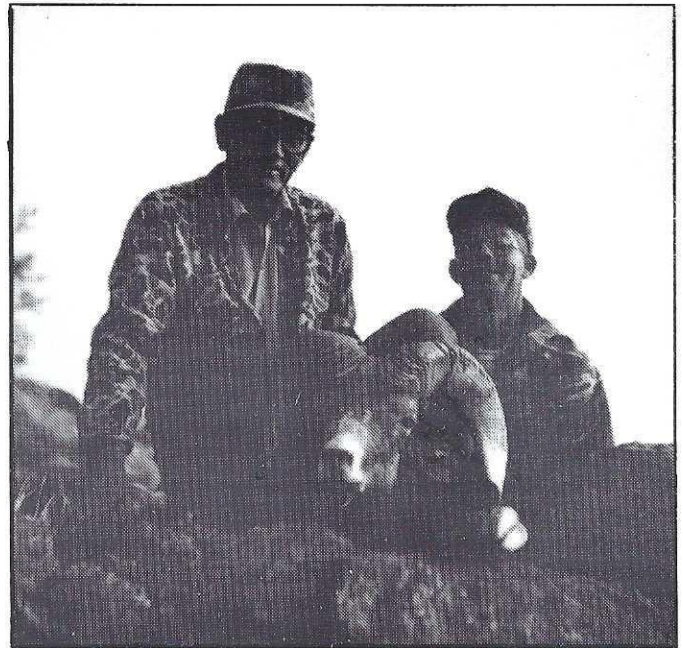
5 o'clock, December 22nd, 1984, found me crouched over walking up a hill with Larry while Joe Bill and Pete kept track of a ram we had located on the smallest hill in the unit. With one more rise between us and the ram I thought to myself "Sheep hunting aint't easy". A few long seconds later my hunt was over as the 11 year old ram stood and looked at us from 70 yards away, long enough for me to shoot one round.

He's not big, only scoring 142 B&C points. But he's mine and

I wouldn't trade him for that first day ram if he'd of been 20 points bigger (which he wasn't).

Special thanks to Duane Barclay, Bill Carney, Pete Cimellero, Ronnie Clark, Joe Bill Pickrell, Steve Williams and my wife's son in law, and all members of the Desert Bighorn Sheep Society without whose help I'd be trying to draw another tag at 60 years old.

Claude Evans  
315 E. 8th Street  
Casa Grande, Arizona



Claude and his wife's son-in-law Larry Heathington.

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## Desert Bighorns Released in Southern Superstitions

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Transplant from Kofa to Superstition Mountains.

Thirty desert bighorn sheep captured by the Department in western Arizona's Kofa Mountains, Nov. 18-19, were released in the southern portion of the Superstition Mountains early on the morning of November 21.

The capture and transplant were conducted with the cooperation of the U.S. Fish & Wildlife Service, U.S. Forest Service and Arizona Desert Bighorn Sheep Society volunteers. It was paid for with funds raised through the raffle and auction of two special desert bighorn sheet hunt permits by the Sheep Society and the Foundation for North American Wild Sheep earlier this year.

Mesa Regional Game Specialist Rick Gerhart says everything about the operation went as it was supposed to and that the sheep were released with no complications. The 22 ewes and eight rams were released just outside the Superstition Wilderness boundary near Coffee Flat. Two of the rams and seven ewes were fitted with radio telemetry collars, and the Department will track them from the air at least twice a month to get a general idea of their movements. Ground observations will also help to monitor the success of the reintroduction.

Those sheep not equipped with radios are wearing blue collars, and Gerhart asks that anyone observing the sheep please report their number, location and direction of travel

(see Superstitions page 13)



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# A LOOK BACK IN TIME

## Reprinted from the 1974 Desert Bighorn Council Transaction

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### Bighorn Sheep Along The Lower Colorado River: 1974 and 2050

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Gary J. Ferrier  
Bureau of Land Management  
Yuma, Arizona 85364

*Abstract.* Impacts of recent urbanization and increasing recreational activities have caused significant losses of bighorn habitat and numbers along the lower Colorado River. The natural ecology of the bighorn in this area is being destroyed. Traditional migration routes are being lost to an expanding human population. New patterns of use are emerging as herds are becoming isolated and restricted to smaller habitats. While it is expected that some additional bighorn habitats will be lost, substantial amounts of habitat are expected to be perpetuated and managed for bighorn.

The climate and diversity of year-round recreational opportunities attract vast numbers of people to the lower Colorado River. The transportation system places this area within a few hours of literally millions of people in the metropolitan areas of Los Angeles, San Diego, Phoenix, and Tucson. Many people have established permanent and vacation residences along the river, fanning the fire of land speculation and development.

The Bureau of Land Management's (BLM) Yuma District includes the entire length of this lower Colorado River area; from Davis Dam on the north, to Mexico on the south. Widths vary between 5 and 50 miles, but basically include both banks of the river in Arizona and California. The District includes all or portions of 13 mountain ranges. These total approximately 600,000 acres of bighorn habitat; of which about 300,000 acres are administered by the BLM. The District is divided into 2 resource areas: the Havasu and Yuma Resource Areas.

Information presented herein resulted from personal observations and experience, and from reports or studies conducted by the Arizona and California Departments of Fish and Game, and the U.S. Fish and Wildlife Service. I will not attempt to predict bighorn numbers for the year 2050, but will present my views pertaining to influences upon populations by current and projected impacts of a number of land use trends. I feel these impacts will significantly influence the future of bighorn along the lower Colorado River.

#### Discussion

##### The Havasu Resource Area

The Arizona portion of the Havasu Resource Area (Figure 1) will be discussed first.

##### Arizona

Bighorn historically concentrated in the Crossman Peak area of the Mohave Mountains, which now is located within the boundaries of the Havasu National Wildlife Refuge. Higher elevations here approximate 5,000 feet. Some bighorn migrated north and west, and lambled in the Needles-Tumarion Peak area and watered along the Colorado River. Many sheep from the Crossman Peak area migrated south and west through Standard Wash and the Bill Williams Mountains to the lower Aubrey Hills mountain range,

which parallels the Colorado River and now forms part of the shoreline of Lake Havasu. Historically the approximately 14,000-acre Aubrey Hills area was a major bighorn lambing ground. It has been reported that until recent years it was not uncommon to count more than 100 sheep in this area during the lambing season. These frequently were seen watering along the shoreline of the lake.

Recent land use developments and expanding recreational activities have exerted a tremendous impact on this bighorn population, and permanently altered their natural ecology in this area. A 1970 population estimate of 270 decreased to 180 in 1973.

Development of the planned community of Lake Havasu City began on the fringe of bighorn habitat in about 1960. In 1969, a confused ewe was caught in a traffic jam at the present site of the London Bridge. The city has grown to approximately 12,000 people, and it is projected the population will attain 80,000 by 1980. There are indications this goal will be achieved.

Highway 95, between the Bill Williams River and Interstate 40, recently was completed, primarily to service the needs of Lake Havasu City. This highway meanders through the Mohave Mountains north and east of the city, and cuts directly across the traditional bighorn migration route between Crossman Peak and the Needles-Tumarion Peak area in the Havasu Refuge. While some sheep reportedly still cross the highway, indications are that they are becoming more reluctant to do so. Bighorn numbers apparently are stabilizing on both sides. Lambing still occurs in the Refuge, but additional lambing areas are appearing on the Crossman Peak side, where needed water sources have been developed cooperatively by the Arizona Game and Fish Department and the BLM. The highway presently is being straightened and widened to accommodate increasing volumes of traffic. The bighorn migration through this area probably will be stopped completely in the near future, and 2 distinct populations will be formed. A significant portion of the Havasu National Wildlife Refuge (most of the sheep use area) has been proposed for inclusion in the National Wilderness System. Thus, the future appears secure for an estimated 25 bighorn in the Refuge. The BLM recognizes bighorn habitat values in the Crossman Peak area, and recently defeated proposals to establish communication structures and support facilities on top of the peak. Long-range land use plans currently are being developed to insure maximum protection and perpetuation of the bighorn habitat, but scattered "checkerboard" land-ownership patterns complicate management.

Highway 95, from Lake Havasu City south to Parker, was opened early in 1971. Traffic and disturbances along this route have effectively eliminated migration into and out of the Aubrey Hills. Limited movement is still reported, but for all practical purposes the migration has been stopped. Fewer than a dozen sheep were counted during recent surveys. A small resident herd possibly now exists. The effectiveness of the highway barrier is reinforced by 2 parallel powerline corridors, the Arizona State Parks' boating and camping developments, and a mountainous section of private land

that has been completely cut, filled, and leveled for a recreational vehicle park. An estimated 2,778 boats were launched from a State Park's development in the area in one summer month in 1971. This number has increased to an estimated 7,457 for the same month in 1973. Use will continue to increase, and additional State Park developments reportedly are planned in other bighorn use areas within the Aubrey Hills. BLM lands bordering the State Park are not considered bighorn habitat. However, since the development of one area impacts the other, the BLM is interested in cooperating with the Arizona Game and Fish Department in an inter-agency bighorn habitat evaluation. If a cooperative management plan can be developed, it may be possible to maintain some bighorn in the park. If a cooperative action plan is not implemented soon, the use area may be lost to recreational activities and urbanization.

The loss of historical lambing grounds and access into the Aubrey Hills makes the Bill Williams Mountains more important for bighorn habitat. Lambing areas here have become more firmly established, and a reduced, but substantial, population has become stabilized. However, development of a proposed townsite threatens future bighorn use on this range. Plans have been proposed for a 10,000-acre planned community, "The Planet Ranch Townsite", along the Bill Williams River and immediately south and east of the herd. The impact of another community in this area would be tragic. Bighorn movements between the Bill Williams Mountains and Crossman Peak will be stopped. The nearby Buckskin Mountain herd also will be further isolated and encroached upon. The BLM land use planning system has identified the Bill Williams Mountains for possible designation and protection as a primitive area, and will complete a wildlife habitat management plan for the area in fiscal year 1985. However, some "checkerboard" land-ownership patterns may modify the potential for effective management.

Wagner (1952) estimated a minimum of 75 bighorn in the Buckskin Mountains. A resident of many years in the area reported as many as 300 for the same time period. The present population is estimated to be 50. Moon and Bristow (1970) identified 7 watering sites along the Bill Williams and Colorado Rivers for this population. They also indicated migration routes between the Buckskin and Bill Williams Mountains. With increasing recreational use demands around all perimeters of the use area, it is doubtful if any of these identified river watering sites are still available for bighorn use. Migration routes between the Bill Williams and Buckskin Mountains also probably no longer exist. They have been disrupted by roads, fences, and human disturbance. Access into previously undisturbed and inaccessible bighorn use areas has recently been developed and further encroachment probably will occur in the form of a future highway re-alignment along the Colorado River. The tunnel site and aqueduct for the Central Arizona Project (CAP) cuts directly through a known lambing area, and dissects the length of the quality bighorn habitat. The CAP (scheduled for completion in 1981) is designed to transport 2.5 million acre-feet of water a year from Lake Havasu to the Phoenix-Tucson area. The small remaining sheep population presently is in a precarious position. It appears a significant portion of this herd may be lost to surrounding urbanization and recreational impacts. However, the BLM probably will protect and manage the more remote undisturbed use areas primarily for bighorn.

## California

The California portion of the Havasu Resource Area (see Fig. 1) will now be discussed. About 4,000 acres of the 92,000-acre Chemehuevi Mountains are in the Yuma District. The remainder is in the Riverside BLM District. Weaver (1971) estimated 20 bighorn made periodic or infrequent use of this mountain range. He claimed an "overpopulation" of burros along the Colorado River was one of the primary reasons that bighorn no longer watered along the river here.

The Chemehuevi Range is relatively roadless and inaccessible, and apparently of little interest to humans. This area probably will remain undisturbed for some time. However, if surrounding bighorn habitats continue to be degraded, this area may become important bighorn habitat. This especially may be true if an effective burro management plan could be developed and implemented, along with needed water developments identified by Weaver (1971).

The Whipple Mountain Range consists of approximately 184,000 acres; 23,000 acres in the Yuma District and the remainder in the Riverside District. The last reported bighorn observation here was in 1954. Weaver (1971) suggested that unsuccessful competition with an overpopulation of burros is the primary reason bighorn no longer exist in this area. The climate, topography, geology, soils, and vegetation of this area are identical to that of prime bighorn habitat directly across the river in the Buckskin Mountains of Arizona. The difference between the 2 ranges is that the Whipple Mountains is inhabited by more than 100 burros, whereas the bighorn habitat in the buckskins is not used by burros. Thus, it appears the Whipple Mountains again could become bighorn habitat — when the public becomes aware of bighorn habitat losses and population declines because of burros and when the public demands burro management or control.

The area within the Riverside District has been designated as a primitive area by the Secretary of the Interior. The restoration of bighorn in this area would be consistent with the management of primitive values.

## Yuma Resource Area

### Arizona

The approximately 190 bighorn in the Arizona portion of the Yuma Resource Area (Figure 2) generally are secure, and relatively undisturbed. A significant portion of this bighorn habitat is not immediately adjacent to the Colorado River. Thus, it is not affected as greatly by water associated recreational activities as some habitats in the Havasu Resource Area. However, significant conflict does occur along the river immediately above Imperial Dam. Bighorn in portion of the Imperial National Wildlife Refuge in the Trigo Mountains still come to the river for water. The area is popular for water oriented recreational use and these bighorn frequently are disturbed by float-boating parties, waterskiers, and fishermen. It has been proposed that the Imperial Refuge be included in the Wilderness System. While this would further protect bighorn habitat, conflicts with human disturbance along the watering site probably will intensify and bighorn eventually may be excluded from watering along this portion of the river.

Most of the bighorn habitat in the Resource Area (approximately 280,000 acres) is in the Yuma Proving Ground (YPG).

YPG is a military installation where both ground and air

access is strictly controlled. Little is known concerning the ecology of bighorn here. Lambing areas, migration routes, and water needs essentially are unknown.

Interstate 10, between Quartzsite, Arizona and Blythe, California, dissects the bighorn habitat in the Dome Rock Mountains. Sheep still are seen along both sides of the highway, and some are reported to cross through underpasses. However, I think the 4 paved lanes, traffic, and fences can be expected to effectively stop the north-south movement of bighorn through this portion of the Dome Rock Mountains. Historically, the Dome Rock Mountains' bighorn probably was 1 population, but the Interstate probably will divide it into 2 distinct populations. The population north of the highway may be threatened further by the rapidly expanding mining activity in this small, 10,000-acre area.

There is a migration route across Highway 95, between the Kofa Game Range and the Dome Rock Mountains. However, volumes of traffic and general highway disturbances can be expected to interfere or halt use of this traditional migration route.

Interstate Highway 8, between Yuma and Phoenix, crosses the northern portion of the Gila mountains, and effectively isolates the northern tip of the range—an approximately 10,000-acre area. This was historical bighorn range. An occasional bighorn still is observed here, but it now is considered marginal habitat. With 2 double lanes of traffic and fences isolating it, this northern tip probably will be lost as bighorn habitat in the near future.

The Laguna Mountains, an approximately 10,000-acre range, generally is recognized at present as marginal bighorn habitat. Bighorn still are reported occasionally in this area, but increasing impacts from surrounding recreational and urbanization activities probably will preempt and exclude bighorn use of this range soon.

## California

Bighorn habitat in the California portion of the Havasu Resource Area is limited to the Chocolate Mountains. It totals about 115,000 acres; approximately 20,000 acres in the Yuma District, and the remainder in the Riverside District. The Chocolate Mountains are relatively inaccessible, and human use of the area is concentrated along existing highways and the Colorado River. Conflicts between humans and bighorn are known to occur where some of the estimated 85 bighorn in the area come to the river for water. Bighorn here frequently are disturbed and displaced by recreational activities along the river. Of particular significance is that this is the only known bighorn watering location remaining along the California side of the lower Colorado River. It presently is somewhat protected within the boundaries of the Imperial National Wildlife Refuge, which has been proposed for inclusion in the Wilderness System, but conflicts with recreational use originating outside the Refuge may be expected and this watering site probably will be lost in the future. Mitigation for the loss of this critical use area may involve the development of alternate watering locations away from human disturbance; possibly on national resource lands outside of the Refuge.

## Conclusion

Some bighorn populations along the lower Colorado River drainage have suffered significant losses because of accelerating incompatible land uses. Also, such uses

apparently will continue to accelerate for many years. Scattered townsites will be developed to satisfy the demands of the human population explosion. Ecological degradation will continue to adversely affect bighorn populations; some of which soon may be lost, and others will be reduced in numbers, and one may be re-established. Under these extremes of ecological stress, bighorn competition with burros will become acute along the entire lower Colorado River. Weaver (1971) and Beaudry (1972) have reported burro-bighorn observations in this area, and current burro research will provide information needed for burro management. Public support and sophisticated multiple-use management techniques will be needed to maintain and restore bighorn habitats and populations. Bighorn habitat on national resource lands will assume a critical role in the perpetuation of the bighorn along the lower Colorado River, and long-range land use planning and management could achieve this objective.

## Arizona Desert Bighorn Sheep Society Receives Ram Award

George Welsh  
Arizona Game and Fish Department  
Kingman, Arizona 86401

The Desert Bighorn Council's highest award was presented to the Arizona Desert Bighorn Sheep Society, Inc. on April 10, 1974 in Moab, Utah at the Council's annual meeting.

The coveted Ram Award is awarded only for outstanding contributions to the knowledge and welfare of the Desert Bighorn and has not been given since 1969. This year's presentation is only the 7th since its inception in 1960.

The award was presented by Dave McLean, U.S. National Park Service, Boulder City, Nevada. In making his presentation, Dave cited the Arizona Desert Bighorn Sheep Society's participation in 40 water development projects throughout the state for bighorn, participating in surveys with state and federal agencies, conducting 7 hunter training clinics and awards banquets, publishing the Ram's Horn and Hunter's Manual, manning the Society's speakers bureau, library and legislative watchdog committee, and constructing the recently completed and dedicated zoo project.

Society President, Bob Grey, accepted the award on behalf of the Arizona Desert Bighorn Sheep Society and thanked all of its members for their years of hard work and dedication for making the award possible.

In closing, Bob said that his eyes really had been opened at the Council meeting to the complex problems concerning the desert bighorn and its management, and would relay this information to the Society's Board of Directors. "Receiving this award gives us the impetus to do more for the bighorn in future years," said Grey.

The Desert Bighorn Council was formally organized in 1959, and its membership is composed of individuals engaged professionally in the management, protection, and scientific study, and of others interested in the welfare of the Desert Bighorn Sheep. The Desert Bighorn Council was established to promote the advancement of knowledge and the long-range welfare of the desert sheep.

## Reno Convention

Several members of the Arizona Desert Bighorn Sheep Society attended the Foundation for North American Wild Sheep Convention in Reno, NV on Feb. 20-23. The Society had a booth in the Exhibit hall which was manned mostly by JIM FIEDLER, PETE CIMELLARO, DEAN BOWDOIN AND BILL HOOK. Two Hundred and Seventy Raffle Tickets were sold for the Permit to hunt in Unit 15. Many out of State members stopped by the booth to inquire about the activities of the Sheep Society. Promises of donations for the 1986 Fund Raiser were received and a number of new members were recruited.



"Lull in activity at booth, Jim Fielder, Dean Bowdoin and Pete Cimellaro."

The hi-lite of the convention was Saturday afternoon when the Arizona Desert Bighorn Sheep Permit was auctioned off. The winning bidder was our own Dennis Hankerson whose bid of \$42,000 was not topped. Dennis only needs the Desert Sheep for his Grand Slam.

The Convention was the largest ever with about 2,000 at the Banquet on Saturday night. Next years Convention will be in Hawaii.



"Dennis Hankerson signing his winning Bid receipt, with wife Karen."

## ANNUAL HUNTER AWARDS BANQUET

**WHEN:** Saturday, May 18th, 1985  
6:00 P.M. - Waterhole Opens  
7:00 P.M. - Prime Rib Dinner

**WHERE:** Holiday Inn, Banquet Room  
1600 South Country Club Drive (360 and Country Club)  
Mesa, Arizona

**COST:** \$25.00 per person  
Advance payment requested  
**NO TICKETS WILL BE SOLD AT THE DOOR**

**The Society will be held to our guaranteed reservations, therefore NO SHOWS will be billed unless cancellations are received at least 48 hours prior to the banquet.**

This is an important function for the Society as we will be presenting Awards to those hunters that took record class rams during the 1984 season. This is an excellent chance for the membership to see outstanding Rams displayed in a collective group. Door prizes will be awarded and Raffle Tickets for the special hunt in 1985 will be available for \$25.00 each - no limit.

- [ ] YES, I will be attending the ADBSS Awards Banquet.
- [ ] YES, I will be bringing \_\_\_\_\_ guests. (List names on reverse side)
- [ ] YES, I need a reserved table for 8. (If more please indicate)
- [ ] Enclosed is my check for \_\_\_\_\_ reservations at \$25.00 each.

Make check payable to: ADBSS

P.O. Box 5241  
Phoenix, Arizona 85010

NAME: \_\_\_\_\_ PHONE: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_ ZIP: \_\_\_\_\_

## Superstitions (continued from page 8)

as well as the date and time of the sighting to him at the Mesa office, 7200 E. University, or by calling 981-9400.

Dangerous wind conditions at a Plomosa Mountains capture site during the same time period forced an early halt to aerial operations intended to capture desert bighorns for a supplemental release into the Galiuro Mountains. Only three of the hoped-for ten sheep were caught and moved to the release site in Redfield Canyon.

## 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.

**CALL: 1-800-352-0700**

**Arizona Bighorn Sheep Society, Inc.**      **Tom Martin**  
**Statement of Income and Expense**      **Treasurer**  
**Fiscal Year — Nov. 83 to Oct. 84**

Following is the Income Statement for 1984. As everyone knows, the Society raised \$146,350.00 from the **auction and raffle** of 2 permits. This does not appear on the financial statement because this is not our money. This is the Department's money. The Society and the Department cooperatively decide how this money will be utilized and in the next issue we will have a report on what has been accomplished with this money.

A very important fact that sometimes is overlooked is that it costs us \$17,607.21 to operate the Society this year. We received \$15,642.76 from dues during 1984. Keeping in mind, we had to absorb the cost of the raffle and auction and you can see that 100% of the funds raised from our activities goes towards sheep related projects. Not many organizations can say that!

To better understand the statement, a brief explanation of a few items will help:

Item #2 Donations — donation of stock and free helicopter time;

Item #7 Programs — gross income from ticket sales at Hunter's Banquet, Steak Fry, Educational Meeting & Annual Membership meeting.

Item #8 Special Activities — gross income from fund raising dinner.

Item #13 Programs — cost of Hunter's Banquet, Steak Fry & Clinic, Educational Meeting and Annual Membership Meeting.

Item #14 Special Activities — cost of fund raising dinner.

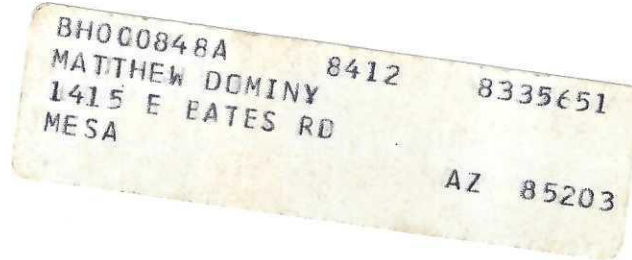
Item #24 Grants — money spent for Zoo Project, Waterhole Projects, Push Ridge habitat improvement, money given to the AG&F Dept. for sheep related work and a research project at Horse Mesa.

Fiscal Year 1984

Income		
1	Membership Dues	\$15,642.76
2	Donations	\$15,357.45
3	Interest	\$ 4,491.18
4	Sub-Total	\$35,491.39
Activities — Sales		
5	Trinkets	\$ 1,857.45
6	Books	\$ 150.00
7	Programs	\$ 5,270.00
8	Special Activities	\$51,890.78
9	Projects	\$ 0.00
10	Sub-Total	\$59,168.23
Cost of Activities		
11	Trinkets	\$ 908.29
12	Books	\$ 0.00
13	Programs	\$ 7,303.66
14	Special Activities	\$26,390.33
15	Projects	\$ 2,339.60
16	Sub-Total	\$36,941.88
17	Net Income From Activities	\$22,226.35
18	Total Gross Income	\$57,717.74
Less Expenses		
19	Postage, Printing, Etc.	\$12,602.03
20	Outside Services	\$ 3,600.00
21	Miscellaneous	\$ 1,405.18
22	Total Expenses	\$17,607.21
23	Net Income	\$40,110.53
24	Grants	\$19,949.85
25	Addition to Surplus	\$20,160.68
INVENTORY Year Net (\$2,502.18)		Balance \$1,826.50
Checking Account		\$ 1,950.59
Savings Accounts		\$55,663.02
Total 10-31-84		\$57,613.61

# THE RAM'S HORN

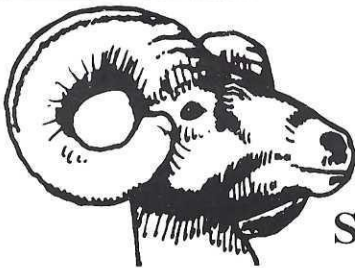
P.O. BOX 5241  
PHOENIX, ARIZONA 85010



ADDRESS CORRECTION REQUESTED

## Projects Planned for 1985

- January 12-13 Hidden Valley Hills, Kofa Mtns. with the U.S. Fish & Wildlife
- January 26-27 Little Harquahala Mtns. Minnesota Foundation Project
- February 16-17 Little Horn Mtns. Foundation Project
- March 9-10 Rawhide Mtns.
- March 23-24 Nugget Tank in New Water Mtns.
- April 20-21 Dripping Springs — Gila Mtns.
- May 4-5 Hidden Valley Hills — Kofas



**Send Pictures!**

Had a successful hunt????  
Send us an article, along with pictures, and we will print them in the Rams Horn.

## Board Meetings

The ADBSS Board Meetings are held on the 2nd Wednesday of each month. The meetings are open to all concerned members. Location of the meetings is: Scottsdale Towers, Shoeman Lane, Scottsdale (one block south of Camelback Road, on the East side.) Time of meeting: 7:30 p.m. to 9:30 or 10 p.m.

### MEMBERSHIP INVITATION

Individuals who are interested in promoting the welfare of the Desert Bighorn Sheep and desire to affiliate with an organization dedicated to this purpose may do so by joining the Arizona Bighorn Sheep Society, Inc.

The membership roster of the Society includes conservationists, sportsmen, professional wildlife managers, educators, biologists, photographers and just plain folks all interested in the Arizona Desert Bighorn Sheep.

The Society undertakes an annual program of several (usually 5) major habitat improvement construction projects in cooperation with and under the direction of the State and Federal agencies responsible for management of the Desert Bighorn Sheep.

One of the more important projects of the Society is the conduction of the annual Sheep Clinic training program.

In addition to projects, members of the Society participate in other conservation and game management activities; a special legislative committee of the Society closely watches legislation that may affect the sheep or its habitat and general welfare.

While the opportunities for active participation are numerous, such participation is not a prerequisite for membership. All interested persons are encouraged to join, the Society needs and welcomes your moral and financial support.

### MEMBERSHIP APPLICATION

I thereby 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 follows:

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

RENEWAL     NEW MEMBERS    DATE \_\_\_\_\_

NAME \_\_\_\_\_ TEL. NO. \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

Make checks payable to Arizona Desert Bighorn Sheep Society, Inc.  
P.O. BOX 5241 • PHOENIX, ARIZONA 85010