SOCIETY FOR THE CONSERVATION OF BIGHORN SHEEP

The Sheepherder

office
401 North Garfield
Alhambra, California 91801
213 284-5113

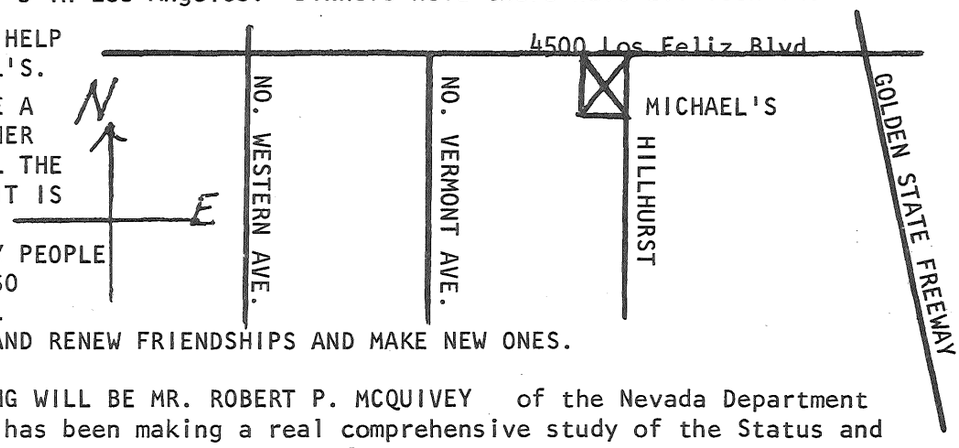
editor
LEWIS E. CARPENTER
815 W. Gettysburg
Fresno, Ca. 93705

SEPTEMBER - OCTOBER 1977

ANNUAL FALL DINNER MKETING OF SOCIETY SET FOR OCTOBER 1,1977

Bud Wiedeman, Banquet Chairman for the Society for the Conservation of Bighorn Sheep has all the arrangements made for the Annual Dinner for the Southern California area. Bud has again chosen Michael's in Los Angeles. Dinners held there have all been successful.

THE SKETCH AT THE RIGHT MAY HELP YOU FIND YOUR WAY TO MICHAEL'S. WILL EACH OF YOU WHO RECEIVE A POSTCARD CONCERNING THE DINNER PLEASE FILL IT OUT AND MAIL THE CARD BACK TO DOCTOR LUTZ. IT IS VERY NECESSARY FOR BUD TO HAVE A GOOD IDEA OF HOW MANY PEOPLE WILL ATTEND THE DINNER. ALSO THE SOCIETY MUST PAY FOR ALL DINNERS ORDERED --SO COME AND RENEW FRIENDSHIPS AND MAKE NEW ONES.



GUEST SPEAKER FOR THE EVENING WILL BE MR. ROBERT P. MCQUIVEY of the Nevada Department of Fish and Game. McQuivey has been making a real comprehensive study of the Status and Trend of Desert Bighorn Sheep in Nevada these last few years. The study has been partially funded by the Federal Aid in Wildlife Restoration and by the Shikar-Safari Club International as well as by the Nevada Department of Fish and Game.

The Shikar-Safari Club International has also purchased a horizontal well drilling machine for the Nevada Department of Fish and Game as they did for the California DFG just a couple of years ago. Complete costs of the well drilling machines now approaches the $10,000.00 mark.

McQuivey a veteran of eight years with the Nevada DFG is a Graduate of Utah State University and has had another four years of Graduate Studies also at that University. He plans to show a wide range of slides to illustrate his discussion related to his observations and studies concerning the desert bighorn sheep of Nevada. It should be highly interesting. In April this year McQuivey gave a very interesting report to the Desert Bighorn Council at the Annual Meeting in Las Cruces, New Mexico.

****

KELSO PEAK
WATER FOR WILDLIFE PROJECT
"A DRINK FOR THE BIGHORNS AND ONE ON THE BURRO"

Photos and report - Bud Wiedeman

The Kelso Peak water storage project was scheduled for Saturday April 2, 1977. A campsite had been selected by the Department of Fish and Game and as usual they had erected signs directing volunteers to the area. By about 4:00 p.m. Friday evening April 1 the volunteers began to arrive. This selected campsite was good as it offered some protection from a real cold wind, and as they found out during the night, rain also. The area was large enough to offer ample parking space for at least thirty-five cars and trucks. This was one of the best camping areas we have had for a long time. It was level, plenty of firewood, no rocks or brush, just hard packed coarse sand. In late afternoon the DFG brought in a 250 gallon tanker of drinking water for the volunteers to use. Chemical toilets were not brought in due to the heavy gusts of wind in the area.

Saturday morning the weather was cool and crisp. Snow had fallen on Kelso Peak and on the Surrounding mountain ranges during the night. By 5:30 a.m., most of the campers were wide awake, and soon some 98 volunteers were bouncing around like 'ping-pong balls'. "I didn't know whether they were anxious to get going or just trying to stay warm." Shortly after 7:00a.m. everyone climbed into the four-wheel drive vehicles to begin the four mile shuttle to the project area.

Volunteers roll barrels of water up the canyon to project site.

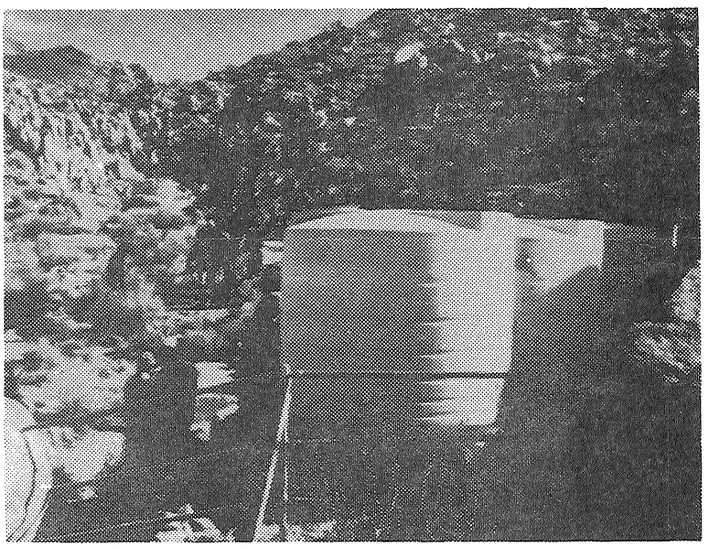
There was no airlift on this project. All of the equipment and material had been trucked to within two-hundred yards of the project site by the Department of Fish and Game a few days prior to the scheduled construction date.

Arriving at the project site the volunteers soon found that they really had their work cut-out for them. Everything had to be carried, rolled or pulled up through the rough boulder-strewn canyon to where it would soon be used in building the diversion dam and the tank platform. The 55 gallon drums for water were not completely filled. This did make it easier to roll them over the boulders enroute to where they would be used. Even so these drums weighed at least 300 pounds each. The 95 pound sacks of cement were a little heavy for some of the volunteers. However, there was always a convenient boulder handy to set the cement on while taking a short rest on the way up thecanyon.

The three 1700 gallon fibre-glass tanks were easily moved and created no problems. Neither did the pipe and fittings, pipe cutter and threader, generators and the rest of the equipment and tools. Only one cement mixer was used on this project instead of the usual two mixers. However itwas a large one, with a capacity three times as great as ones previously used. It had to be pulled and carried up the canyon to the area where the diversion dam was to be constructed. Also a mixing trough six feet long three feet wide and a foot deep had to be carried in. The latter was not heavy but was rather awkward.

Holes were drilled in the rock base of the dam site to accept the reinforcement bars used to form the framework of the dam and to give it the needed extra strength.

The Johnson pickup screen was attached to the 2" steel pipe that would carry the water from the dam to the storage tanks.



Water storage tanks in position outside the exclosure.

The trough was used to temporarily store the concrete when mixed, in order that the mixer could again be loaded with the ingedients of the next mix. This procedure did save considerable time. The mixed concrete was handed along a bucket brigade of the volunteers to where it was to be used. This procedure was real effective and only about half the time required to complete the dam as has been the usual case with the smaller mixers.

The crew constructing the pipeline from the dam to the storagetank platform made good progress until they ran into a large boulder that was firmly attached to the mountain side. The tank platform crew also had their boulder problems. But, after an hour of picking and prying, and considerable sweat the boulders were finally chipped down to size, and work could procede.

A framework of reinforcement bars were used in the base of this platform, for added strength. This has not been the usual procedure on these projects.

With the completion of the dam the cement storage trough was brought down the canyon and setup about 30 feet from the platform and the bucket brigade reformed. Within thirty minutes an eight feet by twenty-two foot platform five inches thick had been poured and leveled . The three large 1700 gallon tanks were put in place and connected together and to the 2 inch feeder pipe from the dam. From the tanks a one-inch steel pipe was laid in a trench about a foot deep and covered with dirt and rocks. This pipe is to carry the water to the drinker.

During all of this time another crew was building a burro exclosure having a ninety foot perimeter. This was a big job and required almost all of the day. The one and one-half inch steel pipe used for posts were set in rock and concrete. Three huge boulders were utilized in the building

The steel pipe that encloses the drinker.

of this six-foot high, and hopefully, burro-proof fence. The lateral bars are also one and one-half inch steel pipes---three in number and secured to the posts with specially formed connectors

The float valve drinker inside the burro exclosure

Photos and report courtesy of Society Director Bud Wiedeman

This completed the exclosure and will, it is hoped, protect the drinker from burro damage or usage. (There are water sources available to the burros out away from this project site. It is essential that the native wildlife have escape cover nearby a water source. Otherwise, the native wildlife cannot and will not use the water.)

The float-valve drinker was set in rock and cement. The float valve was adjusted to the proper level, and the cover replaced and bolted in place, and then covered with rocks leaving only the drinking basin visible. (These drinkers have a sloping basin which will enable small birds and other animals to escape should they fall into the water. This sloping side is also covered with a nylon mesh on the bottom to give these small animals a better footing.

The volunteers assisted in removing all the unused materials, and the tools and other supplies back down the canyon to the pick-up site where the DFG was to truck them out the following week.

Work was all completed by 4:15 p.m. and the volunteers climbed back into the trucks and were soon on their way back to camp. Another Water for Desert Wildlife Project had been completed.

Assisting on the project from the Department of Fish and Game: John Massie, Wildlife Habitat Supervisor and his assistants, Les Coombes, Bob Hamilton and Henry Olivas; Society for the Conservation of Bighorn Sheep: Bud Wiedeman, Steve Segreto, Glenn Sudmeier, Bob Juergens, Kaia Pointer, Lara Erik Pointer, Kimberley Kirkpatrick, Jack Nemeth, Ellen Goldstein, Melissa Samoiloff, and Bob Campbell; Earth Watch Club: Barbara Dickson, Chris Brown, Cory D. Schmissrouter, Jack Placchi, Jim Lapravote, Bob Williams, Mike DiMilo ; Sierra Club: Dale Boren, Audrey Keyner, Simone W ymore, Tom M. Hinaga, Jean Burke, Jim Burke, Eileen Marie Vreda, Kristopher Karlin, Greg Groenekamp, Laurel Boren, Alan L. White, John Heitman and Harriett L. Blanton; Explorer Post 29: Steve Boa, Lee Fournier, Richard F reeman, Paula Matthews, Sandra Mathews, Debora McKindley, Robert Sherry, Scott Van Sooy, Debbie Van Dorn, Bob Sherry, Nancy Sherry, Paul Mathews, Ken Skolyan, Mary Rose Skolyan, Mrs. Toshi Joplin and David Joplin; Panorama Sportsmen's Club: Chuck Kerr, John D. Doll, David Sauceda, Garry Hope, Tara Hope, Charles Crow, George Crow, Donald Pearson, Dale D. Pearson, Wendell Peart, Todd Peart, Steve Zoelle, Jeff Wilde, Don Hearst, Eric C. Pond, Sy Sanders, Gene L. Kessinger and Wilma S. Kessinger; Boy Scouts of America --Troop 208: Steve Vreeken, Mark Vreeken, Betty Vreeken, Dan Mathews, Ron Mathews, Jerry Mathews, Rowe Michels and Lucian Cornelius; Boy Scouts of America - Troop 139: Russ Delaney, Pat Bowman, Jeff Bowman, Ed Webster, Paul Webster; Boy Scouts of America - Troop 147: David Packard, Glen Tong, Theron Webber, Joseph Jensen, and Scott Lambright; Lon Beach Memorial Hospital: Francine E. Turner; Western Conservation Club: Charles F. West; Natural Resources Management Club: Cynthia L. Fleming, Valerie Guardia, David Harper, and Pat onnolly; Donald Douglas Sportsmen's Club: Wayne Frankforter, and Rex Foland; American Fisheries Society: Del Rasmussen; California State University - Los Angeles: Dawn Moore; El Camino College Bill Romanchuk; Serra High School: Jim Spence; No stated affiliations: J. Clayton Brown, Mrs. Janis Massie and Meegan Massie.

This project and two other of the Desert Water for Wildlife Projects of 1977 were funded by donations to the Decal Program for Non-Game Species---Resource Agency, State of California Department of Fish and Game.

The Society for the Conservation of Bighorn Sheep does wish to thank each and everyone of the Volunteers who gave of their time and funds to help see this project through to its completion. If need be, then, we will even apologize for the cold wind, the rain and the snow. However, we do wish to assure you that this is not the usual circumstances of weather.

****

WHERE TO SEND NONGAME FUNDS?

Donations to the California Nongame Wildlife Conservation Program can be sent to: Wildlife, Box DFG, Sacramento, California 95801. Checks should be made payable to: Nongame Wildlife.

Other projects either scheduled or planned that will use the Nongame fund include the maintenance of a guard at Morro Rock while endangered peregrine falcons nest there and rear their young, enhancement of bald eagle nesting sites in northern California and construction of nesting locations for Forster's tern on Bair Island in San Francisco Bay.

A donation of at least one dollar will give the donor a Nongame wildlife sticker and a donation of $5.00 or more will also give the donor a certificate.

****

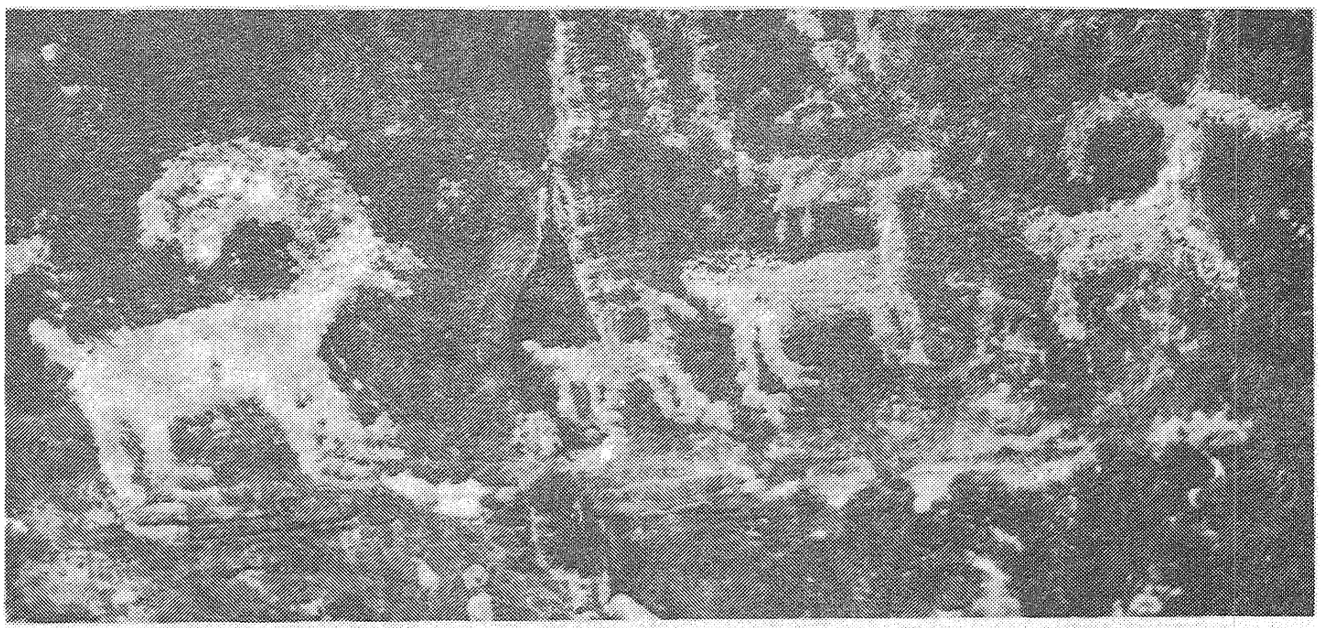
NOPAH WATER PROJECT described in OUTDOOR CALIFORNIA

John Mackenzie has written about the Water for Desert Wildlife Project in the May-June issue of OUTDOOR CALIFORNIA the bi-monthly publication of the California Department of Fish and Game. Mackenzie speaks of the meaning of "Nopah" as coming from the Paiute Indian words 'no ' and 'pah' which mean, very simply, NO WATER mountains. Mackenzie also speaks of the fact that the "Nopah project' was funded by the California Nongame Wildlife Conservation Program.

NOTE: your editor believes that every person with a love of the outdoors and its fish and wildlife should be a reader of OUTDOOR CALIFORNIA----and it is a bargain . SEND $2.00 and your address to : PUBLICATION SECTION, P.O. Box 1015, North Highlands, Calif., 95660

UPDATE ZION BIGHORNS

THE SHEEPHERDER has carried reports from time-to-time concerning the transplant of bighorn sheep from Lake Mead area to the Zion National Park of southern Utah. There is considerable interest in this project and in its outcome. The editor has received, lately, from three different sources information concerning this project. I do wish to express my "thank-you's" to Dick Thomas---National Park Service in Washington, Jim Blaisdell N.P.S. at Klamath Falls, Oregon for NPS reports and pictures; to Zion NP Superintendent Robert C. Heyder for sending photos of the airlift and reports of studies made by H.E."Hank" McCutchen. Hank also made an illustrated report during the sessions of the Desert Bighorn Council held in Las Cruces, New Mexico in early April 1977. These must all be reduced for the newsletter.



Ancient petroglyphs attest to bighorns' past presence in Zion.

Henry E. "Hank" McCutchen
Zion National Park Biologist

Between January 27th and February 3, 1977, 13 desert bighorn sheep were trapped in the enclosure across the Virgin River from the Visitor Center of Zion National Park. Twelve of these bighorns were transported by helicopter to the temporary holding enclosure in the Parunuweap area along the east fork of the Virgin River and about eight airline miles from the 80 acre enclosure where they and their progenitors had been placed in 1973. The Parunuweap enclosure is only ten acres in size and extends from the river up to the cliffs.

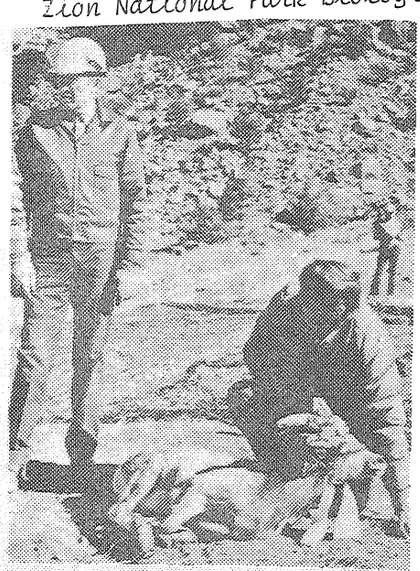
At the time of trapping it was found that one ewe had partially broken one of her horns and that it was badly infected. She was treated by a Veterinarian. However, she succumbed to the infection in a few days.

Seven sheep were retained in the original enclosure where it is hoped that with reduced numbers there will be no conflicts between them. Last summer (1976) there had been 22 sheep in that pasture and it was found that conflict because of over-crowding in the confines of the pasture were occuring that the flock needed to be reduced in numbers.

It is hoped that the Parunuweap enclosure will accomplish the following:

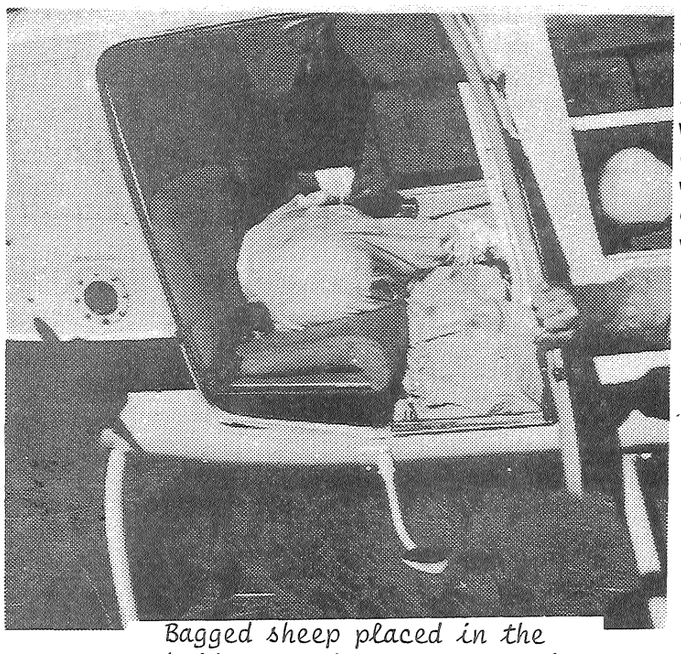
1. Prevent excessive 'break-up' and wandering of such a small band of bighorns,
2. Prevent 'homing' back to the original Zion enclosure,
3. Accustome these bighorns to watering from the river which is the most available permanent water source,
4. "Wean" the bighorns from supplemental feed, which they have been so heavily dependent upon since 1973, to different plant species available in the new area,
5. Allow a gradual adjustment of pen-reared animals to the wild.

It was hoped that the bighorns would leave the release site gradually, perhaps using it as a base area as they explored their new area. The release site was also on the lower'historic inter-range', and was an area close to access through the barrier of the Navajo sandstone formation to the high country.

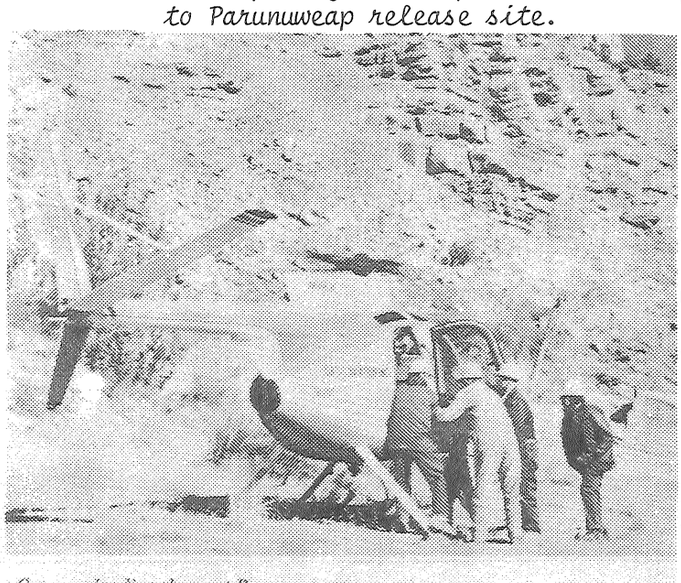


Tied bighorn settle down when blindfolded.

Trapped sheep being placed in bags for transportation.



Bagged sheep placed in the helicopter for transportation to Parunuweap release site.



Crews unloading sheep at Parunuweap.

It was hoped that the animals would gain elevation following the 'green-up' and find access to the high country which was the 'historic-summer-range'. Alfalfa hay, grain and salt were provided for the bighorns in the release enclosure because they were accustomed to them. However, they immediately utilized the new native forage available within the enclosure. On February 25th it was discovered that a mountain lion had walked around the outside of the enclosure and that two lambs were missing. One lamb was found and had apparantly been killed by a falling rock. The other missing lamb was not found. Decision was then made to release the sheep at once rather than hold them longer, as had been intended. The next day about 25 yards of fencing was removed from the up-river side and the majority of the sheep had left the enclosure by the next day. Six of these sheep were led by one of the 'wild-trapped' ewes; the balance split into three groups. All did return to the enclosure about a week later to feed on the grain. The band continued to move into and out of the enclosure for some time.

In early April the two rams had moved into the rugged slickrock country on top of the Navajo formation----and about a week later the ewes moved up there also. This country is nearly inaccessible and difficult to radio track on foot, so the animals were located by use of aircraft. One radio collared ewe became separated from the others and began to wander. Two days later she was found inside the original Zion enclosure. She had her lamb there within a week. No other bighorn has returned to the Zion enclosure to date (May 31, 1977)

The small temporary release enclosure technique worked fairly well in this particular situation. It appeared to keep the low number of bighorns from excessive herd breakup, wandering and homing for at least the first two months after release. All except the ewe that returned to Zion enclosure have remained within two miles of the release site.

Although the area has a good mountain lion population, it is known that the radio collared animals have survived to date.

A number of criteria would appear to determine the need for a release enclosure. These include whether or not the bighorns were pen-reared or wild, their dependence on supplementary feeding, the necessity of imprinting on them to a specific area, the numbers of animals available, the size, extent and dispersion of habitat, the timing of release, the distance from other bighorn populations, land form (canyons, mountains, etc.,), the finances available, the size of the enclosure needed, Predation potential, and other factors

This release enclosure technique may have promise, particularly for other pen-reared bighorn releases, but more experimentation and documentation will be needed to confirm its value. The ideal for imprinting on an area would be most likely to arrange it so that the lambs could be born there. A large release enclosure might work better than the 10 acre Parunuweap enclosure as another time such a small one might enduce stress. The number of animals ready would also be a factor in the decision of a pen-release or a release directly into the wild.

****

SHEEP COUNT --Only one report ---no info has come to the editor.

During this past weekend of Labor Day your editor and his wife Marguerite did go to the Death Valley National Monument. We drew the Klare Spring in Titus Canyon. We sat in our blind about 38 hours and saw only one magnificent seven-year old ram come in to the spring for a drink. Temperature was only 103 degrees. We did have a bird walk through our blind and under our chairs, also a racer came through as did a chuckawalla. Also one covey of 14 Gamble Quail came in to water.

WHY DON'T YOU TRY IT--- You might very well like it.

****

October 1, 1977 the Annual Dinner Meeting of the Society for the Conservation of Bighórn Sheep to be held at Michael's 4500 Los Feliz Boulevard---off the Golden State Freeway in Los Angeles. Dinner will be priced at $9.00. Will everyone receiving a postcard please fill it in and return it to Doctor Lutz immediately, whether you plan to come or not. BUT DO COME. The promised program will be of interest to all of you 'SHEEPHERDERS.'

October 22-23, 1977 Water Developement Project in the Panamint Buttes--on the western side of the Death Valley National Monument. Contact Glen Sudmeier for particulars. Glen's address: 1728 Hillside Avenue, Norco, Calif. 92760. Phone: (714) 735 - 4387

December--date not finalized: Fibre-glass a storage tank at the Blue Springs.

Water Storage Developement Project in the Sacramento Mts. Date not set.

****

ARE YOU MOVING?

Please send in a change of address as soon as you know your new address. The Society needs all of it's 'bucks' for sheep projects and not for the paying of fees to the Post Office Department. The Society has a special mailing permit as a non-profit conservation organization. Hence we pay 2.2 cents to mail each bulletin. Then, if not delivered to the original address we must pay 25¢ return postage and new address or forwarding address, if known by the Postal Department; then we have to pay another 13¢ to remail the bulletin to the new address. This makes a total of 40.2 cents to get you your bulletin. Those getting 'FREEBIES' with no change of address notification will cease to receive copies of THE SHEEPHERDER. WE NEED YOUR HELP. Following the last issue there were 15 recipients who had not sent in a change of address card. The change of address card sent to the Society will require only a 9¢ stamp---cards are free at the postoffices.

FOR THOSE OF YOU WHO HAVE LET YOUR MEMBERSHIP DUES GO DELINQUENT AND FOR THOSE OF YOU WHO ARE NOT MEMBERS WHY NOT USE THE MEMBERSHIP APPLICATION BLANK AND BECOME AN ACTIVE MEMBER? MANY HANDS MAKE A MUCH LIGHTER BURDEN.

****

The Society for the Conservation of Bighorn Sheep is very pleased to have an opportunity to let our members learn of the wedding of our very dear friend Patricia Hansen to Edwin Wood.

Her beautiful art sketches of bighorn have graced the pages of THE SHEEPHERDER and of other publications concerning bighorns for many years. The sketch above the Society used to pubicize our Martinez Canyon acquisition project--so successfully accomplished.

Pat's son Mike is presently following in the 'wildlife biologist' footsteps of his father the late Dr. Charles Hansen who was so tragically lost while making an airplane survey of bighorns over the Canyonlands National park a few years ago. Daughter Debi is still studying.

Pat and Ed's new address is: 1525 Atlanta Ct., #K., Santa Rosa, Calif. 95405

We wish them every happiness.

ANNOUNCING

THE MARRIAGE OF

PATRICIA HANSEN
TO
EDWIN WOOD

TWENTY EIGHTH OF JUNE
1977
SANTA ROSA, CALIFORNIA

THE STATUS AND TREND OF DESERT BIGHORN SHEEP IN NEVADA

THE RIVER MOUNTAINS ----------Robert P. McQuivey and David M. Leslie, Jr.

This report is one of fourteen reports on bighorn sheep in Nevada. This is a three-year study funded in part by the Shikar Safari International.

The River Mts. were set aside in 1973 by cooperative agreements with the National Park Service for the primary purpose of collecting data relative to home range sizes, seasonal movement patterns, behavorial characteristics, population dynamics and other important aspects of a single bighorn population.

The River Mountains are located immediately north of Boulder City and east of Henderson in Clark County. The range is completely surrounded by heavily traveled oiled highways and is generally limited on the east by Lake Mead, on the north by Las Vegas Wash and on the west by Las Vegas Valley and on south Boulder City. It encompasses and area of 34.6 square miles, all of which is used at least seasonally by desert bighorn sheep.

Evidence shows that the Colorado River Drainage in Nevada was an important use area by early Indian tribes, and that these Indians did utilize the bighorns. Effects of this usage are of course unknown. Between 1917 and 1952 there was intensive mining of manganese. Mining continued until 1961 when a Government purchase contract for ore expired. There has never been any intensive grazing of domestic livestock in this area. The only large mammals occupying this area has been a healthy population of bighorn sheep. Recently there has been an observation of two feral burros on this area and this is a matter of great concern. There are a few coyotes, bobcats and golden eagles in the area but these predators are not beleived to have a measurable adverse effect on the bighorns, even though they do help keep the bighorn numbers within range carrying capacity.

WATER: Prior to early 1940's there was no known free water in these mountains and they received only transient use by bighorns that seasonally migrated into the area from the Eldorado and McCullough Rnages. The nearest water at that time was the Colorado River seven miles distant. With the completion of Hoover Dam the waters of lake Mead raised to within 3/4 mile of the River Mountains. However, the shoreline generally lacked adequate escape cover. There is no documented sheep use of Lake Mead between Las Vegas Bay and Lake Mead Marina, even at the present time. The first permanent water available to sheep on the River Mountain resulted from the construction of sewage lagoons located near Boulder Beach during the early 1940's. It is probable that the permanent and reliable water source from the sewage ponds allowed bighorn to remain in the River Mountains throughout the entire year. The Southern Nevada Water Project to provide dirnking water for the Las Vegas Valley built a pumping plant one and 3/4th mile north of the sewer ponds and this made water available to the bighorns who immediately expanded their summer use area to include the range in the vicinity of the water project. A drop Gate Panel Trap was designed specifically for use at these water sources and it has proven effective.

VEGETATION : The desert riparian community is generally in the wide washes and supports the greatest diversity of plant species. Some 40 families of plants in all. Several of the desireable browse species are present. The grass species are thought to be the singlemost important vegetative specie type utilized as a food source by the bighorns of the River Mountains area.....There has been a dearth of laboratory specimens to study from this area. Only two have been available. One was a ram that died during a trapping operation in 1975 and a two week old lamb that was picked up in January 1976. The rumen of the latter was composed of 29% browse species; 26% grass species and 45% forbs. The low washes that extend from the preipitous eastern part of the range toward Lake Mead appear to serve as a geographical barrier to bighorn movement. →

IT IS LONG PAST TIME FOR MANY OF THE SOCIETY TO GET THIER DUES CURRENT.

NON MEMBERS ARE URGED TO TAKE OUT A MEMBERSHIP AND HELP THE SOCIETY MEET IT'S GOALS.

The Society was created for the purpose of Conservation, Preservation and wise use of the wild sheep of North America. Membership is open to anyone and to perosns of any age. The Society needs members who are aware of the vast problems in these areas and who are determined to assist in solving these problems. A conservation attitude and a willingness to be of assistance, when called upon, are all that is necessary. If you are interested---do not delay---make your application today. The bi-monthly publication--THE SHEEPHERDER attempts to encompass each aspect of events and causes that are of concern to this rare, and, in some areas, an endangered specie.

The Society advocates: putting the bighorn under the control and management of the Fish and Game Commission, rather than under that of the State Legislature; the developement and improvement of water sources; elimination of the checker-board patterns on National Resource Lands; reduction of competition from domestic and feral animals on sheep ranges; the transplanting of sheep into matched environments; continuance of the annual census of sheep throughout their ranges, and the making of recommendations as a result of these censuses: the finding of the basic cause(s) of infant mortallity and endeavor to correct these causes; the obtaining of adequate funding for the Departments of Fish and Game in order that they may be effective.

Intensive studies of marked sheep on the River Mountains have become an integral part of the statewide research program since the studies provide important means for realistic interpreting various types of data related to sheep management....This trapping was first done in 1969 for the primary purpose of supplying bighorn sheep for the newly constructed Dutch Creek Enclosure in Mineral County. (This is near the town of Hawthorne and the successes and failures of this transplant operation have been reported in THE SHEEPHERDER.) Bighorn were again trapped from this River Mountain herd during the summer of 1973 in an effort to supply desert sheep for reintroduction into the Zion National Park in southern Utah. (See report on Zion this issue) In addition to the sheep trapped for Zion 12 other sheep were trapped and visibly marked and released back into the River Mountains. Since 1973, 82 individual bighorns have been trapped and visibly marked with a color coated tags, and released. At time of capture all animals are examined for any abnormallities and labatory samples of blood, fecal and nasal swabs collected for later study. In addition during 1973 four bighorns were outfitted with low frequency radio collars. Unfortunately these radios were not correctly adjusted at time of release and failed to work. However, in 1975 five males and five females were trapped and fitted with radio collars that have worked and furnished a lot of usable information. Since 1975 there have been almost daily observations in the range. T he National Park Service airplane has been used bimonthly to monitor movements of the radioed animals. 47 animals were marked during 1975 and this is considered to be about 24% of the herd. These radio collared sheep provide the greatest amount of intensive data needed for comparative purposes.....Current investigations on movement and home range patterns show that the majority of bighorn use is concentrated on the north and eastern portions of the mountain throughout much of the year. All of the permanent water sources are also located in this section of the range. Although sheep also frequent the southwestern portion of the range, data show that the use is seasonal and limited to times of the year when forage conditions and water availablity are at an optimum. A significant percent of the bighorn use is found within a two mile radius of permanent water during the hot summer months, particularly June through September. During the breeding season, profound changes in the movements of rams have been noted. Rams in excess of three years of age remained almost exclusively on the western portion of the range in large bachelor ram groups. Ewes and lambs remained on the eastern portion of the range, while one and two year old rams frequented both areas. Not one single observation of a bighorn migrating from the River Mountains is available for the past three years. Even though historic data prior to 1973 does suggest that bighorns moved freely between the River Mountain Range and the Eldorado and McCullough Ranges.

Data from the River Mountains parallel information from throughout most areas in the state in suggesting that most bighorn populations are becoming isolated, largely because of human interference such as increased highway travel.

Pneumonia has been found to be a major cause of lamb mortallity in most areas of Nevada, and is thought to be an important means by which bighorn population numbers are controlled. (NOTE: these finding have been made also in Colorado and New Mexico and are suspected to perhaps be true in the Santa Rosa Mts. of California.) The poor lamb survival during 1976 indicates that the population has surpassed the present carrying capacity of the range and is currently on the downward trend.

The River Mountains provide an excellent example of a sheep population that has responded to improved habitat conditions. The data from the area show that desert bighorn have a high potential for reproduction even though they normally exhibit poor survival. It is suspected that the poor survival documented in most areas of the state during most years is a direct result of populations being at carrying capacity and responding primarily to annual changes in the habitat. It is recommended that the River Mountains continue to support only the native desert bighorn sheep. An expansion of the burro populations from surrounding areas into the River Mountains should be prevented by any means. Sheep can be safely removed from a population without having an adverse effect on the population level. It is recommended that closely controlled trapping be continued in lieu of hunting in order to provide desert bighorn sheep for reintroduction to other ranges.

****

TEAR OFF HERE AND USE THE APPLICATION

APPLICATION FOR MEMBERSHIP
or renewal

NAME_____

ADDRESS_____

_____

Telephone number : Home-_____Business_____

Place of Birth_____ Date of Birth: _____

Occupation_____

ENCLOSED: you will find my check or money order for $20.00. This includes my initiation fee of ($5.00) and my first year's dues of $15.00. (Students dues are $5.00 per year.) I will endeavor to do my part on behalf of the bighorn sheep.

Signature:_____