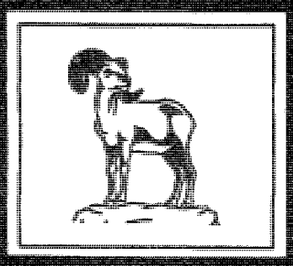

# THE SHEEPHERDER

The News Bulletin of the Society for the Conservation of Bighorn Sheep

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MAY - JUNE 1972



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# *Martinez Canyon Project Fund Drive Begins*

After months of planning, The Society is initiating a fund drive to raise money to purchase vital bighorn habitat. As reported in the last two issues of The Sheepherder, the threatened Martinez Canyon area in the Santa Rosa Mountains west of Palm Desert is home for one of the best concentrations of desert sheep in California. Key sections of privately owned land will be purchased to insure preservation of significant summer range containing natural springs and seeps. After purchase it is proposed that title to the land be transfered to the DFG so they can manage the area as an ecological preserve. Since alternate parcels are government owned and managed by the BLM, over twice the number of acres purchased will be blocked up for bighorn habitat preservation.

The fund drive is to raise $300,000 to purchase 3,500 acres. To reach this goal, it is imperative that each member contribute as well as solicite donations from interested non-members. A brouchure is enclosed with this issue to facilitate member donation solicitation and conveying the need and merits of the project.

## IDENTIFICATION OF LEGAL MOUNTAIN SHEEP TROPHIES PROPOSED

Doris Weaver (Mrs. Dick), Secretary of the Desert Bighorn Council has forwarded a copy of the DBC Resolution concerning permanent identification of the heads and/or horns of legally taken mountain sheep as adopted at their Tuscon meeting. The essence of that proposal is that in order to provide the greatest possible protection to desert bighorn sheep, be it resolved by the Desert Bighorn Council that all states having resident mountain sheep populations be encouraged to establish a system for the identification of all legally acquired bighorn sheep heads and/or horns such as an official state seal, to be permanently attached thereto. All heads or horns not properly identified or legally obtained or tagged after a reasonable period, as established by the respective states, should be confiscated as the property of that state.

This Resolution has been presented to directors, commission chairmen, and some wildlife chiefs of the western states. At this writing the DBC reports that Nevada has adopted a resolution on this order and that many other states have shown an interest in doing so.

## DESERT BIGHORN COUNCIL MEETING

Lew Carpenter has again been kind enough to provide a summary of the annual Desert Bighorn Council meeting. This year's meeting was held in Tuscon, April 5th and 6th with 70 members in attendance. Some of those present and their presentations were as follows:

Jack Helvie, Arizona Game and Fish Dept., presented a paper on their bighorn census with Time Lapse Photography. This paper was an advance study beyond his 1971 DBC paper. This topic is significant since the first requirement of management of a specie is to have an adequate census of numbers, sex and age groups. Jack used a Super-8 Minolta-Time lapse camera. A 50 foot roll of film--some 3,600 frames at the one minute interval--would last for 3 days and 2 nights. After development the film is viewed with a lighted viewer and then more closely examined under low power binocular microscope. By this means individual animals can be distinguished and recorded. The camers is set up in a foam lined box about 50 feet from a water hole and only turned on after one week of 100 plus degree temperature. Pictures showed sheep, deer, coyotes, an eagle and a mountain lion were using the water hole. The next phase of his project is to try to obtain some photo-cell arrangement whereby the camera can be turned off at dark and on again the next morning. He stated that 90 percent of the sheep using the sater hole did so during daylight hours as determined by the use of infra-red film.

Ross Ferris, BLM, spoke on the implementation of Public Law 92-195, The Wild Horse and Burro Protection Bill, signed into law by the President with the almost unanimous support of both houses of Congress. Final Decisions concerning the terms of the bill will have to be determined by interpretations of the Departments of Agriculture and Interior and some items will have to be adjudicated in the courts; this may be done in the very near term. In general these horses and burros are under the protection of the Interior and Agriculture Departments since other public land agencies have very small populations. The bill provides for a joint advisory council of not over nine members to be composed of people versed in animal biology and land management but not be employees of the federal government. This board will have no authority for enforcement of the law or prosecution. PL 92-195 does not provide for the transplanting or relocating of these animals in areas where they are not now located. Public notice will be printed in the Federal Register concerning regulations. Letters have been sent to the Governors of the states requesting their cooperation. Persons claiming ownership of any feral horses or burros must be able to prove their ownership under the branding laws of their respective state. Section 3-A of the Act provides that no wild horse or burro range can be set up without approval of the department of fish and game of the state involved.

David Dunaway, Game Biologist for the Inyo National Forest presented a paper on The Winter Food Habits of Bighorn Sheep in the Sierra Nevada Mountains. Dave believes that the foods and habitat of the Sierra sheep need further studies before management of these foods and habitat are undertaken. The Sierra sheep are driven down the mountains by deep snows of winter, but they still stay above the area which is the primary winter range of the mule deer and the elk and that therefore the competition between these species is not significant. Dave has been making a study of these sheep for the past five years. He has made camera studies as well as transects and pellet counts to determine usage. The sheep will not leave the rocky scarps. Here the winter snows cover up much of the grasses and the sheep are 90% dependent on browse through much of the winter. The species principally used are: Bitterbrush, buckwheat, Ephedra (Mormon Tea), desert needle grass, lupine, ceanothus and pentstamone. Plans are being made to reseed some of the grassy slopes with forbs and grasses in the fall of 1972. He expects to use the young people of the Ecology Corps for the labor of raking the ground before and after the seeding is done using the whirlwind seeder--- commonly called the belly grinder. The sheep of the area seem to be healthy, but are less in numbers than a few years ago. Jim Yoakum stated that surveys have shown in Nevada that sheep which are predominantly dependent on browse for their diet are low in their mating and reproductive capacity.

J. Juan Spillett of Utah State University presented a paper on the Inter-Species Embryo Transfer in the Propogation of Rare Species of Wild Sheep. The purpose of the study is an effort to develop a method of better raising wild sheep in captivity. Thomas D. Brunch was the first to successfully transfer embryos in tame sheep in 1932, and since that time the techniques have been perfected. The loss in domestic sheep has been about 2 in 1,000 transfers. The selection of animals is an important part of the process. The surgical method does not seem to be real difficult once the method is learned, and the instruments needed are simple. The shock to the animal seems to be minimal as once the operation is completed the animal goes right back to its normal feeding procedure. The animal from which the transplant is taken then again comes into oesterus and is rebred and gives normal birth to another lamb. The practical aspect is that the fertilized ova can be transferred to a domestic animal and the offspring can then be raised scientifically and have better nutrition. Ovis-Canadensis have hybridized on a number of occasions with domestic sheep. NOTE: Lew did not hear Mr. Spillett state that such a transplant had as yet been made from a wild to a domestic sheep--- but it does sound feasible.

Dave Brown, Small Game Supervisor, Department of Game and Fish, Arizona, showed a series of slides and spoke about the Status of Desert Bighorn Sheep on the Papago Indian Reservation. The reservation contains nearly 3 million acres, there are 35 identifiable Mountain ranges, elevation varies from 1,500 to 7,700 feet. The vegetation is 90% desert shrubs and grasses. Between 5,000 to 8,000 Indians are moving into more urbanized living conditions. Many are employed in jobs off the reservation. The lands are badly overgrazed. Mining activity is increasing slightly. Between 10 or 12 of the mountain ranges are considered to be suitable habitat for sheep. Some of the Indians are hunters and these men tend to brag about their prowess by displaying the horns of sheep, antlers of deer and hocks of deer killed on their houses. Natural waters on the reservation are rare, and the developed waters are not being maintained as they should be. The overgrazing has ruined much of the area. The combination of Papago hunting methods, poor grazing, inadequate water seem to preclude the re-establishment of sheep on the Reservation. The present number of sheep is probably less than 50 animals.

Lanny Wilson, Wildlife Management Officer for the BLM in New Mexico gave a report on the Status of the Mexican Desert Bighorn Sheep Habitat in the Big Hatchet Mountains of New Mexico. The area of study is the same area as is a Fish and Game Refuge. The Fish and Game Department had conducted a study in 1956 of minerals of the area and which are necessary to healthy wildlife and found no deficiencies. Land ownership is 82% BLM; 14% USFS and 4% private. The Forest Service has 3 water developments in the Big Hatchet Mountains and the BLM has 4. They found no sheep on the south facing slope of Big Hatchet Mountain. The area has plenty of food and cover, but as elsewhere water is the problem. This area of study is very close to the Mexican Border in the southwest part of the State. The DFG is planning a reintroduction program. In the mid 50's the population had been 150 but in 3 years the population had

dwindled to 8 animals. The theory for the loss in numbers is due to the building of the high border fence between the U.S. and Mexico. The fence was supposed to keep out illegal aliens. It is unsuccessful for this purpose but does prohibit the migration of sheep from one country to the other. Vegetation of the area has been rejuvinated by the absence of sheep and livestock. An inverted umbrella type water collector has been used over water tanks successfully. They have found that drinkers should be installed between 12 and 18 inches above ground level to keep animals from getting sand and dirt in the water basin. Cougar tracks have been found in these sheep areas. Disease and parasites are present in the area of study. It is believed that gnats may be the vector of transmission. Wilson believes that this is an area that warrants a study. Predation may be significant in a population which is already diminished. He agrees that Bighorn should be planted in these areas. Livestock usage in the area may become a significant problem, and if so then allotments will be reduced or eliminated.

Dick Weaver, California Department of Fish and Game, reported on the Conclusion of California Bighorn Investigation. The study was begun in 1968 at the request of the State Legislature. Some sources of water have been discovered by use of airplanes, fixed and rotor. Census shows there are approximately 3,500 sheep. This figure is the same as that estimated prior to 1968. Some areas are now barren of sheep that had them previously and in some places the population has increased. The population trend is in general down. Drought the past several years has been very severe and this year is critical. Where sheep depend on water in tenajas, they are in jeopardy. When water is lost here the sheep are also lost and they do not reappear even when water again is present. They will not leave their home range to move into another area of their own volition. The Deep Springs area of the White Mountains has had a history of sheep, but their numbers have been drastically reduced. The sheep of the San Gabriel Mountains have increased. Those of the Santa Rosa have increased, but their numbers are due for a crash. The food supply is good but the drought has been very serious. Unless rains come by June there very likely will be a die-off.....Competition with man and his activities is an increasingly serious problem. Competition with feral burros has become critical where the burro exists. Burros are expanding their ranges and the sheep are losing out. Poaching is serious especially in areas where sheep populations are low. Loses to predators is not thought to be serious....Water source index has been improved. Water developments have been accomplished with the assistance of interested citizens. Citizen captains have been appointed to search for water, maintain known water and with the assistance of Departmental personnel improve and develop new sources of water. The DFG plans to buy some key privately owned land during FY72-73 for sheep.

Jack Cooper, Department of Fish and Game, Nevada gave a report on the Desert Bighorn Status of Nevada. In 1968 the Department had captured 6 sheep--4 ewes, 1 ram and 1 yearling. At present there is only one survivor. The other 5 have been killed by mountain lions. In 1969 they put 2 more strands of barbed wire at the top of the fence. During 1970, 10 more sheep were captured, 2 rams, 5 adult ewes and 3 yearlings. One ewe died. During that year, 5 lambs were born in this enclosure at the Hawthorne Munitions Depot. In February, 1971 the population of the enclosure was 18. January, 1972 there were 13 sheep, 5 rams, 7 ewes and 1 lamb. Survival within the enclosure was no better than in the wild. Since the issuing of hunting permits in Nevada the 1043 permittees have taken a total of 473 rams. During 1971, 43 resident tags and 5 non-resident tags were issued. Nevada defines a legal rams as one 7 years old or having a minimum score of 140 Boone and Crocket points. This is obtained by doubling the horn with the greater measurements. In 1971 hunters spent an average of 11.4 days hunting. Successful hunters spent 11.8 days and unsuccessful hunters hunted for 8 days. A helicopter survey in 1970 showed a ratio of 70 rams to 124 ewes. Sheep populations are principally in the 4 southern counties of the state. The northern part of the range shows an upward population trend of all ages. In the central area the recruitment is poor with the majority of sheep in the younger age class. In the south production seems to be OK but survival has not been good. 65% of the rams seen during the summer were under 4 years of age. The count in October showed more rams.

Tom Hailey presented a paper concerning Disease Losses in Desert Bighorn Sheep on the Black Gap Area. This Black Gap area is in Texas. These sheep were from stock transplanted from the Kofa Game Range of Western Arizona in an effort to restock the habitat of Texas. In all they lost, 18 bighorn sheep from Bluetongue. Vegetation within the enclosure was comparable with that outside, but the sheep outside the fence were in better health. The bluetongue is thought to be carried by a gnat as the vector. With the advent of cold and frosty weather there were no more losses. Their pastures are to be fertilized to improve the quality of the feed and the sheep will be vaccinated against bluetongue. During the outbreak of the disease the sheep in the enclosure were all treated with soluble tetracycline powder in their drinking water. The outbreak occurred following the breeding period. This may of had an adverse effect in the resistance of the sheep to disease. The nutritional level of the enclosure was also found to be below that of the area outside the enclosure although they looked comparable. It is believed advisable to keep wild sheep in small numbers in an enclosure and that there be no source of free water, in order to make certain that medication can be given to all sheep.

James R. DeFarge, a student at California State Polytechnical College-San Luis Obispo had prepared a paper on "The Desert Bighorn Sheep in the Lytle Creek Area of the San Gabriel Mountains". He was unable to be present and his paper was read by Dick Weaver. The study area of DeFarge had been the South Fork of Lytle Creek and around the Bucks Point area. The area is a key lambing area for the approximate 100 sheep using it. There has been a die-off of timber in the area and the Forest Service had sold the timber for salvage purposes.

This created a necessity for a timber access road. The salvage took only about two months but came right at the time of lambing during April and May. After completion of the salvage the Forest Service chained-off the road but the trail bike users illegally entered the area. With the opening of deer season hunters showed no regards to locked gates and entered the area. All of these activities have chased the sheep from the area and have had an ill effect on the lambing procedures and on their general welfare. The Forest Service now talks of re-routing the Buck Point road. DeFarge believes that vehicle access to the area should be made impossible. What will be done is not known.

# VOLUNTEERS BRING LIFE TO WATERING HOLES IN DESERT

BY JIM STINGLEY
Times Staff Writer

AMBOY — It's supposed to be springtime in this country—the high desert's finest hour. It should be that time between the cold winds of winter and the hellish days of summer when the whole prickly landscape is fluffy with rainbows of flowers.

But lack of rain has canceled spring and the flowers this year. And if you chose to journey here anyway, all you would find are faded hints of what might have been had just 1 or 2 inches of moisture fallen.

There is more to this than just a lack of beauty.

With the green galleta grass already burned yellow and the tinajas all gone dry and the various colored forms of forb just not around, it means a definite threat to the fragile desert life chain.

### Feed for Wild Fowl

The forb vegetation makes green feed and seed that the quail and chukar must have to exist and to multiply. Without it they stay in their coveys and never mate.

Galleta grass is a necessity for wild burro. Once it provided feed for the pronghorn antelope, but that was years ago before cattle came to the high desert country and nudged the pronghorns out.

Tinajas are natural water holes, basins in the earth that catch and hold precious rainfall for all animals. In the case of this high country, that means desert bighorn sheep, burro, coyotes.

But the tinajas are dry this spring. The only water left comes from a precious few natural springs and what little bit man has been able to provide through a state wildlife program.

According to natives of the high desert country, there is more to this dry spring than simply one season without water. They say it is the hump of a dry cycle, that rain has been coming in smaller and smaller amounts over the past few years.

### Plant Life Withers

So that now even the rugged cresote and catclaw bush are stunted and fading. And normally green coyote apples are hard yellow gourds on wizened vines.

What this all means to the balance of nature in this land of the Mojave cannot be measured easily. There was not that much here to begin with.

Take a little away and only eyes accustomed to the scene can tell you of the loss, the annual spring parade that this year never came.

It is a frustrating situation for Californians, who have transformed most of the arid southern section of the state into a sprinklered green belt.

But here in the high desert there are no sprinklers. And man and animal must make do with what nature deals.

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It was a poor oasis—the water seeped slowly from under brown-layered rock to deposit itself in hoofprint reservoirs left by wild burro.

The desert sun and thirsty sand kept its size so shrunken that a man not knowledgeable of the Mojave high country could die of thirst and never know muddy salvation was 30 yards away.

The 13 scouts, five girls, and eight young men from Mountaineering Explorer Post 92-E, Manhattan Beach, eased down back packs laden with cement, thick redwood boards and carpentering tools.

John Massie, the state Department of Fish and Game employe who had led the group in a two-hour trek to the water hole, spoke up:

"What we have here is a spring that gives out a good flow—about 5 gallons a minute. It should be taking care of a lot of wildlife in this area of the Granite Mountains.

### Burros Take Control

"But you'll notice the only tracks or sign you see are from wild burro. Now this is desert bighorn sheep country, but you don't see any of their tracks.

"What has happened is that the burros have controlled this spring. They come in here and because only a little bit of water is trapped (in their hoofprints), they can't get enough to drink at one sitting. So they stay. And the sheep stay away.

"What we have to do is dig a reservoir here, put a concrete base and concrete and rock top and side to it that will develop and store enough water for both burro and sheep and any other wildlife that needs it."

While several youngsters dug out and enlarged the spring, others trapped water or searched the surrounding area for clean sand to mix with the cement. There also was the job of building the wooden and stone roof.

Four hours and some perspiration later, the job was done. Where before only water-filled hoofprints had been now stood a small pond of water a foot deep and protected from evaporation (and burros).

For John Massie, crew leader for the Fish and Game Department's "habitat modification" project, such volunteers are about the only way possible for spring improvements to be made in the desert high country for the sake of wildlife.

Thus far, 18 springs in the desert country of San Bernardino, Riverside and San Bernardino counties have been developed with volunteer help. "Which is a drop in the bucket," Massie said, "because we've got over 850 water sources that we know of that need this work."

### 3-Year-Old Program

The program to do this work was born three years ago, Massie said, when conservation clubs in Southern California (made up mostly of hunting or rod and gun clubs) came to the department and said "they wanted to do something for the ecology."

"The scouts and other volunteer groups have joined us since then," he said.

Massie explained that he and two other men are sort of special agents for the Game and Fish Department, whose salaries are paid by the Federal Aid in Wildlife Restoration (Pittman-Robertson) Act. The act's funds come from a federal tax on guns and ammunition.

Their job all along has been to provide development and maintenance of wildlife habitat and wildlife management programs.

"We have been doing this in California for 27 years," Massie said. "But up until three years ago, most of our efforts were concentrated in building and maintaining 'guzzlers' (primitive drinking fountains) for quail and chukar or providing water in the high desert area where the water had run out."

The idea of the sportsmen's organizations volunteering their services to help the desert wildlife was not an altogether unselfish one, Massie admits.

"The selfish reason they have is knowing where the springs are and where the game concentrates so they can have a higher success ratio in their hunting.

"Now, since the burro and sheep are protected, their hunting is confined to quail and chukar.

"Some people might not like that idea . . . because on the surface it looks like we're giving the sportsmen an unfair jump on the birds.

"But our function is to tell people where to hunt these birds anyway. And the birds are just part of the picture. The big picture is that all wildlife benefits from these spring improvements."

# BIGHORNS IN THE BREAKS

MONTANA OUTDOORS

*by Larry C. Eichhorn and C. Robert Watts*

MAY/JUNE 1972

## *Could a bighorn herd with probably the highest birth rate and lamb survival in N.A. be doomed?*

In 1805, Lewis and Clark observed bighorn sheep in the Missouri River Breaks near the mouth of the Judith River in central Montana. In his journal, Clark noted, " . . . I saw great numbers of the bighorned animals, one of which I killed . . .". However, in less than 75 years, man reduced the native bighorn, *Ovis canadensis auduboni,* to near extinction.

The last known native bighorn was reported to have disappeared from the Billy Creek area around 1916.

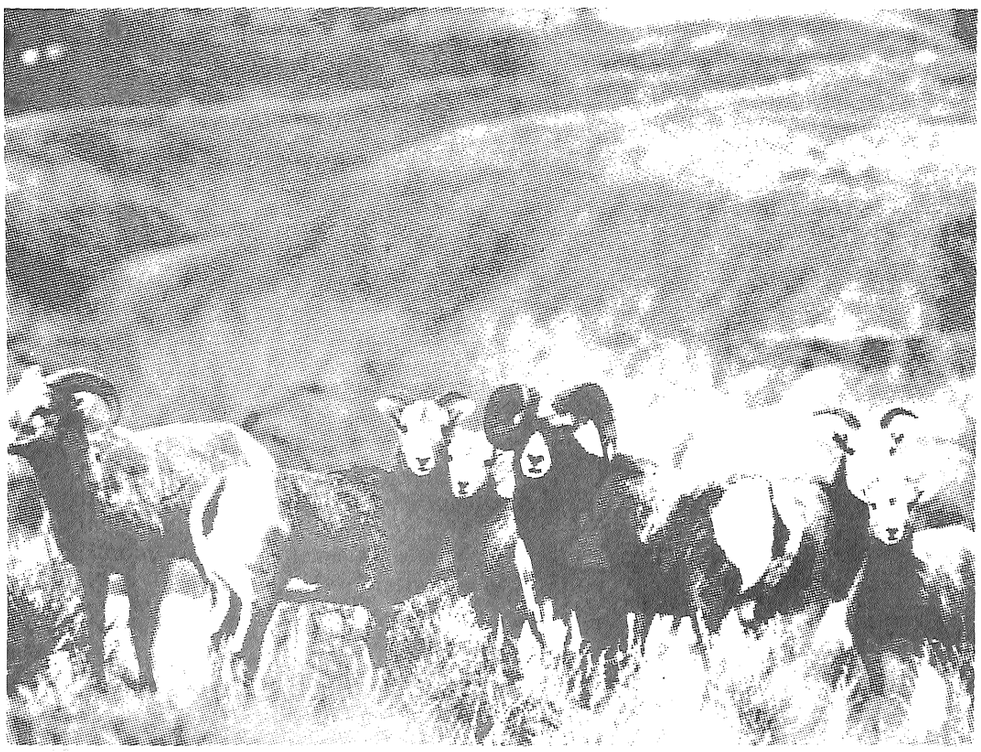
In the early 1940's biologists began to talk of introducing Rocky Mountain bighorns, *Ovis canadensis canadensis,* to range once occupied by the native (also called Audubon or Badlands) bighorn. In 1947, Colorado provided 16 Rocky Mountain bighorns for release within a 328-acre, fenced area on Billy Creek in the Missouri River Breaks.

In 1951, the herd had grown to an estimated 54 and bighorns roamed on both sides of the fenced area. Following removal of the fence in 1952, the bighorns scattered over a wide area. Permit hunting seasons for ¾-curl rams opened for two years. Hunters bagged two in 1955 and none in 1956. A population decline became evident, and the bighorn disappeared by 1963.

The decline apparently coincided with the removal of the fence, but specific reasons for this population's failure are unknown. Undoubtedly, habitat deficiencies played an important role in the disappearance. Competition for forage, disease, cross-breeding with domestic sheep and social intolerance toward domestic sheep may have complicated the transplant bighorn's life and hurried along its demise.

In 1957, the Montana Fish and Game Department made a second re-establishment transplant in the Two Calf Creek area in northern Fergus County. Department personnel constructed a seven-foot fence around 1,400 acres on the Missouri River. Between 1958 and 1961, they released 43 Rocky Mountain bighorns, of Montana origin, within this enclosure.

The bighorn population increased slowly from the original 43 transplants. Lamb production was good in 1969 and the population increased to at least 51. The following year productivity was even better and a ratio of 79 lambs per 100 ewes survived the winter, boosting numbers to at least 63. This is probably the highest production and lamb survival rate on record for North American bighorns. Productivity remained good in 1971 and the population jumped to 90. However, the herd experienced high mortality during the 1971-72 winter.



*The fate of a bighorn sheep transplant in the Missouri River Breaks still appears doubtful. The large ram, Old Crooked Horn, was taken during the 1971-72 special permit season. In the last three seasons, 11 mature rams have been bagged by hunters. (photo by Larry Eichhorn)*

Taking the failure of the earlier Rocky Mountain bighorn transplant into consideration, one might assume this bighorn cannot adapt to the Missouri River Breaks area. This may be so. On May 28, 1805, Clark wrote of the Audubon bighorn, " . . . I believe the bighorn have their young at a very early season, say in March, for they appear now to be half grown." If he actually saw young of that year, the lambing period of the bighorn native to the Missouri River Breaks was at least two months earlier than the average lambing period of the transplanted Rocky Mountain bighorn. The earlier lambing period for the native Audubon bighorn might have evolved because of some survival advantage that is lessened or absent in the May lambing period for the Rocky Mountain bighorn.

But biologists feel less basic factors regulate this bighorn population. The summer herds of ewes and lambs space themselves throughout the Two Calf area on both sides of the enclosure. However, older rams always summer outside the fenced area. During the summer most herds outside the enclosure make contact with domestic sheep, a source of potentially dangerous disease for the bighorns. In addition, the bighorns have lungworms, a common disease among North America's bighorn populations. In the fall of 1971 all lambs and most adults had the cough characteristic of severe lungworm infection, but the disease's effect on the population is not clear.

With the onset of winter most herds return to the enclosure. Domestic livestock, primarily cattle, grazes the Two Calf area (except for the range inside the

enclosure) from April through November but doesn't make uniform use of the entire range because of rough terrain and the distribution of water. Throughout the summer bighorn herds graze in areas missed or lightly grazed by livestock. By late summer cattle have overused drainage bottoms and the adjacent lower slopes, sources of potential winter range for bighorns. The bighorn must therefore return to the enclosure for winter forage.

Bighorns returning to the fenced enclosure must compete for forage with a large, underharvested deer herd. Continual overuse of available browse plants by deer has led to "hilining" (eating all the foliage from lower branches) of even such poor-quality forage as juniper and Douglas fir. The "hilined" condition indicates an overall depleted range. The bighorn must have browse plants for winter survival when grasses they prefer are gone or buried by winter snows.

Examination of bone marrow indicates many bighorns died of starvation during the 1971-72 winter. Cattle confined the bighorns to the enclosure, already over-browsed by deer. The fenced area could not feed the increased number of bighorns after heavy snow covered part of the remaining forage.

The survivors of the bighorn population should have an easier future. Pasture rotation of livestock in the Two Calf area should improve the over-used range. A proposed change in deer hunting boundaries would bring more hunter pressure into this portion of the Missouri River Breaks area and would help balance the deer with their food supply. If the bighorn population builds to near the limit of its food supply again, a reduction of the population by hunting female bighorns would be an alternative preferable to starvation.

## PHOENIX ZOO PROJECT DEDICATED

The Arizona Desert Bighorn Sheep Society dedicated their Phoenix Zoo Sheep Exhibit (see The Sheepherder, March-April 1972) May 21st. Their entire membership contributed towards the $3,300 material cost and some 57 members provided 1,354 manhours of labor to construct the 3.5 acre enclosure. At the May 2nd meeting of your Board Of Directors it was decided to donate $100 to the Arizona group to help them reach their fund drive goal for the project.

## IN SEARCH OF THE BIGHORN

The Arizona - Sonora Desert Museum, Spring 1972, newsletter reports: "When the Otter-Beaver-Bighorn Sheep Project was begun, it appeared that the Museum would have little difficulty in obtaining sheep for display. As the project neared completion, however, all possible sources of desert bighorns in this country had been eliminated. The Arizona Game and Fish Department agreed to supply sheep, but delivery was set for winter of 1972-1973. Not wanting to keep the enclosure empty that long, the Museum turned to the Mexican government for assistance. The Mexico Department of Conservation issued the Museum a permit to capture and export two sheep."

## WILDLIFE LEAFLET

Enclosed with this issue is the new DFG Bighorn Sheep Wildlife Leaflet by George Seymour. This leaflet updates Mr. Seymour's previous leaflet by incorporating recent data and programs.