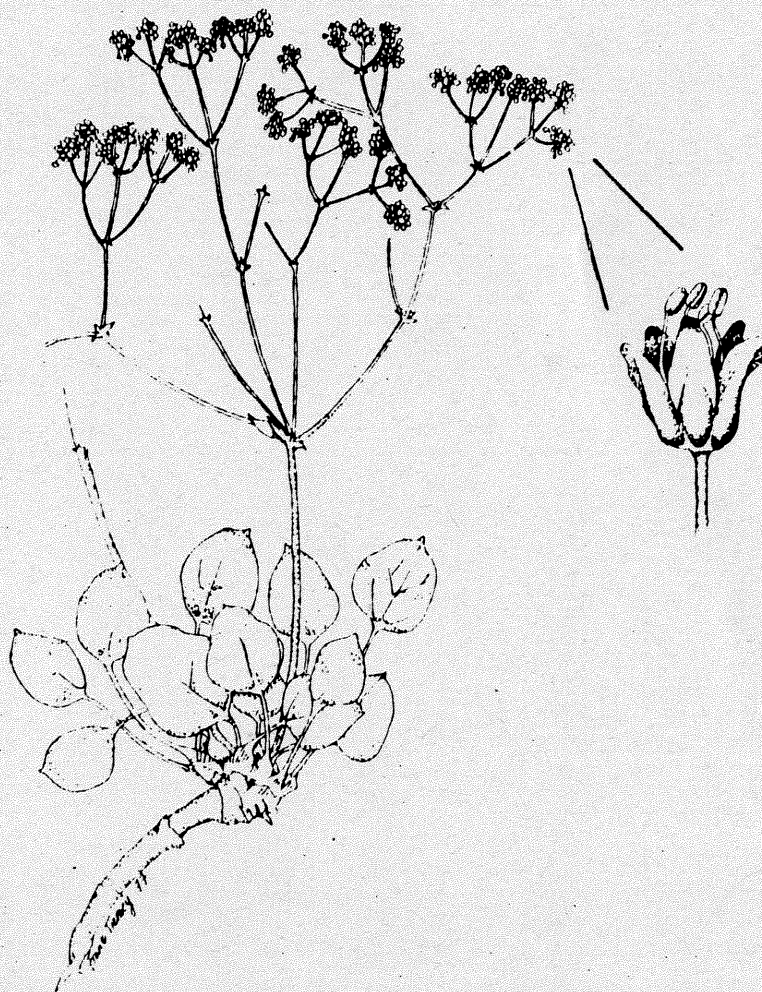


GYPSUM WILD BUCKWHEAT

(Eriogonum gypsophilum)

RECOVERY PLAN

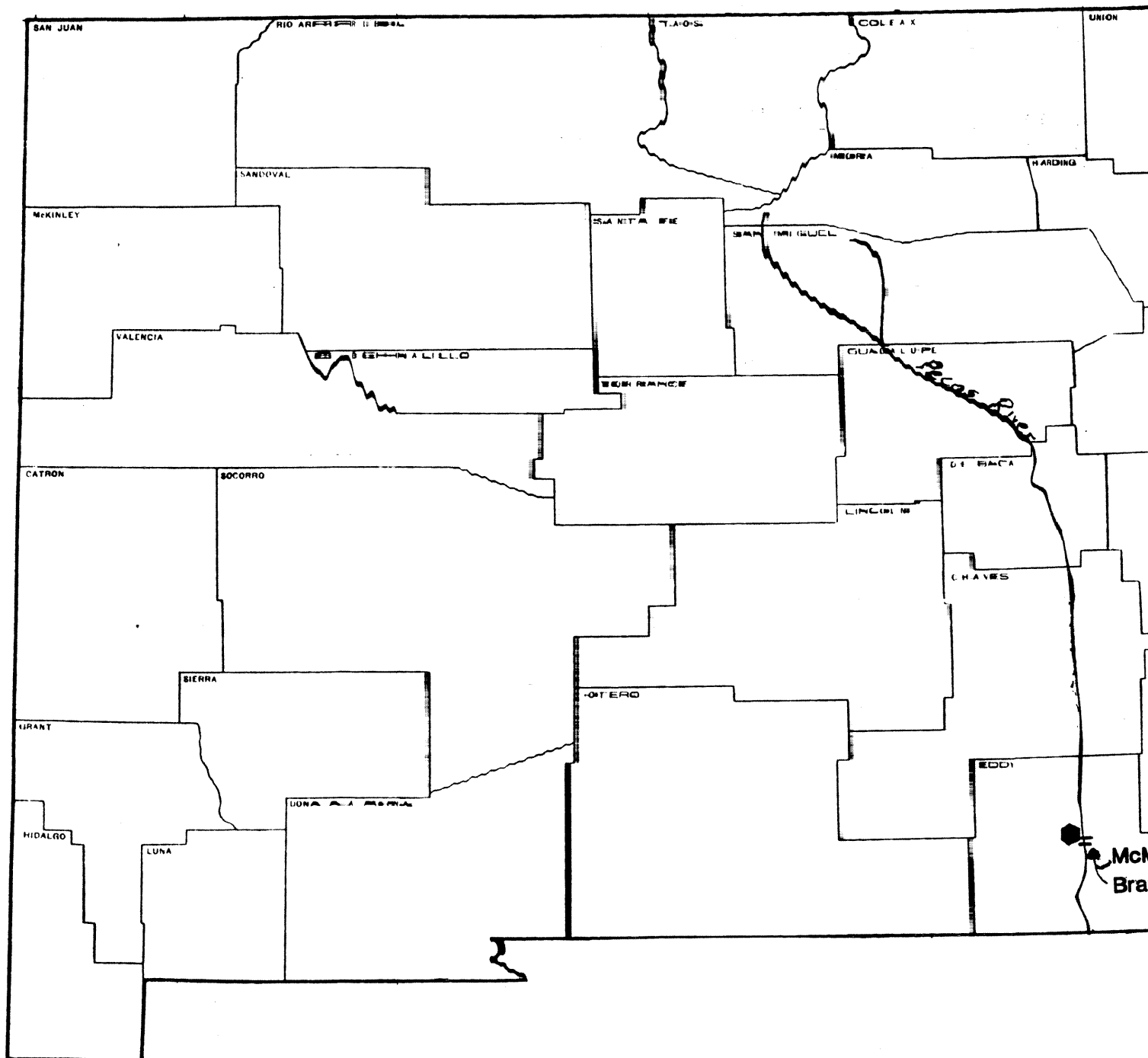


U.S. Fish and Wildlife Service

Albuquerque, New Mexico

1984

NEW MEXICO



Critical habitat for gypsum wild buckwheat ●

RECOVERY PLAN FOR

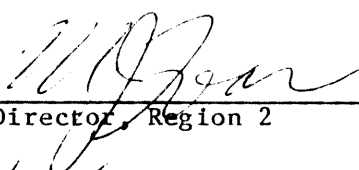
GYPSUM WILD BUCKWHEAT

(ERIOGONUM GYPSOPHILUM WOOTON AND STANDLEY)

Prepared by:

Sandra Limerick
Office of Endangered Species
U.S. Fish and Wildlife Service
P.O. Box 1306
Albuquerque, NM 87103

APPROVED: _____


Regional Director, Region 2

DATE: _____

3/30/84

SUMMARY

1. Goal: To remove the Gypsum wild buckwheat from the Federal list of endangered and threatened species by protecting the one known population from present and future human threats. This should help to ensure that the Gypsum wild buckwheat is maintained as a vigorous, self-sustaining population throughout its natural habitat.
2. Recovery Criteria: Criteria for the delisting of the Gypsum wild buckwheat is based upon the designation of the critical habitat as a BLM Area of Critical Environmental Concern (ACEC) to maintain the population of 10,000 individuals. Some other special use designation which would secure the area from degradation due to human activities would be acceptable.
3. Action Needed: Major steps needed to meet the recovery goal include: monitoring and management of Gypsum wild buckwheat and its critical habitat; studying the population biology and ecology; surveying of suitable habitat, and development and implementation of a habitat management plan.

DISCLAIMER

This is the completed Gypsum Wild Buckwheat Recovery Plan. It has been approved by the U.S. Fish and Wildlife Service. It does not necessarily represent official positions or approvals of cooperating agencies and it does not necessarily represent the views of all individuals who played a key role in preparing this plan. This plan is subject to modification as dictated by new findings and changes in species status and completion of tasks described in the plan. Goals and objectives will be attained and funds expended contingent upon appropriations, priorities, and other budgetary constraints.

Literature citation should read as follows:

U.S. Fish and Wildlife Service. 1984. Gypsum Wild Buckwheat Recovery Plan. U.S. and Wildlife Service, Albuquerque, N.M. 34 pp.

Additional copies may be obtained from:

U.S. Fish and Wildlife Reference Service
1776 E. Jefferson Street
4th Floor
Rockville, Maryland 20852
Phone: (301) 468-1737 Ext. 326 or 290
Toll Free - 1-800-582-3421

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PART I

INTRODUCTION

The gypsum wild buckwheat, Eriogonum gypsophilum Wooton and Standley, was listed as Threatened on January 19, 1981 (46 FR 5730). No other plant in this genus is listed as endangered or threatened, but numerous other species of Eriogonum are under review for listing. Critical habitat was designated for the species and is indicated by the area outlined in bold on Figure 1. This plant is known from one locality in Eddy County, in southeastern New Mexico. The land is administered by the Bureau of Land Management and the Bureau of Reclamation. The population is presently stable but is threatened by off-road-vehicle (ORV) use of the habitat, and trampling or grazing by cattle, as well as possible adverse effects of the raised water level resulting from establishment of Brantley Reservoir, and slight effects from the relocation of U.S. Highway 285. The objective of this recovery plan is to protect the plants and their habitat from these threats. This first section contains biological information about gypsum wild buckwheat and a description of the impacts and threats to the plant. The recovery section outlines and describes steps needed to protect and recover the plant. The final section outlines and prioritizes the implementation of the steps needed to recover the species.

Taxonomy

This species was first collected by E. O. Wooton on August 6, 1909, and described by Wooton and Standley in 1913. There are many species in this genus but Eriogonum gypsophilum is not closely related to any other western species (Wooton and Standley 1913).

Description

This plant is a woody stemmed perennial that grows in dense clumps and is approximately 20 cm high. The leaves are dark green, thick, mainly hairless, 1.5 - 2.5 cm wide and often wider than long, attached at the base,

GYPSUM WILD BUCKWHEAT

Eddy County, NEW MEXICO

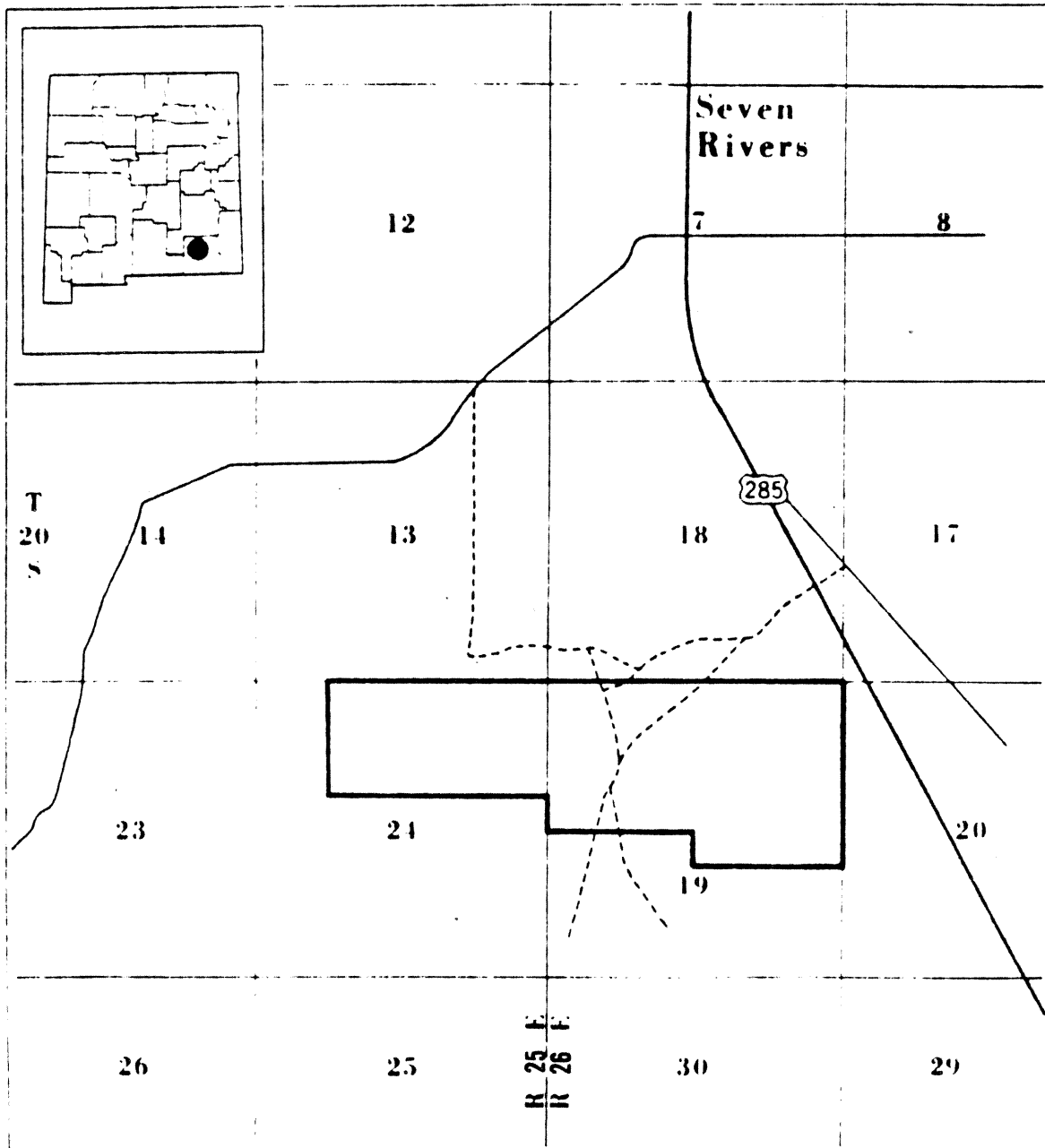


Figure 1

and have an outline like a hen's egg or a kidney. In the fall the leaves turn bright red. The yellow flowers, 1-2 mm long, and in a broad dense cluster, appear from May to July.

Good description
Eriogonum harvardii is the only other perennial wild buckwheat that occurs in the same area as Eriogonum gypsophilum, and the two species are readily distinguished. Eriogonum harvardii has white or silver hairy leaves up to 5 cm long and 10 mm wide, an open flower cluster, and yellow flowers about 3 mm long and covered with dense white hairs. The stems are 30 cm or more high. Eriogonum harvardii occurs on limestone, while Eriogonum gypsophilum is found on gypsum (Spellenberg 1977, Martin and Hutchins 1980).

Distribution

Eriogonum gypsophilum is known only from the Seven Rivers Hills area, about 18 miles northwest of Carlsbad along U.S. 285, in Eddy County. The current distribution is believed to coincide with the historical distribution. The main location is T.20S., R.26E., Sec. 19. where the plants occur in the northern half of the section. Some plants also are found in the southwest corner of Section 17, the northwest corner of Section 20, and along part of the southern border of Section 18 (T.20S., R.26E.). A large portion of the population also extends into the northern third of Section 24, T.20S., R.25E (Figure 1). These localities are on the northeastern end of the Seven Rivers Hills, generally on northfacing slopes (Spellenberg 1977). This wild buckwheat has been found only on gravelly gypsum outcrops on hills covered with a limestone cap 50-100 feet thick (Reveal 1976, Wooton and Standley 1913).

Habitat

Eriogonum gypsophilum occurs in the Chihuahuan region of the Desert Scrub Formation (Donart et al. 1978). The climate is semi-arid and receives an average of about 14 inches of precipitation per year.

Associated species are Coldenia hispidissima, Bouteloua breviseta, Mentzelia humilis, Anulocaulis gypsogenus, Rhus microphylla, Nama carnosum, Phacelia integrifolium, Nerisyrenia linearifolia, Happlopappus spinulosus subspecies laevis, Berberis spp., Yucca sp., Dalea formosa, and Fouquieria splendens (Spellenberg 1977).

Population Biology

The total estimated population of Eriogonum gypsophilum is 10,000 plants. The population appears healthy and stable. Most reproduction is probably vegetative rather than by seed establishment. Vegetative reproduction is more characteristic of perennial forbs, especially those in more extreme environments. Successful seed establishment is probably uncommon, possibly frequent in years when the conditions for establishment are good, or at a constant low rate during less favorable conditions. No plants were observed that could be called seedlings, although numerous small single rosettes (basal portions of the plants, including roots, stems, and leaves) were present where the gypsum had been bladed away. About 50 percent of the rosettes had an inflorescence (flowering stalk) in a June survey, but actual seed set could not be determined accurately. Most seeds have matured and are released by July (Spellenburg 1977).

Land Ownership

Eriogonum gypsophilum occurs on land administered by the Bureau of Land Management (BLM) and the Bureau of Reclamation (BR). The area is used for grazing and recreational off-road vehicle traffic. Both agencies have been supporting the protection of this species.

Impacts and Threats

The proposed Brantley Project is in the proximity of the Critical Habitat of the Eriogonum. Formal Section 7 consultation was conducted in 1977 because of potential impacts of that project on listed species or their Critical Habitat. This Eriogonum was not a listed species in 1977 and was not in the consultation. The Fish and Wildlife Service stated that the proposed project would not jeopardize any listed species or their Critical Habitat. In 1982, formal Section 7 consultation was reinitiated. The Brantley Project includes relocation of part of U.S. Highway 285. Highway 285 is located on the eastern edge of the Eriogonum population. Some of the plants are growing at the edge of the roadcut on the western side of the highway; some plants may have been destroyed during the original construction.

The proposed highway construction will relocate, raise, and rehabilitate a total of 5.1 miles of the highway. Eriogonum gypsophilum occurs along approximately 300 linear feet of the right-of-way within this area. The highway elevation will be increased within this 300 foot section and a new cut slope between the highway shoulder and right-of-way fence also will be created. The existing right-of-way fence to the west of the highway will not be moved. Plastic panels and temporary fences will be used to prevent damage to the plants during construction.

Construction as currently planned will destroy the habitat of five plants. Three of the plants will be transplanted to the Living Desert State Park in Carlsbad, New Mexico by the staff of that park. Two of the plants will be transplanted by the same staff to the western side of the western right-of-way fence. The dust caused by the highway construction could settle on the eastern portion of the Eriogonum population, but is not expected to harm the plants.

There appears to be no great impact to the wild buckwheat from the present level of grazing by cattle. Long term records are not available and it is not known how an increase in grazing intensity would affect the plants. There has been some grazing and trampling of the Eriogonum along trails leading to the culvert passing under U.S. 285 (T.20S., R.26E., Section 17). Most of the livestock use of the area is from grazing in the south to the highway culvert. There is little palatable forage on the Eriogonum habitat. More frequent grazing was evident during dry periods. The planned alteration of the highway and culvert with the filling of the reservoir could lead to establishment of new trails and trampling of additional Eriogonum, or wearing of a new erosion pattern. If a portion of the Brantley Dam Reservoir is used as a livestock watering area, changing trail patterns could result in trampling of some Eriogonum. This impact could be prevented by enclosing the plants in a fence or by excluding the cattle from the reservoir. Additional study of the effects of the present grazing regime or the possible effects of a change in grazing intensity would be needed before an actual change is warranted by the BLM. A change by BLM in type of grazing animal or in number of animals is not likely. The BLM is also planning an inventory of the area, which could evaluate the effects of grazing.

There also has been ORV use of the gypsum slopes. ORV activity has increased significantly, damaging the plants and the habitat. The Bureau of Land Management recommended an emergency closure of 540 acres effective January 27, 1984. This closure will remain in effect until ORV designations for the Carlsbad Resource Management Plan are implemented.

Oil and gas activity is a threat to the Eriogonum. There are five leases occurring in and around the designated critical habitat of Eriogonum gypsophilum. Although they are non-producing now, there is the potential for drilling. A "No Surface Occupancy" stipulation will be considered

by the Roswell District Manager for the critical habitat portion of future leases, as well as leases which may be renewed.

A potential threat exists from mineral developments. The removal of sand, grass, caliche, copper, and potash would destroy the plants and habitat.

Growth of salt cedar around the edge of the reservoir is expected. The salt cedar is not expected to grow west of Highway 285. If it did, some of the Eriogonum near the 3,285-foot level could be affected by the shade of the salt cedars, as the species is not suspected to be shade-tolerant (Spellenberg 1977). The dense growth, competition, and altered salinity at the soil's surface may be a problem for Eriogonum gypsophilum because plants on severe edaphic sites such as this habitat do not have the ability to compete.

There is a slight possibility of increased human use of the area for recreation with the filling of Brantley Reservoir and the relocation of U.S. 285. However, the Bureau of Reclamation does not expect any recreational activities to occur on the west side of Highway 285 because the official recreation areas will be adjacent to Brantley Dam. If these activities were to occur near the Eriogonum population, they might cause damage to the habitat, such as packing of the soil and denuding of the vegetation.

The raised water level in the reservoir could have an impact on the eastern edge of the Eriogonum population. The impact may be a direct result of the raised water level or a result of the raised ground water after a long period of time. Long term effects could not be predicted with complete accuracy.

The BR does not expect the effect to be significant. No plants are below the level of the conservation pool (3,271.0 feet) nor below the estimated flood control pool elevation (3,283 feet). The Brantley

Reservoir conservation pool elevation and flood control pool elevation are estimates after 100 years of operation. The initial conservation pool elevation is 3,255 feet. All of the plants are above 3,290 feet elevation, and all are west of Highway 285. Short term floods, which are expected to occur only rarely, may submerge some plants. This would not harm the plants if the flooding lasted 1 or 2 days, unless the plants were in flower (May to July). If this were the case, seed set might be decreased.

The stability of the eastern gypsum outcrops may be decreased by the raised water level. This has occurred on the eastern shore of nearby Lake McMillan, probably by wave action. It is expected that wave action in the vicinity of the Eriogonum will be decreased by the raised highway which would act as a barrier between the main body of the reservoir on the east and the conservation pool on the west. The highway, the salt cedar, and the Seven Rivers Hills will also act as windbreaks for the section of the reservoir west of U.S. 285.

Some of the gypsum pockets and pillars on the eastern edge of Lake McMillan were dissolved by water. Filling of the reservoir would raise the water table, and may eventually dissolve gypsum in the critical habitat area. This could increase the chance of slumping and erosion of the hills on which the Eriogonum occurs, and endanger some of the plants. Should this occur only a small number of individuals would be affected at the most, approximately 373 plants; 3 percent of the estimated population.

PART II

RECOVERY

Objective

The main objectives of this recovery plan are to protect Eriogonum gypsophilum and its critical habitat from degradation due to human activities and to maintain the population of 10,000 individuals in its natural habitat, which is limited due to the specialized substrate requirements of the species. Stabilization of the habitat and elimination of potential disturbances could lead to the initiation of delisting the species.

However, delisting of the species should not be viewed as the end of the recovery effort of the gypsum wild buckwheat. After delisting is accomplished, monitoring of the population should continue to ensure that the species does not decline. Opportunities to further enhance and expand the gypsum wild buckwheat should be sought.

STEP-DOWN OUTLINE

1. Prevent further impacts to Eriogonum gypsophilum and its habitat.
 11. Enforce existing regulations.
 12. Designate the critical habitat a BLM Area of Critical Environmental Concern.
 13. Develop and implement a Habitat Management Plan.
 131. Manage grazing permits.

More specifically stated recovery goals in summary.

- 1311. Monitor the long term effects of the present grazing regime on Eriogonum gypsophilum.
- 1312. Prevent a change in grazing regime or a change in the type of livestock until completion of 1311.
- 1313. Regulate livestock access to the reservoir.
- 132. Regulate recreational use of area.
- 133. Regulate ORV use of the Eriogonum critical habitat.
- 134. Monitor the effects of the raised water level with filling of the Brantley Reservoir.
 - 1341. Monitor the levels and effects of any flooding which threatens to submerge Eriogonum.
 - 1342. Monitor the effects of wave action on the gypsum hills.
 - 1343. Monitor the stability of the gypsum for softening or dissolution by the raised water table.
 - 1344. Monitor the effects of salt cedar growth on the Eriogonum.

2. Maintain healthy populations of Eriogonum gypsophilum in its natural habitat.
 21. Study the population biology to determine extent of reproduction by seed versus vegetative means, and overall reproductive success.
 22. Study the abiotic environment--the soil, climate, and microhabitat characteristics required by this species for potential experimental transplants to other gypsum outcrops.
3. Inventory suitable habitats for new populations.
4. Develop public appreciation and support for the preservation of Eriogonum gypsophilum.
 41. Increase public knowledge of the endangered species program and of the gypsum wild buckwheat with displays, discussions, slide shows, and pamphlets.
 42. Obtain the support of local public interest, garden, and conservation groups.

Narrative

1. Prevent further impacts to Eriogonum gypsophilum and its habitat.

The enforcement of existing regulations, development of a management plan for protection and designation of the critical habitat as a BLM Area of Critical Environmental Concern (ACEC). Eriogonum gypsophilum has a very limited distribution and needs strict enforcement of protective regulations. An effective management plan is also necessary to prevent future damage to individual plants and the habitat.

11. Enforce existing regulations.

Enforce existing regulations which regulate impacts on endangered species, grazing allotments, construction, and recreational use of BLM- and BR-administered lands. These regulations include the Endangered Species Act of 1973, as amended, the Federal Land Policy and Management Act, and BLM and BR land management regulations. Enforcement of the Endangered Species Act is carried out by Fish and Wildlife Service Law Enforcement personnel. Making this plant and its locality known to all field personnel of involved agencies, providing these people with a policy statement, and training them in identification of Eriogonum gypsophilum would also facilitate protection.

12. Designate the critical habitat a BLM Area of Critical Environmental Concern.

The critical habitat of Eriogonum gypsophilum should be designated as a BLM Area of Critical Environmental Concern. This would protect most of the known plants and their habitat.

13. Develop and implement a Habitat Management Plan.

131. Manage grazing permits.

The long term effect of the current grazing intensity is

unknown. The effects seem to be minimal at present.

1311. Monitor the long term effects of the present grazing regime on Eriogonum gypsophilum.

Over a period of at least 5 years, the effects of the present grazing regime should be monitored; a longer period would be preferable because of unpredictable environmental variations. Construct a live-stock enclosure as a control plot in conjunction with monitoring.

1312. Prevent a change in grazing regime or a change in the type of livestock until completion of 1311.

Such a change is not likely according to BLM personnel. The results of the long term study in 1311 would indicate the permissibility of an increase in stocking rate or the need for reduction or elimination of grazing on or near the Eriogonum habitat. Consider a regime of deferred spring grazing if there is a need to change the grazing.

1313. Regulate livestock access to the reservoir.

Filling of the reservoir would make a watering area available to livestock on the west side of U.S. 285. Establishment of new trails could occur through sections of the Eriogonum population and destroy some plants. This could be prevented by excluding livestock from the areas where Eriogonum occurs or from the reservoir.

132. Regulate recreational use of the area.

Filling of the reservoir would bring water close to the Eriogonum. There is a slight possibility of the area being used for fishing and picnicking. These activities and their impact on the wild buckwheat should be monitored. Should some of the Eriogonum be destroyed or the habitat damaged, use of the area should be restricted or public access to the gypsum hills should be eliminated.

133. Regulate ORV use of the Eriogonum critical habitat.

Off-road vehicles have been driven over the hills and have damaged the plants and habitat. Recently, the Bureau of Land Management closed the area to ORV use. This was published in the Federal Register (49 FR 3543) January 27, 1984. To date, the BLM has posted the area and blocked commonly used entrances to the area. The BLM will continue to monitor the situation and take further steps if needed. Land use planning will be studied by BLM and will address ORV impact and management.

134. Monitor the effects of the raised water level with filling of the reservoir.

Few, if any, Eriogonum are expected to be submerged by the reservoir.

1341. Monitor the levels and effects of any flooding which threatens to submerge any Eriogonum.

Rare floods might inundate a few Eriogonum for a short period; this is not expected to harm the plants. Seed set might be decreased if flooding occurred during the flowering season from May to July. Transplantation of individual plants might be considered if there was a potential for a long term submergence of many plants.

1342. Monitor the effects of wave action on the gypsum hills.

Wave action has caused slumping of gypsum bluffs on the east side of Lake MacMillan. Little effect is expected on the reservoir west of U.S. 285 as the highway and the Seven Rivers Hills are predicted to act as a block to waves originating on the eastern portion of the reservoir. Wave action would also be reduced by salt cedar, which is expected to grow on the reservoir shoreline.

1343. Monitor the stability of the gypsum for softening or dissolution by the raised water table.

Some of the gypsum in the Brantley Dam area has been dissolved by the existing water table. The higher water table could continue this dissolution and cause slumping of the hills, although this is not a great possibility. Individual plants could be destroyed or the substrate could be altered or lost and result in killing of some plants. If this occurs, several hundred plants, at most, could be affected. Transplantation of threatened plants should be considered if a large number are involved.

1344. Monitor the effects of salt cedar growth on the Eriogonum.

A growth of salt cedar is expected along the edge of the reservoir. The salt cedar is expected to remain on the eastern side of Highway 285 and not to impact the Eriogonum. If a large volume of water did accumulate and remain on the west side of the highway, some of the Eriogonum would be affected.

2. Maintain healthy populations of *Eriogonum gypsophilum* in its natural habitat.

The population is currently in good health and reproducing. Mitigation or removal of threats will do the most for maintaining this plant. The numbers of plants and their health should be monitored, as should the condition of the habitat. Habitat photographs might be used to record such information.

21. Study the population biology to determine the extent of reproduction by seed versus vegetative means, overall reproductive success.

It is not known how much reproduction occurs through seedling establishment, as no seedlings and few young plants were observed. Vegetative reproduction is often the main method of reproduction in perennials such as *Eriogonum gypsophilum*. The necessary environmental conditions for seed establishment need to be determined.

22. Study the abiotic environment--soil, climatic, and microhabitat characters required by this species for potential experimental transplants to other gypsum outcrops.

These measurements should be taken for all stages of the life cycle (for at least 5 years) in order to incorporate fluctuations into the overall pattern. Additional knowledge of these factors would aid in choosing transplant sites for plants threatened with destruction or severe habitat alteration. Integration of this information with 1311 could provide additional insights on the factors required for seed establishment.

3. Inventory suitable habitats for new populations.

Search for additional similar gypsum outcrops for populations of Eriogonum gypsophilum. Other populations may possibly be found to the west of the known Eriogonum site, on the east side of Lake MacMillan, and south of Whites City, New Mexico.

4. Develop public appreciation and support for the preservation of Eriogonum gypsophilum. An aware and informed public is a valuable asset in the protection and recovery of this species and can increase compliance with applicable laws and regulations. Public support and cooperation will promote the success of the endangered species program.

41. Increase public knowledge of the endangered species program and of the gypsum wild buckwheat.

Education of the public is a vital part of this recovery process and is the first step in achieving 4. This can be accomplished by displays, pamphlets and slide shows providing information on the gypsum wild buckwheat, its biology and the recovery effort.

42. Obtain the support of local public interest, conservation, and garden groups.

The cooperation of the public is essential for the ultimate success of the foregoing recovery measures. Public interest groups, especially local ones such as Native Plant Societies, The Nature Conservancy, Lions Club, etc., need to be involved.

Literature Cited

- Donart, G. B., D. D. Sylvester, and W. C. Hickey. 1978. Potential natural vegetation - New Mexico. New Mexico Interagency Range Committee Report No. 11. Soil Conservation Service, Portland, Oregon.
- Martin, W. C., and C. R. Hutchins. 1980. A Flora of New Mexico. J. Cramer. Hirschberg, Germany. xiii +2591 pp.
- Reveal, J. L. 1976. Eriogonum (Polygonaceae) of Arizona and New Mexico. Phytologia 34:409-484.
- Spellenberg, R. 1977. A report on the investigation of Eriogonum gypsophilum and Haplopappus spinulosus subspecies laevis in the vicinity of Brantley Reservoir, Eddy County, New Mexico.
- Wooton, E. D., and P.C. Standley. 1913. Descriptions of new plants preliminary to a report upon a flora of New Mexico. Contributions from the U.S. National Herbarium 16:109-196 (+4 pl.).

PART III - IMPLEMENTATION SCHEDULE

Priorities in column four of the implementation schedule are assigned using the following guidelines:

- Priority one (1) - Those actions absolutely necessary to prevent extinction of the species.
- Priority two (2) - Those actions necessary to maintain the species' current population status.
- Priority three (3) - All other actions necessary to provide for full recovery of the species.

Abbreviations used: FWS - USDI Fish and Wildlife Service
SE - Office of Endangered Species
LE - Law Enforcement
BLM - USDI Bureau of Land Management
BR - USDI Bureau of Reclamation

PART III - IMPLEMENTATION SCHEDULE

GENERAL CATEGORY (1)	PLAN TASK (2)	TASK # (3)	PRIORITY # (4)	TASK DURATION (5)	RESPONSIBLE AGENCY			FISCAL YEAR COSTS (EST.)*			COMMENTS
					FWS REGION (6)	PROGRAM (6a)	OTHER (7)	FY 1 (8)	FY 2	FY 3	
O2	Enforce ESA regulations	11	1	ongoing	2	LE SE	BLM BR	1,000	1,000	1,000	(9)
A3	Designate the critical habitat as a BLM Area of Critical Environ- mental Concern	12	1	1 yr.	2	SE	BLM	1,000			
R4 M3	Develop and implement a Habitat Management Plan	13	2	ongoing	2	SE	BLM BR	1,000	1,000	1,000	
R1	Study the population biology	21	3	5 yrs.	2	SE		20,000	10,000	5,000	
R3	Study the abiotic environment	22	3	5 yrs.	2	SE		20,000	10,000	5,000	
R2	Inventory suitable habitat for new populations	3	3	3 yrs.	2	SE		10,000	5,000	5,000	
O1	Develop public support	4	3	ongoing	2	SE		5,000	2,500	2,500	

*Costs refer to USFWS expenditures only.

APPENDIX

List of agencies and individuals receiving agency review draft.

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APPENDIX - cont.

Comments regarding agency review draft received from the following:

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APPENDIX - cont.

Response to comments on agency review draft.

A-1 Suggestion was incorporated.

A-2 Suggestion was incorporated.

A-3 We agree that an ACEC and an HMP are not necessary if an ACEC designation provides the essential management and protection needs. However, we will maintain a development of an HMP in the recovery plan until an ACEC designation has been made and carried forward as a planning issue in the Carlsbad Resource Management Plan.

B-1 Critical habitat map (Figure 1) was changed to incorporate the correct legal description.

C-1 Change was incorporated.

C-2 Suggestions were incorporated.

C-3 Suggestion was incorporated.

C-4 Comment was incorporated.

C-5 Comments were incorporated.

C-6 Suggestion was incorporated.

D-1 Comment was incorporated.

D-2 Comment was noted; BLM has posted an emergency closure for the 540 acres of critical habitat and blocked commonly used entrances to the area.

D-3 Comments were incorporated.

D-4 Comment was incorporated.

E-1 As was stated in the plan there appears to be no great impact on the species from the present level of grazing by cattle. However, task 1311 includes monitoring the long term effects of the present grazing regime and this would involve an exclosure study.

E-2 Comment was noted. See D-2.

F-1 Editorial comments were noted.

APPENDIX - cont.

- F-2 Suggestion was incorporated.
- F-3 Suggestions were incorporated.
- F-4 Comment was noted.
- F-5 Suggestion was incorporated.
- F-6 Comment was incorporated.

Thank you for allowing us to provide our review and comments to these two draft recovery plans. We apologize for our delay in getting these comments back to you in the stated time frame.

Richard M. Wilson
Acting



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Carlsbad Resource Area Headquarters

P. O. Box 1778

Carlsbad, New Mexico 88220

IN REPLY REFER TO

6840

December 22, 1983

Encl. Sp. Ref.	
FILE	

Dr. Russell Kologiski
U. S. Fish & Wildlife Service
P. O. Box 1306
Albuquerque, NM 87103

Dear Dr. Kologiski:

Enclosed is an official request to revise the incorrect legal description for Eriogonum gypsophilum Critical Habitat listed in Federal Register 46:12, January 19, 1981.

B-1

The correct legal description to be resubmitted for Federal Register publication is as follows: T20S, R25E, NMPM, Section 24: N $\frac{1}{2}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$, N $\frac{1}{2}$ NE $\frac{1}{4}$, N $\frac{1}{2}$ S $\frac{1}{2}$ NE $\frac{1}{4}$, NE $\frac{1}{4}$ NW $\frac{1}{4}$; and T20S, R26E, NMPM, Section 19: N $\frac{1}{2}$, N $\frac{1}{2}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$, N $\frac{1}{2}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$.
N $\frac{1}{2}$

The given pictograph of E. gypsophilum Critical Habitat in the 1981 Federal Register is correct; therefore, legal description change is the only necessary revision.

Sincerely,

Charles S. Dahlen
Area Manager

*For review
initiated 1/19/83
to make the
above change.*

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IN REPLY
REFER TO: 150

United States Department of the Interior

BUREAU OF RECLAMATION
SOUTHWEST REGION
COMMERCE BUILDING, 714 S. TYLER, SUITE 201
AMARILLO, TEXAS 79101

NOV 25 1983

End. Sp. R-2
JOHNSON
BOHMAN
COOPER
DELMONTE
ELDER
EVANS
FRANKS
GARCIA
HARRIS
HEWITT
JOHNSON
MCNEIL
ROBERTS
SANCHEZ

FILE
Peggy

Memorandum

To: Regional Director, Fish and Wildlife Service, Albuquerque, New Mexico

From: Regional Director

Subject: Agency Review Draft Recovery Plan for Eriogonum gypsophilum

The Southwest Region of the Bureau of Reclamation (Bureau) has reviewed the subject draft recovery plan and has the following comments:

C-1 Figure 1, page 2: "R 24 E" should read "R. 25 E." and "R 25 E" should read "R. 26 E."

C-2 Page 3, first sentence: It might be helpful to include in the plant description the fact that in the fall the leaves turn bright red. In addition, we recommend that the description include the fact that the plants are in flower May to July.

C-3 Page 7, first paragraph, second sentence: Change "east" to "west."

C-4 Page 7, second paragraph: The Bureau does not expect any recreational activities associated with Brantley Reservoir to occur on the west side of Highway 285. After 100 years of operation, the conservation pool elevation is expected to be 3,271.0 feet, which would result in only approximately 3.5 surface acres of water on the west side of the highway with a maximum depth of 2 feet. With the official recreation areas located adjacent to Brantley Dam, there is little reason for the public to utilize this area adjacent to Highway 285.

C-5 Page 7, fourth paragraph: It should be made clear that the stated Brantley Reservoir conservation pool elevation of 3,271.0 feet and the flood control pool elevation of 3,283.0 feet are after 100 years of operation. The initial conservation pool elevation is 3,255.0 feet.

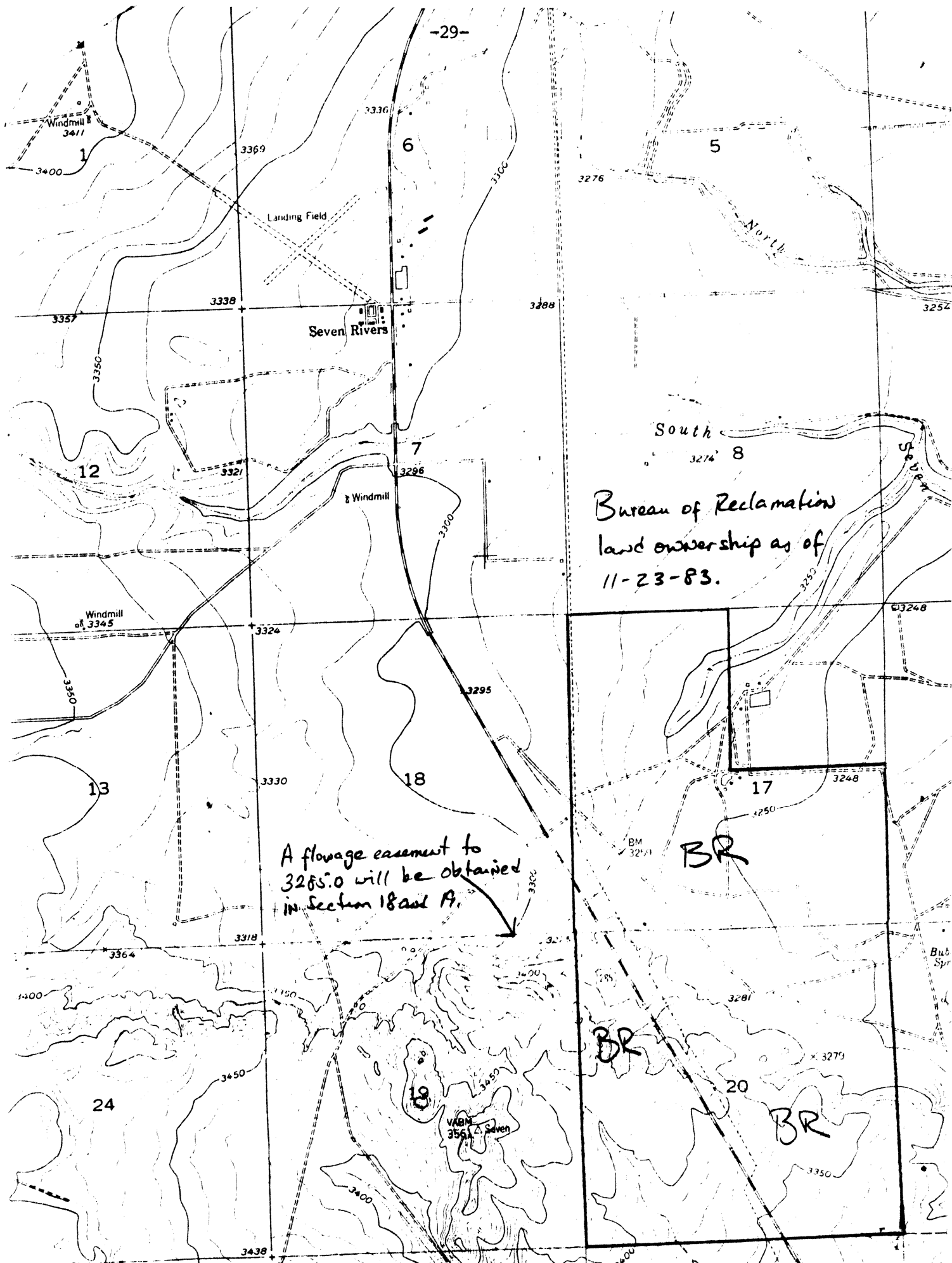
C-6 Page 15, section 1344, third sentence: Change "western" to "east."

For your information, we have attached a map showing the extent of Bureau land in the area of concern as of November 23, 1983.

Thank you for the opportunity to comment on the draft recovery plan.

Eugene Kind

FWS RF 2
REC...



COLLEGE OF ARTS AND SCIENCES
DEPARTMENT OF BIOLOGY
Box 3AF/Las Cruces, New Mexico 88003
Telephone (505) 646-3611

November 23, 1983

Mr. James E. Johnson
Assistant Acting Regional Director
U.S. Fish and Wildlife Service
P.O. Box 1306
Albuquerque, NM 87103

Dear Mr. Jonson:

I have reviewed the recovery plan for Eriogonum gypsophilum by Sandra Limerick. Overall, it is fine.

D-1 Page 4, population biology: I'm not sure these are seedlings, but in several areas where the gypsum has been bladed away there are numerous small plants. Narrow endemics in severe edaphic substrates often respond positively to such disturbance.

D-2 Page 6, bottom: I believe fencing not to be suitable either, in its entirety. Establish an ORV play area nearby in addition.

D-3 Page 6, top paragraph: I'm pretty sure I never said the species is not shade tolerant --- but I suspect that it isn't. However, shade from salt-cedars may not be the problem, but instead, the dense growth, competition, and altered salinity at the soil's surface may be the problems. Plants on severe edaphic sites, such as this Eriogonum, simply don't have the ability to compete.

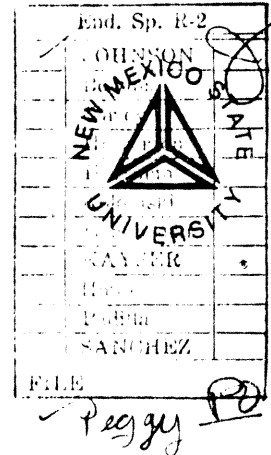
D-4 Page 7, second paragraph: Extensive human use of an area denudes it of vegetation.

Sincerely,



Richard Spellenberg
Professor of Biology

RS/mjb



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New Mexico Field Office
Post Office Box 1846 / Albuquerque, New Mexico 87103
610 Gold S.W., Suite 216
(505) 242-2015

December 8, 1983

Dr. Russell Kologiski
Endangered Species Office
U. S. Fish & Wildlife Service
P. O. Box 1306
Albuquerque, New Mexico 87103

Dear Rusty:

I have reviewed the agency review Draft Recovery Plan for Eriogonum gypsophilum and Sclerocactus mesae-verdae and I have the following comments:

1. Eriogonum gypsophilum - I think that your analysis of impacts of grazing by cattle on Eriogonum are not warranted in that no study has been made to prove whether or not grazing does in fact impact this species. It seems to me that you would have to set up some kind of an enclosure there to determine this as you are planning to do with Echinocereus kuenzleri. I would hope that the BLM would be willing to work out some kind of an arrangement with you, especially in that the grazing values in this area must be minimal. I would imagine from what I have seen of the area that grazing is not a serious problem but on the other hand the population is restricted to such a small area that it seems to me that the Fish and Wildlife Service has the responsibility to ensure that the situation does not get any worse there. My understanding is that the BLM is not interested in seeing the area excluded from grazing but this does not mean that Fish and Wildlife should not push them on this, at least for a period of time to determine whether or not grazing does in fact have an impact. I, as the State Director of The Nature Conservancy, would like to meet with the BLM to discuss this matter and possible to talk to the BLM permittee there to find out if he would go along with this kind of action.
2. I do not accept the premise that if an area is fenced that it would be cut by ORV users. It seems to me that this is like saying that since there may be some opposition to protection of the plant that we shouldn't do anything to try to protect it. My feeling is that we ought to sit down with the BLM and the person who has the grazing permit there and see if we can keep ORV's off. Even if we are unable to keep cattle off, possible we could stretch some kind of a convenience fence across the area next to the road to prevent ORV impacts. We know for a fact that ORV users would have damaging effects on the plants and we also know that cattlemen oppose ORV recreation on their grazing lands. Given the fact that this is one of the rarest plants in New Mexico, I

2. I do not accept the premise that if an area is fenced that it would be cut by ORV users. It seems to me that this is like saying that since there may be some opposition to protection of the plant that we shouldn't do anything to try to protect it. My feeling is that we ought to sit down with the BLM and the person who has the grazing permit there and see if we can keep ORV's off. Even if we are unable to keep cattle off, possible we could stretch some kind of a convenience fence across the area next to the road to prevent ORV impacts. We know for a fact that ORV users would have damaging effects on the plants and we also know that cattlemen oppose ORV recreation on their grazing lands. Given the fact that this is one of the rarest plants in New Mexico, I

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Small Office
10 North Kent Street
London, England, E2 7 2JF



Western Regional Office
156 Second Street
San Francisco, California 94105

Dr. Russell Kologiski
Page Two

think we should take a hard stand on this and I plan on doing just that. I will do so diplomatically in that I don't want to turn anyone off or end up with a worse situation than already exists. I realize that the plant has survived all that has been done to it in the past but TNC's point of view is that the future may indicate new human use patterns and we would hate to see this plant extirpated. The Brantly Dam proposal does not worry me that much and I feel your comments are adequate.

In general, I think your strategy to protect the plant is good and we support your reffort in that regard.

3. Sclerocactus mesae-verdae - Since many threats exist for mesae-verdae cactus, it seems to me that the best thing that can be done is to set up a preserve for this species. Anything that can be done to integrate surface and mineral rights into a package and to centrally put a fence around the area or at least to gain clear ownership of the area would be the best strategy. At the same time, it would be important to do this in as secretive a manner as possible because of collection pressures. Since I have not seen the site nor have I talked to you at length about this, I would be interested in helping in any way to ensure protection for this species. If for example, lands need to be purchased or some kind of management agreement needs to be worked out with a private party, I offer my services. Please let me know if I can be of assistance in this regard.

Very truly yours,

John C. Egbert

John C. Egbert

JCE/mh



United States Department of the Interior

FISH AND WILDLIFE SERVICE
WASHINGTON, D.C. 20240

Encl. Sp. R2	ADDRESS ONLY THE DIRECTOR FISH AND WILDLIFE SERVICE
FILE	RD
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FILE	AWR
FILE	AIR
FILE	LE
FILE	PAO
FILE	EEO
FILE	X FILE <u>SE</u>
FILE	CL 11-124

In Reply Refer To:
FWS/OES

MEMORANDUM

To: Regional Director, Region 2 (ARD/AFF)

From: Director

Subject: Comments on Agency Review Draft - Gypsum Wild Buckwheat Recovery Plan

The subject plan has been reviewed and the following comments are provided:

- F-1 1. Attached is a copy of the draft with specific and editorial comments included in the margins.
- F-2 2. Page 9: Under the present recovery planning system, we strive for quantification of goals. Can the objective be quantified? For example, can we say protect the Critical Habitat or X acres of habitat and maintain a population of 10,000 individuals (current population estimate)?
- F-3 3. The Narrative: The Item should be separated from the Step-Down Outline in a precise manner. For example, Item 1 should say:

1. Prevent further impacts to Eriogonum gypsophilum and its habitat.

This should then be followed by the narrative discussion of the task.

- F-4 4. Page 17, Item 221: This suggests searching for transplant sites outside of historic range. Service policy does not permit transplantations outside of historic range except in unusual cases. Even then, the approval of the Director is required for Service endorsement/participation in such a transplant. As stated on page 4, the population of this buckwheat is estimated at 10,000 plants and "appears healthy and stable." If transplantation outside of historic range is necessary, it must be better justified, otherwise it should not be considered.

Criteria for the selection of transplant sites within historic range (or outside of historic range, if sufficiently justified) should be based on the results of Tasks 21 and 1311.

- F-5 5. Page 17, Item 3: There is no narrative associated with the subtasks of Item 3. A narrative should explain how the tasks will be approached and who the targeted audiences are.

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6. The Implementation Schedule is incomplete in that many of the tasks called for in the Step-Down Outline are not included.

If you feel that the comments made in this memorandum and attached copy of the plan are inappropriate for inclusion in the final draft or if you disagree with the comments, please explain your position in the return memorandum.

Please submit five copies of the final draft to this office for review and the Director's signature.

Attachment