



United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

OCT 8 1975

Memorandum

To: Members, National Advisory Board on Wild Free-Roaming Horses and Burros

From: Acting Secretary of the Interior

Subject: Call to Meet

Secretary of Agriculture Earl L. Butz and I have called a meeting of the National Advisory Board for Wild Free-Roaming Horses and Burros at the Naval Weapons Center in China Lake, California, on December 5-6, 1975.

You will be advised of further details by the Director, Bureau of Land Management.

Kent Drizzell



Save Energy and You Serve America!

notices

NATIONAL ADVISORY BOARD FOR WILD FREE-ROAMING HORSES AND BURROS

Notice of Meeting

OCTOBER 29, 1975.

Notice is hereby given that the National Advisory Board for Wild Free-Roaming Horses and Burros will hold a meeting on December 5 and 6, 1975, at the Naval Weapons Center, China Lake, California. The agenda includes:

Friday, December 5—(1) The ecological impact of wild horses on the public lands; (2) the ecological impact of wild burros on the public lands; (3) burros on and adjacent to the Naval Weapons Center; (4) presentations by conservation, wild horse and burro, livestock, and wildlife organizations; (5) burro research; (6) wild horses in the Challis EIS; (7) agency reports; (8) public comment; and (9) Advisory Board discussion and recommendations.

Saturday, December 6—An aerial and ground tour of lands administered by the Naval Weapons Center, National Park Service, and the Bureau of Land Management. The tour will leave the Naval Weapons Center at 8 a.m. Individuals desiring to participate in the field trip other than official participants will arrange for their own transportation and lunch.

The meeting will be open to the public. Time has been set aside beginning at 3:30

p.m., September 5, for brief statements by members of the public. Those persons wishing to make an oral statement must inform the Director (330), Bureau of Land Management, in writing prior to the meeting of the Board. One written copy of all oral statements identifying the author is desired to provide a record for the minutes. Any interested person may file a written statement with the Board for its consideration. Written statements may be submitted at the meeting or mailed to the Director (330), Bureau of Land Management, Washington, D.C. 20240.

Additional details can be obtained by contacting the Office of Public Affairs, Bureau of Land Management, Federal Building, 2800 Cottage Way, Sacramento, California 95825.

Minutes of the meeting will be available for public inspection 60 days after the meeting at the Office of the Director (330), Bureau of Land Management, Interior Building, Washington, D.C. 20240.

GEORGE L. TURCOTT,
Associate Director.

[FR Doc.75-29821 Filed 11-5-75; 8:45 am]



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
WASHINGTON, D.C. 20240

DEC 4 1975

Memorandum

To: Deputy Assistant Director, Resources

From: Director

Subject: Delegation of Authority--December 1975 Meeting of
the Wild Horse and Burro Advisory Board

Pursuant to the authority delegated to me by the Secretary of the Interior, I hereby delegate to you authority and responsibility to act as the authorized representative of the Secretary at the December 5-6 meeting of the joint National Advisory Board for Wild Free-Roaming Horses and Burros.

Curt Beeland

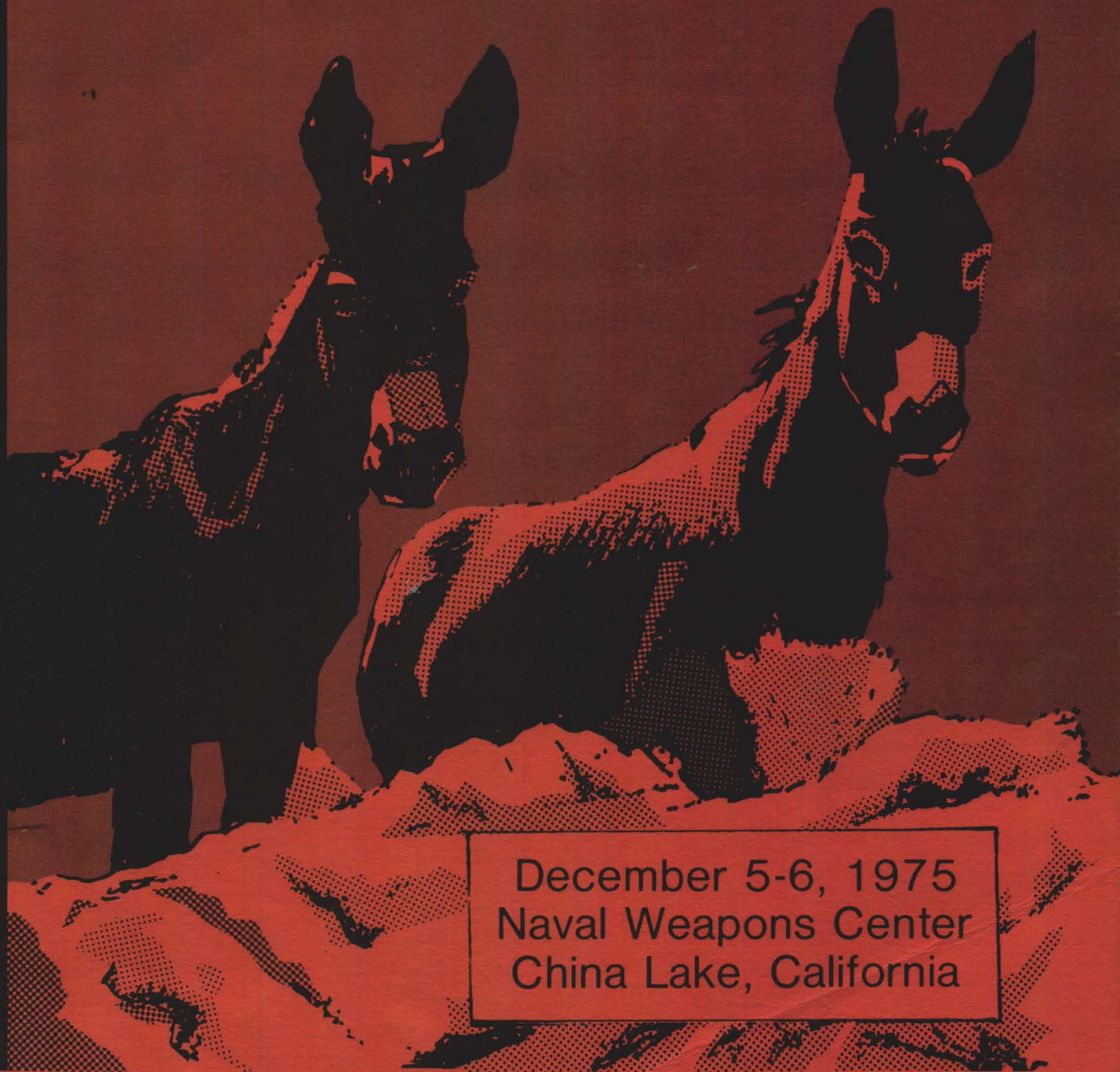


1975

Ross Ferris
BLM
(Please Return)

National Advisory Board for
Wild Free-Roaming Horses & Burros

PROCEEDINGS



December 5-6, 1975
Naval Weapons Center
China Lake, California

**UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

**UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE**

AGENDA
National Advisory Board
for
Wild Free-Roaming Horses and Burros
Naval Weapons Center
China Lake, California
December 5-6, 1975

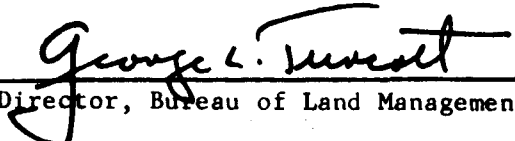
December 5

- 8 a.m. Introduction and Welcome - Commander, NWC, and BLM California State Director
- The Ecological Impact of Wild Horses on the Public Lands - Thad Box, Advisory Board Member
- The Ecological Impact of Wild Burros on the Public Lands - Roger Hungerford, Advisory Board Member
- 9:15 a.m. Break
- 9:30 a.m. Burros on and Adjacent to the NWC - Tilly Barling, NWC, and Lou Boll, Bakersfield District Office, BLM
- 10 a.m. Presentations by Conservation, Wild Horse and Burro, Livestock, and Wildlife Organizations
- 11:30 a.m. Lunch
- 1 p.m. Presentations by Conservation, Wild Horse and Burro, Livestock, and Wildlife Organizations
- 2 p.m. Burro Research - Robert Ohmart, Arizona State University
- Wild Horses in the Challis EIS - Jim Englebright, Salmon District Office, BLM
- Agency Reports
- 3:30 p.m. Public Comment
- Advisory Board Discussion and Recommendations to Adjournment

December 6

- 8 a.m. Leave NWC on Aerial and Ground Field Tour of Land Administered by the NWC, NPS, and BLM. Return to NWC at 5 p.m.

APPROVED:


Associate Director, Bureau of Land Management

Board Members Present - December 5, 1975

Dr. Floyd W. Frank

Dr. Thad Box

Mrs. Velma B. Johnston

Mr. William L. Reavley

Agency Personnel Present - December 5, 1975

George D. Lea, Washington, D. C., Deputy Assistant Director, Resources,
Bureau of Land Management, Representing the Secretary of the Interior

Bill Evans, Washington, D. C., Director, Division of Range Management,
Forest Service, Representing the Secretary of Agriculture

Kay W. Wilkes, Washington, D. C., Chief, Division of Range, Bureau of
Land Management

Don Seaman, Washington, D. C., Forest Service

Robert J. Springer, Washington, D. C., Bureau of Land Management

Nancy M. Manzi, Washington, D. C., Bureau of Land Management

Betty F. Cullimore, Washington, D. C., Bureau of Land Management

Edward L. Hastey, Sacramento, California, Bureau of Land Management

Louis A. Boll, Bakersfield, California, Bureau of Land Management

Paul W. Savercool, Bakersfield, California, Bureau of Land Management

Jerry Hanell, Bakersfield, California, Bureau of Land Management

Carl Rice, Sacramento, California, Bureau of Land Management

Jim Englebright, Salmon, Idaho, Bureau of Land Management

F. H. Joist, San Francisco, California, National Park Service

Terral F. King, Bakersfield, California, Bureau of Land Management

Peter G. Sanchez, Death Valley, California, National Park Service
Milton Frei, Denver, Colorado, Bureau of Land Management
Glenn W. Harris, Bakersfield, California, Bureau of Land Management
Dave Garber, Bishop, California, Forest Service
Jerry Steffend, Lone Pine, California, Forest Service
Janis Bowles, Bakersfield, California, Bureau of Land Management
Milford Fletcher, Santa Fe, New Mexico, National Park Service
Brad Hines, Bishop, California, Bureau of Land Management
B. Collins, Bishop, California, Bureau of Land Management
James Thompson, Death Valley, California, National Park Service
Dick Harlow, Bakersfield, California, Bureau of Land Management
Dick Rayner, Death Valley, California, National Park Service
Tilly Barling, Ridgecrest, California, China Lake Naval Weapons Center
Capt. William Daniel, Ridgecrest, California, China Lake Naval Weapons
Center

Public Appearances - December 5, 1975

Robert Ohmart, Tempe, Arizona, Arizona State University
Jim Deforge, Ontario, California, Desert Bighorn Council
Richard Weaver, Sacramento, California, California Department of Fish and
Game
DeLoyd Satterthwaite, Tuscarora, Nevada, National Wool Growers Association,
American National Cattlemen's Association, Public Lands Council, and
Nevada Wool Growers Association

Lewis E. Carpenter, Fresno, California, Sportsmen's Council of Central California

Bud Wiedeman, Los Angeles, California, Society for Conservation of Bighorn Sheep

Mary DeDecker, Independence, California, California Native Plants Society, Southern California Botanists, California Natural Areas Coordinating Council

Walter B. Powell, Altedena, California, California Wildlife Federation, Southern Council of Conservation Clubs

Miriam Romero, Monrovia, California

Shirley Moncsko, Ridgecrest, California

Belton Mouras, Jr., Sacramento, California, Animal Protection Institute

Peter Burk, Barstow, California, Sierra Club

Joyce Burk, Barstow, California

Lyle Gaston, Riverside, California

Dean Slaughter, LaCanada, California, Desert Protective Council

Pat Smith, Newbury Park, California, American Horse Protection Association

Mary Ann Henry, China Lake, California

William Blackmore, Los Angeles, California, University of Southern California

Dell O. Clark, Sacramento, California, California Department of Food and Agriculture

People Signing Visitors' Roster - December 5, 1975

Roy Hines, Fresno, California, California Department of Fish and Game

Philip C. Archibald, Ridgecrest, California, China Lake Naval Weapons Center

Donald G. Dixon, Riverside, California, California Department of Food and Agriculture

Larry Zabel, Inyokern, California

Kelly Smith, Newbury Park, California

Sandra Young, China Lake, California

Homer F. Harrison, Bakersfield, California, Sportsmen's Council of So. California

Mike Davis, Ridgecrest, California, Daily Independent

C. Driussi, Ridgecrest, California, Bakersfield Californian

Charlotte V. Gould, Ridgecrest, California

Donna Luzuis, Highgrove, California, California Archeological Society

William Butler, Tempe, Arizona, Arizona State University

Ray King, Ridgecrest, California, China Lake Naval Weapons Center

Margaret Fernandes, Ridgecrest, California

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Proceedings of the National Advisory Board
for
Wild Free-Roaming Horses and Burros
Naval Weapons Center
China Lake, California
December 5-6, 1975

Introduction:

The eighth meeting of the National Advisory Board for Wild Free-Roaming Horses and Burros was held at China Lake, California, the site of the Naval Weapons Center. The meeting was requested by Kent Frizzell, Acting Secretary of the Interior, on behalf of himself and Secretary Earl L. Butz of the Department of Agriculture, by memorandum dated October 8, 1975.

The primary purpose of the meeting was to hear the suggestions and recommendations that various groups representing conservation, wildlife, livestock, and wild horse and burro organizations might present for the management and control of wild burros. A field tour into the north area of the Naval Weapons Center on Saturday was conducted by Mr. and Mrs. Bob Barling. The tour was open to the public. In addition to being on portions of the ground tour, Board members were flown by helicopter over adjacent lands administered by the National Park Service and the Bureau of Land Management. These aerial flights provided the Board with more knowledge about burro habitat, the number of burros, and related problems in the region.

The official proceedings were held in the Michelson Laboratory Building on the Naval Weapons Center. Due to various other commitments or sickness in the family, only four of the nine Board members were present. The meeting was conducted within the agenda; however, no formal recommendations were made since there was not a quorum of members present.

Proceedings of the National Advisory Board
for Wild Free-Roaming Horses and Burros
China Lake, California
December 5, 1975

The meeting of the National Advisory Board for Wild Free-Roaming Horses and Burros was called to order at 8:25 a.m. on December 5, 1975, at China Lake, California, by Dr. Floyd W. Frank, Chairman.

The Chairman introduced Mrs. Tilly Barling, natural resources specialist at the Naval Weapons Center, who was responsible for the arrangements of the meeting. Mrs. Barling introduced Captain William Daniel, Public Works Officer, who welcomed those attending the meeting on behalf of Admiral Freeman. Admiral Freeman received orders for another commitment which prevented him from being at the base during the meeting.

Captain Daniel said that historically the Naval Weapons Center has been conscious of a very strong ethic of stewardship toward the 1,712 square miles of land it administers at China Lake. The Center command takes a keen interest in the welfare of the Center's lands and that Acts such as the Sikes Act mandate conservation of natural resources on military lands. The burros in the area of the Weapons Center recognize no boundaries and use lands under the administration of the Navy, Bureau of Land Management, and the National Park Service. It is because of this, Daniel said, that persons at the Naval Weapons Center feel that this is a regional problem extending from Saline Valley on the north to Pilot Knob on the south and the Navy takes pleasure in extending a cordial welcome to the National Advisory Board for Wild Free-Roaming Horses and Burros and the managing agencies.

The Chairman next introduced Mr. Ed Hastey, Bureau of Land Management California State Director, who briefly described some of the land management problems on the California Desert. California being the most populous State, with more vehicles per capita including off-road vehicles, than any other State, means the BLM must cope with people problems in addition to the traditional resource problems. He stated it had been difficult to inventory wild burros; the number counted by helicopter or at waterholes he felt was conservative. Range conditions in some areas revealed that there were too many animals. Increasing numbers of wild horses, especially in the Susanville District, were causing additional range problems.

The next item of business was the presentations to the Board by the following individuals:

Dr. Thad Box, Board member
Dr. Robert Ohmart, Arizona State University (two presentations)
Lou Boll, Bakersfield District Manager, BLM
Tilly Barling, Natural Resources Specialist, Naval Weapons Center
Jim Deforge, representing himself
Dick Weaver, California Department of Fish and Game
Dr. Milford Fletcher, Bandelier National Monument
DeLoyd Satterthwaite, representing the National Wool Growers Association, the American National Cattlemen's Association, the Public Lands Council, and the Nevada Wool Growers Association
Lewis E. Carpenter, Sportsmen's Council of Central California
Bud Wiedeman, Society for the Conservation of Bighorn Sheep, and representing Dr. Loren L. Lutz and Donald M. Swarthout
Mary DeDecker, representing California Native Plants Society, Southern California Botanists, and California Natural Area Coordinating Council
Walter B. Powell, California Wildlife Federation and Southern Council of Conservation Clubs
Miriam Romero, Representing Dr. Richard Vogl, Chairman of the Division of Biology at California State University in Los Angeles; Patricia Nelson of Tujunga, California; and on her own behalf.
James B. Thompson, Superintendent of Death Valley National Monument
Pete Sanchez, Death Valley National Monument
Jim Englebright, Wild Horse Specialist, BLM, Salmon District Office
Belton Mouras, Jr., Animal Protection Institute
Peter Burk, Sierra Club
Lyle Gaston, representing himself
Pat Smith, American Horse Protection Association; Mr. and Mrs. Howard Green
Mary Ann Henry, representing herself
Dr. William Blackmore, California State Veterinary Association
Bill Reavley, National Wildlife Federation and California Natural Resources Federation
Dell O. Clark, California Department of Food and Agriculture
Homer Harrison, Sportsmen's Council of Central California

The above presentations can be found in the Appendix.

Joyce Burk stressed the people of Los Angeles do not understand the fragility of the desert. There is a need to educate people to the fact that the desert does not respond or recover quickly from damage. The problems the desert can incur from overuse must be shown to people, especially in urban areas.

Shirly Moncsko spoke on behalf of Charlotte Gould who wanted humane methods of rounding up horses and burros to take precedence over economic factors. The most economical method might not be the most humane way to capture excess animals.

Dean Slaughter of the Desert Protective Council stated that many animal protection associations would not kill a single animal to save the range. We must consider the fact that BLM is accused by many conservation groups as being owned by the commercial interests. Burro reduction can be brought home on a purely ecological basis. He suggested that the Advisory Board and agencies heavily involve the conservation organizations in efforts of publicity.

This concluded the statements presented by individuals from the audience.

The Board also received a letter from Dana Allison of the American Donkey and Mule Society, Inc., which is included in the Appendix.

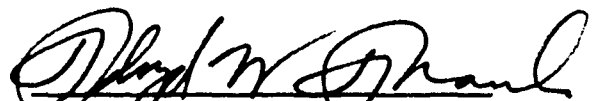
One member of the Board suggested that in view of the pending Supreme Court decision, some definite planning should be done in case the Act is declared unconstitutional. If the Act is declared unconstitutional, the Federal Government and the States have a great opportunity to get together and manage wild horses or burros under the laws we do have.

The next meeting will be handled by the Forest Service and is tentatively scheduled for Oregon. The Chairman thanked the people attending the meeting and said public support was needed for the positions expressed at the meeting.

I certify that I attended the proceedings of the National Advisory Board for Wild Free-Roaming Horses and Burros herein reported, and that this is an accurate summary of the matters discussed and the recommendations made.

3-13-76

(Date)


Floyd C. Frank, Chairman

**THE ECOLOGICAL IMPACT OF WILD HORSES ON THE PUBLIC LANDS, BY
DR. THADIS BOX, UTAH STATE UNIVERSITY AND ADVISORY BOARD MEMBER**

Currently, as of May 1, 1975, there are 48,658 horses and 5,183 burros using the public ranges and they are scattered over several States in a number of districts on the public lands and I think it would be somewhat impossible to discuss in detail the site specific nature of the impacts. What I would like to do today is to talk to this population as a population that represents a unique feature in the management of America's public resources. It's unique in that it's the first time that a population of exotics has been protected by law and it is the first time that a population of feral livestock has been protected by law so they are outside of the rules of management that resource managers normally work with in that they are not working with wildlife or wild animals, but really with a feral domestic animal.

This is a population that is increasing rapidly. It has increased at a rate of about 20 percent per year, you get different figures from different populations on the public lands, but as a whole has increased some 122 percent since the Wild Horse and Burro Act went into effect. I do not want to in any way negate or take from the fact that each area is site specific and that the resource manager, in a particular district, has a particular problem to live with, but the data are really those of the individual districts and I do not have them available and will not be speaking to site specific situations. Instead, I will discuss what happens to a plant community when an exotic is introduced or when one is released from a relatively stable situation. I'll talk some about the characteristics of domestic animals, some about the characteristics of horses, and characteristics of uncontrolled domestic or feral populations.

At the risk of being somewhat pedantic, I would like to briefly review primary succession or the evolution of plant and animal communities. Any time that a community develops, it develops slowly through time, under control of climate, the geological materials, and the organisms available to modify that. It may take literally centuries for a plant community to develop and at each stage in its development there is a balance set up between the animals eating the vegetation--the vegetation using the soils.

So, we get a balance between plants, soils, and the animals using them. Plant communities, indeed, many times are the result of the large herbivores that eat these plants and you get succession moving from one direction to the other depending upon the diets of the animals eating the plants and the particular plant communities.

Now, this is a nice theory in ecology. We have a lot of documented cases where plant communities have developed under grazing pressures of the bison in North America or 20 or so large ungulates in Africa, but it has little use to the resource manager today because usually the resource manager is working with a situation that is much more volatile and much more direct. He is working with a community that may have been relatively stable with only the ups and downs of native animal populations. He's working with a community that has the impact of an introduced exotic and that exotic, in the beginning, was usually domestic livestock and the animal that we're dealing with today is a feral member of that introduced exotic. So, the problem of the resource manager today is different from that of dealing with a wildlife population.

There are some very definite changes that occur when an exotic is introduced or when an exotic population is allowed to increase very rapidly in a short period of time such as has happened with the wild horse population in the United States. The first thing is that plant communities change in an orderly way when they are grazed. The particular preferred plants of the grazing animal tend to lose vigor, little growth takes place, and reproduction is lowered. Plants decline in population and the animals then change their diets to a less preferred plant and the whole process starts over again. The animals start with the plants that they most prefer then they go to the next preferred plant, and so on. There are some distinct differences between wild and domestic animals in this category too. In most cases, wild animals do not have the ability to switch from one plant to the other very rapidly. There have been experiments with deer, for instance, where deer and livestock have been put into competition and the livestock changed their food habits, but the deer did not and usually the deer population died off. Even more critical are some of the large ungulates in Africa which eat only a certain part of the plant, a very narrow niche, and if you take that niche away from them the population decreases.

If we look at the characteristic of domestic animals and their relationship to vegetation, it is different from that of the wild animal. For instance, domestic animals are the product of controlled evolution or breeding. They're bred to utilize a wide variety of forages, they're bred to do a wide variety of work. Some experiments with cattle on Texas rangelands, for instance, show that you can take cattle directly off the range where they're eating native plants, put them in a feedlot eating 9 pounds of concentrate a day for 6 weeks, and put them back on the range with very little adverse effects to the animals themselves. Those of you who own horses know that you can switch them rather rapidly from one plant to the other or one food to the other. As I pointed out earlier, native animals cannot shift as rapidly and, therefore, usually lose out in a competitive arrangement with a domestic animal. Domestic animals usually outcompete because they have a wider range necessary for survival.

Now, if we look at the domestic animal that we're considering today, the horse, they have some particular situations that make them adapted to the Western public lands. The horse has a jaw and tooth morphology that allows them to graze very close to the ground. A horse can graze as close as a sheep; he has two teeth, one in the top and one in the bottom, that allow him to nip things very closely. They have an evolutionary build to them that allows close grazing, they have feet that concentrate large amounts of pressure in a very small area as far as the weight to hoof ratio, they have a caecum that allows them to ferment rough forages, and abilities that allow them to paw through snow and other obstacles to get to the forage. If you add to these morphological characteristics the ability to switch forages that I mentioned earlier and an animal that's large enough to resist most of the predators on the range combined, they represent a harvesting organism with the potential for destroying the habitat exceeded only, perhaps, by the donkey, which will be discussed later. What I'm saying is this harvesting machine, the horse, has the destructive potential that is probably exceeded by no other domestic animal, sheep and goats included.

The consequences of uncontrolled populations are well known in biological circles to the managers themselves. If you get a controlled population, as it reaches carrying capacity, then the carrying capacity is not reduced at all. You may get some fluctuations around a carrying capacity as you reach the upper level of the population, but you're able to maintain the basic carrying

capacity of the land itself. However, when you get uncontrolled populations, either domestic or wild animals that are allowed to exceed the carrying capacity for any short period of time, the carrying capacity is actually lowered because some plants are killed out and soil erosion takes place so that the basic carrying capacity of the land itself drops and the fluctuations of the animals are much more dramatic. They drop much lower and before the land is able to recover, the cycle is extended out much longer with uncontrolled populations and is much more dramatic.

If we look at the ecological consequences of these uncontrolled feral animals on rangelands, I think that we can predict, in general, some rather drastic changes. Again, I don't want to take away from the site specific nature which you will be hearing about later from different people. The first thing that we can look for, as far as ecological impact where horse grazing is concerned, is a reduction in vigor and destruction of those plants most palatable to horses. We can certainly predict, and see in many cases, a change in plant composition of the range for plants less palatable both to the horse and to other animals as well, and so you get a change in plant composition. You can also predict, if the population is allowed to continue to grow, the removal or crowding out of wild animals, and I mentioned their more narrow niche segregation in the community, they will probably be impacted more than other domestic animals, but eventually you will see a loss of other domestic animals from the range and finally, soil loss, watershed deterioration, and eventual die off of the exotic animals themselves, in this case the horse. We could end up with a permanently lowered carrying capacity of the Western range, eventual die off of large herds of horses themselves, and loss of both the wild and domestic animals now using much of the public range. This is not a pretty picture, I'm not trying to scare anybody. The steps may vary from one place to the other, but in the end, what I'm trying to point out, in the end the horse has the ability, both from an evolutionary standpoint and a practical management standpoint, of doing himself in and doing the range in that he is using.

The ecological effects of the horse now on the Western range varies. It varies greatly because in some areas where populations are approaching or have, indeed, increased past the carrying capacity, this rather bleak situation that I have described is already occurring and in others it may not be discernable, and if there are adequate amounts of their more palatable plants, you see no real change except a great increase of horses.

There is an argument going on in the scientific community the world over dealing with "to manage or not to manage," "to control or not to control." This is going on in Yellowstone National Park with elk, it's going on in a national park in Kenya with elephants, it's going on the world over and you can find very reputable biologists on both sides of this argument. It depends upon what philosophical stance you take. But the point that I want to make is that even though you have this argument with native animals, this same argument does not apply to a feral exotic population as we have seen with the goat in Hawaii, with the feral hog in the Southeastern United States, and with the feral donkey and camel in Australia; the chances of habitat destruction and severe soil deterioration are much greater with a feral domestic animal than it is with a wild animal.

THE ECOLOGICAL IMPACT OF WILD BURROS ON THE PUBLIC LANDS, BY
DR. ROBERT OHMART, ARIZONA STATE UNIVERSITY

I might preface my talk by saying that Dr. Hungerford was unable to make this appearance due to his wife's illness and the observations that I will be talking about today are solely my own observations and those of my biologists that work for me and they do not represent what Dr. Hungerford might have said. I really have no idea what he might have presented at this meeting because I was unable to get an outline of his presentation. These remarks that I will be making today are based solely on our observations and research information that we have obtained in the last 2 years since we have been working under contract with the Bureau of Land Management on looking at wild burro populations. Also, some of my observations will come from national park lands where I have a biologist doing work on Bandelier National Monument.

Dr. Box has covered a little bit of the information that I had planned to discuss, but my observations or the observations that I will be talking about today are based primarily on three areas of national resource lands--southeastern California, the Chemehuevi Mountains in particular; Arizona, the Bill Williams Mountains, the Kofa Game Range, and various other areas in the State where burros occur; then in New Mexico in Bandelier National Monument where we have a little bit of information at present but certainly not enough to make any concrete statements.

Philosophically, then, any large herbivore on an area is going to consume quite a bit of herbage or quite a bit of herbaceous material on a daily basis. There's simply no way you can get around this fact. If primary net productivity, in other words, if material that's present out there is limited, then the carrying capacity of these large herbivores will probably be reached relatively quickly if reproductive capabilities and other environmental pressures on the population are not severely restricting the population itself.

The animal we're talking about today does primarily inhabit, except for Bandelier, areas which have low primary productivity. In other words, the plant production part in these environments is very low. The burro is interesting from the standpoint that we see it in the fact that it appears that even though it is in an area of low primary productivity, the populations are continuing to grow which means that probably and undoubtedly more of the material that's

being harvested by these animals on an annual basis is more material than is being produced on an annual basis which means there is only one source for this material and that's material that has been stored over the many years those plants have been growing in the desert. I have some slides in a few minutes and I can show you some specific examples. Dr. Box talked in generalities, I want to talk in some specific areas where we're seeing some of these kinds of impacts and point out to you where these are occurring.

I have yet to see an ultraextreme case of overutilization. What I mean by ultraextreme would be total elimination of the plant community. I have seen one area in the Bill Williams Mountains near Alamo Lake where paloverdes were highlined a few years ago and chollas are in the process of being highlined today. Any time you get cholla cactus being highlined you're obviously utilizing much more of that plant community than that plant community can eventually afford which means that vigor of these plants is going to be reduced. You're going to see major modification of natural ecosystems or desert ecosystems--whether they're natural or not, one can argue about that. We are, in the near future, going to see major alterations of the ecosystems. Burro populations are so dense in this area that it's one of the few areas that I know of where a burro has actually bitten a Park visitor, This is in the Alamo State Park. The animals are conditioned to human interactions in this area and raid the garbage cans and this kind of thing.

About 3 weeks ago we collected two animals from this area as part of our research efforts in looking at wild burro populations and our necropsy, which took a little over 5 hours for each of the animals, revealed that both the jenny, about 5 or 6 years old, and her colt, about 4 weeks old, were in excellent condition. We did a necropsy on each of the animals. We opened all of the major arteries and veins of the jenny and of the colt, obviously the colt was so young that you would expect a very healthy animal, but the jenny had no indication of sclerotic deposits in any of the major arteries and veins. All of the organ systems in the body were in excellent condition, here, again, indicating that these animals are still surviving and doing quite well off the stored resources in this desert environment. Three other jennies observed in the area all had foals, again indicating that energy for maintenance of the animal alone plus reproductive energy is still available in that environment, which means that they are still harvesting large portions of that environment that were stored over a number of years' buildup.

Obviously, if one looks at this environment it's quite altered and there may well be major alterations in native species' populations, obviously both plant and animal. This was historic range of desert bighorn sheep. There have not been desert bighorns in there during our study so there is no potential problems with bighorns at present in this particular area around the Alamo Lake of the Bill Williams.

Over the areas we are talking about today, we are observing between 20 and 25 percent increase in burro populations between 13 and 18 months. I talk of 13 and 18 months as opposed to an annual cycle because burros do not reproduce greater than 20-25 percent in an annual cycle because the gestation period is 12 months. There's a month that occurs before postpartum estrous is undertaken by the jenny, so the colt has to be at least 4 weeks old before she will rebreed and, in general, every jenny that we've observed will rebreed within 13 to 18 months which is only 1 to 5 months after parturition. It is not uncommon to see a jenny with a 6- to 8-week-old colt or maybe even a 12-week-old colt beside her, pregnant, and even having a three-quarter grown animal in company which is a previous foal also. We see jennies maturing at a year of age. They usually are bred by the time they're 1 year old, which means they will drop their first foal when they're 2 and every 13 to 18 months after that they will drop another foal, again implying and indicating the tremendous reproductive capabilities of these animals. In spite of the fact that primary productivity is not adequate to support them, they're still utilizing stored materials that were laid down there in years past and some of these may be many years past because of the erraticness of rainfall in the environments that we are talking about. Here, again, I exclude Bandelier which is a very highly productive area compared to desert situations. Bandelier is a pinon-juniper community and not desert habitat as we see in Arizona.

In this Alamo population, they're still reproducing at a high rate, they are certainly altering the plant community, and they are living off of stored resources.

In the Chemehuevi Mountains in California, we have a herd of burros in there of approximately 70 to 80 animals and these animals do not appear to be modifying the desert community at this time to any great degree. We still see reproduction going on in plant communities. We see young paloverdes coming in, we see burrobush (*Ambrosia*

dumosa) being beaten down at some places, but there are still young plants coming in, there are still some plants that are not being altered, but reproduction in burros is continuing at 20 to 25 percent which implies to us that it's not going to be long before we're going to see this destruction of vegetation unless some control is initiated fairly soon. Here, again, we're talking about historical bighorn sheep sites. They were in there but they're gone now. We saw two when we initiated our study in that area but it may well be that burros have eliminated them. It's circumstantial evidence. I have no evidence to indicate that burros and sheep are actively competing with one another. I say we have no definitive evidence. We have some good evidence to indicate that they are utilizing similar resources which we will look at this afternoon.

The Chemehuevi area is one where we feel that major modification of these plant communities has not begun to be apparent.

In the Bill Williams Mountains, which is another area I'm talking about, we are seeing major modifications of plant communities.

SLIDES

To familiarize you with the area that we will be talking about, you can see Topok in the upper lefthand corner, the Chemehuevi Mountains just below that, Trampas Wash, which is an area that we have about 2 years of data from on the California side, then if we drop south to Lake Havasu City down into the Aubrey Hills, and down in the righthand corner you can see the Bill Williams Mountains. Unfortunately, Alamo Lake, the area that I'm talking about, is not included on this map but it would be on down the Bill Williams River and Alamo Dam and Alamo Lake, so really we'll be talking about this area and another area just a little further south and east. We have surveyed this entire area from approximately Topok south to the Bill Williams River where the Bill Williams and the Colorado River confluence occurs. It is approximately 500 acres of land mass in this area and our burro populations at present are estimated to be between five and seven hundred animals. So, we have at least one animal per section and in the Bill Williams Mountains we have concentrations of approximately seven to ten animals per section at certain times of the year.

Here are some of the animals in the Bill Williams Mountains. You can get some idea of the vegetation. You can see the jenny there that has been color collared. There's approximately 90 plus burros in this area.

Here is a burro working over a paloverde tree. In this particular instance, the burro is clipping the cambium from the limbs themselves. You can see from this shot the kinds of stored materials the animals are taking and this removal of cambium is obviously going to kill these branches that have been clipped in this manner. Also, you can see branches lying around here that have been pulled down.

Here's another picture of an animal working on a tree.

Here's a paloverde tree that's been worked over by burros. We have some in even greater destruction than this where there's simply just the trunk sticking up. The animals have pulled down all of the limbs. You can see that they pull the limbs down and break them off. Paloverdes are simply not adapted for this kind of browsing behavior where great pressure is pulled against these limbs. Paloverde is a brittle tree and simply will not tolerate hard pulling by this exotic large herbivore.

Burros will also eat cholla as you can see by this browsing animal.

The next picture shows you indications where it's removing cholla stems. There's no question burros have a tremendous capability of consuming virtually anything in this environment, from creosote to cholla and the like.

Here's an ocotillo that's been worked on by burros. We have not seen any ocotillo dying from burro utilization. What happens, usually, is a little group of ocotillo stems reappearing--you get a weird physiogamy of the plant after burros have worked on it--but usually a few of the seed stalks do make it up to the point of where you get inflorescences, form, and this kind of result.

Here is a burrobush (*Ambrosia dumosa*) that's been worked over by wild burros. You can see the heavy hedging of this plant. This is one of their favored plant species and, as Dr. Box pointed out, what we refer to frequently as "ice cream" plants in the environment of animals. This is one of their "ice cream" species.

Here are some of the trails that burros are making. This, obviously, is going to have important implications on soil movement, loss of what little, if any, organic material, but certainly heavy soil erosion and this result if you are in areas where heavy rainfalls occur.

Our annual rainfall in this area is about 3 inches a year. Most of this comes in the winter but is very sporadic in its falling. If you told a rancher that he had a wonderful ranch out here with 3 inches a year on it, he would look at you rather askance. The burro can utilize this area very well. He has no problem, at least as we see it thus far, in finding enough energy to provide him with maintenance energy plus reproduction. Obviously the first thing the animal has to take care of is maintenance energy and if there is enough energy left over, then reproduction will go on and it's obviously going on in the burro populations that we are examining.

Here is a trail that's come down a very steep slope and you can see the massive amount of soil that's been removed there to the lower part of the slope. Here, again, if we'd had a lot of rainfall these areas would really be heavily eroded and we'd have small arroyos beginning to form and the like.

END OF SLIDES

As Dr. Box pointed out, there are specific areas that managers are going to have to examine. In some areas we've seen in Arizona, there're detrimental effects underway. In other areas, it appears that the burro population is not drastically affecting the area although, unfortunately, some of our native species are absent from these areas that historically were there. Whether or not the circumstantial evidence can be based on fact remains to be seen.

There are also other animal species that I think we have to be concerned about. Burros were given the opportunity to prefer grasses. This afternoon I will point this out from research data we have. Desert tortoises are dependent upon grass as a species and I think where desert tortoises and burros occur sympatrically, you may well see the elimination of desert tortoises. We're certainly going to see alterations in small mammal populations and large mammals such as bighorn sheep may be eliminated by the presence of the burro in an area. We don't have definitive information yet. We have some good suggestive information on food habits which indicates that this could be a possibility. The definitive data is still lacking in this particular problem.

Burros are certainly having an impact on areas and unless we can get some control on some of these areas their populations are going to drastically alter the native desert ecosystem. This is, then, a philosophical decision. Do we want the ecosystems preserved in their natural form or do we want to allow burros to modify them? This is the management agencies' decision and I think that the data that are coming forth now indicate that burro populations are going to have to be managed, controlled by some means or another to preserve not only the ecosystem but to preserve the burro population itself because it certainly can destroy an area to the point of where its own populations are going to be heavily hit by disease, starvation, and lack of reproduction and reduction in the vigor of the population itself, not only to the point where we would certainly eliminate native wildlife in some of these areas.

**BURROS ON AND ADJACENT TO THE CHINA LAKE NAVAL WEAPONS CENTER, BY
LOU BOLL, BAKERSFIELD DISTRICT MANAGER, BUREAU OF LAND MANAGEMENT**

We have recently completed a first draft of two very important documents which will form the basis for our management of wild burros. Both of these are in the initial review process. One, the environmental assessment, the E.A.R. (environmental analysis record) on impacts of burros on national resource lands, and second, a burro habitat management plan. I'll confine my remarks to the management plan since this will set the stage here in the Bakersfield District for the actions we feel we must take to keep the lid on a potential powder keg.

Let me caution that the hard data for arriving at this first cut management plan is less than precise. It incorporates current and aged information gathered by many individuals in the Bureau of Land Management and it has had the benefit of some general and specific consideration by adjoining agencies. It has not had much public exposure as yet. It will. We will not draft the final plan until we've had public exposure.

You've been provided with some handout material which is some excerpts from the draft management plan, the top sheet of which is a map of Inyo County. Our burro population exists in Inyo County only and on this map we have identified 12 management areas which are the areas and habitats that we feel certain were inhabited by burros in 1971. The second page has our estimates of existing burro populations, a total of 820 full-time resident burros with another 835 migrating from other ownerships to national resource lands for at least part of the year. The last page of the handout material tabulates the areas we feel comprise the herd areas by various ownerships. A quick calculation reveals that we have about one burro per two sections of national resource lands or, if we figure the migrants, one burro per section.

I can almost hear the wheels buzzing, how can one burro or two burros per section constitute a problem? I'm sure that all of you realize that these herd areas are the maximum extent possible inhabited by burros whereas the problem manifests itself at critical times of the year in critical areas, namely, around and within 1 mile of water during the hot, dry summer months. Data indicates

that approximately 85 to 90 percent of burro use during July, August, and September occurs within this 1-mile radius of water. Our files are replete with photographic evidence of the type of destruction that you have already seen some slides on and you'll see more of these concentrations of burros near and around water. You'll see some more of it tomorrow.

The other two pages are brief management recommendations for each of the 12 herd units. For the sake of brevity, I will quickly touch on four areas we consider to be the problem areas.

Number one is the area from Trona north to Water Canyon. On the map, it's herd unit number 5. Here, we recommend reducing burro numbers by 50 percent on both Navy and national resource lands and not authorizing further domestic livestock use in the area.

The second area, Hunter Mountain-South Saline Valley area, herd area number 10, we recommend reducing burro populations by 40 percent and maintaining cattle use at present levels or less.

The third area, Waucoba Wash-Jackass Flats-Marble Canyon area, herd area number 11, we recommend reducing burro numbers by 40 percent and maintaining cattle use at present levels or less.

Four, the Sand Spring-Last Chance area, herd unit number 12, reduce burro populations by 50 percent and, for monitoring purposes, requiring ear tags on all of the livestock using the area so we have a handle some day of who's eating what.

These are the four of the most critical areas of the largest recommended reductions, 40 and 50 percent. Our initial management ideas are predicated on the premise that healthy herds and healthy habitats must be maintained during this most stressful period of the year. We, therefore, feel that the areas within 1 mile of water must be managed accordingly. This is the critical, suitable burro range and the burros must be managed to achieve a healthy habitat within this area.

A short dissertation is probably in order on how we propose to make these suggested reductions in existing numbers. We will begin with water trapping where we can set up the necessary facilities. Captured animals will be impounded and offered to the public under

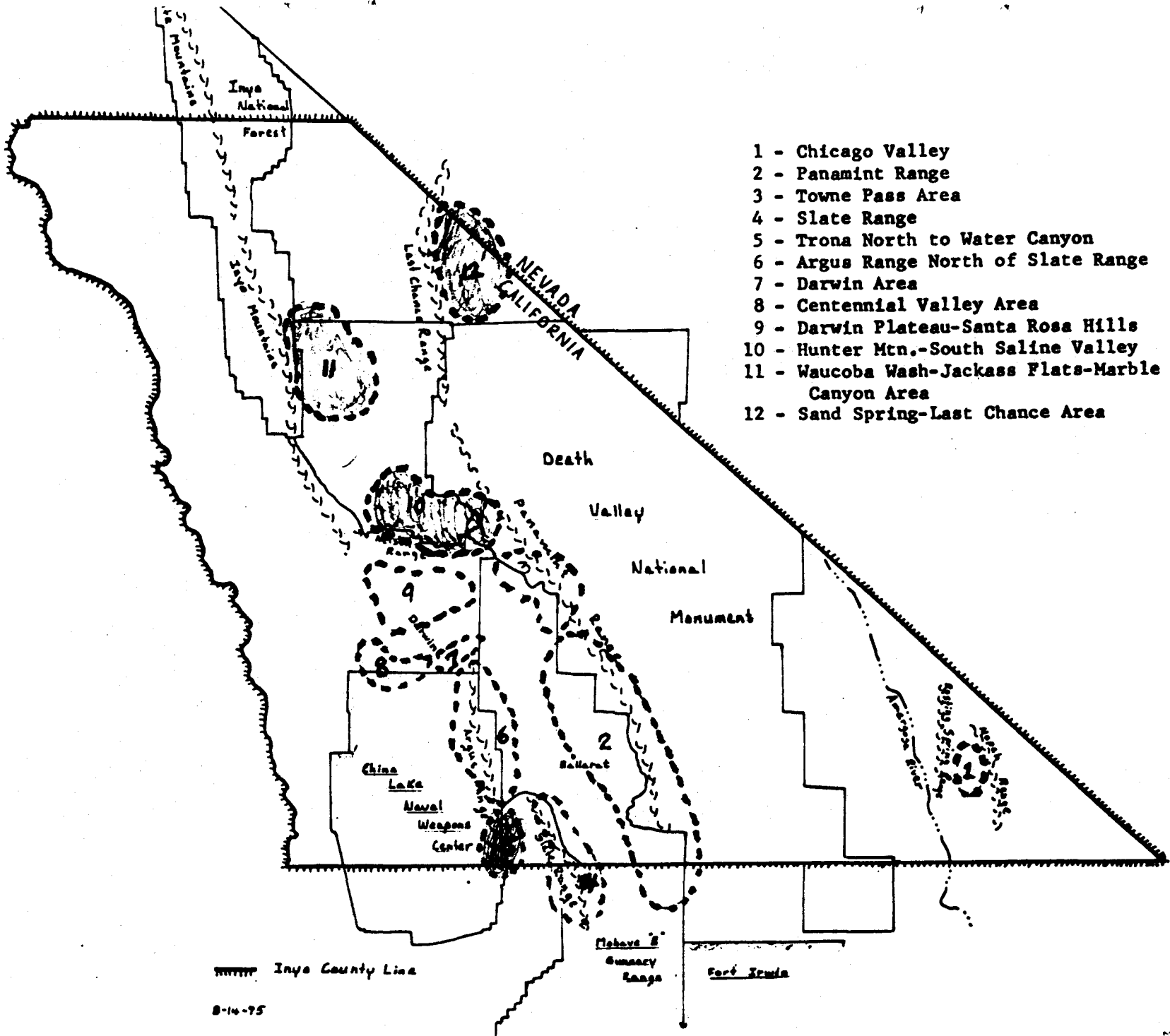
proper procedures and with the required strings attached. Where no water trapping opportunities exist, and I'm not certain none do, we will have to reduce by direct methods, including shooting. Tranquilizing methods may also be possible where we can get the equipment in to transport the drugged animals out. I would be less than honest if I didn't think we would have to shoot some burros. I can guarantee that we will be selective, keeping in mind the objective of maintaining a healthy herd.

I'll close by saying that the plan that we've put together so far is probably not as precise as many would hope. I would also submit that the science of range or habitat management is also not precise except under the best of controlled conditions. In managing wild land habitat inhabited by wild burros, which we all know are next to impossible to count, we must finally arrive at that ideal management situation, not by collection of tons of data, but by taking initial action coupled with well designed trend studies which will show us which direction we're headed and then following up with subsequent action.

TABLE 2: HERD MANAGEMENT AREAS

No.	AREA Location	ESTIMATED NUMBER (NRL)	
		Resident	Migratory
1.	Chicago Valley	5	0
2.	Panamint Range	150	300
3.	Towne Pass Area	50	75
4.	Slate Range	100	75
5.	Trona North to Water Canyon	100	80
6.	Argus Range North of Slate Range	75	50
7.	Darwin Area	20	0
8.	Centennial Valley Area	15	25
9.	Darwin Plateau-Santa Rosa Hills	15	0
10.	Hunter Mtn. - South Saline Valley	100	100
11.	Waucoba Wash - Jackass Flats- Marble Canyon Area	140	95
12.	Sand Spring - Last Chance Area	50	35
		820	835

NOTE: The above numbers do not necessarily indicate total numbers within the Herd Management Area since part of the acreage administered by another agency may have resident burros that do not migrate onto BLM administered land. However, the sum of the resident and migratory numbers would indicate the approximate maximum burros that could be found on NRL at any one time.



- 1 - Chicago Valley
- 2 - Panamint Range
- 3 - Towne Pass Area
- 4 - Slate Range
- 5 - Trona North to Water Canyon
- 6 - Argus Range North of Slate Range
- 7 - Darwin Area
- 8 - Centennial Valley Area
- 9 - Darwin Plateau-Santa Rosa Hills
- 10 - Hunter Mtn.-South Saline Valley
- 11 - Waucoba Wash-Jackass Flats-Marble Canyon Area
- 12 - Sand Spring-Last Chance Area

INTERIM BURRO MANAGEMENT PLAN

1. Flat recommendations on all herd management areas.

1. Coordinate with other agencies where necessary.
2. Install photo trend plots to monitor use.

2. Problem Areas

#5 Trona North to Water Canyon

Recommend:

- A. Do not authorize further domestic livestock use in the area.
- B. Reduce numbers by 50% on both Navy land and NRL.

#10 Hunter Mtn.-South Saline Valley

Recommend:

- A. Require ear tags on Roy Hunter's cattle to facilitate monitoring use.
- B. Reduce burro population by at least 50%

#11 Waucoba Wash-Jackass Flats-Marble Canyon Area

Recommend:

- A. Reduce burro numbers by 40%
- B. Maintain cattle use at present levels or less.

#12 Sand Spring-Last Chance Area

- A. Reduce burro #s by 50%
- B. Require ear tags on Henry Howison's cattle to facilitate monitoring.
- C. Periodically check flow at Little Sand Spring, correlate with precipitation records at Death Valley.

3. Less Crucial Management Areas

#1 Chicago Valley Herd

- A. Do not allow burro population to increase beyond 10 head

#2 Panamint Range

- A. Reduce resident burro numbers by 50% on NRL. If the remaining burros migrate to DVNM then further reduction may be necessary since DV's policy disallows introduced species.

#3 Towne Pass Herd

- A. Do not allow herd to increase above est. 50 present on NRL as of August 1975. If resident burros migrate to the Monument, then reduction may be necessary.

#4 Slate Range Herd

- A. Reduce numbers by 30% on NRL

#6 Argus Range

- A. Maintain population at present numbers or less.

#7 Darwin Herd

- A. Do not allow burro numbers to increase beyond the present (August 1975) population of est. 20.

#8 Centennial Valley Herd

- A. Reduce numbers to maximum of 10 burros
- B. Monitor Thornburgh's livestock, and if necessary make reductions to allow for a burro herd.

#9 Darwin Plateau Herd

- A. Maintain burro population at 15.
- B. Develop water for better animal distribution

August 29, 1975

TABLE 1: LAND STATUS BY HERD MANAGEMENT AREA

UNIT		ACREAGE BY STATUS					TOTAL
NO.	NAME	NRL	NWC	DVNM	FS	P/or S.	
1.	Chicago Valley	22,000				3,200	25,200
2.	Panamint Range	271,500	46,000	157,000		2,400	476,900
3.	Towne Pass Area	33,000		54,000			87,000
4.	Slate Range	27,000	35,000				62,000
5.	Trona North to Water Canyon	30,000	20,000			2,100	52,100
6.	Argus Range North of Slate Range	58,000	20,000			2,500	80,500
7.	Darwin Area	40,000				760	40,760
8.	Centennial Valley Area	23,000	4,000			800	27,800
9.	Darwin Plateau Santa Rosa Hills	72,000				1,120	73,120
10.	Hunter Mtn.-South Saline Valley	62,000		10,000		960	72,960
11.	Waucoba Wash-Jackass Flats-Marble Canyon Area	238,000			30,000	6,660	274,660
12.	Sand Spring-Last Chance Area	Calif.- 39,000 Nev. - 14,000				700	53,700
TOTALS		929,500	125,000	221,000	30,000	21,200	1,326,700

NOTE: The acreage figures were calculated by using a dot grid.

NRL = National Resource Land
 NWC = Naval Weapons Center Land
 DVNM = Death Valley National Monument Land.
 FS = Forest Service Land
 P or S = Private or State Land

BURROS ON AND ADJACENT TO THE CHINA LAKE NAVAL WEAPONS CENTER, BY
MRS. TILLY BARLING, NATURAL RESOURCES SPECIALIST, CHINA LAKE NAVAL
WEAPONS CENTER

Here on the Naval Weapons Center, we are aware of our regional position with respect to the public lands, the national resource lands, and to lands of the Death Valley National Monument. Also, we have a fairly close relationship in space with two of the national forests. However, fortunately at the present time, these particular portions of the forests do not have a burro problem.

SLIDES

Let me orient you as to where we are right now. Those of you who came in by air last night may feel a little lost, like you're out in the middle of the Gobi Desert. You're really not, you're right here at China Lake. We are about 90 miles north of Mojave, about 125 miles north and east of Los Angeles, and about 125 miles north-east of Bakersfield.

The Naval Weapons Center has two land areas--the China Lake Range complex, a connecting road, and our Randsburg Wash-Mojave B complexes. These are on the Mojave Desert with some Great Basin enclosures in the northern portion. As you can see, other than down here and in the large playa that's called China Lake, we are a mountainous area. Average elevations in this area are above 5,000 feet. Over here we're a little lower--average elevation runs between about 1,400 and up as high as 5,500 here in the Slate Range.

This is Panamint Valley which is Bureau of Land Management, and then a few public lands, and over here within a mile of our border lies Death Valley National Monument.

This is why we feel we have a regional management problem rather than one that is dependent on local jurisdictions.

This is our general location of the Mojave Desert in relation to the major desert systems of Southwestern North America. The desert is a place of great variety, much of it is very austere, much of it is very dry. It was not always so. Not always did we have the

sand dunes drifting toward the bottom of the dry lakes or these great playas which have dried out over a period of probably about a million years. We are a part of a large system of drainages that existed in the Pleistocene era and were the result of a very different climate and the result of glaciation in the Sierra-Nevadas and even earlier this area drained to the west rather than draining to the east. At the present time, the drainage of this particular system is toward the east, toward Death Valley National Monument which was the termination of a chain of lakes. I'm not showing these slides to you to give you a lesson in geology, I'm showing them to you to give you an appreciation of the type of evolution that has determined the flora and the fauna of these desert areas of ours and why they cannot tolerate the intrusion of exotic species that did not evolve in these systems.

Much of the desert vegetation is very sparse and very dry. Some of it is dead and some of it is quite primitive. We have on the Weapons Center three major vegetative communities that are occupied by burros--the creosotebush scrub, the joshua tree woodland area, and in the higher elevations the pinon-juniper complexes. A lot of these shrubs take a long time to grow in this desert environment. Our average precipitation here at the China Lake Base is less than 3 inches a year. Other areas in the range in the higher elevations probably go as high as 9 inches a year and we have some areas which probably receive less than an inch a year. This gives you an idea of the length of time it takes a common sagebrush to develop--one from a moister climate and one from a much drier climate.

This is one of the problems in imposing an additional biotic entity on the desert vegetative systems. The production is simply not there.

This cliffrose is a pretty dramatic example of a plant more than 200 years old. A fairly common shrub in the higher elevations. If you think for a minute what's happened in the world during those years, it gives you some idea of the length of time it took that shrub to develop and mature.

There's 50 years of growth rings.

It is for this reason that we feel that we have a problem with the exotic species that exist on our lands. At the present time the feral horses are not a management problem. The population is very stable. The areas that they inhabit are fairly restricted, they seldom come down below 4,000 feet on our ranges. We have about 200 head. However, we do have imposed upon this very tight cycle of systems within the Mojave Desert a population of feral burros. The population on the Naval Weapons Center at the present time is almost a thousand animals. They are split between our two areas and I'll point out some of the differences in the populations as we go along.

I don't mean to give you a lesson in ecology, I simply want to remind you that there are certain essential facts in relation to the existence of any species on the desert that one cannot ignore if we are going to have the diversity of wildlife and the diversity of vegetation that the desert can support as it has evolved.

Atmosphere is very important to all life, of course. Living space is another and in the desert where the shrubs are few, the competition for shelter and nesting spaces is very keen between some species. And food, probably, is the highest level of competition that these native desert species undertake in order to make a living.

We have the delicate balance and we have four factors we must consider if we are going to be managers. We must look at the producers, we must look at the consumers. We look at the variables that can affect this and there's one sure thing you can say about the climate of this upper Mojave Desert, it is erratic. We may have 3 years with less than an inch of rainfall per year, then we may have 9 inches the following year and the natural ecosystems seem to be geared to keep up with this provided they are not interfered with by human uses, with the introduction of exotic species, or the invasive pollutants that seem to be spreading out further and further from the urban areas.

The desert, when it is in full production, is quite a beautiful place. I wish this were the time and opportunity to show you some of the beauties of the desert and some of the flowers it produces in the spring. But they're important not only because they please our aesthetic senses, but they are important because they are the very basis of the life chain. They provide the green plant material on which young birds and animals must feed and they provide the seeds on which other species must feed.

We get some of our precipitation in the form of snow in the higher elevations. We get about two snow storms a year up above 5,000 feet. A great deal of our precipitation comes from summer thunder showers--some pass over and some land on us and when they do we have a little moisture in dry washes that is eagerly used by a whole variety of wild and feral animals.

People lived in this desert for a long, long time. The archaeologists are pushing the threshold of human occupation here as far back as 10,000 years or more. And they left us some records of the game and the animals they themselves sought or considered important to their way of life. The desert bighorn sheep appears almost invariably in all of the large petroglyph displays. And they also knew the predators such as the mountain lion. But the sheep again and again indicate to us that this was a very important animal to the economy of the early peoples who inhabited these desert lands. This is true not only of this area, this is true of almost all of the areas in southern California and Nevada where this rock art is found.

What's happening here and what has happened? About 1860 the miners started coming down through the highlands of the Cosos and the Argus Mountains. They were prospecting for gold and silver. They were seeking to make a living out West and they brought with them a style of architecture which we treasure as a historical resource, and they brought with them some livestock. And when they left, they didn't take their livestock with them. Many of these animals, probably, ran away from their keepers, were turned loose, or abandoned. It is also recorded that in several areas where the charcoal industry was thriving, in order to support the mineral industry in Darwin and some of the larger mining towns, that there actually were farms where burros were raised in order to supply the trains for the charcoalers to transport the material from the charcoal camps into the mining towns.

The burro is a clever animal, the burro is a durable animal, the burro is a resourceful animal. He is also a very intelligent animal. One of the problems here on the Mojave Desert is that the burro has been too successful for its own good and for the good of the rest of the biotic community. We have them in great numbers here on the north ranges, the China Lake ranges. We probably have in the neighborhood of 450 at some time of the year. They wander back and forth between the Argus Range and portions of the Panamint Valley.

The Slate Range is an extremely arid range. Springs and water sources are almost nonexistent. There are two water sources, two springs, that are 12 airline miles apart in this area. The next nearest water is some 20-22 miles. This area supports about 400 burros. Let me show you a little bit of what has happened here.

This is one of the waterholes. Peak production--2 gallons. Here's the other one and it's very likely to be dry in July or September. Here's what happens when the animals concentrate on the waterholes.

This is in the vicinity of Amity Spring, the first waterhole that I showed you. Every hill that you fly over or look at in that area within about 12 miles of those waterholes shows this kind of trailing, and the trailings run between the waterholes as well as both sides of them. I often tell visitors that if they know desert vegetation at all, they just sort of follow it on a downward size and they can find water if they are in burro country.

I could go on and on with these kinds of slides for an hour and not repeat myself on the locations where they were taken.

What's happening out there? This is the type of vegetation that we are finding as far as 2-3 miles out from the water sources. We performed a study here under contract several years ago and we found damage to the forage plants as far as 7 miles out from the waterholes, some plants completely missing from the system.

Here, again, the burros are reduced to eating creosote during dry years when vegetative production is down. This year they seem to be eating mostly on cheesebush. Browsing on creosotebush is occurring in some areas because we did not have a good production year for vegetation.

Another nice habit the burros have when they are not eating the plants is wallowing and trampling them. They're great loungers. We have a very hot climate during the summertime--temperatures go up around 114, 115. The burros shade up in the canyons during the heat of the day and they mill around and trample. You see here some old atriplex bushes that are in an area where the burros simply hang out in order to cool themselves during our hot summers and this is what's happening to the vegetation there. It is destroying, of course, cover and food material for native rodents, it's destroying nesting sites for native birds. It's a pretty sad picture.

Here's one of their wallows. They roll continuously in the dust, particularly in the hot weather in order to remove external parasites from their hides.

Again, an aerial view of the vicinity right around Amity Spring.

Burros don't exist in small batches out here. They gang together. We see as many as 25-30 in a single bunch. There doesn't seem to be any particular pattern to the numbers we see together. We may see one or we may see 40 in the same area.

Here's a picture of a burro coming up to visitors seeking a handout. This is the kind of problem the National Park Service is having along the roads in Death Valley National Monument. I was on my way to a meeting in Death Valley just a couple of weeks ago and right out on the main highway was a burro that had been hit by a Volkswagen. After sundown, with their dark coloring, these animals are extremely difficult to see and they consider they have the right-of-way once they get on the roadway. Those of you who make the field trip tomorrow may have some of them contest you for the right-of-way going up one of our canyon roads.

Starvation problems are not pretty to look at, particularly when you're looking at managing the entire picture for the benefit of the native animals and also to preserve such burros as the whole ecology can support.

This is what we found in the year 1969 when we made application and attempted to do an intelligent burro reduction program out in the Slate Range area.

We feel that a reduction and management program from firsthand point of humanity is a better way to go than this starvation situation which we are going to inevitably run into as the vegetation, the food material, becomes almost nonexistent for all wildlife and for the feral animals out there.

We have some options. We can look at this. . .

. . . and we can look at this. Burros upon burros upon burros. We even have white ones out there. As a matter of fact, on our north ranges, we even have two mules.

And it's not unusual to see a jenny running with a mare band.

Here's total production of that shrub at the height of the growing season.

Another picture of total production. It doesn't leave much for anybody else since the burro is the largest and the dominant animal out there.

This is the waterhole after the burros have been in there in the morning.

These are our options. The native predator such as the golden eagle which nests in many areas because of the remoteness of our lands and the fact that they are not disturbed.

We have to make up our minds as managers where the tradeoff is going to be.

The prairie falcon is beginning to be a bird in much trouble. We happen to have a fairly good population of them and a number of known active nest sites.

The whole system is disturbed because of the existence of one foreign animal in this land.

Even the rodents. And when the predator-prey relationship becomes disturbed, the ecosystem follows when the habitat is destroyed and the quality of the habitat is reduced to simply barren ground. Then we know we have a lot of trouble and we must do something and we do not have a long time to wait to do it.

This is a desert area that is not used by burros and it's quite a contrast to the barren grounds that I've been showing you.

END SLIDES

This is our story. We feel the problem is a regional one. We feel that only through cooperation with the Bureau of Land Management and the Park Service in this total area can we achieve the type of desert ecology that the area should be and evolved as.

STATEMENT OF JIM DEFORGE, DESERT BIGHORN COUNCIL

The Desert Bighorn Council is made up of a group of professional people for the purpose of promoting the advancement of knowledge concerning the desert bighorn sheep and the long-range welfare of these animals. Ever since the Council's formation in 1954, it has been concerned with the impact which burros are placing on desert ecosystems.

In 1967, the Council passed a resolution pertaining to the burros' threat on wildlife; this resolution was mailed to various State and Federal agencies, including the Department of the Interior. The resolution says in part: "Responsible resource management agencies should effect control on feral burros by every means currently at their command."

In addition, the Council responded to the proposed regulations for the implementation of Public Law 92-195 by letter of April 5, 1973. "Public Law 92-195 is a good and desirable law providing for management as well as preservation. We believe it should be implemented as rapidly as possible and the necessary funds appropriated to achieve these goals. Any delay in implementing the law will be costly to the environment, since burros are seriously damaging the desert ecosystem."

The Council furthermore feels that burros should be completely removed in some portions of their range to protect other biological values. This would also allow for range recovery.

For the Advisory Board's information, I would like to call your attention to a book just published, The Wild Sheep in Modern North America. A workshop was sponsored by the Boone and Crockett Club, the National Audubon Society, and the Wildlife Management Institute in June 1974. The proceedings published in this book are a result of some of the most knowledgeable sheep biologists in North America. They recommend (page 113), "Wild free-roaming burros, horses, and livestock should be removed from desert bighorn habitats."

STATEMENT BY RICHARD WEAVER, CALIFORNIA DEPARTMENT OF FISH AND GAME

California law gives legal status to and provides protection for wild burros. Section 4600 of the Fish and Game Code reads in part that "it is unlawful to kill, wound, capture or have in possession any undomesticated burro." Section 4601 of the Code declares them to be the property of the State of California. These statutes will remain in effect regardless of any Federal Court decision pertaining to Public Law 92-195. Both Federal and State law provide clear mandates that the public wants to preserve the wild burro.

It is the Department's position, presented repeatedly over the years, that burro numbers must be kept at a level where they will not cause further damage to the ecosystem. We have inventoried burros during bighorn sheep investigations and documented problems arising from competition between burros and other wildlife. We contend that State laws on the subject are workable because they contain provisions for the removal of animals by nongovernmental employees, which is prohibited under a 1971 Federal law. Section 4602 of the Fish and Game Code provides that a citizen may obtain a permit from the Department of Food and Agriculture to capture and possess a burro for a pet or beast of burden. Section 4887 of the Code provides that a landowner or tenant may obtain a permit from the Department of Food and Agriculture to kill a burro that is causing damage. We endorse the concept of burro sanctuaries where these animals may be viewed by the public. Outside sanctuaries, burro numbers should be reduced to levels that the range can sustain, and where burros threaten the continued existence of plants and other animals they should be eliminated. Management plans must encompass entire ecological units regardless of jurisdiction and the entire biota, not merely one species.

Burro Statement

The Department is anxious to cooperate with public land management agencies to accomplish plans for burro management. We are ready to discuss and to work out plans for wildlife in sensitive areas.

BURROS IN BANDELIER NATIONAL MONUMENT, BY DR. MILFORD FLETCHER
NATIONAL PARK SERVICE

My comments will be more in the vein of a status report. As many of you know, the National Park Service has substantial burro problems in a number of areas. I might point out that my remarks are not Park Service policy. My comments reflect only the thinking of the Southwest Region of the National Park Service. Any questions or comments will be directed toward that vein, not the national policy which is nonexistent.

A year ago, in December, we filed an environmental assessment with the public and after waiting 60 days and receiving public comment, we went into Bandelier National Monument, an area of some 29,000 acres in north central New Mexico, and we destroyed some 52 burros with rifles. We are now ready to take the second step. We have research ongoing. The research will be finished in June. We intend to file a complete environmental impact statement in late summer, in July or August. We will then receive public comment on the environmental impact statement and, depending on the public comment, we will then take further management actions to reduce the impact on these feral animals on a rather fragile environment.

We are very, very serious in trying to manage these lands in accord with our 1916 Organic Act, the mandate under which the Service operates. We are not in the livestock business, we are in the archaeology business at Bandelier. We don't feel that that Monument can sustain or should have any substantial population of feral animals. It wouldn't make any difference if it's goats, or elephants, or a gemsbok, or anything. We haven't got anything against burros, it's just any feral animal in that area. Those are our intentions depending on the public input that we get. Our response to date has been very, very good, in our eyes, because the public is literally demanding that we do something about this problem.

We're losing up to 70,000 pounds of soil per acre per year. There are renewable resources and there are nonrenewable resources and the soil is a completely, totally nonrenewable resource. Once it's gone, you're out of business for a thousand years. We can't take that kind of damage.

Since between late February and September, we've had 28 births out of a population we thought was 130. We thought we had 130 animals, we shot 52 of them, we've had 28 births in 7 months, and that population, those 52 we shot, will be replaced by next summer.

JOINT STATEMENT
of the
NATIONAL WOOL GROWERS ASSOCIATION
and
NEVADA WOOL GROWERS ASSOCIATION
and the
PUBLIC LANDS COUNCIL
BEFORE THE

NATIONAL ADVISORY BOARD FOR WILD
FREE-ROAMING HORSES AND BURROS

at

CHINA LAKE, CALIF.

by

DELOYD SATTERTHWAITE
VICE PRESIDENT
of
NATIONAL WOOL GROWERS ASSOCIATION

**WILD HORSE FORUM
CHINA LAKE, CALIFORNIA**

Today I represent the National Wool Grower Association, the Public Lands Council and the Nevada Wool Growers Association, and I appreciate once again the opportunity to testify before this National Advisory Board.

During the past year many important events have happened concerning wild horses and burros. One very important step towards control and management of the horse population was taken in Nevada. This was called the Stone Cabin Valley Gathering Program. The total cost of the program up to October 31, was \$59,142.15, with the largest cost being salaries, and this figure was \$34,255.98. The next figure of \$16,819.03 was the cost after the animals were rounded up. All of these costs are still increasing because of the fact that many of the horses are still being held in the corrals.

There was a total of 230 horses gathered and 112 taken by custodians. This leaves 4 head that were turned back, 12 from death loss, 9 branded and 93 still remaining in B.L.M. care.

So the costs will continue to increase after the horses are gathered. This is where the major expenses are going to be. The expense of capturing the animals is minimal relative to the expense of boarding the animals after capture.

A few of the problems encountered were:

1. To date it has been difficult to find custodians willing to take older studs. This was partly overcome by an intensive publicity drive appealing for custodians for these horses.
2. There has already been an instance of a custodian giving up a wild horse because it cannot be controlled or broken. The BLM anticipates this will occur often because of the inexperience of many of the people in handling wild animals.
3. Many people who arrange to pick up a wild horse do not arrive at the prearranged time and date. Often no notice is given, wasting BLM time and manpower, and due to this fact it is sometimes impossible to have a State Brand Inspector there when he is needed.
4. Well over half the applicants contacted do not accept the opportunity to take custody of a wild horse and many have to

be contacted several times before they reach a decision. A significant number has made definite arrangements to pick up a horse only to decline at the last minute.

5. There has been one instance where a stud has pulled away from his handler and returned to the mountains, but in a different part of the state.

6. BLM regulations require an animal report from custodians certifying their good care of the horses, the animals condition and so on. Suspected or actual violations are impractical to investigate after the horses have been taken over by custodians, especially those going out of state.

These are just a few of the problems confronting the BLM on their attempts to capture and give away the wild horses. The major problem seems to be finding enough people to accept the horses under the conditions prescribed by the law.

The Nevada BLM Director, Mr. Ed Rowland, made the statement that the State of Nevada is in serious trouble. He estimates that 8 to 10,000 horses should come off the range each year. Now, try and find 8 to 10,000 people each year who want to claim a wild horse under the conditions of the present law. In fact, I believe that even if you gave ownership, it would be very difficult to find that many homes for a wild animal.

Mr. Rowland also stated that the Act says, as you very well know, that forage must be provided for them. Eventually, if we do not control the horse population it could wipe out all grazing.

We, as an industry, believe that people that are knowledgeable about horses on the open range will tell you that the most humane way to gather those horses is through the use of helicopter and aircraft. We know from practical experience that it is almost impossible to gather wild horses on horseback. Then it is dependent on a particular season if you use water-trapping.

At this time, through the organizations that I represent, we strongly urge that we quit talking about the problem, which has been talked to death, and support the proposed legislation that will solve the problem. We believe that a strong, unanimous

recommendation from this board supporting the use of helicopter and aircraft for the management and control of wild horses and burros is needed and also for the amendment of the Federal Law to permit a transfer of title to those people willing to take a wild horse or burro.

If this wild horse act is not amended now to give range managers an adequate means of control there is going to be a classic example of a disaster, especially in Nevada where the majority of the horses are.

Surely we as people of this great nation can work together instead of against one another for the benefit of all.

Thank you.



Sportsmen's Council of Central California

REPRESENTING THE COUNTIES OF:

FRESNO - KERN - KINGS - MADERA - MARIPOSA - MERCED - MONTEREY - SAN BENITO - TULARE - STANISLAUS
SAN LUIS OBISPO - SANTA BARBARA - SANTA CRUZ

815 West Gettysburg Avenue,
Fresno, California 93705

2 December 1975

AFFILIATED WITH:
CALIFORNIA WILDLIFE FEDERATION
NATIONAL WILDLIFE FEDERATION

Dr. Floyd W. Frank, Chairman
National Advisory Board for Wild Free-Roaming Horses and Burros
Chairman, Department of Veterinary Science
Idaho University
Moscow, Idaho.

Dear Doctor Frank and Members of the Board:

The Sportsmen's Council of Central California has on many occasions discussed the conflict between native wildlife on our National Resource Lands and the domestic and feral livestock which have been introduced onto these lands.

The native wildlife of the American Deserts had arrived at an equilibrium long before the advent of the white man to North America. With the importation of domestic livestock this balance was severely disrupted and native wildlife suffered great losses in numbers. Many species were forced into, at best, marginal habitats of scanty vegetation and scarce supplies of needed water. The encroachment of the feral burro, a large and aggressive herbivore, has placed another very heavy burden upon the already stressed environment. This disruption of the precarious balance of a natural ecosystem, already in trouble because of domestic livestock has been further disrupted by the importation and protection of an exotic specie. This has further jeopardized the continued existence of many reptiles, birds, rodents and other mammals that have co-existed on these desert lands for eons of time.

Therefore, the Sportsmen's Council of Central California has adopted the position that in order to protect the natural ecosystem of the North American Deserts it is imperative that the numbers of feral burros be reduced to such numbers that they do not jeopardize the present or future existence or well-being of the desert ecosystem and its flora and fauna and may also give this badly used environment an opportunity for improvement.

The Sportsmen's Council of Central California has therefore sought and obtained the assistance of the Honorable G. William Whitehurst of Virginia to introduce into the U.S. Congress, during 1975, the House Resolution H.R. 2935 which will, if enacted, amend Public Law 92-195 and give the management of the feral burro back to the Agencies charged with the management of our National Resource Lands.

H.R. 2935 states, "(a) subsection (a) of section 3 Public Law 92 -195 the Act of December 15, 1971 (16 U.S.C. 1333), is amended by adding "Notwithstanding any other provision of law, the Secretary is authorized to use aircraft and motorized vehicles to provide for the protection, management, and control of wild free-roaming horses and burros, such use to be in accordance with humane procedures prescribed by the Secretary."

--more--

In Unity There Is Strength to Better, Propagate, Conserve, and Harvest Our Fish, Wildlife, and Natural Resources

SPORTSMEN'S COUNCIL OF CENTRAL CALIFORNIA

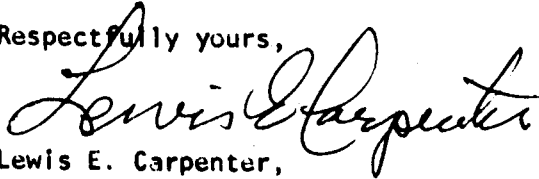
"Section 3 is further amended by adding a new subsection (e), as follows, The Secretary is authorized to sell or donate, without restriction, excess horses or burros to individuals or organizations ." end quote.

The preceding language also appears in Section 313, page 58 of the Subcommittee print of August 13, 1975 of the PUBLIC LAND POLICY AND MANAGEMENT ACT -- print number 2. A copy of this bill was furnished to the Council by the Honorable John Melcher, Chairman of the Subcommittee on Public Lands, Committee on Interior and Insular Affairs, the House of Representatives, 94th Congress, First Session.

The Sportsmen's Council of Central California urges the enactment of the foregoing legislation.

The Sportsmen's Council of Central California further recommends that the initial management efforts of feral burros be directed to those National Resource Lands comprising the Death Valley National Monument; the U.S. Naval Weapons Center at China Lake; and those other National Resource Lands adjacent to and between them.

Respectfully yours,



Lewis E. Carpenter,
Legislative Secretary.

cc: Superintendent, the Death Valley National Monument
Commander, the Naval Weapons Center
Bureau of Land Management,
U.S. Forest Service,
Honorable John Melcher,
Honorable G. William Whitehurst
Congressmen and Senators of California



STATEMENT OF BUD WIEDEMAN
SOCIETY FOR THE CONSERVATION OF BIGHORN SHEEP

Non-Profit Organization
401 North Garfield
Alhambra, California 91801
213-284-5113

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POSITION ON HORSES AND WILD BURROS

The enclosed papers reflect the attitude of the Society regarding horses and burros.

The following propositions should be implemented:

1. Areas of moderate or high native wildlife habitat should have no burros and few horses.
2. Areas of historic sheep range should have no equine populations.
3. Mechanized equipment must be allowed to be used as a management tool.
4. Ownership of animals for work or pleasure should be transferred.
5. The niche occupied by feral animals must not be transferred to domestic stock.
6. Under strict management, areas should be set aside for both wild horses of historic ancestry and burros.
7. State Fish and Game Departments should be the authorities defining wildlife habitats.

BURROS AND BURROCRATS, BY DR. LOREN L. LUTZ, PRESENTED BY BUD WIEDEMAN

The environmental pendulum has swung so far in the wrong direction that it is now a \$2,000.00 offense to harm a burro.

In 1971 the United States Congress passed Public Law 92-195, protecting wild horses and burros on public lands, and making it a Federal offense to harass, capture, kill, sell, or process into any commercial product these animals.

The State of California "led" the way for this kind of legislation. In 1939 it was made illegal to convert burros into pet food. In 1953 and 1955 killing, wounding, capturing and possessing was made illegal for two-year periods. In 1957 this legislation was made permanent.

Burros are hardy, self-sufficient animals which have superior abilities to compete for water and forage in arid regions with other forms of life. They were introduced into the Western deserts by Spaniards exploring the New World, and later by prospectors and sheepherders.

By being such efficient foragers and being able to survive under marginal conditions, burros offer unsurmountable obstacles to native wildlife survival. They put such tremendous pressure on the vegetation that the most desirable forage plants are eliminated, and Bighorn sheep and other mammals and birds such as quail have little left for food. Very few perennial grasses are left in high-density burro population areas.

Burros also cause severe soil problems. In the Granite mountains of San Bernardino County, California, burros have just about destroyed Bighorn Basin with heavy trailing and rolling areas. Soil erosion is quite heavy, vegetation propagation is severely limited in areas of this type. The change in the character of the watershed and the amount of wildlife is directly proportionate to the amount and kind of plant-life. Burros will eat virtually anything, even eat creosote bush. Once the vegetation is gone, and consequently the life that fed on it, decades are needed for vegetative regeneration.

Burros also usurp water sources and drive away other animals. Don Swarthout (Vice President of the Society for the Conservation of Desert Bighorn Sheep) recounts burros driving sheep away from a spring he was watching for several days. They have also been known to kill calves, fight off horses, and harass range cattle at water holes.

Areas around watering devices generally have no vegetation because of the feeding and rolling activities of burros, thus negating their use by birds and small animals for food, breeding and protection.

People counting sheep and other forms of wildlife at desert water sources generally find that in high burro population areas, few sheep, quail, and chukar are found.

Burros range from below sea level in Death Valley and Imperial Valley to above 11,000 feet in Inyo county. They come down out of the mountains at night and feed heavily on the farmers' crops.

Attempts have been made by concerned groups to have sensible management plans made for these animals. In California this legislation was killed by legislators poking fun at the Bill through cries of killing off the symbol of the Democratic party, to pointing out that this was the beast of burden of Jesus Christ, and also a part of the heritage of the old West. True enough statements, but somewhat emotional claptrap.

Eco-freak environmentalists have persuaded State and Federal legislators to ignore the dictates of common sense in the management of wildlife resources. The abrogation of responsibility by these representatives, bodes ill for the wildlife of the desert.

Man has usurped the water, divided the desert ranges with highways, despoiled the slopes with mines, over-grazed the ranges with sheep and cattle, introduced diseases, noxious weeds and grasses, put houses and people where they don't belong, and now as a probable final blow, man is trying to protect coyotes, bobcats, mountain lions - and burros - and then some say "Let Nature take its course."

Burros do have their place. I used to pack them into the Sierras. Some make fine pets and kids can ride them. There may be a place for them in the desert, but that should not be determined by emotionalism, but on a basis of rational judgement by qualified field biologists, with a management program in view.

By Dr. Loren L. Lutz

THE OTHER SIDE OF THE BURRO

Donald M. Swarthout

Presented by Bud Wiedeman

Burros were a part of the working force, along with cowboys and horses, on our Heart Bar Cattle Ranch for more than 45 years. During that time we all became well acquainted, to say the least. The burros had a special job to do and we came to know them, admire and curse them--all in the same breath.

Burros inherited unique qualities from their ancestors, the wild asses on the deserts of Asia and North Africa. These forebearers were born and raised under temperature extremes--intense heat in summer, freezing temperatures and cold winds in winter--plus the poor grazing associated with persistent drought. Survival under these conditions, over the centuries, developed an animal that found our Mojave and Colorado Deserts much more "desirable" than their native home on the Sahara or Gobi Deserts.

Burros are strong, tough, surefooted, methodical, possess keen eyesight and hearing and can put on a real burst of speed if needed. Above all, they are past masters at conserving energy and taking care of themselves, whatever the conditions may be.

To illustrate: A severe drought occurred on the Mojave Desert winter range in 1922 and 1923. Cattle losses were 65%, horses nearly 50%, but burros--no loss! Cattle and horses on the open range often become sore-footed, burros never. Having excellent feet, they can travel farther from water to better grazing and can stay longer because their water requirements are less--a life saving advantage when food is scarce and water holes far apart or dried up.

The question naturally arises, why were burros used on our ranch and not generally on others? The answer is absence of roads. In the spring cattle were driven 75 miles from their winter range on the Mojave Desert to their summer range at the headwaters of the Santa Ana River in the San Bernardino Mountains of Southern California. (This area is now the Heart Bar State Park.) Burros were used to pack grub, bed rolls, pots, pans and grain. They were ideal for this job, since they traveled slowly and stayed with the herd. When close to camp, they would leave the cattle and wait at the trail shack to be unpacked. They needed watching, however, because most of them had mean streaks, and if given a chance would stomp and cripple or kill a young calf. The old cow usually took care of this, but sometimes cow and calf became separated, so a wary eye was kept to prevent trouble. Burros also had a disconcerting idea of fun--turning a pack and scattering grub, pots and pans over the landscape was a pleasurable sport to them. Admittedly it does have humorous aspects, but only much later in retrospect.

For many years the general public has built up an ever growing romance around the exploration of the desert by the lonely prospector and his ever-faithful burro. That romance, in fact, never existed. Many prospectors and their burros came to the Heart Bar winter headquarters at Old Woman Springs on the Mojave Desert. This spot was virtually a mecca for the "single blanket jackass prospector." Here he found ample space to camp under big cottonwood trees, plenty of good water, free feed for his burros and an occasional home-cooked meal. The prospector relaxed, because he knew his burros would be there in the morning. However, when prospecting over desert areas, the burros would be turned loose to graze and the first job in the morning was to find them. Even when hobbled, burros soon learned to travel nearly as fast as they normally would. They might be close to

camp or a full day would be needed to track them down. It was quite common for these burros just to take off and leave the prospector afoot and 40 miles from nowhere.

Around World War I the Model T Ford or "Tin Lizzie" became available, much to the prospector's delight. He gladly turned his burros loose without even shedding a tear or kissing them goodbye. He just piled his grub, water, pick and shovel in his Model T and took off. He now carried plenty of water for dry camps, and could prospect waterless areas otherwise inaccessible with burros. His burro hunting troubles were over, because he knew "Tin Lizzie" wasn't going to run off during the night and leave him stranded. This old prospector of fifty and more years ago has faded out, but his way of life, hardships, privations, and riches found and lost will forever be held in tradition. The burro he so happily abandoned has now been sentimentally placed on a pedistal beside him.

The abandoned burros, on the other hand, have not faded away, but have multiplied many fold and spread over the desert until they completely dominate many areas. The attributes that once made him valuable to man in the conquest of the desert have now become deadly forces against all native wildlife, and especially against the majestic and endangered Bighorn Sheep.

The burro, an import, eats the same feed as native Bighorn Sheep. Why are these burros exempt from any and all controls and allowed to despoil the land and crowd native wildlife out? Because well-intended and sympathetic groups of conservationists--who were not fully informed--were instrumental in having the present laws passed by Congress. Emotion and sentiment do not enter into the handling of domestic cattle, sheep or horses on public lands--the number allowed depends on the available feed and impact on native flora and fauna. By all that's reasonable, the feral burro should also be

under complete control of the U. S. Forest Service and the Bureau of Land Management. The overnight guest is now taking over the household!

In mid-July of 1969 a four day sheep and burro census was made for the California Department of Fish and Game at Sheep Spring in the Providence Mountains of San Bernardino County. This study showed that 29 sheep and 47 burros came to water. The 1974 census at the same Spring recorded 17 burros and 12 sheep. What happened? A survey of the area showed extreme over-grazing of annual, perennial bunch grasses and browse. The burros had taken over this rugged mountain area, the natural home of Bighorn, and grazed it down to the point where even they (the burros) were leaving. Sheep skulls and skeletons were found throughout the area, but rarely were burro remains seen. The burros had left the desert floor when it became over-grazed and had moved up to this rugged desert mountain where the feed was better. But the Bighorn Sheep will not leave their desert home. They die first.

Over-grazing: Any given area of range or desert land will produce a definite amount of feed each year, the amount governed largely by rainfall. A portion of this feed can be harvested by grazing without damage or reduction of future growth; this is known as carrying capacity. The cattleman or sheepman who allows over-grazing by over-stocking soon goes out of business, but leaves behind a grim legacy of damage to land and forage crops. Over-grazing also occurs in nature; the end result is generally death by starvation or disease caused by a weakened condition. Lemmings solve their problem by self destruction. The Yellowstone elk herd has increased beyond the carrying capacity of their winter range, and the feeding of thousands of tons of hay (by man) has not solved the problem.

The Sheep Spring area is one example of range destruction by the feral burro and his grazing habits. Here the annual native grasses are gone

because the seed stock has been eaten clean. Native bunch grasses have lasted longer, because new growth will come from the roots for a limited time, but again the grass is eaten before any seeds can mature. These fine forage grasses are practically gone in the Sheep Spring area. The sure-footed burro will slowly and methodically graze over extremely rugged terrain where nothing else but mountain sheep can go. This must be seen to be believed.

Here is a classic example of the natural ecology of our desert lands being disrupted by man's introduction of a foreign animal, the feral burro, and then giving that animal full protection under Federal law. Fully protecting the burro is wiping out the desert Bighorn Sheep and other native wildlife by destruction of the natural flora. When water is limited the burros drink first and patiently guard the meager supply until their thirst is quenched. Soil erosion and over-grazing go hand-in-hand.

Sheep Spring is just one of many desert areas where burros have damaged both flora and fauna. Only many years of complete rest from grazing in any form by burros or domestic animals can the original forage be re-established.

Congressional action is needed now.

STATEMENT OF MARY DEDECKER

Statement made at the meeting of the National Advisory Board for Wild Free-Roaming Horses and Burros at China Lake, 12/5/75.

I have lived in Independence, Owens Valley, since 1935. Because I am familiar with the region, I have been asked to represent the California Native Plant Society, the Southern California Botanists, and the California Natural Areas Coordinating Council.

Having observed the rapid deterioration of environmental and aesthetic values where burros occur, I urge that

(1) All the agencies involved, the National Park Service, the Bureau of Land Management, the National Forest Service, and the Naval Weapons Center, coordinate their efforts in a program of burro elimination. Regional problems must be handled on a regional basis. Burros recognize no agency boundaries.

(2) No time be lost in attacking the problem. The acceleration of their abuse of the land is truly alarming.

In support of the above, I present some of my own observations.

In 1967 burro trails were already furrowing the walls of Cottonwood Canyon in Death Valley National Monument. In 1970 I found a population of Mimulus parishii at Goldbelt Springs, up from Cottonwood Canyon. Since this species had not been known north of the San Gabriel and San Bernardino Mountains, it was an exciting discovery. In 1971, I revisited Goldbelt Springs, but there was no Mimulus--only a mudhole at the site. The burros had moved in within the year.

In April 1975, on a 5-day back-packing trip along the crest of the south half of the Panamint Mountains, we found numerous burro trails throughout. Bighorn sheep tracks in the snow pointed out one of the conflicts here. This crest is the boundary between Death Valley National Monument and Bureau of Land Management lands.

On my first visit to Waucoba Spring some years ago, I found aquatic vegetation bordering the pool. Several years later I found burro trails converging on the spring from all directions. The pool borders were completely barren. This spring overlooks Saline Valley near the north end. Burros watering here are now heavily using the Whippoorwill Flats area where Bureau of Land Management and Forest Service lands come together. It includes the proposed Forest Service Pinyon-Juniper Research Area. Selective use of the bunch grasses here is already evident. A rare plant, Astragalus cimae sufflatus, is endangered.

In 1974 a reconnaissance of the Inyo Mountains south of Waucoba Spring revealed that burros from Saline Valley are following canyons up to streamlets above. Here they are destroying valuable habitats and muddying the water. This extends into the bighorn sheep range, probably already having pushed the bighorn back. At

the head of these canyons, along the crest of the Inyo Mountains, is the proposed Paiute Wilderness Area. If burros reach that, the following rare and relatively rare plants would be endangered or wiped out.

Abronia nana
Astragalus kentrophyta var. elatus (a disjunct population)
Astragalus platytropis
Eriogonum rupinum
Eriogonum esmeraldense
Cryptantha roosiorum (endemic)
Lomatium inyoense (endemic)

This is a bristlecone pine forest which has an unusually rich under-story of limestone-tolerant plants.

On the Naval Weapons Center I visited Renegade Canyon in 1973 and was dismayed to find burro trails cutting into any breaks in the canyon walls. In the same canyon in 1975, the trails were deepened and had destroyed much vegetation on the access routes along the canyon walls. The canyon bottom looked and smelled like a stable in many places. This was offensive to aesthetic values in the petroglyph area, as well as being destructive to that ecosystem.

These are only a few examples of burro degradation of valuable desert water sources. The great amount of vegetation destroyed on water borders and on trails lacing the slopes is equally serious. The rapid acceleration of this damage is frightening because much of it is a permanent loss. Complete elimination of burros is recommended for most of the southwest. They can be justified only in sacrifice sites where limited numbers might be maintained for public interest. It is a sad sense of values which allows such abuse to the specialized habitats of this arid land.

Mary DeDecker
Mary DeDecker
P. O. Box 506
Independence, Ca. 93526

STATEMENT OF WALTER B. POWELL, CHAIRMAN, LAND USE COMMITTEE, CALIFORNIA WILDLIFE FEDERATION, AND CHAIRMAN, LAND USE COMMITTEE, SOUTHERN COUNCIL OF CONSERVATION CLUBS, REGARDING FERAL BURRO MANAGEMENT ON PUBLIC LANDS IN CALIFORNIA

The California Wildlife Federation and its member Councils, including Southern Council of Conservation Clubs, are composed of sportsmen-conservationists who value our resources of land, water, vegetation, and wildlife, who are concerned that these resources be conserved and enhanced and soundly managed on a long-term basis, and who support the right of sportsmen to participate in compatible recreational use of these resources.

We are here expressing our particular concern with the impact of feral burros on the desert areas of southeastern California.

We view with frustration and a growing deep-seated anger the continued devastation of our land by the politically protected burro, a devastation that has continued unchecked for years after the seriousness of the problem had been officially and publicly noted.

The competitive and destructive potential of the burro was not unknown in 1971. It had been testified to much earlier. Viewed from the ecological aspect in this light, the imposition of the present State and Federal laws restricting management of the burro in the southeastern desert ranges of California was a completely irresponsible act. Those who took part in it or supported it can never begin to pay for the damage that they have caused. But it is time that they were called to account. Some of these people are here today--they should be ashamed.

Ecologically sound management of our land, water, vegetation, and wildlife resources requires that they be managed as a comprehensive whole, with each part relating in a balanced manner to each other part. Inflexible one-animal-biased management is ecologically unsound and, in the case of the feral burro on our desert valleys and mountain ranges, clearly destructive to our other resources. The absolute protection now given to the burro by both State and Federal law is one of several examples of emotionally motivated, politically imposed, unbalanced, unsound, and destructive wildlife management practices existing in our State today. This situation must be corrected.

We prefer that all wildlife be managed by the State Fish and Game Commission and the Department of Fish and Game, working in conjunction with the various landowners. Management by professionals can be flexible in its response to changing conditions, and flexibility rather than rigidly legislated procedures is a necessary basis for sound management of our wildlife resources.

Once the political and legislative restraints are removed, what should be the elements of a sound overall management program for the land and outdoor resources of the desert valleys and mountain ranges typically now used by the burro? First, the ecological considerations:

1. The land and native vegetation which have been ravaged and the native wildlife populations which have been damaged and displaced will have to be restored.
2. Burros will have to be completely eliminated or strictly controlled in many areas for a considerable period of time in order to enable restoration of the land, vegetation, and wildlife. (A few areas should be left (or abandoned) where a controlled population of burros could continue to exist.)
3. Control, and perhaps temporary elimination, of grazing by domestic animals will also be required.
4. After restoration of the land, vegetation, and native wildlife has been achieved (and this will take many years in most desert environments), then qualified biologists and wildlife managers should be allowed to determine what controlled level of use (if any) of these lands by feral burros and/or domestic livestock is compatible with maintenance of the natural resources in a productive state.

Second, what are the physical considerations involved in controlling or eliminating burro populations?

Burros typically inhabit the rough and rocky desert mountain ranges and the adjacent valley floors. They roam widely. Experience has shown that some burros can be trapped in some areas, but trapping alone is inadequate for control or elimination. Similarly, roundup techniques in conjunction with trapping or corralling are useful only in certain types of terrain.

Careful consideration of the problem by qualified experts has led to the conclusion that "instant recycling must play an important part in any burro control or elimination program. "Instant recycling" is a euphemism for shoot-and-let-lay.

Many burros will be found in rugged and isolated terrain. The only way to find them is to seek them out on foot, on horseback, or by helicopter. The only thing that can be done with them is to shoot them on the spot and leave the carcasses for natural recycling, via predators and other organisms, of their elements to the soil and vegetation. The helicopter and the rifle are by far the most efficient equipment for the task that must be done.

Finally, what economic, political, and sociological constraints should be imposed on burro control or elimination procedures? The answer is: no unnecessary constraints.

The existing laws should be changed to allow motor vehicles and aircraft to be used for management activities involving wild free-roaming burros.

Present laws prohibiting unconditional transfer of ownership of burros, and prohibiting any economic use of burros or burro parts should also be changed. The burros do represent a "resource" on our lands, and this resource should be used as constructively as possible for the benefit of society and its citizens.

If trapped burros must be removed from the land, and there is no other land to which they can be transplanted, and no agency or individual is willing to undertake the responsibility of care and ownership, then humane destruction and economic utilization of the remains should be permitted.

If burros are to be shot and left to recycle on the ground because they are too big to retrieve from difficult terrain, then there can be no objection to shooting and retrieving only 10 or 20 pounds of choice meat, depending on what can be carried from the site and used.

If individual sportsmen wish to take part in a controlled hunt which is part of a burro management plan, then there can be no objection to this "recreational" use of the burro resource; besides fulfilling the management objectives, such a hunt would provide outdoor exercise and possibly meat for the sportsman, and it would be economic in that it would relieve the management agency of the expense of hiring "professional" hunters to perform the control task.

To summarize:

1. Burros must be eliminated in many areas to enable the soil and vegetation to be restored, and the native wildlife to become reestablished.
2. Shooting and recycling on the spot is a necessary, feasible, effective, and ecologically sound control/elimination technique.
3. The use of motor vehicles and aircraft by management agencies must be permitted.
4. Unrestricted transfer of ownership and economic utilization of burros must be permitted.
5. A complete burro management program would allow for controlled participation by sportsmen and for beneficial consumptive use of all or part of the burros taken in this activity.

We would like to see some immediate action. Why is it that the Regional Directors of the U.S. Park Service and the BLM, and the Commander of this Navy base cannot sign a Negative Declaration and start shooting tomorrow? Why do they delay while the land that they manage in trust is being destroyed. We do not mean to imply that shooting is the whole answer to the problem, but it is a necessary part, and a good start, while other programs are being planned and implemented.

The California Wildlife Federation and the Southern Council of Conservation Clubs stand firmly in support of the need for burro control. There must be a return to balanced, ecologically sound wildlife management under the control of the State Fish and Game Commission and the Department of Fish and Game.

Attachment:

Resolution re MANAGEMENT OF FREE-ROAMING HORSES AND BURROS
adopted by the California Wildlife Federation, April 13, 1975

the Act of December 15, 1971 (16 U.S.C. 1333), is amended by adding, "The Secretary is authorized to use aircraft and motorized vehicles to provide for the protection, management, and control of wild free-roaming horses and burros, such use to be in accordance with humane procedures prescribed by the Secretary." (b) Section 3 is further amended by adding a new subsection (e), as follows: "The Secretary is authorized to sell or donate, without restriction, excess horses or burros to individuals or organizations," and

BE IT FURTHER RESOLVED that other conservation organizations be asked to assist in the enactment of H.R. 2935, and that Congressional delegation from the area of such conservation organizations also be asked to assist in its enactment.

Adopted this 13th day of April, 1975
West Sacramento, California

CALIFORNIA WILDLIFE FEDERATION
P. O. Box 9504
Sacramento, CA 95823

R E S O L U T I O N

MANAGEMENT OF FREE-ROAMING HORSES AND BURROS

- WHEREAS the feral free-roaming horses and burros are neither a rare, threatened or an endangered species, and
- WHEREAS these animals are rapidly increasing in numbers and are causing ever increasing competition between themselves, domestic livestock and native wildlife for the scarce available forage and water of the lands they occupy, and are damaging such habitat, and,
- WHEREAS the land management agencies (National Park Service, Bureau of Land Management, U.S. Forest Service, and the States' Departments of Fish and Game) have determined the areas where such competition and damage to wildlife habitat is presently occurring, and
- WHEREAS in order to protect the habitat of the native wildlife it is essential that the numbers of such feral free-roaming horses and burros be reduced in numbers to permit the habitat of the native wildlife to recover, and
- WHEREAS PL 92-195 does state in part, "Management activities shall be carried out in consultation with the wildlife agency of the state to protect the natural ecological balance of all wildlife species,"
- NOW THEREFORE BE IT RESOLVED that the California Wildlife Federation does lend full support to enactment of H.R. 2935 introduced by Congressman C. William Whitehurst into the House of Representatives on February 5, 1975, and which will amend the Federal law relating to the protection, management, and control of wild free-roaming horses and burros on public lands in order to provide the authority needed to properly manage wild horses and burros in harmony with wildlife and other uses of the national resource land. By stating:
"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, that (a) subsection (a) of Section 3 of Public Law 92-195,

STATEMENT OF MIRIAM A. ROMERO, P. O. BOX 394, MONTROSE, CALIFORNIA 91020
REGARDING THE IMPLEMENTATION OF PL 92-195 AS PRESENTED TO THE NATIONAL
ADVISORY BOARD FOR WILD FREE-ROAMING HORSES AND BURROS, AT CHINA LAKE,
CALIFORNIA ON 5 DECEMBER 1975.

As many members of the Board are aware, I have been studying the burro situation in the American Southwest since the spring of 1973. Both my husband, Ben, and myself have traveled thousands of miles looking at burro habitat, interviewing scientists, government agencies' personnel, conservationists, and animal protectionists. In addition, we took a large number of slides on burro ecology and burro habitats and problems; our impressions were incorporated into a slide show and lecture called "The Jacks are Wild" which we have shown some 30 times to various groups this last year or so. I have studied closely all the data and information available on the burro, and also have studied closely the concepts and information on range ecology that would be pertinent in the matter of burro management. We are very familiar with the desert areas of the Southwest and with the concepts of desert ecology.

My degree is in geography and my graduate work was in desert ecology and resources management. I am currently employed at the California Institute of Technology, Geology Division, Pasadena, California. My husband is an employee of Lockheed Aircraft Corp. He worked and lived in Death Valley from 1937-1942 and both of us visit the Monument several times annually.

I am convinced that the burro situation has reached crisis proportions in the Panamint Range in Inyo County, California. To delay control of burros in this mountain range would cause severe overgrazing to the extent that the land will take centuries to come back to normal, if indeed, it ever can again. While the National Park Service is moving ahead on plans for burro management, and the Navy has conducted environmental studies on burro habitats in the Naval Weapons Center, the BLM has not been implementing PL92-195 in this area. While we do recognize the problems of manpower and funding, nonetheless, something must be done to eliminate the burros in the Panamint Range which are causing the ecosystem degradation. I strongly recommend that the Board advise the Department of the Interior that management and control of burros in the Panamint Range must begin promptly. There is, also, a great need for a cooperative agreement for management with the Park Service, the Navy, and the BLM.

The burro has an extremely wide ecological niche and it does, indeed, overlap with that of the Nelson bighorn sheep. The burro does compete with the bighorn for forage, water, shade, and escape area. There are many areas in the Mojave desert where burros have invaded bighorn habitat. I recommend that the BLM begin to clearly identify these areas and then begin planning for removal of burros from bighorn habitat areas.

And, finally, PL 92-195 says that where the burro is that this land should be used "principally, but not exclusively" for burro habitat and protection. I object to the word "principally". I do not think that the principal use of bighorn habitat should be for burros; nor do I think that the principal use of land where endangered species of native flora and fauna exist, or where

there are sites protected under the Antiquities Act should be for burros. It is evident that the authors of the law did not know nor understand the geographical distribution of burros, nor the problems that the wording of the law would cause insofar as it deals with burros. There is not adequate protection for fragile ecosystems, endangered species of flora and fauna, or protection for rare and fragile archeological sites in the law. I would recommend that the Board define what the word "principally" means in the law, especially in those areas where the uses are non-compatible.

I would also like to go on record as supporting the use of motorized vehicles and helicopters in the management of burros and should be used as access to areas or for censusing purposes.

I would also support the private ownership of burros which have been donated to individuals from the public lands. However, I would like to see those animals branded in some way so that if the owners turn them loose again on the desert, that they then fall under the estray laws.

I am grateful to the Board for the opportunity to present this statement. During the times we have presented our slide show to the public, we have had opportunity to talk with hundreds of people and I feel that their comments are important. If at any time, any member of the Board wishes any help or discussion with either my husband or me on the matter of the burros, we urge you to feel free to call on us at any time. The burro situation is very serious and time is running out in many of the ecosystems they inhabit.

STATEMENT OF RICHARD J. VOGL, CALIFORNIA STATE UNIVERSITY

I am opposed to the presence of wild or feral burros on public lands (both state and federal) in Nevada and California because they are causing irreparable damage to the native grasses, the soils, the watersheds, and the natural watering places of blackbush scrub (Coleogyne ramosissima) and Joshua tree woodland (Yucca brevifolia) communities in eastern California and Nevada. Most of the remaining native grasslands which contain an irreplaceable variety of perennial bunchgrass species are being destroyed by the unrelenting burro grazing; unnecessary grazing and browsing that is being added to ranges which already exceed livestock carrying capacities. I believe that prior to excessive heavy grazing of all types, the widespread blackbush scrub and Joshua tree woodland communities were co-dominated by grass species, and the continued elimination of these species by burro grazing cannot be tolerated because it is only leading to further deterioration of these ranges and their reduced productivity.

As an ecologist (see attached resumé), I also oppose the presence of burros on public lands because it violates the inviolate principle that states that "the introduction (or perpetuation) of alien species is to be avoided", because such introductions often lead to competitive exclusion, whereby two species with similar or overlapping amplitudes of tolerance such as burros and desert bighorn sheep come into direct competition with only one species surviving.

As a citizen, I also oppose the presence of burros on public lands and recommend their removal because, in my opinion, I find them to be totally unacceptable aesthetically, (even if they are animals), because they are unhappy reminders of California's first plundering pioneers, the miners, who have already done more than their share of raping and permanently scarring the West, without having their

prolific burros continue their destructive impact. I feel that the early miners, "the fortyniners", and their burros, represent a mentality that should be forgotten and not perpetuated.

Richard J. Vogl

Richard J. Vogl

Wildlife and Plant Ecologist
Professor of Biology
California State University
Los Angeles, California 90032

STATEMENT OF PATRICIA NELSON

Dec. 3, 1975
6638 St. Estaban
Tujunga, Calif.

Natl. Advisory Board on
Free-Roaming Horses and Burros

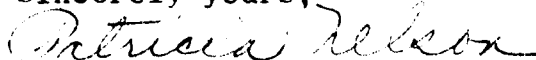
Ladies and Gentlemen:

For many years my family and I have been visiting Death Valley and the surrounding mountains. Over the years it has become very evident that the burro population has mushroomed to the point of absurdity.

They are very non-selective in their eating habits. Consequently, they destroy all vegetation they come upon. The erosion caused by their wandering back and forth over the areas they inhabit most frequently, Wildrose Canyon, is very evident and unsightly. But above all, the burros are destroying the few springs and watering holes that the native bighorn sheep frequent.

The burros have become a major problem in many areas, but I believe that they should be culled out especially in the Panamint Range and Death Valley National Monument. This could be accomplished by close cooperation between the BLM and the Park Service.

Sincerely yours,



Patricia Nelson

BURROS IN DEATH VALLEY NATIONAL MONUMENT, BY MR. JAMES B. THOMPSON,
NATIONAL PARK SERVICE

Death Valley National Monument is the fourth largest area in the National Park System and the largest area in the Southwestern United States in the National Park System. It consists of a little over 2 million acres. This National Park Service area is fortunate in being a nearly complete ecosystem, a valley between two mountain ranges almost completely within the boundaries of the National Monument. It is the hottest, driest, lowest place in the North American Continent. This unique geography and climate have resulted in a number of significant biological situations. There are, in fact, over a dozen species of plants that occur no where else in the world. Several rare and endangered species of fauna are within Death Valley's boundaries and within the habitat management responsibilities of the National Park Service.

I think that no where else, at least in this continent, does life balance so precariously on the thin edge between survival and disaster than it does in Death Valley, and no where else are ecological principles and dynamics so starkly apparent to the American people as they can be shown in Death Valley, and that, in fact, is what the purpose of Death Valley National Monument is.

Our objectives and our policy in Death Valley National Monument are to, insofar as the resources are concerned, establish and maintain conditions which are conducive to the perpetuation of the natural processes and the ecological systems as they operated prior to the introduction of technological man into the earth, that is, around 1849 and subsequent years. During those years, burros were introduced into Death Valley National Monument. The eastern ranges, the Armagosa Range in Death Valley, had at one time about 1,500 burros. Thirty-eight hundred of those 1,500 were removed over the course of years and they no longer exist in those Armagosa Ranges except in one area where they have become reintroduced near the California-Nevada line. We have a pretty good count of the number of burros and you will get to see a little bit of what the impacts of what we have seen from those burros and what those impacts are.

We are planning to introduce an environmental assessment for public review on our total resource management objective which includes a number of subjects related to water management and management of a number of exotic species, both plants and animals. We hope to have this document ready for public review by the end of February or early March. There will be public meetings held immediately following its availability and we hope to have a resource management plan developed from those public meetings by early or mid-summer.

Cal-Neva Wildlife 1974, Trans. Calif.-Nev. Sect.,
Wildlife Soc., 1974, p. 21-34.

IMPACT OF FERAL BURROS ON THE DEATH VALLEY ECOSYSTEM

Peter G. Sanchez
National Park Service
Death Valley, California

Abstract. Man introduced non-native burros into a desert ecosystem in the late 19th century. Burros have successfully filled the vacant niche. Burro population size now numbers approximately 1,500 animals and is increasing. Field evidence indicates feral animals have seriously affected native flora and fauna of the region and threaten the viability of Death Valley National Monument as a natural area of the National Park System. Environmental damage includes soil damage and accelerated erosion, vegetation destruction, spring and waterhole disturbance, and competition with native wildlife for food, water and space. Habitats of rare or endemic plants and animals may be threatened. National Park Service management problems and efforts to control burro impact are discussed.

INTRODUCTION

Feral burros were introduced in the Death Valley region perhaps as early as the early 1870's. Later introductions occurred in the late 1800's and continued into the early 20th century. Most of the free-roaming burros were escapes or abandoned burden and pack animals owned by prospectors and miners during the heyday of mining activity in the desert (Hansen 1973).

Through the last century burros have successfully occupied their ecological niche. Their numbers grew and they expanded their range into much of the upland areas where suitable forage and sufficient water was available. By 1933 when Death Valley National Monument was established, burros were long established in all of the mountain ranges bordering Death Valley. In a number of areas damage caused by burros was already severe. Dixon and Sumner (1939) reported vegetation damage, competition with and displacement of native wildlife in the mid-1930's. Numerous later reports document further competition and damage (Sumner 1959; Welles and Welles 1961; McKnight 1958).

The Death Valley burro population now numbers about 1,500 animals and is increasing (Hansen 1973). Most of the burros range within Management Units 1 through 5 on the west side of Death Valley. The Monument, Figure 1, has

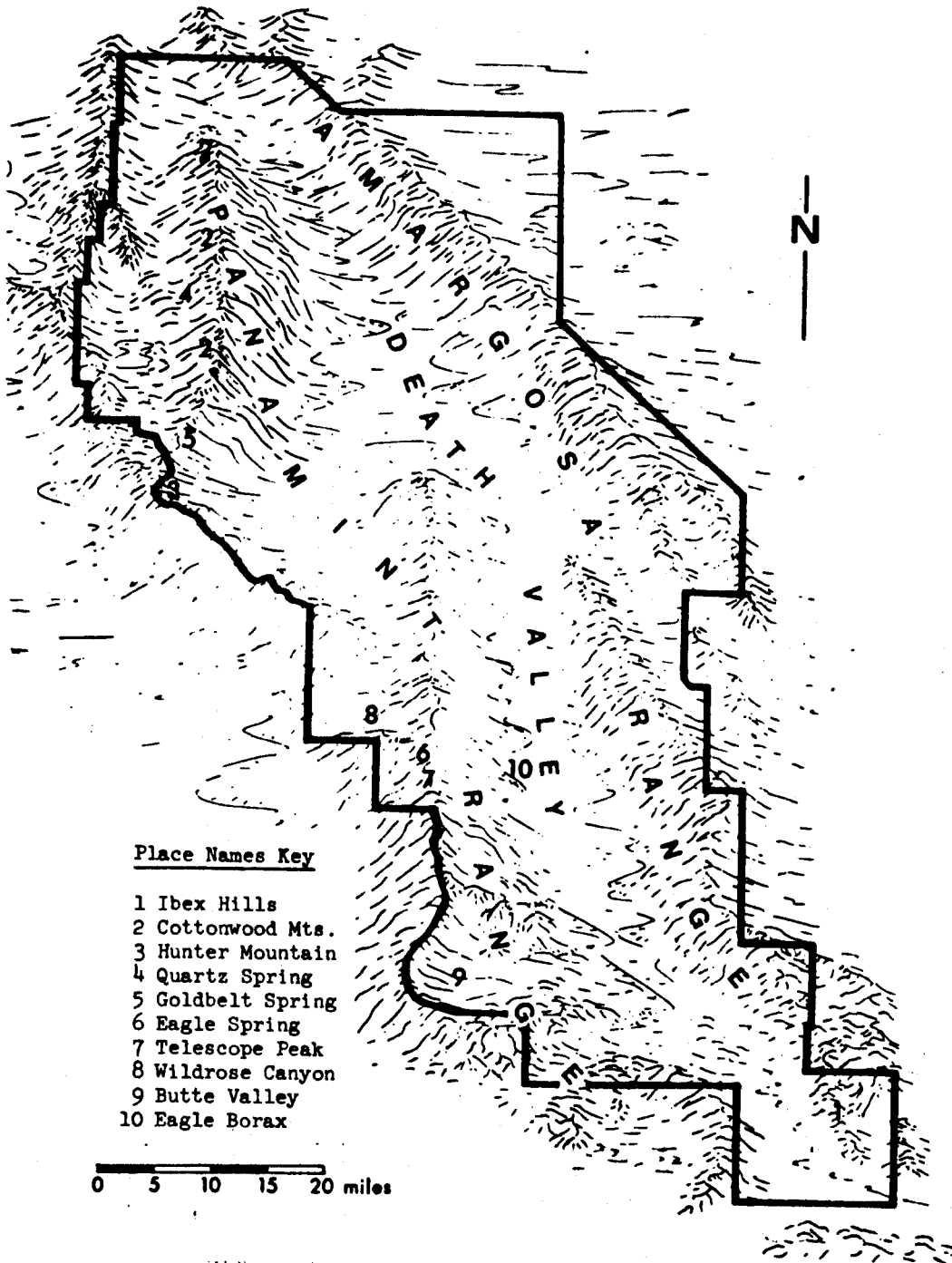


FIGURE 1.
DEATH VALLEY NATIONAL MONUMENT TOPOGRAPHIC FEATURES AND PLACE NAMES.

been divided into 11 management units, Figure 2.)

The largest concentration of free-roaming burros in California occurs in the Death Valley region, on and adjacent to Monument lands. More than 40% of the wild burros in California range within Death Valley National Monument (Weaver 1972). Burros ranging on public lands in Nevada also enter the Monument, but their numbers are smaller. The present distribution of burros is shown in Figure 3. Recent range extensions noted since the burro census of 1972 have been included. The broken line on the map shows potential range expansion and is based on the availability of suitable terrain, water and forage. Burros presently range on 777 square miles (497,000 acres) or 25.6% of Monument lands.

Topography and Vegetation

Elevations within the Monument range from more than 200 feet below sea level to over 11,000 feet. North-south trending mountain ranges border 154 mile long Death Valley on the east and west. The Amargosa Range rises steeply on the east side of the valley to average elevations of about 5,000 feet and a maximum of just over 8,700 feet in the northern section. To the west of Death Valley lies the higher Panamint Range having average elevations about 8,000 feet and an extreme of 11,049 feet. The terrain utilized by burros includes broad alluvial fans and bajadas, canyons, intermontane valleys, and rolling uplands.

Vegetative cover is diverse as may be expected in an area of great relief. The flat floor of Death Valley is barren of vegetation and encrusted with salts except in low to moderately saline areas where phreatophytes exist. Desert shrubs cover much of the land between sea level and 6,000 feet. The desert shrub community can be divided elevationally into several associations having discontinuous, gradational or overlapping boundaries.

Creosotebush-saltbush (*Larrea-Atriplex*) sparsely covers the lower elevations, mainly on the rocky alluvial fan deposits. Creosotebush-burrobush (*Larrea-Franseria*) covers middle elevations. Stands of hop-sage (*Grayia*), blackbrush (*Coleogyne*) and associated shrubs comprise the cover at the higher elevations. The latter associations appear to be favored by burros.

Pinyon-juniper woodland occurs between 6,000 and 9,000 feet. Limber pine and bristlecone pine woodland is found at elevations above 9,000 feet. Shrub cover in and between stands of coniferous woodland is principally big sagebrush (*Artemesia tridentata*).

Wildlife

A diversified fauna exists in the Death Valley region which lies near the indistinct boundary between the Mojave and Great Basin deserts. Fifty-one species of native mammals, 36 reptiles, 3 amphibians, and 6 fishes have been recorded from the Monument (DVNHA, 1973).

The desert bighorn sheep ranks high among animals requiring special management attention because their numbers and habitat are declining. A 1972 census indicated a bighorn population of 583 (Hansen 1972). In 1961 counts estimated 915 bighorn in the same area (Welles and Welles 1961). Range studies by Hansen (1972) have placed the pre-pioneer (pre-1850) bighorn population at as many as 4,800 animals. Table 2 shows the present and pre-1850 distribution of bighorn by management units.

Areas presently occupied by bighorn total 384 square miles and appear as non-contiguous enclaves (Figure 4). Former range totalled about 1,400 square miles and included nearly all mountainous areas of the present Monument. Only the Ibex Hills in the southeastern portion of Death Valley

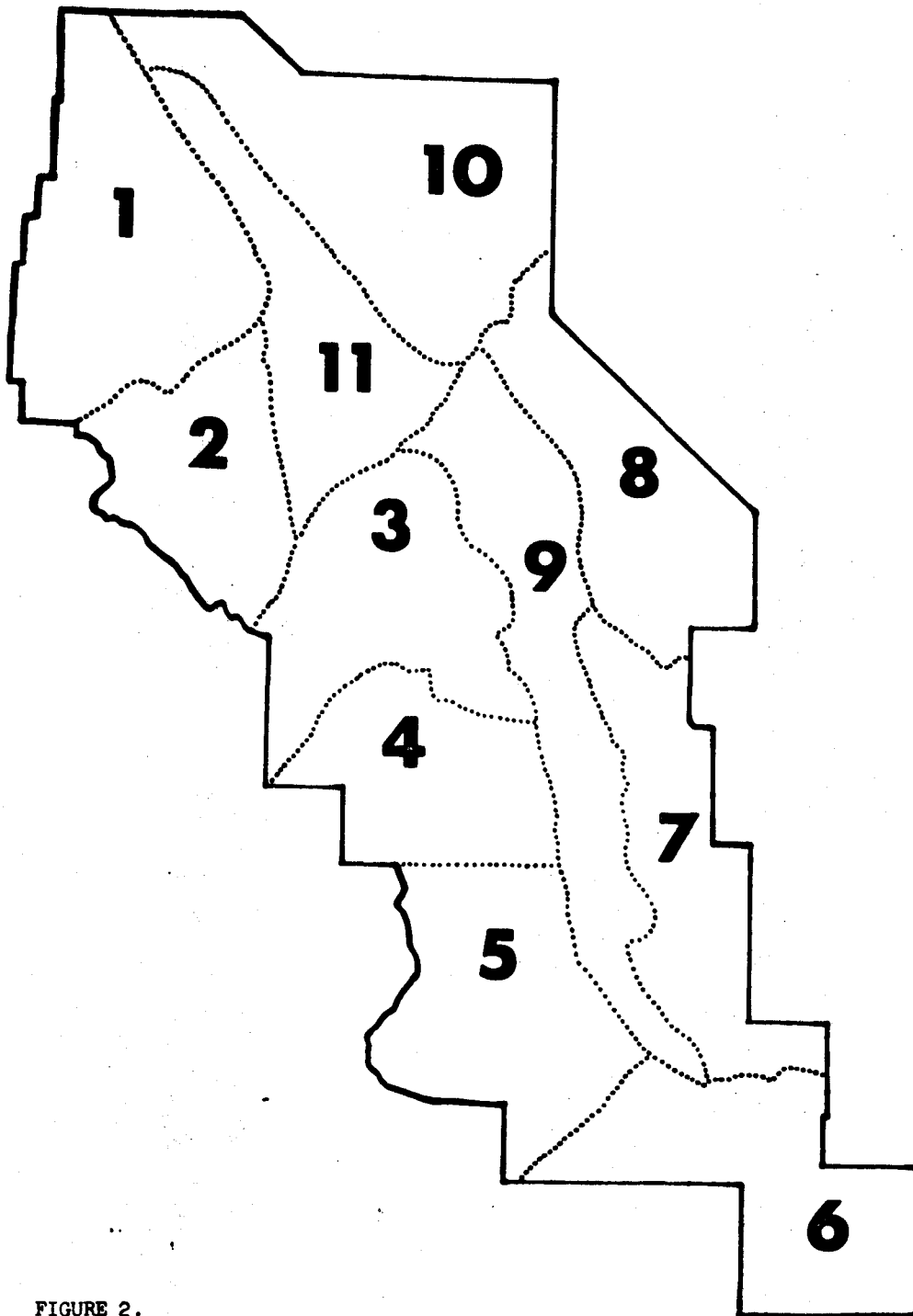


FIGURE 2.
MANAGEMENT UNITS, DEATH VALLEY NATIONAL MONUMENT.

received transient use as animals moved between the southern Amargosa Range and the Avawatz Mountains farther south (Hansen 1972).

The decline of bighorn has been attributed to many factors. Natural causes for decline include predation, respiratory diseases, parasites, natural accidents, and extended periods of drought. The decline has been hastened by man (Weaver 1972a). The proximity of man in large numbers, mining activities, usurpation or occupation of water sources, highway construction, fencing and other barriers, and poaching have adversely affected bighorn. In Death Valley mining activity and the modification of water sources have had the greatest impact. The impact of burros must be added to natural and man-induced causes for the decline of bighorn. It is the sum of all these factors which has depressed bighorn numbers and their range. The presence of burros, however, results in impacts which reach beyond those affecting bighorn.

Burro Impacts

The fundamental problem is that burros have been introduced into an ecosystem operating since the Pleistocene under nominally natural conditions characterized by normally marginal water supply, low annual forage production, severe climate (even for arid regions), and infrequent but sometimes devastating erosive forces, such as wind deflation and flash-flooding. The system is unable to absorb the addition of a new, large herbivore without large scale adjustments. A new equilibrium has not yet been reached.

The adjustment toward a new equilibrium has been observed for several decades. Four problem areas have been identified: competition with native animals, vegetational changes, damage to soils, and impacts at springs (Hansen 1973).

Competition with native animals

Surveys conducted since the 1930's have recorded the changes in bighorn distribution and have shown that competition exists between burros and bighorn for forage, water, and space (Sumner 1959; Hansen 1973; and others).

Bighorn regularly used three key springs in the Cottonwood Mountains in 1939. As burro numbers and use in the area increased, there has been no significant use of these springs by bighorn in the last 25 years (Sumner 1959). Bighorn and burros, however, share nearby Quartz Spring. A similar situation of reduced bighorn use exists in Cottonwood Canyon (in the same mountain range) and is worsened by the seasonal presence of trespass cattle. Bighorn were known to utilize Eagle Spring in the Panamint Mountains in 1935. Burros entered the area in 1938 and bighorn use terminated. Bighorn fed and watered in Butte Valley in the early 1930's; by 1935 bighorn were replaced by herds of burros (Sumner 1959).

Competition between burros and smaller mammals, especially rodents, has not been studied. However, field observations suggest that an adverse impact may exist (Hansen, pers. comm.). Further study is desirable to determine the effects of habitat disturbance, especially in such areas as trampling of animal burrows, and possible effects of reduced forage and seed production. Impacts upon herpetofauna, a major element of the desert ecosystem, is totally unknown.

Vegetation changes

Desert shrub-grassland associations support a greater number of burros than do other habitats. Both browse and grass species are utilized by burros, but where equally available, grasses are preferred (Browning 1971). It is significant that areas heavily grazed by burros are now shrubland instead

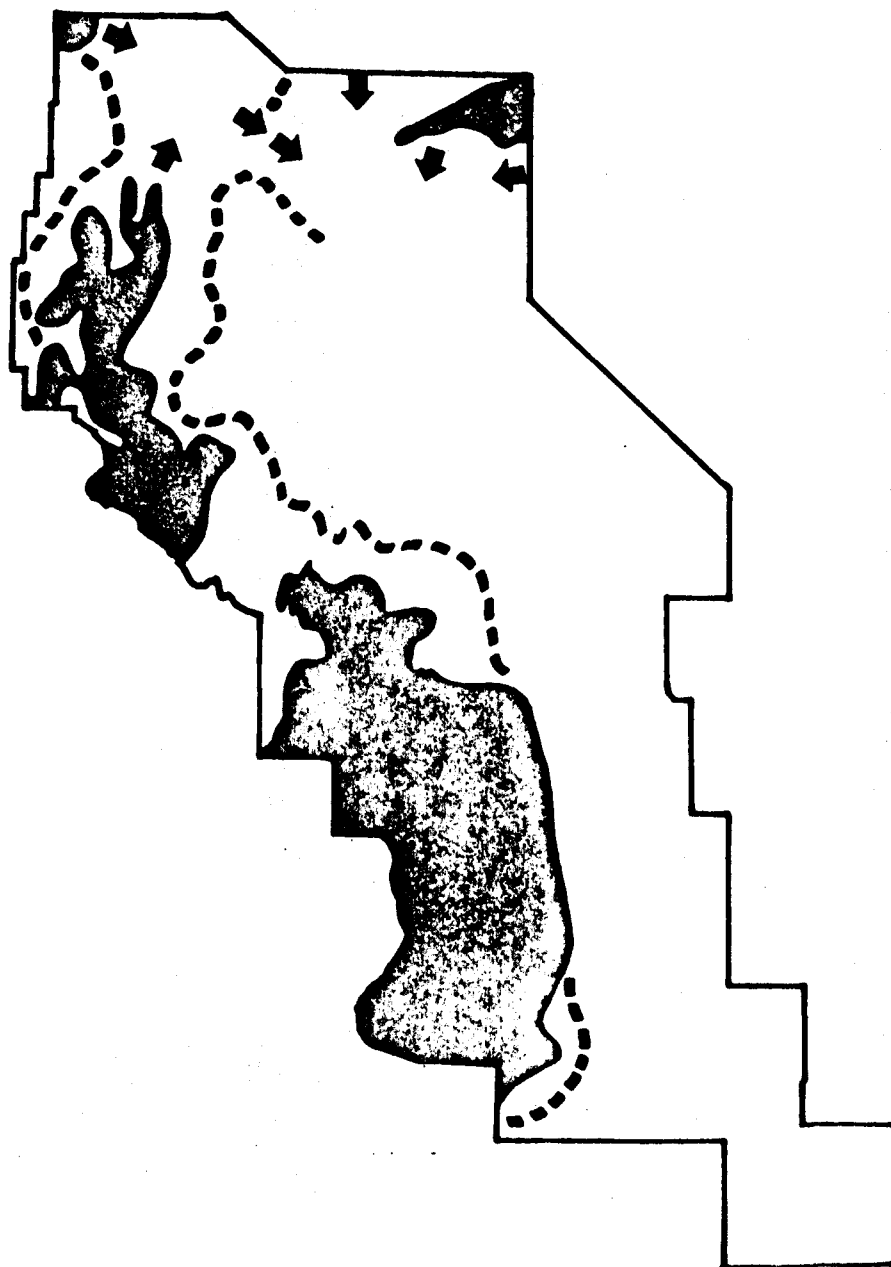


FIGURE 3.
BURRO DISTRIBUTION. BROKEN LINE SHOWS POTENTIAL
BURRO RANGE EXPANSION. (AFTER HANSEN, 1973)

of shrub-grassland. Un-utilized portions of Unit 3 are shrub-grassland, believed to be remnants of the native (unmodified) vegetative cover (Hansen 1973).

Data from transects within and adjacent to a burro enclosure at Wildrose Canyon were gathered in September 1973, after the enclosure had been in operation for two seasons during which time rainfall was above normal. Within the enclosure there is a marked increase in the volume of shrubs favored by burros. Only blackbrush (*Coleogyne*), a species utilized lightly by burros, is more abundant outside the enclosure (Fisher 1974). Burrobush (*Franseria dumosa*), a species favored by burros (Browning 1960), is more abundant within the enclosure and individual plants within the enclosure are larger (Fisher 1974). Other species of woody perennials also show increased vigor within the enclosure. Shockley goldenhead (*Acamptopappus*), indigo bush (*Dalea*), Mormon tea (*Ephedra*), hop-sage (*Grayia*), *Haplopappus*, and box-thorn (*Lycium*) all appear in the diet of burros (Browning 1960; Hansen 1973). Perennial grasses are more abundant within the enclosure, but despite favorable growth conditions, remain depressed on burro range (Fisher 1974).

Annual grasses and forbs show a significant difference in abundance within the enclosure (Table 4). Some species, such as fiddleneck (*Amsinckia*) and ricegrass (*Oryzopsis*), not recorded in the outside transect, have become reestablished inside the enclosure (Fisher 1974). *Amsinckia tessellata* is known to receive moderate use by burros in the spring (Browning 1960). The density of annuals within the enclosure was 73.8 plants per square meter; density outside was 26.7 (Fisher 1974).

In areas of heavy burro occupation the density and sizes of plants, especially shrubs, are much reduced. Damage is greatest in the vicinity of water sources. Mis-shapen shrubs and abnormally numerous dead shrubs result from repeated cropping (Hansen, Weaver, others). The ratio of dead shrubs outside vs inside the Wildrose enclosure was 27:1 (Fisher 1974). Vegetation which is not eaten often is damaged by trampling or uprooting during feeding (McKnight 1958). Though not quantified it is obvious that flowering and seed production has been reduced at least locally. Three areas within the Monument are especially hard hit: Butte Valley, Wildrose basin, and the Hunter Mountain-Goldbelt-Cottonwood Canyon region. Creosote-bush (*Larrea divaricata*) has been browsed in these areas of heaviest burro use. This plant is rarely eaten by any animal (McKnight 1958).

Relict plant communities may be affected by burros. Recent studies suggest burro damage, principally by trampling, as probable cause for the low reproduction of bristlecone pine (*Pinus longaeva*) above 10,000 feet on Telescope Peak in the central Panamint Range (L. Johnson, written comm.).

At the opposite elevation extreme, formerly abundant alkali sacaton grass (*Sporobolus airoides*) at Eagle Borax, a site below sea level, has been grazed so heavily by burros that many plants are now dead. This has occurred since 1969. Mesquite, saltbush, and Death Valley goldeneye (*Viguiera reticulata*), a local endemic species growing on adjacent alluvial fans, is also heavily utilized (Hansen 1973).

The existence of introduced burros exerts added stress on a natural ecosystem unadjusted to the presence of burros or similar animals. One conservative estimate of plant utilization is as follows: using 318 lbs. as the mean weight of a burro and 9.7 lbs. daily forage consumption, the 1,500 burros in Death Valley consume 14,500 lbs. (7.27 tons) of food per day or about 5,310,000 lbs. (more than 2,650 tons) of food per year. Weight and daily consumption values believed comparable to Death Valley conditions were selected from Maloiy (1970).

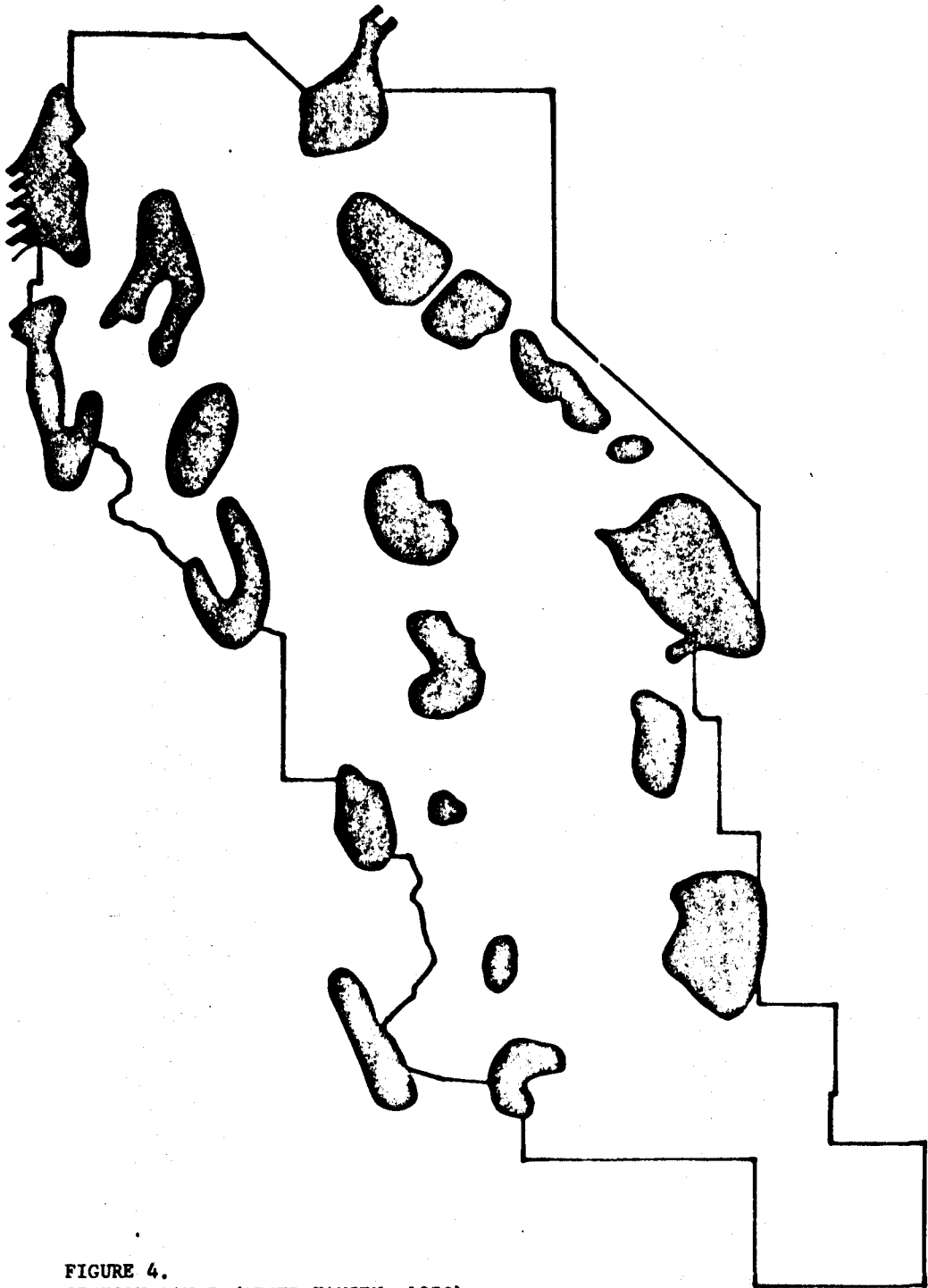


FIGURE 4.
BIGHORN RANGE (AFTER HANSEN, 1972).

Soils

Tracking and trampling diminishes vegetative cover and hastens erosion especially during infrequent and often severe storms. Bare soil between plants is normally protected from wind deflation and water erosion by the development of a gravel cover or desert pavement, often one pebble thick, which retards movement of underlying silt- and sand-sized fractions (Thornbury 1960). Tracking disturbs the pavement and exposes the finer soil particles. Where pavements are absent or poorly developed soil is retained by the development, following rains, of a thin, porous mineral crust (Hansen 1973). Fungal mycelia also serve as soil binders (F. Went, pers. comm.). Though both mineral and fungal structures are repaired after rains, tracking soon destroys them.

Tracking in the Wildrose area has disturbed 97-100% of the bare soil areas within one mile of the sampled water source (Hansen 1973). Up to 5 miles from the water, 20-25% of the bare soils are disturbed (Hansen 1973). In the Goldbelt Spring area of the Cottonwood Mountains, 80-100% of the bare soils are disturbed.

A pronounced effect of tracking is readily visible on hillsides where burro trails tend to be numerous. Soils removed from trail treads on steep hillsides are displaced outward and downward through repeated trail use (Weaver 1972a). During storms greater amounts of soil are removed by sheetflood and rillwash erosion. Locally (Rogers Peak, central Panamint Mountains, for example), thin soils have been removed to bedrock. Thicker soils are subject to gullying (Hunter Mountain).

Springs

Environmental alteration is severe at and near water sources because burros tend to congregate around waterholes and repeatedly move to and from them. Unless food is scarce burros generally do not travel more than 5 or 6 miles from water (McKnight 1958; Hansen 1973).

Ponded springs are polluted with urine and feces (Weaver 1972a). Though it was formerly thought that bighorn would abandon a spring used by burros, it is known that wildlife and burros regularly do use the same springs. Contamination of water by burros does not preclude use by large animals. Pollution, however, remains an issue. Pollution is unquestionably objectionable to humans and precludes hikers' and backpackers' use of affected springs (Weaver 1972a).

Burros can and do usurp available water at the expense of native wildlife. Many springs in the Monument do not have flow volumes large enough to supply the needs of both burros and native animals (Weaver 1972a; Hansen 1972). Flows of many springs are measured in gallons per day and have no flow during summer. Other water sources are small potholes (tinajas) capable of storing a few tens of gallons of water. Though adequate during winter months, wildlife water supply in summer is often tenuous. As summer temperatures climb to and above 120° F. in Death Valley, daily evaporation often exceeds 1 inch. Though the 90:1 evaporation/precipitation ratio (Hunt et al. 1966) is less at elevations above the valley floor, small springs go dry early in the summer. Tinajas then store water for only a short time after infrequent storms. Unlike other deserts there is no summer rainy season. The amount of available water is the most important factor acting to limit bighorn herd distribution. Man has aggravated the situation by usurping and altering many springs. Add the feral burro and bighorn survival in some locations has become critical (Hansen 1972; Weaver 1972a).

Table 1. Burro Distribution in Death Valley
by Management Unit (Hansen 1973)

<u>Unit</u>	<u>Burros</u>
1	125
2	600
3	100
4	455
5	220
6	0
7	0
8	occasional
9	0
10	20
11	0

Table 2. Present and Past Bighorn Population
by Management Units (Hansen 1972)

<u>Unit</u>	<u>Bighorn Present</u>	<u>Population Pre-1850</u>
1	90	1,000
2	125	800
3	80	300
4	33	900
5	20	500
6	0	Transient
7	110	250
8	65	150
9	0	0
10	60	900
11	0	0
Totals	583	4,800

Burros affect springs and aquatic habitats in other less direct ways. Destruction of vegetation around springs has reduced cover for birds and small mammals (Weaver 1972a). Less visible is the threat to invertebrates. Of the near 300 springs in Death Valley National Monument, less than 20 of the more accessible springs have been inventoried. To date 15 species of aquatic molluscs have been found. Most are new, endemic species. The area may contain twice the known number of molluscs (D. Taylor, pers. comm.). Water turbidity, changes in chemistry due to the presence of excreta, and repeated disturbance of pond substrates are factors affecting the survival of some invertebrates.

Burro Control Activities

A burro control program began in 1939. At that time the population was approximately 1,500 animals and the range included the mountainous areas on both sides of Death Valley. By 1942 all burros were successfully removed from the mountains on the east side of the valley. The complete removal from the Amargosa Range reduced the Monument population to about 700 burros (Hansen 1973). Control and removal activities continued but varied with fluctuations in available personnel and funding levels. Efforts in the Panamint Mountains were directed toward cropping population increments and did not attempt a systematic removal of burros from a given area. Removal activities centered mainly in the Wildrose and Butte Valley areas. Between 1939 and 1968 official records show that 3,578 burros were removed from Death Valley and may have been as high as 4,130 if unrecorded trapper reports are added. Burro control activities were curtailed in 1968 (Hansen 1973). The National Environmental Policy Act of 1969 required the preparation of an environmental impact statement (EIS) prior to initiation of a major or controversial federal project. Additionally several wild horse and burro protection bills were introduced in Congress. (The Wild Horse and Burro Act, Public Law 92-195, became law in December 1971.) The odds for successfully completing an EIS were low, especially because the outcome of pending legislation to control burros was uncertain.

By 1972 the burro population had again risen to 1,500 with the animals occurring in greater densities on a smaller range (Hansen 1973). Live trapping resumed in July 1973 as an interim control measure. To date 45 burros have been trapped by the National Park Service and removed by permit holders for pets.

Management Considerations

The National Park Service recognizes the burro as an exotic animal. The basis for planning and management actions is the National Park Service Resource Management Policy (1970) for natural areas, which states in part:

"Management will minimize, give direction to, or control those changes in the native environment and scenic landscape resulting from human influences on natural processes of ecological succession. Missing life forms may be reestablished where practicable. Native environmental complexes will be restored, protected, and maintained, where practicable, at levels determined through historical and ecological research of plant-animal relationships. Non-native species may not be introduced into natural areas. Where they have become established or threaten invasion of a natural area, an appropriate management plan should be developed to control them, where feasible."

In compliance with this policy and the provisions of the National Environmental Policy Act of 1969, a management plan and draft environmental impact statement are being prepared.

Table 3. Shrub Volumes Inside and Outside of the Wildrose Burro Enclosure (from Fisher 1974)

Shrubs	Plant Volume (cm ³)	
	INSIDE	OUTSIDE
<i>Acamptopappus schockleyi</i>	3,210,737	317,678
<i>Coleogyne ramosissima</i>	120,511	1,678,862
<i>Dalea fremontii</i>	230,476	230,938
<i>Ephedra</i> sp.	3,757,474	1,780,056
<i>Franseria dumosa</i>	50,307	14,155
<i>Grayia spinosa</i>	1,810,034	330,010
<i>Haplopappus</i> sp.	266,774	145,450
<i>Lycium andersonii</i>	10,741,674	601,203

Table 4. Annual Grasses and Forbs Recorded in Vegetative Transects Inside and Outside of the Wildrose Burro Enclosure (from Fisher 1974)

Annual Grasses and Forbs	No. Individuals	
	INSIDE	OUTSIDE
<i>Amsinckia tessellata</i>	4	0
Grass spp.	74	0
<i>Bromus rubens</i>	1160	461
<i>Chaenactis</i> sp.	11	2
<i>Chorizanthe brevicornu</i>	3	0
<i>Cryptantha</i> sp.	7	0
<i>Descurania pinnata</i>	11	2
<i>Eriastrum eremicum</i>	24	19
<i>Eriogonum</i> sp.	0	1
<i>Erodium texanum</i>	4	0
<i>Gilia cana</i>	69	9
<i>Ipomopsis polycladon</i>	12	7
<i>Lepidium dictyotum</i>	12	5
<i>Oxytheca</i> sp.	9	1
<i>Streptanthella longirostris</i>	2	1

Table 5. Estimated Burro Populations, Death Valley National Monument (from Summer, 1951; Hansen, 1973)

<u>Year</u>	<u>Burros</u>
1939	1,500
1942	700
1951	800
1967	1,000
1969	1,350
1972	1,500

The plan proposes exclusion of burros from Death Valley. The plan also provides for the exclusion of trespass livestock as well. Elements of the plan are as follows:

1. Continuing research adding to present knowledge of vegetative systems and the animals therein. Studies of new management and control techniques is also recommended.
2. Implementation of a public information program to inform the public of the environmental effects of feral animal problems and to apprise the public of the progress of the project.
3. Fencing permanently portions of the Monument boundary to preclude entry by animals ranging on lands adjacent to the Monument. Burros ranging on surrounding public lands are protected by federal law and populations there will be managed as a public resource.
4. Removal of burros within the Monument by live trapping and direct reduction as required.
5. Construction of temporary barrier or drift fences as required within the Monument to prevent repopulation of areas where animals have been removed, to protect springs and other water sources from damage by feral animals, and to reduce competition with native wildlife species.
6. Monitoring of vegetative recovery following exclusion of animals to determine the need for restorative projects and control of exotic plants.

Conclusions

Damage by feral burros is one of a number of man-caused problems affecting the integrity of a natural ecosystem in Death Valley. To be effective, other habitat management projects such as restoration of former wildlife habitat, rehabilitation of old mining scars, relief of human impact by recreational activities, and others, cannot be successful if destructive influences remain. For example, it is of no benefit to bighorn to rehabilitate a spring formerly used by them if burros will move in. It is impractical to revegetate an abandoned mining road if burro impact negates management's efforts. For restorative actions to be assured reasonable success, such actions must be delayed until a primary destructive force is rendered inoperative. If burro control is unacceptable, the public must accept the ecological fact of life that the Death Valley ecosystem will continue to alter until a new equilibrium is reached and native populations will continue to decline significantly. In the long term, the disappearance of some native species can be expected.

Acknowledgements

A paper on this subject should and probably would have been presented by Charles G. Hansen, National Park Service Research Biologist, had he not been killed in a plane crash in the line of duty on May 2, 1973. This paper is dedicated to Dr. Hansen in commemoration of his dedication to wildlife and related studies in Death Valley. Much of the information contained in this report was taken from his writings and the many lengthy discussions we had together. Special thanks are due Lewis Nelson, Jr. and Charles L. Douglas for particularly constructive reviews of the manuscript.

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BURRO RESEARCH, BY DR. ROBERT OHMART, ARIZONA STATE UNIVERSITY

Our burro research has been in progress for approximately 2 years when we started looking into the Chemehuevi Mountains in California and then shortly after that initiated studies in the Bill Williams Mountains in Arizona. Since then, about 2 months have passed since we've initiated studies in the Kofa Mountains on the Kofa Game Range in Arizona. In the 2 years of information that we've had in the Chemehuevi Mountains, in this herd of 70 or 80 burros, we see definite movements in these animals. When we initiated these studies in late 1973, we found that from the winter of the preceding year there had been a tremendous amount of rainfall, comparatively, for that period. As a result of this, for the last couple of years and until a year ago, burros and all other animals were utilizing a large portion of an annual that has grown 1 or 2 years ago. I think if we look at some of the food habits data you'll see that indeed this annual, desert wheatgrass (*Plantago insularis*) plays a very important role when it's available in the areas.

In the fall of 1974, we viewed not too much movement displacement in the Chemehuevi herd toward the south. I have a map and in a minute we'll look at our study areas. In 1975, we were viewing a much greater herd displacement south toward the Havasu Landing.

SLIDES

This, again, is the map I referred to earlier. We're looking into the Chemehuevi Mountains, some of the data we're talking about in this area, Trampas Wash which allows us to go from Highway 95, which is out in here, all the way back and penetrate to the river just above Blankenship Bend, Topock Gorge being right here, just west of the Mojave Mountains. In the winter of 1974 we saw very little displacement of animals from this area south to here although we did see some. The burros moved out into the flats in the fall after the mesquite beans had dropped and been eliminated from the riparian communities along here, the animals moved into this area and utilized *Plantago* and other plant species in there, then in the spring they returned back to the Trampas Wash area. Home ranges varied from 6 square miles up to 36 square miles. A jenny had the smallest home range and a jenny had the largest home range. There was no significant difference between jacks and jennies

as far as home range size. Our home ranges were slightly larger than those reported by Patty Moehlman in Death Valley. Interestingly enough, home ranges were not perpendicular to the river, but were more or less parallel to it in some instances, but perpendicular to it in others.

The animals tended to spend, in the summer periods, a lot of their time along the river edge utilizing the riparian communities as a water source and as a food source and in the wintertime tended to move away from it and utilize the mountain ranges for food sources, feeding on the interfluves or between the drainages where annuals and the like were present.

Also, some of the data will be from the Bill Williams Mountains. Here we have bighorn sheep sympatric with burros. Unfortunately, the food habits data from this mountain range is not completed. I have the bighorn sheep data with me which just came out of the laboratory and I have the burro data from the Chemhuevi Mountains. You can see these areas are maybe 20 miles apart, separated by the Colorado River. We will look at these two sets of data.

The burro fecal analyses, or food habits data, are being completed and hopefully will be in our semi-annual report to BLM when we turn in the January report. The food habits data from the Chemhuevi Mountains for burros is present in our last annual report. I might comment on how we are getting at the food habits information. Only fresh fecal material is picked up. In other words, we watch an animal defecate and after the animal moves away, the biologist moves in and picks up a fecal sample. This way we know we're talking about annual food habits, or monthly food habits, and not leaving it to chance as to a fecal group being from January or February and going out and saying, "Aha, this represents an annual food habits picture." We feel we have to collect monthly samples from animals, freshly dropped, otherwise we really are not sure what we're viewing in the way of food habits.

These are composite samples that I'll be talking about. Samples of 10 droppings of 10 different animals are taken per month. We take a tenth of these, they're ground up, mixed, washed, then we take a sample from those and make 20 slides of that. On each slide we read 20 fields randomly, so there's 400 fields read with plant parts being identified in these fields. The technician that reads these plants wouldn't know one plant from another, has no idea what

burro biology or bighorn biology is involved, she's simply a plant technician who can recognize a plant from a microscopic standpoint, but many of the plants she's never seen before in her life or if she has, she doesn't know what they are. We feel that this helps insure that we're getting an unbiased bit of information from this young lady in the fact that she's providing us with simply what she identifies in these slides.

We might run through some of the other slides I have here and discuss a little bit of the other information that we've seen in the study areas.

This is *Plantago insularis*, or desert wheatgrass. The three plants on the left are growing plants. This annual herbaceous plant is stimulated to grow during the winter. It's a cool season grower and when rain falls in the winter, *Plantago insularis* germinates and matures throughout the wintertime. Once spring comes, it starts to dry up and cure. The plant on the left is a cured plant. Depending on the amount of rainfall, this is the difference in size in these plants. The one on the right is one of the plants that was grown during one good winter season. The three on the left are maximum size we found in 1975 when there was very little rainfall. You can see that the size of the plant is related to the amount of rainfall and obviously availability of the plant is directly related to winter rainfall. Once this plant grows, sets seed, then it dies and remains as a cured annual out on the area where it's used by bighorn sheep and burros and the like.

Here's a picture of *Plantago insularis*. You can see the brown material covering the soil site here and burros are utilizing *Plantago insularis* here. *Plantago* is utilized heavily when it's available. When it's not available, then obviously some other plant species takes on the brunt of removal by all animals.

Here's a picture of desert bighorn sheep utilizing *Plantago insularis*. You can see the one ewe in the upper left hand corner has a radio collar on her. That's her lamb with her. You can see another ewe there that has a lamb. We had three lambs born in the Bill Williams this year. After about 3 months of age, all three of them disappeared. We're not exactly sure why they disappeared, but we strongly suspect it was not predators, but it was the transition from weaning to a solid food source. They're certainly more vulnerable to predators during the time that they're 1, or 2, or

3 weeks old than they are when they get to be 3 months old. We suspect that this food problem may be much more acute than the data in the past has shown. The data in the past has been very scanty. It's not very well documented.

Here's also a picture of bighorn sheep utilizing the inflorescences of brittlebush (*Encelia farinosa*). This comprises another important component of their diet as well as paloverdes (*Cercidium*) which is another important component of both bighorn and burro diets.

Here's a ewe which had a lamb a couple of months after we captured here and radio collared her. The lamb lived approximately 3 months and then disappeared. We never saw the lamb again.

Here's another picture of the ewe and the young lamb. You can see the lamb is maybe 2 or 3 weeks old there and the radio collared ewe. You can see again the dearth of *Plantago insularis*. This was this last winter, in January or February. Very little, if any, *Plantago* on the slide which means we didn't have good winter range.

Here's a picture of the ewe a few months later. See the radio collar on her? She's coming in to water without her lamb.

We've heard a lot of stories of burro and bighorn interactions. We have seen a number of burros and a number of bighorn sheep in relatively close proximity. Here the animals are 10 or 15 yards from one another and neither appearing to pay much attention to the other. Like I say, we have a number of these observations. This does not negate anyone else's story that they've seen bighorns kill burros or burros kill bighorns. All we can say is that in the instances that we've observed we have not seen interactions between bighorns and burros in close proximity. In these two areas we're talking about, water is not a limited resource. There's the Colorado River running through each of the study areas, there's the Bill Williams River running through there, and there's the Planet Ranch which has domestic livestock on it and provides a food source for livestock in the form of Bermuda grass and the like. So water's not a limited resource, no one would be defending a water-hole or the like, but in the interactions that we've seen there have never been any physical interactions between bighorns or burros or bighorns and deer, bighorns and domestic livestock, or any of the other possible combinations.

Here's another slide of bighorn sheep. You can see a ewe and a lamb to the right of the burros. You can see another ewe up above them. They're probably within 6 to 8 yards of one another, the ewe and the lamb, and no apparent interest displayed by either species. Here, again, this does not negate anyone's observations on seeing one animal attacking the other or the like. We have just never seen this. Here, again, you can see large amounts of brittle-bush in there, (*Encelia farinosa*) and a number of other shrubs which are important in both of these animal species. Here, again, they're browsing or feeding together and this is something in the past most people have said bighorns are in the rough, rocky areas and burros are in the flats. This is not true. They both utilize to a great extent common situations and I think one of the reasons why the bighorns are in the rocky areas is because they saw you long before you saw them and they have gone there for protective cover. When they are out foraging and grazing, they're utilizing the entire habitat and not just the rough, rocky areas of which the burros can penetrate just as nicely as can bighorn sheep. Not quite as agile, but certainly as capable.

We have gone into a collection program where we're looking at burros and trying to get some assessment of biological parameters about these animals. This is a jenny that I shot 2 weeks ago. She was 5 to 6 years old and had a colt with her. I collected both animals. We wanted the blood samples from these animals as well. They were shot in the neck with a 7 mm magnum, of which I do the shooting, and then we get blood samples to compare with the 120 odd blood samples that we have from drugged burros to see comparisons between the drugged versus this. It took about 6 hours to necropsy this animal. Every major artery and vein were opened, all organs were weighed and measured, tissue samples were taken for histological evidence, skin weights were taken, parts of the brain, the entire system was gone through as well as the lymphatic system on these animals. It's a tremendous amount of work.

Here's the colt which is about 4 weeks old. As I said before, they were all shot in the neck. We don't want any organs disturbed, we want weights and measurements on these, but it's done as humanely as possible. We take them by jeep to the field base. Here are Dr. Ed Bicknell, a veterinarian who aids us on this necropsy work and Mr. Glen Martin with BLM. Body weights are taken, organ weights,

the entire system is worked over; we skin out the animal, work it down, and eventually then the material is all taken back and incinerated.

I have some overhead projections I would like to show you relative to some of the information we're finding in some of our burro studies.

In the Chemehuevi Mountains this gives you some idea of where a burro spends its time during a 12-month period. As you can see, the interfluves are the areas between washes which, in January, February, March, April, and May, constitute where the majority of the burros' time is spent. By May, we're running ambient temperatures close to 120° to 125° F. The animals then begin to spend less time on the interfluves and more time is spent in the riparian community where shade and water are available. You can see that during this time, also, they're spending more time in the washes. This is where they're primarily feeding during this period. The food data that we have substantiates the changes in these different environments. This would be primarily *Plantago* feeding time, this would be primarily mesquite bean feeding time, then back to *Plantago* or whatever is available in the washes and the interfluves. You can see that they're sharing about the same portion of the time here. So, in a 12-month period, on a percent frequency basis, scoring each animal as a hit, one gets an indication of where these animals are spending their time in these desert ecosystems.

Here's a slide showing the four primary food items of burros in the Chemehuevi Mountains in 1974 and part of 1975. You can see that *Plantago insularis* forms a very important part of the diet from January through June and July. Here, again, this plant is primarily on the interfluves. That's where these burros are getting it. In June and July, *Cercidium* occurs in the washes. Remember, that's the time they're spending in the washes. *Cercidium*, or paloverde, becomes an important component. You can see that they are utilizing *Prosopis*, which is the long dotted line, in July and August when bean drop and bean set are beginning. As they become reduced in availability, the burros then shift back to paloverde and *Pluchea* (arrowweed) forms a very important part of the diet in the Chemehuevis at that time. You can see that two major components in the desert in the burro diet is *Plantago insularis*, which is a herbaceous form, and paloverde.

Here, again, this is not a valid comparison because we're looking at two different mountain areas, but we're looking at bighorn sheep diets in the Bill Williams and burro diets in the Chemehuevi Mountains. We'll eventually have our burro diets in the Chemehuevis and I think they'll show virtually the same thing. But you can see that *Plantago insularis* plays a very important role in both of these species' diets. Bighorns will take it when it's available as will burros. You can also see that *Cercidium*, this is paloverde, is another important diet in bighorn sheep as far as energy availability. In June, July, August, and also October, you can see that paloverde plays a very important part, then in January *Plantago* begins to become important, and also in here *Cynodon dactylon*, which is Bermuda grass, produced by Planet Ranch, is also a very important component of the bighorn sheep diet, especially in the spring months when it is available. We feel that this may well be one of the reasons why bighorn possibly have done as well in the Bill Williams Mountains as they have although we don't have enough data base yet to make any concrete statements relative to that. I think that once we get the burro data superimposed from the same habitat, on the same time frame with the same food availability, we will see definitely heavy overlaps in burro use of food sources such as bighorns use.

This is another table showing you the major diet of desert bighorn sheep in the Bill Williams. You can see that *Plantago insularis* plays a very important part, paloverde, *Hyptis*, Bermuda grass, *Cryptantha*, some of these things do not have common names. Burrobush also became an important parameter in here, creosotebush forming almost 4 percent, and, of course, mesquite coming into the diet as well. Frequency, the number of times they appear every month, is 100 percent for a lot of these plant species.

One of the problems in trying to document any kind of competitive interaction with two animals like the bighorn and the burro is the fact that it takes a number of years of simultaneous data in some of these habitats to document when the bad year comes because it's probably going to be the bad year where the real tough competition is going to occur. When the food resources have been depleted, there is no *Plantago* available for either species. It may well be it's going to be such a subtle thing that you may not be able to see it there. It does appear that both of these forms are utilizing virtually the same kinds of plant material, the burro having

even the greatest versatility. In our Chemehuevi data, we find that if you get a month with a little rainfall in it, the next month the diet of the burro will include as high as 39 species of plants, whereas a month preceded by a dry month, the diet usually includes only about 10 or 11 species of plants with *Plantago* and *Cercidium*, some of these species being the most important components during that time.

I think our data are beginning to be quite revealing with respect to some of the potential problems that may be existing between bighorns and burros.

In the Kofa Mountain range, we have even a more interesting situation in the fact that we have domestic livestock, burros, bighorn sheep, and mule deer. In the Bill Williams Mountains, we do not have very many mule deer. They're mostly confined to the riparian community and not in the Bill Williams Mountains themselves.

Recently, my research has caught the eye of a Senator back in Delaware. Senator William Roth has nominated the study we're doing on burro movements and behaviors and the like as being one of the frills of the year awards. In other words, one of the types of research where governmental agencies are spending their money for a nonpublic demand type of information. I've written to Mr. Roth pointing out to him the importance of this, the passage of Public Law 92-195, and the like. Also, I point out to him that if he has no concern for the preservation of desert ecosystems or the potential welfare of native plants and animals, then I could understand how he could make these allegations. In a recent phone call to him by a Phoenix newspaper, he points out the fact that he is concerned about Government spending and he sees no reason why these problems should be looked into and that there is an Advisory Board set up to advise the Secretary of the Interior. Obviously, he really has no idea of what the Advisory Board's capacity is, they're not a research agency. So, I would recommend that the Advisory Board inform Mr. Roth of their responsibilities in these problems. Also, people who are interested and concerned about the burro problem, about the bighorn problem, about desert ecosystems, possibly even write Mr. Roth, not for myself or anyone else, but simply to make him aware that there are problems such as this and that he is certainly not helping by singling out these kinds of research problems. Bill McClellan from the Phoenix paper summarizes by saying, "Hell hath no fury like a Senator running for reelection." Mr. Roth is running for reelection and I'm sure that he's showing to his constituents he's concerned about governmental spending, but unfortunately, I think he's chosen some of the wrong projects, at least one of the wrong projects, to criticize.

PRESENTATION BY JIM ENGLEBRIGHT, BUREAU OF LAND MANAGEMENT

CHALLIS WILD HORSES

For presentation at the December, 1975 meeting of the National Advisory Board on Wild Free-Roaming Horses and Burros.

SLIDENARRATIVE

1. Challis Wild Horses

Good Afternoon. My specific job for the past 2½ years has been to study and write a management plan for the Challis Wild Horses. We feel that we now have some good basic data on this particular herd.

2. Map of Idaho

The horses are located near the town of Challis, Idaho. Challis is a small town in eastern Idaho.

3. Wild Horse Boundaries

This slide shows the approximate boundaries of the Challis Wild Horse Area. This area is just south of Challis. Exact boundaries were established by the B.L.M. which consist of approximately 168,648 acres, and are roughly 24 by 13 square miles.

4. Topography

Topography is varied in the wild horse area. The peak in the background is Lone Pine Peak which is about 9,600 feet. However, most of the area is rolling sagebrush

5. Topography

grass foothills. The lowest elevation is in Bradbury Flat which is around 5,400 feet.

6. Spar Canyon

Vegetation and soils vary in the area from this in Spar Canyon

7. Bluebunch Wheatgrass
Stand

. . To this in some of the higher country.

8. Cattle

The wild horse area is used by a variety of animals. Currently 14 different operators have grazing privileges in the wild horse area and collectively run 3,974 cattle and 100 sheep.

As you may have heard, the Challis Planning Unit is currently drawing national attention by being the first planning unit administered by the B.L.M. to have an Environmental Impact Statement prepared on livestock grazing.

The wild horse area comprises about 45% of the Planning Unit and therefore, wild horses are a major consideration in the E.I.S.

The statement is a result of a suit filed by the Natural Resource Defense Council and others, challenging that the Bureau's bureau-wide programmatic statement did not comply with the National Environmental Policy Act in connection with the grazing program. The court agreed with the plaintiffs and the Challis Planning Unit was chosen to serve as the initial statement on a planning unit basis. The statement should be ready for public review in April of 1976. I'll

- discuss the statement and how it relates to wild horses a little later on in the program. Wild animals are plentiful in the wild horse area. About 300-350 antelope . . .
9. Antelope
10. Elk 100-150 elk . . .
11. Deer and 600-800 deer call it their home during some portion of the year (numbers estimated). Elk and deer primarily use the area as winter range.
12. Salmon The headwaters of the East Fork also provide major spawning grounds for anadromous fish. As you can see, management considerations in the Challis Unit are complicated.
13. Stallion gathering mares Currently there are 407 horses and three burros in the Challis Unit.
14. Mares in flight These horses have a little better size and conformation than most wild horses. The average weight of a mature adult horse is estimated to be 900 lbs.
15. Lone Gray Stallion Band size varies from one individual horse such as this (note his size) . . .
16. Large Band in Movement To this band with 21 members. The gray colors you are seeing are a characteristic color in the herd. Dominant colors are bay, black and gray.
17. Burro with White Nose Three burros run with the wild horses. This burro and this young stallion are pals; wherever you see one, you will find the other.

18. Burro with grays Another burro. Note the gray horses, how they resemble horses with Arabian breeding.
19. Gray Stallion Another stallion showing characteristic gray color of Challis horses
20. Band of horses . . . and this is his band of mares.
Characteristically there is one stallion per band, however several bands have two stallions per band, some have more than two.
21. Young Colt The Challis horses have grown rapidly since 1971. Our best count in 1971 indicated 150 horses and 1 burro. Today there are 407 horses and 3 burros, representing almost a 270% increment. In 1973 and 1974 the horses increased at 28% a year. This year, they only increased by 18%. Our spring this year was late with heavy snow and cold weather prevailing. This likely affecting foal mortality. By our best estimates, a 28% increase in 1973-1974 would indicate about an 85% colt crop.
22. Dead Horse Mortality until this year has only been approximately 2-3%
23. Sick Mare . . . which could mostly be attributed to natural causes and parasites. This mare was found dying of what was believed to be parasite infection. Fecal analysis by veterinarians indicate that the horses have high levels of strongyles (a blood worm

24. Stud Pile

affecting the digestive system). We have been working with Dr. Richard Hansen of Colorado State University to determine forage preference of the Challis horses. We send in random samples of fecal material during different seasons of the year, and he examines them microscopically to determine what the horses have been eating. We also have done the same for deer, elk, antelope and cattle. After it was determined what the various animals are eating, a diet similarity index was calculated to determine how similar their diets are. The results of that study are available and included in the report that was handed to you.

25. Marker Band -
Roach Back Band

Marker bands such as this one have been studied for band stability, seasonal movement, and home ranges. Normally the horses do not move much over 5 sq. miles anytime during the year.

26. Cattle and Horses
Feeding Together

We have found in the Challis area that the greatest competition is between horses and cattle. Horses under current livestock management have in essence a competitive advantage because they are able to use, and . . .

27. Horses in High Country

. . . seem to prefer, much of the steeper, rougher country. They also are able to graze farther from water than cattle.

28. Wet-Meadow Area

However some areas such as wet-meadow areas, areas near water, and early spring ranges are used extensively by both horses and cattle, and a variety of wildlife species. Some of these areas are in poor condition as a result of this combination of use.

29. Fences

Fences and wild horses are a continuing problem. Currently the wild horse area is not intensively fenced and the horses seem to have adjusted to the existing fences rather well. Where gates are open they consistently go through them - where fences are open ended, they know their way around. Since the fences are barb wire, potential exists for serious damage to horses especially when they are under stress.

30. Horses on Winter Range

We feel that the limiting factor on horse numbers in the Challis area is winter range. A range survey recheck was made in the wild horse area in 1974-1975 to determine a carrying capacity for wild horses. We found that the area could support some 582 horses. However this was based on summer conditions and all of the country being available to

horses. Much of the horse range becomes unavailable during the winter because of deep snow. The late winter and early spring of 1975 gave a good indication of the country that was potentially unavailable to horses during the winter because of deep snow. This country was mapped and it was concluded that only 54.3% of the horse area may be unavailable to horses during extreme winters.

Therefore, under existing conditions it is our assumption that the area will support somewhere near one-half the number that can be supported during summer conditions, or approximately 300 horses.

31. Horse Trap

Our recommendation will be to manage the horses for a minimum of 150 and a maximum of 300. Currently some gathering facilities are being prepared to reduce horse numbers. Possibly next summer a gathering will be initiated.

32. The End

PRESENTATION ON WILD HORSES IN RELATION TO THE E.I.S.

Now in relation to the wild horses and how they are handled in the Environmental Impact Statement; Realize of course that the statement is only in draft form and may be subject to change.

Basically here is how the statement was handled. The Bureau brought in a team to write allotment management plans for the various allotments in the Challis Unit. In the wild horse area, four three pasture rest-rotation systems and one two pasture rest-rotation system were proposed. The statement then is an evaluation of the proposed allotment management plans and the effects they will have on the various resources in the area, such as wild horses.

The impacts on wild horses are many. Whereas an entire allotment was normally grazed every year by livestock for approximately the same period, now each allotment will be sub-divided into smaller areas or pastures. Livestock grazing by pastures will be more concentrated, but for a shorter period of time. For example in a typical three pasture system:

Pasture 1 - Grazed for livestock production 5/15 - 7/20.

Pasture 2 - Grazed at seed ripe of desirable plants for livestock production and seed trample 7/21 to 8/31.

Pasture 3 - Rested yearlong to allow plants to meet their physiological requirements.

To initiate this kind of proposal, several new fences will have to be constructed in the wild horse area. Here is how we have recommended that the fencing situation in the Challis area be handled -

- a. All fences, except fences on the wild horse boundary, should be open-ended wherever possible to permit free horse movement. This usually

can be accommodated by tying fences into areas that are natural barriers for livestock, or by using let down fences. Let down fences should not be constructed of barbed wire. Rather smooth wire should be used to prevent the possibility of horse entanglement.

- b. Pole fences and electric fences are not economically feasible. Maintenance and labor costs are prohibitive. If wire is used, the first preference should be a three or four-strand smooth wire fence. Barbed wire should be used as a last alternative.
- c. Visibility and contrast are important in building horse fences. The following recommendations should improve these two aspects of fences in a horse area.
 1. No environmental fence should be used.
 2. Wooden stays should be used to add contrast.
 3. Wooden posts should be used more liberally. One wooden post every other post where terrain permits; and one every five posts in steep rocky terrain.
 4. Fences should be kept to ridgetops as much as possible. Canyon bottoms and draws should be avoided wherever practical. This gives a "skyline" effect to fences for more visibility.
- d. Fences should parallel horse movement patterns as much as possible.
- e. All gates should be left open after livestock have been removed to permit free horse movement.

Basically the rest-rotation systems as proposed will impact the horses in the following manner:

Induced Horse Movement - It may be expected that induced wild horse movement will occur from the pastures being grazed, even after mitigating measures are applied. Because of a greater concentration of livestock per unit area, horses will move because of their intolerability for cattle and for the human element

involved with managing the cattle.

As horses move into rested pastures, total living space would be reduced and the density of wild horses per unit area would increase. This may result in potential for (1) band structure changes resulting from increased contact between bands; (2) more stress and competition among bands - (i.e. increased stress among stallions, increased competition for available forage, cover, water, living space, etc.); (3) magnification of disease and parasite problems; (4) change in foaling areas and a variety of other possible factors. The total ramifications of these impacts are not completely understood.

Reduced Competitive Advantage - It is expected that pastures being grazed by livestock will result in a reduced competitive advantage for horses in these pastures. Horses in the past have had the advantage of using some of the rougher, steeper country that cattle were not using because of steepness of slope and/or a lack of water. A combination of new water developments and increased concentrations of cattle per unit area will permit cattle to use some of this country that was previously unavailable to them.

Horse Winter Ranges - Since winter range is the limiting factor on horse numbers in the Challis area, use of these winter ranges is critical. Use on horse winter ranges will continue so long as cattle are in the unit. This is unavoidable. Some treatments may result in 70-90 percent utilization of the available forage.

How this will affect the horses is not quantifiable and will warrant further study after initiation of the proposal. The impact of the lack of quality forage for wintering horses is dependent upon the severity of livestock use.

Secondary Impacts of Horses Grazing Rest Pastures - Horses will tend to move into rested pastures. It has been estimated that 70 to 90 percent of the horses

will be in these areas, depending on the intensity of livestock use in other pastures, thus use in these areas may be substantial even if mitigating measures are applied.

It can be expected that horses would graze desirable forage species during the growing season. This would reduce seed stalks, vigor and litter accumulation of these species. The impact could be significant and definitely reduce the desired response of the proposal.

STATEMENT OF BELTON P. MOURAS, JR., ANIMAL PROTECTION INSTITUTE
OF AMERICA

Mr. Chairman, I am Belton P. Mouras, Jr., Field Service Director of the Animal Protection Institute of America, national headquarters in Sacramento, California.

We again appreciate being invited to attend your meeting--the last time being at Lake Havasu two years ago.

Let me say to begin with that we are not opposed to the establishment and implementation of a good controlled conservation program for the burros, but only if the need is very strongly established and the program is humanely conducted.

If a control program or part of a control program of shooting is adopted, then we must urge the Board to assure us that the shooting will be done by professional marksmen, and not by specially-licensed hunters. We feel humane and other public-interest groups should also be allowed to monitor the program.

Again, Mr. Chairman, above all, if the need for a control or conservation program is firmly established, we again ask that it be humane.

I thank you for inviting us here today.

STATEMENT OF PETER BURK, SIERRA CLUB, REGARDING IMPLEMENTATION OF PL 92-195, THE WILD FREE-ROAMING HORSE AND BURRO ACT, AS PRESENTED TO THE NATIONAL ADVISORY BOARD FOR WILD FREE-ROAMING HORSES AND BURROS, AT CHINA LAKE, CALIFORNIA, 5 DECEMBER 1975.

Attached to this statement is a copy of the Sierra Club policy on feral burros which should be inserted in the proceedings of this Board meeting along with these remarks.

The Sierra Club has expressed its policy on the matter of the feral burros in the Southwestern United States quite clearly in the attached document. At this time, the Club would like to make two recommendations regarding the implementation of PL 92-195. The recommendations are made within the framework of the existing Club policy on feral burros.

(1) Recommendations relevant to the burro situation in the Panamint Range, Inyo County, California:

Because the numbers of burros in the Panamint Range exceeds carrying capacity; and

Because these burros exist in habitats and ecosystems which are administered by three agencies, namely the National Park Service in Death Valley National Monument, the United States Navy in the Naval Weapons Center, China Lake, and the Bureau of Land Management under the jurisdiction of the Bakersfield and Riverside Districts(although primarily the Bakersfield District); and

Because these burros freely roam and migrate across jurisdictional boundaries; and

Because PL 92-195 does not clearly define which agency would have the jurisdiction over those burros which utilize lands administered by several agencies; and

Because none of the above-named agencies can by itself manage these animals without the cooperation of all agencies involved; the

Sierra Club recommends that the three agencies involved enter into a cooperative agreement for the management and control of burros in the Panamint Range; and the Club further recommends that

The control of burros in the Panamint Range should be the Number One Priority for burro management in the Mojave Desert.

(2) Recommendations relevant to the burro populations in desert bighorn habitats.

The Sierra Club recommends that the BLM promptly inaugurate burro management and control programs for those areas of the Mojave Desert in California that are bighorn sheep habitat. The bighorn in California are a threatened species and are fully protected in the State of California. There is no hunting season on this increasingly rare animal in the California desert. The Sierra Club recommends that the BLM enter into cooperative agreement with the State of California Department of Fish and Game in this matter. The Sierra Club refers the Board to those sections of the Feral Burro Policy which deal with bighorn habitat and needs of native wildlife.

The Sierra Club calls for control of feral burros in a manner which protects native fauna, flora and soils. In addition, the Sierra Club adopts as suggested guidelines for this policy, the proposed "Sierra Club Feral Burro Policy" prepared by the SCRCC Desert Subcommittee and the Wildlife Committee of the Angeles Chapter on April 15, 1975.

(Policy and guidelines adopted by unanimous vote of National Board of Directors, Sierra Club, San Francisco, California, Annual Board of Directors meeting, May 3, 1975.)

Guidelines:

INTRODUCTION

Over the years, burro populations have dramatically increased in western arid regions to the point where they now constitute a serious threat to native habitats. Native wildlife, including the endangered desert bighorn sheep, cannot compete with burros. Burros have no natural predators, are prolific breeders, and are rapidly extending their range. Although burros exist in a "wild" (Feral) state, they are not in the true essence "native wildlife." Burros are an exotic species which occupy an extremely wide ecological niche at the expense of native flora and fauna.

The Sierra Club recognizes that many people have an aesthetic and historical interest in the feral burro.

It should be emphasized that the existing burro herds are the results of man's action, and are a man-made problem. Therefore, man must control burro populations and burro-related impacts on native biota, soils, and cultural sites.

The Sierra Club feels strongly that priorities should be given to native wildlife and the land they utilize over the total preservation of an introduced species. This is in accordance with Sierra Club National Wildlife Policy which states:

(Under "Wildlife Conservation Management")

"The Sierra Club believes the goal of wildlife management should be to insure a natural diversity within natural ecosystems by means that involve a minimum of overt human interference."

(Under "Introduction and removal of Wildlife")

"The introduction of non-native species of animals and plants into natural ecosystems where native wildlife may be displaced or destroyed is inconsistent with sound conservation principles. It should be assumed that such introductions would have a damaging effect on existing natural ecosystems unless clear evidence to the contrary exists."

RECOMMENDED SIERRA CLUB FERAL BURRO MANAGEMENT POLICY

Part 1: Recommendations: Species recognition.

- 1) The Sierra Club recognizes that feral burros and feral horses are two distinct species. Ecological niches are dissimilar.

Part II: Recommendations: Management and Control:

- 1) The feral burro must be strictly managed and controlled.
- 2) Federal and State agencies must insure that burro management methods are humane.
- 3) The Sierra Club recognizes the necessity of utilizing mechanized transportation (helicopter) for management purposes, i.e., for censusing, reconnaissance, and access to habitat areas.
- 4) The use of firearms by competent Federal agencies or their appointees is a humane method of direct reduction of feral burros.
- 5) The Sierra Club endorses the concept of private ownership of feral burros as pets or pack animals.
- 6) The Sierra Club opposes the utilization of feral burros for sporting purposes, including wrangling or mustanging of herds, burro racing, or for any similar activity.
- 7) The Sierra Club suggests that, when feasible, carcasses resulting from burro reductions be donated to government institutions.

Part III: Recommendations for Protection of native ecosystems and fragile resources.

- 1) Burro herds must be culled in areas where native habitats have become impoverished because of overpopulation, and where overgrazing is evident. Burro herd numbers should be maintained at a level which would minimize impact on native habitats.
- 2) The burro must be eliminated from all Federal and State lands where they would pose a threat to habitats in which rare, endangered, threatened, or endemic species of flora and fauna exist.
- 3) The feral burro must be eliminated from all areas which are protected by the Antiquities Act.
- 4) The feral burro must be eliminated from all National Parks and Monuments.
- 5) Burros must be managed and controlled in National Recreation Areas, and removed from those sections of the N.R.A. in which they would pose a threat to rare, endangered, threatened or endemic biota, or to cultural sites protected under the Antiquities Act.

Part IV: Recommendations for Congressional Action.

- 1) The Sierra Club recommends that PL 92-195 (The Wild Horse and Burro Act) be amended so as to apply only to wild(feral)horses.
- 2) The Sierra Club recommends that a Feral Burro Management bill be introduced in Congress which would delineate burro management concepts, and which would establish sanctuaries in areas where it has been determined, through proper scientific studies and environmental impact statements, that there is sufficient forage, water, annual primary productivity, and soil conditions to maintain burro herds, and which would have minimal effect on native wildlife.

STATEMENT OF LYLE GASTON

I have lived on the desert for the last 20 years. I have become concerned about the destruction of the desert, particularly by off-road vehicles. These are destroying the plant cover. There are creosotebushes that have been dated as being five to seven hundred years old. Some may be 1,000 years old. It is disastrous for the desert when these plants are removed. The slides that Mrs. Barling showed of burro damage and my slides of ORV damage were almost identical. One idea I want to leave with the Board is that everything that has been said today where the word "burro" occurs, you can put off-road vehicles in that place and you would have almost 1:1 correspondence.

I would like to suggest that the Board recommend, within southern California, that one wildlife biologist be solely committed to management of burros. He would work with the interagency committees to formulate plans and see that they are implemented in a time frame that will permit restitution of some of the habitat that has been destroyed out here.

We have to get around the problem of writing more and more reports. The Bureau can write a one-page environmental assessment for a motorcycle race that's 150 miles long involving 1,000 motorcycles, using three sentences to justify no EIS, and to permit the race to go on. I wish we could do the same for some of the burro damage here.

STATEMENT OF PAT SMITH, AMERICAN HORSE PROTECTION ASSOCIATION

Public Law 92-195 created this Board and charged it with the responsibility to advise the Secretaries of Agriculture and the Interior on any matter relating to wild free-roaming horses and burros and their protection and management. Inherent in the concept of advice, however, is an independent and honest review of the programs and policies of the BLM and Forest Service. To properly fulfill its statutory function, the Board was not meant to become a rubberstamp to sanction government activities, regardless of their wisdom, legality, advisability or efficiency.

But the Board's discussions so far have fallen short of independent review. Rather than approach the problems of protecting and preserving wild horses and burros in accordance with the preamble of the Wild Horse Act, the Board has accepted the BLM's policies wholesale. The Board has, for example, made much of the point that wild horses should be classified as "exotic" animals that are neither wildlife nor native to the American ecosystem. This is about as relevant to the values of our Western heritage as classifying the American Indians as Mongol immigrants who came to North America via the Bering Straits.

Similarly, the Board has accepted uncritically the BLM's estimate of wild horse population growth, without demanding hard scientific

evidence about the growth rates of wild horses in general or those of individual herds in particular. Figures such as 25 or 30 percent increases per year are bandied about in an attempt to demonstrate the supposed threat of too many horses. But no one really knows how fast horses reproduce, how much of a burden they place on range resources, or to what degree they compete with other animals for those resources. More important, no one on this Board has demanded the studies that would provide answers to these crucial questions.

Because its review has been superficial and unquestioning, this Board has ratified a "management" policy that is in reality a shorthand for wild horse extinction. All that we really know about wild horses is that their numbers decreased drastically in the last 100 years as range uses increased. The fact that a federal law forbade private individuals from harassing, gathering or killing the horses suddenly has created the wild horse "problem". Wild horses became conspicuous because they were Federally protected.

But the BLM policies so blithely applauded by this Board are in reality the policies that the Western ranching interests have always held -- to remove 8,000 or 10,000 or as many horses as necessary each year to keep wild horse numbers at their low 1971 levels before Federal protection started. This is the level to which wild horse numbers were reduced by the ranchers themselves -- the horse population that the ranchers could live with and keep cattle and sheep grazing on public land at a maximum.

This program is costing the taxpayers hundreds of thousands of dollars each year. It not only is picking the taxpayers' pockets, but it is removing from their public lands horses which these same taxpayers got Congress to protect and to declare a part of the Nation's

heritage. They are animals which belong to the people of the United States, and which were entrusted largely to BLM. BLM's policies violate that trust. Using taxpayers' money to fund programs which achieve goals which are identical to the pre-1971 poaching, selling and killing by ranchers is like supplying a burglar with the combination to the vault and a police escort while he escapes.

The Board's indifference to independent review has been responsible for a "management" policy that, if left unchallenged, will eradicate the wild horse. The BLM has turned the Wild Horse Act into a weapon against the animals that the Act was meant to protect. In the past two years BLM has authorized the removal of over 2900 wild horses from the public lands. Removals of 8,000 to 10,000 each year are desired by BLM. Few, if any, of these actions have been prefaced by adequate study of alternatives to wholesale wild horse removal. No environmental impact statement has ever been prepared, despite the fact that the gatherings are clearly expected to have a direct and significant impact on range environment. The costs of removal in dollars are ludicrously high -- from \$300 per head (according to a November 11, 1975, BLM press release from its Oregon State Office) to \$1200 per head (Lakeview (Oregon) Examiner, October 2, 1975). The cost in terms of permanently depriving Americans of a legislatively protected heritage by removal or destruction is even higher.

No one can say how many wild horses have been killed as a result of gatherings. AHPA can count at least 24 that died at BLM-sponsored roundups. The total number of actual deaths will never be known, because for many roundups public data on horse deaths is unavailable. Nor can AHPA estimate how many horses were destroyed when foster homes

could not be found for them. But the Board has made no comment. In fact, several members of the Board apparently favor outright destruction of horses as the best "management" plan.

The brutality and cruelty with which the gatherings are conducted is horrible. With few exceptions, the BLM employees conducting the roundups have not been experienced horsemen. Their roundup techniques do little to alleviate the fright of captured horses. Instead, the carnival atmosphere and incessant shouting, banging, hat-waving and hazing excite the horses to a panic. It is little wonder that many are killed or injured. The Board has never challenged these techniques or investigated the killings, nor observed roundups or set standards for them.

Moreover, the conduct of the gatherings sometimes just doesn't make any sense. In the Pryor Mountains this March, 81 horses were gathered but only 23 removed. Six were killed in the meantime. Why? In East Kiger Gorge in September 1974, 96 horses were corralled, 20 were later released, and 59 were given to foster homes. Why were 96 gathered in the first place? What happened to the 17 horses that cannot be accounted for? The Board has not asked these questions.

The history of BLM stewardship of the Wild Horse Act since its passage in 1971 has been dominated by one theme -- keep livestock interests happy. The livestock growers obviously don't like the fact that wild horses are protected by Federal law. The BLM obviously doesn't like the law. BLM, with Board acquiescence, has ordered that wild horse populations be maintained so that there will be no disruption of range allocations on the public lands for cattle and sheep. Despite wholesale reductions of wild horses this year in Tonopah,

Nevada, and more recently in Bible Springs, Utah, no concurrent mandatory livestock use reductions were made. This pattern likely will be repeated. And once management plans for public lands are developed, the result is no different: in two areas near Vale, Oregon, the new management plan calls for an immediate removal of nearly 500 wild horses -- about two-thirds of the total herd population.

The moral of this dismal history is clear. Despite legislation intended to protect wild horses, and despite a congressional mandate that they be preserved, wild horses are doomed to a perilous existence under the BLM's administration of the law and this Board's advice. From every BLM spokesman, AHPA hears of the threats wild horses pose to ecological balance and economic prosperity. (The saving grace of cattle and sheep, of course, is that they enrich someone's pocket, despite the fact that they are "exotic".) In the din that the BLM and livestock interests have created, the voice of the people of the United States has been lost. So, too, have historic, aesthetic, and cultural values. But the Board remains silent.

The BLM and this Board have ignored the spirit of the Wild Horse Act and have used a parsimonious reading of its provisions to accomplish almost precisely what would have occurred if the Act did not exist. The only change is that the persons usually planning and conducting the roundups are BLM employees, not ranchers. The philosophy is the same. The 1973 roundup and massacre of wild horses by ranchers with BLM acquiescence and encouragement is stark testimony to the nature of the BLM-rancher alliance, which flourishes without challenge from the Board.

AHPA submits that the Board must do more, if the BLM will not. The Board is meant by law to act as an independent advisor. It must assess BLM policies and programs in light of the purpose of PL 92-195. It must challenge those policies, demand proof of BLM's assumptions, and insist that BLM examine alternatives to wild horse roundups. The Board must approach the problems of protecting wild horses and burros in a humane and compassionate manner, and develop alternative policies of its own initiative. If it continues on the rubberstamp path it has followed so far, the Board will be a guilty participant in the systematic nullification of a Federal law and the destruction of a national heritage.



STATEMENT OF HOWARD AND NANCY GREEN

HUMBOLDT STATE UNIVERSITY

• Arcata, California 95521 •

(707) 826-3954

SCHOOL OF NATURAL RESOURCES
DEPARTMENT OF WILDLIFE MANAGEMENT

December 2, 1975

Chairman, National Advisory Board on
Wild Free-Roaming Horses and Burros
c/o Mrs. Robert Barling
Director of Natural Resources, Code No. 70309
Naval Weapons Center
China Lake, California 93555

From June through September, 1975, we studied the population dynamics, behavior, and ecology of wild horses in the Stone Cabin Valley, Nye County, Nevada. Additional data will be collected this winter and in the spring of 1976. We hope that the information yielded by our study will be helpful to the Bureau of Land Management in their management of wild horses, especially in the Stone Cabin Valley area.

Our work last summer included a survey of forage availability in the valley. We completed 100 vegetation transects for a total of 10,000 toe points and 2,500 sample plots. We also collected data on habitat utilization, movement patterns, and the horses' home range size. Fecal samples from cattle, horses, pronghorn, and rabbits were collected for food habits analysis. Samples of all forage plants will be analyzed for caloric value, crude protein and fat content.

Over 250 hours of behavioral observations were made and we have sex and age data for over 100 bands of horses. We are in agreement with the ELM estimate of approximately 950 horses in the valley. Our data shows a relatively low foal crop of 9-10% for 1975. In almost all cases, mares with yearlings did not have foals, indicating that the mares are producing a foal once every 2 years. We found many bands which contained 2 or more adult males, as well as some all-male bands. The low foal crop, low mortality rate, and relatively large proportion of males are indicative of a slowly growing population. These data do not indicate that the population is expanding rapidly at this time.

The last ELM range survey of the area was conducted in 1959. A preliminary comparison of our data with that collected in 1959 does not indicate a major decline in range quality during the last 16 years. The poor condition of the range is due to chronic overgrazing and cannot be attributed to an expansion of the horse population in the last 4 years.

Attached is a summary of our percent composition data for two habitats which received extensive horse use last summer. While these areas amount to only 20,621 acres they do demonstrate that drastic changes in percent composition, especially of the species with high forage values, have not occurred between 1959 and the present. We also found that the average density values for the 2 areas were essentially the same as they were in 1959.

We are greatly concerned that so little data has been collected by BLM upon which to base their management decisions concerning wild horses in the Stone Cabin Valley. To our knowledge no data, other than an aerial survey of the population, have been collected. Without data on food habits, sex and age ratios, birth and mortality rates, current range forage availability, habitat utilization, etc., it is not possible to develop sound management options and plans which would best suit the range and the animals which use it. We urge BLM to gather these types of data in all areas which have wild horse populations, and that extreme caution be taken in management practices until such data is available.

We expect to complete the final report on our data in summer, 1976, and a copy will be made available to the Bureau of Land Management.

We would appreciate receiving a copy of the proceedings of the National Advisory Board meeting at China Lake.

Yours truly,

Howard D. & Nancy J. Green

Howard and Nancy Green
Graduate Students, Wildlife Management

BLM Habitat Number: 43Z
Acres: 17,456

<u>Grass Species</u>	% Composition	
	<u>1959</u>	<u>1975</u>
* <u>Hilaria jamesii</u>	12	9
* <u>Oryzopsis hymenoides</u>	5	8
* <u>Stipa comata</u>	trace	2
* <u>Sporobolus contractus</u>	--	2
<u>Sitanion hystrix</u>	trace	trace
<u>Sporobolus cryptandrus</u>	trace	--
 <u>Forb Species</u>		
Annuals	3	13
<u>Sphaeralcea</u> spp.	1	2
 <u>Browse Species</u>		
<u>Chrysothamnus viscidiflorus</u>	60	50
<u>Grayia spinosa</u>	9	3
<u>Artemisia spinescens</u>	5	2
* <u>Atriplex canescens</u>	2	2
* <u>Eurotia lanata</u>	1	2
<u>Ephedra nevadensis</u>	1	2
<u>Atriplex confertifolia</u>	1	trace
<u>Artemisia tridentata</u>	trace	2
<u>Tetradymia spinosa</u>	trace	--
<u>Tetradymia canescens</u>	--	1
<u>Artemisia nova</u>	trace	trace
<u>Chrysothamnus nauseosus</u>	trace	--

*Preferred plants with high forage values.

BLM Habitat Number: 35Z
Acres: 3165

	% Composition	
	<u>1959</u>	<u>1975</u>
<u>Grass Species</u>		
* <u>Hilaria jamesii</u>	10	10
<u>Sitanion hystrix</u>	2	trace
* <u>Oryzopsis hymenoides</u>	3	trace
**Bki	3	--
<u>Forb Species</u>		
Annuals	2	4
<u>Sphaeralcea</u> spp.	trace	trace
<u>Browse Species</u>		
<u>Atriplex confertifolia</u>	40	35
<u>Chrysothamnus viscidiflorus</u>	25	20
<u>Artemisia spinescens</u>	10	10
* <u>Eurotia lanata</u>	2	4
<u>Ephedra nevadensis</u>	1	4
<u>Kochia</u> sp.	1	trace
<u>Sarcobatus baileyi</u>	1	trace
<u>Grayia spinosa</u>	trace	4
<u>Artemisia tridentata</u>	--	7
* <u>Atriplex canescens</u>	--	2
<u>Artemisia nova</u>	trace	--
<u>Tetradymia spinosa</u>	trace	--

*Preferred plants with high forage values.

**Bki - this code was un-identifiable by us or BLM Range Conservationists; it was not given a high forage value on the BLM data sheet.

STATEMENT OF MARY ANN HENRY

I wish to support Bureau of Land Management in efforts to reduce burro populations by direct methods--right now--not next year or later.

I wish to support the Naval Weapons Center in their concern for damage to plants and land by large burro populations. NWC needs to use "direct methods" to reduce or eliminate the feral burros--right now.

From 1947 up until the past few years it was a real event to see one feral burro when traveling Mt. Springs Canyon to the north and on to Little Petroglyph Canyon. No more! Herds of 4-30 are a too common painful sight each time we go to the Petroglyphs.

In Little Petroglyph Canyon last spring the buckwheat shrubs had been eaten down to nubbins. Introduced weeds were prevalent in the Canyon. Weeds are opportunists and grow where native plants have been destroyed by exotic species of animals.

The floor of Little Petroglyph Canyon is sand and can be a water reservoir at various depths. The feral burros dig down with their hoofs to expose water. They then foul their own water supply as well as the temporary water supply for native animals.

Last winter, January 1975, on the flat valley west of China Lake, the salty lake to the north, there were repeated burro droppings. Were the burros hard-up for food in the hills because the hills cannot support large bands of exotic animals and they come to the very arid valley of creosote bush and atriplex for food?

I support any efforts to eliminate the feral burros and horses by direct methods--right now.

STATEMENT OF DR. WILLIAM M. BLACKMORE, CALIFORNIA STATE VETERINARY
MEDICAL ASSOCIATION

The CVMA concurs with the National Park Service, the California Fish and Game Service, and the Naval Testing Facility that the feral burro should be removed from all areas where the burro is in competition with the endangered species native to the State of California. We also feel that the burro should not be eliminated completely from the China Lake Facility. At least one area should be preserved where the burro could live in harmony with the desert ecological system and could serve the public need to view this very appealing animal.

STATEMENT OF WILLIAM REAVLEY, EXECUTIVE REGIONAL DIRECTOR, ON BEHALF OF THE NATIONAL WILDLIFE FEDERATION BEFORE THE NATIONAL ADVISORY BOARD FOR WILD FREE-ROAMING HORSES AND BURROS, CHINA LAKE, CALIFORNIA, DECEMBER 5, 6, 1975.

Mr. Chairman, I am Wm L. Reavley, Regional Executive Director, National Wildlife Federation. I am in charge of the Western Regional office, located in Sacramento which is a branch of our headquarters in Washington, D.C.

Ours is a private organization which seeks to attain conservation goals through educational means. Affiliates of the National Wildlife Federation are located in all 50 states, Puerto Rico, Guam and the Virgin Islands. These affiliates, in turn, are made up of local groups and individuals who, when combined with associate members and other supporters of the National Wildlife Federation, number an estimated three million persons.

We welcome the opportunity to appear before this board to comment upon the dire need to properly manage wild and free roaming horses and burros wherever they may exist. We recognize at the outset that these animals are in no way indigenous to the American continent and are a part of the tremendous influence man exerts on a fragile environment. Parallel is the fact that man's survival and amenities are derived in part from these same lands. Therefore it is imperative that man must use his intelligence to manage these lands to retain the basic elements upon which the renewable resources depend. Proper management must be based upon scientific fact and not upon prejudiced information or emotion.

Undoubtedly the technology and administrative ability exists to manage populations of wild horses and burros. It is possible to maintain herds of these animals for public enjoyment, to manage them in a humane manner, to utilize the protein and other products

these animals can produce and to provide those individuals who wish ownership of such animals. To do this will require changes in federal laws, and the expenditure of the necessary funds to do the job. It is a relatively simple matter. The small number of wild horses and burros removed from the range since the passage of the act clearly indicate the Federal law is much too restrictive. In addition, there has been insufficient personnel and funds assigned to this project. As a consequence range deterioration has already taken place and destructive effects are inevitable.

National Wildlife Federation passed a resolution on this subject at its 1975 annual meeting in Pittsburgh, a copy of which is attached.

Thank you for allowing National Wildlife Federation to make these remarks.

Resolution No. 26

MANAGEMENT OF WILD HORSES AND BURROS

WHEREAS, wild horses and burros compete with native wildlife and domestic livestock for forage and water and create serious problems of erosion; and

WHEREAS, wild horses and burros must be managed and maintained in numbers in harmony with the ability of the environment to support them and other desirable forms of wildlife and livestock; and

WHEREAS, current restrictions imposed by Federal law virtually prevent any practical management of wild horses and burros or controls over their numbers;

NOW, THEREFORE, BE IT RESOLVED that the National Wildlife Federation, in annual convention assembled March 14-16, 1975, in Pittsburgh, Pennsylvania, hereby endorses the principles expressed by the National Wild Free-Roaming Horse and Burro Advisory Board: 1. that the use of properly supervised aircraft be authorized for the effective management of wild horses and burros; and, 2. the administering Federal agencies be permitted to dispose of title to surplus animals through sale or donation.

STATEMENT OF THE CALIFORNIA NATURAL RESOURCES FEDERATION
BEFORE THE NATIONAL ADVISORY BOARD FOR WILD FREE-ROAMING
HORSES AND BURROS, CHINA LAKE, CALIFORNIA, DECEMBER 5, 6,
1975.

California Natural Resources Federation is the state affiliate of the National Wildlife Federation. Incorporated earlier this year, we are in our formative phase of operation. Our Executive Committee has unanimously decided to strongly support a vigorous program calling for sensible management of the wild horse and burro population.

California Natural Resources Federation therefore has adopted a position that supports the maintenance of a wild horse and burro population for aesthetic and historical values, but strongly holds that these numbers should be held in balance with the available habitat, recognizing the need to protect the soil and vegetation as well as the habitat of native wildlife, forage for livestock and to provide for other legitimate uses on these lands. To meet these goals management agencies must have whatever authority and funding is necessary for the control, management and disposition of horses and burros in a practical humane manner.

We believe an emergency exists and will become increasingly severe until such time as authority and funds become available to perform a proper management job.

We support the position of the National Wildlife Federation in this matter and wish to thank you for the opportunity of making this statement.

J. R. Penny
President

STATEMENT OF DELL O. CLARK, CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE

- A. All undomesticated burros are the property of the State of California and no one may possess an undomesticated burro except for the purpose of domesticating it and possessing it as a pet or for use as a beast of burden.
- B. Any person who desires to capture undomesticated burros, which will be held for the purpose of domesticating them and possessing them as pets or for use as beasts of burden, may apply to the Department of Food & Agriculture for a permit to capture undomesticated burros. Authority for the issuance of burro permits is in the Fish & Game Code, Chapter 6, Burros, Sections 4600-4606.
- C. Burro Depredation - Legislation Passed in 1957
 1. Any owner or tenant of land or property that is being damaged or destroyed by burros may apply to the Department of Food & Agriculture for a permit to kill such burros. (Fish & Game Code - Section 4187, Legislation passed in 1957.)
 - a. 1939 - State Legislature passed law prohibiting the use of burros for pet food.
 - b. 1953 - Legislature passed another law prohibiting the killing of burros for two years.
 - c. 1955 - Legislature renewed the above law for two years. Provision was made to issue 12 permits per year to capture a burro by Department of Food & Agriculture.
 - d. 1957 - Renewed above, but dropped 12 permit requirement.
- D. Burro Permits Issued
 1. 1957 to October 1975 - 3,450 permits issued.
 2. 1957 to October 1975 - 454 burros were reported taken under permit.
 3. Permits issued to 10-3-75 since passage of Wild Horse and Burro Act (PL92-195).
 - a. 211 permits issued for 492 burros.
 - b. 64 burros received under permit.
 4. 1953 to 1971 - 20 depredation permits were issued to take 900 burros and 9 permittees reported that 352 burros had been killed.
 5. 1973 - Depredation permit issued to China Lake Naval Weapons Center for 200 burros - none taken.

Note: Since passage of PL92-195 no permits have been issued to capture wild burros except in cooperation with Death Valley Nat'l. Monument where permittees may obtain a burro trapped by Nat'l. Park Service personnel.

E. The Department of Food and Agriculture entered into a cooperative agreement on Feral Burro Management in California with the Department of Fish & Game, Fish & Wildlife, and Bureau of Land Management in 1969.

1. Our Department agrees to:

- a. Provide a semi-annual list of permits issued to capture burros to the CDFG, BGFW and BLM for their information. Also provide a copy of all applications to control burros to these agencies for their comments and recommendations.**
- b. Assist in developing and maintaining current inventory information on burro numbers and locations.**
- c. Work, in cooperation with the other three agencies, on burro control operations as may be needed for proper resource management.**
- d. Assist BLM in developing management plans for burros.**

F. Public Law 92-195 (Wild Horse and Burro Act) applies only to federal lands administered by the Secretary of Interior through the Bureau of Land Management or the Secretary of Agriculture through the Forest Service. Burros found on other federal lands such as Death Valley National Monument and the China Lake Naval Weapons Center are not covered by PL92-195.

STATEMENTS MADE BY HOMER HARRISON
CHAIRMAN OF THE PUBLIC LANDS COMMITTEE
FOR THE SPORTSMEN'S COUNCIL OF CENTRAL CALIFORNIA
AT THE
NATIONAL ADVISORY BOARD MEETING
FOR WILD-FREE ROAMING HORSE AND BURROS
CHINA LAKE, CALIFORNIA

I am Homer Harrison, representing the Sportsmen's Council of California- a large sportsmen organization in the state.

I am a former representative from California who served on the National Advisory Board Council to the Secretary of the Interior, and also served many years on the California State Bureau of Land Management Advisory Board as a wildlife representative.

Having served on these different Grazing Advisory Boards for years along with being affiliated with conservation, wildlife, and sportsmen's organization, and attending meetings, conferences, symposiums, field trips all over the State of California as well as other western states in observing, studying our natural resources condition such as range use and trends, wildlife populations and habitat conditions, we feel like many other organizations in this state that there is a great need to scientifically manage and control the numbers of Wild-free Roaming Horses and Burros that run upon our public lands.

We urge and support the Department of the Interior in instituting and activating a program that will scientifically and humanely reduce and control the population-growth of our Wild-free Roaming Horses and Burros where the herds number have grown out of balance with the forage, range, habitat,

and have become a threat to the other wildlife that shares
and depends upon our public lands for a home and a place to
live for years to come.

A handwritten signature in cursive script that reads "Homer Harrison". The signature is written in black ink and is positioned above the printed name.

Homer Harrison

1700 Los Robles Drive

Bakersfield, California

93306

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O
P
Y

AMERICAN DONKEY AND MULE SOCIETY, INC.
2410 Executive Drive
Indianapolis, Indiana 46241

December 1, 1975

P. D. Lombard, Acting Director, Division of Range
Bureau of Land Management, Department of the Interior
c/o National Advisory Board for Wild Free-Roaming
Horses and Burros
Naval Weapons Center
China Lake, California

Re: File # 4711.1 (330)

Dear Mr. Lombard:

Although we would very much like to attend the meeting of the Wild Free-Roaming Horse and Burro Advisory Board, it is impossible. This letter will have to suffice and we all would appreciate its being read into the minutes.

I notice that most of the agenda will deal with discussions about the impact of the species, Equus Asinus Africanus, on the western lands. If reports and news releases in the past are valid indications of presentations to be made at this next proposed meeting, participants and observers will conclude that this equine has too many enemies among the Species Homo Sapiens.

We shall concede that over population in any locale, regardless of the plant or animal species is not desirable, and we shall remind members of the Bureau of Land Management that many times The American Donkey and Mule Society has offered to help find new homes for this species, to work out programs for the re-socialization which would enable these noblest of equines to re-enter co-existence with people who would like to have one or some. Either we have received no reply, or an offer from Mr. Kaye Wilkes to let us have as many as we wish. Just come and get 'em!

The deal offered is poor. Title will not pass to the possessor. The possessor will have to be under the direction of the Bureau of Land Management, and the animal must not be converted to the possessor's own uses. The animals must be kept in a wild state. It is little wonder that there are not takers.

Very little publicity is utilized to let people know that surplus animals are available, yet many people across the country would like to have one or some if they could have title to the animal.

Members of the American Donkey and Mule Society would like very much to see the surplus animals put up for "adoption", would like to see the United States Government undertake publicity campaigns to teach people about the intrinsic virtues and values of the noblest of equines. Much more use must be made of the mass media to attain this end. This organization has a considerable amount of information, expertise, experience, and people who would be willing, very willing to work with the Bureau of Land Management toward this end.

We also realize that a round up would be necessary. However, I personally would prefer that means other than air craft be used for this round-up. The expense of air craft usage is one factor. Another is that there would be an increased demand for fuel to power that craft, fuel which, if the demand were not present, should have been made into fuel to heat homes. Petroleum has finally become more precious than platinum and should be used far more judiciously than it has been in the past. Round ups via ground forces would be the most expedient method, and it would enable several people to pick up a few dollars.

Removal of any of the equines from western lands should not be undertaken just so that ranchers can put cattle and sheep in their places. Land that feral animals have been removed from should, itself, remain or become feral. Even people should be prohibited from using that land in any manner if the land is to be as it was found during the original conquests. The only acceptable exception being that Indians be allowed to use it as their ancestors did at the time of the conquest. This means that non-native species such as sailors also should be removed. Can't the Navy find dry docks at the oceans' edges? Are the sailors so hard up for asses to chase so that the federal government must provide them with a desert for their pursuits in that heat?

It must also be remembered that Mother Nature has all sorts of ways of dealing with surpluses of any sort--very harsh ways. Much has been made of animals starving, a horrible thought, but vividly real. Much is made over the assumption that dead flesh is a haven for deleterious vermine and disease producing entities. Yet, it must be remembered, that we are attempting to save displaced birds and mammals--beings displaced by highly developed cities and golf courses, recreational areas. Carcasses left on the open ranges, regardless of the species, provide food for other animals and in their own way can be a contribution to the preservation of other species. Some beings must die for other beings to live.

One woman in California who is very upset over feral equines on desert lands called me up about a year ago and suggested that we use the surplus equines to feed starving Mexicans so that the desert could revert to the way it was. Apparently, equine flesh is quite nutritious. This might be a valid way of disposing of surplus animals no one takes if cultural taboos do not get in the way. However, there should not be a wholesale slaughter just for that purpose.

In conclusion we offer the following suggestions: Make the surplus equines generally available for "adoption" by interested parties. Make it possible for title to the animals to pass to those who want them. Do not use air craft for the round-ups. Work with the various and varied equine organizations to help teach interested persons, the public at large, about living and working with the re-socialised equines. Make far better use of the mass media in this endeavor. Find ways to establish funds to pay for round-ups, care, feed, and transportation to new homes--for instance clubs and organizations could be inspired to conduct fund raising projects at various locales within this country so that federal tax money is not tapped. Personal involvement by individuals toward positive ends will circumvent the taking of animals by persons not truly interested in their welfare or in positive usages of them. Institutions of many kinds could make use of equinee and there are many people over the country who would be interested in showing how this can be done.

Instead of spending vast sums of money to compile negative reports about the impact of equines living ferally on western desert lands, why doesn't the Bureau of Land Management and the Wild Free-Roaming Horse and Burro Advisory Board press for changing the laws so that surplus animals can be given away--including passage of title to the animals? Not every potential new owner is intending to turn those animals into dog food or voo doo dolls, nor is every potential new owner going to renege on a deal as has happened in a few cases. It is time to stop sitting back and crabbing about non-native species eating up the environment, crapping in water holes, walking over golf courses in the desert. The question must be answered, "Are the detractors truly interested in the welfare of the equines under fire?" If so, solutions are there, have been proposed but not truly utilised effectively. Be positive in your recommendations and strong in urging following up, then, pursue the cause which will establish a desired equilibrium. Utilize abilities and knowledge possessed by many people all over the country, and make use of the mass media to teach about re-socialization of equines, and to inform that such animals are available for adoption.

Thank you

/s/ V. Dana Allison

Director, Members Services
P. O. Box 180
Mapleton, Maine 04757